

Nokia Customer Care

SERVICE MANUAL

[Part No. 9251336]

RM-154 Mobile Terminals

6275/6275i

Issue - 1

COMPANY CONFIDENTIAL

Amendment Record Sheet

[illegible]

Nokia Customer Care

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The availability of particular products may vary by region.

IMPORTANT

This document is intended for use by qualified service personnel only.

Warnings and Cautions

Please refer to the *product's* user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. IF THE DEVICE CAN BE INSTALLED IN A VEHICLE, CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE *PRODUCT* MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.

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For your safety

QUALIFIED SERVICE

Only qualified personnel may install or repair phone equipment.

ACCESSORIES AND BATTERIES

Use only approved accessories and batteries. Do not connect incompatible products.

CONNECTING TO OTHER DEVICES

When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

ESD protection



Nokia requires that *product* service points have sufficient ESD protection (against static electricity) when servicing *products*.

Any product of which the covers are removed must be handled with ESD protection. The SIM card can be replaced without ESD protection if the product is otherwise ready for use.

To replace the covers ESD protection must be applied.

All electronic parts of the product are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.

All ESD sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).

Every repair action involving opening the product or handling the product components must be done under ESD protection.

ESD protected spare part packages **MUST NOT** be opened/closed out of an ESD Protected Area.

For more information and local requirements about ESD protection and ESD Protected Area, contact your local Nokia After Market Services representative.

Battery Information

Note that a new battery's full performance is achieved only after two or three complete charge and discharge cycles!

The battery can be charged and discharged hundreds of times but it will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery.

Use only batteries approved by the phone manufacturer and recharge the battery only with the chargers approved by the manufacturer. Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime. If left unused a fully charged battery will discharge itself over time.

Temperature extremes can affect the ability of your battery to charge.

For good operation times with Ni-Cd/NiMh batteries, discharge the battery from time to time by leaving the product switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for the product). Do not attempt to discharge the battery by any other means.

Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F). A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Batteries' performance is particularly limited in temperatures well below freezing.

Do not dispose of batteries in a fire!

Dispose of batteries according to local regulations (e.g., recycling). Do not dispose as household waste.

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Care and Maintenance

The product is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

Keep the phone and all its parts and accessories out of the reach of small children.

Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.

Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.

Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.

Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.

Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone.

Do not paint the phone. Paint can clog the moving parts and prevent proper operation.

Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the phone and may violate regulations governing radio devices.

All of the above suggestions apply equally to the product, battery, charger or any accessory.

Company Policy

Our policy is of continuous development; details of all technical modifications will be included with service bulletins.

While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If any errors are found by the reader, NOKIA MOBILE PHONES Business Group should be notified in writing.

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**Nokia Customer Care
6275/6275i (RM-154)
Mobile Terminals**

General Information

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Introduction

The Nokia 6275/6275i mobile terminal is offered in the following variants:

Model	Type	Engine
6275	RM-154	CDMA tri-mode
6275i	RM-154	CDMA tri-mode with GPS

The mobile terminal includes the following features:

- 2" QVGA 240 by 320 high-resolution display with 262k color
- 2.0 Megapixel camera & camcorder with flash, 8X zoom in full landscape mode
- Dynamic RUIM
- Video/audio streaming
- Music – FM radio & Music player
- Enhanced MMS (600K Msg size)
- WAP 2.0 Browser
- Downloadable BREW 3.1 applications
- Downloadable Java MIDP 2.0 applications
- 21MB built-in memory + removable microSD
- GPS & Location Based Services
- Speaker Independent Name Dialing (SIND)
- Advanced Bluetooth v2.0 profile support
- 64 Polyphonic MIDI, MP3, AAC+ ring tones
- Bluetooth, USB or IR connectivity



Parameter	Value and Unit
Talk time (digital)	Up to 4.1 hours
Standby time	Up to 240 hours
Dimensions: Volume Length Width Thickness Weight	86 cc 84.8 mm 45.5 mm 24.9 mm 84.4 grams

Sales Package

Name	Type
Battery BL-6C (1070 mAh Li-Ion)	BL-6C
Headsets	HS-3 HS-5 HS-9

Supported Accessories

Type	Name
AC-3	Compact Charger
AC-4	Travel Charger
AC-5	Compact travel Charger
AD-46	Audio Adapter
CA-44	Charger Adapter
CA-53	Connectivity Cable
CK-7W	Universal Car Installation Kit
CK-7Wi	Advanced Car Kit
CK-20W	Advanced Car Kit
CR-39	Mobile Holder
DC-4	Mobile Charger
HDB-4	Boom Headset
HF-3	Easy to Use Car Handsfree
HF-6W	Wireless Plug-in Car Handsfree
HF-33W	Wireless Plug-in Car Handsfree
HS-3	Fashion Stereo Headset
HS-5	Standard Headset
HS-8	Activity Headset
HS-9	2.5 mm Headset
HS-20	Stereo Headset
HS-23	Classic Stereo Headset
HS-24W	Style Wireless Headset
HS-24W	Classic Wireless Headset
HS-26W	Basic Headset

Type	Name
HS-31	Fashion Stereo Headset
HS-49	CDMA 2.5mm Stereo Headset
HS-50W	(BH300) Wireless Headset
HS-57W	(BH700) Wireless Headset
HS-58W	(BH200) Wireless Headset
HW-36W	Cost Competitive BT Headset
LPS-4	Inductive Loopset

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6275/6275i (RM-154)
Mobile Terminals**

Parts Lists and Exploded View

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Exploded View

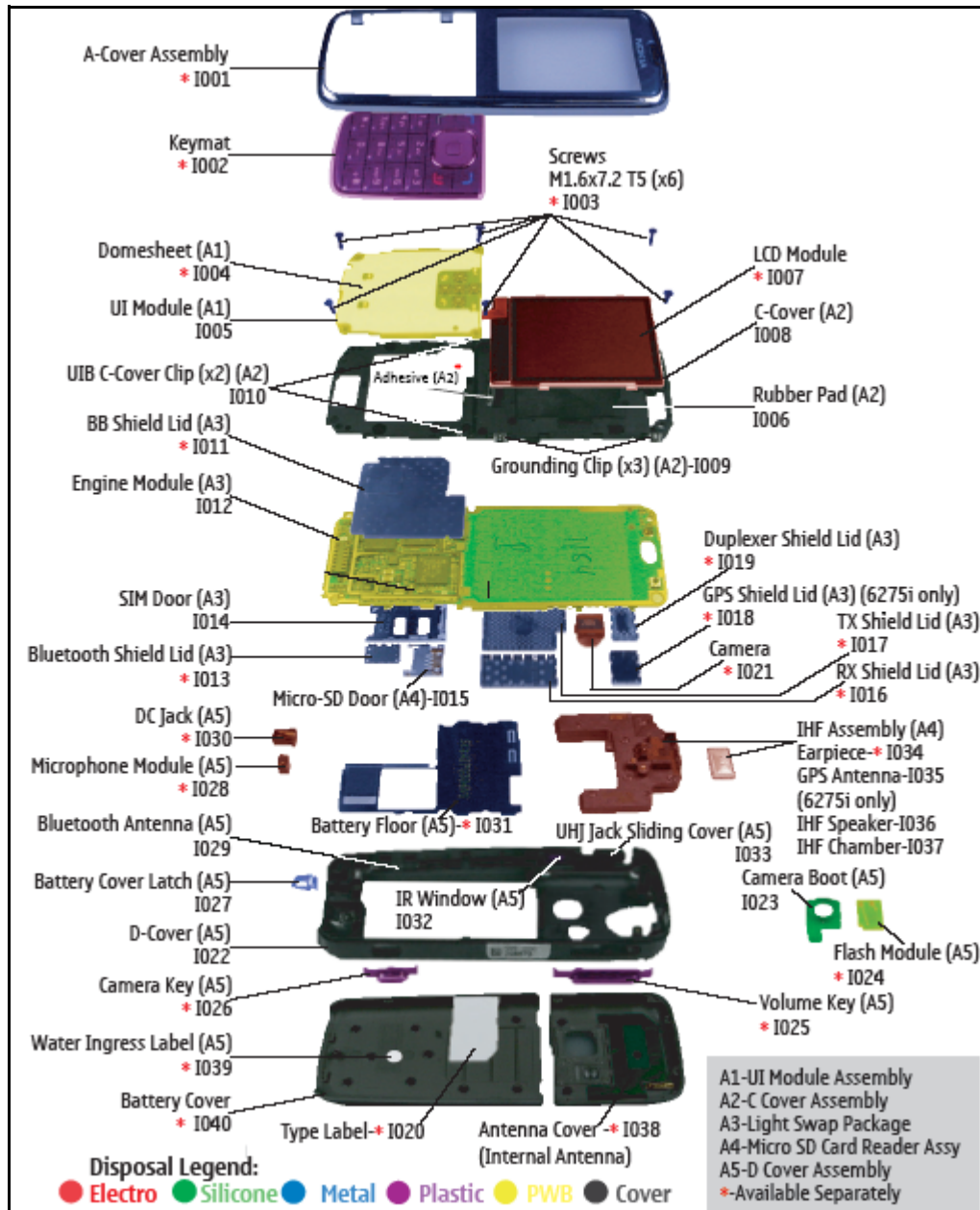


Figure 1: Exploded View

Spare Parts

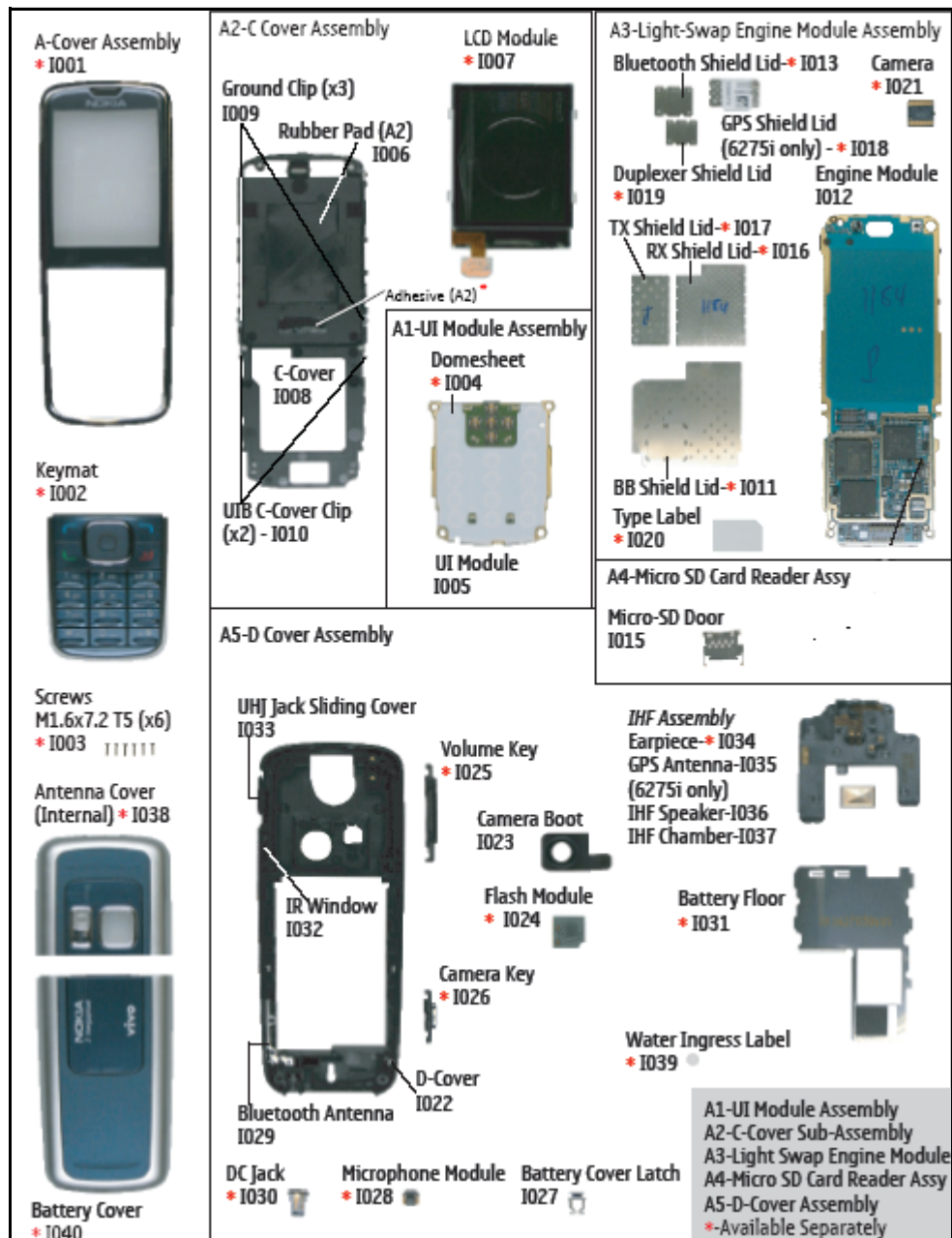


Figure 2: Spare Parts

Assembly Parts List

Item/ Circuit Ref.	Qty	Description	Item Availability
I001	1	A-cover	Available separately
I002	1	Keymat	Available separately
I003	6	Screws (M1.6x7.2 T5)	Available separately
A1	UI Module Assembly		
I004	1	Domesheet	Available separately
I005	1	UI module	Available as an assembly
A2	C-Cover Assembly		
I006	1	Rubber pad	Available as an assembly
I008	1	C-cover	Available as an assembly
I009	3	Grounding clip	Available as an assembly
I010	2	UIB C-cover clip	Available as an assembly
	1	Adhesive	Available separately
A3	Light Swap Package		
I011	1	Baseband shield lid	Available separately
I012	1	Engine module	Available as an assembly
I013	1	Bluetooth shield lid	Available separately
I014	1	SIM door	Available as an assembly
I016	1	Rx shield lid	Available separately
I017	1	Tx shield lid	Available separately
I018	1	GPS shield lid	Available separately
I019	1	Duplexer shield lid	Available separately
A4	MicroSD Card Reader Assembly		
I015	1	MicroSD door	Available as an assembly
A5	D-Cover Assembly		
I022	1	D-cover	Available as an assembly
I023	1	Camera boot	Available as an assembly
I024	1	Flash module	Available separately
I025	1	Volume key	Available separately
I026	1	Camera key	Available separately

Item/ Circuit Ref.	Qty	Description	Item Availability
I027	1	Battery cover latch	Available as an assembly
I028	1	Microphone module	Available separately
I029	1	Bluetooth antenna	Available as an assembly
I030	1	DC jack	Available separately
I031	1	Battery floor	Available separately
I032	1	IR window	Available as an assembly
I033	1	UHF jack sliding cover	Available as an assembly
I039	1	Water ingress label	Available separately
IHF Assembly			
I034	1	Earpiece	Available separately
I035	1	GPS antenna	Available as an assembly
I036	1	IHF speaker	Available as an assembly
I037	1	IHF chamber	Available as an assembly
I007	1	LCD module	Available separately
I020	1	Type label	Available separately
I021	1	Camera	Available separately
I038	1	Antenna cover (internal antenna)	Available separately
I040	1	Battery cover	Available separately

6275i Parts List – Version 010 – Engine Code 0202939

Item	Side	X	Y	Description
A0001	Top	Q	5	BB SHIELD ASSEMBLY
A0002	Bottom	K	4	RX SHIELD ASSEMBLY
A0003	Bottom	K	7	TX SHIELD ASSEMBLY
A0004	Bottom	D	7	DUPLEXOR SHIELD ASSEMBLY
A0005	Bottom	D	3	GPS SHIELD ASSEMBLY
A0006	Bottom	F	7	DC DC SHIELD COVER
A0007	Bottom	R	6	BT SHIELD ASSEMBLY
B2200	Top	P	7	CRYSTAL 32.768KHZ +/-30PPM 12.5PF
C2001	Bottom	I	6	CHIPCAP X7R 10N K 50V 0603
C2002	Bottom	H	8	CHIPCAP NP0 47P J 50V 0402
C2004	Top	U	3	CHIPCAP X7R 1N0 J 50V 0402
C2005	Top	U	3	CHIPCAP NP0 22P J 50V 0402
C2006	Top	T	3	CHIPCAP X5R 100N K 16V 0402
C2007	Top	U	3	CHIPCAP X5R 1U K 6V3 0402
C2008	Top	Q	5	CHIPCAP X5R 1U K 6V3 0402
C2009	Top	R	5	CHIPCAP X7R 10N J 16V 0402
C2016	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2017	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2018	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2019	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2020	Top	T	6	CHIPCAP X7R 3N3 J 50V 0402
C2021	Top	S	6	CHIPCAP X7R 3N3 J 50V 0402
C2022	Top	T	7	CHIPCAP X7R 3N3 J 50V 0402
C2023	Top	T	7	CHIPCAP X7R 3N3 J 50V 0402
C2024	Top	U	7	CHIPCAP X7R 3N3 J 50V 0402
C2025	Top	U	7	CHIPCAP X7R 3N3 J 50V 0402
C2100	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2101	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2102	Top	Q	7	CHIPCAP X5R 100N K 16V 0402
C2103	Top	Q	7	CHIPCAP X5R 100N K 16V 0402
C2104	Top	S	6	CHIPCAP X5R 100N K 16V 0402

Item	Side	X	Y	Description
C2105	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2106	Top	R	6	CHIPCAP X5R 10UF 6V3 0603
C2107	Bottom	A	3	CHIPCAP NP0 47P J 50V 0402
C2108	Top	Q	6	CHIPCAP X5R 10UF 6V3 0603
C2109	Top	Q	6	CHIPCAP X5R 10UF 6V3 0603
C2110	Top	B	3	CHIPCAP NP0 47P J 50V 0402
C2111	Top	B	2	CHIPCAP X7R 3N3 J 50V 0402
C2112	Bottom	C	2	CHIPCAP NP0 47P J 50V 0402
C2113	Bottom	C	2	CHIPCAP X7R 3N3 J 50V 0402
C2114	Top	B	2	CHIPCAP X5R 100N K 16V 0402
C2115	Top	B	2	CHIPCAP X7R 390P J 50V 0402
C2116	Top	Q	6	CHIPCAP X5R 100N K 16V 0402
C2117	Top	R	5	CHIPCAP X7R 10N J 16V 0402
C2118	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2119	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2120	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2121	Bottom	C	6	CHIPCAP NP0 100P J 50V 0402
C2122	Bottom	C	5	CHIPCAP NP0 100P J 50V 0402
C2123	Bottom	C	5	CHIPCAP X5R 1U5 K 4V 0402
C2124	Bottom	C	5	CHIPCAP X5R 1U K 6V3 0603
C2126	Bottom	C	3	CHIPCAP X5R 100N K 16V 0402
C2127	Bottom	C	3	CHIPCAP X5R 100N K 16V 0402
C2128	Bottom	C	3	CHIPCAP X7R 10N J 16V 0402
C2129	Bottom	C	3	CHIPCAP X7R 10N J 16V 0402
C2130	Bottom	A	3	CHIPCAP X7R 3N3 J 50V 0402
C2200	Top	N	7	CHIPCAP X5R 1U K 6V3 0603
C2201	Top	N	7	CHIPCAP X7R 10N J 16V 0402
C2202	Top	P	6	CHIPCAP X7R 10N J 16V 0402
C2203	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2204	Top	M	6	CHIPCAP X5R 100N K 16V 0402
C2205	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2206	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402

Item	Side	X	Y	Description
C2207	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2208	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2209	Top	P	6	CHIPCAP X5R 1U5 K 4V 0402
C2210	Top	Q	7	CHIPCAP NP0 10P J 50V 0402
C2211	Top	P	8	CHIPCAP NP0 10P J 50V 0402
C2212	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2213	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2214	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2215	Top	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C2216	Top	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C2217	Top	P	5	CHIPCAP X5R 100N K 16V 0402
C2218	Top	O	4	CHIPCAP X5R 100N K 16V 0402
C2220	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2221	Top	N	5	CHIPCAP X5R 100N K 16V 0402
C2222	Top	N	5	CHIPCAP X5R 100N K 16V 0402
C2223	Top	N	7	CHIPCAP X5R 1U K 6V3 0603
C2224	Top	N	7	CHIPCAP X5R 220N K 6.3V 0402
C2225	Top	M	5	CHIPCAP X5R 1U5 K 4V 0402
C2226	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2227	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2228	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2230	Top	P	5	CHIPCAP X7R 10N J 16V 0402
C2231	Top	P	7	CHIPCAP X7R 10N J 16V 0402
C2232	Top	M	8	CHIPCAP X5R 4U7 K 6.3V 0603
C2233	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2234	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2235	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2236	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2237	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2238	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2239	Top	M	7	CHIPCAP X5R 1U K 6V3 0603
C2240	Top	M	7	CHIPCAP X5R 1U K 6V3 0603

Item	Side	X	Y	Description
C2241	Top	N	5	CHIPCAP X5R 1U5 K 4V 0402
C2300	Top	R	2	CHIPCAP X5R 10UF 6V3 0603
C2302	Top	R	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2303	Top	Q	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2304	Top	Q	2	CHIPCAP X5R 100N K 16V 0402
C2404	Top	R	8	CHIPCAP X5R 100N K 16V 0402
C2405	Top	Q	8	CHIPCAP X5R 4U7 K 6.3V 0603
C2406	Top	R	8	CHIPCAP X5R 100N K 16V 0402
C2407	Top	R	7	CHIPCAP X5R 1U0 K 25V T 1.0 1206
C2408	Top	R	6	CHIPCAP X5R 1U0 K 25V T 1.0 1206
C2410	Bottom	G	5	CHIPCAP NP0 10P J 50V 0402
C2600	Bottom	F	2	CHIPCAP X5R 100N K 16V 0402
C2602	Bottom	H	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2700	Bottom	R	2	CHIPCAP X5R 100N K 16V 0402
C2800	Top	O	2	CHIPCAP X5R 1U5 K 4V 0402
C2801	Top	P	2	CHIPCAP X7R 10N J 16V 0402
C2802	Top	O	3	CHIPCAP X7R 10N J 16V 0402
C2803	Top	Q	3	CHIPCAP X7R 10N J 16V 0402
C2804	Top	P	4	CHIPCAP X7R 10N J 16V 0402
C2805	Top	O	3	CHIPCAP X7R 10N J 16V 0402
C2806	Top	P	4	CHIPCAP X7R 10N J 16V 0402
C2807	Top	O	2	CHIPCAP X7R 10N J 16V 0402
C2808	Top	Q	2	CHIPCAP X7R 10N J 16V 0402
C2809	Top	Q	4	CHIPCAP X7R 10N J 16V 0402
C2810	Top	P	2	CHIPCAP X7R 10N J 16V 0402
C2900	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C2901	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C2902	Top	O	4	CHIPCAP X7R 10N J 16V 0402
C2903	Bottom	M	6	CHIPCAP X7R 1N0 J 50V 0402
C2904	Bottom	N	5	CHIPCAP X7R 33N K 10V 0402
C2905	Top	O	4	CHIPCAP X7R 10N J 16V 0402
C2906	Bottom	N	5	CHIPCAP X7R 1N0 J 50V 0402

Item	Side	X	Y	Description
C2907	Bottom	N	5	CHIPCAP X7R 33N K 10V 0402
C2908	Top	O	3	CHIPCAP X7R 47N K 10V 0402
C2909	Top	O	3	CHIPCAP X7R 4N7 J 25V 0402
C2910	Top	O	4	CHIPCAP X7R 47N K 10V 0402
C3000	Top	Q	4	CHIPCAP X7R 10N J 16V 0402
C3001	Top	S	2	CHIPCAP X5R 100N K 10V 0402
C3002	Top	Q	3	CHIPCAP X7R 10N J 16V 0402
C3003	Top	T	4	CHIPCAP X5R 100N K 16V 0402
C3004	Top	S	5	CHIPCAP X5R 100N K 16V 0402
C3200	Top	P	8	CHIPCAP X5R 4U7 K 6.3V 0603
C3201	Top	O	7	CHIPCAP X5R 100N K 16V 0402
C3202	Top	P	7	CHIPCAP X5R 1U K 6V3 0603
C3204	Top	O	8	CHIPCAP X5R 100N K 16V 0402
C3501	Top	T	4	CHIPCAP NP0 47P J 50V 0402
C3609	Bottom	C	4	CHIPCAP NP0 1P5 C 50V 0402
C3610	Bottom	C	4	CHIPCAP NP0 1P5 C 50V 0402
C3611	Bottom	C	6	CHIPCAP NP0 1P5 C 50V 0402
C3612	Bottom	C	6	CHIPCAP NP0 3P3 C 50V 0402
C3650	Top	N	3	CHIPCAP X5R 100N K 10V 0402
C3651	Top	N	3	CHIPCAP X5R 100N K 10V 0402
C3656	Top	N	5	CHIPCAP X7R 10N J 16V 0402
C3657	Top	N	4	CHIPCAP X5R 1U5 K 4V 0402
C6031	Bottom	S	5	CHIPCAP NP0 18P J 50V 0402
C6032	Bottom	M	5	CHIPCAP NP0 18P J 50V 0402
C6033	Bottom	Q	6	CHIPCAP X7R 10N J 16V 0402
C6034	Bottom	R	6	CHIPCAP X7R 10N J 16V 0402
C6035	Bottom	R	5	CHIPCAP X7R 10N J 16V 0402
C6036	Bottom	Q	6	CHIPCAP X7R 10N J 16V 0402
C6037	Bottom	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C6038	Bottom	R	5	CHIPCAP X7R 10N J 16V 0402
C6039	Bottom	R	6	CHIPCAP NP0 18P J 50V 0402
C6040	Bottom	S	2	CHIPCAP NP0 1P2 C 50V 0402

Item	Side	X	Y	Description
C6051	Bottom	R	6	CHIPCAP NP0 2P7 C 50V 0402
C6052	Bottom	R	6	CHIPCAP NP0 2P7 C 50V 0402
C6055	Bottom	S	5	CHIPCAP X5R 1U K 6V3 0402
C6101	Top	R	7	CHIPCAP X5R 100N K 16V 0402
C6102	Top	T	8	CHIPCAP NP0 100P J 50V 0402
C6103	Top	S	7	CHIPCAP NP0 47P J 50V 0402
C6104	Top	S	7	CHIPCAP NP0 27P J 50V 0402
C6105	Top	S	7	CHIPCAP X7R 10N J 16V 0402
C6107	Top	S	7	CHIPCAP X5R 100N K 16V 0402
C6108	Top	S	7	CHIPCAP X7R 10N J 16V 0402
C6109	Top	R	7	CHIPCAP X7R 33N K 10V 0402
C6110	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6111	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6112	Top	S	8	CHIPCAP X7R 33N K 10V 0402
C6113	Top	S	7	CHIPCAP X7R 33N K 10V 0402
C6114	Top	R	8	CHIPCAP X7R 33N K 10V 0402
C6115	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6200	Bottom	D	4	CHIPCAP X5R 1U5 K 4V 0402
C6203	Bottom	E	5	CHIPCAP X5R 100N K 16V 0402
C6205	Bottom	E	4	CHIPCAP X5R 1U5 K 4V 0402
C6206	Bottom	E	4	CHIPCAP X5R 1U K 6V3 0402
C6250	Bottom	D	5	CHIPCAP X5R 100N K 10V 0402
C6251	Bottom	E	5	CHIPCAP NP0 2P7 C 50V 0402
C6253	Bottom	E	2	CHIPCAP NP0 47P J 50V 0402
C6255	Bottom	E	3	CHIPCAP X7R 10N J 16V 0402
C6256	Bottom	D	3	CHIPCAP NP0 22P J 50V 0402
C6257	Bottom	D	3	CHIPCAP NP0 2P7 C 50V 0402
C6258	Bottom	D	3	CHIPCAP NP0 15P J 50V 0402
C6259	Bottom	E	3	CHIPCAP X7R 10N J 16V 0402
C6260	Bottom	E	3	CHIPCAP NP0 22P J 50V 0402
C6261	Bottom	E	3	CHIPCAP X7R 10N J 16V 0402
C6262	Bottom	E	3	CHIPCAP NP0 22P J 50V 0402

Item	Side	X	Y	Description
C6263	Bottom	D	3	CHIPCAP NP0 22P J 50V 0402
C6264	Bottom	D	3	CHIPCAP NP0 22P J 50V 0402
C6265	Bottom	D	3	CHIPCAP X7R 10N J 16V 0402
C6266	Bottom	D	3	CHIPCAP NP0 22P J 50V 0402
C6267	Bottom	E	4	CHIPCAP NP0 22P J 50V 0402
C6268	Bottom	E	4	CHIPCAP X5R 100N K 16V 0402
C6600	Bottom	F	2	CHIPCAP X5R 220N K 6.3V 0402
C6601	Bottom	F	3	CHIPCAP X5R 100N K 16V 0402
C6602	Bottom	F	3	CHIPCAP NP0 27P J 50V 0402
C6603	Bottom	G	5	CHIPCAP X5R 100N K 16V 0402
C6604	Bottom	G	5	CHIPCAP NP0 27P J 50V 0402
C6607	Bottom	H	4	CHIPCAP X7R 10N J 16V 0402
C6608	Bottom	H	6	CHIPCAP X5R 100N K 16V 0402
C6612	Bottom	G	2	CHIPCAP X5R 4U7 K 6.3V 0603
C6613	Bottom	G	2	CHIPCAP X5R 10U M 6V3 0805
C6614	Bottom	H	4	CHIPCAP X5R 4U7 K 6.3V 0603
C6615	Bottom	G	6	CHIPCAP X5R 100N K 16V 0402
C6617	Bottom	G	3	CHIPCAP X5R 4U7 K 6.3V 0603
C6618	Bottom	F	2	CHIPCAP X7R 33N K 10V 0402
C6619	Bottom	H	2	CHIPCAP X5R 4U7 K 6.3V 0603
C6621	Bottom	G	3	CHIPCAP NP0 10P J 50V 0402
C7000	Bottom	K	8	CHIPCAP X7R 10N J 16V 0402
C7001	Bottom	K	7	CHIPCAP X7R 10N J 16V 0402
C7002	Bottom	M	6	CHIPCAP X5R 100N K 10V 0402
C7003	Bottom	L	8	CHIPCAP NP0 3P3 C 50V 0402
C7004	Bottom	L	8	CHIPCAP NP0 220P J 25V 0402
C7005	Bottom	M	8	CHIPCAP NP0 100P J 50V 0402
C7006	Bottom	M	8	CHIPCAP NP0 2N2 J 16V 0603
C7007	Bottom	L	8	CHIPCAP NP0 100P J 50V 0402
C7008	Bottom	M	7	CHIPCAP NP0 4P7 C 50V 0402
C7009	Bottom	M	7	CHIPCAP X5R 1U K 6V3 0402
C7010	Bottom	M	7	CHIPCAP NP0 3P3 C 50V 0402

Item	Side	X	Y	Description
C7011	Bottom	L	8	CHIPCAP X7R 10N J 16V 0402
C7012	Bottom	L	8	CHIPCAP NP0 18P J 50V 0402
C7013	Bottom	L	6	CHIPCAP NP0 33P J 50V 0402
C7014	Bottom	L	6	CHIPCAP NP0 18P J 50V 0402
C7015	Bottom	L	6	CHIPCAP NP0 33P J 50V 0402
C7016	Bottom	L	6	CHIPCAP X7R 10N J 16V 0402
C7017	Bottom	L	6	CHIPCAP NP0 47P J 50V 0402
C7018	Bottom	K	7	CHIPCAP NP0 10P J 50V 0402
C7019	Bottom	M	7	CHIPCAP NP0 12P J 50V 0402
C7020	Bottom	M	7	CHIPCAP NP0 18P J 50V 0402
C7021	Bottom	M	7	CHIPCAP X7R 10N J 16V 0402
C7022	Bottom	K	6	CHIPCAP NP0 3P3 C 50V 0402
C7023	Bottom	K	6	CHIPCAP NP0 1P2 C 50V 0402
C7024	Bottom	K	7	CHIPCAP NP0 1P2 C 50V 0402
C7026	Bottom	K	7	CHIPCAP NP0 0P5 C 50V 0402
C7027	Bottom	K	7	CHIPCAP NP0 0P5 C 50V 0402
C7029	Bottom	K	7	CHIPCAP NP0 3P3 C 50V 0402
C7030	Bottom	K	8	CHIPCAP NP0 3P3 C 50V 0402
C7031	Bottom	M	7	CHIPCAP NP0 30P G 50V 0402
C7100	Bottom	M	4	CHIPCAP X7R 10N J 16V 0402
C7101	Bottom	M	4	CHIPCAP X5R 330N K 10V 0603
C7102	Bottom	L	4	CHIPCAP X7R 33N K 10V 0402
C7103	Bottom	L	4	CHIPCAP NP0 33P J 50V 0402
C7104	Bottom	L	4	CHIPCAP X7R 1N0 J 50V 0402
C7105	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7106	Bottom	M	3	CHIPCAP X7R 10N J 16V 0402
C7107	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7108	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7109	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7110	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7111	Bottom	M	3	CHIPCAP X7R 10N J 16V 0402
C7112	Bottom	L	4	CHIPCAP X7R 10N J 16V 0402

Item	Side	X	Y	Description
C7113	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7162	Bottom	I	2	CHIPCAP NP0 100P J 50V 0402
C7163	Bottom	I	2	CHIPCAP NP0 100P J 50V 0402
C7164	Bottom	J	2	CHIPCAP NP0 100P J 50V 0402
C7165	Bottom	H	3	CHIPCAP NP0 56P J 50V 0402
C7166	Bottom	H	4	CHIPCAP NP0 1P8 C 50V 0402
C7167	Bottom	H	2	CHIPCAP NP0 12P J 50V 0402
C7168	Bottom	H	2	CHIPCAP X5R 100N K 10V 0402
C7169	Bottom	I	2	CHIPCAP NP0 1P5 C 50V 0402
C7170	Bottom	J	4	CHIPCAP NP0 100P J 50V 0402
C7171	Bottom	J	4	CHIPCAP NP0 5P6 C 50V 0402
C7172	Bottom	I	4	CHIPCAP X7R 47N K 10V 0402
C7173	Bottom	I	2	CHIPCAP NP0 12P J 50V 0402
C7174	Bottom	J	2	CHIPCAP X7R 3N3 J 50V 0402
C7175	Bottom	J	2	CHIPCAP NP0 22P J 50V 0402
C7176	Bottom	J	3	CHIPCAP X7R 1N0 J 50V 0402
C7177	Bottom	J	3	CHIPCAP NP0 4P7 C 50V 0402
C7178	Bottom	J	4	CHIPCAP NP0 3P9 C 50V 0402
C7179	Bottom	K	4	CHIPCAP NP0 10P J 50V 0402
C7180	Bottom	K	3	CHIPCAP NP0 6P8 C 50V 0402
C7181	Bottom	K	3	CHIPCAP NP0 6P8 C 50V 0402
C7182	Bottom	K	3	CHIPCAP X7R 3N3 J 50V 0402
C7183	Bottom	J	2	CHIPCAP X5R 100N K 10V 0402
C7184	Bottom	J	3	CHIPCAP NP0 2P2 C 50V 0402
C7185	Bottom	J	3	CHIPCAP NP0 100P J 50V 0402
C7187	Bottom	L	2	CHIPCAP NP0 12P J 50V 0402
C7188	Bottom	L	2	CHIPCAP NP0 12P J 50V 0402
C7189	Bottom	H	3	CHIPCAP NP0 0P5 C 50V 0402
C7200	Bottom	L	4	CHIPCAP X5R 1U K 6V3 0402
C7201	Bottom	L	5	CHIPCAP X7R 10N J 16V 0402
C7202	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7203	Bottom	L	5	CHIPCAP NP0 15P J 50V 0402

Item	Side	X	Y	Description
C7205	Bottom	L	5	CHIPCAP NP0 8P2 C 50V 0402
C7206	Bottom	L	8	CHIPCAP NP0 27P J 50V 0402
C7207	Bottom	M	2	CHIPCAP NP0 22P J 50V 0402
C7208	Bottom	L	5	CHIPCAP NP0 18P J 50V 0402
C7209	Bottom	L	4	CHIPCAP X7R 10N J 16V 0402
C7210	Bottom	M	4	CHIPCAP X5R 100N K 10V 0402
C7211	Bottom	L	5	CHIPCAP NP0 47P J 50V 0402
C7212	Bottom	J	4	CHIPCAP NP0 1P8 C 50V 0402
C7213	Bottom	L	5	CHIPCAP X7R 3N3 J 50V 0402
C7214	Bottom	L	4	CHIPCAP X7R 33N K 10V 0402
C7215	Bottom	L	4	CHIPCAP X7R 6N8 K 25V 0402
C7216	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7217	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7218	Bottom	K	4	CHIPCAP X5R 1U K 6V3 0402
C7219	Bottom	K	5	CHIPCAP X7R 10N J 16V 0402
C7220	Bottom	J	5	CHIPCAP X5R 100N K 10V 0402
C7221	Bottom	M	4	CHIPCAP X7R 10N J 16V 0402
C7222	Bottom	M	4	CHIPCAP X5R 100N K 10V 0402
C7300	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7301	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402
C7302	Bottom	J	7	CHIPCAP X7R 10N J 16V 0402
C7303	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402
C7304	Bottom	I	8	CHIPCAP NP0 15P J 50V 0402
C7305	Bottom	J	8	CHIPCAP X7R 1N0 J 50V 0402
C7306	Bottom	J	8	CHIPCAP NP0 10P J 50V 0402
C7311	Bottom	B	8	CHIPCAP NP0 10P J 50V 0402
C7312	Bottom	B	8	CHIPCAP NP0 47P J 50V 0402
C7313	Bottom	D	6	CHIPCAP X7R 10N J 16V 0402
C7314	Bottom	D	6	CHIPCAP NP0 10P J 50V 0402
C7315	Bottom	D	6	CHIPCAP X7R 3N3 J 50V 0402
C7316	Bottom	D	6	CHIPCAP X7R 3N3 J 50V 0402
C7317	Bottom	I	7	CHIPCAP X5R 10U M 6V3 0805

Item	Side	X	Y	Description
C7318	Bottom	H	8	CHIPCAP X5R 10U M 6V3 0805
C7319	Bottom	I	7	CHIPCAP NP0 270P J 50V 0402
C7320	Bottom	J	6	CHIPCAP X7R 6N8 K 25V 0402
C7321	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7322	Bottom	I	6	CHIPCAP X7R 1N0 J 50V 0402
C7323	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7324	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402
C7325	Bottom	I	6	CHIPCAP NP0 7P5 C 50V 0402
C7326	Bottom	I	7	CHIPCAP NP0 3P3 C 50V 0402
C7350	Bottom	F	6	CHIPCAP NP0 47P J 50V 0402
C7351	Bottom	F	6	CHIPCAP NP0 47P J 50V 0402
C7352	Bottom	F	6	CHIPCAP NP0 10P J 50V 0402
C7353	Bottom	G	7	CHIPCAP NP0 47P J 50V 0402
C7354	Bottom	F	6	CHIPCAP X5R 4U7 K 6.3V 0603
C7355	Bottom	F	6	CHIPCAP X5R 4U7 K 6.3V 0603
C7356	Bottom	G	8	CHIPCAP X7R 10N J 16V 0402
C7357	Bottom	G	6	CHIPCAP X5R 10U M 6V3 0805
C7358	Bottom	G	7	CHIPCAP X5R 10U M 6V3 0805
D2200	Top	O	6	UEMEK2v0 LF WDENA TFBGA244
D2800	Top	P	3	TIKUEDGE v2.0 LF C027 GZG289
D3000	Top	R	3	COMBO 128MNOR+256MM3+128MSDRAM FBGA133
D6200	Bottom	D	4	GPS5002ZRE GPS ASIC UBGA63
D6601	Bottom	H	5	HW ACCELERATOR STV0984N
E2100	Bottom	T	4	CONN SPACER PAD
E2101	Bottom	T	3	CONN SPACER PAD
F2000	Top	U	3	SM FUSE F 2.0A 32V 0603
G6250	Bottom	E	5	TCXO 16.368MHZ +-1.5PPM 2.8V GPS
G7200	Bottom	L	5	VCTCXO 19.2MHZ +-2PPM 2.78V 2.2MA
G7201	Bottom	J	5	UHF VCO 986-1034MHz/2040-2140MHz
L2000	Top	U	3	FERR.BEAD 220R/100M 2A 0R05 0603
L2001	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402
L2002	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402

Item	Side	X	Y	Description
L2003	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402
L2004	Top	T	6	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2005	Top	T	7	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2006	Top	U	7	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2100	Top	B	2	FERRITE BEAD 0.6R 600R/100MZ 0402
L2101	Bottom	A	3	FERRITE BEAD 0.6R 600R/100MZ 0402
L2102	Bottom	C	2	FERRITE BEAD 0.6R 600R/100MZ 0402
L2103	Top	B	1	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2104	Bottom	B	6	CHIP BEAD ARRAY 2X220R 0405
L2105	Top	A	1	CHIP COIL 100N J Q16/300MHZ 0402
L2301	Top	S	2	INDUCT WW 10UH 0A34 0R54 310 case size
L2302	Top	Q	2	FERR.BEAD 220R/100M 2A 0R05 0603
L2400	Top	R	8	FERR.BEAD 220R/100M 2A 0R05 0603
L2401	Top	Q	7	CHOKE 3U3 M 0R1 1.2A 4.0X4.0X1.2
L3609	Bottom	C	4	CHIP COIL 6N8 K Q29/800MHZ 0402
L3610	Bottom	C	4	CHIP COIL 6N8 K Q29/800MHZ 0402
L3611	Bottom	C	7	CHIP COIL 6N8 K Q29/800MHZ 0402
L3612	Bottom	C	6	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L6030	Bottom	R	6	CHIP COIL 2N7 +-0N3 Q29/800M 0402
L6031	Bottom	R	6	CHIP COIL 2N7 +-0N3 Q29/800M 0402
L6032	Bottom	R	5	CHIP COIL 22N J Q28/800MHZ 0402
L6100	Top	T	7	CHIP COIL 68N J Q17/300MHZ 0402
L6101	Top	S	7	CHIP COIL 120NH J Q8/100MHZ 0402
L6102	Top	S	7	CHIP COIL 47N +-3% Q25/200MHz 0402
L6251	Bottom	D	3	CHIP COIL 8N2 J Q28/800MHZ 0402
L6254	Bottom	E	3	CHIP COIL 3N9 +-0N3 Q28/800M 0402
L7000	Bottom	M	7	CHIP COIL 27N J Q27/800MHZ 0402
L7001	Bottom	K	6	CHIP COIL 27N J Q27/800MHZ 0402
L7002	Bottom	K	6	CHIP COIL 33N J Q23/800MHZ 0402
L7003	Bottom	K	6	CHIP COIL 27N J Q27/800MHZ 0402
L7004	Bottom	K	7	CHIP COIL 6N8 J Q27/800MHZ 0402
L7005	Bottom	K	7	CHIP COIL 12N J Q31/800MHZ 0402

Item	Side	X	Y	Description
L7006	Bottom	K	7	CHIP COIL 6N8 J Q27/800MHZ 0402
L7101	Bottom	L	4	CHIP COIL 33NH J Q12/100MHZ 0603
L7160	Bottom	H	3	CHIP COIL 7N5 Q25/100MHZ 0402
L7161	Bottom	H	3	CHIP COIL 19N J Q24/250MHZ 0402
L7162	Bottom	I	2	CHIP COIL 12N J Q31/800MHZ 0402
L7163	Bottom	J	3	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7164	Bottom	J	4	CHIP COIL 82N +-0N3 Q17/300M 0402
L7165	Bottom	H	4	CHIP COIL 12N J Q31/800MHZ 0402
L7166	Bottom	I	2	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7167	Bottom	I	4	CHIP COIL 220N J Q8/50MHZ 0603
L7168	Bottom	I	2	CHIP COIL 18N J Q29/800MHZ 0402
L7169	Bottom	I	4	CHIP COIL 15N J Q30/800MHZ 0402
L7170	Bottom	J	3	CHIP COIL 82N +-0N3 Q17/300M 0402
L7171	Bottom	J	4	CHIP COIL 180N J Q13/100MHZ 0603
L7172	Bottom	K	4	CHIP COIL 120N J Q16/100MHZ 0603
L7173	Bottom	K	4	CHIP COIL 120N J Q16/100MHZ 0603
L7174	Bottom	K	3	CHIP COIL 220N J Q8/50MHZ 0603
L7175	Bottom	K	3	CHIP COIL 220N J Q8/50MHZ 0603
L7176	Bottom	J	3	CHIP COIL 120N J Q16/100MHZ 0603
L7177	Bottom	L	2	CHIP COIL 100N J Q12/100MHZ 0603
L7178	Bottom	L	2	CHIP COIL 120N J Q16/100MHZ 0603
L7179	Bottom	L	2	CHIP COIL 120N J Q16/100MHZ 0603
L7201	Bottom	J	4	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7301	Bottom	I	7	CHIP COIL 3N9 +-0N3 Q28/800M 0402
L7302	Bottom	D	8	DIR.COUPLER 1850-1910MHZ 1.6X0.8
L7303	Bottom	B	7	CHIP COIL 33N J Q23/800MHZ 0402
L7304	Bottom	D	7	CHIP COIL 10N J Q30/800MHZ 0402
L7305	Bottom	D	7	DIR.COUPLER 824-849MHZ 1.6X0.8MM
L7306	Bottom	I	7	CHIP COIL 22N J Q28/800MHZ 0402
L7350	Bottom	G	7	FERRITE BEAD 0.015R 42R/100M 0805
L7351	Bottom	F	7	INDUCT WW 1.5UH 0.096 OHM 1.1A
L7397	Bottom	B	7	CHIP COIL 10N J Q30/800MHZ 0402

Item	Side	X	Y	Description
M2400	Bottom	T	5	SMD-VIBRA MOTOR 1.3V 80mA 9000RPM
N2001	Top	Q	5	NUT/CP2137 ASIC HBCC16++
N2100	Bottom	C	5	AF AMP 1W LM4990 NOPB 2.8V uSMD9
N2300	Top	R	2	DC/DC CONV LM3661-1.35V/1.05V
N2401	Top	R	7	STEP-UP DC/DC CONV TK11891F-G SON3024-8
N2600	Bottom	G	1	IRDA 1.15Mbps 2V4
N3200	Top	O	8	VREG & LEVELSHIFT(LP3928)USMD16
N3650	Top	N	4	VREG LP3985ITLX-2.8 NOPB USMD5
N6030	Bottom	R	6	BC4-ROM1.0RDL
N6100	Top	S	7	FM RECEIVER TEA5761UK N4B (Ti) CSP
N6200	Bottom	E	4	LI VREG TK63128B-G 2.8V WLCSP4
N6250	Bottom	D	2	TR BGA622 LNA 3V NF 1.1DB SOT343
N6251	Bottom	D	3	GPS RX TRF5101 PG2.1 PBGA-49
N6600	Bottom	G	2	REG LP3981YDX-2.8/NOPB 0.3A LLP-6
N6601	Bottom	H	3	LI VREG 1.2V/150mA (LP3990YD 1.2) LLP6
N6602	Bottom	G	3	LI VREG TK63118B-G 1.8V WLCSP4
N7000	Bottom	L	7	JUPITER D4 PMB3365G VQFN-40
N7100	Bottom	L	3	BATMAN RF RX ASIC STB7102FTR
N7160	Bottom	I	3	LNA/MIXER/DOWNCNTR ALFRED VQFN-24
N7200	Bottom	M	5	1XPLL/SYNTH 2.5GHZ(LMX2310U)MLF20
N7300	Bottom	J	7	PW AMP RF3448 CDMA1900
N7301	Bottom	J	6	PW AMP RF3449 CDMA800 LFM
N7302	Bottom	D	6	ASIP STPAC01F2 CDMA PWR DET BGA-8
N7350	Bottom	F	6	RF4013 V-E2.2 DC-DC BUCK CONV QFN 16
R2001	Bottom	G	7	CHIP VARISTOR VWM15V VC50V 0402
R2002	Top	S	5	NTC RES 0W1 47K J B 4050+-3% 0402
R2003	Top	T	3	CHIPRES 0W06 100K J 0402
R2004	Top	U	3	CHIPRES 0W06 33R J 0402
R2005	Top	U	3	CHIP VARISTOR VWM15V VC50V 0402
R2006	Top	T	3	ASIP USB2 FILTER BGA10 PBFREE
R2007	Top	U	3	CHIPRES 0W06 220K J 0402

Item	Side	X	Y	Description
R2008	Top	U	3	CHIPRES 0W06 220K J 0402
R2009	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2010	Top	T	7	CHIP VARISTOR VWM15V VC50V 0402
R2011	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2012	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2013	Bottom	Q	7	ASIP 4XESD *** PB-FREE *** BGA5
R2017	Top	T	5	CHIPRES 0W06 330R J 0402
R2018	Top	T	7	CHIPRES 0W06 330R J 0402
R2019	Top	S	6	CHIP VARISTOR VWM15V VC50V 0402
R2020	Top	S	6	CHIP VARISTOR VWM15V VC50V 0402
R2100	Top	R	6	CHIPRES 0W06 10K J 0402
R2101	Top	S	6	CHIPRES 0W06 1K0 J 0402
R2102	Top	Q	6	CHIPRES 0W06 10R J 0402
R2103	Top	Q	6	CHIPRES 0W06 10R J 0402
R2106	Top	N	2	CHIPRES 0W06 100K J 0402
R2107	Bottom	C	1	CHIP VARISTOR VWM15V VC50V 0402
R2108	Top	R	5	CHIPRES 0W06 1K0 J 0402
R2111	Top	R	6	CHIPRES 0W06 47K J 0402
R2112	Bottom	D	5	CHIPRES 0W06 100K J 0402
R2113	Bottom	C	4	CHIPRES 0W06 22K J 0402
R2114	Bottom	C	6	CHIPRES 0W06 100K J 0402
R2115	Bottom	C	4	CHIPRES 0W06 22K J 0402
R2116	Bottom	D	5	CHIPRES 0W06 100K J 0402
R2117	Bottom	B	7	CHIP VARISTOR VWM15V VC50V 0402
R2118	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R2119	Top	S	5	CHIPRES 0W06 100K J 0402
R2120	Top	S	6	CHIPRES 0W06 100K J 0402
R2121	Bottom	A	1	CHIPRES 0W06 4K7 J 0402
R2123	Bottom	C	3	CHIPRES 0W06 2K2 J 0402
R2124	Bottom	C	3	CHIPRES 0W06 2K2 J 0402
R2200	Top	N	7	CHIPRES 0W25 0R22 J 0805
R2202	Top	Q	5	CHIPRES 0W06 10K J 0402

Item	Side	X	Y	Description
R2203	Top	Q	5	CHIPRES 0W06 4K7 J 0402
R2204	Top	Q	5	CHIPRES 0W06 4K7 J 0402
R2205	Top	Q	5	CHIPRES 0W06 100K J 0402
R2206	Top	Q	5	CHIPRES 0W06 100K J 0402
R2207	Top	P	7	CHIPRES 0W06 100K J 0402
R2208	Top	M	5	CHIPRES 0W06 27K J 0402
R2209	Top	O	7	CHIPRES 0W06 100K J 0402
R2401	Bottom	G	8	CHIP VARISTOR VWM15V VC50V 0402
R2403	Bottom	C	8	CHIP VARISTOR VWM15V VC50V 0402
R2404	Bottom	G	8	CHIP VARISTOR VWM15V VC50V 0402
R2406	Top	R	6	CHIPRES 0W06 10K J 0402
R2407	Top	R	6	CHIPRES 0W06 330K J 0402
R2408	Top	T	4	CHIPRES 0W06 33R J 0402
R2409	Top	T	3	CHIPRES 0W06 20R J 0402
R2410	Top	T	3	CHIPRES 0W06 10K J 0402
R2411	Top	T	3	CHIPRES 0W06 33R J 0402
R2412	Bottom	R	4	CHIPRES 0W06 10K J 0402
R2413	Top	S	5	CHIPRES 0W06 10K J 0402
R2414	Bottom	R	4	CHIPRES 0W06 10K J 0402
R2415	Bottom	S	5	CHIPRES 0W06 82R J 0402
R2416	Bottom	R	5	CHIPRES 0W06 82R J 0402
R2417	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2418	Bottom	Q	5	CHIPRES 0W06 33R J 0402
R2419	Bottom	Q	5	CHIPRES 0W06 33R J 0402
R2420	Bottom	C	7	CHIP VARISTOR VWM15V VC50V 0402
R2421	Bottom	Q	8	CHIP VARISTOR VWM15V VC50V 0402
R2422	Bottom	R	8	CHIP VARISTOR VWM15V VC50V 0402
R2423	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2424	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2425	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2426	Top	T	4	CHIPRES 0W06 10K J 0402
R2427	Top	Q	6	CHIPRES JUMPER 0R0 0402

Item	Side	X	Y	Description
R2430	Top	T	2	CHIPRES 0W06 68R J 0402
R2432	Top	T	3	CHIPRES 0W06 20R J 0402
R2600	Bottom	H	2	CHIPRES 0W125 4R7 J 0805
R2700	Bottom	R	3	ASIP SIM INTERFACE **low cap** BGA8
R2800	Bottom	I	5	CHIPRES 0W06 4K7 J 0402
R2801	Bottom	I	5	CHIPRES 0W06 4K7 J 0402
R2803	Top	Q	4	CHIPRES 0W06 100R J 0402
R2804	Top	Q	4	CHIPRES 0W06 100R J 0402
R2809	Top	Q	4	CHIPRES 0W06 10K J 0402
R2900	Bottom	M	2	CHIPRES 0W06 4K7 J 0402
R2901	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2902	Bottom	O	5	CHIPRES 0W06 4K7 J 0402
R2904	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2905	Bottom	N	5	CHIPRES 0W06 4K7 J 0402
R2906	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2907	Top	O	2	CHIPRES 0W06 1K0 J 0402
R2908	Top	O	3	CHIPRES 0W06 4K7 J 0402
R3000	Top	Q	3	CHIPRES 0W06 47R J 0402
R3001	Top	S	5	CHIPRES 0W06 100K J 0402
R3002	Top	S	5	CHIPRES 0W06 4K7 J 0402
R3207	Top	N	7	CHIPRES 0W06 1K0 J 0402
R3208	Top	P	2	CHIPRES 0W06 100K J 0402
R3209	Top	P	2	CHIPRES 0W06 100K J 0402
R3502	Top	U	4	CHIPRES 0W06 4K7 J 0402
R3503	Top	U	4	CHIP VARISTOR VWM15V VC50V 0402
R3600	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R3611	Top	N	4	ASIP 4XESD *** PB-FREE *** BGA5
R3614	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R3652	Top	N	4	CHIPRES JUMPER 0R0 0402
R3654	Top	N	5	CHIPRES 0W06 100K J 0402
R6030	Bottom	Q	6	CHIPRES 0W06 10K J 0402
R6031	Bottom	R	5	CHIPRES 0W06 10K J 0402

Item	Side	X	Y	Description
R6032	Bottom	Q	6	CHIPRES 0W06 2R2 J 0402
R6034	Bottom	R	6	CHIPRES 0W06 10K J 0402
R6037	Bottom	R	5	CHIPRES 0W06 100K J 0402
R6100	Top	S	7	CHIPRES 0W06 10K J 0402
R6101	Top	S	7	CHIPRES 0W06 100K J 0402
R6205	Bottom	D	4	CHIPRES 0W06 10K J 0402
R6251	Bottom	D	5	CHIPRES 0W06 10R J 0402
R6600	Bottom	H	4	CHIPRES 0W06 4K7 J 0402
R6601	Bottom	G	4	CHIPRES 0W06 4K7 J 0402
R6602	Bottom	H	4	CHIPRES JUMPER 0R0 0402
R6604	Bottom	G	3	CHIPRES 0W06 10K J 0402
R6608	Bottom	I	5	CHIPRES JUMPER 0R0 0402
R6628	Bottom	F	2	CHIPRES 0W06 100K J 0402
R7000	Bottom	K	8	CHIPRES JUMPER 0R0 0402
R7001	Bottom	M	8	CHIPRES 0W06 10K J 0402
R7002	Bottom	M	8	CHIPRES 0W06 27K J 0402
R7007	Bottom	M	6	CHIPRES 0W06 22K J 0402
R7008	Bottom	M	7	CHIPRES 0W06 43K 1% 0402
R7009	Bottom	L	6	CHIPRES 0W06 12K J 0402
R7010	Bottom	K	7	CHIPRES JUMPER 0R0 0402
R7011	Bottom	M	7	CHIPRES 0W06 150R J 0402
R7012	Bottom	M	7	CHIPRES 0W06 180R J 0402
R7100	Bottom	M	4	CHIPRES 0W06 1K0 J 0402
R7101	Bottom	M	4	CHIPRES 0W06 470R J 0402
R7102	Bottom	M	4	CHIPRES 0W06 4K7 J 0402
R7103	Bottom	M	2	CHIPRES 0W06 8K2 J 0402
R7104	Bottom	M	3	CHIPRES 0W06 27K J 0402
R7161	Bottom	I	2	CHIPRES 0W06 47K J 0402
R7162	Bottom	J	2	CHIPRES 0W06 47K J 0402
R7163	Bottom	J	2	CHIPRES 0W06 47K J 0402
R7164	Bottom	H	2	CHIPRES 0W06 4R3 J 0402
R7165	Bottom	J	3	CHIPRES 0W06 82R J 0402

Item	Side	X	Y	Description
R7166	Bottom	I	2	CHIPRES 0W06 4R3 J 0402
R7200	Bottom	L	4	CHIPRES 0W06 10R J 0402
R7201	Bottom	K	4	CHIPRES 0W06 10K J 0402
R7206	Top	O	3	CHIPRES JUMPER 0R0 0402
R7209	Bottom	L	4	CHIPRES 0W06 10R J 0402
R7210	Bottom	J	5	CHIPRES 0W06 150R J 0402
R7211	Bottom	L	5	CHIPRES 0W06 3K9 J 0402
R7212	Bottom	K	5	CHIPRES 0W06 10K J 0402
R7213	Bottom	K	5	CHIPRES 0W06 10K J 0402
R7215	Bottom	J	5	CHIPRES 0W06 2K2 J 0402
R7216	Bottom	M	4	CHIPRES 0W06 10R J 0402
R7300	Bottom	J	7	CHIPRES JUMPER 0R0 0402
R7301	Bottom	D	8	CHIPRES 0W06 56R J 0402
R7306	Bottom	J	6	CHIPRES JUMPER 0R0 0402
R7307	Bottom	D	7	CHIPRES 0W06 56R J 0402
R7308	Bottom	I	7	NTC RES 0W1 47K J B 4050+-3% 0402
R7310	Bottom	B	7	CHIPRES JUMPER 0R0 0402
R7350	Bottom	G	7	CHIPRES 0W06 100R J 0402
R7352	Bottom	F	7	CHIPRES 0W06 1K8 J 0402
S2401	Bottom	C	8	SM SW TACT SPST 12V SIDE KEY 2.2N
S2402	Bottom	F	8	SM SW TACT SPST 12V SIDE KEY 2.2N
S2403	Bottom	R	8	SM SW TACT SPST 12V SIDE KEY 2.2N
V2000	Top	U	2	ASIP TVS BGA4
V2001	Top	T	5	TRX2 N 40V 0A1 GENERAL PURPOSE SOT666
V2002	Top	U	7	TRX2 N 40V 0A1 GENERAL PURPOSE SOT666
V2100	Top	R	6	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2101	Top	R	6	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2400	Top	Q	6	DI SCH RB160M-30 1A <0.48 SOD123F
V2402	Top	S	5	DI SCH DUAL 0.4V 1MA SOT490
V2403	Top	T	4	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2404	Top	T	3	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666

Item	Side	X	Y	Description
V2405	Top	U	2	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2406	Top	R	5	DI SCH DUAL 0.4V 1MA SOT490
V2407	Top	T	2	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2408	Bottom	R	4	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2409	Top	S	5	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2410	Bottom	R	4	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2900	Bottom	O	5	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2901	Bottom	N	5	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2902	Top	O	4	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V7100	Bottom	L	4	CAP.DI BBY57-02W 1/4 16/4P SOD523
X0001	Top	M	7	MODULE ID COMPONENT 2.8X1.8X0.3
X2000	Bottom	H	7	SM BATTERY CONN 3POL SPR 12V 2A
X2001	Bottom	U	5	CONN SYST SM 14POL
X2002	Top	U	5	SM CONN 16P SPR P1.3 50V PWB/PWB
X2101	Bottom	B	2	HEADSET JACK 4-POLE
X2700	Bottom	P	3	SM SIM CONN 2X3POL P2.54 50V 0.5A
X3200	Bottom	O	7	CONN MICRO SD HINGE
X3650	Top	M	3	SM CONN 2X12F P0.4 30V.3A PWB/PWB
X6200	Bottom	D	2	CONN MULTI POGO PIN 2 5.8X3X2.5
X6250	Bottom	F	2	CONN SM COAX +SW F 50R 250V 6GHZ
X6600	Bottom	F	4	SMIA85 SOCKET
X6601	Bottom	F	5	CONN 2POL SPR 6.6X6.8X2.5
X7300	Top	A	7	CONN SM COAX +SW F 50R 250V 6GHZ
Z2101	Top	S	6	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2102	Top	P	7	ASIP AUDIO OUTPUT STAGE
Z2103	Bottom	A	3	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2105	Bottom	S	4	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2400	Top	U	4	ASIP KEYBOARD INTERFACE *PB-FREE*
Z3200	Top	N	8	ASIP MMC HIGH SPEED ESD/EMI FILT BGA16
Z3600	Top	M	4	ASIP 10-CH ESD EMI FILTER BGA25
Z6030	Bottom	S	6	LTCC FILT 2441.75+-41.75MHZ 2.5X2

Item	Side	X	Y	Description
Z6250	Bottom	F	2	CER FILT 1575.42+-40MHZ 3.6X3.6
Z6251	Bottom	D	2	SAW FILT 1575.42MHZ 2X1.6X0.6
Z7000	Bottom	K	6	SAW FILT 836.5+-12.5MHZ/2.5 2X1.6
Z7001	Bottom	K	7	SAW FILT 1850-1910MHZ 2X1.6X0.68
Z7160	Bottom	I	4	SAW FILT 881.52 MHz 2X1.6X0.8
Z7161	Bottom	I	2	SAW FILT 1960+-30MHz/3.5dB 2x1.6
Z7162	Bottom	J	4	XTAL FILT 128.1MHZ/4DB 3X3X1
Z7163	Bottom	K	2	SAW FILT 128.1MHZ 7X5X1.48
Z7300	Bottom	E	7	DUPL 1930-1990/1850-1910MHZ 5X5
Z7301	Bottom	D	7	DIPL 1850-1990/824-894MHZ
Z7302	Bottom	E	6	DUPL 824-849/869-894MHZ 3.8X3.8X1.5

6275 Parts List – Version 007 – Engine Code 0203038

Item	Side	X	Y	Description
A0001	Top	Q	5	BB SHIELD ASSEMBLY
A0002	Bottom	K	4	RX SHIELD ASSEMBLY
A0003	Bottom	K	7	TX SHIELD ASSEMBLY
A0004	Bottom	D	7	DUPLEXOR SHIELD ASSEMBLY
A0005	Bottom	D	3	GPS SHIELD ASSEMBLY
A0006	Bottom	F	7	DC DC SHIELD COVER
A0007	Bottom	R	6	BT SHIELD ASSEMBLY
B2200	Top	P	7	CRYSTAL 32.768KHZ +/-30PPM 12.5PF
C2001	Bottom	I	6	CHIPCAP X7R 10N K 50V 0603
C2002	Bottom	H	8	CHIPCAP NP0 47P J 50V 0402
C2004	Top	U	3	CHIPCAP X7R 1N0 J 50V 0402
C2005	Top	U	3	CHIPCAP NP0 22P J 50V 0402
C2006	Top	T	3	CHIPCAP X5R 100N K 16V 0402
C2007	Top	U	3	CHIPCAP X5R 1U K 6V3 0402
C2008	Top	Q	5	CHIPCAP X5R 1U K 6V3 0402
C2009	Top	R	5	CHIPCAP X7R 10N J 16V 0402
C2016	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2017	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2018	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2019	Top	T	7	CHIPCAP NP0 33P J 50V 0402
C2020	Top	T	6	CHIPCAP X7R 3N3 J 50V 0402
C2021	Top	S	6	CHIPCAP X7R 3N3 J 50V 0402
C2022	Top	T	7	CHIPCAP X7R 3N3 J 50V 0402
C2023	Top	T	7	CHIPCAP X7R 3N3 J 50V 0402
C2024	Top	U	7	CHIPCAP X7R 3N3 J 50V 0402
C2025	Top	U	7	CHIPCAP X7R 3N3 J 50V 0402
C2100	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2101	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2102	Top	Q	7	CHIPCAP X5R 100N K 16V 0402
C2103	Top	Q	7	CHIPCAP X5R 100N K 16V 0402
C2104	Top	S	6	CHIPCAP X5R 100N K 16V 0402

Item	Side	X	Y	Description
C2105	Top	S	6	CHIPCAP X5R 100N K 16V 0402
C2106	Top	R	6	CHIPCAP X5R 10UF 6V3 0603
C2107	Bottom	A	3	CHIPCAP NP0 47P J 50V 0402
C2108	Top	Q	6	CHIPCAP X5R 10UF 6V3 0603
C2109	Top	Q	6	CHIPCAP X5R 10UF 6V3 0603
C2110	Top	B	3	CHIPCAP NP0 47P J 50V 0402
C2111	Top	B	2	CHIPCAP X7R 3N3 J 50V 0402
C2112	Bottom	C	2	CHIPCAP NP0 47P J 50V 0402
C2113	Bottom	C	2	CHIPCAP X7R 3N3 J 50V 0402
C2114	Top	B	2	CHIPCAP X5R 100N K 16V 0402
C2115	Top	B	2	CHIPCAP X7R 390P J 50V 0402
C2116	Top	Q	6	CHIPCAP X5R 100N K 16V 0402
C2117	Top	R	5	CHIPCAP X7R 10N J 16V 0402
C2118	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2119	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2120	Bottom	S	4	CHIPCAP X5R 100N K 16V 0402
C2121	Bottom	C	6	CHIPCAP NP0 100P J 50V 0402
C2122	Bottom	C	5	CHIPCAP NP0 100P J 50V 0402
C2123	Bottom	C	5	CHIPCAP X5R 1U5 K 4V 0402
C2124	Bottom	C	5	CHIPCAP X5R 1U K 6V3 0603
C2126	Bottom	C	3	CHIPCAP X5R 100N K 16V 0402
C2127	Bottom	C	3	CHIPCAP X5R 100N K 16V 0402
C2128	Bottom	C	3	CHIPCAP X7R 10N J 16V 0402
C2129	Bottom	C	3	CHIPCAP X7R 10N J 16V 0402
C2130	Bottom	A	3	CHIPCAP X7R 3N3 J 50V 0402
C2200	Top	N	7	CHIPCAP X5R 1U K 6V3 0603
C2201	Top	N	7	CHIPCAP X7R 10N J 16V 0402
C2202	Top	P	6	CHIPCAP X7R 10N J 16V 0402
C2203	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2204	Top	M	6	CHIPCAP X5R 100N K 16V 0402
C2205	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2206	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402

Item	Side	X	Y	Description
C2207	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2208	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2209	Top	P	6	CHIPCAP X5R 1U5 K 4V 0402
C2210	Top	Q	7	CHIPCAP NP0 10P J 50V 0402
C2211	Top	P	8	CHIPCAP NP0 10P J 50V 0402
C2212	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2213	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2214	Top	O	7	CHIPCAP X5R 1U5 K 4V 0402
C2215	Top	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C2216	Top	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C2217	Top	P	5	CHIPCAP X5R 100N K 16V 0402
C2218	Top	O	4	CHIPCAP X5R 100N K 16V 0402
C2220	Top	P	5	CHIPCAP X5R 1U5 K 4V 0402
C2221	Top	N	5	CHIPCAP X5R 100N K 16V 0402
C2222	Top	N	5	CHIPCAP X5R 100N K 16V 0402
C2223	Top	N	7	CHIPCAP X5R 1U K 6V3 0603
C2224	Top	N	7	CHIPCAP X5R 220N K 6.3V 0402
C2225	Top	M	5	CHIPCAP X5R 1U5 K 4V 0402
C2226	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2227	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2228	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2230	Top	P	5	CHIPCAP X7R 10N J 16V 0402
C2231	Top	P	7	CHIPCAP X7R 10N J 16V 0402
C2232	Top	M	8	CHIPCAP X5R 4U7 K 6.3V 0603
C2233	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2234	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2235	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2236	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2237	Top	M	6	CHIPCAP X5R 1U5 K 4V 0402
C2238	Top	N	6	CHIPCAP X5R 1U5 K 4V 0402
C2239	Top	M	7	CHIPCAP X5R 1U K 6V3 0603
C2240	Top	M	7	CHIPCAP X5R 1U K 6V3 0603

Item	Side	X	Y	Description
C2241	Top	N	5	CHIPCAP X5R 1U5 K 4V 0402
C2300	Top	R	2	CHIPCAP X5R 10UF 6V3 0603
C2302	Top	R	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2303	Top	Q	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2304	Top	Q	2	CHIPCAP X5R 100N K 16V 0402
C2404	Top	R	8	CHIPCAP X5R 100N K 16V 0402
C2405	Top	Q	8	CHIPCAP X5R 4U7 K 6.3V 0603
C2406	Top	R	8	CHIPCAP X5R 100N K 16V 0402
C2407	Top	R	7	CHIPCAP X5R 1U0 K 25V T 1.0 1206
C2408	Top	R	6	CHIPCAP X5R 1U0 K 25V T 1.0 1206
C2410	Bottom	G	5	CHIPCAP NP0 10P J 50V 0402
C2600	Bottom	F	2	CHIPCAP X5R 100N K 16V 0402
C2602	Bottom	H	2	CHIPCAP X5R 4U7 K 6.3V 0603
C2700	Bottom	R	2	CHIPCAP X5R 100N K 16V 0402
C2800	Top	O	2	CHIPCAP X5R 1U5 K 4V 0402
C2801	Top	P	2	CHIPCAP X7R 10N J 16V 0402
C2802	Top	O	3	CHIPCAP X7R 10N J 16V 0402
C2803	Top	Q	3	CHIPCAP X7R 10N J 16V 0402
C2804	Top	P	4	CHIPCAP X7R 10N J 16V 0402
C2805	Top	O	3	CHIPCAP X7R 10N J 16V 0402
C2806	Top	P	4	CHIPCAP X7R 10N J 16V 0402
C2807	Top	O	2	CHIPCAP X7R 10N J 16V 0402
C2808	Top	Q	2	CHIPCAP X7R 10N J 16V 0402
C2809	Top	Q	4	CHIPCAP X7R 10N J 16V 0402
C2810	Top	P	2	CHIPCAP X7R 10N J 16V 0402
C2900	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C2901	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C2902	Top	O	4	CHIPCAP X7R 10N J 16V 0402
C2903	Bottom	M	6	CHIPCAP X7R 1N0 J 50V 0402
C2904	Bottom	N	5	CHIPCAP X7R 33N K 10V 0402
C2905	Top	O	4	CHIPCAP X7R 10N J 16V 0402
C2906	Bottom	N	5	CHIPCAP X7R 1N0 J 50V 0402

Item	Side	X	Y	Description
C2907	Bottom	N	5	CHIPCAP X7R 33N K 10V 0402
C2908	Top	O	3	CHIPCAP X7R 47N K 10V 0402
C2909	Top	O	3	CHIPCAP X7R 4N7 J 25V 0402
C2910	Top	O	4	CHIPCAP X7R 47N K 10V 0402
C3000	Top	Q	4	CHIPCAP X7R 10N J 16V 0402
C3001	Top	S	2	CHIPCAP X5R 100N K 10V 0402
C3002	Top	Q	3	CHIPCAP X7R 10N J 16V 0402
C3003	Top	T	4	CHIPCAP X5R 100N K 16V 0402
C3004	Top	S	5	CHIPCAP X5R 100N K 16V 0402
C3200	Top	P	8	CHIPCAP X5R 4U7 K 6.3V 0603
C3201	Top	O	7	CHIPCAP X5R 100N K 16V 0402
C3202	Top	P	7	CHIPCAP X5R 1U K 6V3 0603
C3204	Top	O	8	CHIPCAP X5R 100N K 16V 0402
C3501	Top	T	4	CHIPCAP NP0 47P J 50V 0402
C3609	Bottom	C	4	CHIPCAP NP0 1P5 C 50V 0402
C3610	Bottom	C	4	CHIPCAP NP0 1P5 C 50V 0402
C3611	Bottom	C	6	CHIPCAP NP0 1P5 C 50V 0402
C3612	Bottom	C	6	CHIPCAP NP0 3P3 C 50V 0402
C3650	Top	N	3	CHIPCAP X5R 100N K 10V 0402
C3651	Top	N	3	CHIPCAP X5R 100N K 10V 0402
C3656	Top	N	5	CHIPCAP X7R 10N J 16V 0402
C3657	Top	N	4	CHIPCAP X5R 1U5 K 4V 0402
C6031	Bottom	S	5	CHIPCAP NP0 18P J 50V 0402
C6032	Bottom	M	5	CHIPCAP NP0 18P J 50V 0402
C6033	Bottom	Q	6	CHIPCAP X7R 10N J 16V 0402
C6034	Bottom	R	6	CHIPCAP X7R 10N J 16V 0402
C6035	Bottom	R	5	CHIPCAP X7R 10N J 16V 0402
C6036	Bottom	Q	6	CHIPCAP X7R 10N J 16V 0402
C6037	Bottom	Q	6	CHIPCAP X5R 1U5 K 4V 0402
C6038	Bottom	R	5	CHIPCAP X7R 10N J 16V 0402
C6039	Bottom	R	6	CHIPCAP NP0 18P J 50V 0402
C6040	Bottom	S	2	CHIPCAP NP0 1P2 C 50V 0402

Item	Side	X	Y	Description
C6051	Bottom	R	6	CHIPCAP NP0 2P7 C 50V 0402
C6052	Bottom	R	6	CHIPCAP NP0 2P7 C 50V 0402
C6055	Bottom	S	5	CHIPCAP X5R 1U K 6V3 0402
C6101	Top	R	7	CHIPCAP X5R 100N K 16V 0402
C6102	Top	T	8	CHIPCAP NP0 100P J 50V 0402
C6103	Top	S	7	CHIPCAP NP0 47P J 50V 0402
C6104	Top	S	7	CHIPCAP NP0 27P J 50V 0402
C6105	Top	S	7	CHIPCAP X7R 10N J 16V 0402
C6107	Top	S	7	CHIPCAP X5R 100N K 16V 0402
C6108	Top	S	7	CHIPCAP X7R 10N J 16V 0402
C6109	Top	R	7	CHIPCAP X7R 33N K 10V 0402
C6110	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6111	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6112	Top	S	8	CHIPCAP X7R 33N K 10V 0402
C6113	Top	S	7	CHIPCAP X7R 33N K 10V 0402
C6114	Top	R	8	CHIPCAP X7R 33N K 10V 0402
C6115	Top	S	8	CHIPCAP X5R 100N K 16V 0402
C6600	Bottom	F	2	CHIPCAP X5R 220N K 6.3V 0402
C6601	Bottom	F	3	CHIPCAP X5R 100N K 16V 0402
C6602	Bottom	F	3	CHIPCAP NP0 27P J 50V 0402
C6603	Bottom	G	5	CHIPCAP X5R 100N K 16V 0402
C6604	Bottom	G	5	CHIPCAP NP0 27P J 50V 0402
C6607	Bottom	H	4	CHIPCAP X7R 10N J 16V 0402
C6608	Bottom	H	6	CHIPCAP X5R 100N K 16V 0402
C6612	Bottom	G	2	CHIPCAP X5R 4U7 K 6.3V 0603
C6613	Bottom	G	2	CHIPCAP X5R 10U M 6V3 0805
C6614	Bottom	H	4	CHIPCAP X5R 4U7 K 6.3V 0603
C6615	Bottom	G	6	CHIPCAP X5R 100N K 16V 0402
C6617	Bottom	G	3	CHIPCAP X5R 4U7 K 6.3V 0603
C6618	Bottom	F	2	CHIPCAP X7R 33N K 10V 0402
C6619	Bottom	H	2	CHIPCAP X5R 4U7 K 6.3V 0603
C6621	Bottom	G	3	CHIPCAP NP0 10P J 50V 0402

Item	Side	X	Y	Description
C7000	Bottom	K	8	CHIPCAP X7R 10N J 16V 0402
C7001	Bottom	K	7	CHIPCAP X7R 10N J 16V 0402
C7002	Bottom	M	6	CHIPCAP X5R 100N K 10V 0402
C7003	Bottom	L	8	CHIPCAP NP0 3P3 C 50V 0402
C7004	Bottom	L	8	CHIPCAP NP0 220P J 25V 0402
C7005	Bottom	M	8	CHIPCAP NP0 100P J 50V 0402
C7006	Bottom	M	8	CHIPCAP NP0 2N2 J 16V 0603
C7007	Bottom	L	8	CHIPCAP NP0 100P J 50V 0402
C7008	Bottom	M	7	CHIPCAP NP0 4P7 C 50V 0402
C7009	Bottom	M	7	CHIPCAP X5R 1U K 6V3 0402
C7010	Bottom	M	7	CHIPCAP NP0 3P3 C 50V 0402
C7011	Bottom	L	8	CHIPCAP X7R 10N J 16V 0402
C7012	Bottom	L	8	CHIPCAP NP0 18P J 50V 0402
C7013	Bottom	L	6	CHIPCAP NP0 33P J 50V 0402
C7014	Bottom	L	6	CHIPCAP NP0 18P J 50V 0402
C7015	Bottom	L	6	CHIPCAP NP0 33P J 50V 0402
C7016	Bottom	L	6	CHIPCAP X7R 10N J 16V 0402
C7017	Bottom	L	6	CHIPCAP NP0 47P J 50V 0402
C7018	Bottom	K	7	CHIPCAP NP0 10P J 50V 0402
C7019	Bottom	M	7	CHIPCAP NP0 12P J 50V 0402
C7020	Bottom	M	7	CHIPCAP NP0 18P J 50V 0402
C7021	Bottom	M	7	CHIPCAP X7R 10N J 16V 0402
C7022	Bottom	K	6	CHIPCAP NP0 3P3 C 50V 0402
C7023	Bottom	K	6	CHIPCAP NP0 1P2 C 50V 0402
C7024	Bottom	K	7	CHIPCAP NP0 1P2 C 50V 0402
C7026	Bottom	K	7	CHIPCAP NP0 0P5 C 50V 0402
C7027	Bottom	K	7	CHIPCAP NP0 0P5 C 50V 0402
C7029	Bottom	K	7	CHIPCAP NP0 3P3 C 50V 0402
C7030	Bottom	K	8	CHIPCAP NP0 3P3 C 50V 0402
C7031	Bottom	M	7	CHIPCAP NP0 30P G 50V 0402
C7100	Bottom	M	4	CHIPCAP X7R 10N J 16V 0402
C7101	Bottom	M	4	CHIPCAP X5R 330N K 10V 0603

Item	Side	X	Y	Description
C7102	Bottom	L	4	CHIPCAP X7R 33N K 10V 0402
C7103	Bottom	L	4	CHIPCAP NP0 33P J 50V 0402
C7104	Bottom	L	4	CHIPCAP X7R 1N0 J 50V 0402
C7105	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7106	Bottom	M	3	CHIPCAP X7R 10N J 16V 0402
C7107	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7108	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7109	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7110	Bottom	M	2	CHIPCAP X7R 10N J 16V 0402
C7111	Bottom	M	3	CHIPCAP X7R 10N J 16V 0402
C7112	Bottom	L	4	CHIPCAP X7R 10N J 16V 0402
C7113	Bottom	L	3	CHIPCAP X7R 10N J 16V 0402
C7162	Bottom	I	2	CHIPCAP NP0 100P J 50V 0402
C7163	Bottom	I	2	CHIPCAP NP0 100P J 50V 0402
C7164	Bottom	J	2	CHIPCAP NP0 100P J 50V 0402
C7165	Bottom	H	3	CHIPCAP NP0 56P J 50V 0402
C7166	Bottom	H	4	CHIPCAP NP0 1P8 C 50V 0402
C7167	Bottom	H	2	CHIPCAP NP0 12P J 50V 0402
C7168	Bottom	H	2	CHIPCAP X5R 100N K 10V 0402
C7169	Bottom	I	2	CHIPCAP NP0 1P5 C 50V 0402
C7170	Bottom	J	4	CHIPCAP NP0 100P J 50V 0402
C7171	Bottom	J	4	CHIPCAP NP0 5P6 C 50V 0402
C7172	Bottom	I	4	CHIPCAP X7R 47N K 10V 0402
C7173	Bottom	I	2	CHIPCAP NP0 12P J 50V 0402
C7174	Bottom	J	2	CHIPCAP X7R 3N3 J 50V 0402
C7175	Bottom	J	2	CHIPCAP NP0 22P J 50V 0402
C7176	Bottom	J	3	CHIPCAP X7R 1N0 J 50V 0402
C7177	Bottom	J	3	CHIPCAP NP0 4P7 C 50V 0402
C7178	Bottom	J	4	CHIPCAP NP0 3P9 C 50V 0402
C7179	Bottom	K	4	CHIPCAP NP0 10P J 50V 0402
C7180	Bottom	K	3	CHIPCAP NP0 6P8 C 50V 0402
C7181	Bottom	K	3	CHIPCAP NP0 6P8 C 50V 0402

Item	Side	X	Y	Description
C7182	Bottom	K	3	CHIPCAP X7R 3N3 J 50V 0402
C7183	Bottom	J	2	CHIPCAP X5R 100N K 10V 0402
C7184	Bottom	J	3	CHIPCAP NP0 2P2 C 50V 0402
C7185	Bottom	J	3	CHIPCAP NP0 100P J 50V 0402
C7187	Bottom	L	2	CHIPCAP NP0 12P J 50V 0402
C7188	Bottom	L	2	CHIPCAP NP0 12P J 50V 0402
C7189	Bottom	H	3	CHIPCAP NP0 0P5 C 50V 0402
C7200	Bottom	L	4	CHIPCAP X5R 1U K 6V3 0402
C7201	Bottom	L	5	CHIPCAP X7R 10N J 16V 0402
C7202	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7203	Bottom	L	5	CHIPCAP NP0 15P J 50V 0402
C7206	Bottom	L	8	CHIPCAP NP0 27P J 50V 0402
C7207	Bottom	M	2	CHIPCAP NP0 22P J 50V 0402
C7208	Bottom	L	5	CHIPCAP NP0 18P J 50V 0402
C7209	Bottom	L	4	CHIPCAP X7R 10N J 16V 0402
C7210	Bottom	M	4	CHIPCAP X5R 100N K 10V 0402
C7211	Bottom	L	5	CHIPCAP NP0 47P J 50V 0402
C7212	Bottom	J	4	CHIPCAP NP0 1P8 C 50V 0402
C7213	Bottom	L	5	CHIPCAP X7R 3N3 J 50V 0402
C7214	Bottom	L	4	CHIPCAP X7R 33N K 10V 0402
C7215	Bottom	L	4	CHIPCAP X7R 6N8 K 25V 0402
C7216	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7217	Bottom	K	5	CHIPCAP X7R 1N0 J 50V 0402
C7218	Bottom	K	4	CHIPCAP X5R 1U K 6V3 0402
C7219	Bottom	K	5	CHIPCAP X7R 10N J 16V 0402
C7220	Bottom	J	5	CHIPCAP X5R 100N K 10V 0402
C7221	Bottom	M	4	CHIPCAP X7R 10N J 16V 0402
C7222	Bottom	M	4	CHIPCAP X5R 100N K 10V 0402
C7300	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7301	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402
C7302	Bottom	J	7	CHIPCAP X7R 10N J 16V 0402
C7303	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402

Item	Side	X	Y	Description
C7304	Bottom	I	8	CHIPCAP NP0 15P J 50V 0402
C7305	Bottom	J	8	CHIPCAP X7R 1N0 J 50V 0402
C7306	Bottom	J	8	CHIPCAP NP0 10P J 50V 0402
C7311	Bottom	B	8	CHIPCAP NP0 10P J 50V 0402
C7312	Bottom	B	8	CHIPCAP NP0 47P J 50V 0402
C7313	Bottom	D	6	CHIPCAP X7R 10N J 16V 0402
C7314	Bottom	D	6	CHIPCAP NP0 10P J 50V 0402
C7315	Bottom	D	6	CHIPCAP X7R 3N3 J 50V 0402
C7316	Bottom	D	6	CHIPCAP X7R 3N3 J 50V 0402
C7317	Bottom	I	7	CHIPCAP X5R 10U M 6V3 0805
C7318	Bottom	H	8	CHIPCAP X5R 10U M 6V3 0805
C7319	Bottom	I	7	CHIPCAP NP0 270P J 50V 0402
C7320	Bottom	J	6	CHIPCAP X7R 6N8 K 25V 0402
C7321	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7322	Bottom	I	6	CHIPCAP X7R 1N0 J 50V 0402
C7323	Bottom	J	7	CHIPCAP X7R 1N0 J 50V 0402
C7324	Bottom	J	7	CHIPCAP NP0 3P3 C 50V 0402
C7325	Bottom	I	6	CHIPCAP NP0 7P5 C 50V 0402
C7326	Bottom	I	7	CHIPCAP NP0 3P3 C 50V 0402
C7350	Bottom	F	6	CHIPCAP NP0 47P J 50V 0402
C7351	Bottom	F	6	CHIPCAP NP0 47P J 50V 0402
C7352	Bottom	F	6	CHIPCAP NP0 10P J 50V 0402
C7353	Bottom	G	7	CHIPCAP NP0 47P J 50V 0402
C7354	Bottom	F	6	CHIPCAP X5R 4U7 K 6.3V 0603
C7355	Bottom	F	6	CHIPCAP X5R 4U7 K 6.3V 0603
C7356	Bottom	G	8	CHIPCAP X7R 10N J 16V 0402
C7357	Bottom	G	6	CHIPCAP X5R 10U M 6V3 0805
C7358	Bottom	G	7	CHIPCAP X5R 10U M 6V3 0805
D2200	Top	O	6	UEMEK2v0 LF WDENA TFBGA244
D2800	Top	P	3	TIKUEDGE v2.0 LF C027 GZG289
D3000	Top	R	3	COMBO 128MNOR+256MM3+128MSDRAM FBGA133
D6601	Bottom	H	5	HW ACCELERATOR STV0984N

Item	Side	X	Y	Description
E2100	Bottom	T	4	CONN SPACER PAD
E2101	Bottom	T	3	CONN SPACER PAD
F2000	Top	U	3	SM FUSE F 2.0A 32V 0603
G7200	Bottom	L	5	VCTCX0 19.2MHZ +-2PPM 2.78V 2.2MA
G7201	Bottom	J	5	UHF VCO 986-1034MHz/2040-2140MHz
L2000	Top	U	3	FERR.BEAD 220R/100M 2A 0R05 0603
L2001	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402
L2002	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402
L2003	Top	T	4	FERRITE BEAD 0.6R 600R/100MZ 0402
L2004	Top	T	6	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2005	Top	T	7	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2006	Top	U	7	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2100	Top	B	2	FERRITE BEAD 0.6R 600R/100MZ 0402
L2101	Bottom	A	3	FERRITE BEAD 0.6R 600R/100MZ 0402
L2102	Bottom	C	2	FERRITE BEAD 0.6R 600R/100MZ 0402
L2103	Top	B	1	CHIP BEAD ARRAY 2X1000R 0R75 0405
L2104	Bottom	B	6	CHIP BEAD ARRAY 2X220R 0405
L2105	Top	A	1	CHIP COIL 100N J Q16/300MHZ 0402
L2301	Top	S	2	INDUCT WW 10UH 0A34 0R54 310 case size
L2302	Top	Q	2	FERR.BEAD 220R/100M 2A 0R05 0603
L2400	Top	R	8	FERR.BEAD 220R/100M 2A 0R05 0603
L2401	Top	Q	7	CHOKE 3U3 M 0R1 1.2A 4.0X4.0X1.2
L3609	Bottom	C	4	CHIP COIL 6N8 K Q29/800MHZ 0402
L3610	Bottom	C	4	CHIP COIL 6N8 K Q29/800MHZ 0402
L3611	Bottom	C	7	CHIP COIL 6N8 K Q29/800MHZ 0402
L3612	Bottom	C	6	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L6030	Bottom	R	6	CHIP COIL 2N7 +-0N3 Q29/800M 0402
L6031	Bottom	R	6	CHIP COIL 2N7 +-0N3 Q29/800M 0402
L6032	Bottom	R	5	CHIP COIL 22N J Q28/800MHZ 0402
L6100	Top	T	7	CHIP COIL 68N J Q17/300MHZ 0402
L6101	Top	S	7	CHIP COIL 120NH J Q8/100MHZ 0402
L6102	Top	S	7	CHIP COIL 47N +-3% Q25/200MHz 0402

Item	Side	X	Y	Description
L7000	Bottom	M	7	CHIP COIL 27N J Q27/800MHZ 0402
L7001	Bottom	K	6	CHIP COIL 27N J Q27/800MHZ 0402
L7002	Bottom	K	6	CHIP COIL 33N J Q23/800MHZ 0402
L7003	Bottom	K	6	CHIP COIL 27N J Q27/800MHZ 0402
L7004	Bottom	K	7	CHIP COIL 6N8 J Q27/800MHZ 0402
L7005	Bottom	K	7	CHIP COIL 12N J Q31/800MHZ 0402
L7006	Bottom	K	7	CHIP COIL 6N8 J Q27/800MHZ 0402
L7101	Bottom	L	4	CHIP COIL 33NH J Q12/100MHZ 0603
L7160	Bottom	H	3	CHIP COIL 7N5 Q25/100MHZ 0402
L7161	Bottom	H	3	CHIP COIL 19N J Q24/250MHZ 0402
L7162	Bottom	I	2	CHIP COIL 12N J Q31/800MHZ 0402
L7163	Bottom	J	3	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7164	Bottom	J	4	CHIP COIL 82N +-0N3 Q17/300M 0402
L7165	Bottom	H	4	CHIP COIL 12N J Q31/800MHZ 0402
L7166	Bottom	I	2	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7167	Bottom	I	4	CHIP COIL 220N J Q8/50MHZ 0603
L7168	Bottom	I	2	CHIP COIL 18N J Q29/800MHZ 0402
L7169	Bottom	I	4	CHIP COIL 15N J Q30/800MHZ 0402
L7170	Bottom	J	3	CHIP COIL 82N +-0N3 Q17/300M 0402
L7171	Bottom	J	4	CHIP COIL 180N J Q13/100MHZ 0603
L7172	Bottom	K	4	CHIP COIL 120N J Q16/100MHZ 0603
L7173	Bottom	K	4	CHIP COIL 120N J Q16/100MHZ 0603
L7174	Bottom	K	3	CHIP COIL 220N J Q8/50MHZ 0603
L7175	Bottom	K	3	CHIP COIL 220N J Q8/50MHZ 0603
L7176	Bottom	J	3	CHIP COIL 120N J Q16/100MHZ 0603
L7177	Bottom	L	2	CHIP COIL 100N J Q12/100MHZ 0603
L7178	Bottom	L	2	CHIP COIL 120N J Q16/100MHZ 0603
L7179	Bottom	L	2	CHIP COIL 120N J Q16/100MHZ 0603
L7201	Bottom	J	4	CHIP COIL 3N3 +-0N3 Q28/800M 0402
L7301	Bottom	I	7	CHIP COIL 3N9 +-0N3 Q28/800M 0402
L7302	Bottom	D	8	DIR.COUPLER 1850-1910MHZ 1.6X0.8
L7303	Bottom	B	7	CHIP COIL 33N J Q23/800MHZ 0402

Item	Side	X	Y	Description
L7304	Bottom	D	7	CHIP COIL 10N J Q30/800MHZ 0402
L7305	Bottom	D	7	DIR.COUPLER 824-849MHZ 1.6X0.8MM
L7306	Bottom	I	7	CHIP COIL 22N J Q28/800MHZ 0402
L7350	Bottom	G	7	FERRITE BEAD 0.015R 42R/100M 0805
L7351	Bottom	F	7	INDUCT WW 1.5UH 0.096 OHM 1.1A
L7397	Bottom	B	7	CHIP COIL 10N J Q30/800MHZ 0402
M2400	Bottom	T	5	SMD-VIBRA MOTOR 1.3V 80mA 9000RPM
N2001	Top	Q	5	NUT/CP2137 ASIC HBCC16++
N2100	Bottom	C	5	AF AMP 1W LM4990 NOPB 2.8V uSMD9
N2300	Top	R	2	DC/DC CONV LM3661-1.35V/1.05V
N2401	Top	R	7	STEP-UP DC/DC CONV TK11891F-G SON3024-8
N2600	Bottom	G	1	IRDA 1.15Mbps 2V4
N3200	Top	O	8	VREG & LEVELSHIFT(LP3928)USMD16
N3650	Top	N	4	VREG LP3985ITLX-2.8 NOPB USMD5
N6030	Bottom	R	6	BC4-ROM1.0RDL
N6100	Top	S	7	FM RECEIVER TEA5761UK N4B (Ti) CSP
N6600	Bottom	G	2	REG LP3981YDX-2.8/NOPB 0.3A LLP-6
N6601	Bottom	H	3	LI VREG 1.2V/150mA (LP3990YD 1.2) LLP6
N6602	Bottom	G	3	LI VREG TK63118B-G 1.8V WLCSP4
N7000	Bottom	L	7	JUPITER D4 PMB3365G VQFN-40
N7100	Bottom	L	3	BATMAN RF RX ASIC STB7102FTR
N7160	Bottom	I	3	LNA/MIXER/DOWNCNTR ALFRED VQFN-24
N7200	Bottom	M	5	1XPLL/SYNTH 2.5GHZ(LMX2310U)MLF20
N7300	Bottom	J	7	PW AMP RF3448 CDMA1900
N7301	Bottom	J	6	PW AMP RF3449 CDMA800 LFM
N7302	Bottom	D	6	ASIP STPAC01F2 CDMA PWR DET BGA-8
N7350	Bottom	F	6	RF4013 V-E2.2 DC-DC BUCK CONV QFN 16
R2001	Bottom	G	7	CHIP VARISTOR VWM15V VC50V 0402
R2002	Top	S	5	NTC RES 0W1 47K J B 4050+-3% 0402
R2003	Top	T	3	CHIPRES 0W06 100K J 0402
R2004	Top	U	3	CHIPRES 0W06 33R J 0402
R2005	Top	U	3	CHIP VARISTOR VWM15V VC50V 0402

Item	Side	X	Y	Description
R2006	Top	T	3	ASIP USB2 FILTER BGA10 PBFREE
R2007	Top	U	3	CHIPRES 0W06 220K J 0402
R2008	Top	U	3	CHIPRES 0W06 220K J 0402
R2009	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2010	Top	T	7	CHIP VARISTOR VWM15V VC50V 0402
R2011	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2012	Top	U	7	CHIP VARISTOR VWM15V VC50V 0402
R2013	Bottom	Q	7	ASIP 4XESD *** PB-FREE *** BGA5
R2017	Top	T	5	CHIPRES 0W06 330R J 0402
R2018	Top	T	7	CHIPRES 0W06 330R J 0402
R2019	Top	S	6	CHIP VARISTOR VWM15V VC50V 0402
R2020	Top	S	6	CHIP VARISTOR VWM15V VC50V 0402
R2100	Top	R	6	CHIPRES 0W06 10K J 0402
R2101	Top	S	6	CHIPRES 0W06 1K0 J 0402
R2102	Top	Q	6	CHIPRES 0W06 10R J 0402
R2103	Top	Q	6	CHIPRES 0W06 10R J 0402
R2106	Top	N	2	CHIPRES 0W06 100K J 0402
R2107	Bottom	C	1	CHIP VARISTOR VWM15V VC50V 0402
R2108	Top	R	5	CHIPRES 0W06 1K0 J 0402
R2111	Top	R	6	CHIPRES 0W06 47K J 0402
R2112	Bottom	D	5	CHIPRES 0W06 100K J 0402
R2113	Bottom	C	4	CHIPRES 0W06 22K J 0402
R2114	Bottom	C	6	CHIPRES 0W06 100K J 0402
R2115	Bottom	C	4	CHIPRES 0W06 22K J 0402
R2116	Bottom	D	5	CHIPRES 0W06 100K J 0402
R2117	Bottom	B	7	CHIP VARISTOR VWM15V VC50V 0402
R2118	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R2119	Top	S	5	CHIPRES 0W06 100K J 0402
R2120	Top	S	6	CHIPRES 0W06 100K J 0402
R2121	Bottom	A	1	CHIPRES 0W06 4K7 J 0402
R2123	Bottom	C	3	CHIPRES 0W06 2K2 J 0402
R2124	Bottom	C	3	CHIPRES 0W06 2K2 J 0402

Item	Side	X	Y	Description
R2200	Top	N	7	CHIPRES 0W25 0R22 J 0805
R2202	Top	Q	5	CHIPRES 0W06 10K J 0402
R2203	Top	Q	5	CHIPRES 0W06 4K7 J 0402
R2204	Top	Q	5	CHIPRES 0W06 4K7 J 0402
R2205	Top	Q	5	CHIPRES 0W06 100K J 0402
R2206	Top	Q	5	CHIPRES 0W06 100K J 0402
R2207	Top	P	7	CHIPRES 0W06 100K J 0402
R2208	Top	M	5	CHIPRES 0W06 27K J 0402
R2209	Top	O	7	CHIPRES 0W06 100K J 0402
R2401	Bottom	G	8	CHIP VARISTOR VWM15V VC50V 0402
R2403	Bottom	C	8	CHIP VARISTOR VWM15V VC50V 0402
R2404	Bottom	G	8	CHIP VARISTOR VWM15V VC50V 0402
R2406	Top	R	6	CHIPRES 0W06 10K J 0402
R2407	Top	R	6	CHIPRES 0W06 330K J 0402
R2408	Top	T	4	CHIPRES 0W06 33R J 0402
R2409	Top	T	3	CHIPRES 0W06 20R J 0402
R2410	Top	T	3	CHIPRES 0W06 10K J 0402
R2411	Top	T	3	CHIPRES 0W06 33R J 0402
R2412	Bottom	R	4	CHIPRES 0W06 10K J 0402
R2413	Top	S	5	CHIPRES 0W06 10K J 0402
R2414	Bottom	R	4	CHIPRES 0W06 10K J 0402
R2415	Bottom	S	5	CHIPRES 0W06 82R J 0402
R2416	Bottom	R	5	CHIPRES 0W06 82R J 0402
R2417	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2418	Bottom	Q	5	CHIPRES 0W06 33R J 0402
R2419	Bottom	Q	5	CHIPRES 0W06 33R J 0402
R2420	Bottom	C	7	CHIP VARISTOR VWM15V VC50V 0402
R2421	Bottom	Q	8	CHIP VARISTOR VWM15V VC50V 0402
R2422	Bottom	R	8	CHIP VARISTOR VWM15V VC50V 0402
R2423	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2424	Bottom	P	5	CHIPRES 0W06 33R J 0402
R2425	Bottom	P	5	CHIPRES 0W06 33R J 0402

Item	Side	X	Y	Description
R2426	Top	T	4	CHIPRES 0W06 10K J 0402
R2427	Top	Q	6	CHIPRES JUMPER 0R0 0402
R2430	Top	T	2	CHIPRES 0W06 68R J 0402
R2432	Top	T	3	CHIPRES 0W06 20R J 0402
R2600	Bottom	H	2	CHIPRES 0W125 4R7 J 0805
R2700	Bottom	R	3	ASIP SIM INTERFACE **low cap** BGA8
R2800	Bottom	I	5	CHIPRES 0W06 4K7 J 0402
R2801	Bottom	I	5	CHIPRES 0W06 4K7 J 0402
R2803	Top	Q	4	CHIPRES 0W06 100R J 0402
R2804	Top	Q	4	CHIPRES 0W06 100R J 0402
R2809	Top	Q	4	CHIPRES 0W06 10K J 0402
R2900	Bottom	M	2	CHIPRES 0W06 4K7 J 0402
R2901	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2902	Bottom	O	5	CHIPRES 0W06 4K7 J 0402
R2904	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2905	Bottom	N	5	CHIPRES 0W06 4K7 J 0402
R2906	Top	O	4	CHIPRES 0W06 1K0 J 0402
R2907	Top	O	2	CHIPRES 0W06 1K0 J 0402
R2908	Top	O	3	CHIPRES 0W06 4K7 J 0402
R3000	Top	Q	3	CHIPRES 0W06 47R J 0402
R3001	Top	S	5	CHIPRES 0W06 100K J 0402
R3002	Top	S	5	CHIPRES 0W06 4K7 J 0402
R3207	Top	N	7	CHIPRES 0W06 1K0 J 0402
R3208	Top	P	2	CHIPRES 0W06 100K J 0402
R3209	Top	P	2	CHIPRES 0W06 100K J 0402
R3502	Top	U	4	CHIPRES 0W06 4K7 J 0402
R3503	Top	U	4	CHIP VARISTOR VWM15V VC50V 0402
R3600	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R3611	Top	N	4	ASIP 4XESD *** PB-FREE *** BGA5
R3614	Bottom	B	6	CHIP VARISTOR VWM15V VC50V 0402
R3652	Top	N	4	CHIPRES JUMPER 0R0 0402
R3654	Top	N	5	CHIPRES 0W06 100K J 0402

Item	Side	X	Y	Description
R6030	Bottom	Q	6	CHIPRES 0W06 10K J 0402
R6031	Bottom	R	5	CHIPRES 0W06 10K J 0402
R6032	Bottom	Q	6	CHIPRES 0W06 2R2 J 0402
R6034	Bottom	R	6	CHIPRES 0W06 10K J 0402
R6037	Bottom	R	5	CHIPRES 0W06 100K J 0402
R6100	Top	S	7	CHIPRES 0W06 10K J 0402
R6101	Top	S	7	CHIPRES 0W06 100K J 0402
R6203	Bottom	D	5	CHIPRES 0W06 100K J 0402
R6252	Bottom	E	1	CHIPRES 0W06 47R J 0402
R6600	Bottom	H	4	CHIPRES 0W06 4K7 J 0402
R6601	Bottom	G	4	CHIPRES 0W06 4K7 J 0402
R6602	Bottom	H	4	CHIPRES JUMPER 0R0 0402
R6604	Bottom	G	3	CHIPRES 0W06 10K J 0402
R6608	Bottom	I	5	CHIPRES JUMPER 0R0 0402
R6628	Bottom	F	2	CHIPRES 0W06 100K J 0402
R7000	Bottom	K	8	CHIPRES JUMPER 0R0 0402
R7001	Bottom	M	8	CHIPRES 0W06 10K J 0402
R7002	Bottom	M	8	CHIPRES 0W06 27K J 0402
R7007	Bottom	M	6	CHIPRES 0W06 22K J 0402
R7008	Bottom	M	7	CHIPRES 0W06 43K 1% 0402
R7009	Bottom	L	6	CHIPRES 0W06 12K J 0402
R7010	Bottom	K	7	CHIPRES JUMPER 0R0 0402
R7011	Bottom	M	7	CHIPRES 0W06 150R J 0402
R7012	Bottom	M	7	CHIPRES 0W06 180R J 0402
R7100	Bottom	M	4	CHIPRES 0W06 1K0 J 0402
R7101	Bottom	M	4	CHIPRES 0W06 470R J 0402
R7102	Bottom	M	4	CHIPRES 0W06 4K7 J 0402
R7103	Bottom	M	2	CHIPRES 0W06 8K2 J 0402
R7104	Bottom	M	3	CHIPRES 0W06 27K J 0402
R7161	Bottom	I	2	CHIPRES 0W06 47K J 0402
R7162	Bottom	J	2	CHIPRES 0W06 47K J 0402
R7163	Bottom	J	2	CHIPRES 0W06 47K J 0402

Item	Side	X	Y	Description
R7164	Bottom	H	2	CHIPRES 0W06 4R3 J 0402
R7165	Bottom	J	3	CHIPRES 0W06 82R J 0402
R7166	Bottom	I	2	CHIPRES 0W06 4R3 J 0402
R7200	Bottom	L	4	CHIPRES 0W06 10R J 0402
R7201	Bottom	K	4	CHIPRES 0W06 10K J 0402
R7206	Top	O	3	CHIPRES JUMPER 0R0 0402
R7209	Bottom	L	4	CHIPRES 0W06 10R J 0402
R7210	Bottom	J	5	CHIPRES 0W06 150R J 0402
R7211	Bottom	L	5	CHIPRES 0W06 3K9 J 0402
R7212	Bottom	K	5	CHIPRES 0W06 10K J 0402
R7213	Bottom	K	5	CHIPRES 0W06 10K J 0402
R7215	Bottom	J	5	CHIPRES 0W06 2K2 J 0402
R7216	Bottom	M	4	CHIPRES 0W06 10R J 0402
R7300	Bottom	J	7	CHIPRES JUMPER 0R0 0402
R7301	Bottom	D	8	CHIPRES 0W06 56R J 0402
R7306	Bottom	J	6	CHIPRES JUMPER 0R0 0402
R7307	Bottom	D	7	CHIPRES 0W06 56R J 0402
R7308	Bottom	I	7	NTC RES 0W1 47K J B 4050+-3% 0402
R7310	Bottom	B	7	CHIPRES JUMPER 0R0 0402
R7350	Bottom	G	7	CHIPRES 0W06 100R J 0402
R7352	Bottom	F	7	CHIPRES 0W06 1K8 J 0402
S2401	Bottom	C	8	SM SW TACT SPST 12V SIDE KEY 2.2N
S2402	Bottom	F	8	SM SW TACT SPST 12V SIDE KEY 2.2N
S2403	Bottom	R	8	SM SW TACT SPST 12V SIDE KEY 2.2N
V2000	Top	U	2	ASIP TVS BGA4
V2001	Top	T	5	TRX2 N 40V 0A1 GENERAL PURPOSE SOT666
V2002	Top	U	7	TRX2 N 40V 0A1 GENERAL PURPOSE SOT666
V2100	Top	R	6	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2101	Top	R	6	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2400	Top	Q	6	DI SCH RB160M-30 1A <0.48 SOD123F
V2402	Top	S	5	DI SCH DUAL 0.4V 1MA SOT490
V2403	Top	T	4	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666

Item	Side	X	Y	Description
V2404	Top	T	3	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2405	Top	U	2	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2406	Top	R	5	DI SCH DUAL 0.4V 1MA SOT490
V2407	Top	T	2	TRX2 BIPOLAR 2XPNP 40V 0A1 0W12 SOT666
V2408	Bottom	R	4	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2409	Top	S	5	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2410	Bottom	R	4	TR NPN RBE4K7/47K 50V 0A08 VMT3
V2900	Bottom	O	5	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2901	Bottom	N	5	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V2902	Top	O	4	TR 2SC5658QRS N 50V 0A1 0W15 VMT3
V7100	Bottom	L	4	CAP.DI BBY57-02W 1/4 16/4P SOD523
X0001	Top	M	7	MODULE ID COMPONENT 2.8X1.8X0.3
X2000	Bottom	H	7	SM BATTERY CONN 3POL SPR 12V 2A
X2001	Bottom	U	5	CONN SYST SM 14POL
X2002	Top	U	5	SM CONN 16P SPR P1.3 50V PWB/PWB
X2101	Bottom	B	2	HEADSET JACK 4-POLE
X2700	Bottom	P	3	SM SIM CONN 2X3POL P2.54 50V 0.5A
X3200	Bottom	O	7	CONN MICRO SD HINGE
X3650	Top	M	3	SM CONN 2X12F P0.4 30V.3A PWB/PWB
X6200	Bottom	D	2	CONN MULTI POGO PIN 2 5.8X3X2.5
X6600	Bottom	F	4	SMIA85 SOCKET
X6601	Bottom	F	5	CONN 2POL SPR 6.6X6.8X2.5
X7300	Top	A	7	CONN SM COAX +SW F 50R 250V 6GHZ
Z2101	Top	S	6	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2102	Top	P	7	ASIP AUDIO OUTPUT STAGE
Z2103	Bottom	A	3	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2105	Bottom	S	4	ASIP AUDIO MIC ST ** RESERVED HELIOS ***
Z2400	Top	U	4	ASIP KEYBOARD INTERFACE *PB-FREE*
Z3200	Top	N	8	ASIP MMC HIGH SPEED ESD/EMI FILT BGA16
Z3600	Top	M	4	ASIP 10-CH ESD EMI FILTER BGA25
Z6030	Bottom	S	6	LTCC FILT 2441.75+-41.75MHZ 2.5X2
Z7000	Bottom	K	6	SAW FILT 836.5+-12.5MHZ/2.5 2X1.6

Item	Side	X	Y	Description
Z7001	Bottom	K	7	SAW FILT 1850-1910MHZ 2X1.6X0.68
Z7160	Bottom	I	4	SAW FILT 881.52 MHz 2X1.6X0.8
Z7161	Bottom	I	2	SAW FILT 1960+-30MHz/3.5dB 2x1.6
Z7162	Bottom	J	4	XTAL FILT 128.1MHZ/4DB 3X3X1
Z7163	Bottom	K	2	SAW FILT 128.1MHZ 7X5X1.48
Z7300	Bottom	E	7	DUPL 1930-1990/1850-1910MHZ 5X5
Z7301	Bottom	D	7	DIPL 1850-1990/824-894MHZ
Z7302	Bottom	E	6	DUPL 824-849/869-894MHZ 3.8X3.8X1.5

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**Nokia Customer Care
6275/6275i (RM-154)
Mobile Terminals**

Service Software Instructions

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Introduction

You must obtain software support bundles (SSBs) to load software upgrade files to customer-specific mobile terminal models. The SSBs are InstallShield executable packages. Double-click on the package, and the software installs automatically. No rebooting of the computer is required.

These bundles are created by Nokia Customer Care and made available by Nokia After Market Services (AMS) on the Partners Web Page for your applicable region:

- Americas = <https://americas.partners.nokia.com>
- APAC = <https://apac.partners.nokia.com>
- China = <https://china.partners.nokia.com>
- EMEA = <https://trade.online.nokia.com> or <https://europe.partners.nokia.com>

The Web pages are password controlled. If you have not registered as a user, contact Nokia Central Service.

Hardware and Operating System Requirements

Table 1: Minimum Hardware Requirements

Hardware	Minimum Value
Processor	700 MHz
RAM	256 MB
Disk space needed	100-200 MB
Interface ports	Parallel or USB (dongle-dependent)

Table 2: Supported Operating System Requirements

Operating System	Notes
Windows 2000	Professional version
Windows XP	

Phoenix Service Software

Before You Begin

Before installing Phoenix, ensure the following:

- Uninstall any previous versions of Phoenix that exist on the machine. See "[Uninstalling Service Software](#)" on page 7.
- If the computer supports administrator rights, ensure that access is enabled for the user performing the Phoenix installation.
- Phoenix requires the complete Phoenix installation package, which is around 30 MB.
- You MUST have a Nokia dongle installed on the computer prior to beginning the software installation. The dongle is attached to the parallel port for PKD dongles, or an FLS-4S dongle is attached to either the parallel port or the Universal Serial Bus (USB) port (if the computer supports USB).
- Custom installation is only recommended for experienced users.
- After installation, reboot the computer prior to continuing.

Creating a Phoenix Connection

Use the following steps to create a connection the first time you use Phoenix.

1. Open the **File** menu, and select **Manage Connections**.

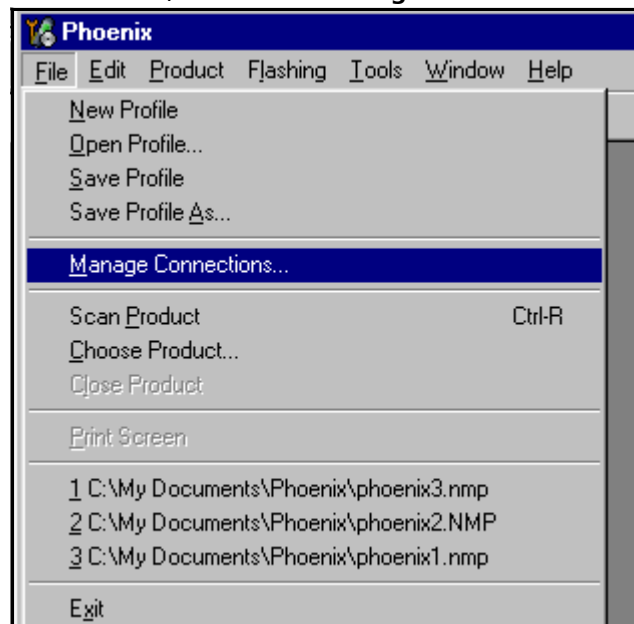


Figure 1: File Menu with the Manage Connections option

2. Click **Add** to create a new connection.

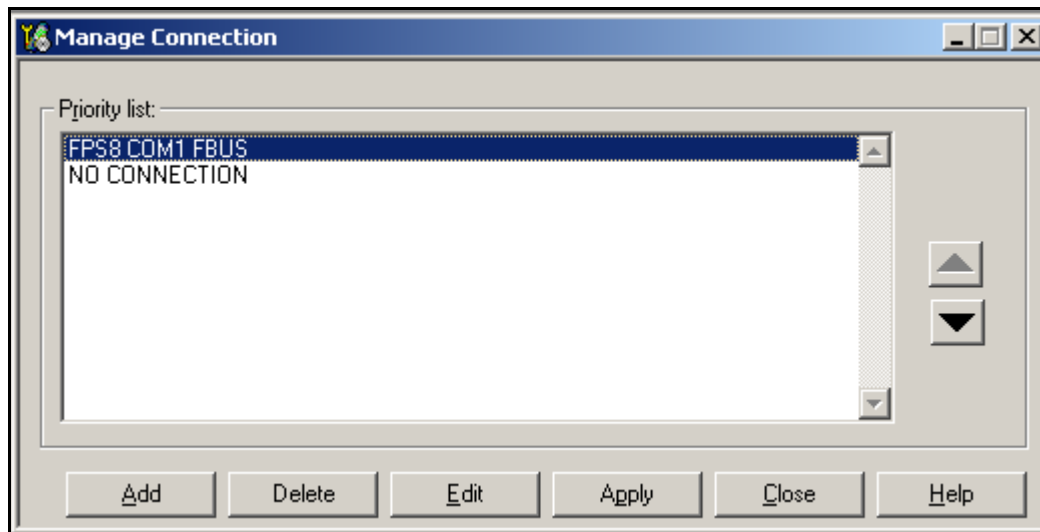


Figure 2: Manage Connection dialog box

3. Choose either **Wizard** or **Manual** on the **Select mode** dialog box.
 - **Wizard** allows Phoenix to auto-detect your connection configuration.
 - **Manual** allows you to manually select options to create the connection.

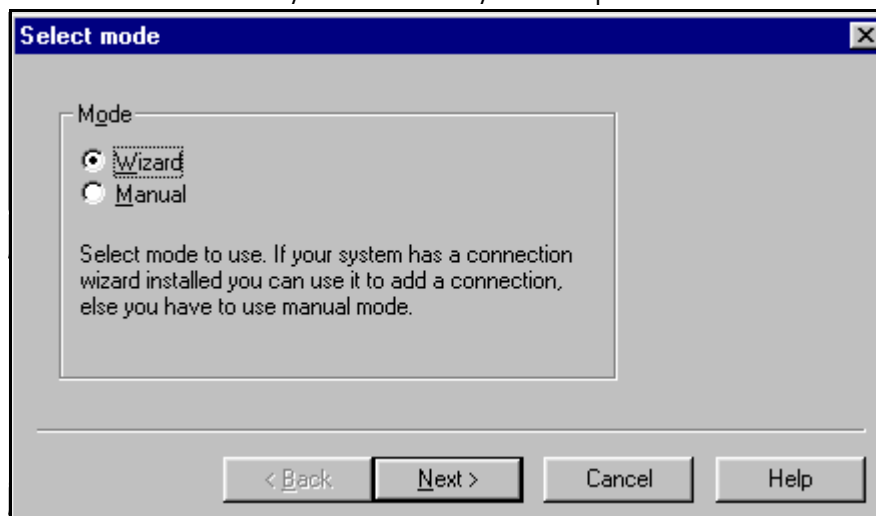


Figure 3: Select Mode dialog box

4. Click **Next**.
5. After a connection is defined, make sure that the connection you want to use appears at the top of the list. If necessary, use the up and down arrows on the **Manage Connection** dialog box to move the connection to the top, and click **Apply**.
6. Click **Close** when you are finished.
7. Proceed with the normal initiation of a session by scanning for or selecting a product.

Scanning for a Product

Many Phoenix features are product specific. At the beginning of a session, you must configure Phoenix for the product on which you are working by opening the **File** menu and clicking **Scan Product**. Phoenix automatically scans for the product and selects the necessary configurations. The status bar at the bottom indicates the product type.

Using Components

Phoenix tasks are managed by specific software components. Use the main menu to select the component you want to perform. When the new component window is opened, Phoenix also opens an associated toolbar and adds component-specific menu items to the window menu.

Using Profiles

Phoenix's profile feature stores product, connection, and open components into permanent storage by creating a file with an *.nmp* file extension. Saved profiles allow you to configure Phoenix to open with specified components.

Opening and saving profiles is done via the **Open Profile** and **Save Profile** options in the **File** menu. Phoenix stores profiles with user-defined names. As a result, there can be multiple profiles for different repeated tasks or user preferences.

Uninstalling Service Software

Failure to remove the program properly causes misconfiguration of the computer's registry. Use the following steps to uninstall Diego or Phoenix service software.

1. Navigate to the computer's Control Panel, which is accessible from the **Start** button or by double-clicking the *My Computer* desktop icon.
2. Double-click the *Add/Remove Programs* icon.
3. Select the software version that you want to remove, and click **Add/Remove**.
4. Click **OK** to begin the removal process.
5. Follow the on-screen instructions.
6. When the removal is complete, reboot the computer.

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**Nokia Customer Care
6275/6275i (RM-154)
Mobile Terminals**

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Service Tools

AAS-10A RF Probe

The AAS-10A allows you to troubleshoot the handset. The probe can be used with the XRS-6 RF Cable.



ACF-8 Power Supply

The ACF-8 is a universal power supply for FLS-4S and FPS-8.



CA-41PS Service Power Cable

The CA-41PS provides DC power to the docking station from the FPS-10 Flash Prommer.



CA-52PS DC Service Cable

The CA-52 is used for EM calibrations. This cable is for a smaller Dynamo DC-jack.



CA-53 Accessory/Flash Cable

The CA-53 allows bottom connector flashing using the FLS-4S Flash Device or the FLC-20 Flash Device.



CA-56RS RF Test Cable

The CA-56RS test cable is used for RF engine testing and tuning. This cable is 10 cms long. It snaps directly on the mobile terminal's RF connector and converts the output to an surface mounting assembly connector.



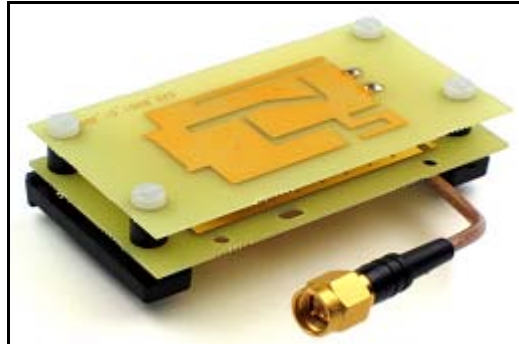
CA-57RS RF Test Cable

The CA-56RS test cable is used with Module Jig for RF engine testing and tuning. This cable is 10 cms long. It snaps directly on the mobile terminal's RF connector and converts the output to an surface mounting assembly connector.



CPL-8 GPS Antenna Coupler

The CPL-8 allows authorized service centers to test the GPS antenna during handset troubleshooting. The coupler is attached to (and detached from) the Docking Station Adapter.



Note: The docking station and the coupler assembly fit into the JXS-1 Shield Box

DA-66 Docking Station Adapter

The DA-66 works in conjunction with the JBV-1 Docking Station and the FPS-8 or FPS-10 prommer boxes to allow calibration and software flashing of the mobile terminal.



DAU-9S FBUS/MBUS Cable

The DAU-9S is a general purpose cable that supports FBUS/MBUS communication between a Mod-10 device and a PC.



DKU-2 Flash Cable

The DKU-2 is used for USB flashing. Use this flash cable with the FLC-20 Flashing Device or with the FLS-4S Flashing Device for APAC, China, and LTA.



FLS-4S Flashing Device

The FLS-4S allows point-of-sale (POS) locations to flash the mobile terminal.



FPS-8 Flash Prommer

The FPS-8 is used for mobile terminal flashing at authorized service centers.



FPS-10 Flash Prommer

The FPS-10 replaces the FPS-8 Flash Prommer. The FPS-10 allows the flash code to be pre-loaded into the unit's memory and then can be flashed directly to the handset at high speeds.



JBV-1 Docking Station

The JBV-1 connects flash prommers. The docking station can be powered by the FPS-8 Flash Prommer or by an external power supply.



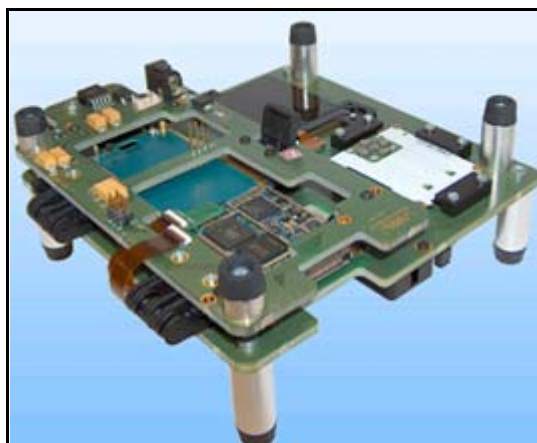
JXS-2 Shield Box

The JXS-2 is used to perform RF radiated testing and antenna testing.



MJ-126 Module Jig

The MJ-126 is used as a means to secure the PWBs and displays for troubleshooting with the covers off. The design provides DC power input and a communication port for the service software.



PCS-1 Power Cable

The PCS-1 is used to connect the service tools (e.g., JBV-1 Docking Station, module jig) to an external power supply.



PKD-1 Software Security Dongle

The PKD-1 is a hardware dongle that, when connected to the parallel (LPT) port of the PC, enables the use of the service software. It is not possible to use the service software without the dongle. Printers or other peripheral devices can be connected to the PC through the dongle, if needed.

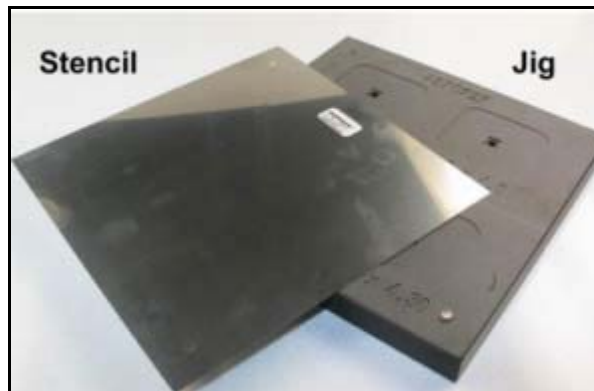


Caution: Make sure that you have switched off the PC and the printer before making connections.

Caution: Do not connect the PKD-1 to the serial port. You may damage your PKD-1 and/or your PC.

RJ-18 Power Amp LGA Rework Jig and ST-16 PA Stencil

The ST-16 stencil allows rework on LGA-type components that do not have pre-tinned pads. Both power amps require the use of this stencil. The stencil is designed to specifically fit the PA pad configuration and dimensions. The RJ-18 fits the physical dimension of the N7300 and N7301.

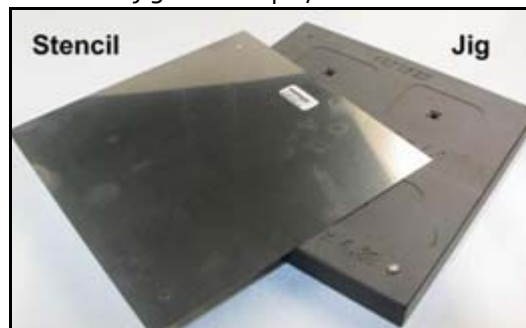


Note: Used in conjunction with the SPS-1 Paste Spreader.

Note: The RJ-18 is not intended to serve as a test jig.

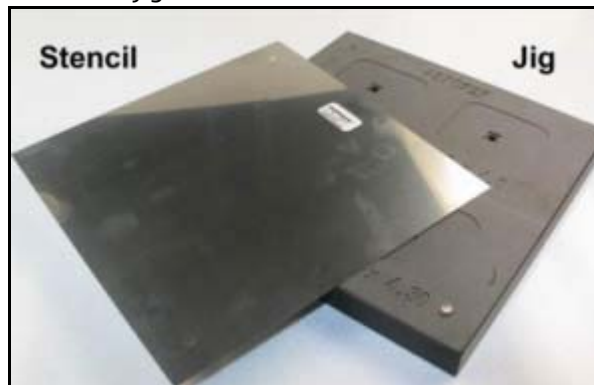
RJ-55 Rework Jig and ST-20 Stencil

The ST-20 stencil allows rework on LGA-type components that do not have pre-tinned pads. The stencil is designed to specifically fit the N6601 pad configuration and dimensions while the rework jig fits the physical dimension of the N6601.



RJ-62 LGA Duplexer Rework Jig and ST-23 Stencil

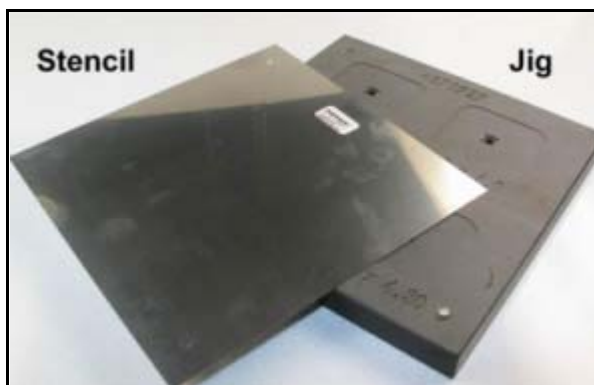
The ST-23 stencil allows rework on LGA-type components. The duplexer (Z7300) requires the use of this stencil and jig.



Note: Used in conjunction with the SPS-1 Paste Spreader.

RJ-64 LNA LGA Rework Jig and ST-24 Stencil

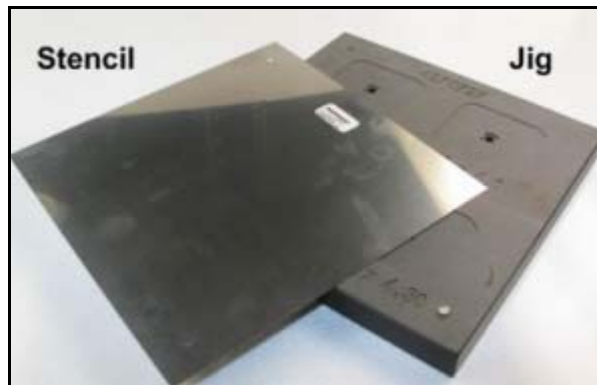
The ST-24 stencil allows rework on LGA-type components that do not have pre-tinned pads. The LNA requires the use of this stencil. The stencil is designed to specifically fit the pad configuration and dimensions while the rework jig fits the physical dimension of the N7160.



Note: Used in conjunction with the SPS-1 Paste Spreader.

RJ-65 TX IC LGA Rework Jig and ST-25 Stencil

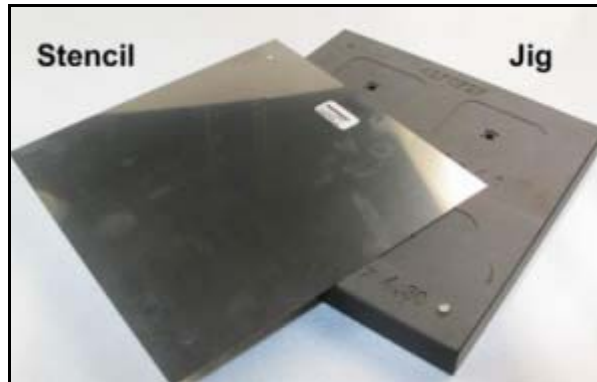
The ST-25 stencil allows rework on LGA-type components that do not have pre-tinned pads. The N7000 requires the use of this stencil. The stencil is designed to specifically fit the IC pad configuration and dimensions while the rework jig fits the physical dimension of the IC.



Note: Used in conjunction with the SPS-1 Paste Spreader.

RJ-71 Rework Jig and ST-26 Stencil

The ST-26 stencil allows rework on LGA-type components that do not have pre-tinned pads. The N6600 requires the use of this stencil. The stencil is designed to specifically fit the IC pad configuration and dimensions while the rework jig fits the physical dimension of the IC.



Note: Used in conjunction with the SPS-1 Paste Spreader.

RJ-101 Rework Jig and ST-35 Stencil

The ST-35 stencil allows rework on LGA-type components that do not have pre-tinned pads. The stencil is designed to specifically fit the Z7302 pad configuration and dimensions while the rework jig fits the physical dimension of the Z7302.



RJ-134 Rework Solder Jig

The RJ-134 serves as a mechanical holder for desoldering and soldering of components. It provides a convenient means to replace components on the PWB when they are changed during service repairs at authorized CARE locations.



SA-54 RF Calibration Adapter

The SA-54 adapter is used to replicate the mobile terminal's RF when calculating cable path losses.



SRT-6 Opening Tool

The SRT-6 is used to open and remove parts during disassembly of the mobile terminal.



SS-13 Tuning Docking Station

The SS-13 is used with the MJF-x/DA-x Docking Station Adapters for CDMA RF autotuning.



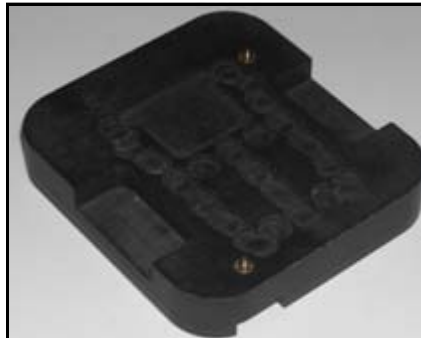
SS-45 Camera Removal Tool

The SS-45 is used to remove the camera from its socket.



SS-98 Domesheet Alignment Jig

The SS-98 is used to replace and align the domesheet on the PWB engine.



SS-106 A-cover Removal Tool

The SS-106 is used to remove A-cover from the mobile terminal.



XCS-4 MBUS/FBUS Cable

The XCS-4 is a general purpose cable for flashing and communicating with the mobile terminal. It is used to connect the FPS-8 Flash Prommer to the docking station adapter or the service jig.



XRS-6 RF Cable

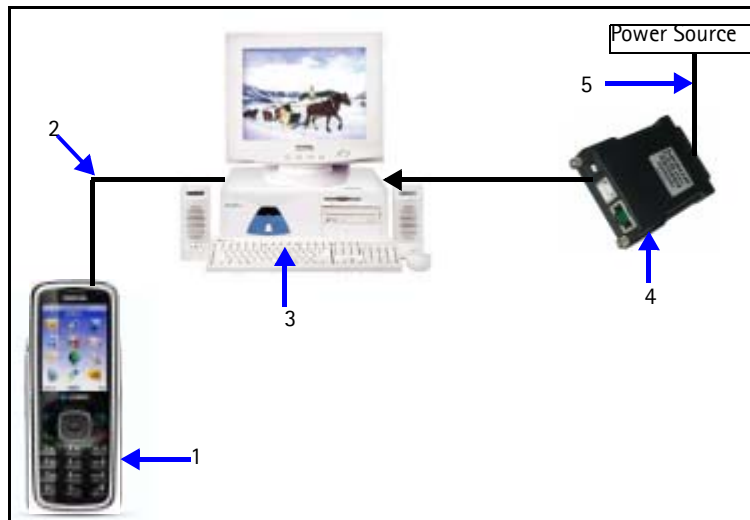
The XRS-6 is used to connect service tools to RF measuring equipment.



Service Configurations

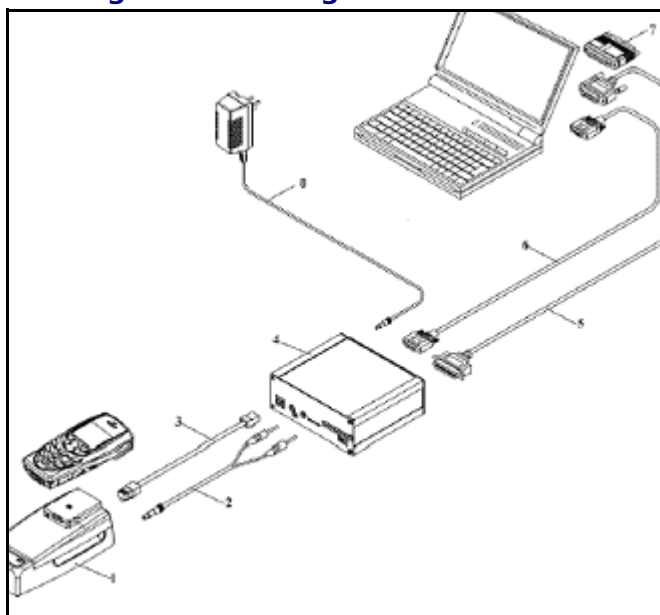
Service Setup1: POS Flashing

This is a configuration used at the POS locations that use Phoenix software and an FLS-4S POS Flash Adapter. This setup allows easy software upgrades and minor handset configuration.



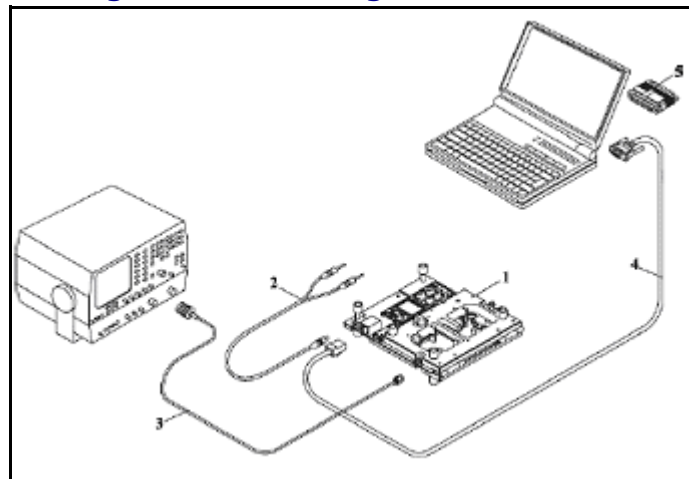
Item	Name	Type	Notes
1	Handset	RM-154, RM-154	6275, 6275i
2	POS Flash Cable	DKU-2 CA-53	Connects to the USB port on the PC.
3	Point of sales software	N/A	Phoenix
4	POS Flash Adapter	FLS-4S	Connects to the parallel port or USB port on the PC.
5	Power supply	ACF-8	Connects to the FLS-4S.

Service Setup 2: Flashing with Docking Station



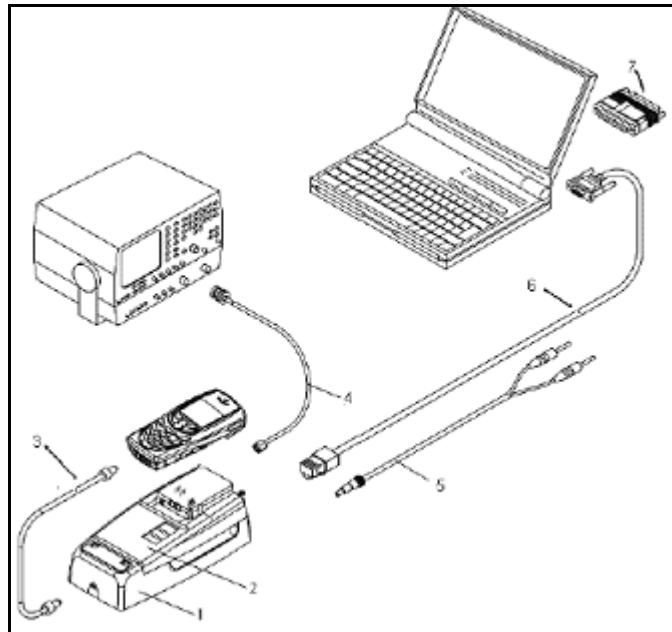
Item	Name	Type
	Docking Station	JBV-1
1	Docking Station Adapter	DA-66
2	DC Power Cable	PCS-1
3	Modular Cable	XCS-4
4	Flash Prommer Box	FPS-8 or FPS-10
5	Printer Cable (included with FPS-8)	CA-10DS
6	D9 Cable (included with FPS-8)	AXS-4
7	SW Protection Key	PKD-1
8	AC Charger	ACF-8

Service Setup 3: Testing with Module Jig



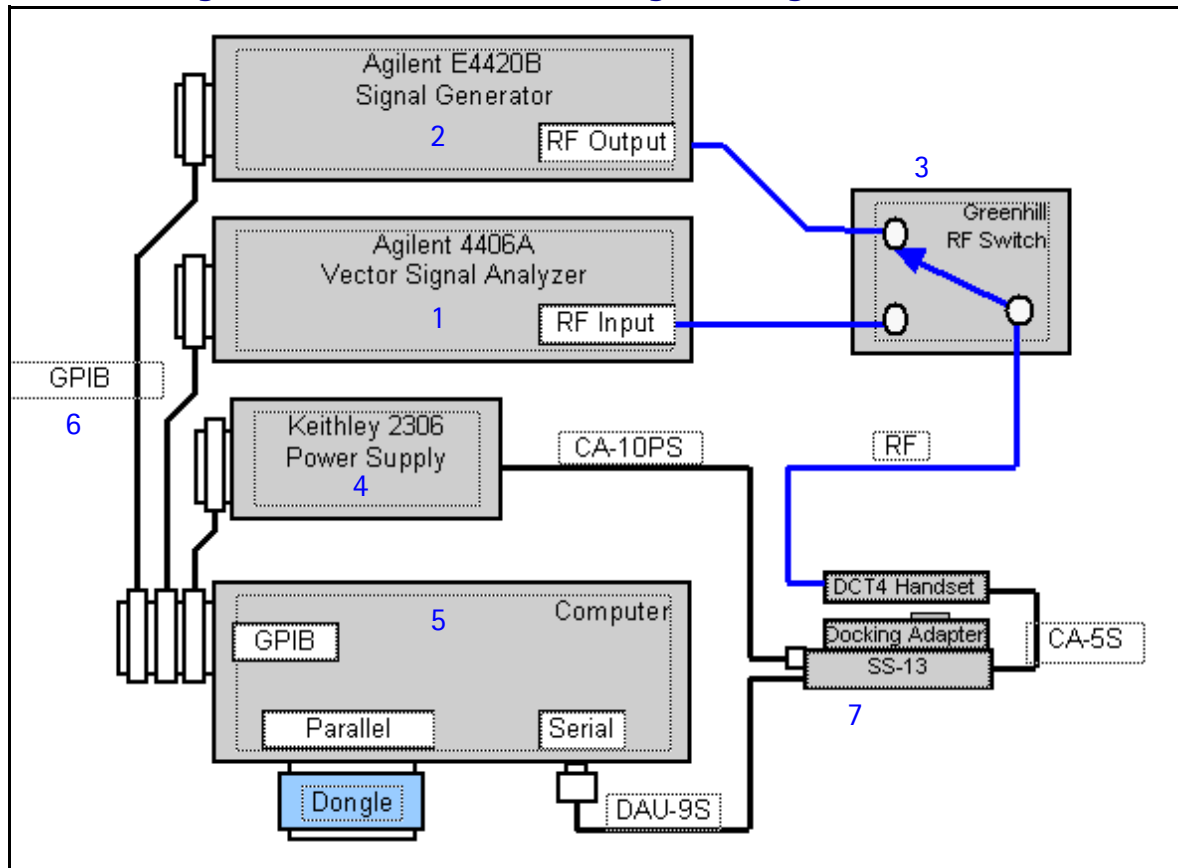
Item	Name	Type
1	Module Jig	MJ-126 + CA-56 RS
2	DC Power Cable	PCS-1
3	RF Antenna Cable	XRS-6
4	Service MBUS Cable	DAU-9S
5	SW Protection Key	PKD-1

Service Setup 4: EM Calibration



Item	Name	Type
1	Docking Station	JBV-1
2	Docking Station Adapter	DA-66
3	DC Service Cable	CA-52PS
4	RF Antenna Cable	XRS-6
5	DC Power Cable	PCS-1
6	Service MBUS Cable	DAU-9S
7	SW Protection Key	PKD-1

Service Configuration 5: Automated Tuning and Alignment

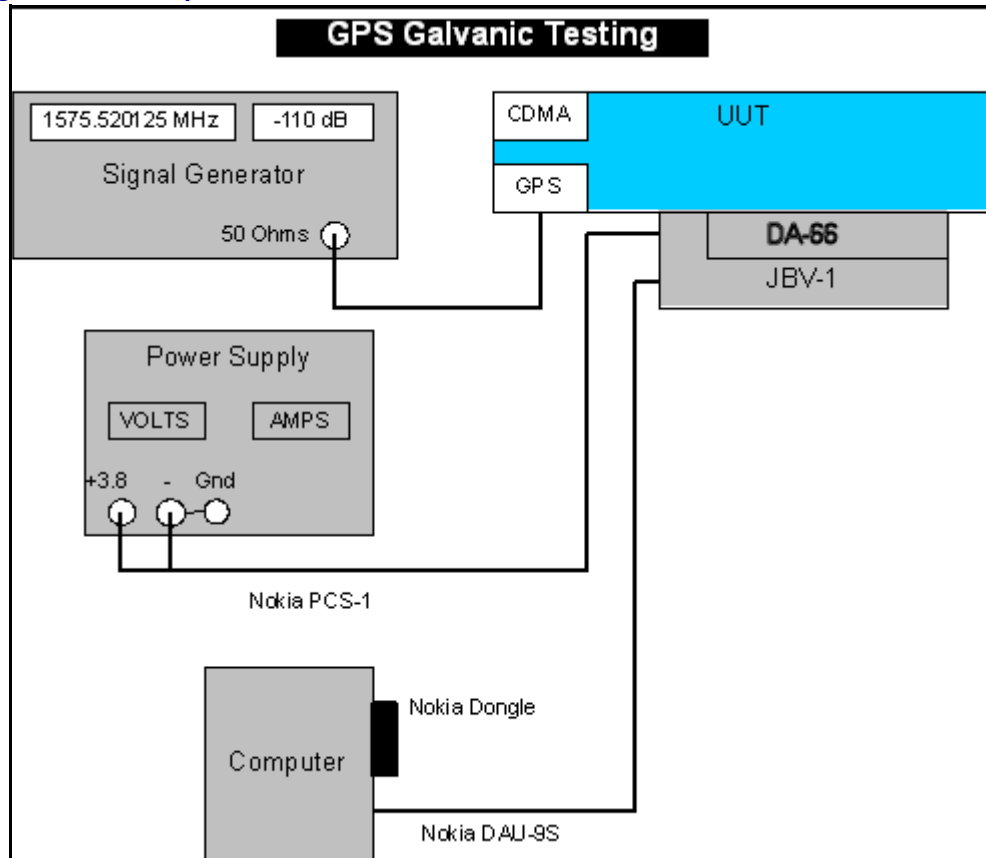


Item	Name	MFR	Model #	QTY	Comment
1	Vector Signal Analyzer	Agilent	E4406A	1	B78, CDMA 2000 measurements
2	Signal Generator	Agilent	E4421B	1	Digital signal generator with high-stability oscillator and high-spectral purity
3	RF Switch	GreenHill	TVI9901	1	RF switch with GPIB control
4	Power Supply	Keithley	K2306	2	Programmable with sense wire
5	Win2000 PC			1	Dell with Pentium III or above, network card, 256M RAM, 20GB HD, CD-ROM, etc.
6	GPIB Interface	NI	GPIB-USB-A	2	USB to GPIB adapter (184983G-01)
7	Docking Station	Nokia	SS-13	1	For DCT4 handset tuning.
8	10dB Attenuator				
9	Security Key (Dongle)	Nokia	PDK-1		

Service Configuration 6: GPS Engine Testing

Use this setup for testing the GPS engine at Nokia Authorized Service Centers. Both galvanic and radiated tests are supported. The **GPS Test** component in Phoenix provides functionality to perform these tests. (See the *Baseband Description and Troubleshooting* chapter for more information about GPS testing.)

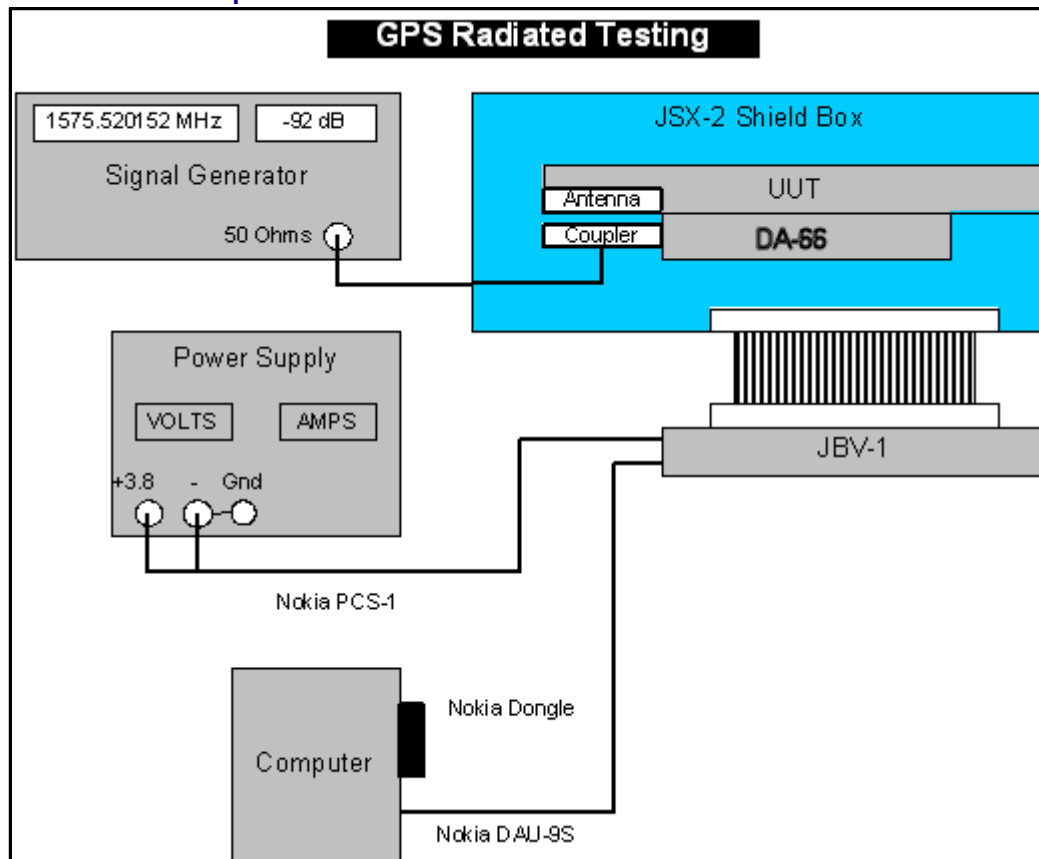
GPS Engine Test Setup



Following is a list of equipment needed for galvanic GPS engine testing:

- Power supply
- Signal generator
- Computer (Pentium 3+, Windows 2000)
- JBV-1 Docking Station
- DA-66 Docking Station Adapter
- PCS-1 DC Power Cable
- DAU-9S MBUS/FBUS Cable
- PKD-1 Dongle
- XRS-6 RF Test Cable
- CA-25RS
- Misc. RF Cable

GPS Antenna Test Setup



Following is a list of equipment needed for radiated GPS antenna testing:

- 4VDC power supply
- Signal generator
- Computer (Pentium 3+, Windows 2000)
- JBV-1 Docking Station
- DA-66 Docking Station Adapter
- PCS-1 DC Power Cable
- DAU-9S MBUS/FBUS Cable
- PKD-1 Dongle
- SA-54 + CPL-8 Antenna Coupler (with closed mobile terminal)
- XRS-6 RF Test Cable
- JXS-1 Shield Box

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Disassembly

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7. Remove the IHF Assembly	9
8. Remove the DC Jack, Microphone, and Battery Floor	10
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10. Remove the Camera Module	12

Safety Information

Adhere to the following guidelines when assembling and disassembling the mobile terminal.

- **QUALIFIED SERVICE**
Only qualified personnel may install or repair mobile terminal equipment.
- **ACCESSORIES AND BATTERIES**
Use only approved accessories and batteries. Do not connect incompatible products.
- **CONNECTING TO OTHER DEVICES**
When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

ESD Protection

Nokia requires that mobile terminal repair centers have sufficient ESD protection against static electricity when servicing mobile terminals. Use the following guidelines:



- A mobile terminal that is ready for use can be handled normally without ESD protection. The battery can be replaced in normal conditions of use.
- Use ESD protection when replacing a color cover, except for the mobile terminal covers which can be replaced by the customer.
- All electronic parts of the mobile terminal, including the display, are susceptible to ESD. Resistors also can be damaged by static electricity discharge.
- All ESD-sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).
- Every repair action involving opening the mobile terminal or handling the mobile terminal components must be done under ESD protection.
- ESD-protected spare part packages **MUST NOT** be opened/closed outside an EPA.

For more detailed information about ESD protection and EPAs, contact your local Nokia Customer Care representative.

Disassembly Instructions

Use the following steps to disassemble the mobile terminal.

1. Remove the Battery Cover

Cover the windows with a protective plastic film.



Press down on the B-cover while sliding it away from the body of the mobile terminal.



If installed, remove the battery.



2. Remove the Antenna Cover

Carefully unlock the antenna cover clips on both sides.



Work your way around the assembly while loosening the cover. Be careful of the header cap and retaining snaps along either side and at top. After the cover pops loose from the assembly, slide the antenna cover off.



3. Remove the A-Cover and Keymat

Push down on the keymat while opening the clips of the A-cover with the SS-106 tool.



Press/hold your thumb against the keypad while maneuvering the removal tool. Lift the tool until the A-cover clips detach from the D-cover. After the A-cover prongs release from the D-cover, separate the A-cover from the D-cover.



Remove the keymat.

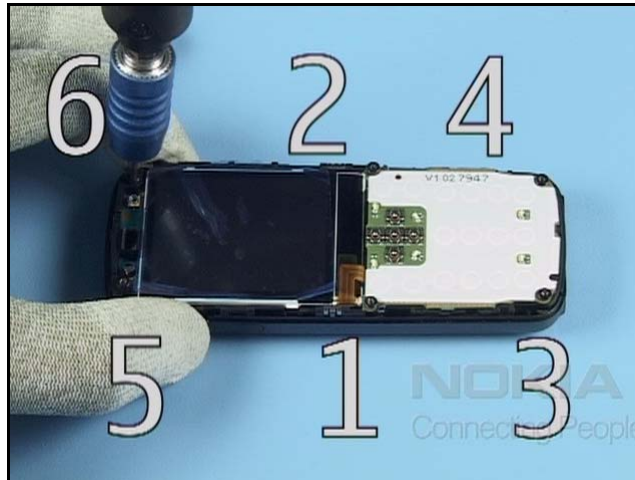


Apply a protective film to the inner side window.



5. Remove the UI Module

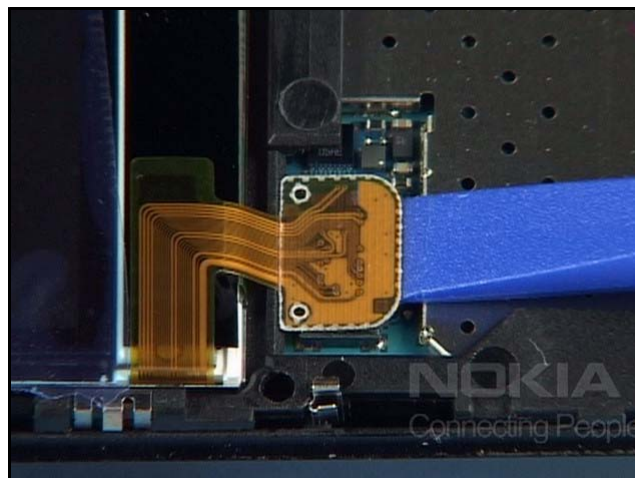
In the order shown, remove the 6-Torx retaining screws.



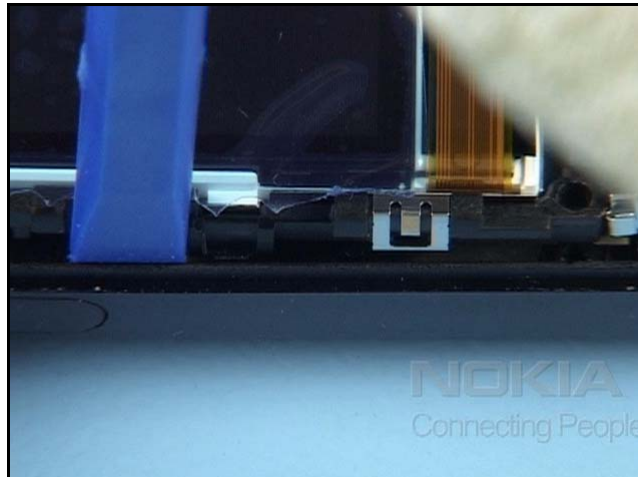
Unlock the metal clip holding the LCD connector and lift it away from the assembly.



Use the SS-93 tool to detach the flex connector.



Use the SS-93 tool to unlock the plastic snaps on both sides of the C-cover assembly.



Lift up and remove the assembly.

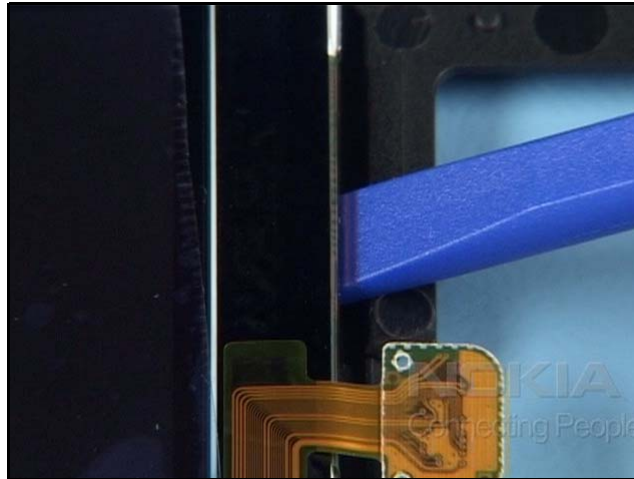


6. Remove the PWB and LCD Module

Lift the PWB up from the assembly.



Carefully pry the LCD module from the assembly.

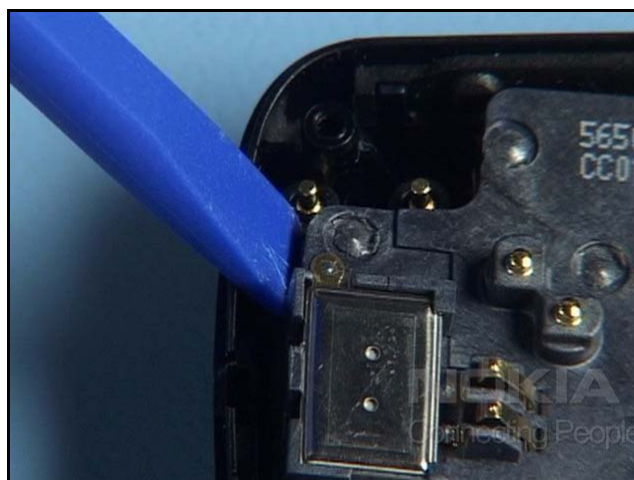


Carefully slide the assembly into the alignment shown below.

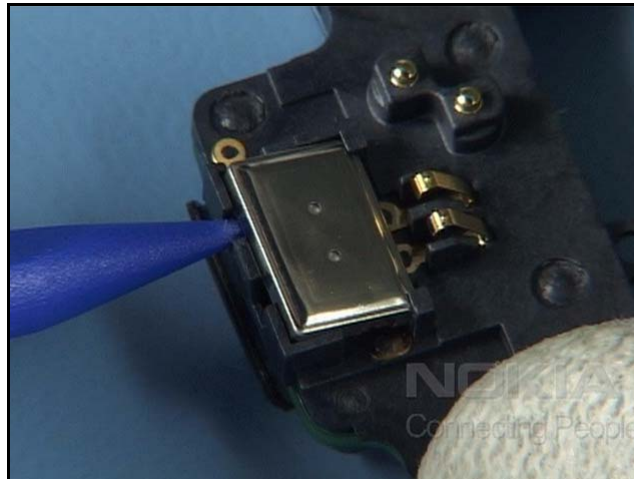


7. Remove the IHF Assembly

Pry the IHF assembly out. However, be careful not to bend or damage the spring contacts.



Use the top of the SS-93 tool to pry the earpiece out.



Carefully release the clips of the D-cover. These clips are very delicate and can break easily. This enables you to release the flash module.



8. Remove the DC Jack, Microphone, and Battery Floor

Use the DC plug to remove the DC jack.



Use the tweezers to remove the microphone.



Unlock the metal latches of the battery floor.



9. Remove the Volume/Zoom Key and Camera Key

Use the tweezers to release and remove the volume and zoom key.

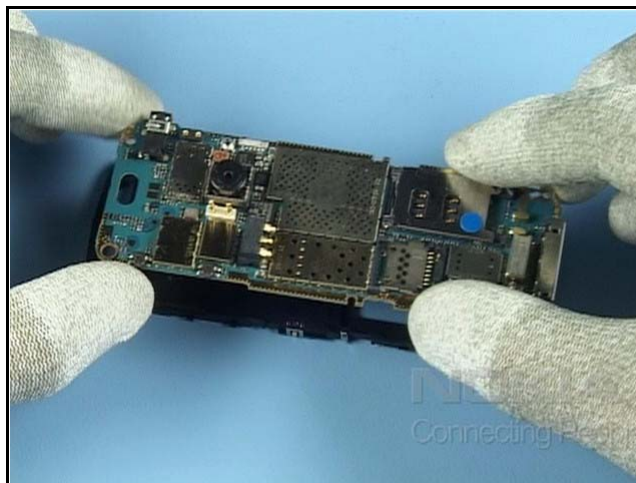


Use the tweezers to release and remove the camera key.

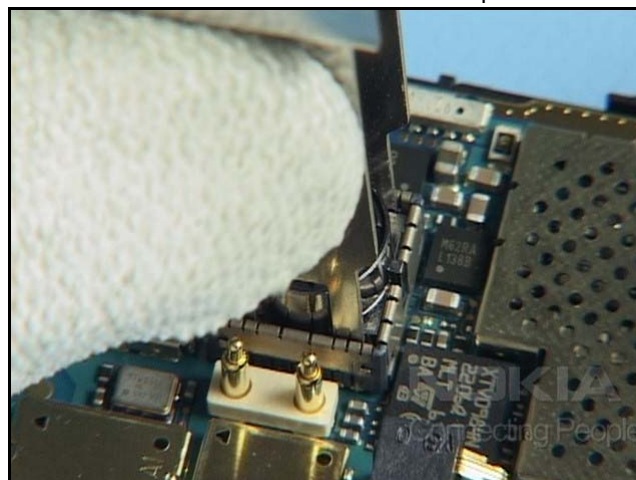


10. Remove the Camera Module

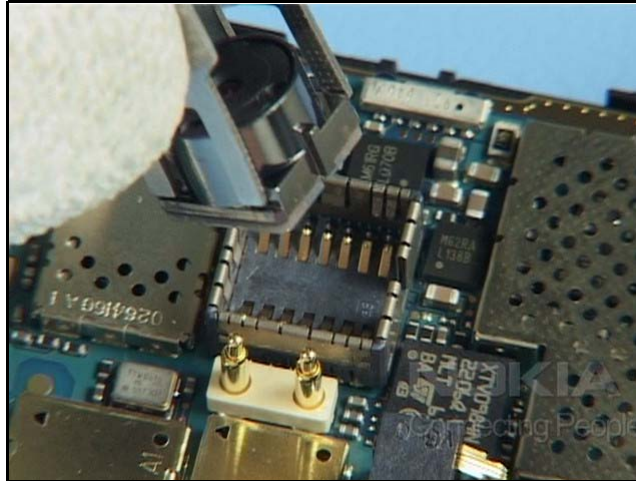
Use the soldering jig or at least the C-cover as support when replacing the camera module.



Use the SS-45 camera removal tool to release the clips of the camera module.



Vertically lift the camera module out of the assembly.



The disassembly procedure is complete.

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Assembly

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Safety Information

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ESD Protection

Nokia requires that mobile terminal repair centers have sufficient ESD protection against static electricity when servicing mobile terminals. Use the following guidelines:



- A mobile terminal that is ready for use can be handled normally without ESD protection. The battery can be replaced in normal conditions of use.
- Use ESD protection when replacing a color cover, except for the mobile terminal covers which can be replaced by the customer.
- All electronic parts of the mobile terminal, including the display, are susceptible to ESD. Resistors also can be damaged by static electricity discharge.
- All ESD-sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).
- Every repair action involving opening the mobile terminal or handling the mobile terminal components must be done under ESD protection.
- ESD-protected spare part packages **MUST NOT** be opened/closed outside an EPA.

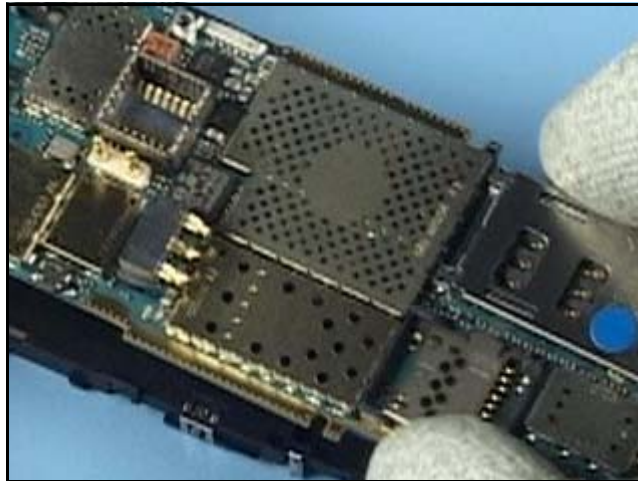
For more detailed information about ESD protection and EPAs, contact your local Nokia Customer Care representative.

Assembly Instructions

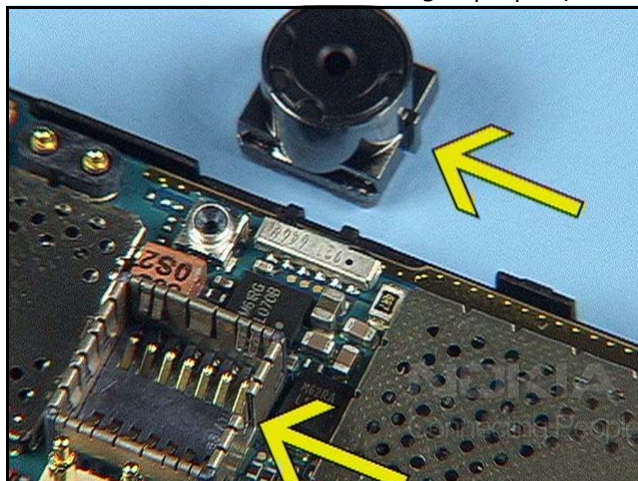
Use the following steps to assemble the mobile terminal.

1. Insert the Camera Module

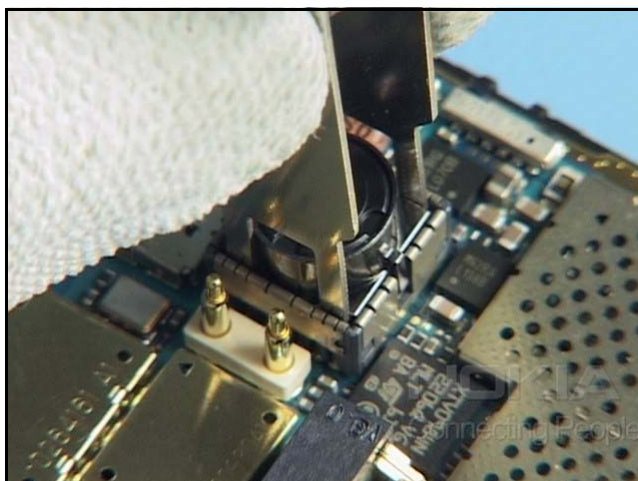
Use a soldering jig or the C-cover assembly as support to replace the camera module.



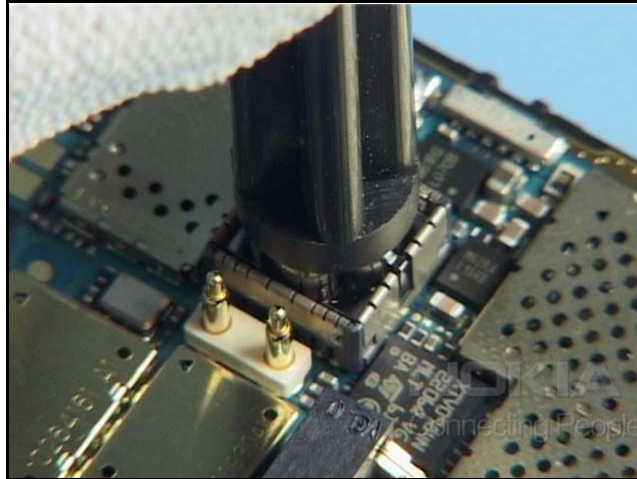
Ensure that the notch on the camera module aligns properly with the slot on the PWB.



Insert the camera module.



Ensure that the camera fastens in place evenly.



2. Insert the Camera Key and Volume/Zoom Key

Use tweezers to insert the camera key.



Use tweezers to insert the volume and zoom key.



3. Insert the Battery Floor

Insert the battery floor, and click all of the snaps into their latches.



5. Insert the Microphone and DC Jack

Insert the microphone, and lock it into the assembly.



Use the DC plug to insert the DC jack into the assembly.



6. Insert the Flash Module

Insert the flash module. Ensure that the plastic clips are click into their places correctly.



7. Insert the IHF Speaker and IHF Module

Use the tweezers to insert the earpiece into the IHF module.



Insert the IHF module into the D-cover. Ensure that all the snaps click into place.



8. Insert the LCD Module and PWB

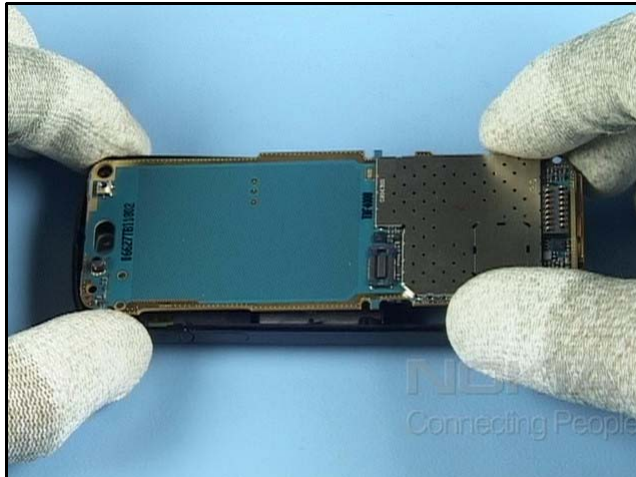
Replace the adhesive on the assembly.



Align the guide tabs on the LCD module with the grooves in the assembly.



Assemble the PWB onto the D-cover.

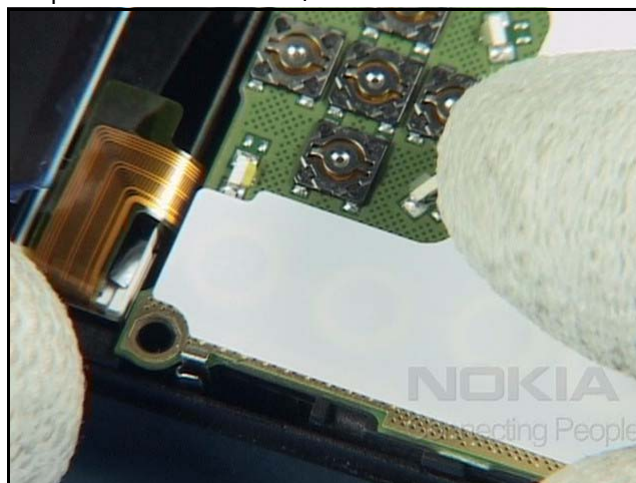


Carefully align and press down on the flex connector until it snaps to the PWB.

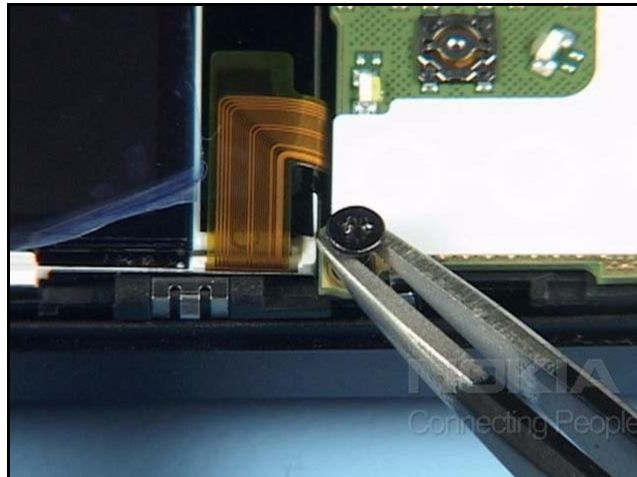


9. Assemble the UI Module and Keymat

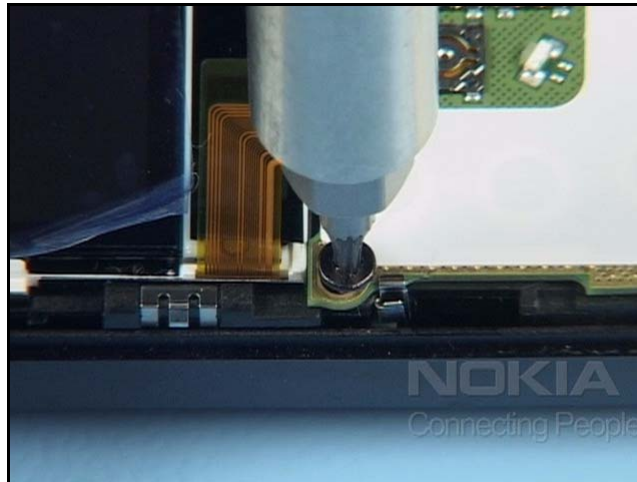
Align the metal clips on the UI module, and insert it into the assembly.



Insert the six screws.



Set the correct torque. To prevent damage to the plastic threads, turn the screws left first, then tighten them.



Apply the correct torque in the order shown.



Remove the protective film from the inside window.



Insert the keymat into the A-cover.



10. Insert the A-Cover, Antenna Cover, and B-Cover

Starting at the top, align the A-cover with the snaps. Carefully apply pressure and lock the A-cover to the assembly.



Starting at the top, align the antenna cover into the grooves of the assembly. Carefully apply pressure and snap into place.



Align the B-cover with the guides on the assembly. Press down and slide the B-cover towards the top of the assembly until it clicks into place.



Remove the protective film, and ensure that the window is void of scratches, smudges, or dirt.



The assembly procedure is complete.

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Antenna Description and Troubleshooting

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Auxiliary Antennas: GPS, BT, and FM	8
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Introduction

This troubleshooting guide addresses potential failures that affect antenna performance of the 6275/6275i mobile terminals and discusses methods for correction of these failures. Following are the three serviceable antennas used in the 6275/6275i mobile terminals:

- CDMA antenna (on the E-cover assembly)
- GPS antenna (on the antenna module)
- Bluetooth antenna (on the D-cover assembly)

The following sections describe these antennas and their connections to the mobile terminal components.

CDMA Antenna on the E-Cover Assembly

The E-cover (or antenna cover assembly) is comprised of the E-cover plastic part, the CDMA antenna (or CDMA radiator) and the bezel assembly. The bezel assembly includes the camera, flash windows, and the bezel.

The E-cover connects to the D-cover assembly via six tabs located on the four corners and top edge of the E-cover, as well as a snap-in feature located on the bottom two corners.



Figure 1: CDMA antenna on the E-cover

Damaged CDMA Radiator Bezel Assembly

The CDMA flex radiator antenna and bezel assembly are glued to the inside surface of the E-cover. To remove the E-cover assembly from the D-cover, use the SRT-6 opening tool to release the two snap-in tabs that secure the E-cover to the D-cover.

If either the CDMA radiator or bezel assembly is damaged, replace the E-cover assembly.

Note: You cannot replace the CDMA radiator or the bezel individually. You must replace the entire E-cover assembly.

To reattach the E-cover assembly to the D-cover, align the E-cover above the D-cover and apply a vertical force to engage the snap-in feature.

Missing or Damaged CDMA Antenna and IHF Pogo Pins

The CDMA antenna is connected to the PWB through two pogo pins. The CDMA antenna pogo pins are housed in the D-cover (see [Figure 1](#) on page 4).

If a CDMA antenna pogo pin is damaged or missing, replace the D-cover. An improper connection between the CDMA antenna and the PWB due to a damaged or missing pogo pin degrades the CDMA antenna performance by 5dB to more than 15dB.

IHF Module

The IHF module impacts the CDMA antenna performance. If there is any damage to the IHF module, replace the acoustic module.

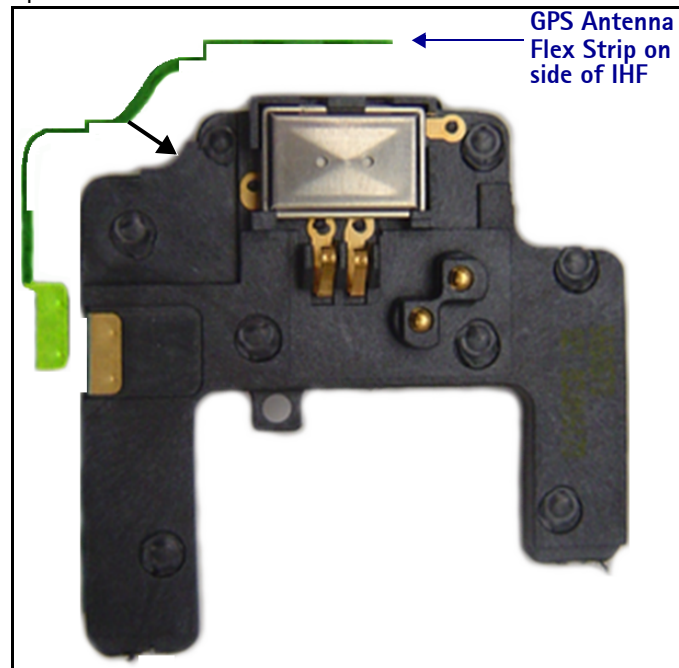


Figure 2: IHF module

Obstructed RF Feed and Ground Pads

The CDMA antenna ground and feed pogo pins touch the PWB on ground and feed pads.

- If the main antenna feed pad is obstructed, removed, or covered, the CDMA antenna feed pogo pin does not touch the PWB and the antenna gain degrades by more than 15 dB.
- If the CDMA antenna ground pad is obstructed, removed, or covered, the ground pogo pin does not touch the PWB and the antenna gain degrades by more than 5dB.
- If corrosion is present or the pads are missing, replace the PWB.
- If either pad is obstructed or covered, clear or clean the pads.
- If the CDMA antenna matching network is missing or damaged, replace the component.
- If the PWB is permanently damaged, replace the PWB.

Damaged RF Connector

The CDMA RF connector could fail by not connecting the RF input to the RF output of the RF connector. If this happens, the antenna gain degrades by about 15dB. You can check this by testing for DC conductivity between the RF connector's RF input and output.

Perform the DC conductivity test without a cable attached to the RF connector. Because the RF connector is also a switch, the RF output disconnects from the RF input when a cable is inserted into the RF connector. When a cable is not inserted, the RF input is connected to the RF output of RF connector.

- CDMA RF input – connects to the duplexer
- CDMA RF output – connects to the antenna pad through vias
- RF connector – connects to a coaxial cable

If the RF input is not connected properly to the RF output, replace the RF connector.

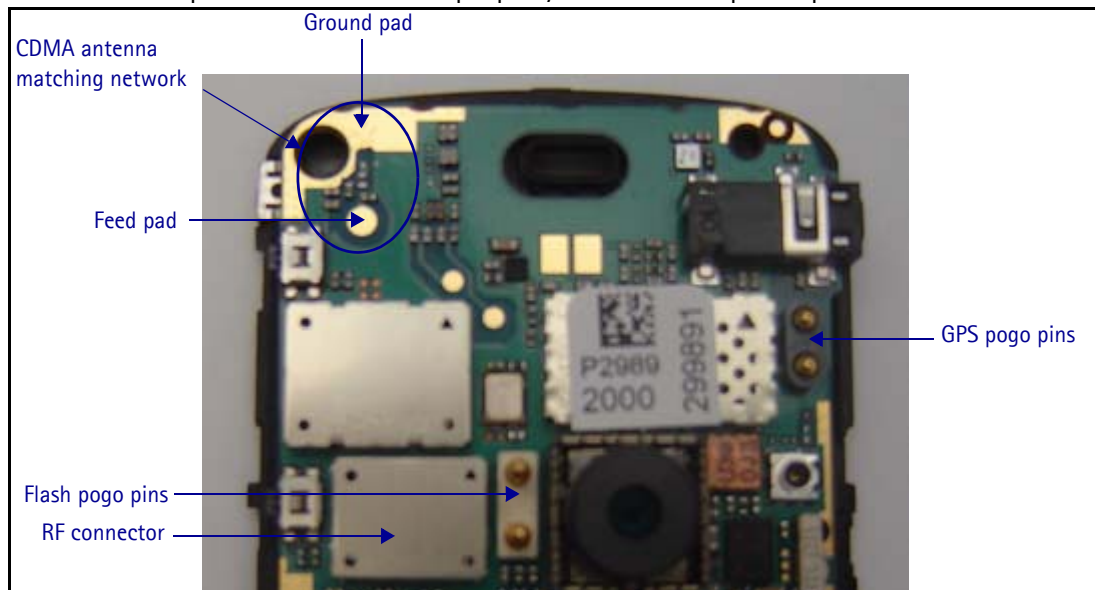


Figure 3: Main PWB – bottom side

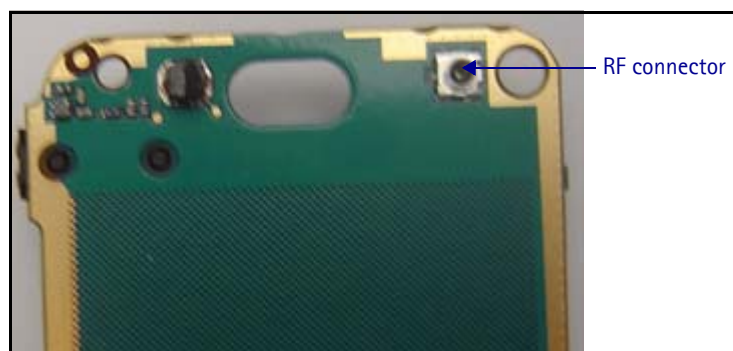


Figure 4: Main PWB – top side

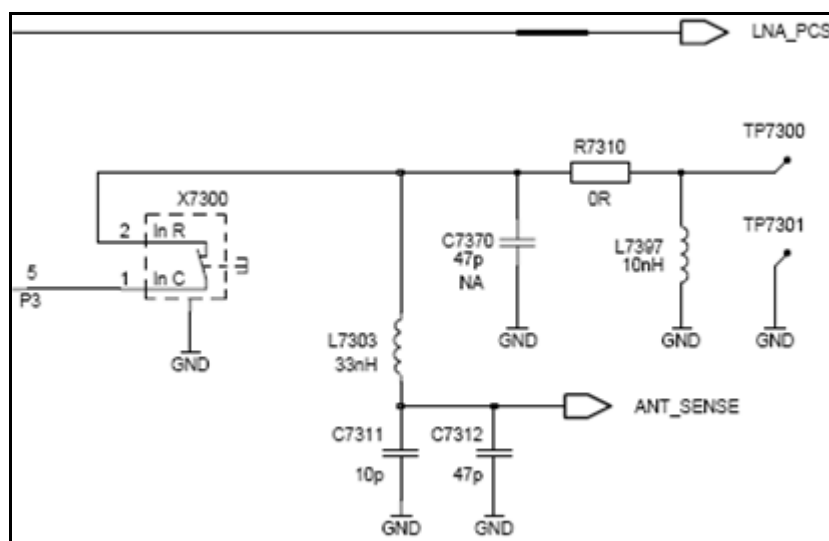


Figure 5: CDMA antenna matching network schematics

Auxiliary Antennas: GPS, BT, and FM

See the Disassembly chapter for instructions about disassembling the mobile terminal for auxiliary antenna troubleshooting.

GPS Antenna

The GPS antenna is a printed trace on a flex that adheres to the plastic audio module. The GPS antenna connects to two pogo pins that are soldered to the PWB. The GPS flex wraps around the side of the plastic audio module and ends near the audio port at the top end of the module. Use an RF connector to test the GPS RF components directly.

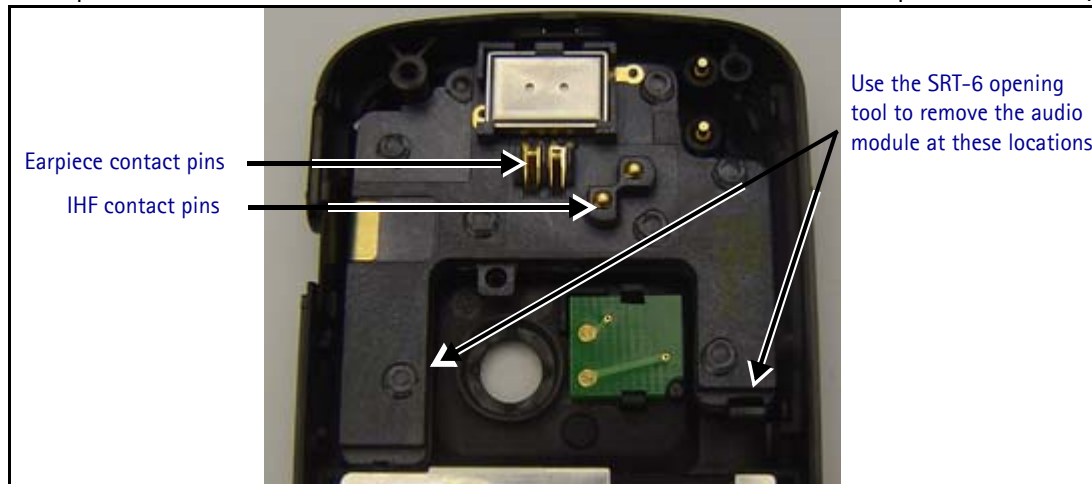


Figure 6: Remove the audio module from the D-cover

The GPS antenna system has the following possible failure modes:

- If the solder bridge of the two GPS pogo-pin pads are dirty, remove and clean the bridge.
- If the GPS SMD pogo pins are misaligned, properly align and solder them.
- If the GPS SMD pogo pins do not operate freely or easily in their sleeves, replace them.
- If the wrong pogo pins are soldered at the GPS SMD pogo-pin location, use the proper GPS pogo pins.

Note that the Flash pogo pins are 5.5mm high, while the GPS SMD pogo pins are 3.8mm high. (See [Figure 3](#) on page 6.)

- If the GPS SMD pogo pins are improperly soldered to their pads (e.g., cold solder joint, cracked solder joint, insufficient solder, excessive solder causing tilting), properly align and solder them.
- If the GPS flex antenna (see [Figure 2](#) on page 5) shows damage to the pogo-pin pad (pressure tearing, hole, cracking, corrosion, bubbles, etc.) replace the GPS/audio module.
- If the GPS flex antenna shows damage to the flex (e.g., tearing, cracking, corrosion, bubble, etc.), replace the GPS/audio module.

- If the GPS flex antenna shows damage to the audio outer gasket or screen (e.g., permanently creased, indented, torn, dislodged, distorted, or pressed to the side, abnormal shape, texture, coloration), replace the GPS/audio module.
- If the GPS flex antenna trace shows damage or contamination (e.g., cracking, discoloration, corrosion, bubble.), replace the GPS/audio module.
- If the GPS cellular RF connector is defective, replace the RF connector and make sure the orientation is correct.

Bluetooth Antenna

The bluetooth (BT) antenna is a stamped metal sheet formed with one spring contact and heat-staked ultrasonically to the D-cover.

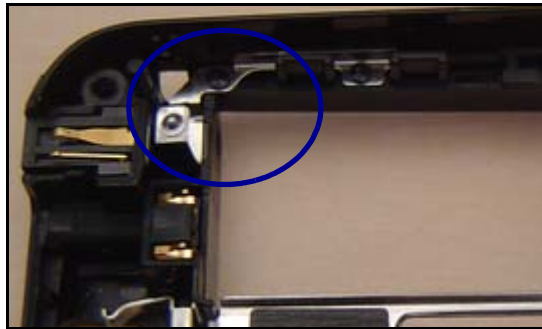


Figure 7: Bluetooth antenna

A 0.5pf shunt capacitor was used for antenna impedance matching on the main PWB.

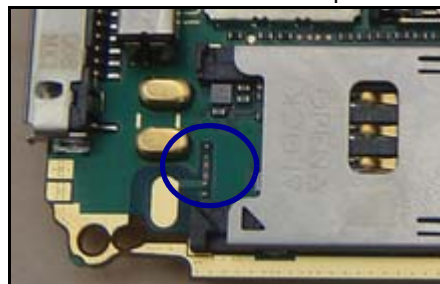


Figure 8: Bluetooth matching component on the main PWB

The BT antenna system has following possible failure modes:

- If the BT antenna spring clip is deformed, replace the D-cover.
- If the BT antenna plastic heat stakes do not hold the metal antenna firmly, replace the D-cover.
- If the D-cover is deformed or broken, replace the D-cover.
- If the antenna match component is broken, replace the match component.

FM Antenna

The FM-antenna uses the connection through the universal headset jack (UHJ) or the Pop-port connector to a headset to create an FM antenna of reasonable gain. If the FM antenna is not working, the chips, UHJ connector, or the Pop-port connector could be bad.

The FM antenna system has following possible failure modes:

- If the chip components are bad, replace them.
- If the UHJ or Pop-port connector is bad, replace connector.
- If the headset is bad, replace it.

Circuit Diagrams and Chip Locations

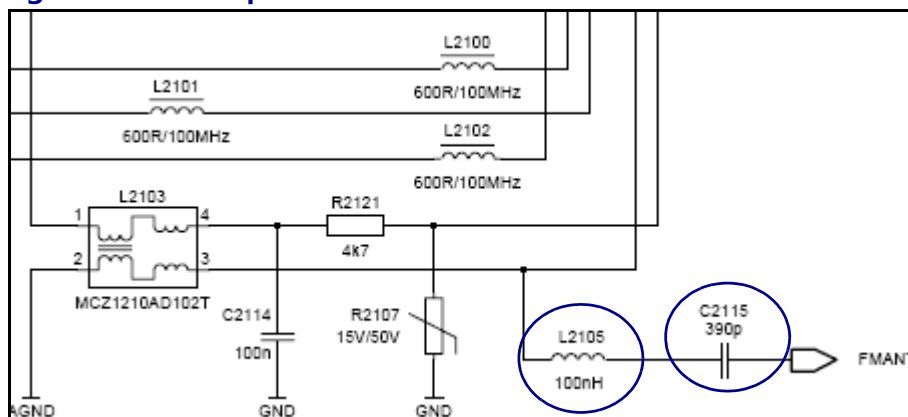


Figure 9: Matching chips for the UHJ on the audio schematic

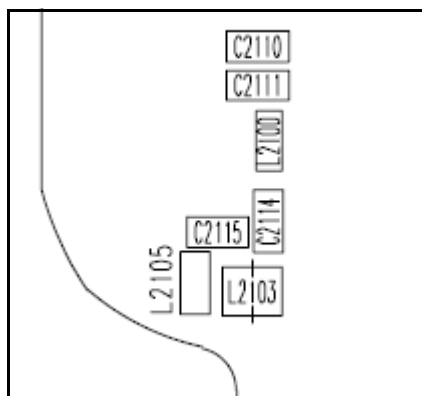


Figure 10: Matching chips for the UHJ on the top PWB component layout

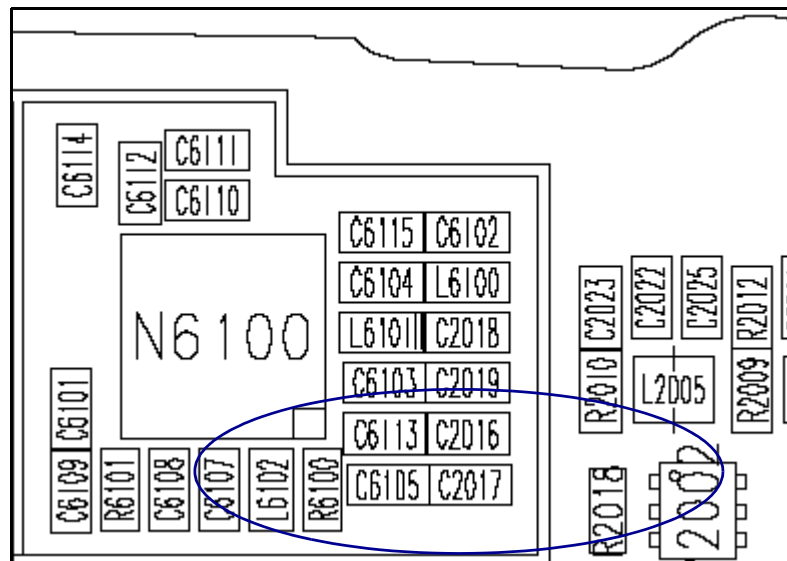


Figure 11: Matching chips for the Pop-port connector on the system connector schematic

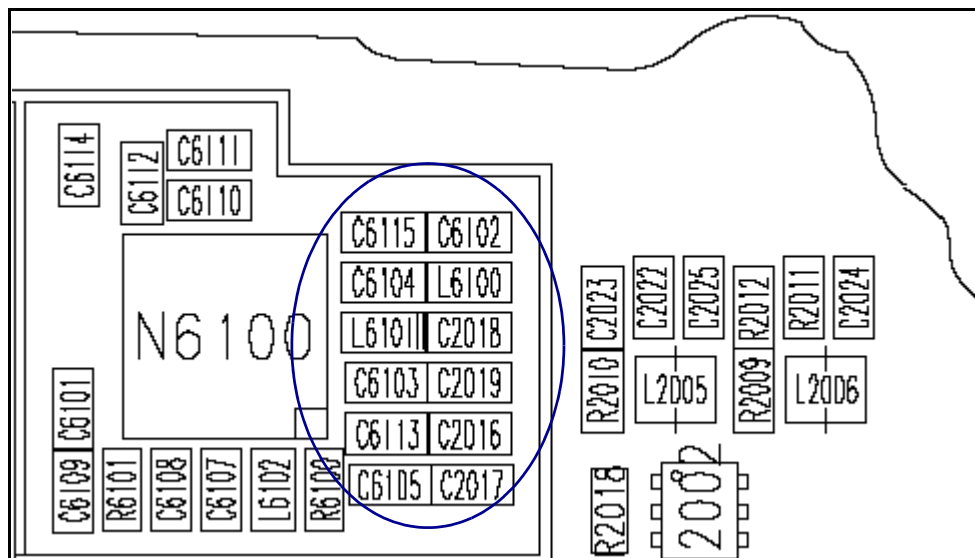


Figure 12: Matching chips for the Pop-port connector on the top PWB component layout

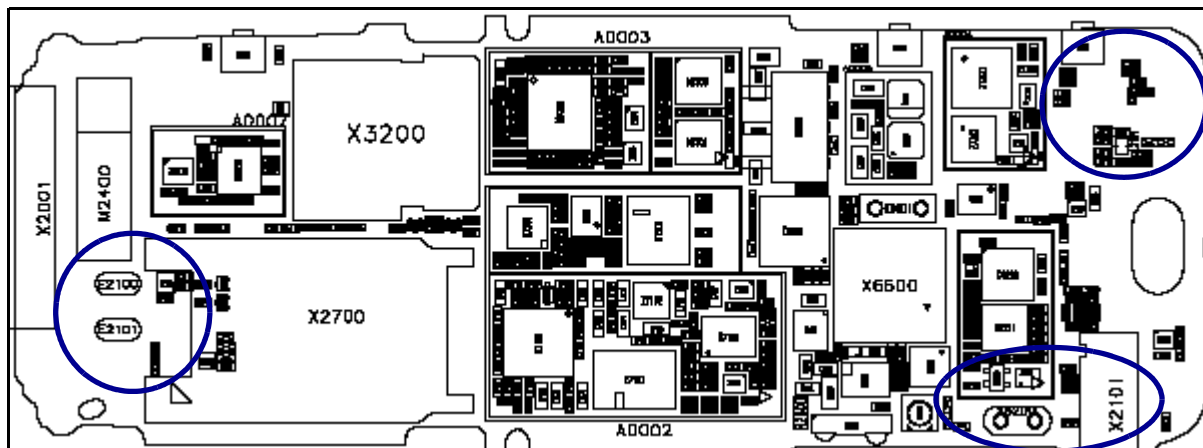


Figure 13: Bluetooth matching chips on the bottom PWB component layout

SAR Reduction Foil

The SAR reduction feature uses three A-cover grounds through three clips on the C-cover. A-cover grounding impacts the radiation performance of the mobile terminal.

If the clips of C-cover are not touching the PWB or A cover, are corroded, or are obstructed, replace the C-cover.



Figure 14: SAR reduction A-cover (left) and C-cover (right) grounding clip locations

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**Nokia Customer Care
6275/6275i (RM-154)
Mobile Terminal**

**Baseband Description and
Troubleshooting**

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Introduction

The 6275/6275i baseband module is a tri-mode, code division multiple access (CDMA), dual-band engine and is based on the DCT4.5 standard. The baseband engine includes two major Application Specific Integrated Circuits (ASICs):

- D2200 — Universal Energy Management Enhanced Integrated Circuit (UEMEK IC), which includes the audio circuits, charge control, and voltage regulators
- D2800 — Main processor, which includes system logic for CDMA, two Digital Signal Processors (DSPs), the Main Control Unit (MCU), and the memory.

The BL-6C Li-ion battery is used as the main power source and has a nominal capacity of 1150 mAh.

Baseband Components

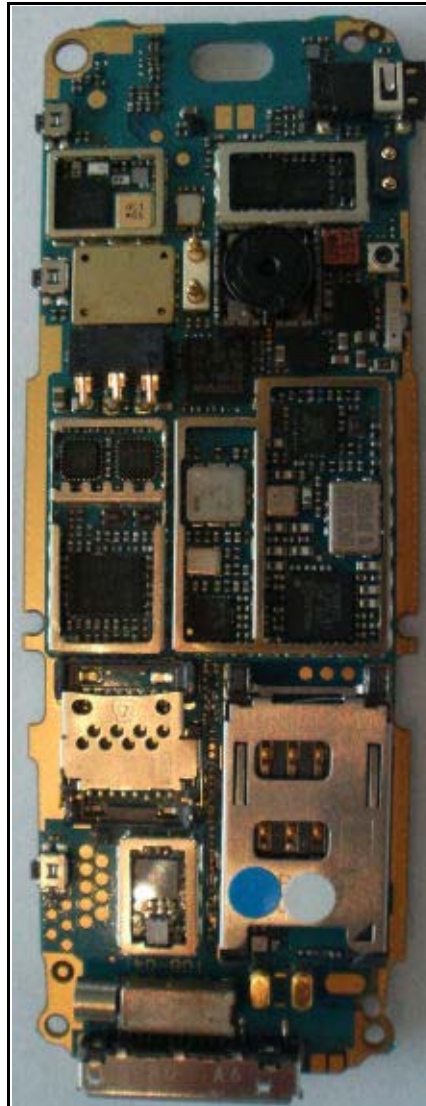


Figure 1: PWB - bottom side



Figure 2: PWB – top side

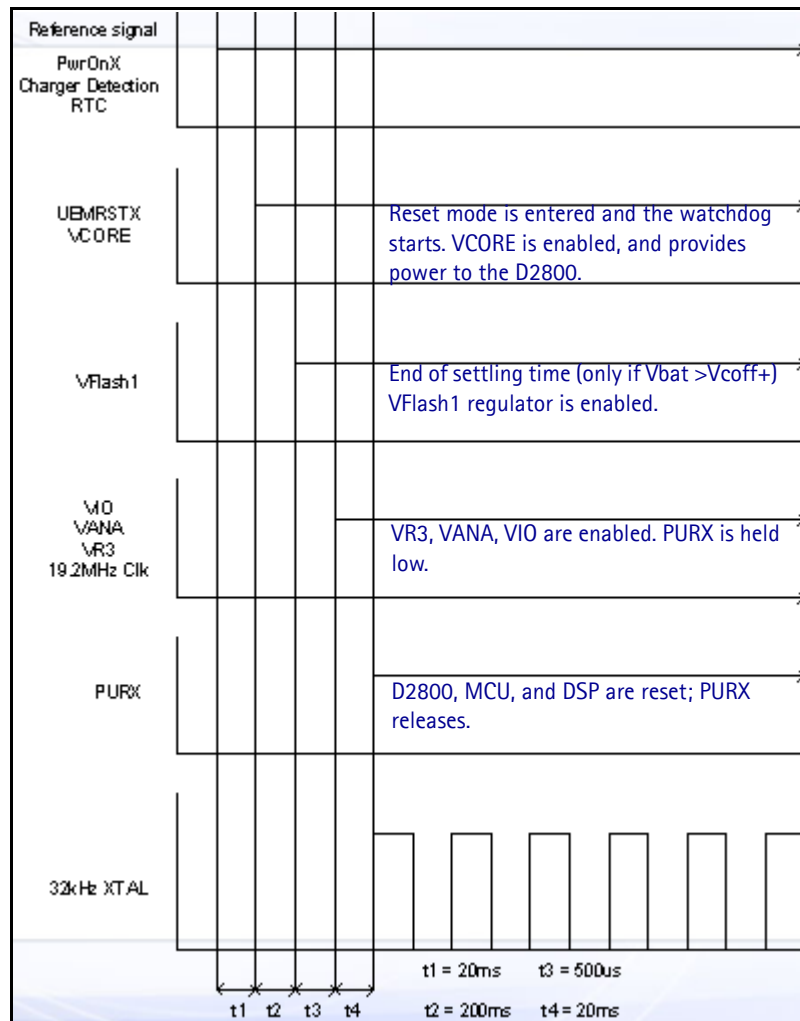


Figure 3:

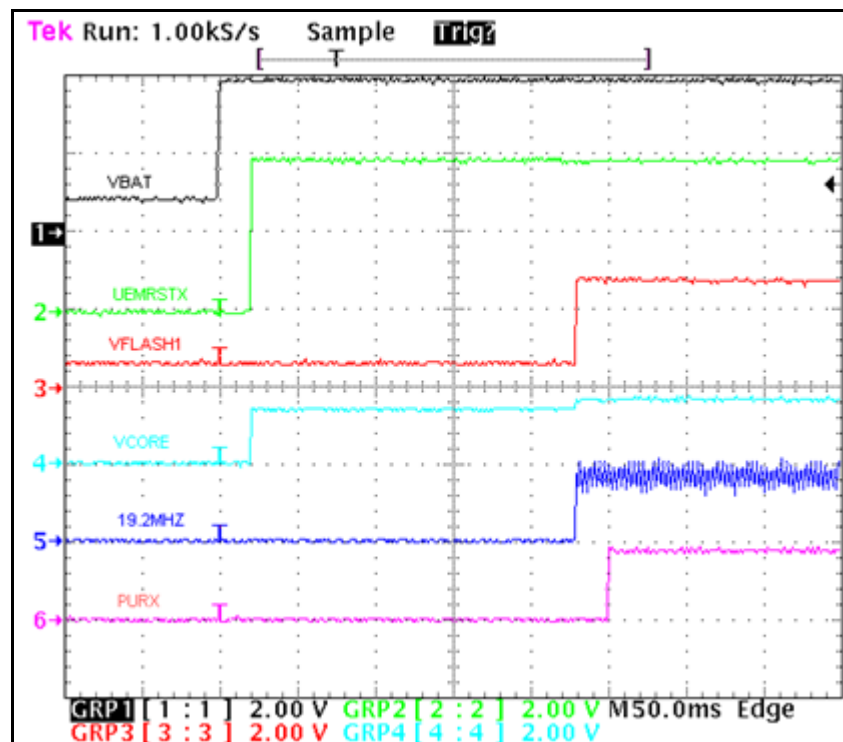


Figure 4: flash programming

FM Radio

The D2800 turns on the FM radio and sets the frequency, using the CBUS serial interface as the communication channel. The high frequency FM radio signal comes in through the RFIN1 pin to the FM radio integrated circuit. The RF signal is demodulated, and the resulting audio signal is sent to the UEMEK for amplification. The amplified signal is then delivered to the universal headset jack (UHJ) or to the Pop-port™ connector to drive a stereo headset.

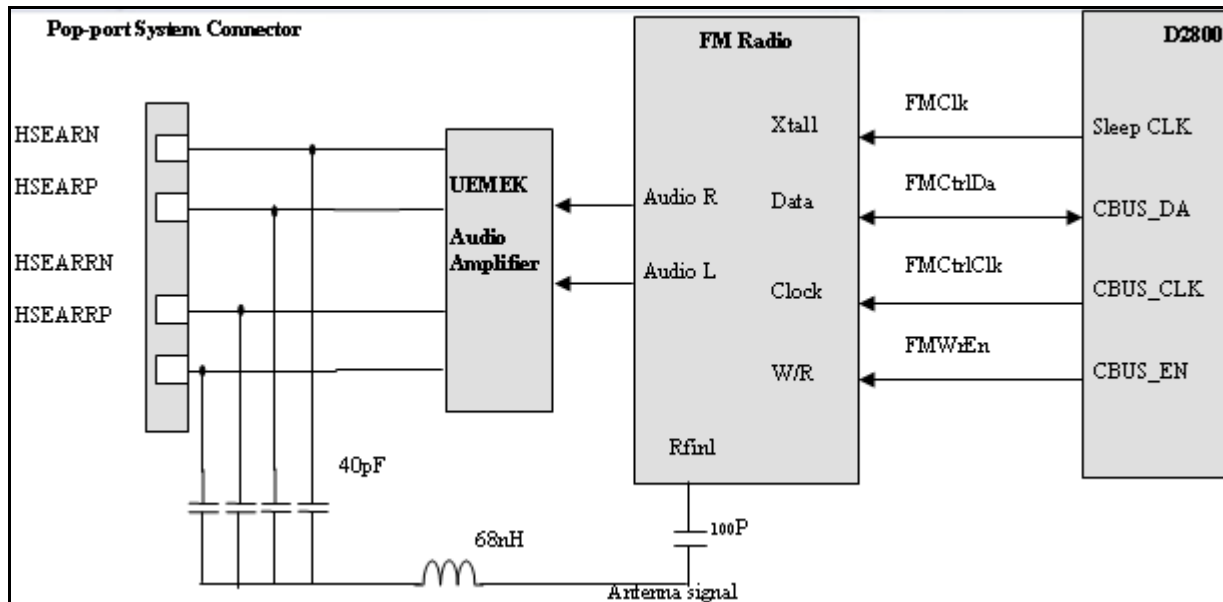


Figure 5: FM radio, audio, antenna, and digital interface connections

FM Radio Test

To hear the FM radio, first connect a headset to either the Pop-port or the UHJ port. The headset wiring functions as an FM radio antenna. If the Pop-port connector is in use by the Phoenix service program, connect the headset to UHJ port to control the FM radio.

If you connect a headset (such as HDS-3) to the Pop-port connector, you cannot control the mobile terminal because you already occupied the Pop-port connection port. If you connect a headset, you have to have jumper wires on production test points (Fbus/Tx RX,GND).

FM Radio Troubleshooting

When troubleshooting the FM radio, make these common checks (see [Figure 6](#)):

- Power supplies VIO and VANA
- Sleep_CLK
- FMANT input to FM radio
- CBUS interface by probing CBUS_EN and looking for activity
- Output of FM radio on VAFL and VAFL; it should be a audio signal with a 800mV DC-offset.

- If the audio signal is *not* correct (with offset of 800 mV DC), then check the FM radio integrated circuit for shorts, voids, and misalignments.
- If the audio signal *is* correct (with offset of 800 mV DC), then check the UEMEK for shorts, voids, and misalignments.
- If the UEMEK and FM radio integrated circuits are okay, check the system connector.

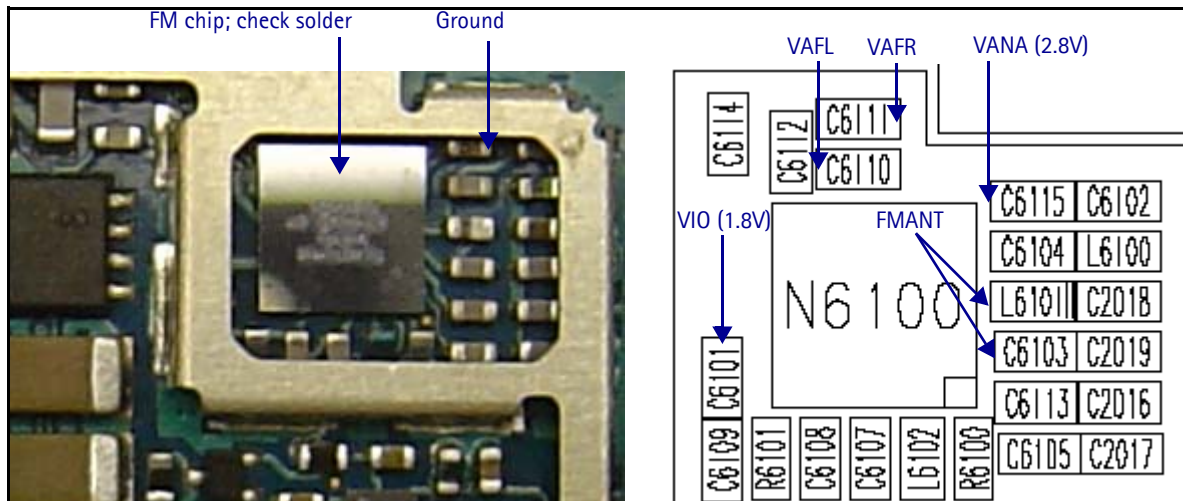


Figure 6: FM radio integrated circuit

FM Radio Control – Phoenix Interface

Use the Phoenix interface to perform the following tasks:

1. Connect a headset to the UHJ
2. Turn on the FM radio using Phoenix.

3. Set the frequency and volume.

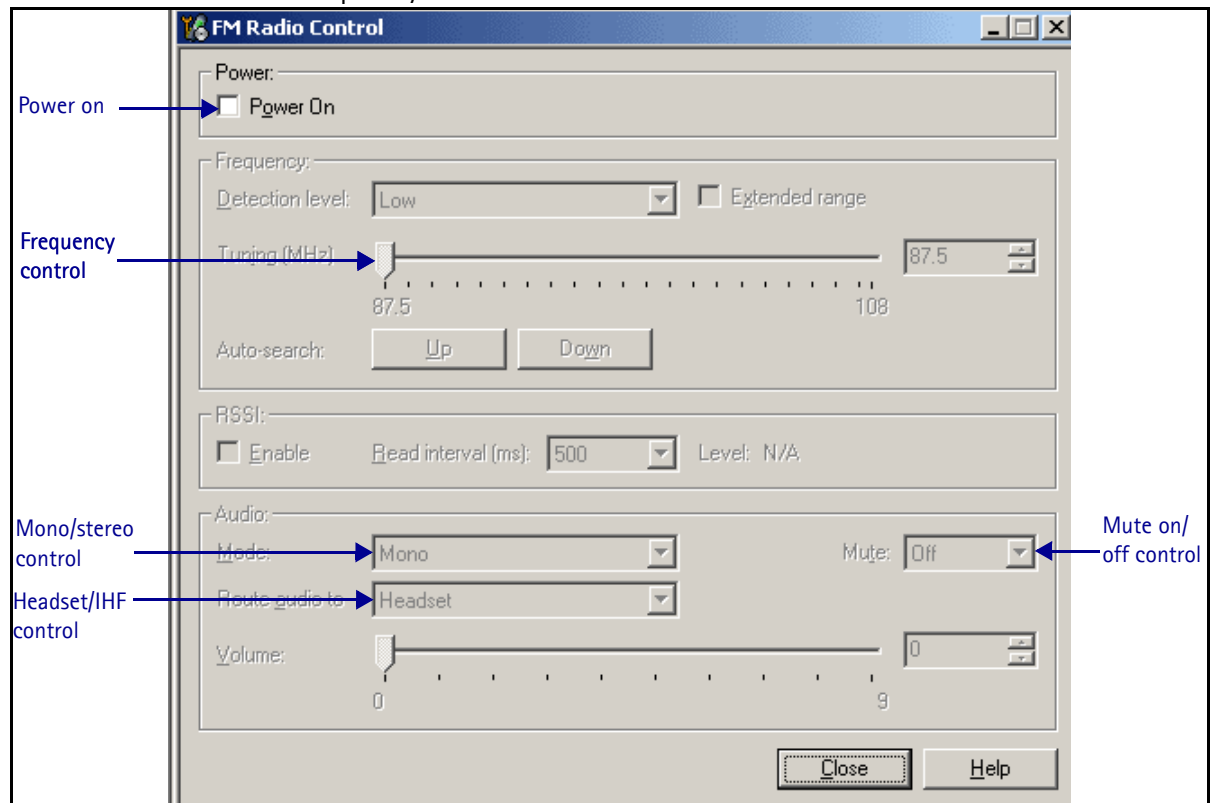


Figure 7: Phoenix FM Radio control panel

4. Observe that an audio signal is heard in the headset.
5. If FM Radio is working, retest on FinalUI.

GPS

The GPS turns on by using Vcore and VIO from the UEMEK. The GPS communicates with the D2800 using the UART interface and turns on the GPS engine's BB integrated circuit and RF integrated circuit. They synchronize with the mobile terminal using the 19.2 Mhz clock. The mobile terminal locates the closest satellite and downloads the location coordinates to send them to the emergency desk.

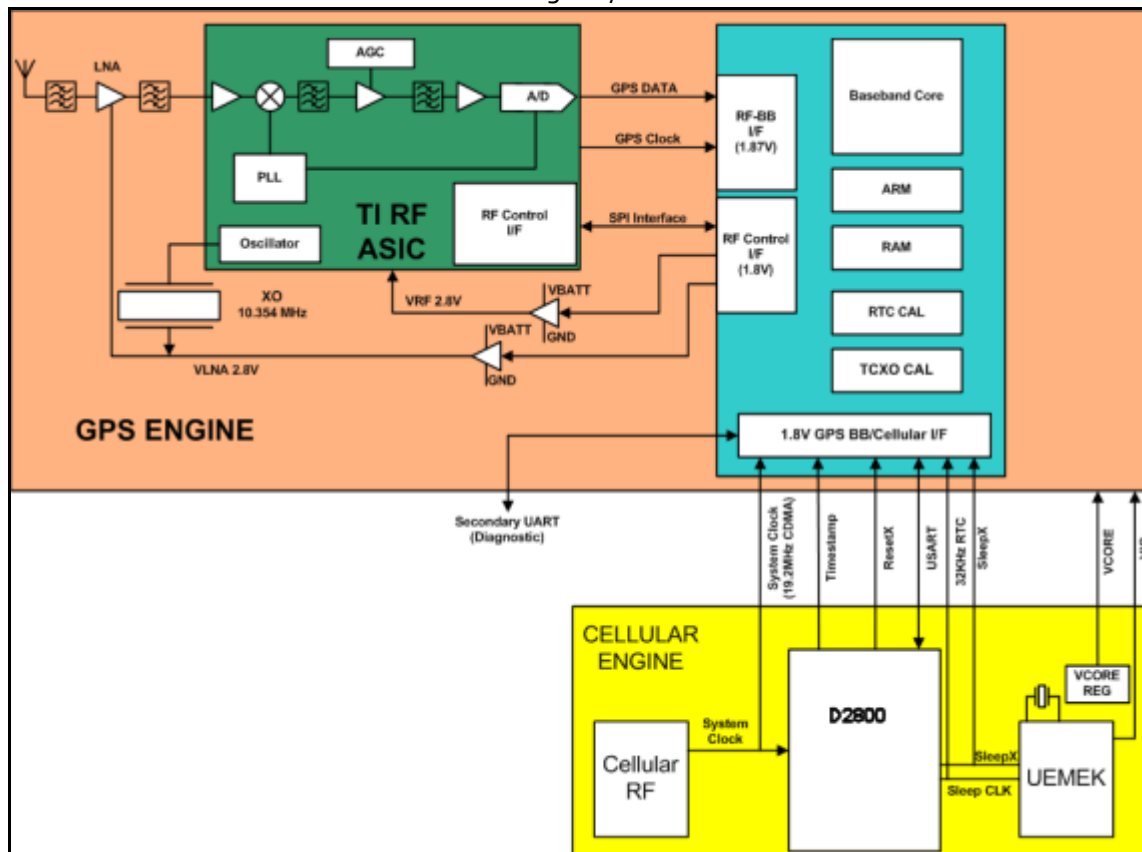


Figure 8: GPS block diagram

The GPS baseband module performs the following:

- Accepts the GPS raw data from the front end
- Processes the raw data to provide the CE with location information (2 CPUs)
- Accepts commands from the CE
- Manages modes (sleep, idle, etc.)
- Issues RF control commands
- Manages GPS configuration
- Provides power for the FPS RF

GPS Troubleshooting

Check the following connections and signals (see [Figure 9](#)):

- Power source Vcore and VIO
- CLK19M2_GPS = 19.2 Mhz
- VRF is enabled
- VRF_GPS = 2.78 V dc
- GPS clock = 16.384 Mhz
- Use Phoenix to run Test Mode 1
- USART activity
- GPS antenna

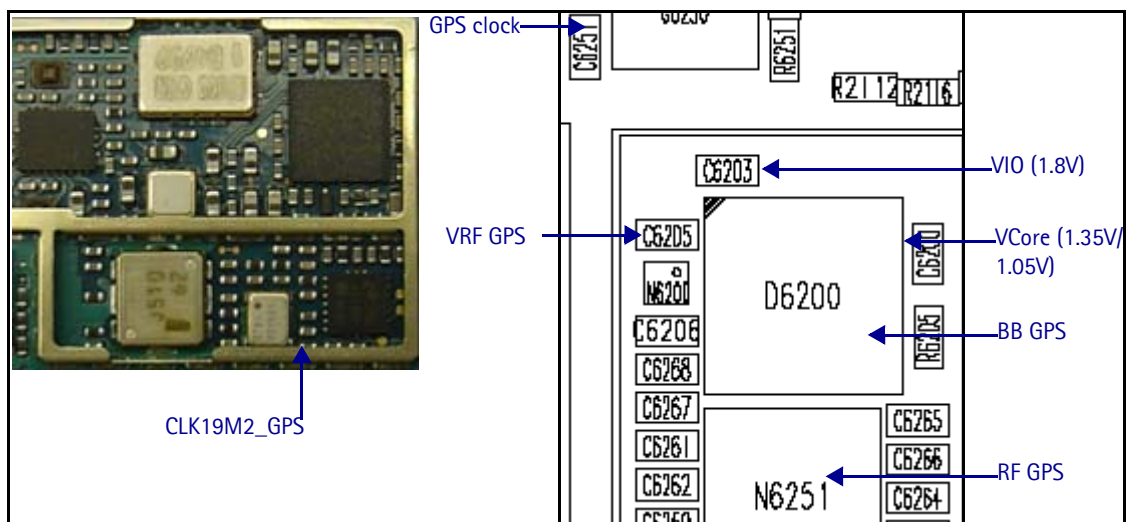


Figure 9: RF and BB GPS integrated circuits (ICs)

- GPS_EN_RESET (1.8V)
- GPS_SLEEPCLK (32.768kHz)
- GPS_SLEEPX

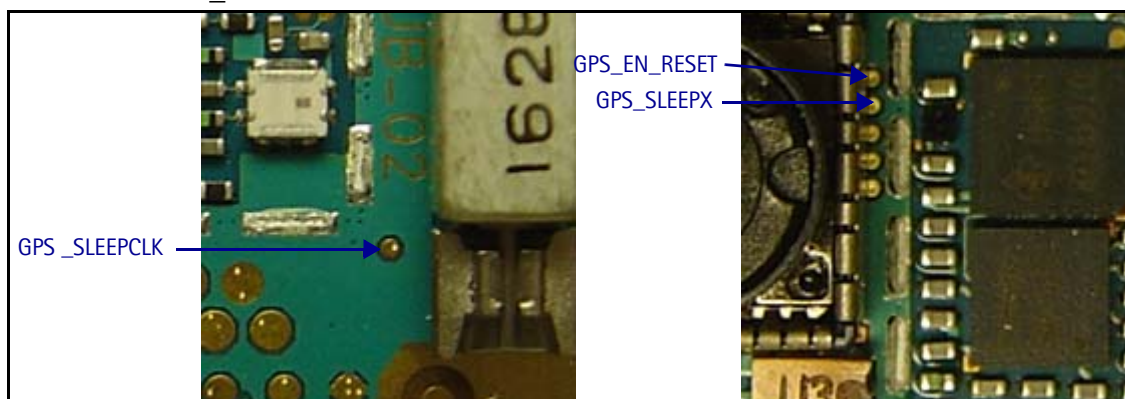


Figure 10: Additional GPS components

GPS Phoenix Interface

Run the GPS Quick Test in Phoenix to check the GPS BB.

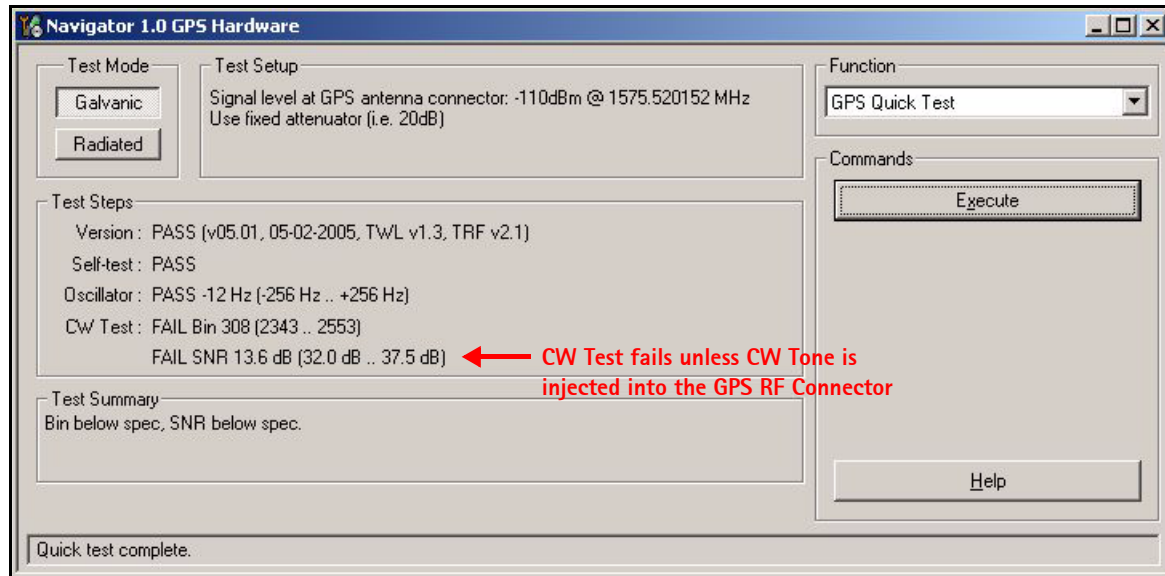


Figure 11: Phoenix GPS Quick Test option

Bluetooth

The Bluetooth radio is shown in the following functional diagram:

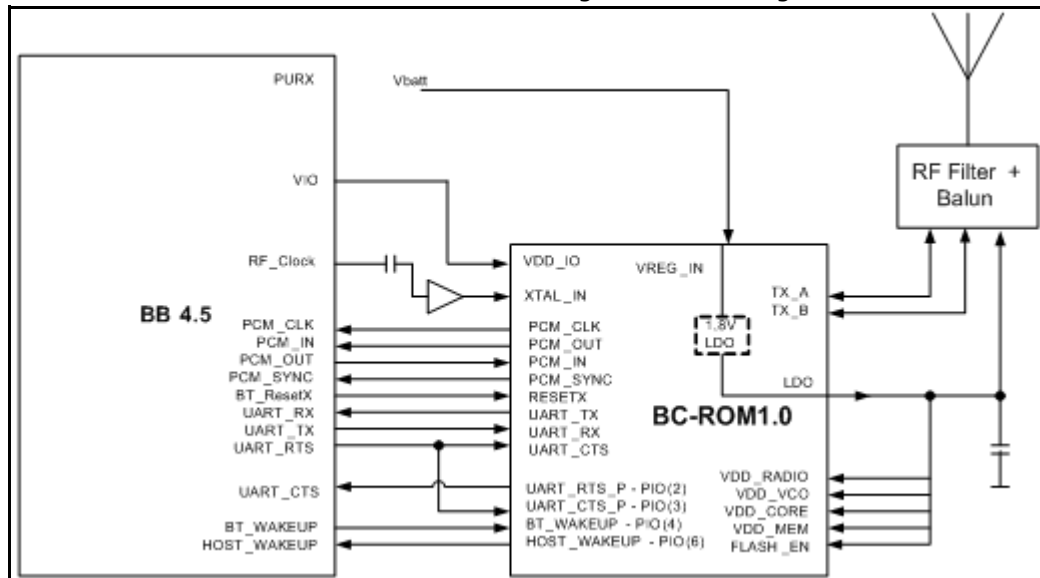


Figure 12: Bluetooth diagram

Bluetooth Troubleshooting

Before probing, perform a visual inspection of all components and then check the following:

- Power supply, VIO
- Soldering
- CLK19M2_BT at the UHF synthesizer

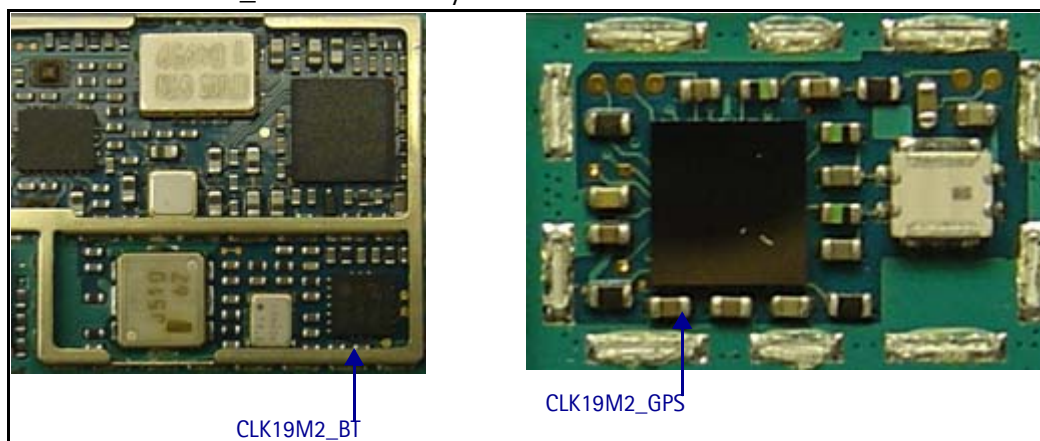


Figure 13: Bluetooth troubleshooting test points

Bluetooth Phoenix

On the **Bluetooth Locals** dialog box, click **Run** to execute the self test for baseband communication.

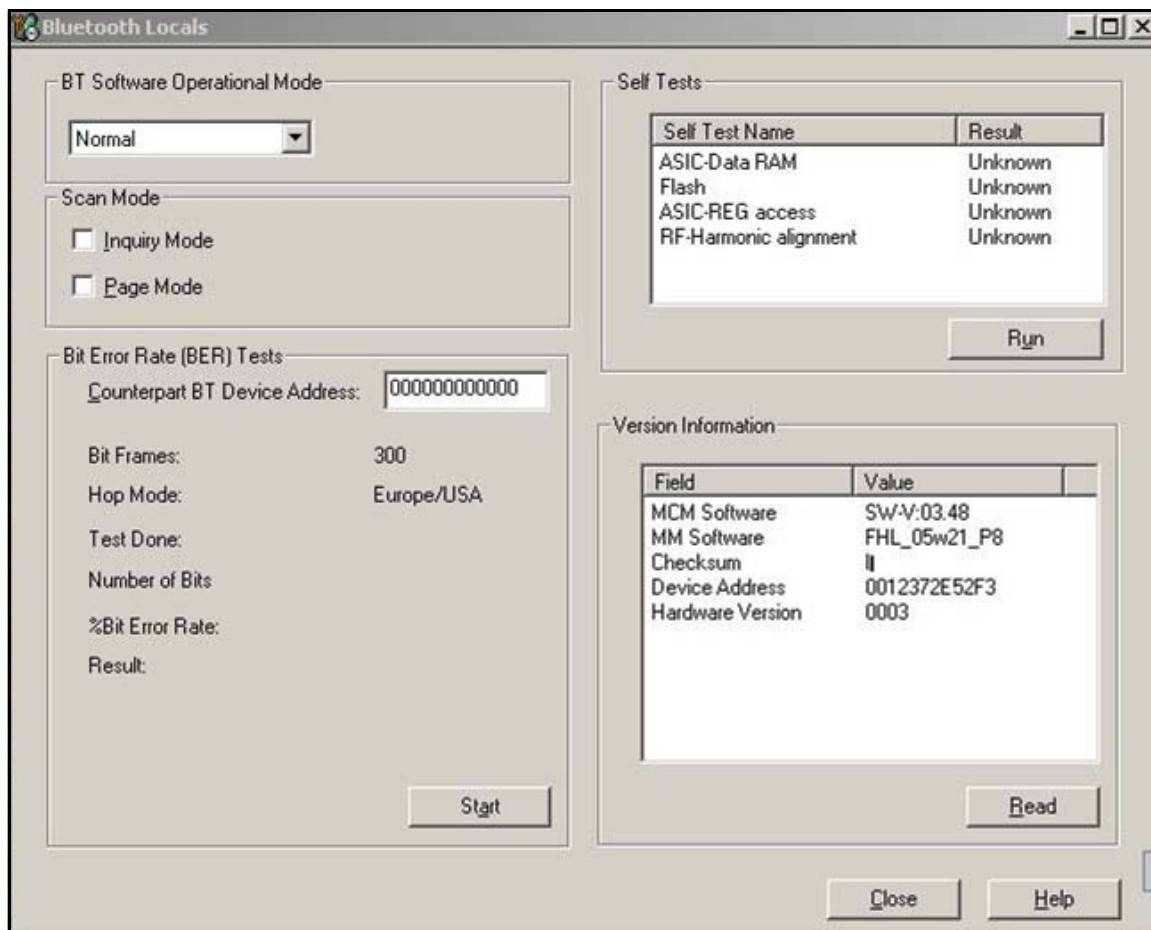


Figure 14: Bluetooth Locals dialog box

SIM Card

The 6275/6275i supports two types of SIM cards that work at 1.8 V and 3.0 V dc. When the mobile terminal is switched on with a SIM card, the D2800 sends a 1.8 V signal to the SIM card and waits for the SIM card's response and identification. If there is no answer from the SIM card, the mobile terminal sends another signal at 1.8 V. However, the UEMEK then acts as a level shifter and raises the second signal to 3.0 V. If there is still no response, the mobile terminal does not allow access and displays a prompt to insert a SIM card. If there is a response, the mobile terminal powers up.

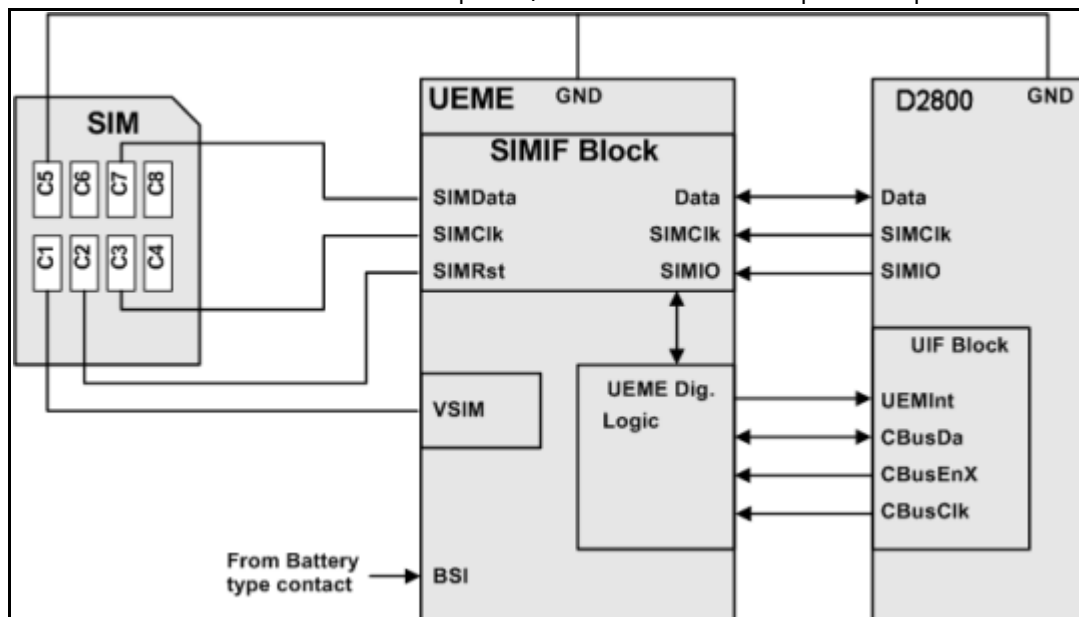


Figure 15: SIM card block diagram

SIM Card Troubleshooting

Use the following steps to troubleshoot the SIM card:

1. Check VSim for a value of either 1.8 V or 3.0 V. The VSim comes from the UEMEK and goes through the SIM ESD protection integrated circuit. Check for bad or damaged solder joints. Replace integrated circuits, if necessary.



Figure 16: VSim check

2. Check the detection sequence.

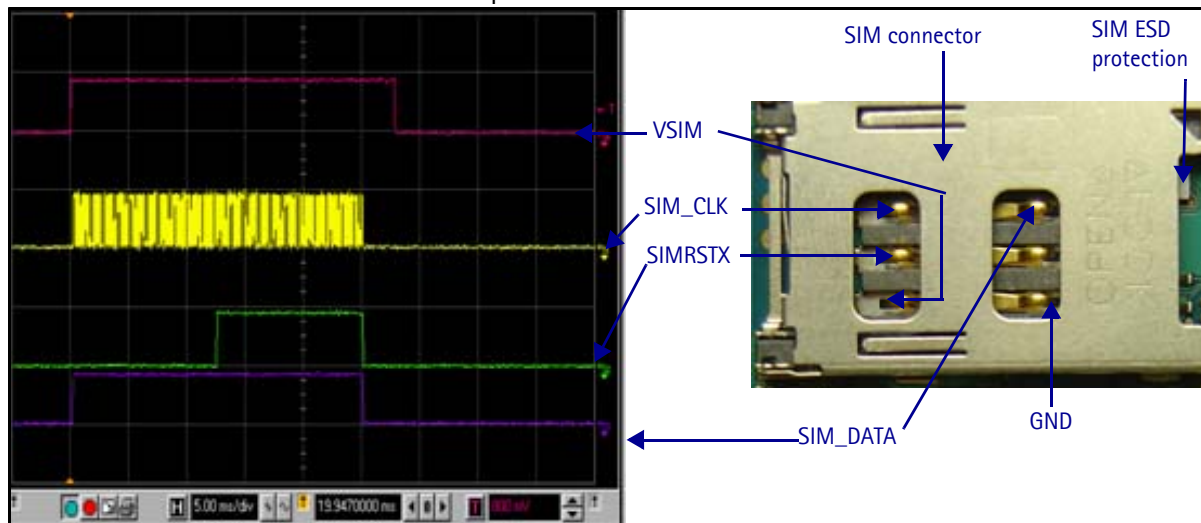


Figure 17: Detection Sequence

3. Verify communication signals.

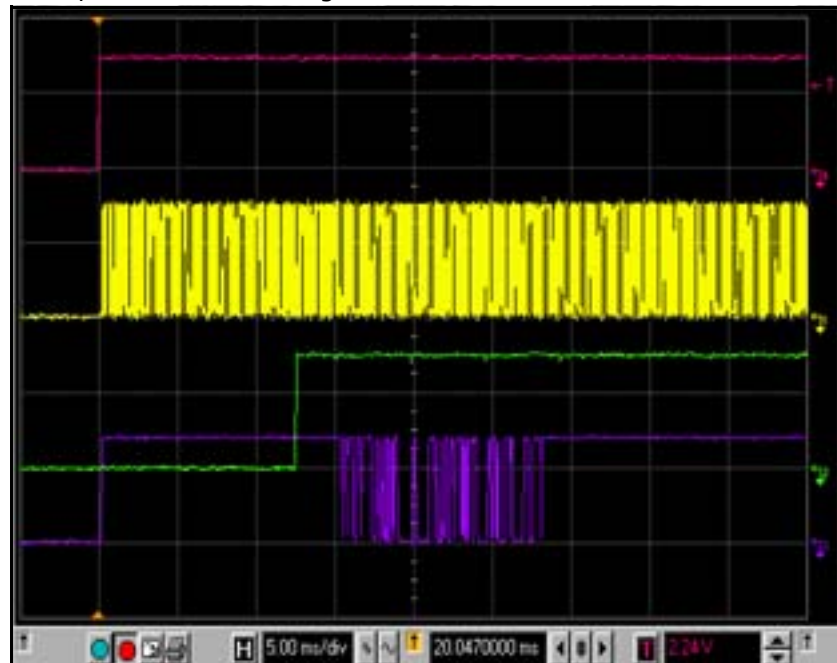


Figure 18: Communication signals

SIM Card Phoenix Interface

Run the SIM-Lock Status test in Phoenix to test a SIM card.

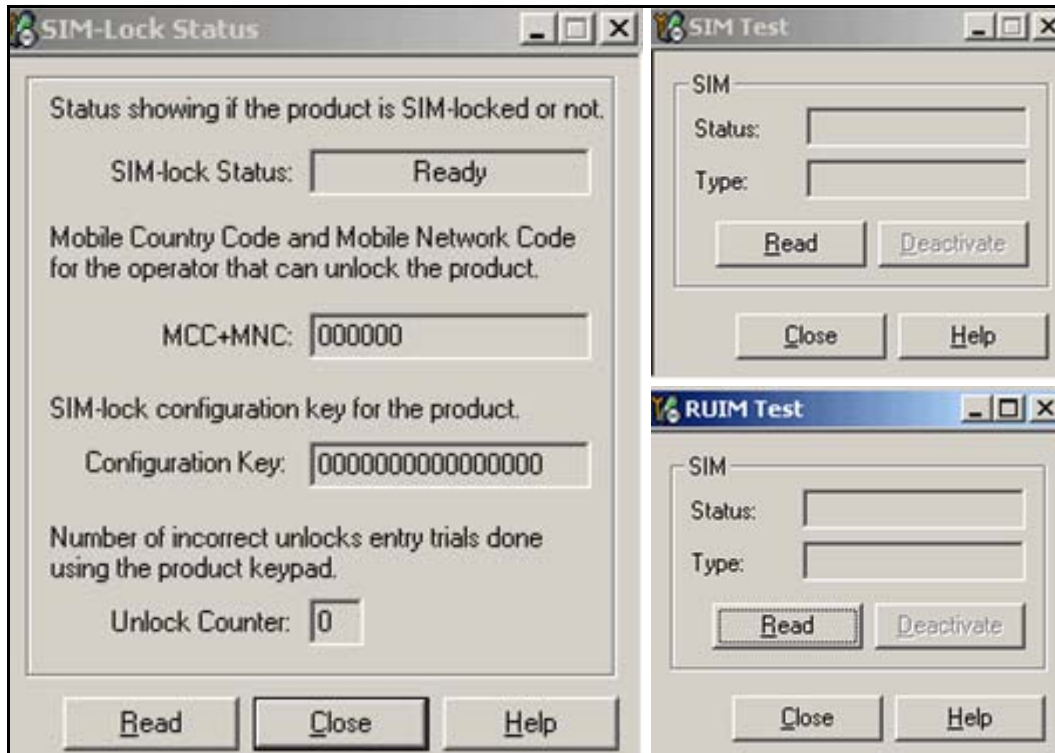


Figure 19: Phoenix SIM/RUIM Test options

Camera

When you activate the view finder to take a picture, the D2800 turns the camera on by turning on GENIO(47) PDN and GENIO(24) 9.6MHz. After the camera initializes, the D2800 sends control commands through the I2C (GENIO (25 and 26) interface). The camera takes a picture and sends the raw data back to a separate hardware accelerator (HWA) device to run the algorithms in the hardware. The HWA performs all tasks to deliver stills and the viewfinder to the baseband with no further processing required from the D2800. The D2800 takes the image processed data from the HWA and stores the image in the Flash Memory or MiniSD.

Camera Troubleshooting

Check the following:

- Power Supply Enable D800_GPIO (47)
- Power Supply V2.8, VDIG and V1.2
- Camera Enable GenIO(27) is High (PDN)
- Camera Clk GenIO(24) (9.6Mhz)
- Control line I2C on GenIO 25 and 26
- CCP data/clk lines from sensor to HWA, then to the D2800
- Camera socket
- D2800 for solder problems; replace if necessary

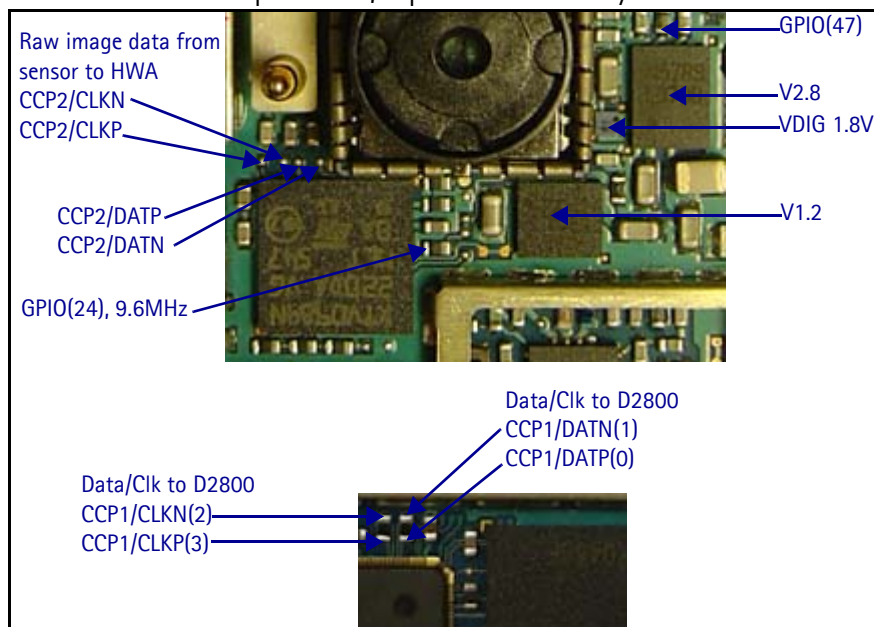


Figure 20: Camera troubleshooting - part 1

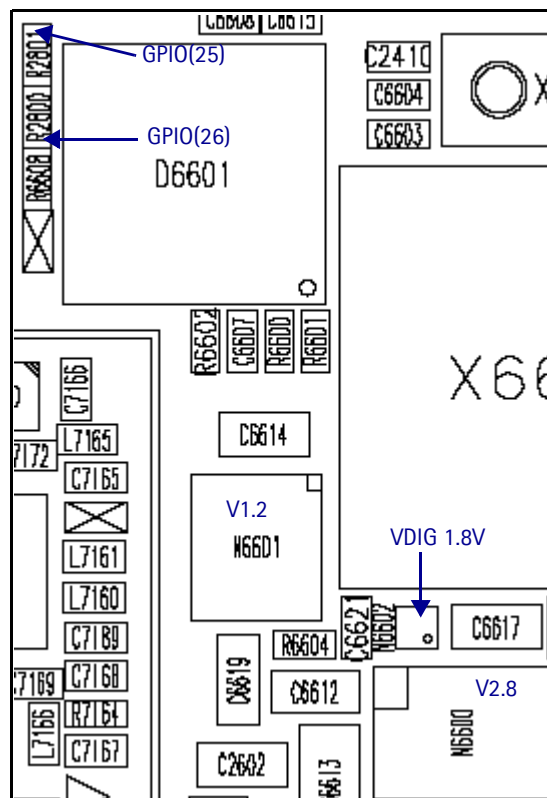


Figure 21: Camera troubleshooting - part 2

Camera Phoenix Interface

Run the Phoenix camera control test to ensure that the camera is working correctly. Click **Test** to run the camera test; click **Save** to save a picture to the PC.

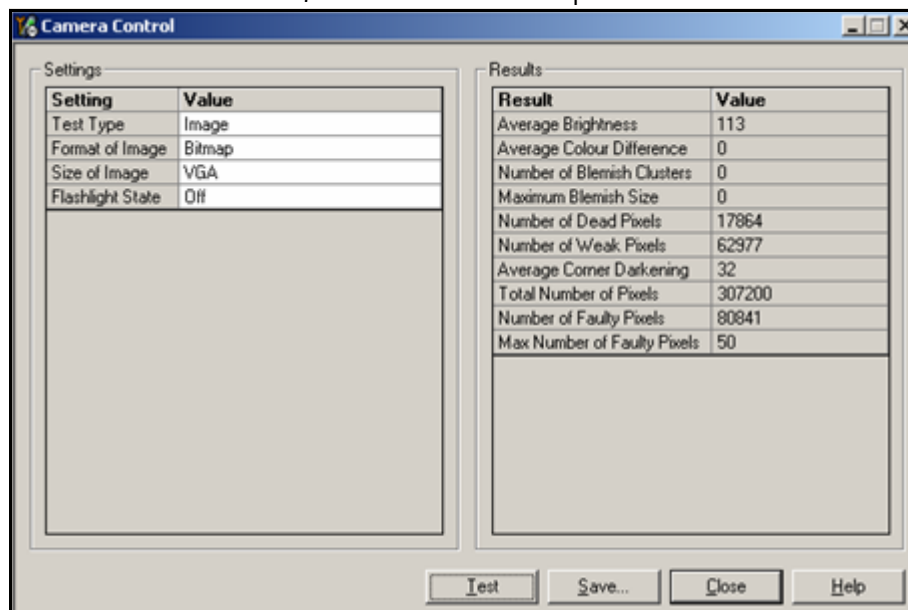


Figure 22: Camera Control dialog box

MicroSD

The mobile terminal supports up to 2G byte on a MicroSD card. Check the following:

- Visual inspection of the Level Shifter and ESD ASIP.
- Power supplies VIO, VBAT, and VMSD.
- Micro SD control line activity.
- MMC_CLK, MMC_cmd, MMC_dat0 after the Level Shifter; if not okay, check the Level Shifter and the D2800.
- MMC_CLK, MMC_cmd, MMC_dat0 after the ESD ASIP; if not okay, replace the ESD ASIP or check the connector.

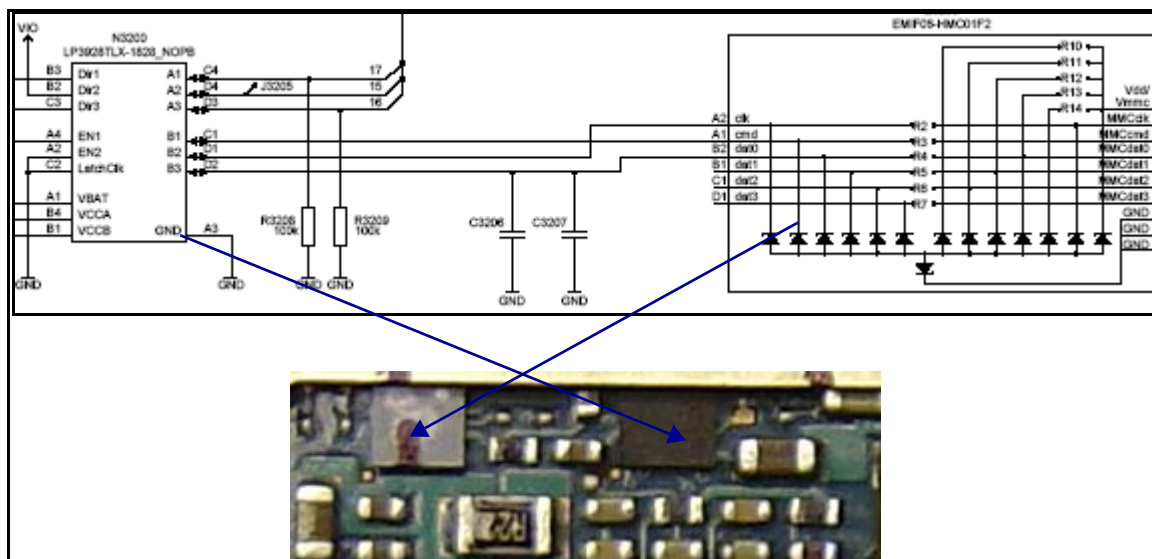


Figure 23: MicroSD troubleshooting points - part 1

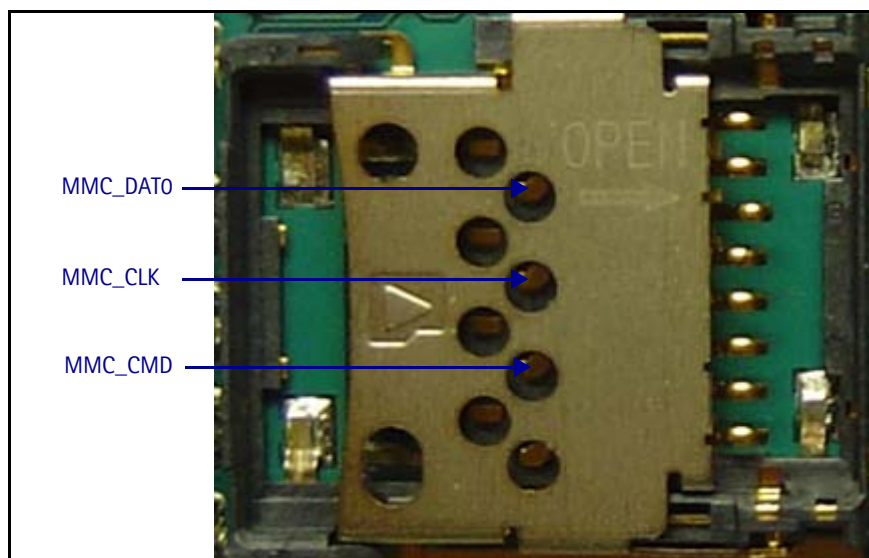


Figure 24: MicroSD troubleshooting points - part 2

IR

The infrared (IR) circuitry is shown in the flowing functional diagram:

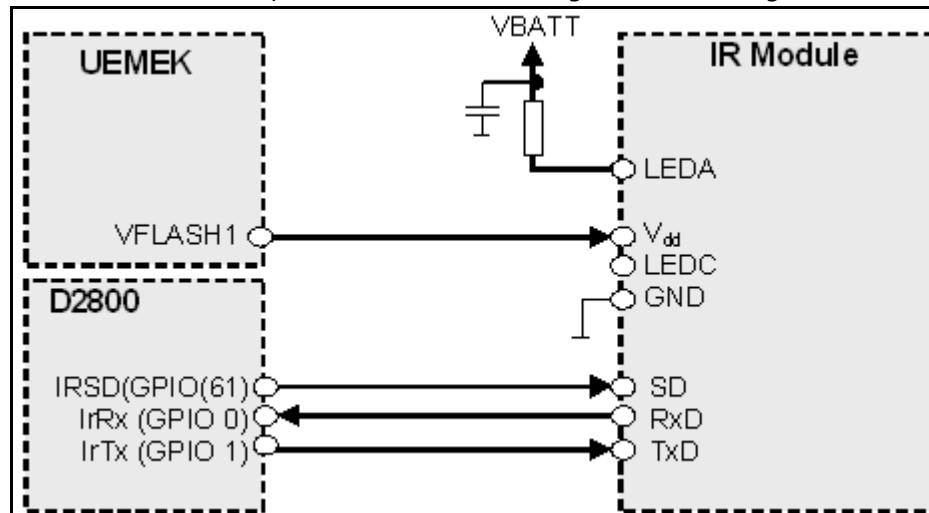


Figure 25: IR Block Diagram

The D2800 enables the IR module by bringing the GPIO (61) signal high. The UEMEK uses the Vflash1 to provide power supplies to the IR module. Vbat is also used to supply power to the IR LED. This interface transmits data to and from peripheral equipment through the IrRX and IrTX line, and transforms serial data to parallel data for the MCU or DSP and vice versa.

IR Troubleshooting

Use the following illustrations and procedure to troubleshoot the IR system:

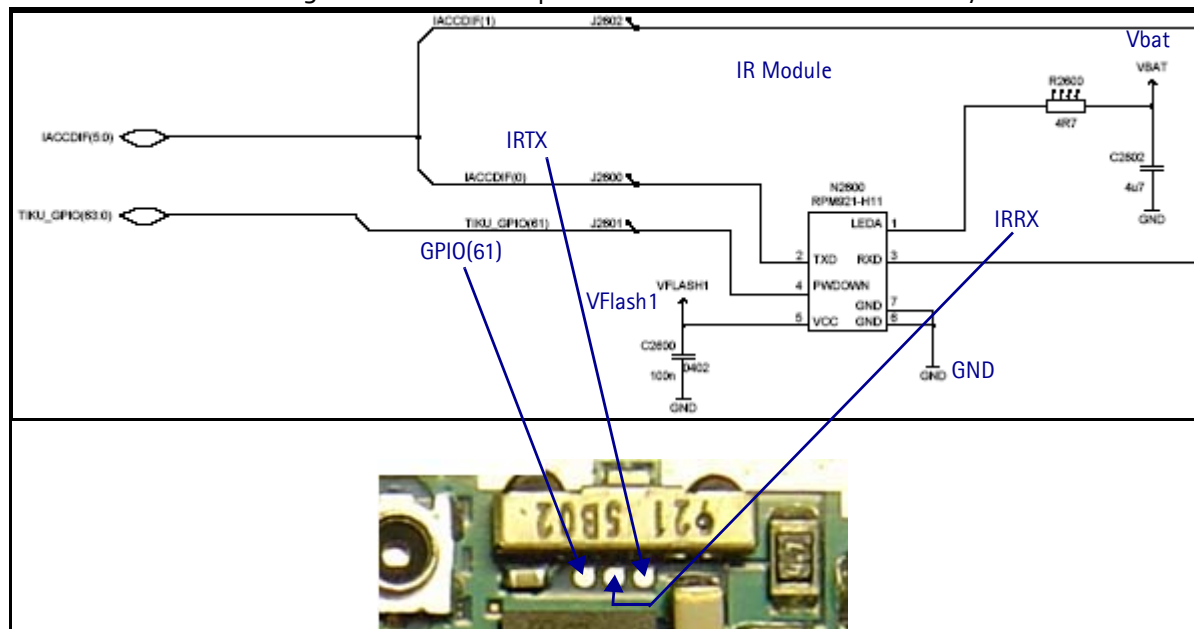


Figure 26: IR Schematics and components

1. Perform a thorough visual inspection on the IR module and capacitors.
2. Check for power supply voltages Vflash1 and VBat.

3. If VFlash1 is not okay, check the UEMEK.
4. Check that the logical state of signal GPIO(61) is high.
5. Check for activity on the IRTX and IRRX lines when transmitting or receiving.
6. If GPIO(61) or IRTX and IRRX are not working, check the D2800.

IR Phoenix Interface

Use the **IR Test** dialog box to troubleshoot in Phoenix.

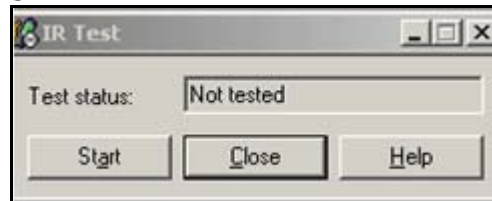


Figure 27: IR Test dialog box

USB

When the mobile terminal is connected to the computer using a DKU-2 or CA-53 data cable, the PC provides Vbus (5V) to and pull down D+ and D- lines. The mobile terminal responds by pulling the D+ line high. The PC then acknowledges and starts transferring data at 12 Mbits/s.

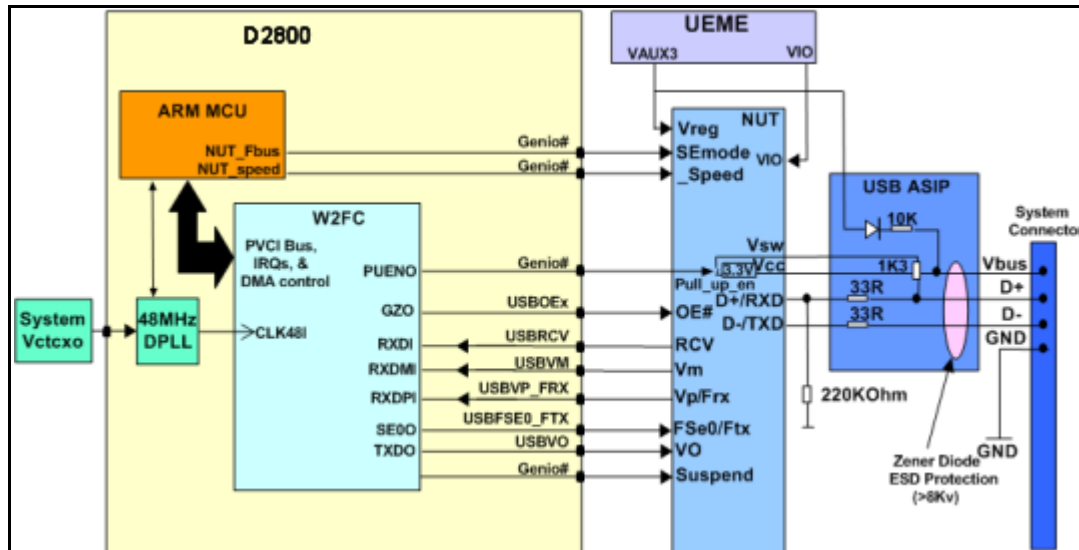


Figure 28: USB block diagram

USB Troubleshooting

When troubleshooting the USB, refer to [Figure 29](#) and [Figure 30](#) and use the following procedure to check these points:

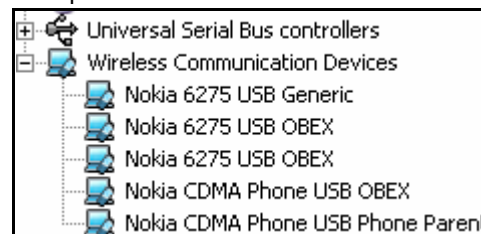


Figure 29: PC Device Manager

1. Connect the mobile terminal to the Phoenix flash station using a DKU-2 or CA-53 data cable.
2. Use the Windows Device Manager to see if the mobile terminal is recognized as a USB device. You should see something similar to [Figure 29](#).
 - If recognized, there is no hardware fault and you can stop troubleshooting.
 - If not recognized, perform a visual inspection on the Pop-port connector, ESD Protection, NUT integrated circuit, capacitors, and inductors.

3. Check for activity on the USB D+ and USB D – lines. If there is no activity, inspect the D2800 under X-ray or change the part.

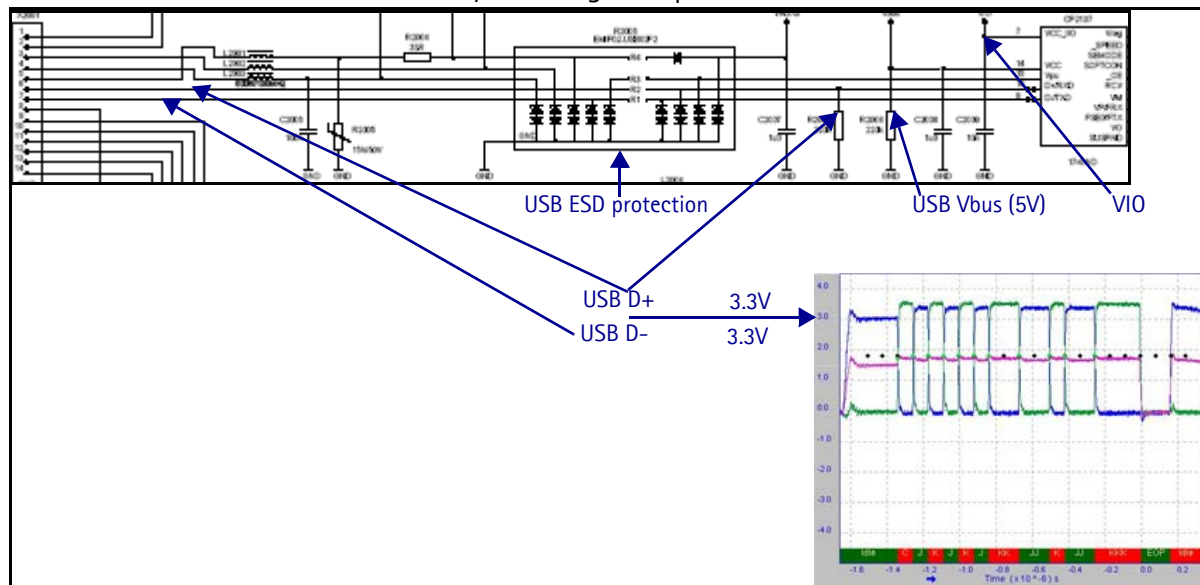


Figure 30: USB connections and chart

USB Phoenix Interface

Use the **USB Tests** dialog box to test the USB.

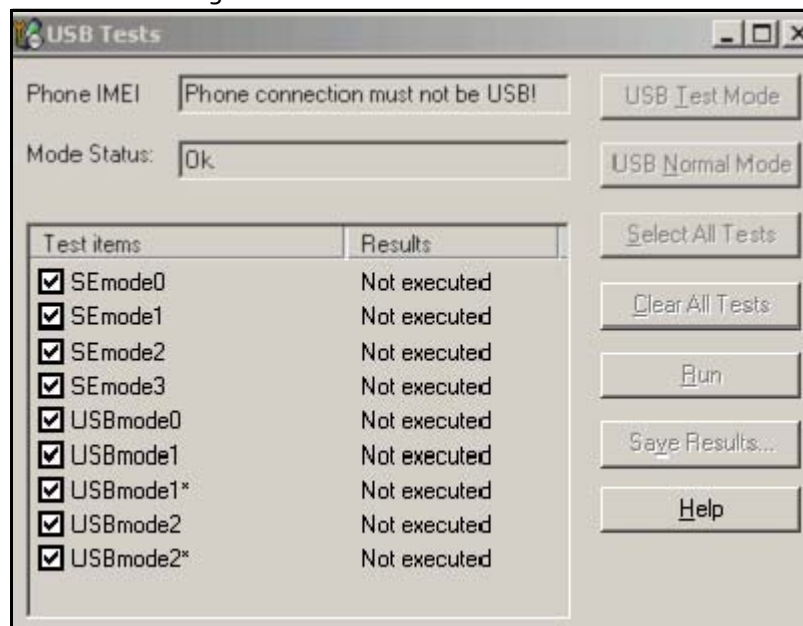


Figure 31: USB Tests dialog box

Display

The Nokia 6275/6275i has a large 320x240 QVGA display with 262k colors. This display is controlled by the D2800 through a parallel interface and powered by UEMEK using VIO and VFlash1. An ESD ASIP next to the flex connector protects against ESD.

Display Troubleshooting

When troubleshooting the display, refer to [Figure 32](#) and perform the following:

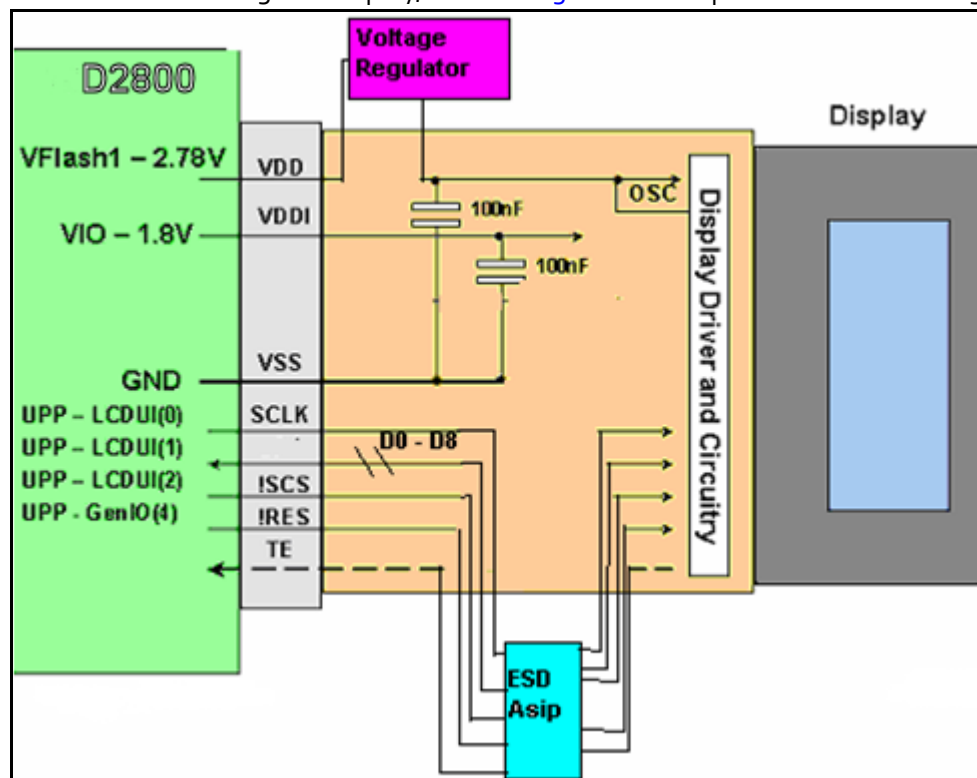


Figure 32: Display test points and chart

1. Check that the display is connected properly and is making good contact with LCD connector.
2. If there is no display but the backlight is on, check the ESD ASIP for shorts and cracks.
3. Check the power supply VIO, VFlash1, and VLCD. If they are not correct, check the UEMEK or VLCD regulator.
4. If there is no backlight and no display, check the board-to-board connector.
5. Check the activity on the LCD test points. If there's no activity, check or replace the D2800.
6. Ensure that the DIF Clk is 9.6MHz.

Display and Keypad Backlight Troubleshooting

The display backlight uses four LEDs in series powered by an external LED driver.

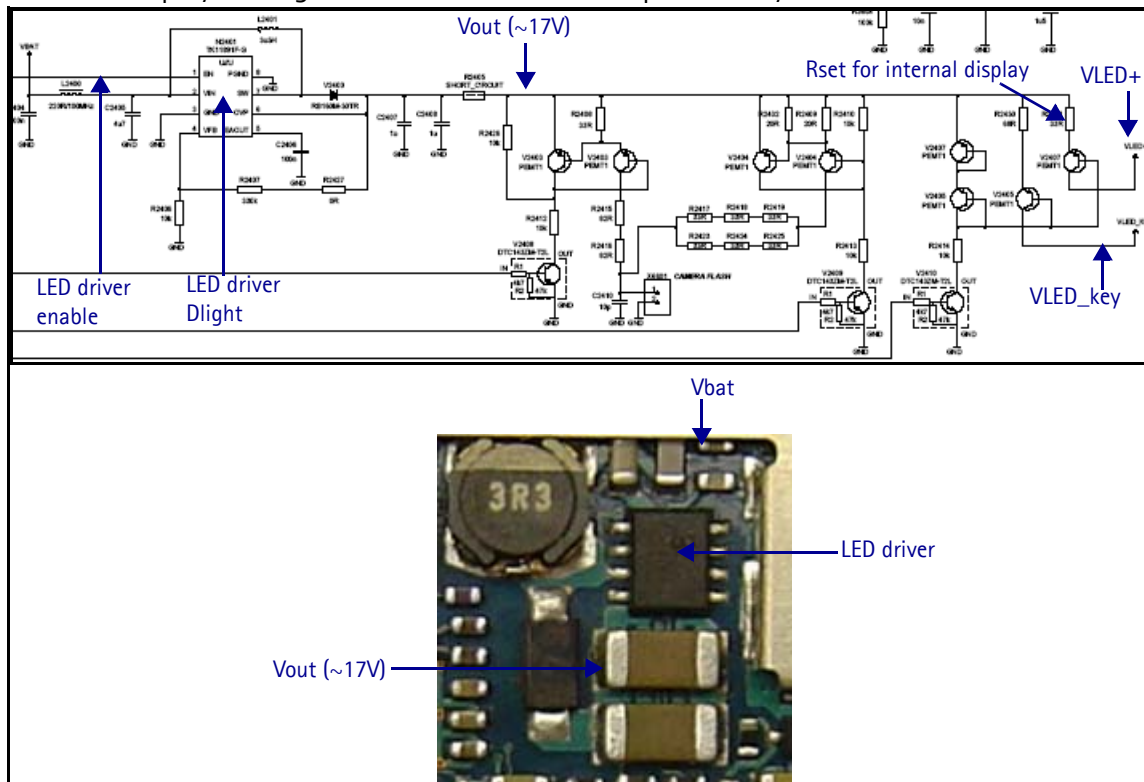


Figure 33: Display Backlight test points

1. Perform a visual inspection of the LCD connector and the LED driver circuitry.
2. If the display backlight does not turn on, check VLED + (~17V) for the main display.
 - If the voltages in the previous step are present, assume the driver is working properly and the LED inside the display might be bad. Replace the display.
 - If not okay, check VLED+ and VLED- (LED return GND) on the display driver circuitry.
3. If the keypad backlight is off while the display backlight is on, check the B2B connection and the LED on the keypad.
4. Check that the Klight signal is high (~4V) to turn on the main LCD and keypad LEDs. If not okay, check the UEMEK.
5. Check that the Vbat (~4V) and Vin (~4V) are present. If not, check the power supply connection.

Display Phoenix Interface

Run the Display Test in Phoenix to check the display. Click **Write** to turn on the display and keypad backlight.

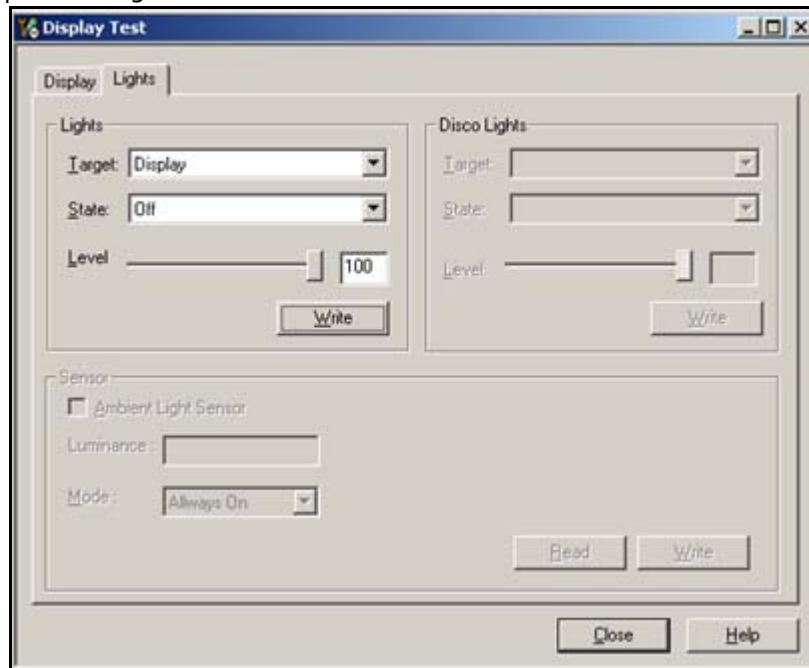


Figure 34: Lights tab on the Display Test dialog box

Keypad Backlight Troubleshooting

When troubleshooting the keypad backlight, make these common checks.

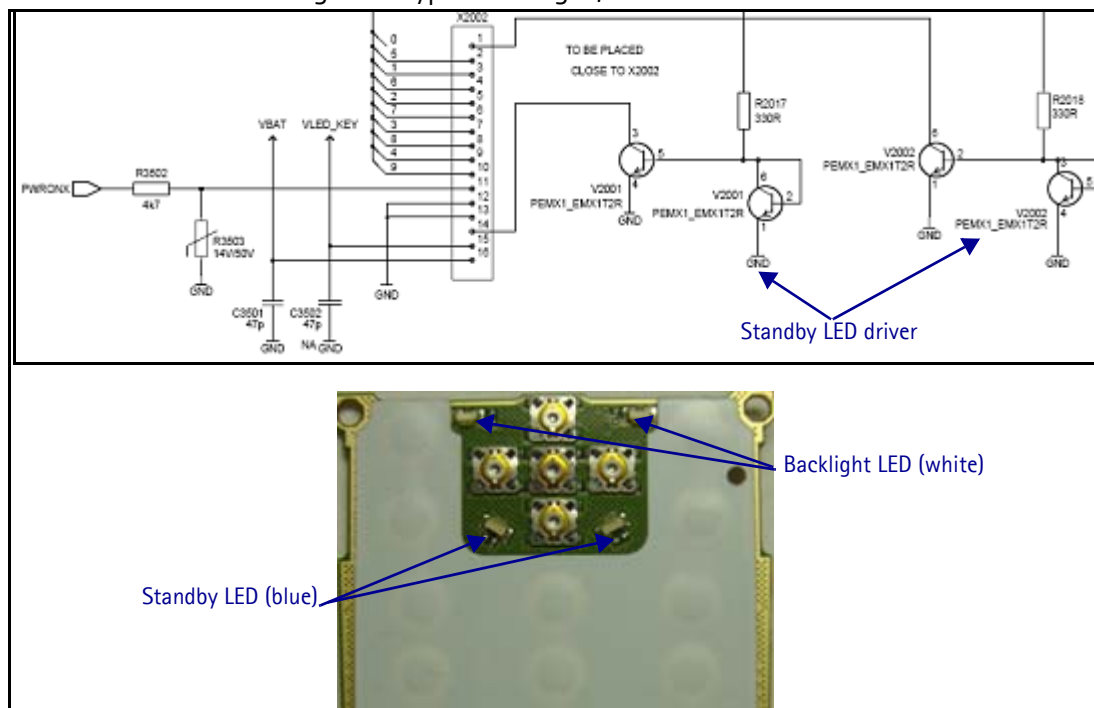


Figure 35: Keypad backlight troubleshooting

System Connector

The system connector is the Pop-port connector as shown in [Figure 39](#). The mobile terminal supports Pop-port (differential) and Universal Headset (single-ended) accessories. The ACI signal detects the Pop-port accessory, while TIKU_GENIO(4) detects the Universal Headset.

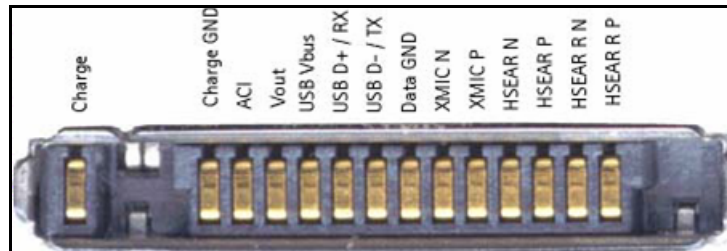


Figure 39: System Connector

There are 14 circuits connected through the system connector:

- Charge = Connects to the charging system
- Charge GND = Grounds the charging system
- ACI = Accessory Control Interface
- Vout = External accessory power supply
- USB Vbus = USB power supply (5V)
- USB D+ = USB data line (positive)
- USB D- = USB data line (negative)
- XMIC N = Differential connection to the MIC for the external microphone
- XMIC P = Differential connection to the MIC for the external microphone
- HSEAR N = Differential headset connection to the external EAR
- HSEAR P = Differential headset connection to the external EAR
- HSEAR R N = Differential headset connection to the external stereo
- HSEAR R P = Differential headset connection to the external stereo

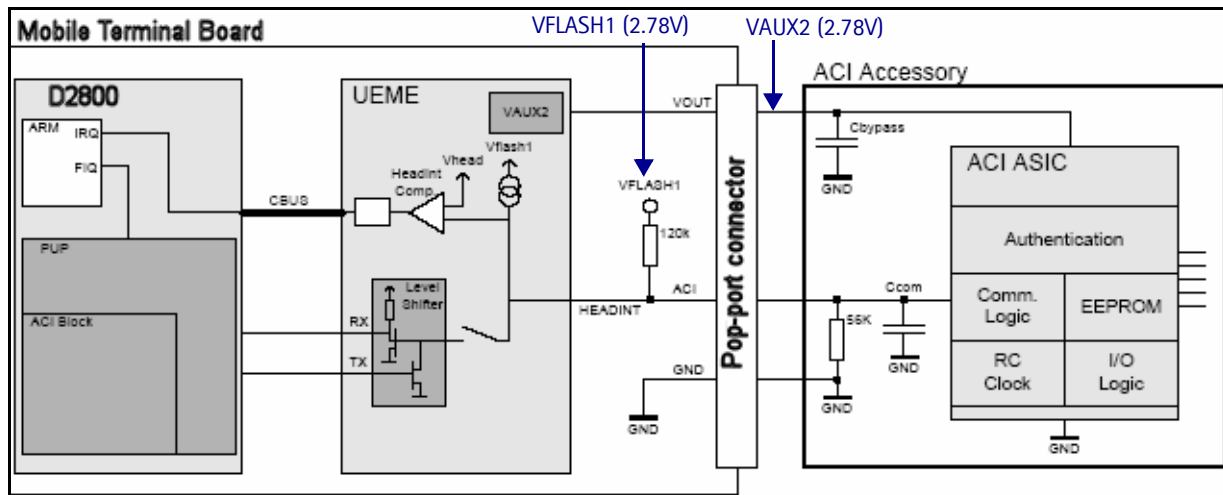


Figure 40: Accessory Detection Diagram

Flash Programming

Flashing Tool

- BSI = Used to indicate to the MCU that the prommer is connected and the mobile terminal is in flashing mode.
- MBUS = Used as a clock signal for synchronizing the serial communication between the prommer and the MCU.
- FBUSRX = Data to the D2800.
- FBUSTX = Data to the prommer.
- VPP = 0v/1.8v/8.8V (read only/normal operation or slow programming/fast programming).

Flashing Phoenix Interface

1. Run EZ Flash in Phoenix to flash the mobile terminal.

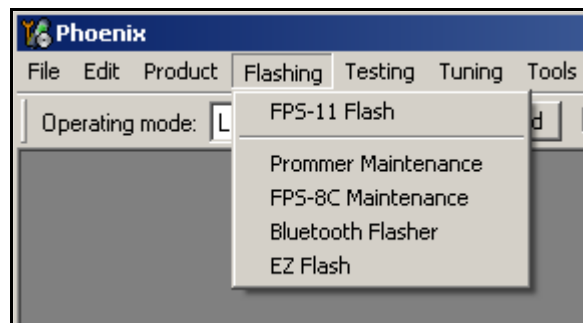


Figure 41: EZ Flash in Phoenix

2. Click **Select** to search for the appropriate software.

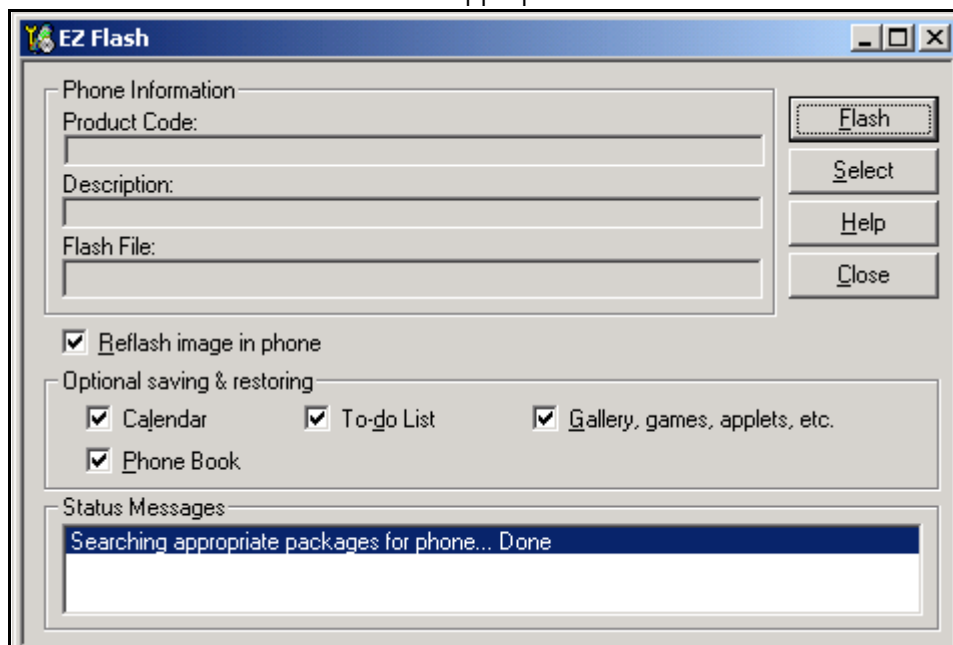


Figure 42: EZ Flash in Phoenix

3. After selecting the correct software package, click **Flash** to write the software to the mobile terminal.

Battery (Lynx) Interface Circuit

Check the battery BSI voltage levels in the following power up modes:

- Normal mode: 1.23V
- Test mode: 170mV
- Local mode: 90mV

Charging

Use the following items to troubleshoot charging issues:

1. Ensure that the battery bar scrolls.
2. Ensure that the voltage at V2000 is >3VDC.
3. Use Phoenix to ensure that the BTEMP ADC is ~25 C. If not, replace the UEM.
4. Remove the fuse at F2000, and measure the current with an AC-3. If it is not ~350mA, replace the UEM.

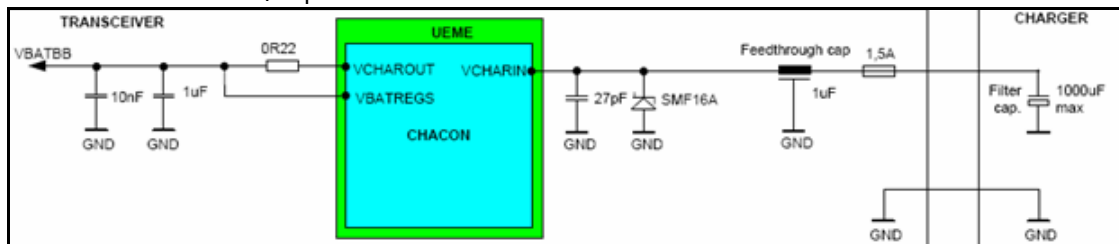


Figure 43: Charging troubleshooting diagram

Alignment

Alignment consists of using the production Flali station to check the following:

- Initial current for quick short circuit detection
- Flashing the mobile terminal
- Baseband self-test for integrity check circuit interconnections
- Baseband calibrations:
 - ADC
 - VBAT
 - VCHAR and ICHAR
 - BSI
 - Btemp
- RF calibrations

AMS Baseband Calibration

Use the AMS baseband calibration to perform the following tests:

- ADC – Verify and calibrate the gain and offset for 11 channels analog to digital converter in the UEM.
- VBAT – Calibrate the gain and offset of the battery input path for accurate battery level monitoring.
- VCHAR and ICHAR – Verify the charging circuit and path calibrate gain and offset for correct charger detection.
- BSI – Calibrate the gain of the BSI line for battery size information upon powering up.
- Btemp – Calibrate gain of Btemp for battery temperature monitoring during charging for over temperature shut down.

Final UI Check

Final UI performs basic user interface, audio and accessory tests on the baseband:

- Ensures that all keymats work.
- Ensures that the internal mic and earpiece work.
- Checks that the LCD module is functioning correctly.
- Ensures that all the external system and charger contacts are properly assembled.
- Ensure that general call processing is correct.

Problems During Flash and Alignment

The following topics discuss potential problems that can occur during Flash and Alignment.

No Communication – Flash

Ensure a good connection between the flash adaptor and mobile terminal.

- You must power the mobile terminal by a prommer (e.g., FPS-8).
- Check the baseband regulators: VR3, VIO, VCORE, VFLASH1.
- You must have 19.2Mhz clock into the D2800 in order to flash the mobile terminal.
- Check the BSI, MBUS, FBUSRx, FBUSTx, PURX, SLEEPX for bad solder joints between the UEM and the D2800.
- Check the flash bus signal and VPP voltage level.

No Communication – Alignment

- Check all connections between the test fixture, cables, and the mobile terminal.
- Make sure the mobile terminal is in Local Mode, and check the VBAT voltage and current levels. If not in Local Mode, check the BSI signal level.
- Make sure mobile terminal was programmed/Flashed.

Failed Self Test/Calibration

- Make sure the mobile terminal is in Local Mode.
- Make sure power supply provides enough current (~500mA and 2A for tuning).
- Use the troubleshooting guide's troubleshooting flow chart to verify the failed circuit.
- Check the signals and voltage levels.

Other Potential Problems

Mobile Terminal Does Not Power Up

- Check the baseband regulators – VR3, VIO, VFLASH1, VCORE dc/dc, PURX.
- Check VCTCXO 19.2MHz signal at the D2800 input.
- Check the power up sequence.
- Check Flash IC, flash bus signals, and voltage level.

Shutdown after 32 Seconds

- Check for the absence of 32KHz SleepCLK.
- Check for incorrect SleepX and PURX signal levels.
- Check if the ESN number was corrupted.

No Audio

- Check for bad contacts or damaged earpiece.
- Check for bad connections at the microphone.
- Check for broken or bad solder joint of transistors and audio ASIPs.
- Verify the audio signal paths using baseband "audio test" component with Phoenix.

Keypad Malfunction

- Check for protective film left on the back of the key dome if a new one was installed.
- Check for corrosion on the keypad and keydome.
- Check if the flash software was corrupted.
- Check for a bad joint from the D2800 to the Z2400 interface.
- Check for damage on the Z2400.

No LCD Display

- Check for bad connections.
- Check for a cracked or damaged display.
- Probe test points for missing or incorrect signal levels.

Phoenix Tools

Figure 44: Phoenix Software Main Window

The following section provides information about the Phoenix software and how you can use it to troubleshoot and correct problems in the baseband component of the mobile terminal.

Local Mode

Although most Nokia mobile terminals automatically come up in Local Mode, ensure the mobile terminal setting is set to Local Mode.

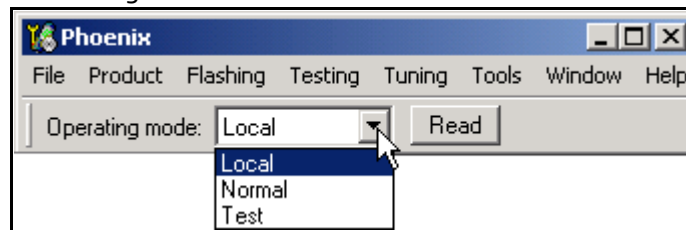


Figure 45: Setting Local Mode in Phoenix

Reading the Mobile Terminal

Figure 46: File menu in Phoenix

1. Open the **File** menu, and click **Scan Product**. Phoenix scans the product and displays the applicable menus and commands.

Figure 47: Phone Information Window in Phoenix

Running the Self Test

Running the Self Test is one way of quickly finding where a problem might be in the mobile terminal.

Figure 48: Open the **Testing** menu, and click **Self Test**. Self Test Command in Phoenix

Figure 49: The **Self Test** window appears. Click **Start** to initiate the self test. Self Tests Command in Phoenix

Checking the Baseband Regulator/General I/O parameters

Figure 50: Baseband Regulator/General I/O Command in Phoenix

Figure 51: Click **Get All** to display all of the parameters. Baseband Regulator/General I/O Command in Phoenix

Flashing the Mobile Terminal

Figure 52: Flashing Menu

Flashing - EZ-Flash

1. To EZ-Flash the mobile terminal,

Figure 53: EZ Flash Command in Phoenix

2. After retrieving the file, click **Flash** to begin flashing the mobile terminal.

Signal References

Figure 54: Signal References

**Nokia Customer Care
6275/6275i (RM-154)
Mobile Terminals**

**RF Description and
Troubleshooting**

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Introduction

The 6275/6275i mobile terminal is based on tri-mode, code division multiple access or "CDMA," dual-band engine. The variants include tri-mode terminals with and without the GPS component.

Note: The 6275 variant is identical to the 6275i variant, except that the GPS is not supported in the 6275 variant.

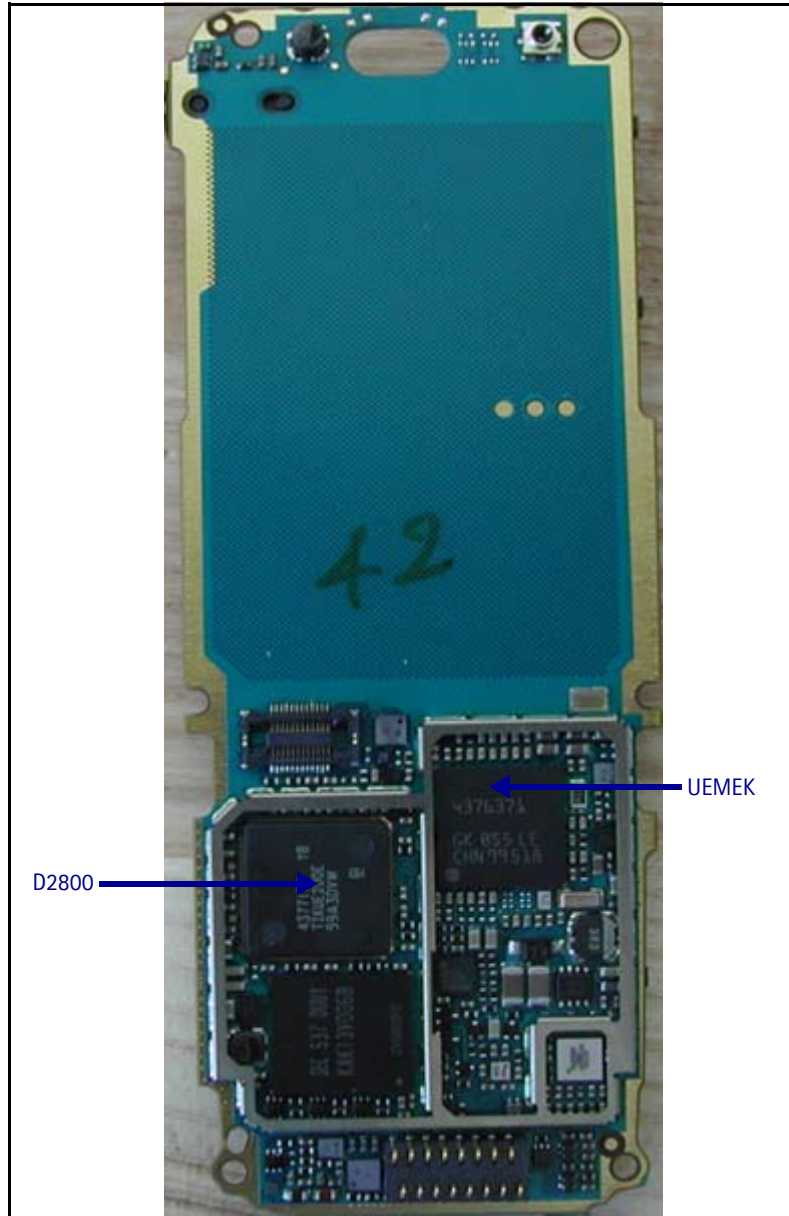


Figure 1: PWB components – top

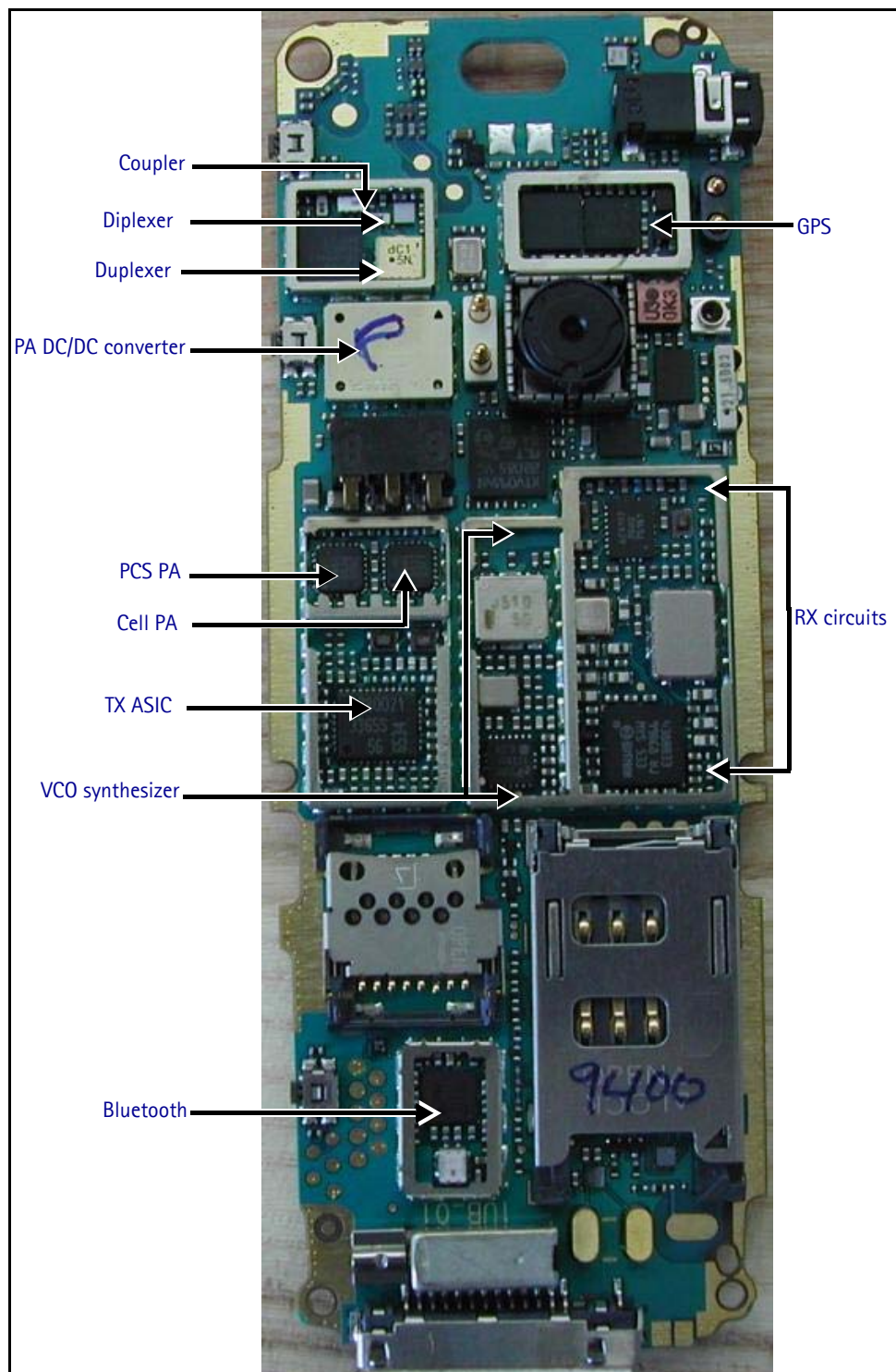


Figure 2: PWB components – bottom

Preliminary RF Troubleshooting

Verify the following if the mobile terminal cannot make a call:

- The mobile terminal is in Normal or Test Mode (i.e., the mobile terminal is searching for a signal, net server is on).

- The Preferred Roaming List (PRL) is loaded into the mobile terminal (for Normal mode).
- The mobile terminal is tuned and has passed tuning. Read the tuning parameters using the **Read Parameters** component in Phoenix. An untuned mobile terminal has all zeros in the tuning file.
- The call box channel is set for a channel in PRL.
- The SID is correct and entered into the mobile terminal. For Test mode, SID is 4 and paging channel is: 385/Cell and 1175/PCS.
- The VCTCXO is centered properly within tuning limits as described in the "[VCTCXO Manual Tuning](#)" section on page 39.
- The transmitter and receiver are working properly in Local mode. See "[Transmitter RF Troubleshooting](#)" on page 8 and "[Receiver RF Troubleshooting](#)" on page 20 for detailed information.

RF Troubleshooting Equipment List

You will need the following equipment for RF troubleshooting:

- Computer with AMS version of Phoenix
- Agilent 8960 CDMA call box (or equivalent)
- Signal generator
- Power supply
- Digital multimeter
- Diagnostic test jig
- Spectrum analyzer
- AMS RF Probe, AAS-10A or AAS-10B
- Oscilloscope
- RF connectors and cables
- High impedance probe (optional)

Transmitter RF Troubleshooting

Following is the block diagram for the Tx RF system.

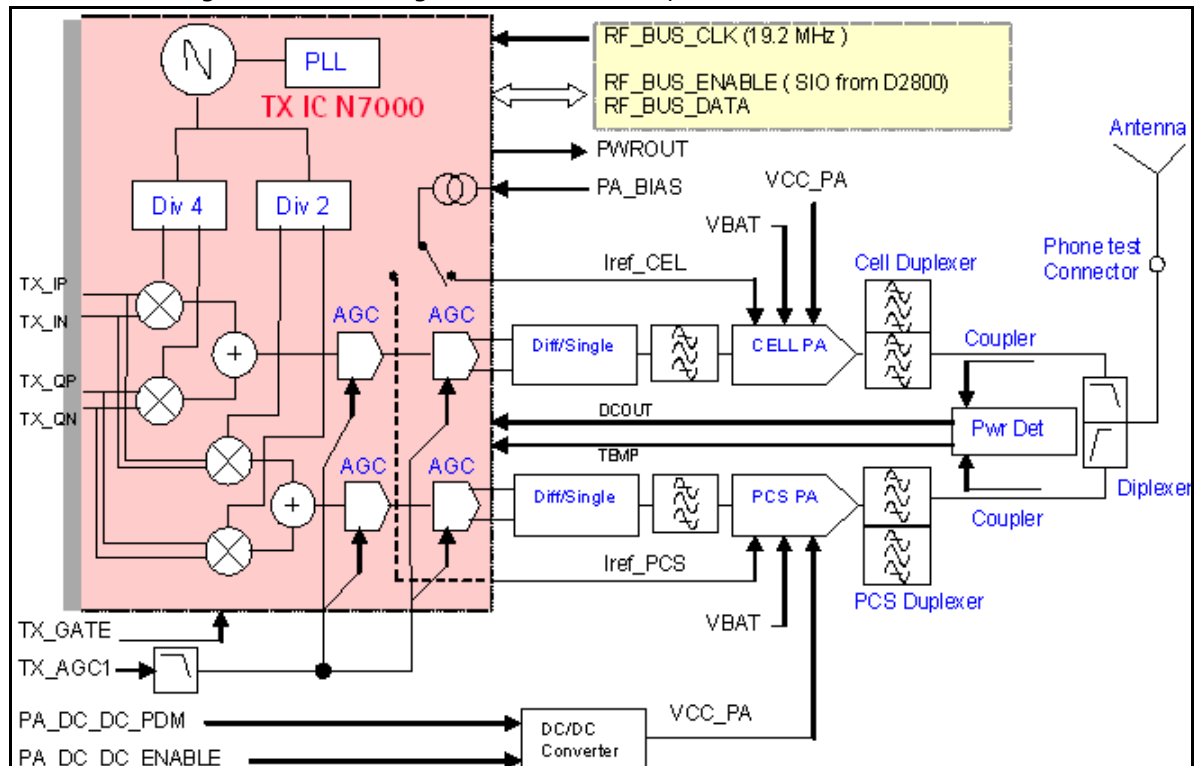


Figure 3: Transmitter system block diagram

Transmitter Schematics

The following schematics are for general reference only. See the *Schematics* chapter for detailed versions.

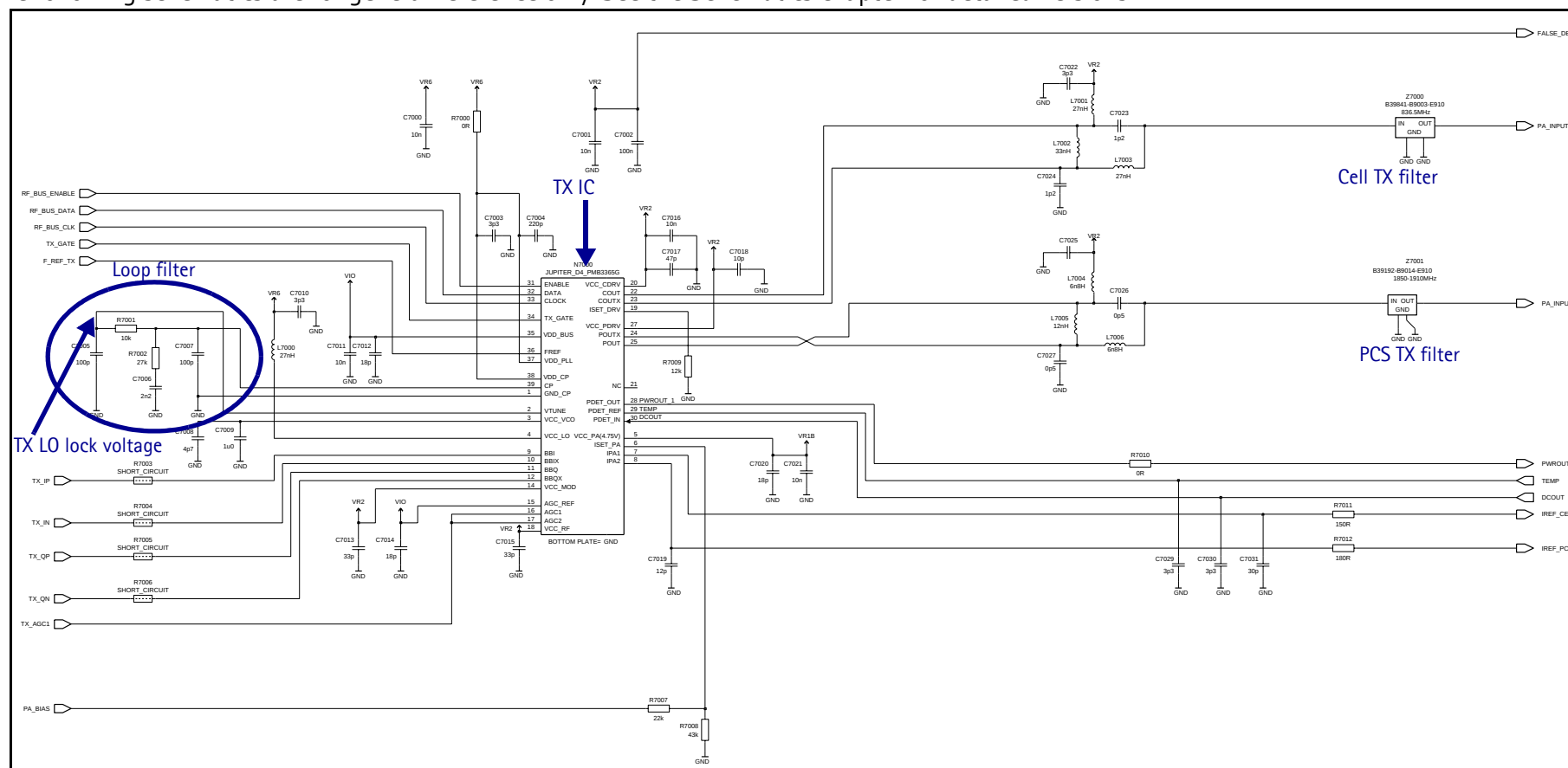


Figure 4: Transmitter schematic 1

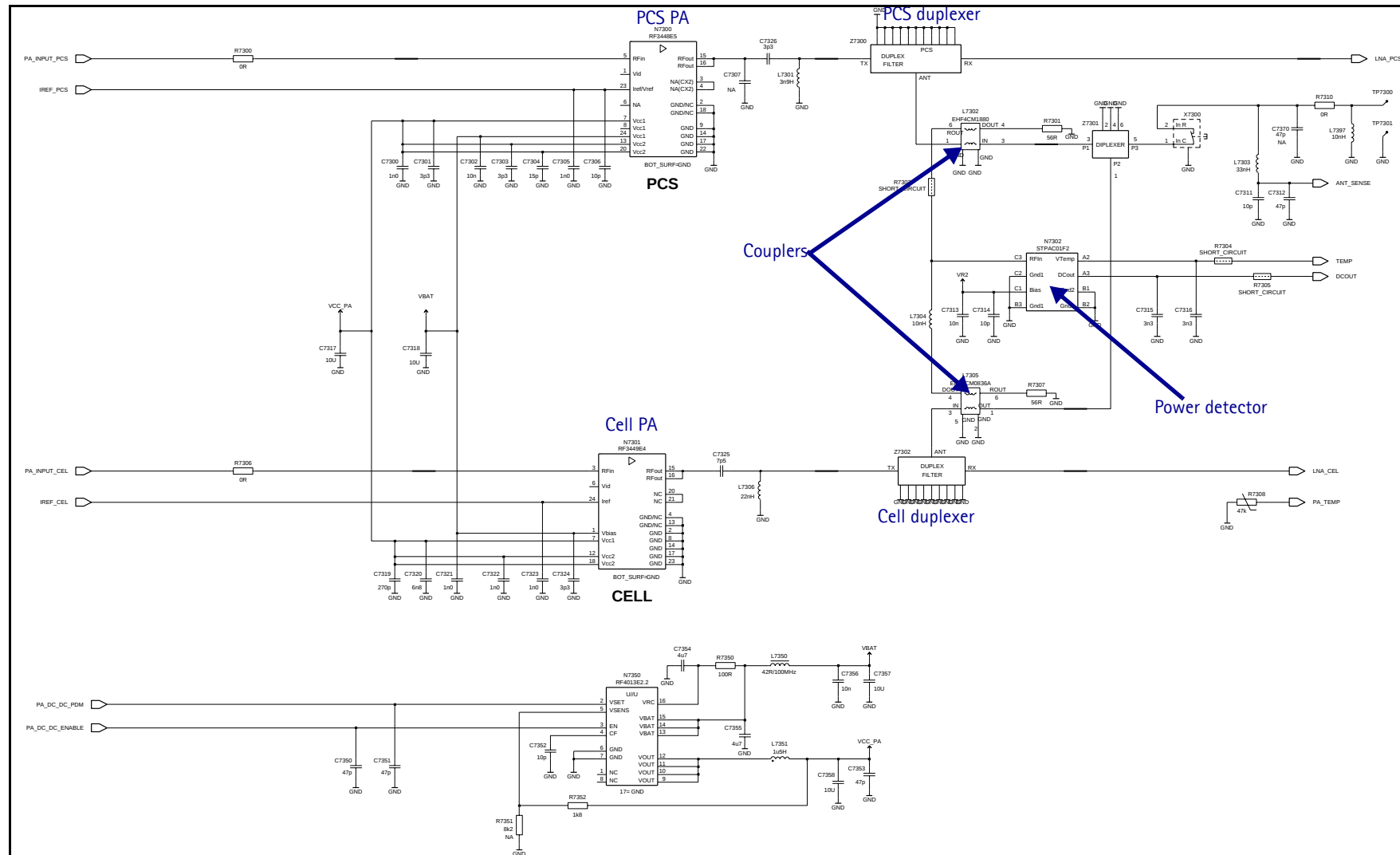


Figure 5: Transmitter schematic 2

Transmitter Troubleshooting Guidelines

Use the following guidelines when troubleshooting.

- Always perform visual inspection of PCB under microscope to check proper placement, rotation, and soldering of components.
- Look for the presence of a well-defined CDMA modulated signal on a spectrum analyzer at the correct frequency. If a signal is present but off frequency or the shape looks distorted, check the synthesizer. Possibly, one of the synthesizers is not locked or the VCO has no output signal. Check the synthesizers for proper frequency and amplitude. See "[Tx Output Spectrum](#)" on page 18 and "[Synthesizer Troubleshooting](#)" on page 33.
- Check that power supplies to the transmitter have the correct voltage. See "[Tx RF Component Diagram](#)" on page 19.
- If the signal is very low in amplitude, check the probing diagram to determine what part of the TX chain is 'broken'. See "[DC Test Points](#)" on page 20.
- Check that AGC PDMs produce and adjust TX power within the proper limits.

Transmitter Troubleshooting Setup

Use the following sets of procedures to troubleshoot the transmitter using Phoenix.

1. Tx power at the RF connector.
2. All Tx DC points.
3. All soldering jig points for the whole Tx chain.
4. UHF LO presence:
 - If the UHF LO is present, check the N7000 output.
 - If the UHF LO is not present, it is a synthesizer problem.
5. If there is no N7000 output:
 - a. Change the N7000.
 - b. If the problem persists, reflow the duplexers, diplexer, and couplers.
 - c. If the problem persists, change the PA.
6. If there are several failed mobile terminals with the same symptoms, it may be necessary to break one to determine the cause.

Use the following sections to set up troubleshooting in Phoenix according to the band you are using:

- "[AMPS Tx Setup](#)" on page 12
- "[Cell Tx Setup](#)" on page 13
- "[PCS Setup](#)" on page 15

AMPS Tx Setup

Use the following procedures to prepare for AMPS Tx troubleshooting using Phoenix. Note the 6236i variant does not support AMPS.

1. Connect the RF test connector to a spectrum analyzer.
2. Connect the mobile terminal to the PC via a test jig. (The bottom connector is a USB port.)
3. Connect a power supply to the mobile terminal.
4. Open the **Troubleshooting** menu, and click **Phone Control**. The **Phone Control** dialog box appears.
5. Click the **LOCAL** button in the **Phone State** tab to put the mobile terminal into Local Mode.

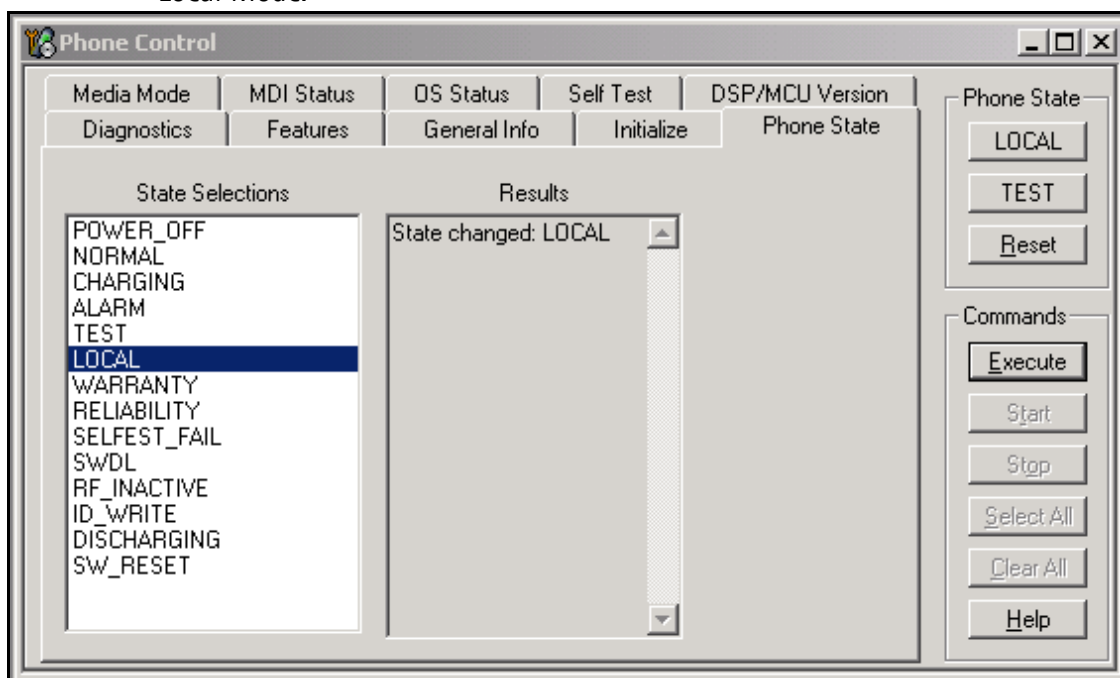


Figure 6: Phone Control dialog box

6. Open the **Troubleshooting** menu, point to **AMPS**, and click **AMPS Control**. The **AMPS Control** dialog box appears.

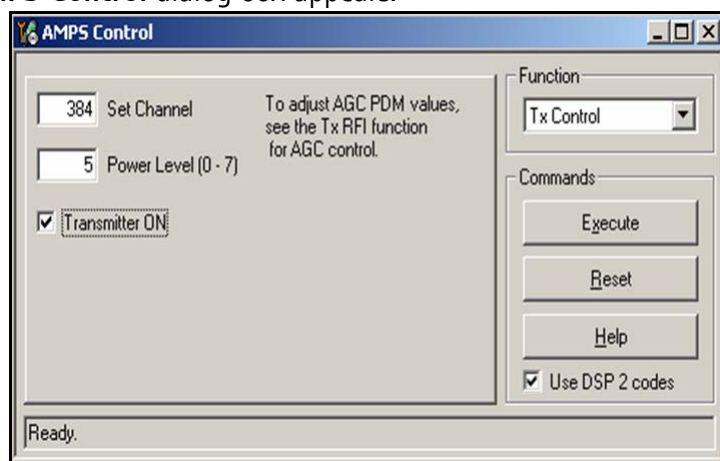


Figure 7: AMPS Control dialog box

7. In the **Function** field, select **Tx Control**.
8. In the **Set Channel** field, type 384.
9. In the **Power Level** field, type 5.
10. Select the **Transmitter ON** and **Use DSP 2 codes** options.
11. Click **Execute**.
12. Configure the spectrum analyzer using the following values:
 - Center Frequency = 836.52 MHz
 - Span = 100 MHz
 - Amplitude = 20 dBm
 - Attenuation = Auto
 - BW = Auto

Table 1: RF PDM Values at Power Level 5

Description/Field	Reference Value
AGC1	-512
PA_Bias	129
PA_DC_DC	197

Cell Tx Setup

Use the following procedures to prepare for Cell Tx troubleshooting using Phoenix.

1. Connect an RF test connector to a call box.
2. Connect the mobile terminal to the PC via a test jig. (The bottom connector is a USB port.)
3. Connect a power supply to the mobile terminal.
4. On the **Phone Control** dialog box, click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode. (See [Figure 6](#) on page 12.)

5. Open the **Troubleshooting** menu, point to **RF**, and click **RF Main Mode**. The **RF Main Mode** dialog box appears.

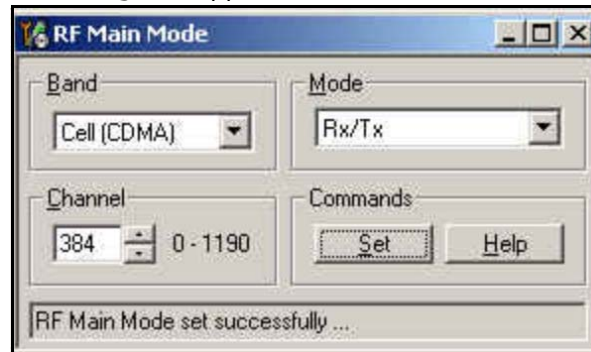


Figure 8: RF Main Mode dialog box for Cell Mode

6. Select the following values on the **RF Main Mode** dialog box:
 - **Band** = Cell (CDMA)
 - **Channel** = 384
 - **Mode** = Rx/Tx
7. Click **Set**.

Note: Be sure that the “RF Main Mode set successfully” message appears in the status bar.

8. Open the **Troubleshooting** menu, point to **RF**, and click **CDMA Control**. The **CDMA Control** dialog box appears.

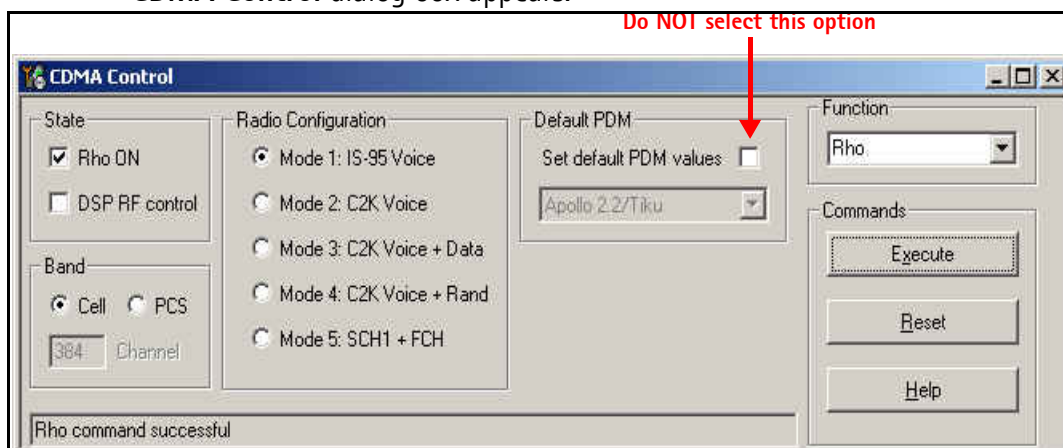


Figure 9: CDMA Control dialog box for Cell Tx troubleshooting

9. Select the following values:
 - **State** = Rho ON
 - **Band** = Cell
 - **Radio Configuration** = Mode 1: IS-95 Voice

Note: Do NOT select the Set default PDM values option.

10. Click **Execute**.

11. Configure the spectrum analyzer using the following values:

- Center Frequency = 836.52 MHz
- Span = 100 MHz
- Amplitude = 20 dBm
- Attenuation = Auto
- BW = Auto

Table 2: RF PDM Values

Description/Field	Reference Value
AGC1	-130
PA_Bias	85
PA_DC_DC	110
Pout	16dBm
Current	340mA

PCS Setup

Use the following procedures to prepare for PCS Tx troubleshooting using Phoenix.

1. Connect an RF test connector to a call box.
2. Connect the mobile terminal to the PC via a test jig. (The bottom connector is a USB port.)
3. Connect a power supply to the mobile terminal.
4. Open the **Troubleshooting** menu, and point to **Phone Control**. The **Phone Control** dialog box appears. (See [Figure 6](#) on page 12.)
5. Click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode.
6. Open the **Troubleshooting** menu, point to **RF**, and click **RF Main Mode**. The **RF Main Mode** dialog box appears. (See [Figure 8](#) on page 14.)
7. Select the following values on the **RF Main Mode** dialog box:
 - **Band** = PCS (CDMA)
 - **Channel** = 600
 - **Mode** = Rx/Tx
8. Click **Set**.

Note: Be sure that the “RF Main Mode set successfully” message appears in the status bar.

9. Open the **Troubleshooting** menu, point to **RF**, and click **CDMA Control**. The **CDMA Control** dialog box appears. (See [Figure 9](#) on page 14.)

10. Select the following values on the **CDMA Control** dialog box.

- **State** = Rho ON
- **Band** = PCS
- **Radio Configuration** = Mode 1: IS-95 Voice

Note: Do NOT select the "Set default PDM values" option.

11. Click **Execute**.

12. Open the **Troubleshooting** menu, point to **RF**, and click **PDM Control**.

13. Configure the spectrum analyzer using the following values:

- Center Frequency = 1880 MHz
- Span = 100 MHz
- Amplitude = 20 dBm
- Attenuation = Auto
- BW = Auto

Table 3: RF PDM Values

Description/Field	Reference Value
AGC1	-130
PA_Bias	85
PA_DC_DC	110
Pout at RF connector	+15dBm
Current	340mA

Transmitter RF Troubleshooting Procedures

After Phoenix is set up using either the AMPS, Cell, or PCS setup procedures, use the following steps to troubleshoot the transmitter.

1. Using a voltmeter, check to see that all VR2, VR6, and VR1B are on the transmit system. (See "[Tx RF Component Diagram](#)" on page 19.)
 - If any are missing, look for SMD problems around the Tx IC and the UEMEK.
 - If SMD is good, replace the UEMEK.
2. After all DC voltages are present, check the AGC control voltages. (See "[AMPS Tx Setup](#)" on page 12, "[Cell Tx Setup](#)" on page 13, or "[PCS Setup](#)" on page 15.)
 - If the voltages are incorrect, check the SMD around TX_AGC1.
 - If the SMDs are correct, replace the D2800.

3. Using an oscilloscope, check the I and Q input modulation wave forms at test points. See "[Tx RF Components of the PWB](#)" on page 19. They should all be present with an AC swing of about 500mVpp, with an offset of +1.2V.
 - If one or more waveforms is missing, look for SMD problems around these resistors.
 - If the SMD is good, replace the UEMEK.
4. Use an AAS-10 RF probe to probe the Cell Tx output of the Tx IC.
 - If there is no RF or low RF, look for a faulty SMD around the Tx IC.
 - If the SMD is okay, replace the N7000.
5. Probe the PA input.
 - If the level is low, look for an SMD issue on the Tx filter.
 - Reflow or replace the filter as necessary.
6. Probe the PA output.
 - If the RF is missing or low, look for Vbatt voltages and SMD issues on and around the PA.
 - If these are okay, replace the PA.
7. Probe the duplexer output.
 - If the RF is missing or low, reflow or replace the duplexer.
8. Probe the coupler output.
 - If the RF is missing or low, reflow or replace the coupler.
9. Probe the diplexer output.
 - If the RF is missing or low, reflow or replace the diplexer.

Failed Test: Tx PA Detector

Use the following steps if you encounter a failed test for the Tx PA detector:

10. Use Phoenix to set the mobile terminal into Local Mode and activate the Tx with default output power.
11. The output power at the RF test connector should be 15dBm $\pm$ 4dB. If not, adjust the PDM values or troubleshoot per procedure above.
12. Using a voltmeter on DC, probe the detector output at C7315. The voltmeter should read approximately 1.7V. If not, replace N7302.

Tx Output Spectrum

Following is the correct output of the mobile terminal on a spectrum analyzer with 100MHz span. Note that if you are using the AAS-10 probe with the mobile terminal connected to the call box, the amplitude should be approximately -7dBm at the antenna test point on the top of the PWB.

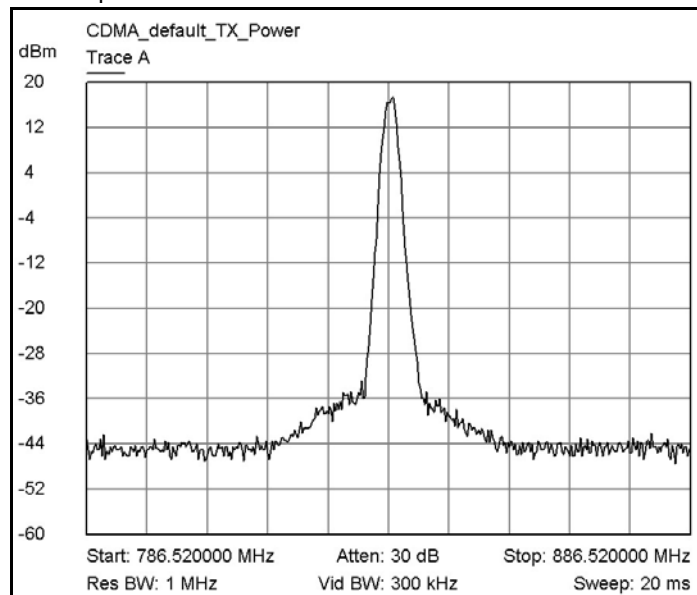


Figure 10: Correct output spectrum

Following is an example of *incorrect* output.

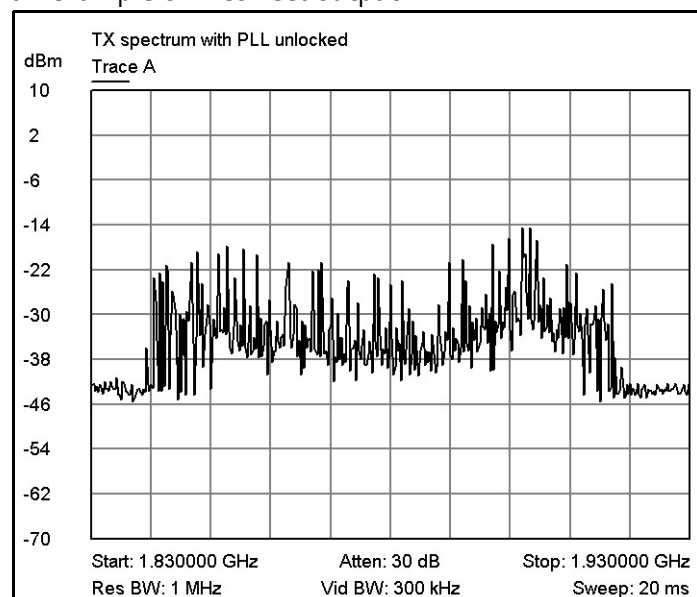


Figure 11: Incorrect output spectrum

Tx RF Component Diagram

Following are the Tx RF components.

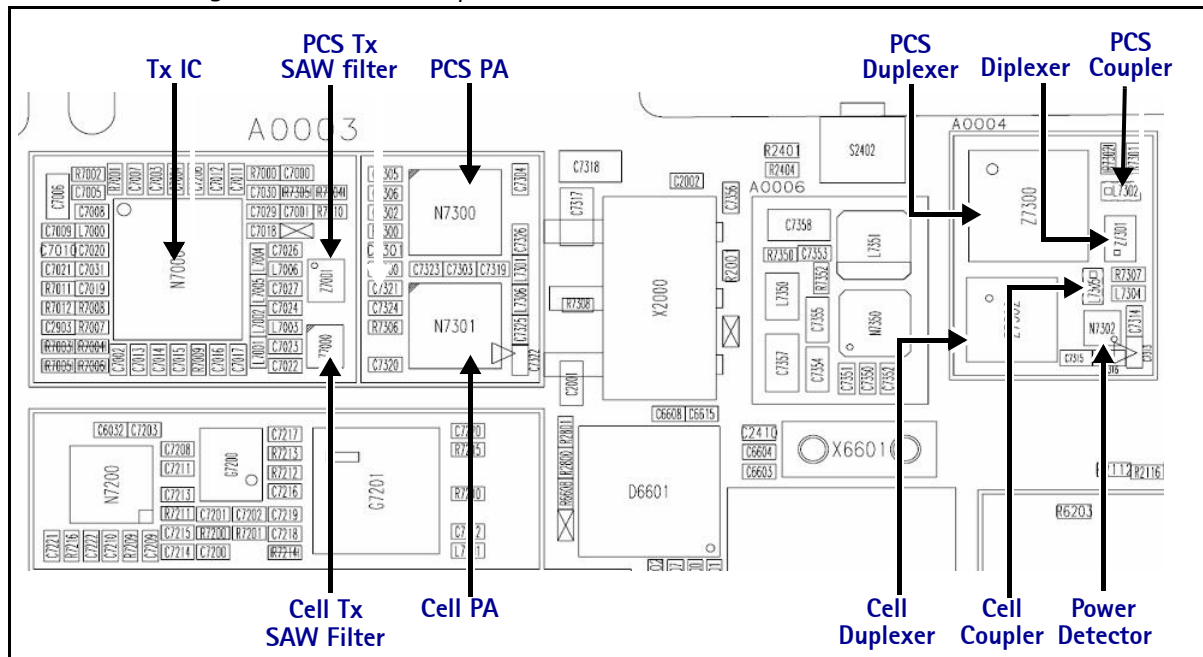


Figure 12: Tx RF Components of the PWB

Tx DC Probe Points

Following are the Tx DC probe points of the PWB.

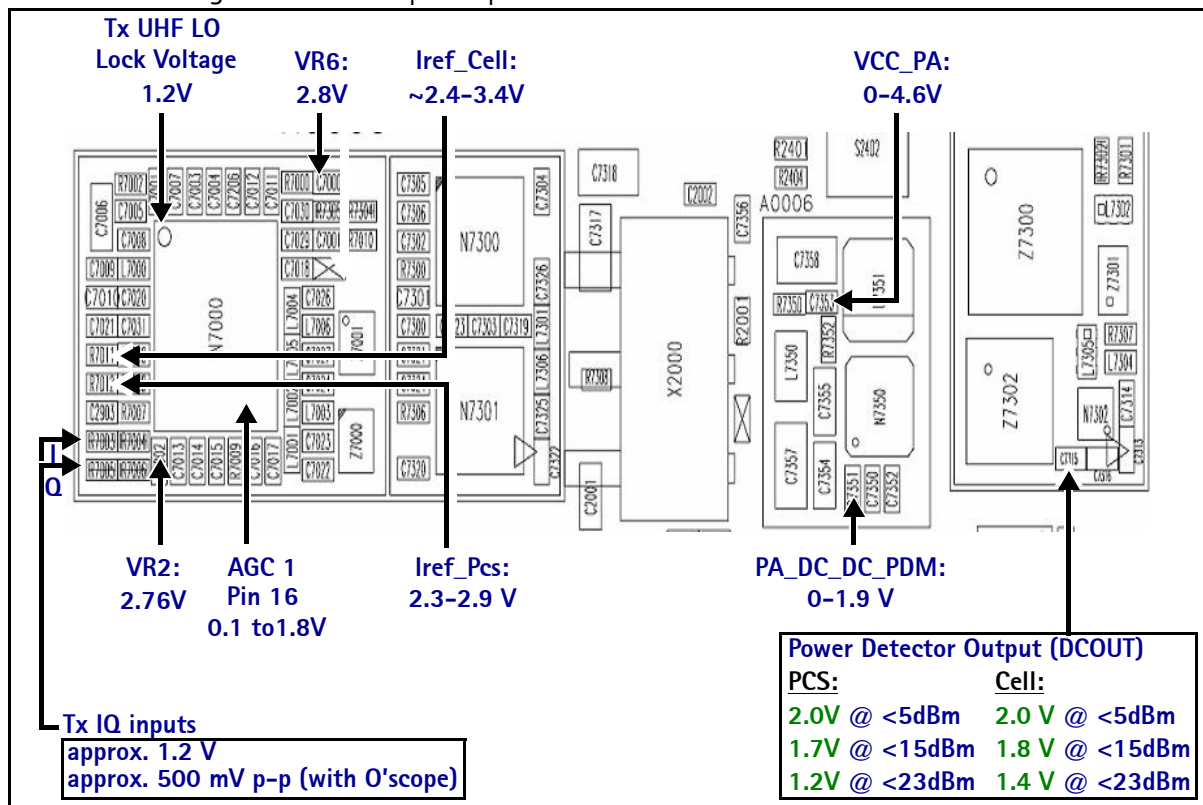


Figure 13: Tx DC probe points

Tx RF Probe Points

Figure 14 shows the Tx RF probe points of the PWB.

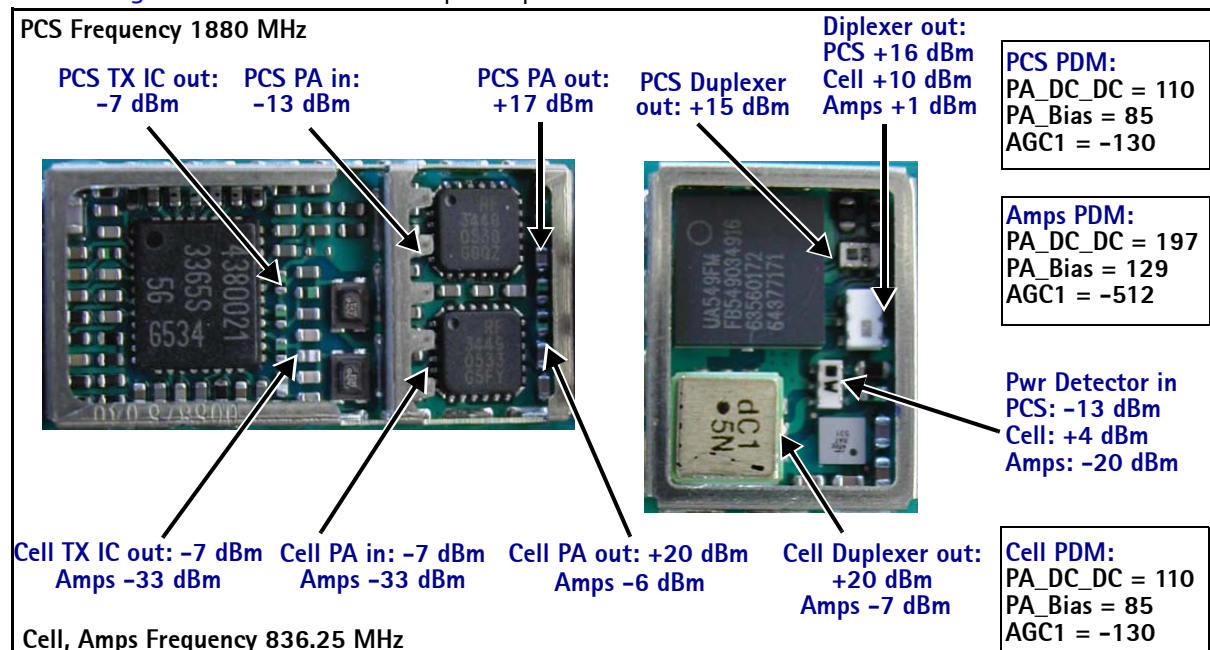


Figure 14: Tx RF probe points

DC Test Points

Figure 15 shows the DC test points.

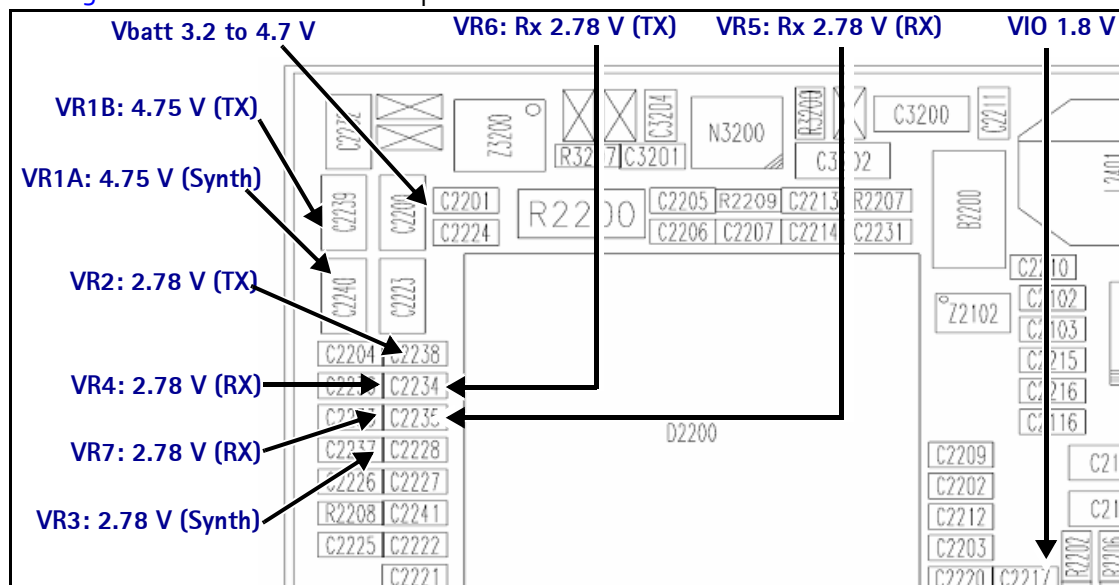


Figure 15: DC Test Points

Receiver RF Troubleshooting

The heart of the receiver is the Rx Front-end IC, which contains two LNAs and mixers. The other components are passive. There are two RF SAW filters for the Cell and PCS bands. In addition, there are two IF filters, an IF SAW for CDMA and an IF Crystal for AMPS.

Receiver Block Diagram

Following is the Rx System block diagram.

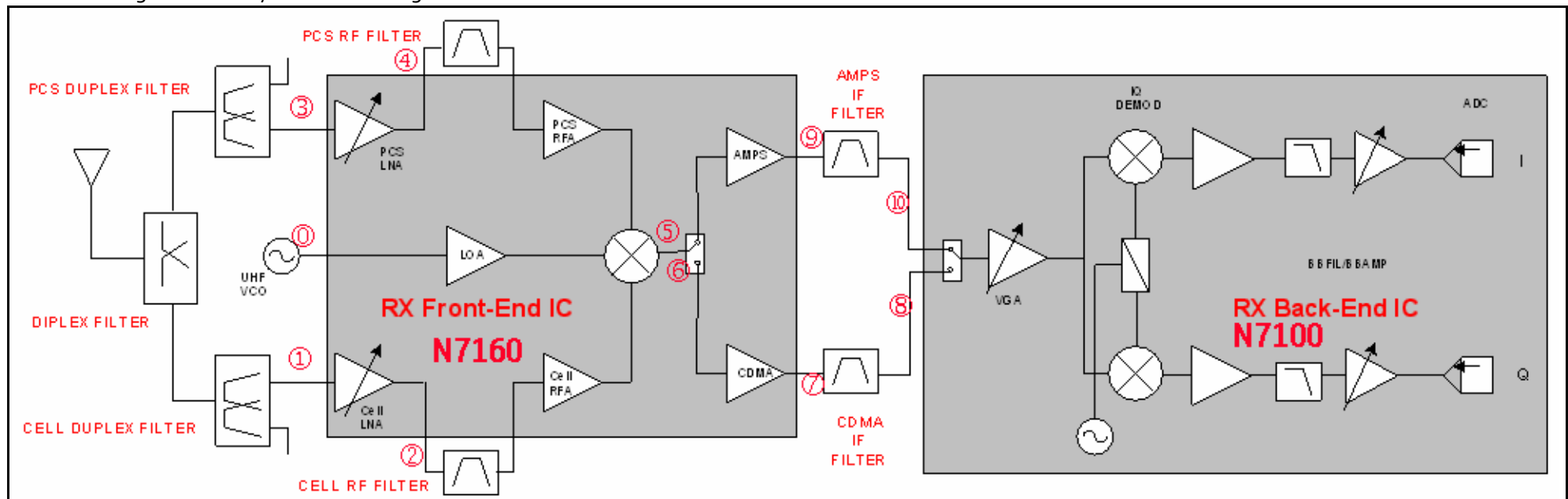


Figure 16: Receiver System block diagram

Receiver Schematics

The following schematics are for general reference only. See the *Schematics* chapter for detailed versions.

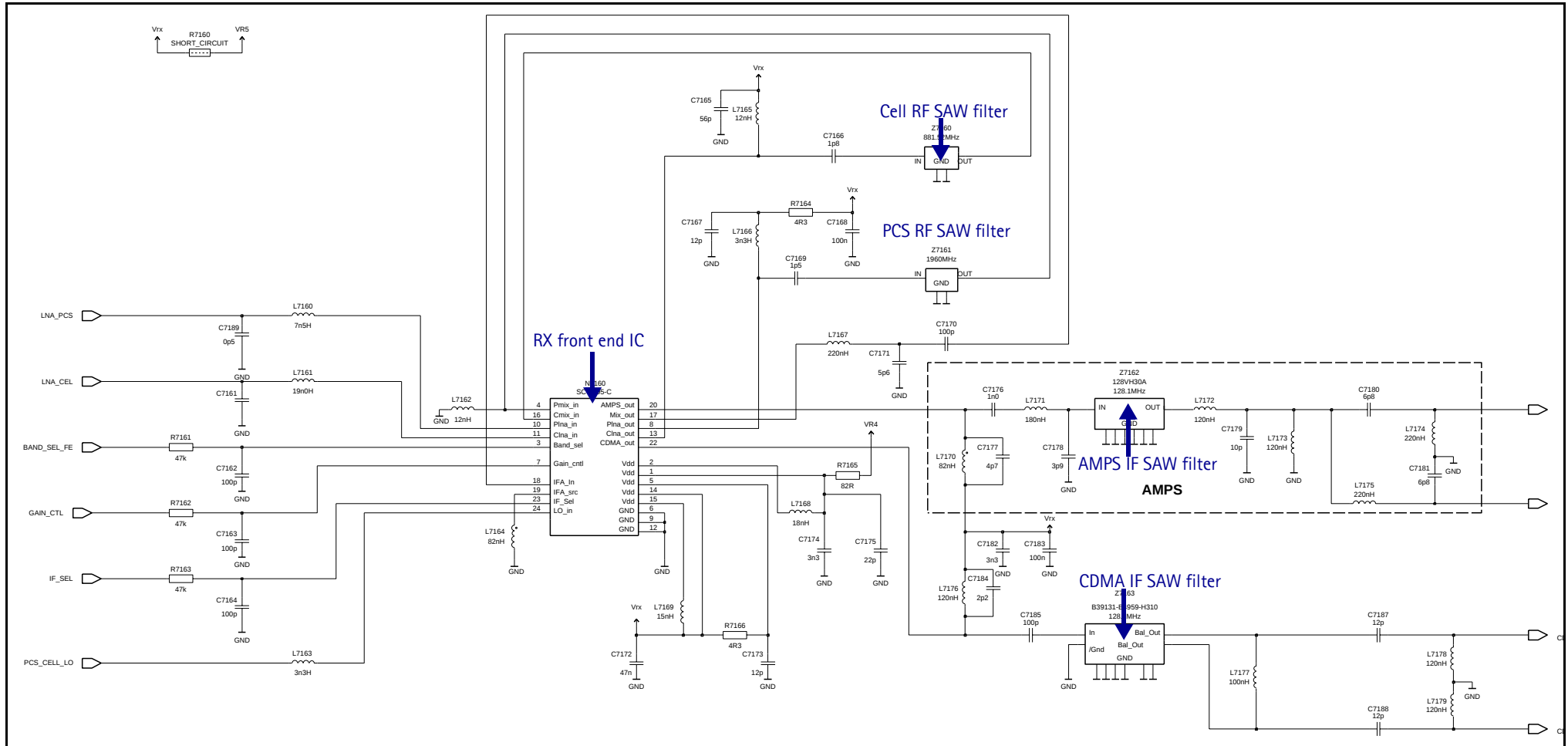


Figure 17: Receiver schematics - 1 Rx Front-end

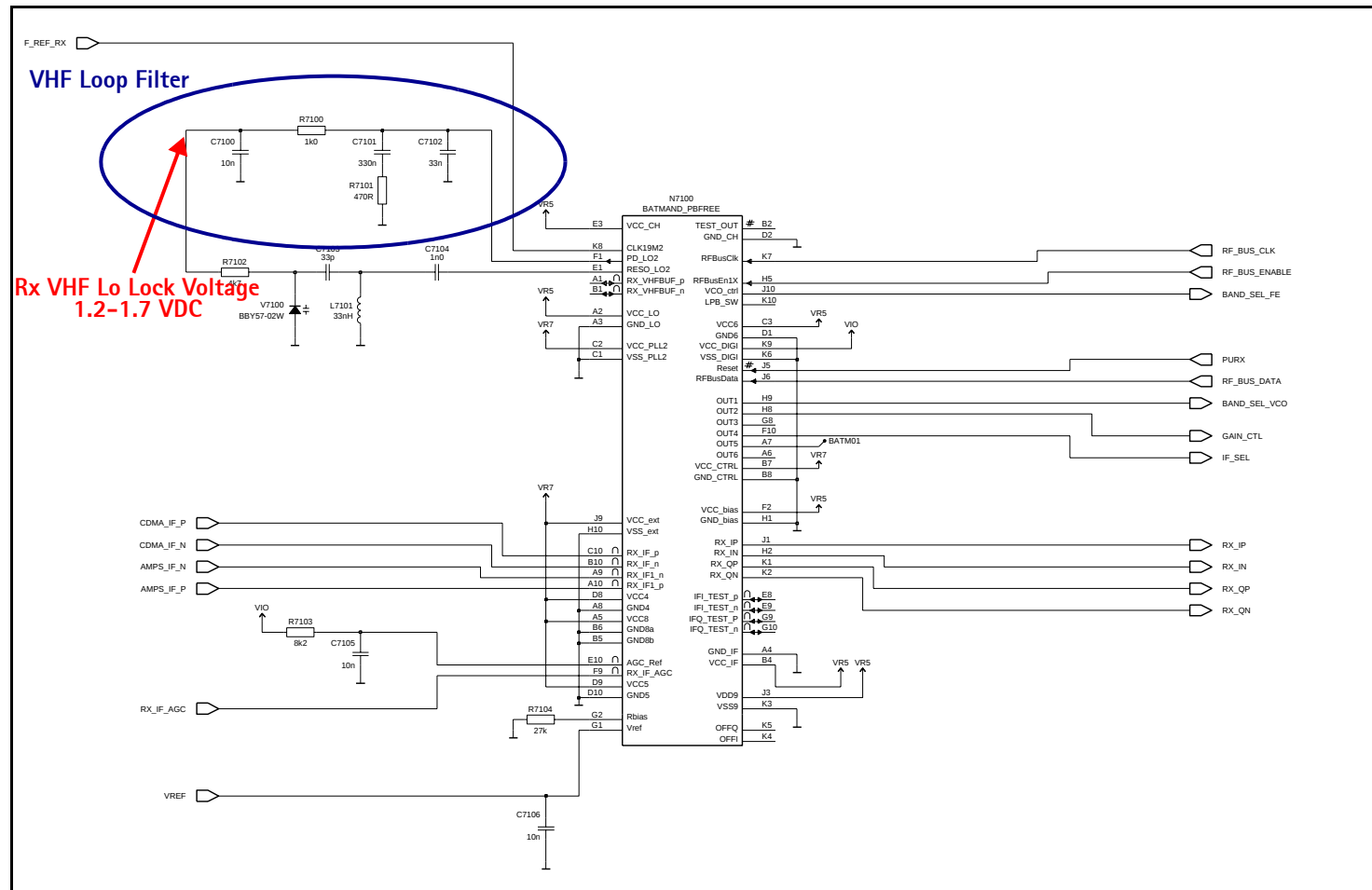


Figure 18: Receiver schematic - 2 Rx Back-end

RF AGC Status

When configuring the values on the **RF AGC Status** dialog box, note the following:

- The RF AGC status functionality only works in Call Mode.
- In the **PLL Lock Status** area, bright green indicates a locked PLL and dark green indicates an unlocked PLL.
- Clicking the **Update Now** button updates the screen once.
- Clicking the **Auto Update** button updates the screen every second continuously.

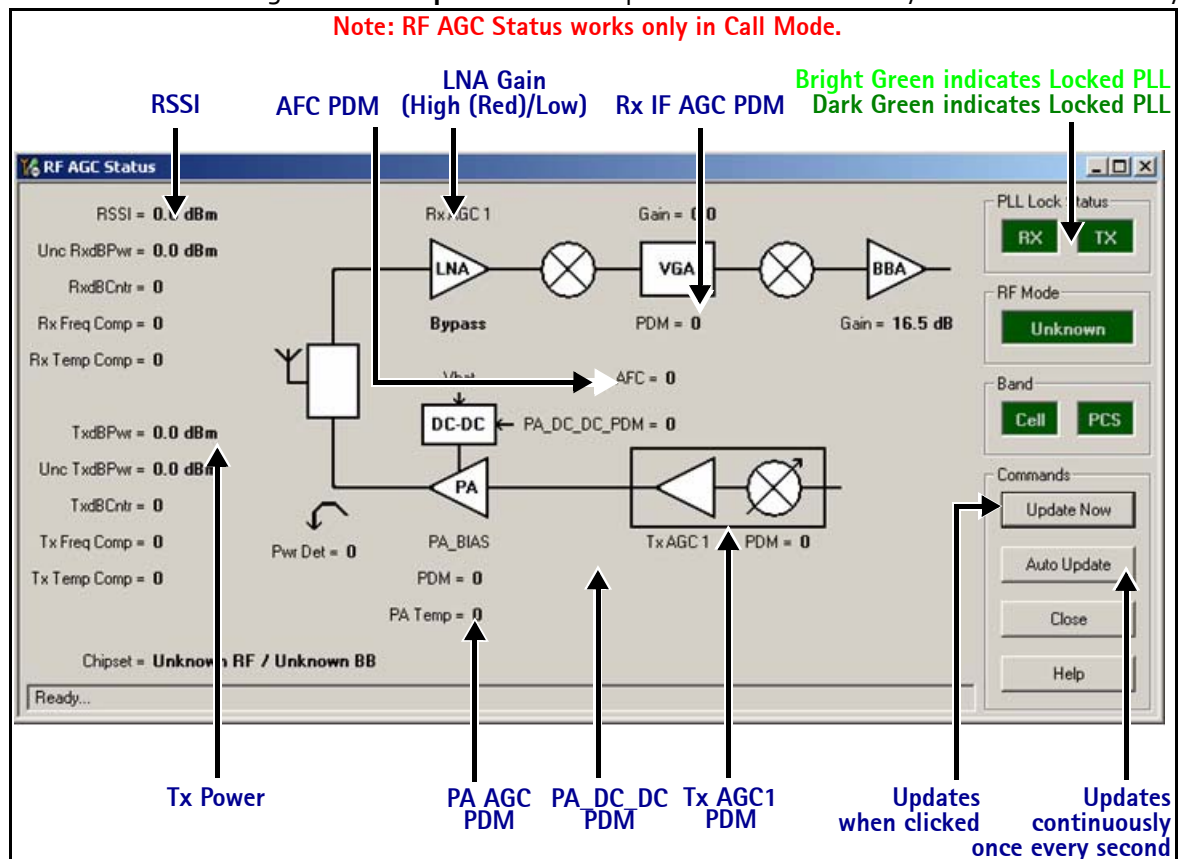


Figure 19: RF AGC Status dialog box

Turning on the Rx Path

Use the following steps to turn on the Rx path using Phoenix.

1. On the **Phone Control** dialog box, click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode.

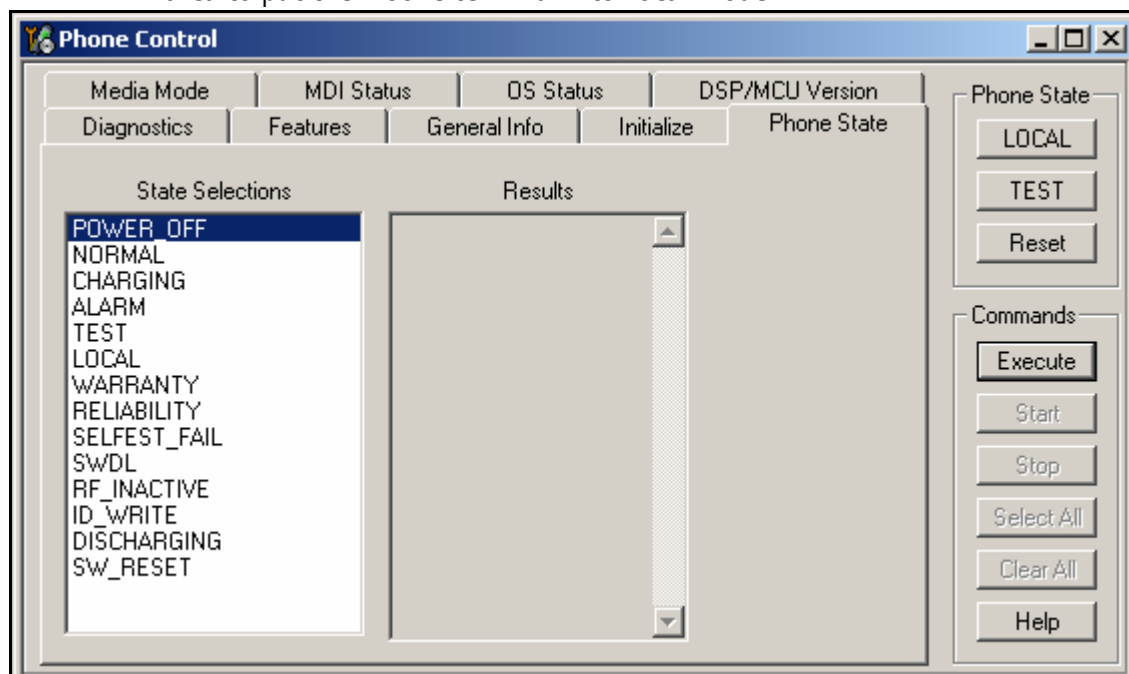


Figure 20: Phone Control dialog box

2. Click the **Execute** button.
3. Depending on the band, use the applicable settings from the table below on the **RF Main Mode** dialog box.

Table 4: RF Main Mode Dialog Box Settings

Band	Mode	Channel
AMPS	Rx = 881.52 MHz	384
Cell	Rx = 881.52 MHz	384
PCS	Rx = 1960 MHz	600

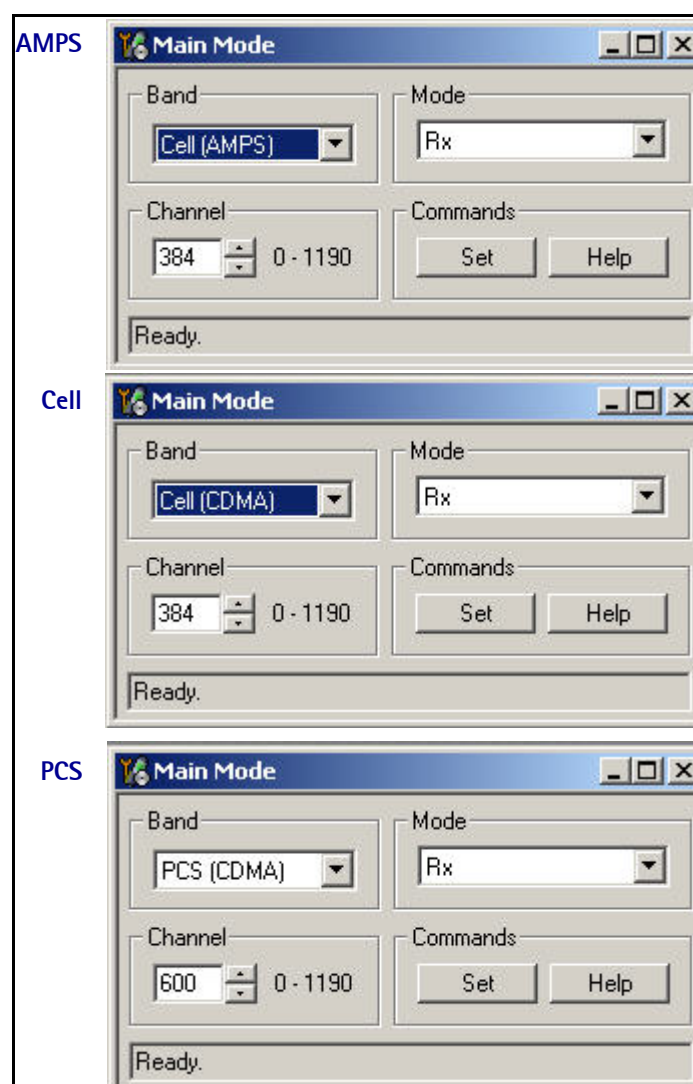


Figure 21: RF Main Mode dialog boxes for AMPS, Cell, and PCS

Switching the Rx Gain States

Use the RF Gen I/O dialog box to switch the gain state (Hi and Lo) for CDMA and AMPS modes.

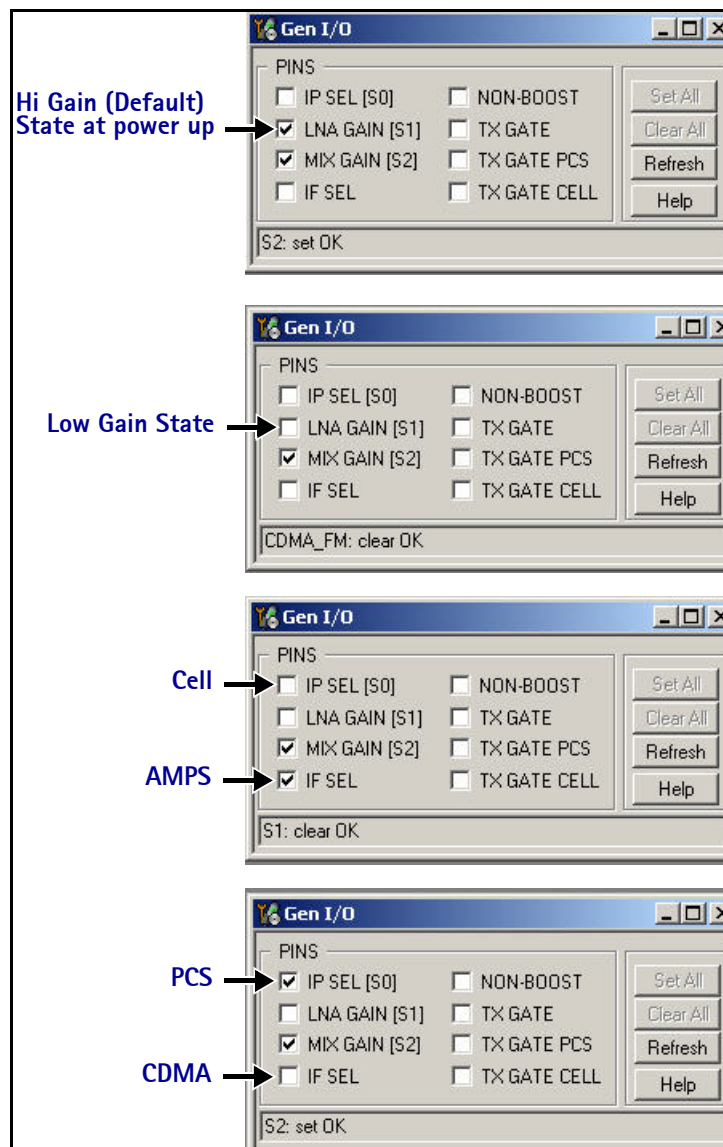


Figure 22: RF Gen I/O dialog box

Receiver Diagnostic Signal Tracing

Use the following to trace the receiver signal.

- An RF signal generator is recommended, however an Agilent call box 8960 may also be used. For 8960, hit Button CALL SETUP, soft button Active Cell, and then select CW.
- Inject a CW signal for PCS (1960MHz) or Cell/AMPS (881.52MHz) at a fixed – 25dBm power level.
- Take measurements with the AAS-10 probe.
- Signal levels are approximate, and accuracy may be ± 2 dB or more, depending on position and grounding of probe.

Receiver RF Probe Points

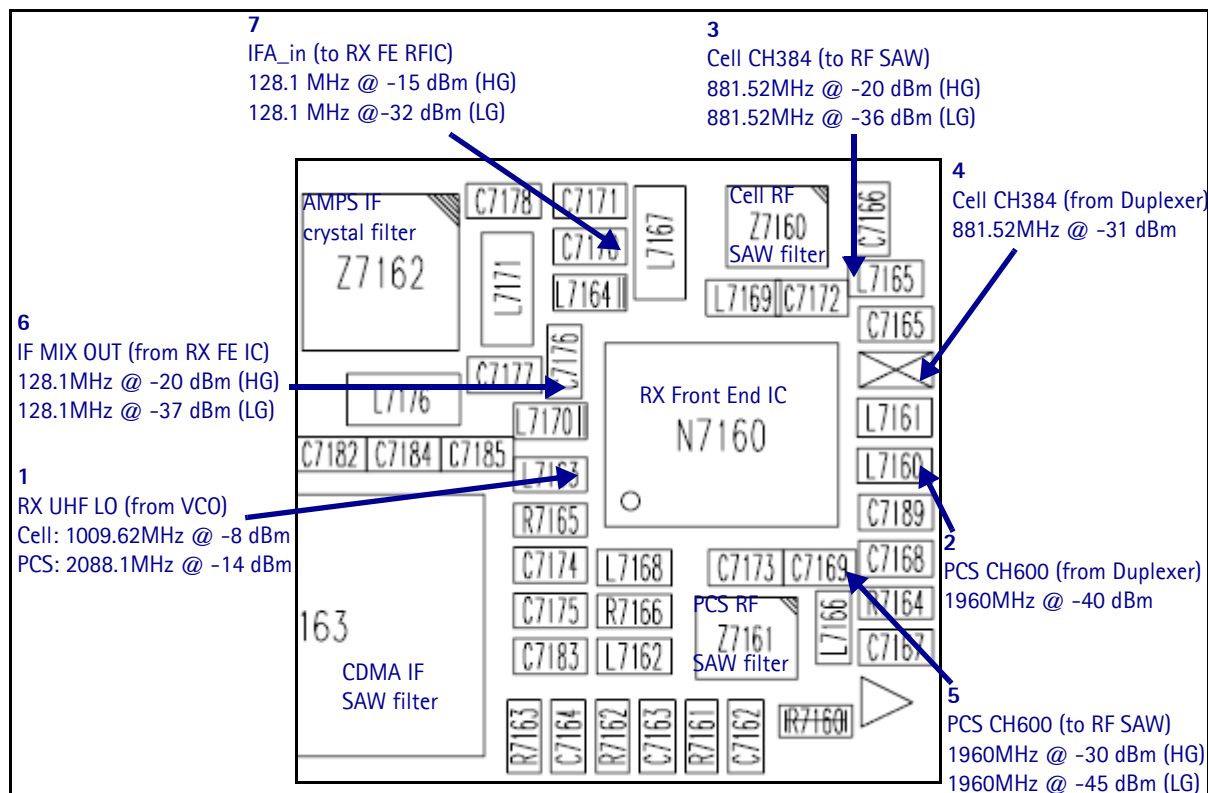


Figure 23: Receiver RF Probe points

Receiver IF Probe Points

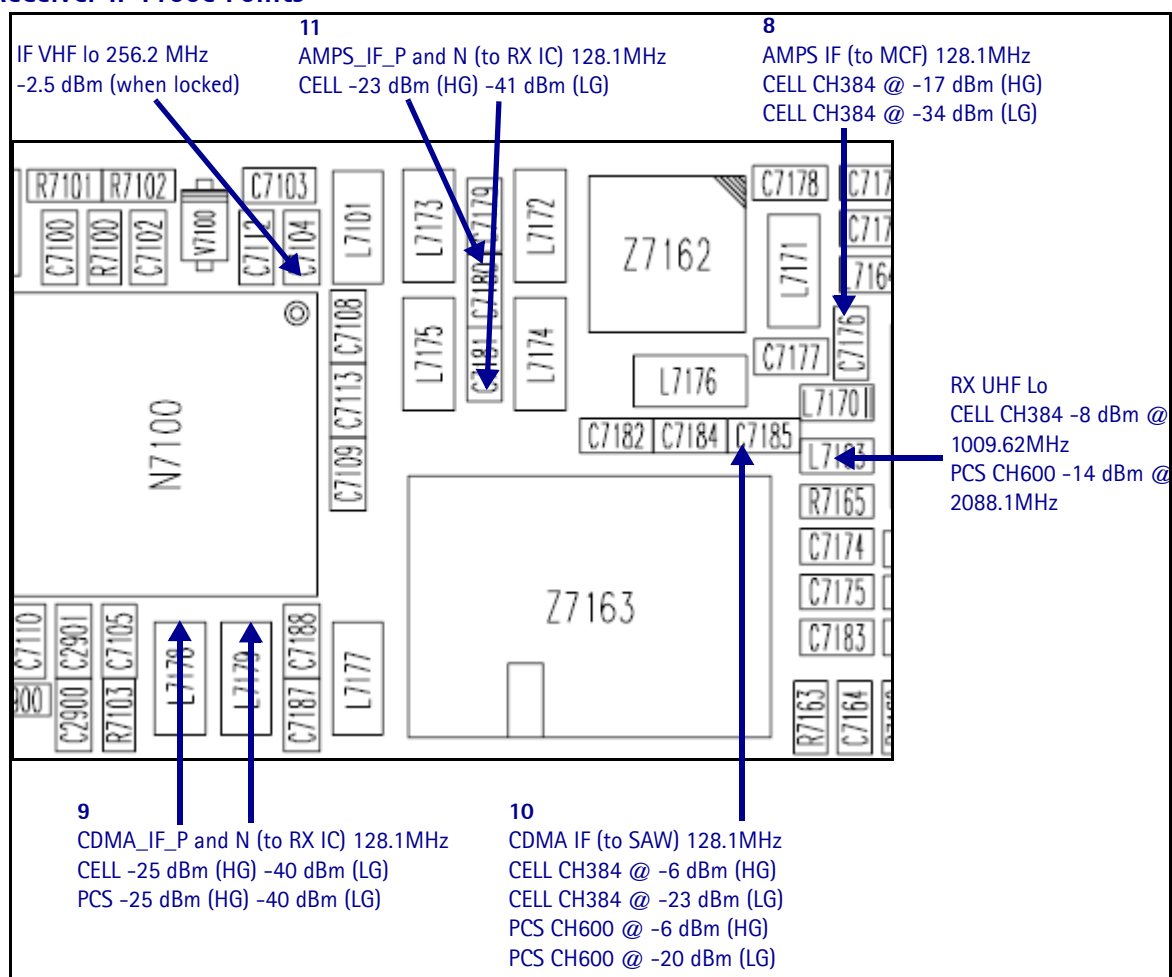


Figure 24: Receiver IF Probe points

Figure 25: Rx DC test points

Receiver Logic Input Voltages

Measure logic levels for Rx Front-End (N7160). Figure 26 shows the receiver logic input voltages.

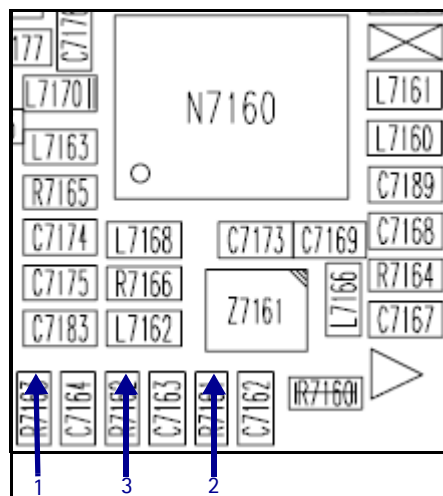


Figure 26: Receiver logic input voltage test points

Table 5 includes the logic levels for the N7160.

Table 5: Rx Front-end (N7160) Logic Levels

Modes	Logic Input Voltages		
	1 IF_SEL	2 BAND	3 GAIN_CTL
Cell CDMA High Gain	0 V	0.1 V	2.7 V
Cell CDMA Low Gain	0 V	0.1 V	0 V
PCS CDMA High Gain	0 V	2.7 V	2.7 V
PCS CDMA Low Gain	0 V	2.75 V	0 V
AMPS High Gain	2.7 V	0.1 V	2.7 V
AMPS Low Gain	2.7 V	0.1 V	0 V

If the logic levels are significantly off ($\pm 0.2V$), replace the Back-End IC (N7100). If the levels are still bad, replace the Rx Front-End IC (N7160) and re-measure. If the voltages are still out of specifications, refer to the *Baseband Troubleshooting* chapter.

Rx Front-End Receiver Troubleshooting

Keep the following points in mind regarding the Rx Front-end receiver:

- There is a separate LNA for 800MHz (Cell and AMPS) and 1900MHz (PCS).
- There is a separate RFA (inside Rx Front-end IC) for 800MHz (Cell and AMPS) and 1900MHz (PCS).
- After the RFA, there is a mixer, and then the signals are separated by CDMA (Cell and PCS) and AMPS.

For example, if there is no IF frequency (128.1MHz) check both Cell and PCS. If only one has 128.1MHz at L7162, ensure that IF_SEL is working. If it is, then replace the Rx Front-end IC due to a bad RFA.

If Cell and AMPS are working but PCS is not, look at the band select line and the PCS LNA before replacing the Rx Front-end IC.

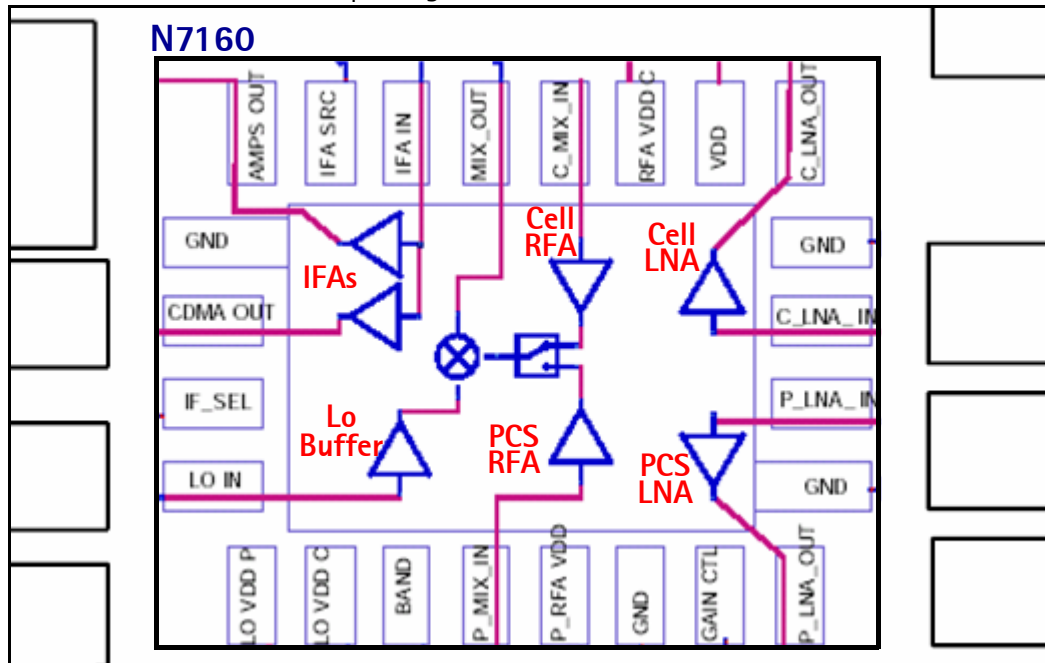


Figure 27: N7160 receiver

There are two common explanations for a Rx Front-end IC failure consisting of high current in Local Mode with just the Rx turned on:

- No presence of a LO signal
- Input impedance drop is shorting out one of the DC supply pins to the chip

IMPORTANT: You must check for both conditions before replacing the chip. If you have no LO signal, refer to "[UHF Synthesizer Troubleshooting](#)" on page 41. If you have a significant supply voltage drop on one of the supply pins, then replace the Rx Front-end IC.

Table 6: Rx Front-end IC Conditions and Supply Currents

Condition: Local Mode, Set Rx Only in RF Main Mode	Supply Current (From Power Supply)
Good mobile terminal	100mA
No UHF LO signal present	254mA
Pin 13 shorted	255mA

Synthesizer Troubleshooting

Faulty synthesizers can cause both Rx and Tx failures during tuning, in addition to the VCTCXO tuning. However, first check for the presence of various LO signals and their proper levels. If everything fails, it may be necessary to check the reference clock (19.2MHz) which is needed for the mobile terminal to power up. The 19.2MHz signal is also important because the D2800 is sensitive enough to pick up a very weak 19.2MHz clock, resulting in intermittent problems such as a constant mobile terminal reset.

Following are the synthesizers used in the mobile terminal:

- Dual-band UHF (1009.62MHz for channel 384 in Cell and AMPS bands, and 2088.1MHz for channel 600 in PCS band) with a separate LMX2310 PLL IC
- Rx VHF (256.2MHz for Cell, AMPS, and PCS) with PLL inside the Rx Front-End IC
- Tx UHF (3296.16MHz~3395.88 for Cell and AMPS, 3700~3819.9MHz for PCS) with PLL inside the Tx IC

Synthesizer Block Diagram

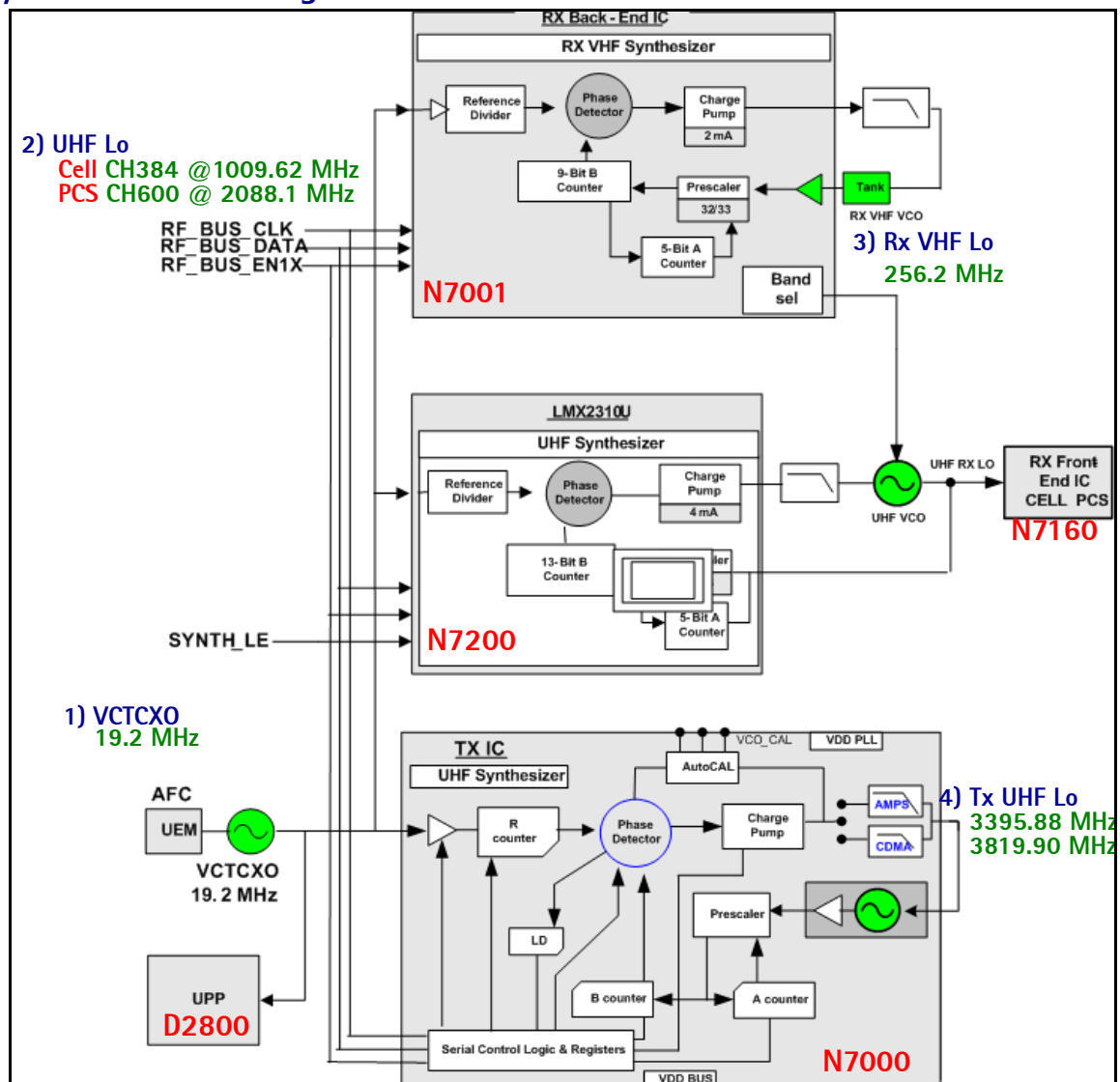


Figure 28: Synthesizer block diagram

Synthesizer Schematics

The following schematics are for general reference only. See the *Schematics* chapter for detailed versions.

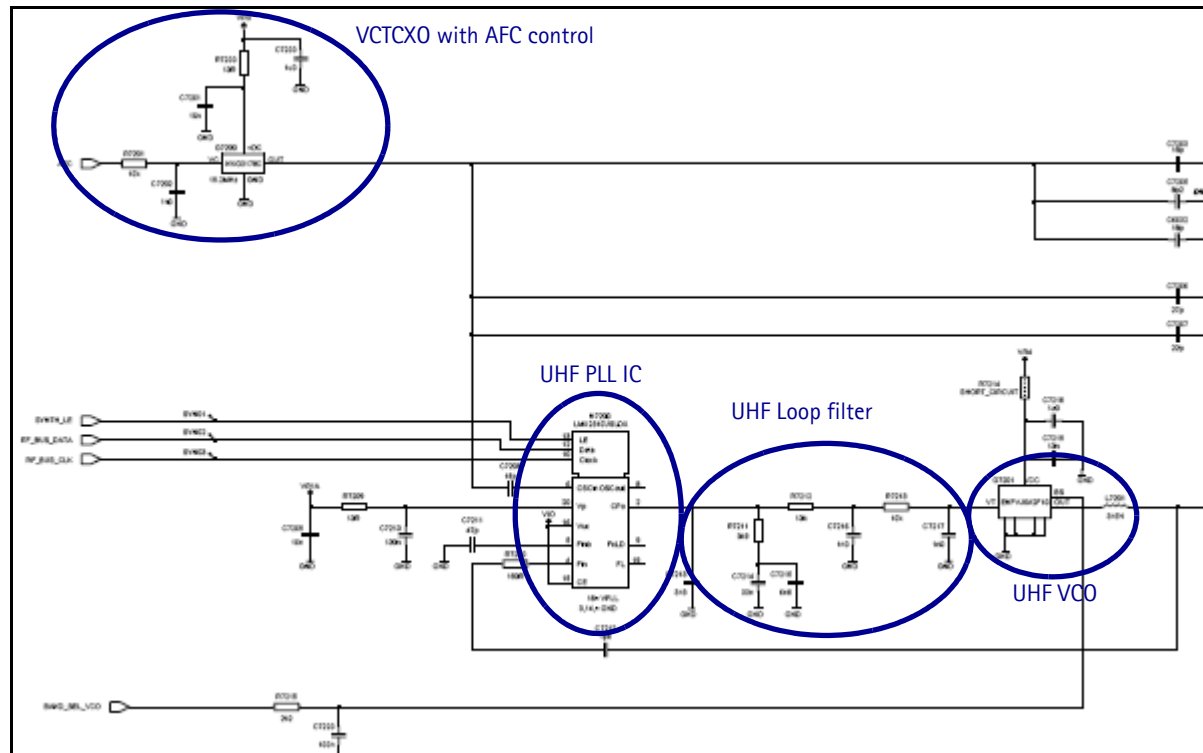


Figure 29: Synthesizer schematic

Synthesizer Troubleshooting Setup

Use the following steps to troubleshoot the synthesizer using Phoenix:

1. On the **Phone Control** dialog box, click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode.

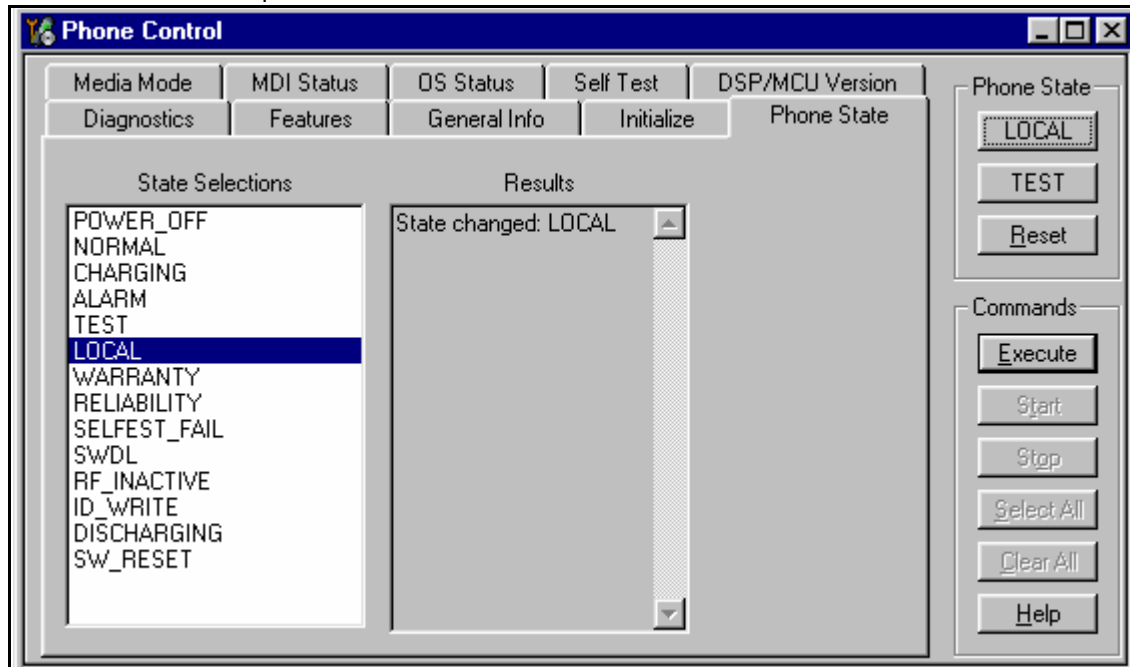


Figure 30: Phone Control dialog box

2. Select the following values on the **RF Main Mode** dialog box as shown below:

Table 7: RF Main Mode Dialog Box Settings

Synthesizer	Band	Mode	Channel
UHF	Cell	Rx/Tx	384
	PCS	Rx/Tx	600
Rx VHF	(one band is enough)	Rx	
Tx VHF	Cell	Rx/Tx	384
	PCS	Rx/Tx	600

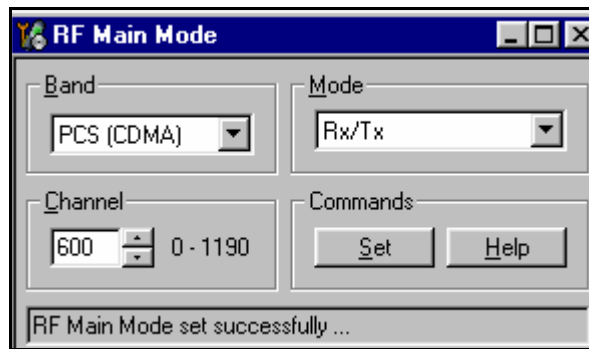


Figure 31: Phone Control dialog box

Incorrect PLL Frequencies

Following are some possible causes for incorrect PLL frequencies:

- Power supplies to PLL portion
- Control line to VCO
- Loop filter or resonator components missing or incorrectly installed
- 19.2MHz reference clock missing or low
- Component failure (PLL IC, Rx Front-End IC, Tx IC, VCO, or VCTCXO)

VCTCXO Troubleshooting

- VCTCXO frequency is 19.2MHz. Without 19.2MHz, the mobile terminal does not power up. This signal goes to the N7100, N7000, D2800, and the UHF PLL. Check the test points in [Figure 32](#) for the presence of the 19.2MHz signal.
- Check for the presence of the signal at the following points:
 - F_REF_TX, clock reference to TX RFIC, should be ~ -9 dBm
 - F_REF_RX, clock reference to RX RFIC, should be ~ -9 dBm
 - CLK19M2_TIKU, clock reference for BB, should be ~ -9 dBm and ~2 dB less in the other side of R7206
- If there is no VCTCXO signal at any of these points, check the voltage at VR3. The main supply line for VCTCXO should be 2.8VDC.
- The AFC voltage should be between 1 and 3 Volts and should be adjustable with the AFC slider on the RF PDM Control in Phoenix.
- If the AFC voltage is missing, check the UEMEK.

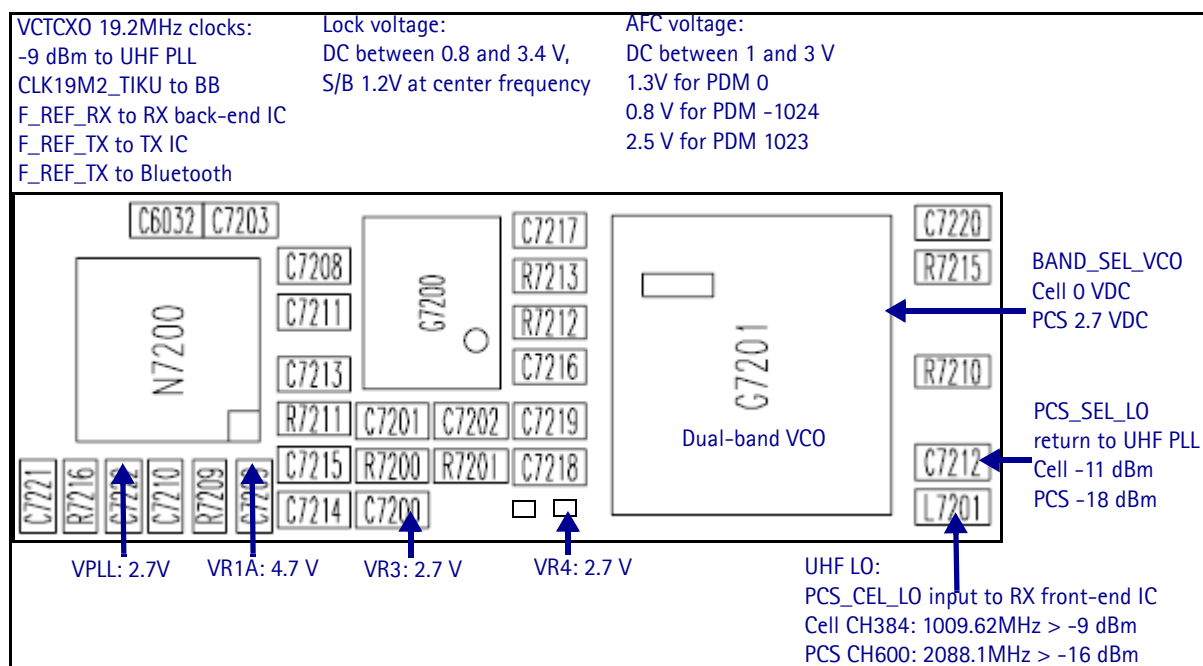


Figure 32: VCTCXO and UHF Synthesizer test points

AFC Voltage Troubleshooting

Use the following steps to monitor the AFC voltage.

1. In Phoenix, open the **RF PDM** dialog box.

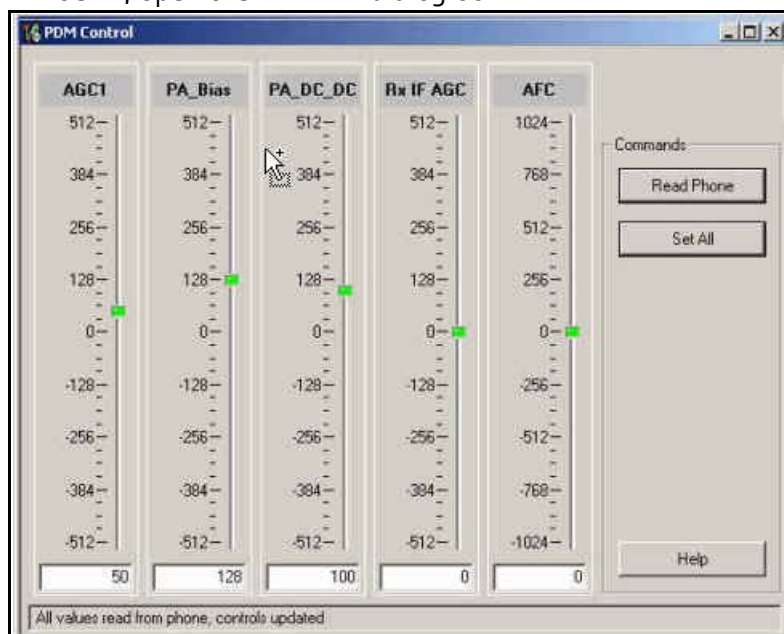


Figure 33: RF PDM dialog box for AFC troubleshooting

Figure 34 shows a partial schematic of the R7201.

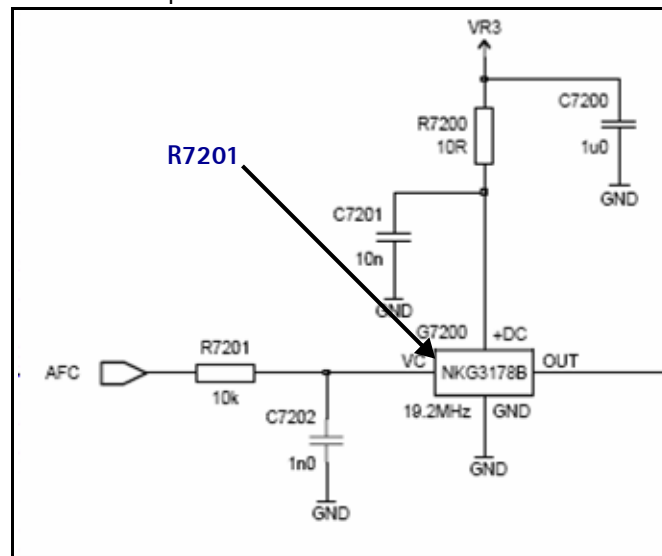


Figure 34: Partial schematic showing the R7201

2. Measure the DC voltage at R7201. The following typical voltages are observed.
 - AFC PDM[0]=1.3V
 - AFC PDM[-1024]=0.8V
 - AFC PDM[1023]=2.5V

VCTCXO Manual Tuning

You can manually tune the VCTCXO to verify when a mobile terminal is tuned incorrectly or if mobile terminal cannot make a call. Monitor the RF signal at the mobile terminal's output.

1. On the **Phone Control** dialog box, click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode. (See Figure 6 on page 12 for an example of the **Phone Control** dialog box.)
2. Click the **Execute** button.
3. On the **AMPS Control** dialog box, set the **Set Channel** field to 384, the **Power Level** field to 5, and select the **Transmitter ON** check box. (See Figure 7 on page 13 for an example of the **AMPS Control** dialog box.)
4. Click the **Rx RFI** tab, make sure the **AFC Control** check box is cleared, and click **Execute**.
5. The frequency accuracy of the VCTCXO can be measured using an HP8960 callbox in AMPS mode or a spectrum analyzer at the output of the transmit chain.
 - If using a spectrum analyzer, set the center frequency to 836.52MHz and the span to 2MHz initially. Establish a marker at 836.52Mhz.
 - If using an HP8960, set the callbox System Type to AMPS, and set the ACC channel to 384. Use the Frequency Stability measurement to center the VCTCXO (minimum Frequency Error).

6. Use the RF PDM component to adjust the AFC to center the VCTCXO. The tuning range is approximately ± 10 kHz.
7. Adjust the AFC so that the output signal is within ± 150 MHz. If using a spectrum analyzer, narrow the span to 1 kHz or less.
8. Replace the UEMEK if the VCTCXO does not tune correctly.

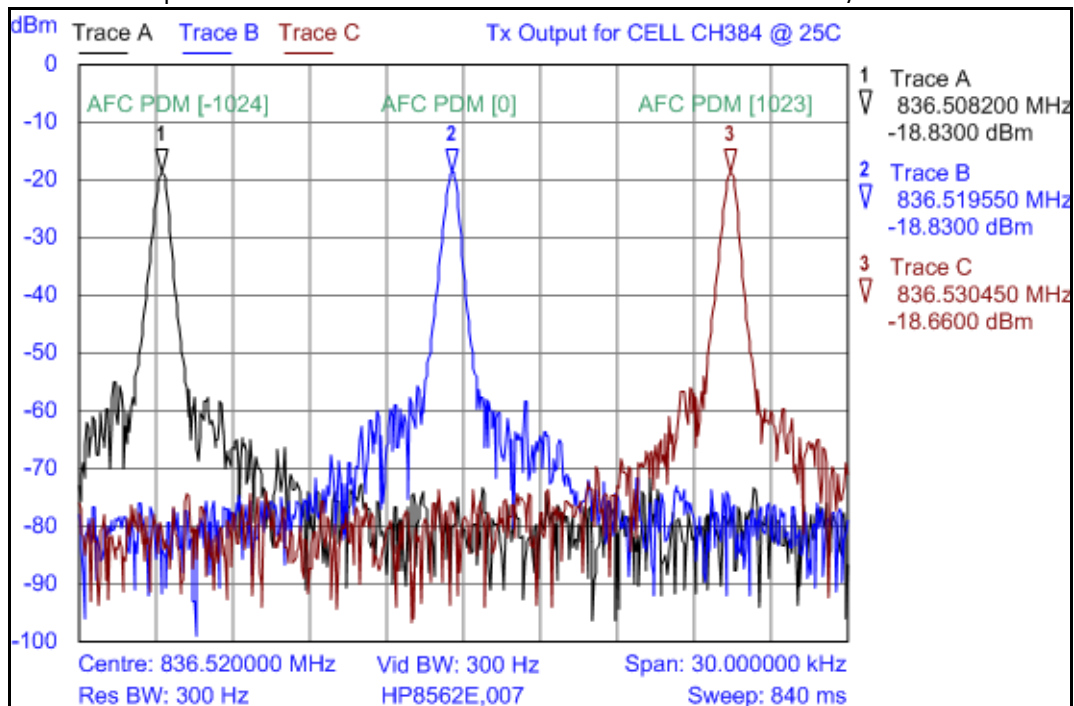


Figure 35: Tx Output for CELL channel 384 @ 25C

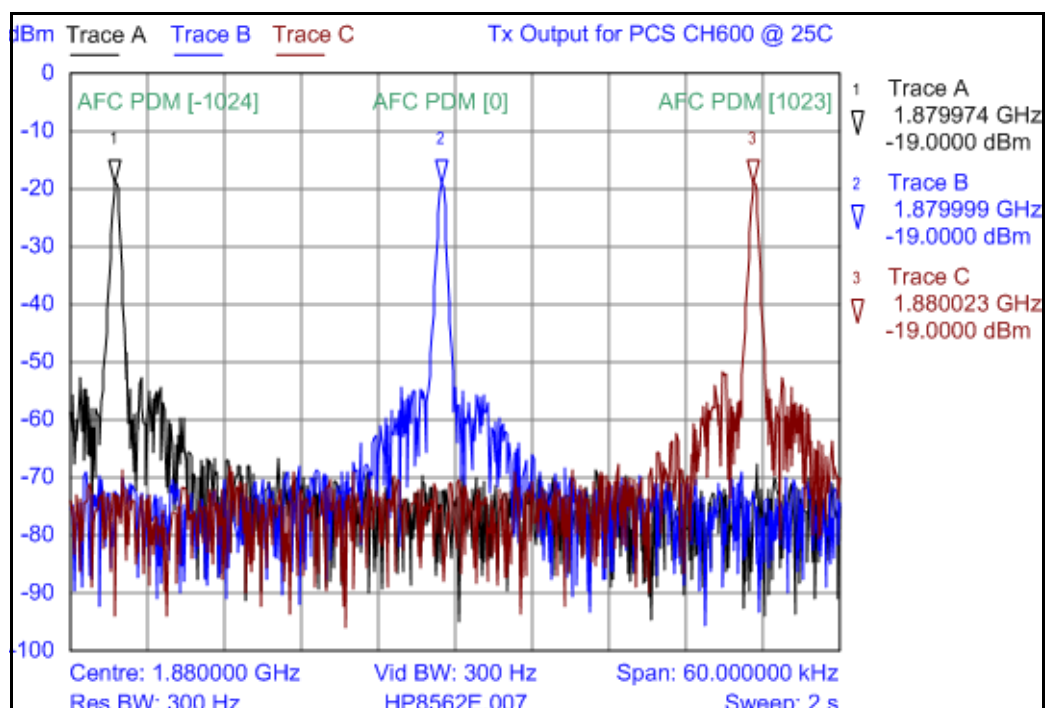


Figure 36: Tx Output for PCS channel 600 @ 25C

UHF Synthesizer Schematic

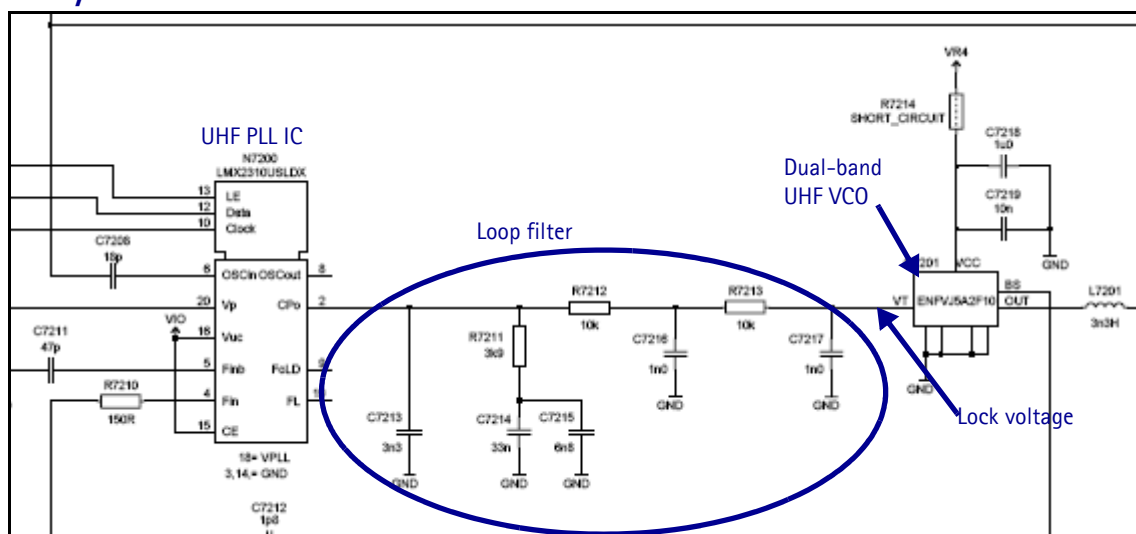


Figure 37: UHF Synthesizer Schematic

UHF Synthesizer Troubleshooting

The UHF LO frequency varies with the channel and can be calculated using the Frequency Calculator dialog box in the Phoenix RF component. Use the following steps to troubleshoot the UHF LO frequency.

1. Ensure that the LO is locked. Set a channel and check the output of the UHF LO at L7201 within a very narrow span of 100KHz. The LO must be virtually immobile.
2. Measure the nominal UHF LO signal levels (see "[VCTCX0 and UHF Synthesizer test points](#)" on page 38).
3. If you do not see the presence of any LOs, check the DC voltages at the following:
 - R7216, VR1A, supply line for UHF PLL IC = 4.7VDC
 - R7200, VR4, supply line for VCO IC = 2.7VDC
4. Ensure that the lock voltage at C7217 is between 1V and 3V.

5. Check the RF return at R7210.

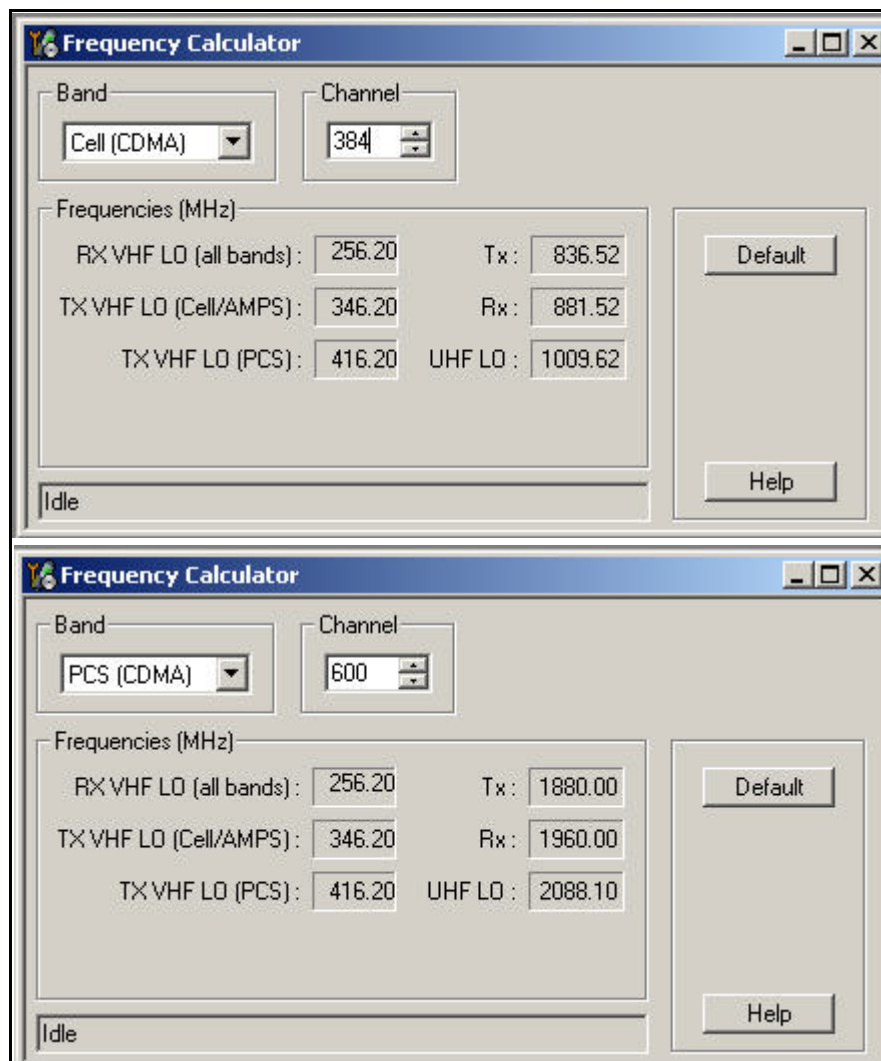


Figure 38: Frequency Calculator in Phoenix

PCS UHF LO CH600 Typical Spectrum

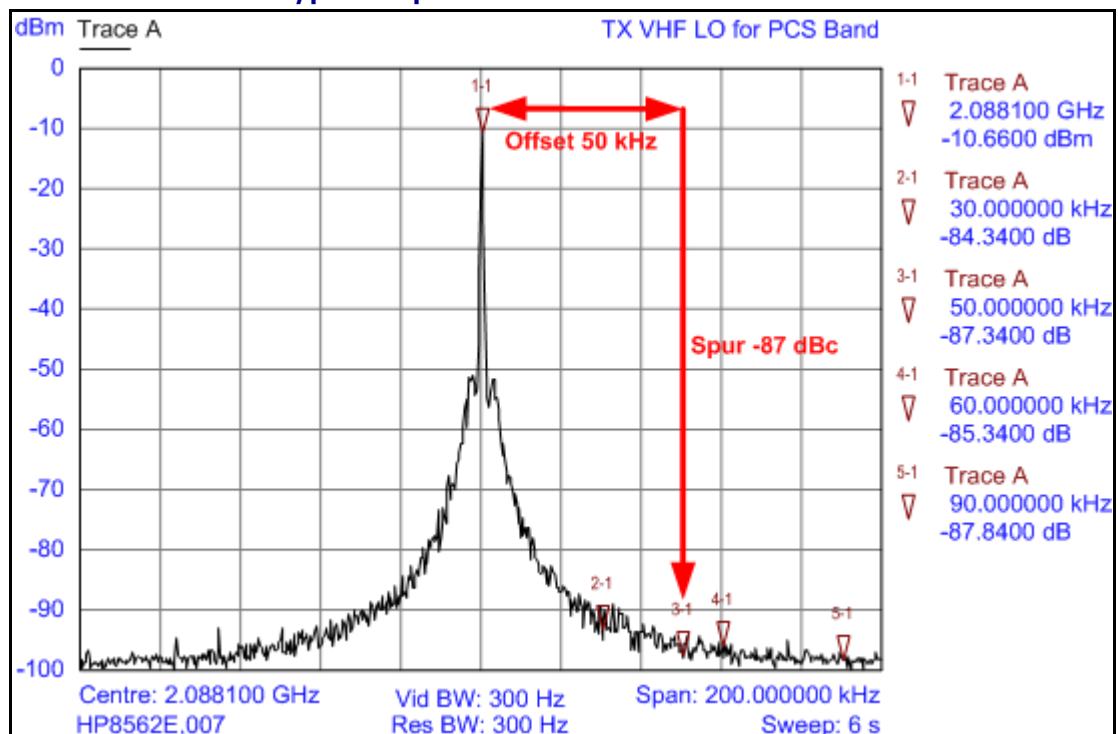


Figure 39: PCS UHF LO Typical Spectrum

Rho and UHF LO

Measure the signal purity of the UHF LO, checking the spur level offset from the carrier. Also check the VCO, PLL IC, loop filter, and power supply decoupling. Following are the keys observations:

- Clean and spur-free signal
- 30kHz offset -84dBc
- 50kHz offset -87dBc
- 60kHz offset -85dBc
- 90kHz offset -88dBc

Note: A High Impedance probe and high dynamic range spectrum analyzer are required for Figure 39.

CELL UHF LO CH384 Typical Spectrum

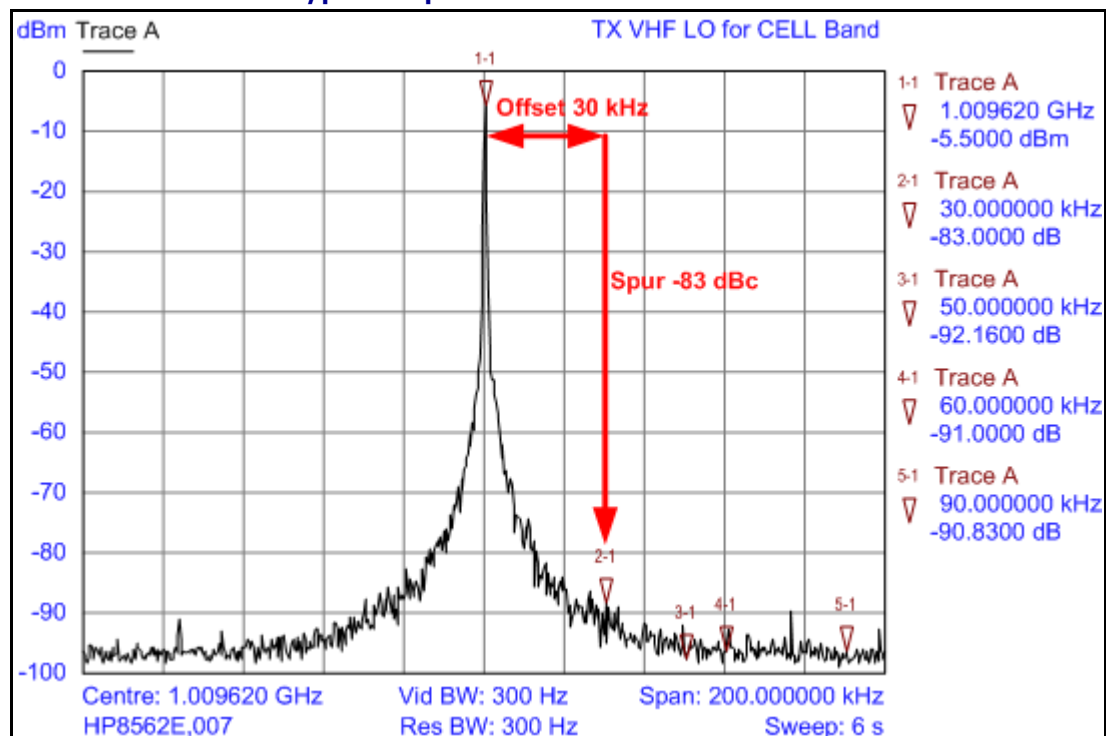


Figure 40: CELL UHF LO Typical Spectrum

Rho and UHF LO

First measure the signal purity of the UHF LO, look at spur level offset from the carrier. Also check the VCO, PLL IC, loop filter, and power supply decoupling. Following are the keys observations:

- Clean and spur-free signal
- 30kHz offset -83dBc
- 50kHz offset -92dBc
- 60kHz offset -91dBc
- 90kHz offset -91dBc

Note: A High Impedance probe and high dynamic range spectrum analyzer are required for Figure 40.

Tx UHF LO Schematic

The following partial schematic is for general reference only. See the *Schematics* chapter for complete detailed versions.

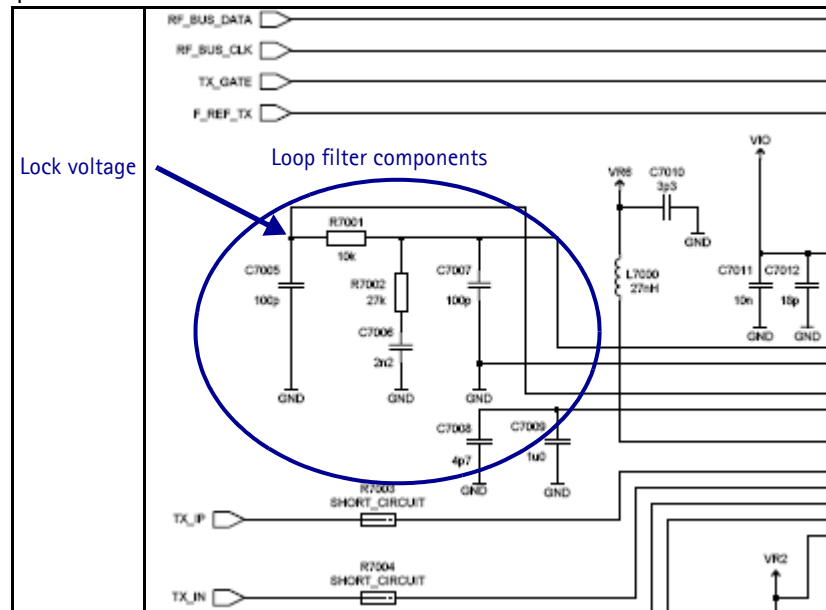


Figure 43: Tx UHF LO schematic

Tx UHF LO (Tx IC) Troubleshooting

There are two fixed LOs, 3296.16~3395.88MHz for cell band and 3700~3819.90MHz for PCS band. This is the first LO for up-conversion. Be sure to monitor the control voltage at R7001. When the N7000 LO is locked, this control voltage should be between 1.2 and 1.8Vdc.

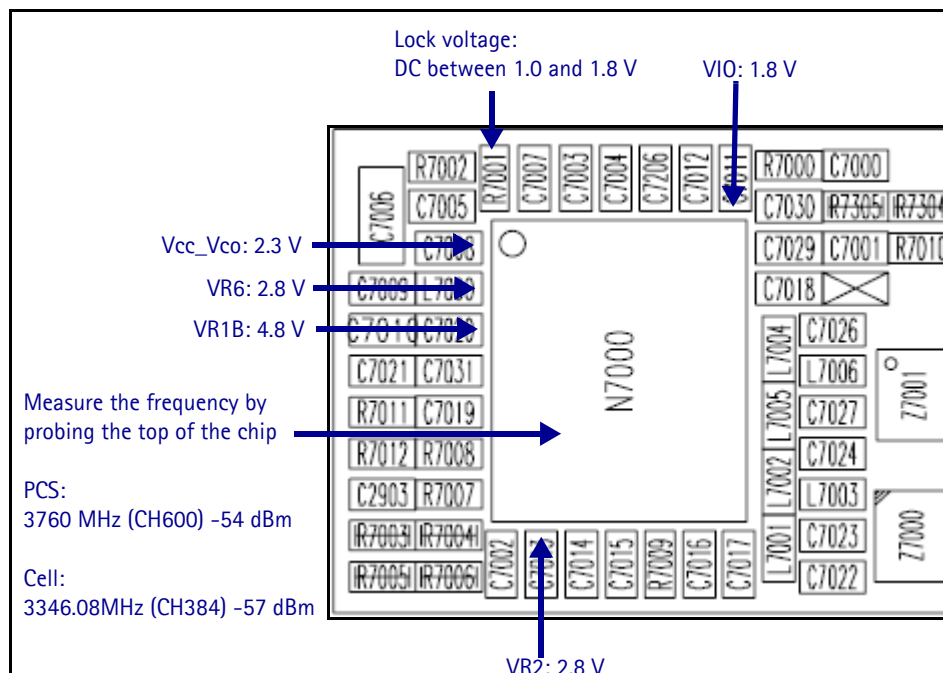


Figure 44: Tx UHF LO layout and test points

UHF PCS Tx LO (3700 ~ 3819.90)/2MHz Typical Spectrum

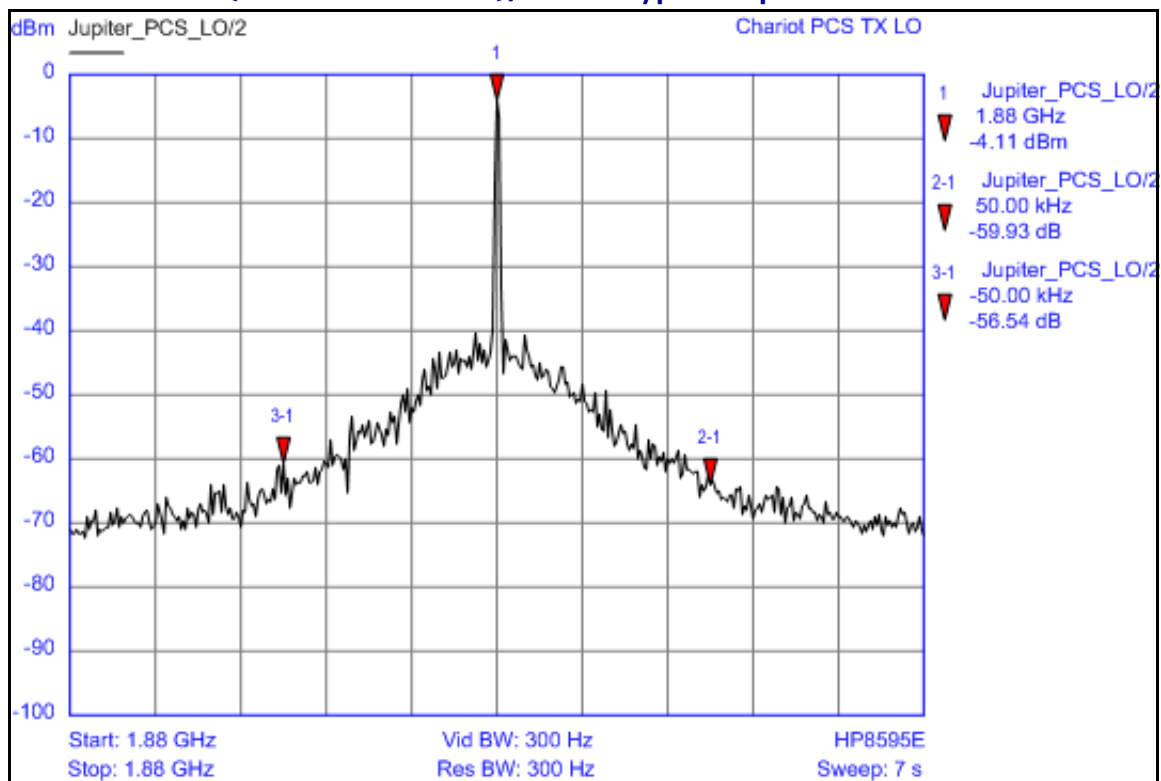


Figure 45: UHF PCS Tx LO Typical Spectrum

Following are the keys observations:

- The following Ref Spurs
- 50kHz offset -59dBc

Analyzer settings:

- Center: 1880MHz
- RBW: 300Hz
- Span: 200kHz
- VBW: 300Hz

UHF CELL Tx LO (3296.16 ~ 3395.88)/4MHz Typical Spectrum



Figure 46: UHF CELL Tx LO Typical Spectrum

Following are the keys observations:

- The following Ref Spurs
- 30kHz offset -65dBc

Analyzer settings:

- Center: 836.52MHz
- RBW: 300Hz
- Span: 200kHz
- VBW: 300Hz

GPS Troubleshooting

GPS RF Block Diagram

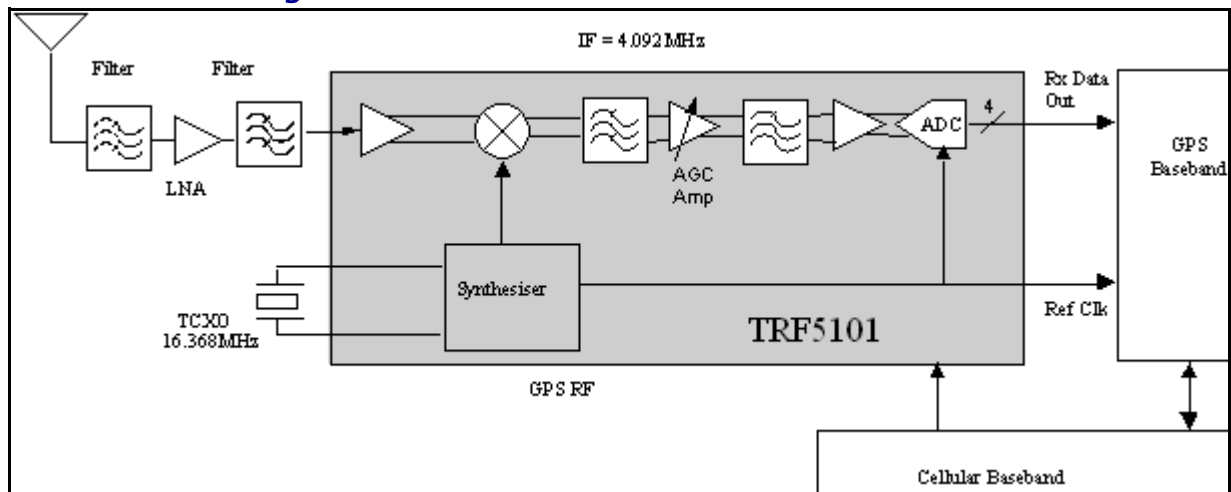


Figure 47: GPS block diagram

GPS RF Schematic

The following schematic is for general reference only. See the *Schematics* chapter for a detailed version.

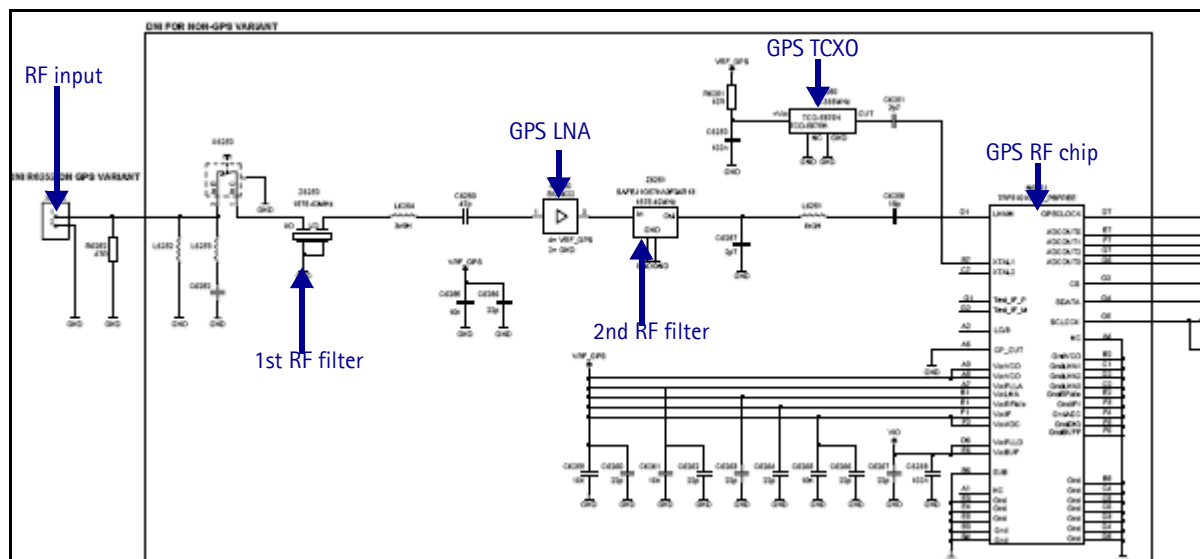


Figure 48: GPS RF schematic

GPS Troubleshooting Setup

Use the following steps to set up GPS signal using Phoenix.

1. On the **Phone Control** dialog box, click the **LOCAL** button in the **Phone State** area to put the mobile terminal into Local Mode.

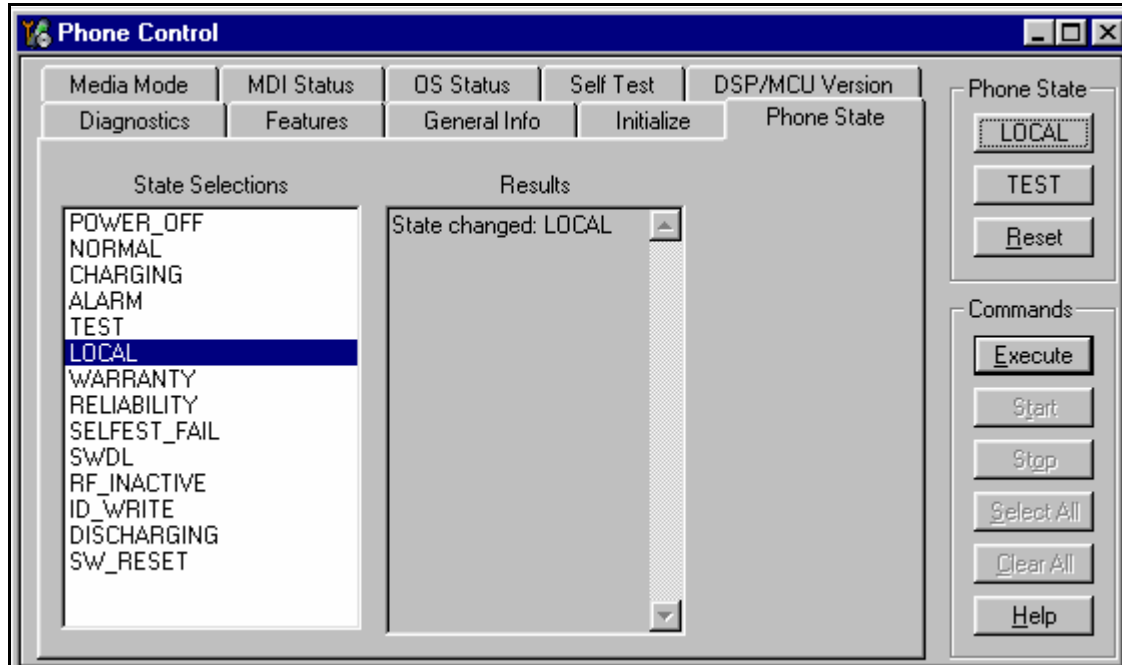


Figure 49: Phone Control dialog box

2. Click **Execute**.
3. Inject a -110dBm tone at 1575.52MHz at the GPS connector (X6250) with a signal generator or call box.

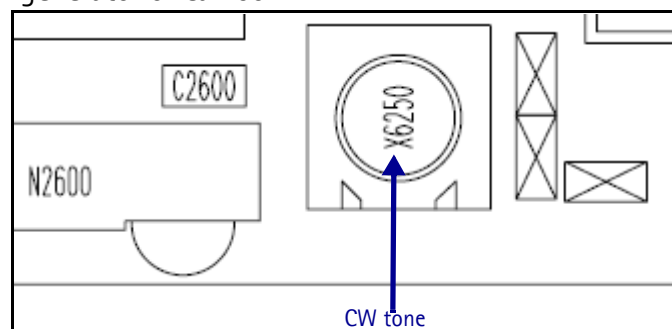


Figure 50: GPS connector (X6250)

4. Open the **Troubleshooting** menu, and click **GPS Quick Test**. The **GPS Control** dialog box appears

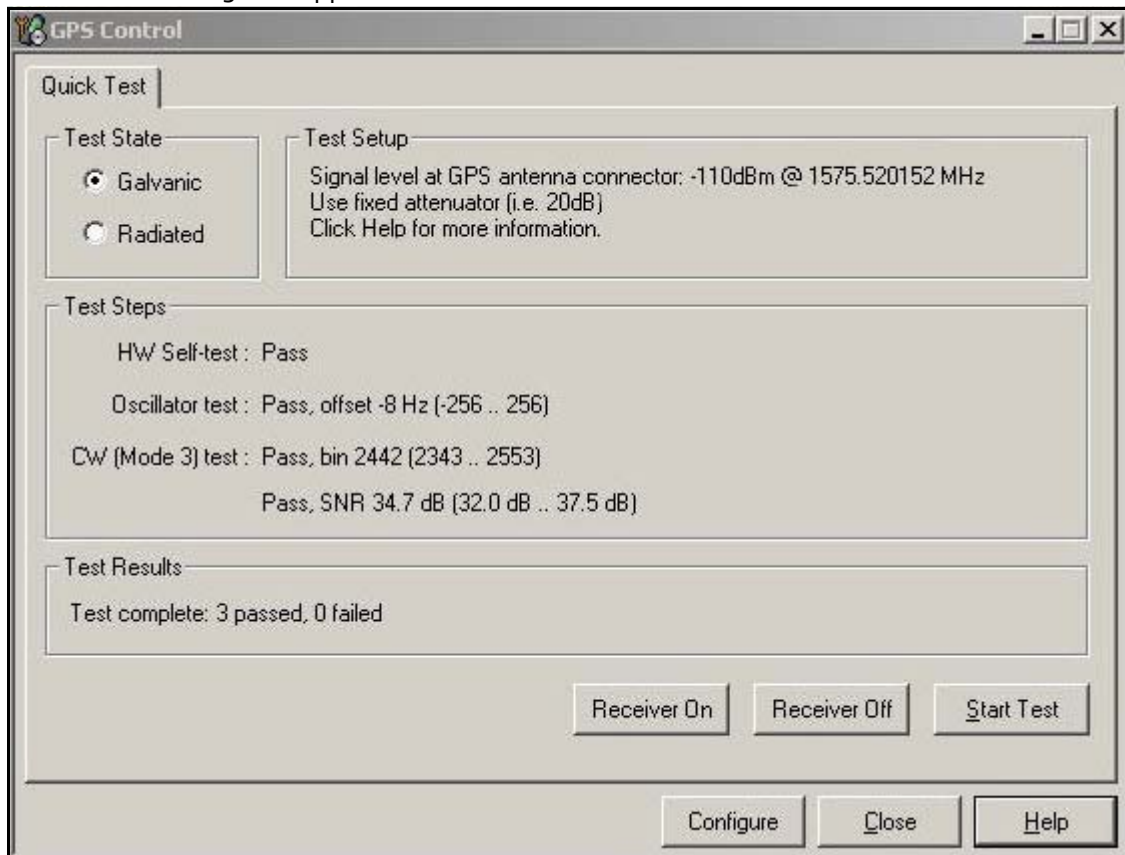


Figure 51: GPS Control dialog box

5. In the **Test State** field, ensure that **Galvanic** is selected.
6. Click select **Start test**.

HW Self Test Failure

If the test fails, repeat steps 1–6. If the test fails again, continue with the following self-test failure troubleshooting:

1. Verify the DC voltages at VRF_GPS and VDD_IO_GPS.
2. Inspect all GPS circuit elements around the GPS BB chip (D6200).
3. If the elements pass a visual inspection, replace the N6200.

Oscillator Test Failure

1. Inspect all GPS circuit elements around the GPS RF chip (G6250).
2. If the elements pass a visual inspection, replace the G6250.

CW (Mode 3) Test Failure

1. Check that the signal generator is on and sourcing a signal to the GPS RF input port (X6250).
2. Inspect all GPS RF Circuit elements

3. Inspect all GPS Circuit elements around N6251.
4. If the elements pass a visual inspection and the RF is good, replace the GPS RF IC (N6251).

GPS DC Test Points

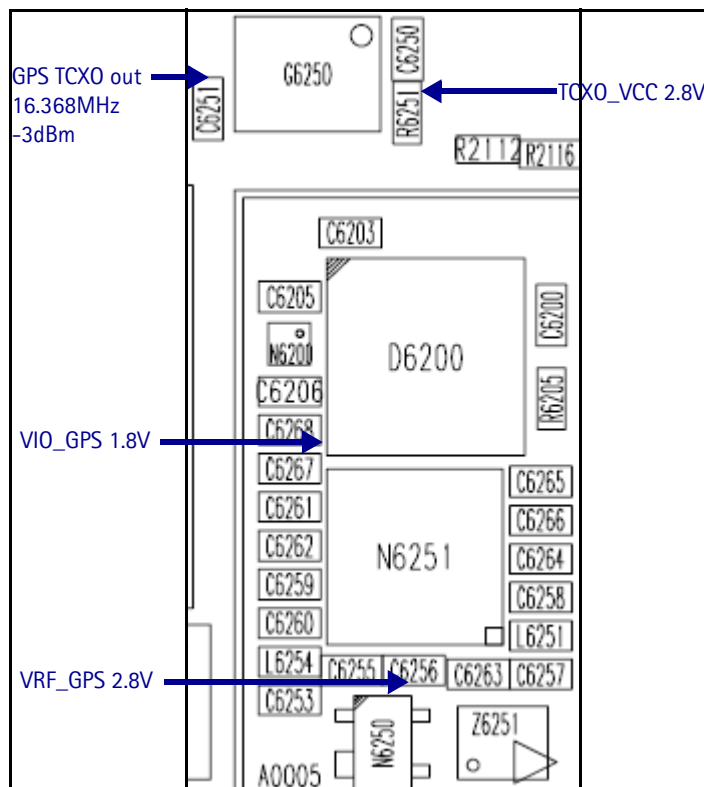


Figure 52: GPS DC test points

GPS RF Troubleshooting Setup

Use the following steps to troubleshoot the GPS receiver.

1. On the **GPS Control** dialog box, click **Receiver On**.

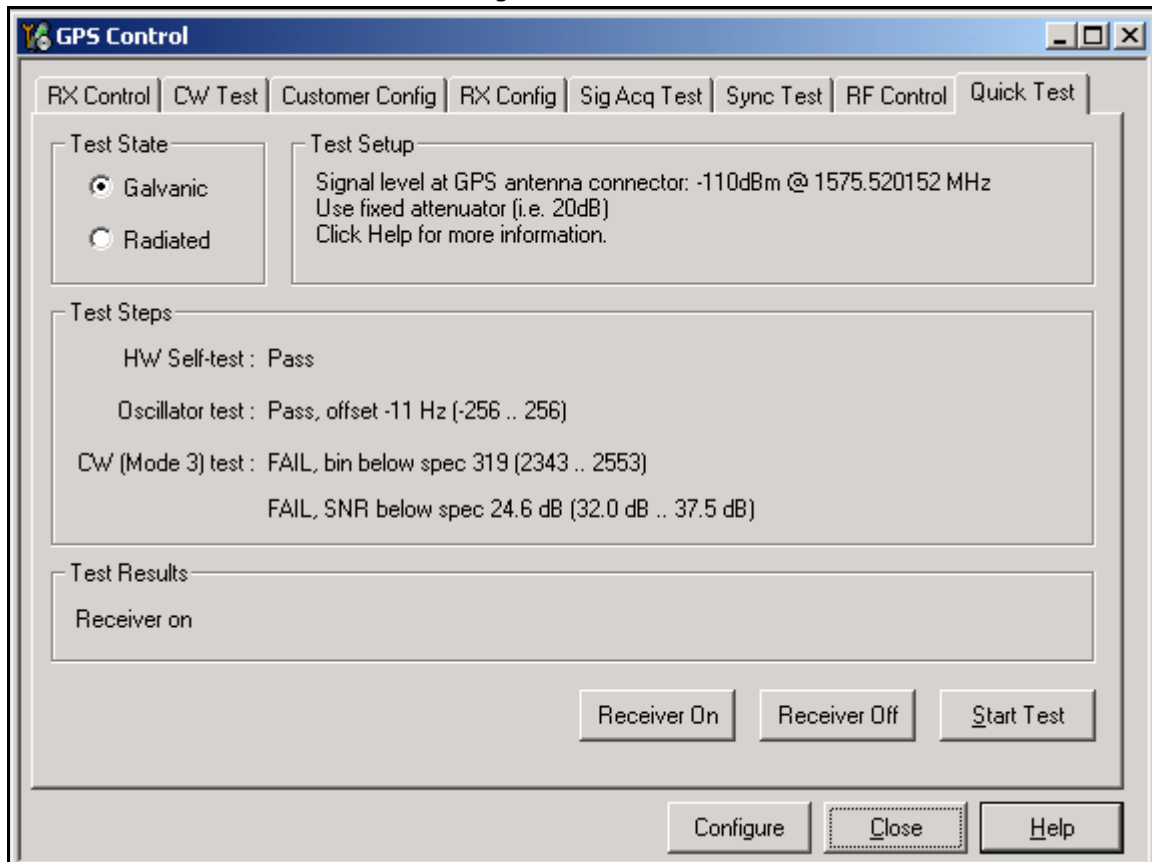


Figure 53: Turning on the GPS receiver on the GPS Control dialog box

2. Click **Start Test**.
3. Inject a -50dBm tone at 1575.52MHz at the GPS connector (X6250) with a signal generator or a call box. (See [Figure 50](#).)
4. Measure the test points with an AAS-10B probe and spectrum analyzer set at center frequency 1575.25MHz (span = 500kHz), or with a voltmeter as required. (See [Figure 54](#).)

GPS RF Probe Points

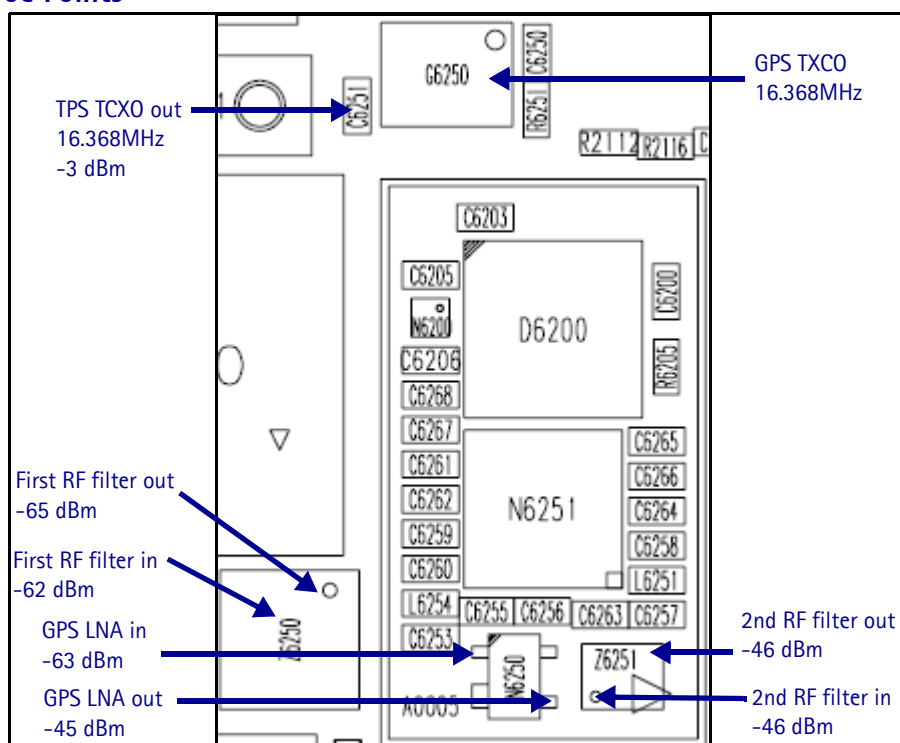


Figure 54: GPS RF Probe points

Note: All probe points are 1575.52MHz except TXCO.

7. With the universal headset connected, repeat steps 1–5.
 - If there is a signal present, the FM Radio is working properly.
 - If there is no static sound present, refer to the "Audio" section of the *Baseband Description and Troubleshooting* chapter for more information.

FM Radio Parts Layouts

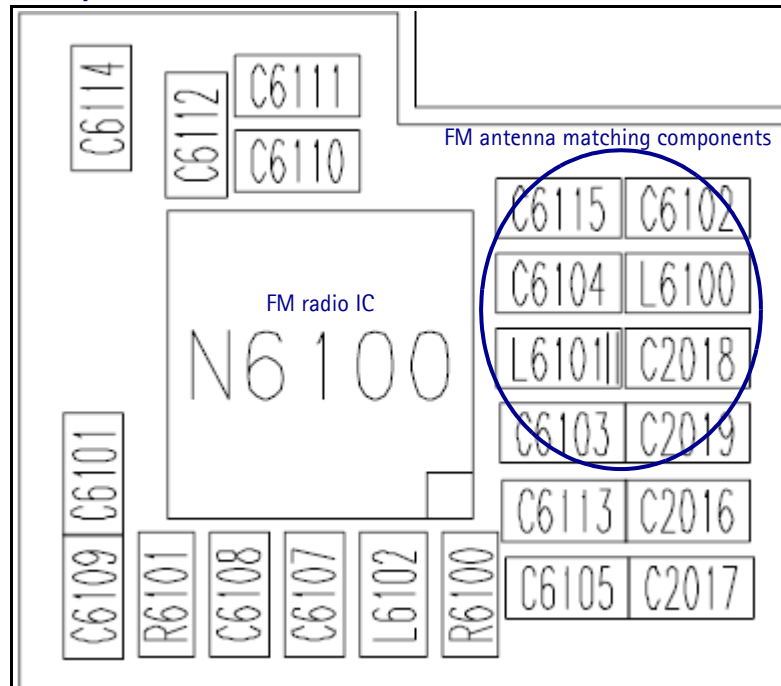


Figure 56: FM Radio components layout

FM Radio Probe Points

Use the following values when probing the LO near the VCO of the FM radio IC (N6100).

Table 8: FM Radio Probe Point Values

Description	Value
LO frequency	(Rx frequency + IF frequency) x 2
IF frequency	225kHz

For example, if the Rx frequency is 87.5 and the IF frequency is 225kHz, the LO equals 175.45MHz $[(87.5+0.225)*2 = 175.45\text{MHz}]$.

Bluetooth Troubleshooting

Bluetooth Schematic

The following schematic is for general reference only. See the *Schematics* chapter for a detailed version.

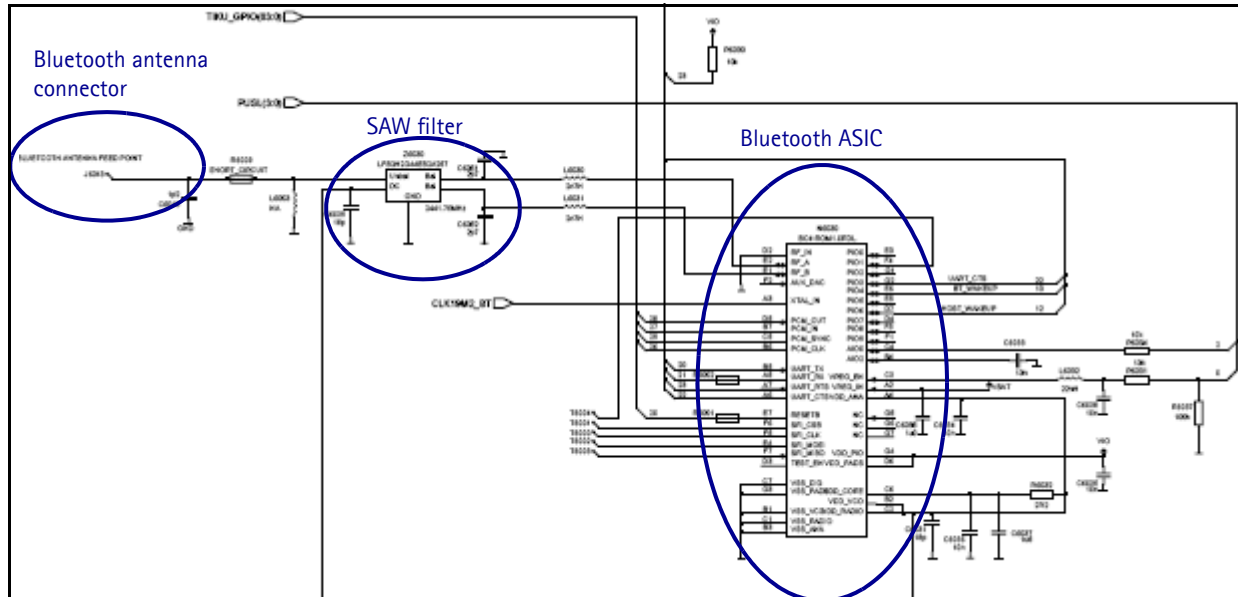


Figure 57: Bluetooth schematic

Test Setup 1

Open the **BT/WLAN** menu, and click **Bluetooth Locals**. If the Phoenix connection to the mobile terminal's BT ASIC is ok, text such as "MCM Software", "MM Software" is displayed in the **Version Information** window.

If "No version information available" is displayed in the **Version Information** window, there may be a Phoenix connection problem, a connection problem between the D2800 processor and the BT ASIC or the BT ASIC is not working. See item 1 in "[Bluetooth flowchart](#)" on page 63.

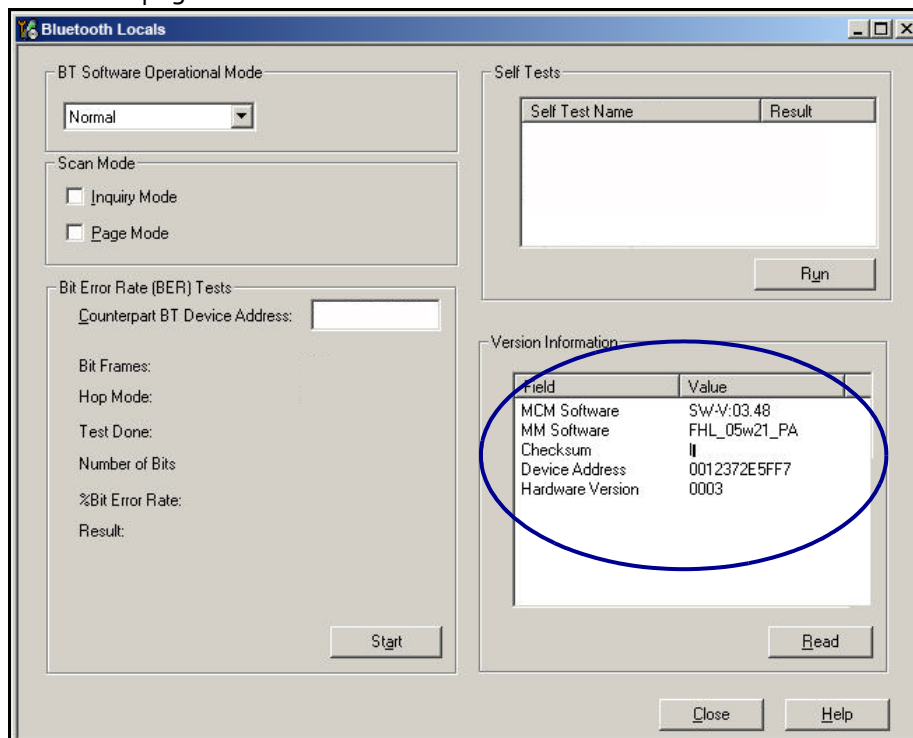


Figure 58: Bluetooth Locale window

Test Setup 2

After obtaining the version information, select **Run** to do a quick check on the BT ASIC. The results of each self-test are displayed in the **Self Tests** window. If any test fails, BT ASIC is not working properly. Change the BT ASIC.

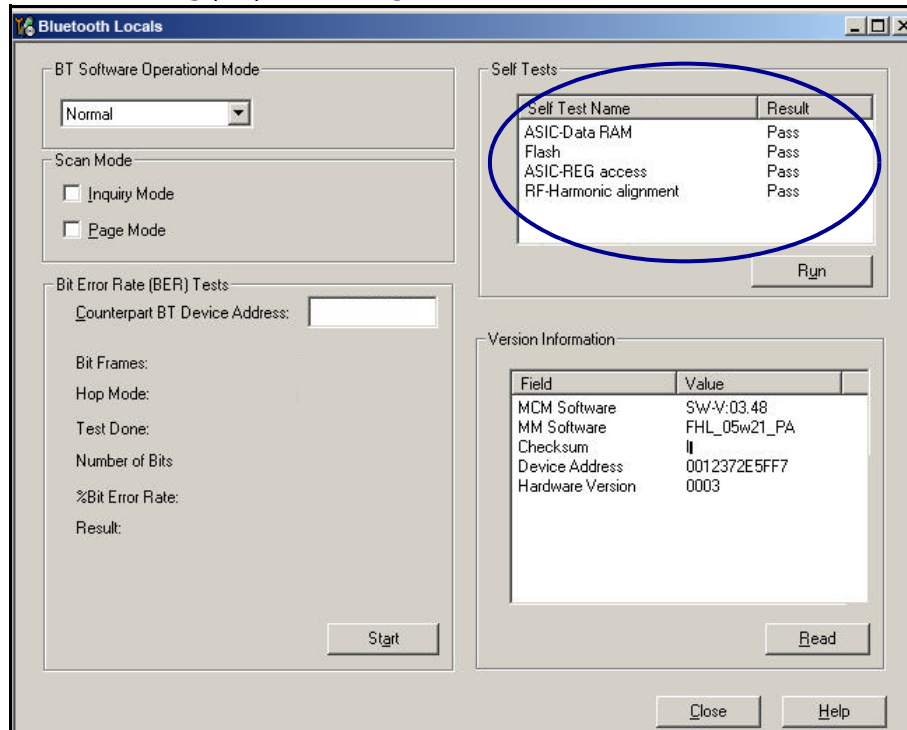


Figure 59: Self Test area on the Bluetooth Locale window

Test Setup 3

1. After passing the self-test, setup the JBT-3, JBT-9 or a later version BT box.
2. Type the BT box's device address into the **Counterpart BT Device Address** window.
3. Select **Run BER Test** to run the BER loopback test. The BER result is visible in the **BER Test Results** window.
4. Because this is a "go-no-go" testing, make sure the test-jig/coupler is setup correctly. It is recommended to run couple "good" mobile terminals in order to get better correlation. The acceptance criteria is BER<0.1%.

The screenshot shows the 'Bluetooth Locals' application window. It is divided into several sections:

- BT Software Operational Mode:** A dropdown menu set to 'Normal'.
- Scan Mode:** Two checkboxes, 'Inquiry Mode' and 'Page Mode', both of which are unchecked.
- Bit Error Rate (BER) Tests:**
 - Counterpart BT Device Address:** A text field containing '00e00324b744', which is circled in blue.
 - Bit Frames:** 300
 - Hop Mode:** Europe/USA
 - Test Done:** OK
 - Number of Bits:** 64800 (circled in blue)
 - %Bit Error Rate:** 0.00% (circled in blue)
 - Result:** OK
 - A 'Start' button is located at the bottom of this section.
- Self Tests:**
 - A table showing the results of self-tests:

Self Test Name	Result
ASIC-Data RAM	Pass
Flash	Pass
ASIC-REG access	Pass
RF-Harmonic alignment	Pass

 - A 'Run' button is located below the table.
- Version Information:**
 - A table showing version information:

Field	Value
MCM Software	SW-V:03.48
MM Software	FHL_05w21_PA
Checksum	II
Device Address	0012372E5FF7
Hardware Version	0003

 - A 'Read' button is located below the table.

At the bottom of the window are 'Close' and 'Help' buttons.

Test Setup 4

If the mobile terminal's BT sensitivity is not good or the setup is not calibrated (correlated) correctly, the %BER > 0.1% which results in an error. Make sure the setup is good (correlated with a golden mobile terminal), then see Item 2 in "[Bluetooth flowchart](#)" on page 63.

The screenshot shows the 'Bluetooth Locals' application window. It contains several sections for configuring and running Bluetooth tests.

BT Software Operational Mode: A dropdown menu set to 'Normal'.

Scan Mode: Two checkboxes, 'Inquiry Mode' and 'Page Mode', both of which are unchecked.

Bit Error Rate (BER) Tests: This section includes a text field for 'Counterpart BT Device Address' containing '00e00324b744'. Below this, several test parameters are listed: 'Bit Frames: 300', 'Hop Mode: Europe/USA', 'Test Done: OK', 'Number of Bits: 64800', '%Bit Error Rate: 0.13%', and 'Result: Error'. The values '64800' and '0.13%' are circled in blue. A 'Start' button is located at the bottom of this section.

Self Tests: A table showing the results of four self-tests:

Self Test Name	Result
ASIC-Data RAM	Pass
Flash	Pass
ASIC-REG access	Pass
RF-Harmonic alignment	Pass

A 'Run' button is positioned below the table.

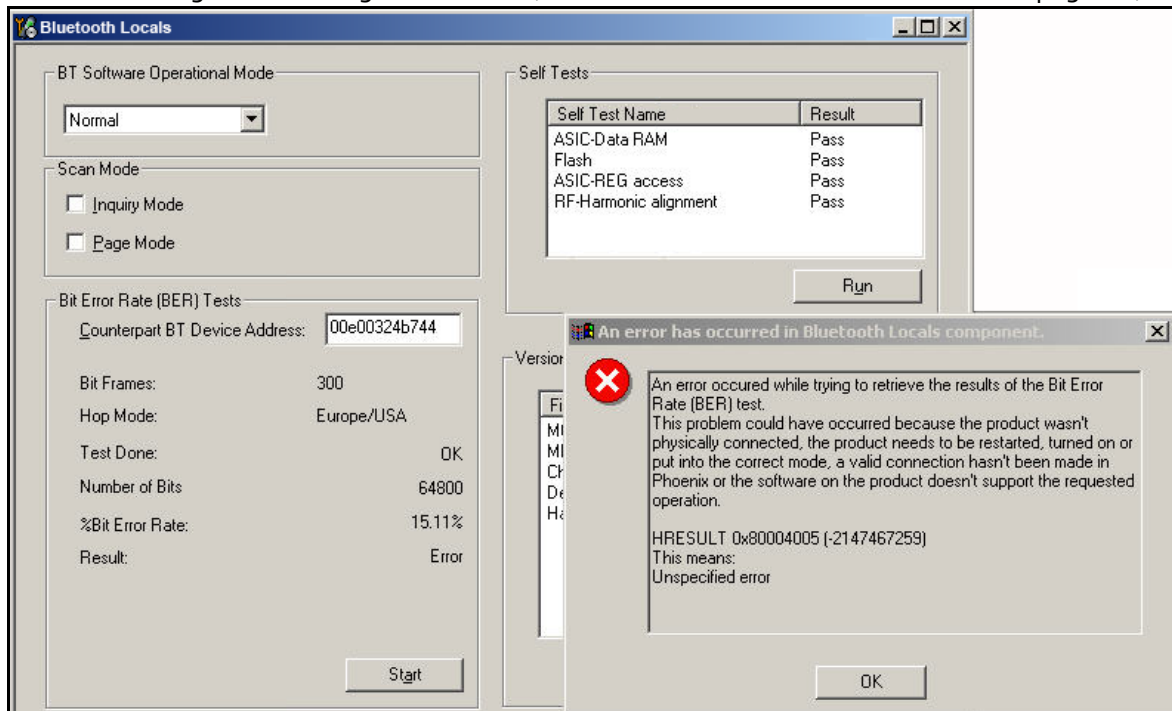
Version Information: A table displaying various version and identification fields:

Field	Value
MCM Software	SW-V:03.48
MM Software	FHL_05w21_PA
Checksum	II
Device Address	0012372E5FF7
Hardware Version	0003

'Read' and 'Close' buttons are located at the bottom of the window.

Test Setup 5

If the mobile terminal is placed too far or the BT Tx or the Rx has problem, one of the following error messages is visible. (See Item 2 of "[Bluetooth flowchart](#)" on page 63).



Bluetooth Troubleshooting Flowchart

Replace BT ASIC (N6000) when a particular row is still not ok at the end of a branch.

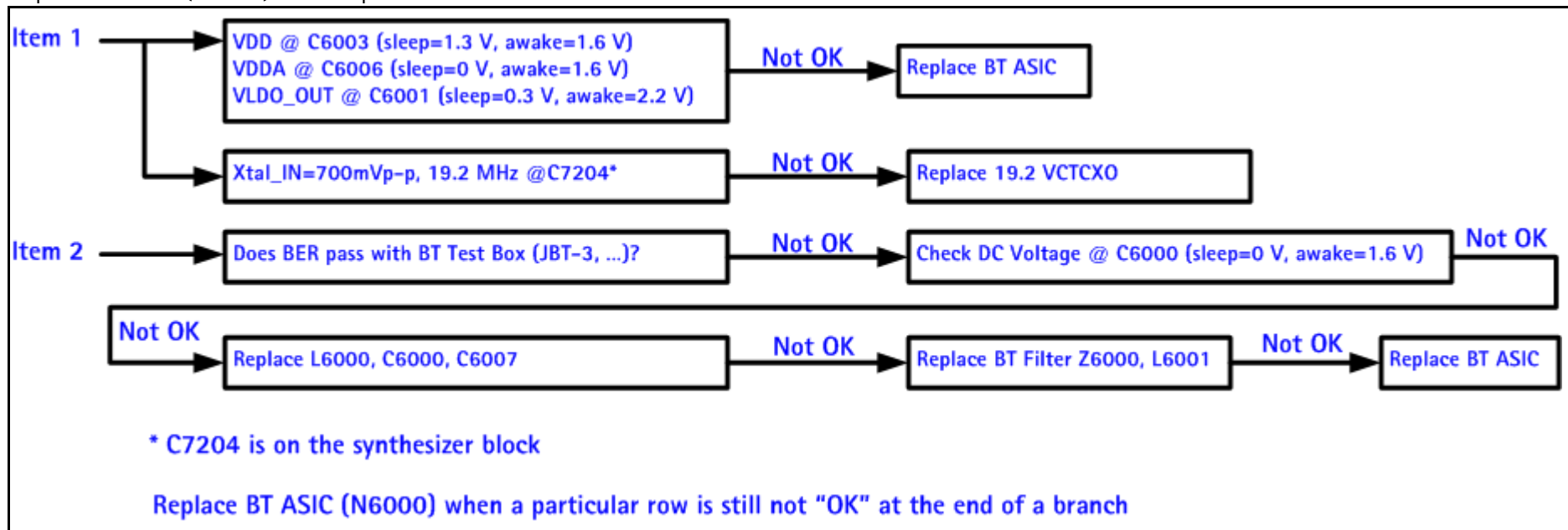


Figure 60: Bluetooth flowchart

Bluetooth DC and RF Probe Points

Figure 61 shows the Bluetooth DC and RF probe points.

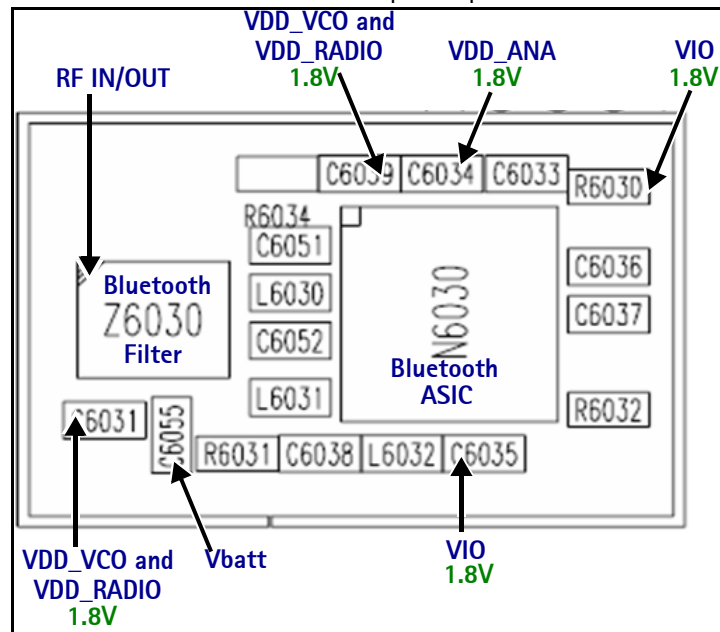
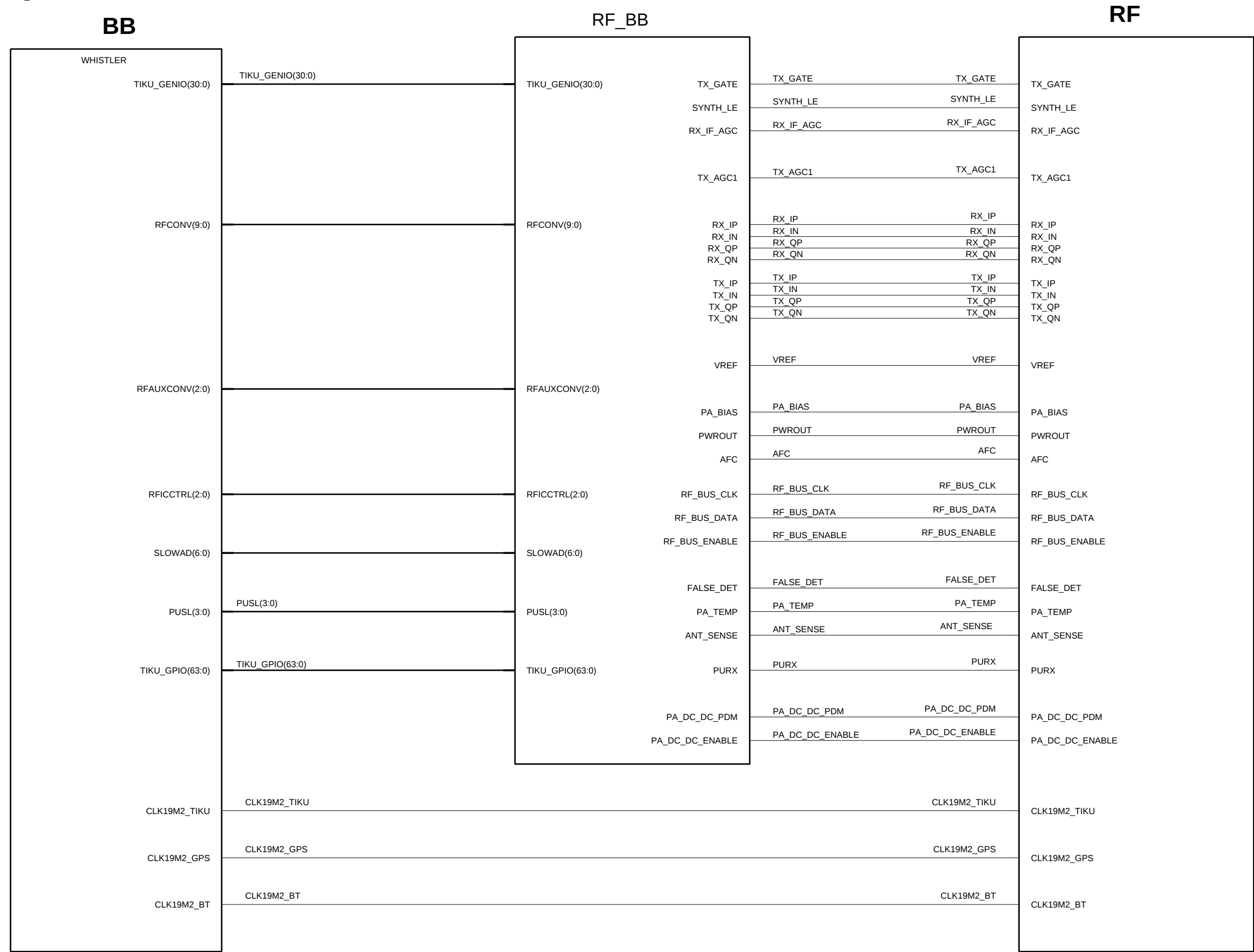


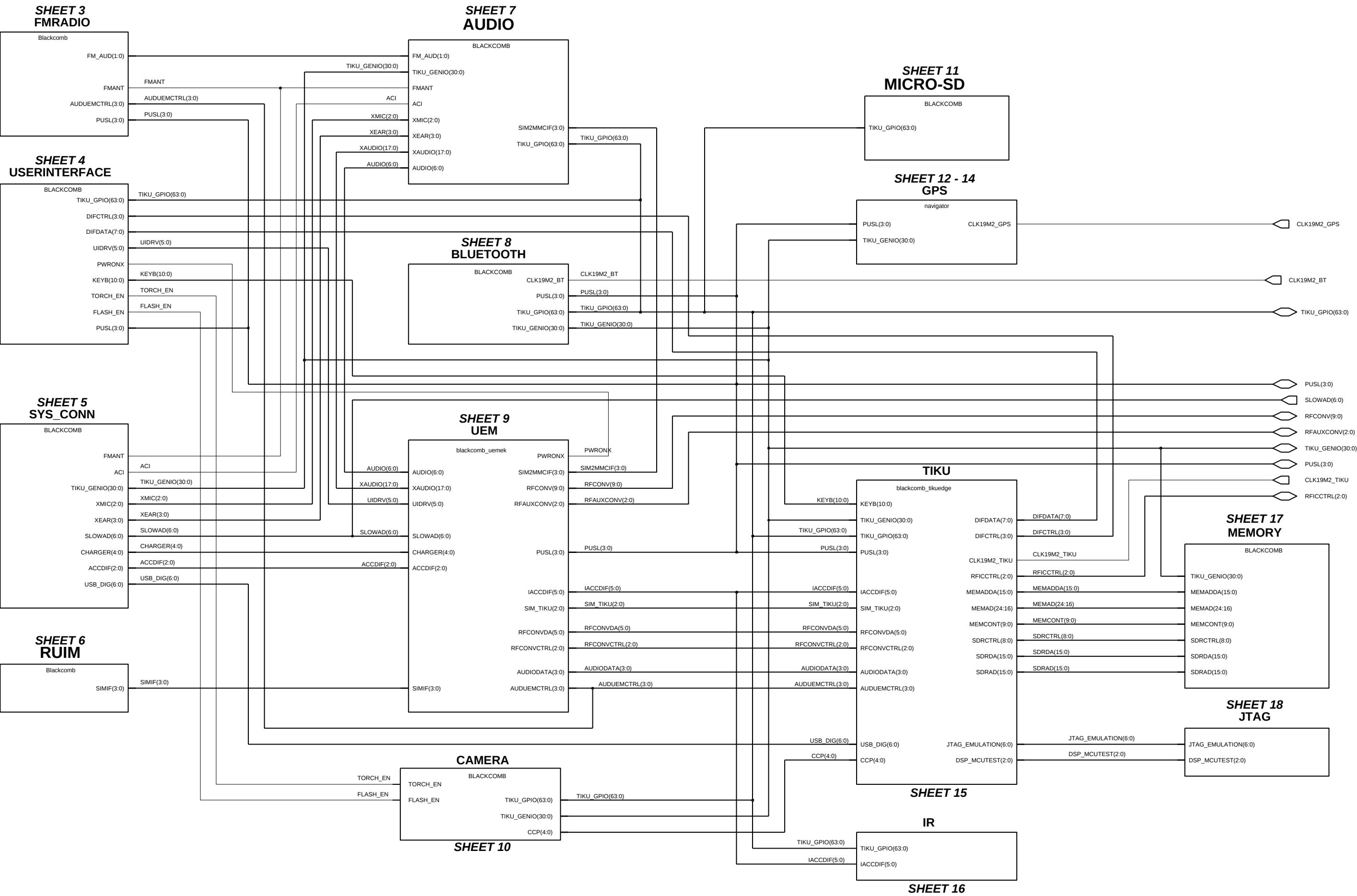
Figure 61: Bluetooth DC and RF Probe points

Schematics - Main PWB

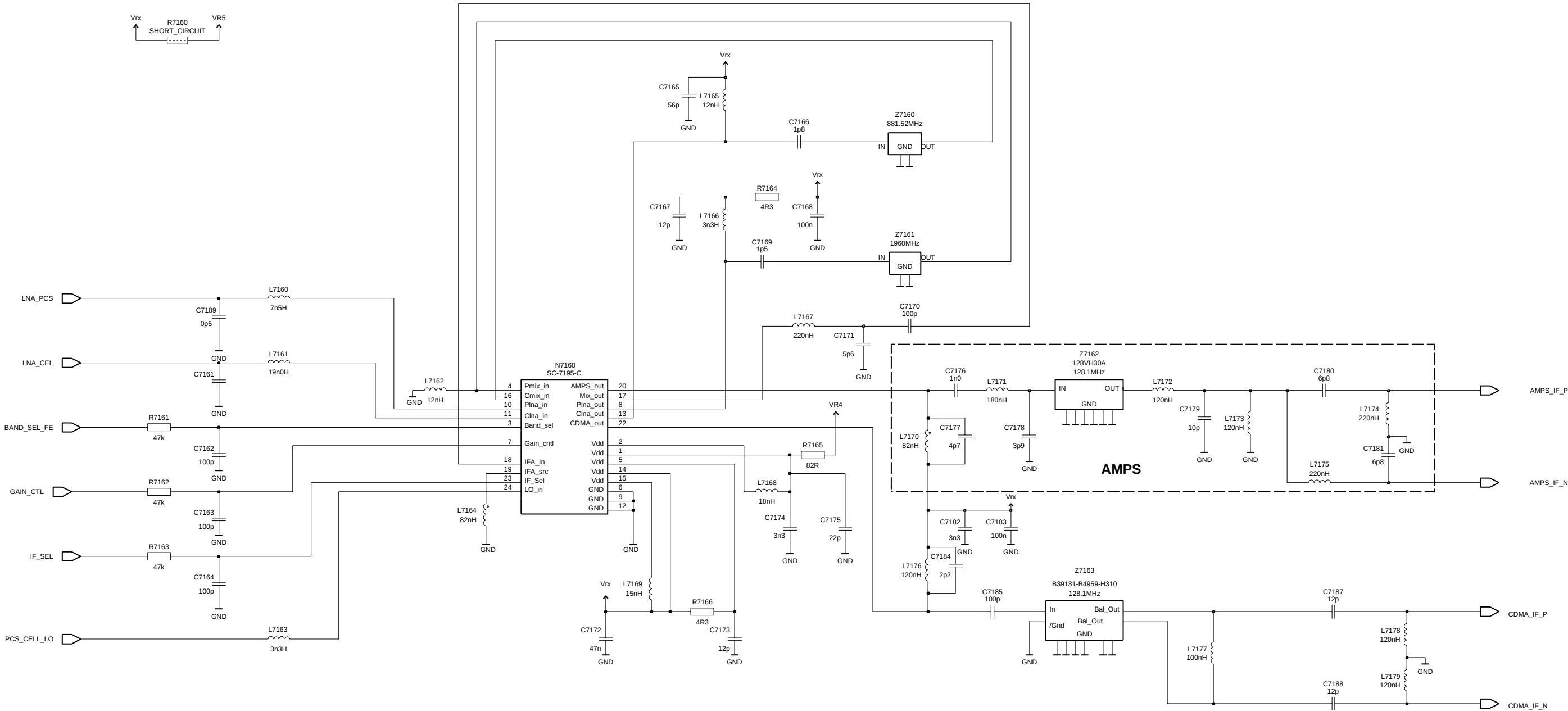
Top Level



Baseband - Top Level

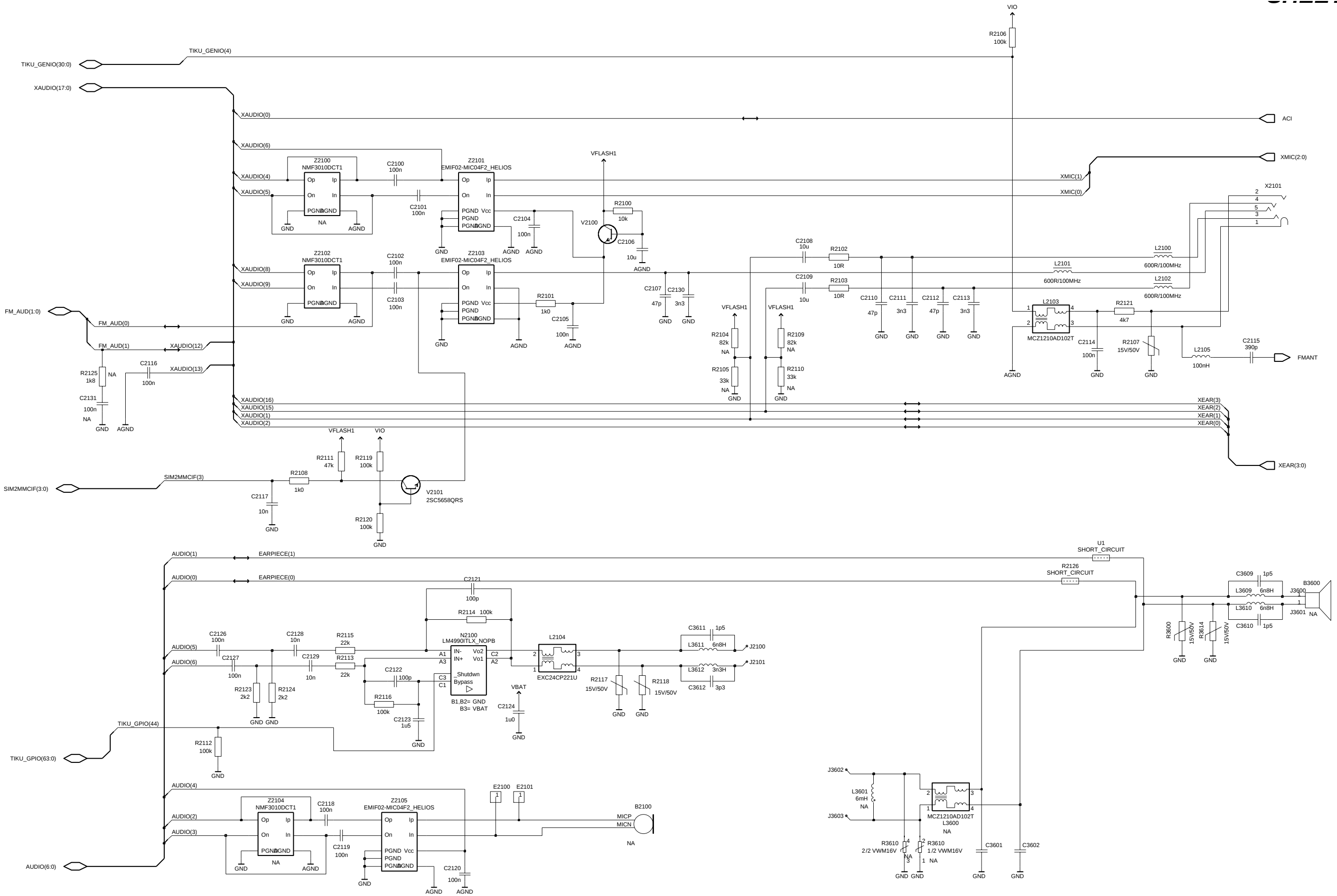


RX Front End

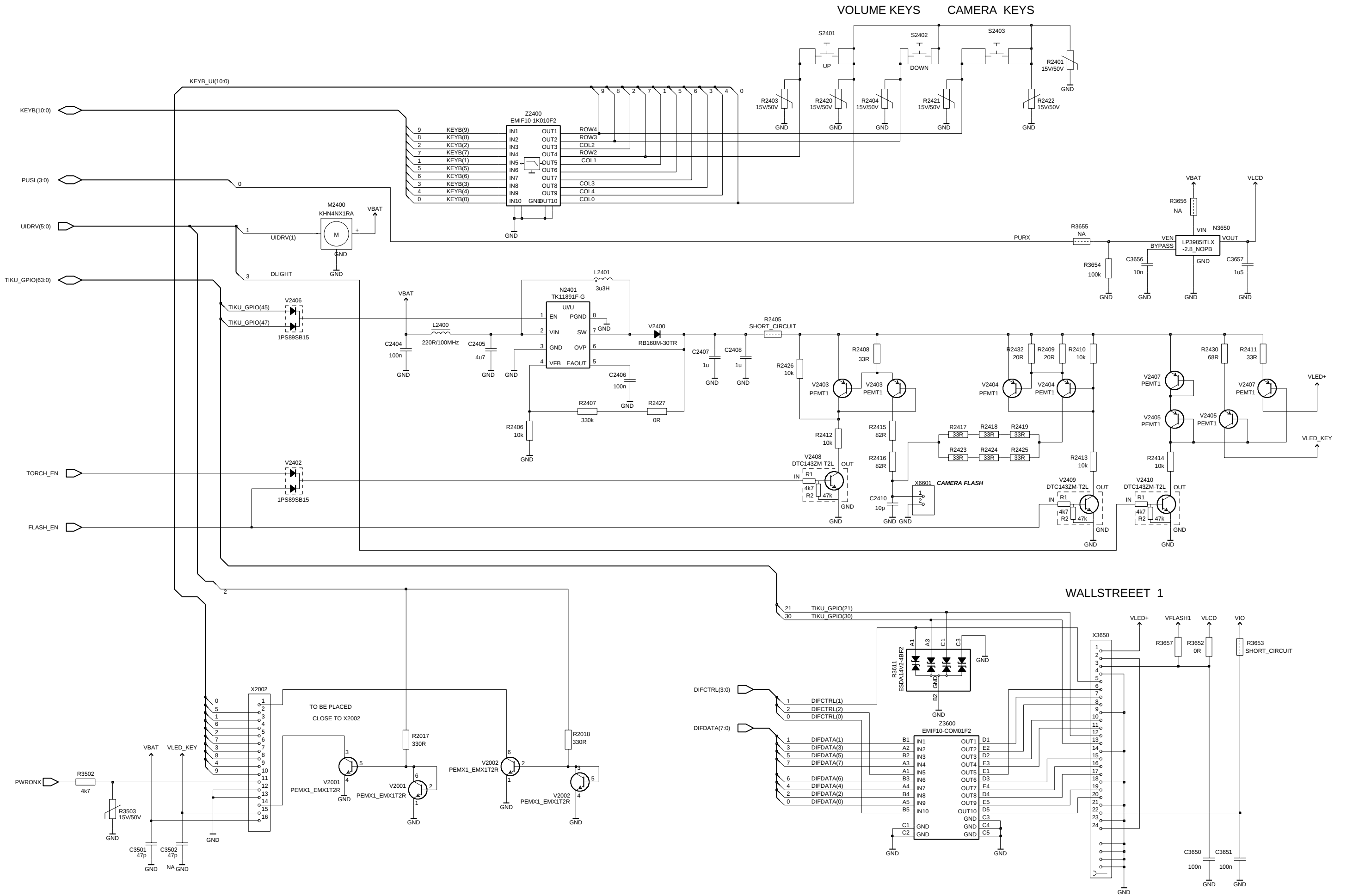


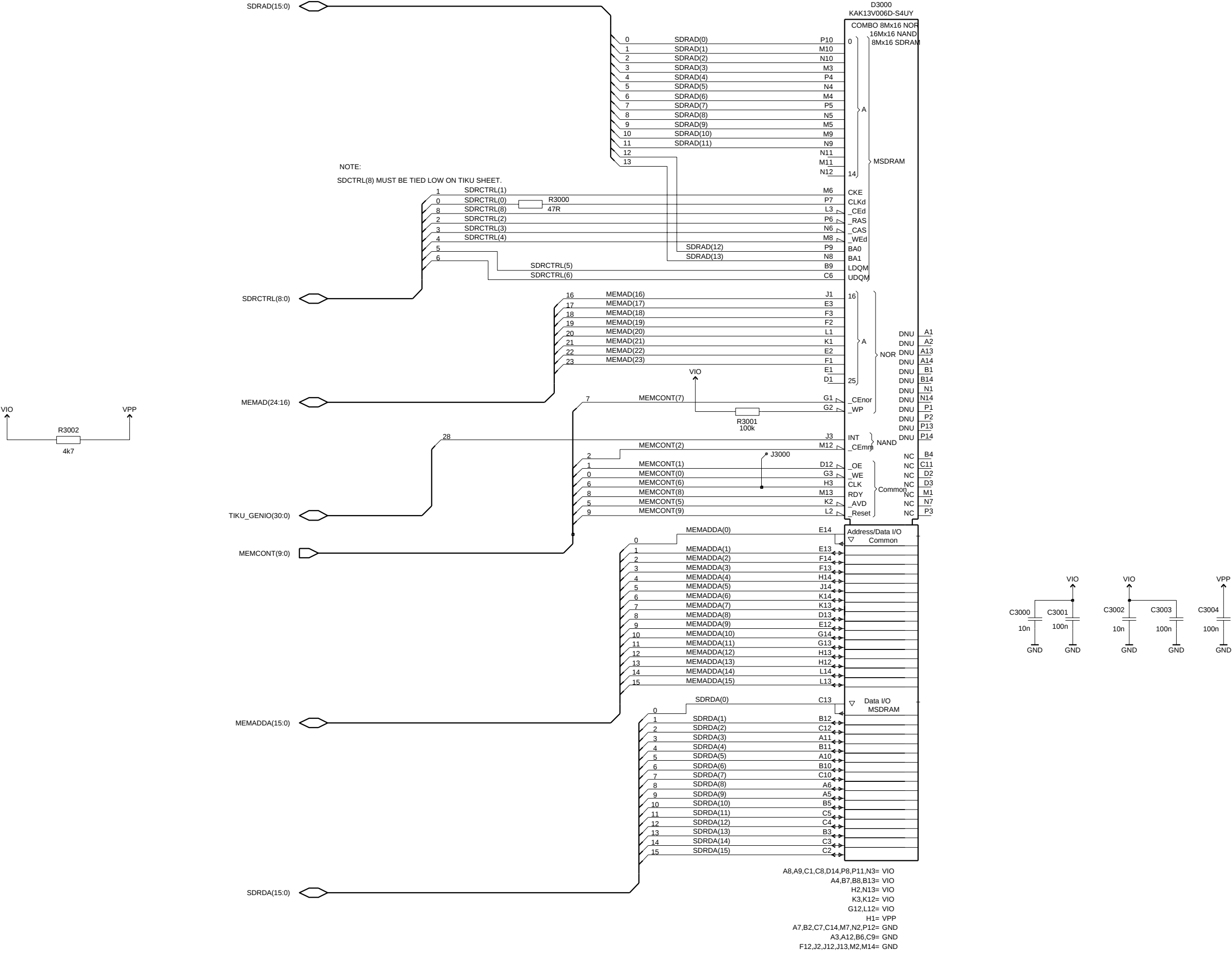
MODES	LOGIC INPUTS		
	BAND	GAIN_CTL	IF_SEL
CEL CDMA Hi Gain	0	1	0
CEL CDMA Lo Gain	0	0	0
PCS CDMA Hi Gain	1	1	0
PCS CDMA Lo Gain	1	0	0
AMPS Hi Gain	0	1	1
AMPS Lo Gain	0	0	1

Audio

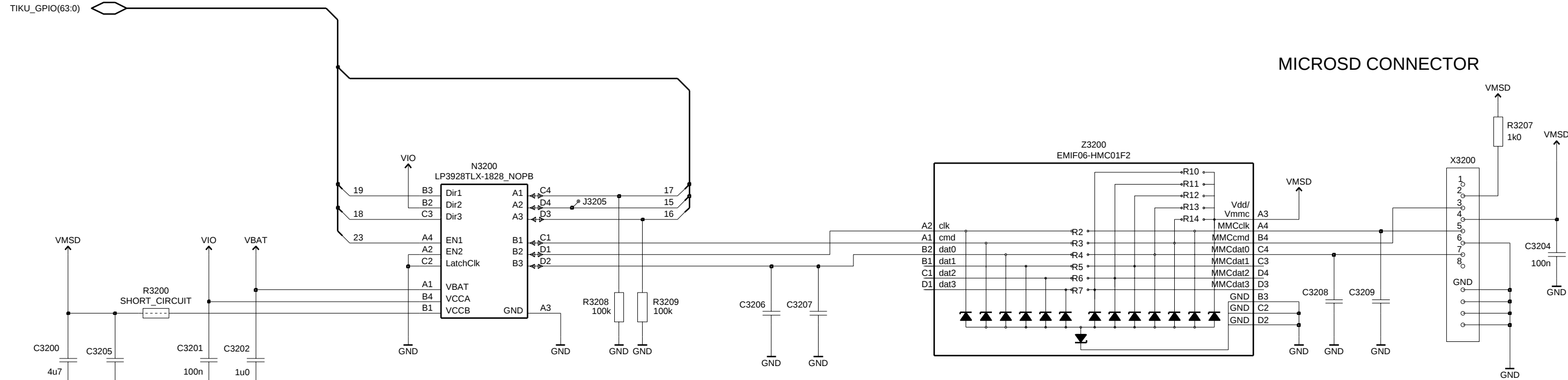


User Interface

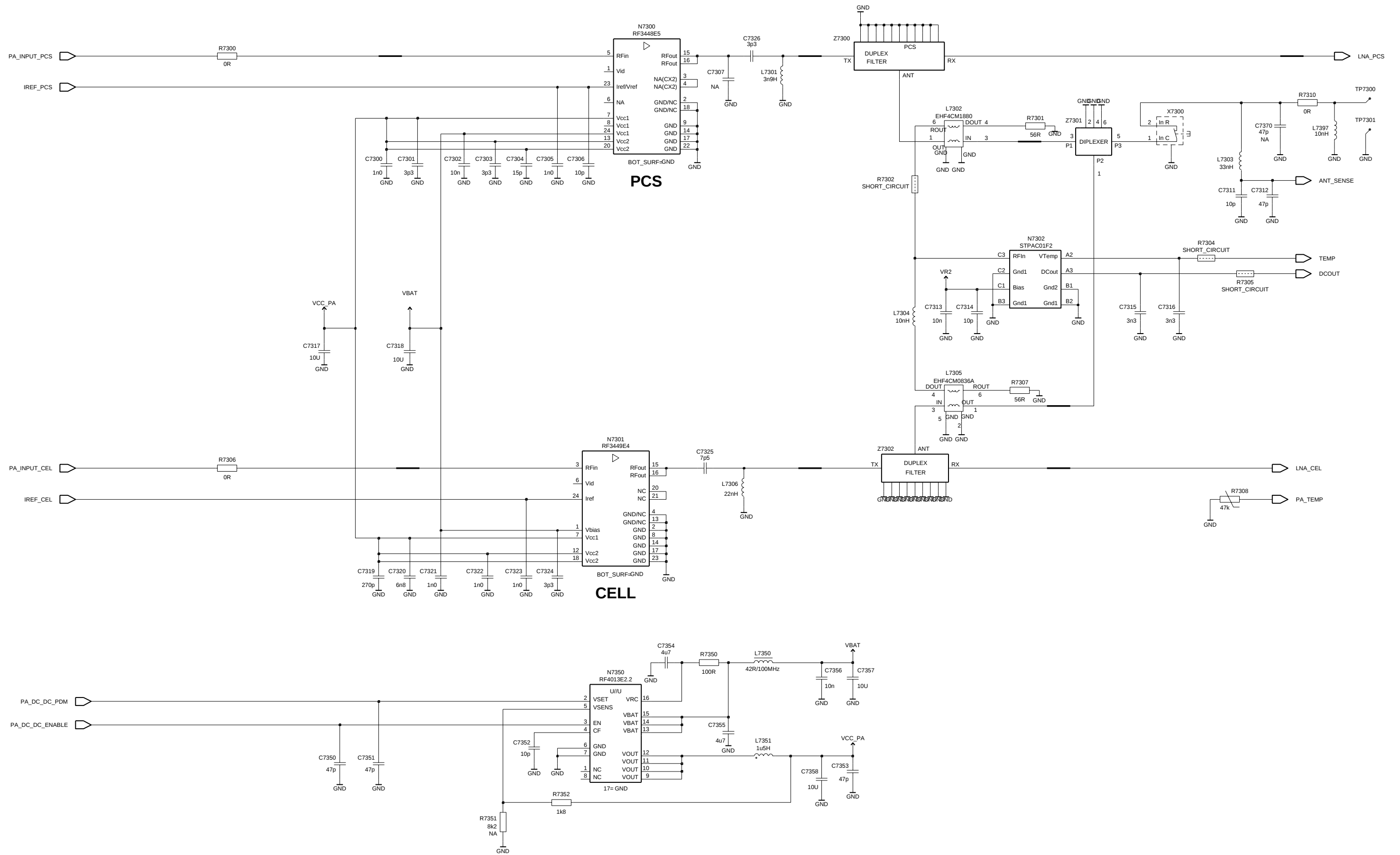




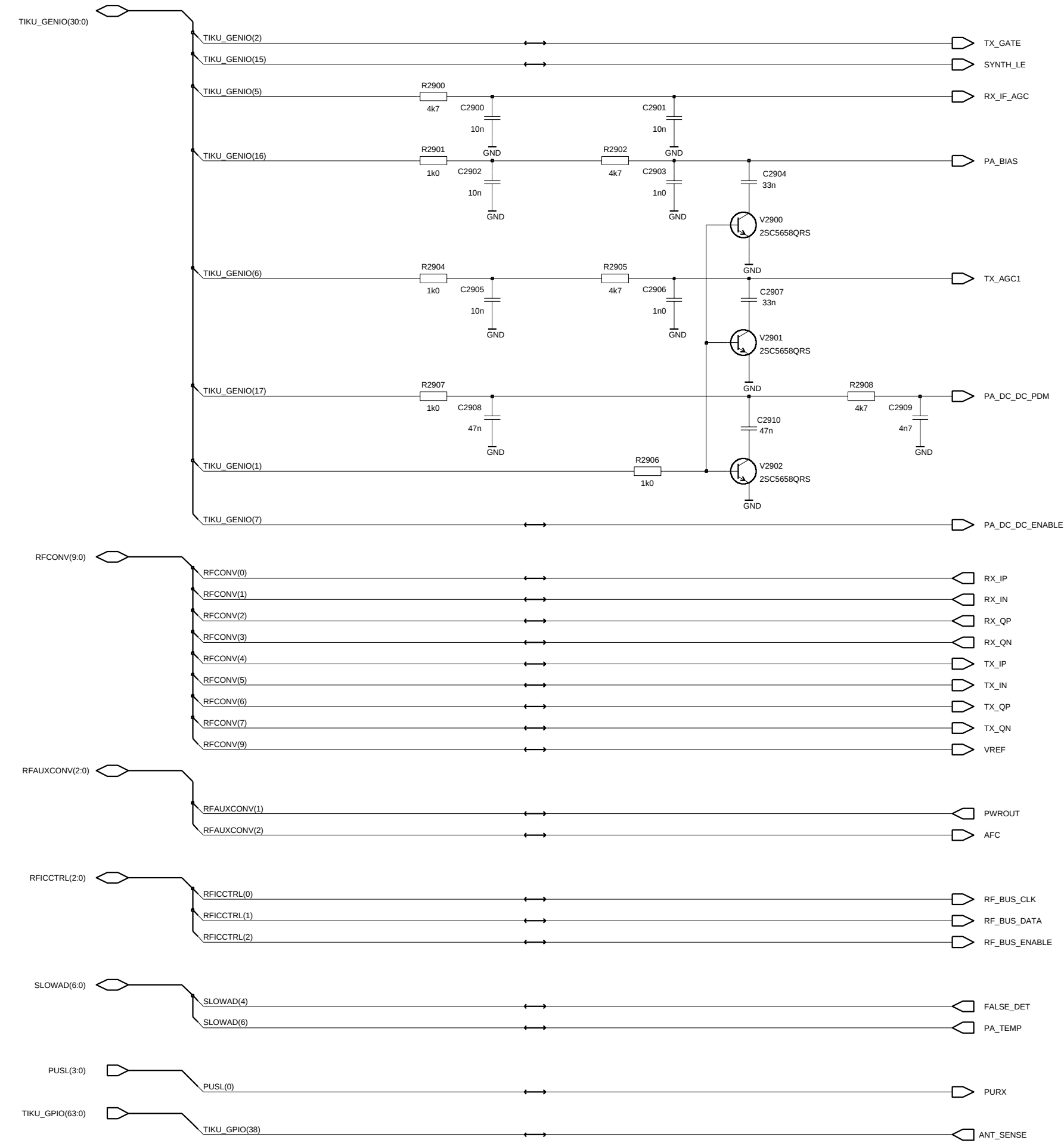
MicroSD



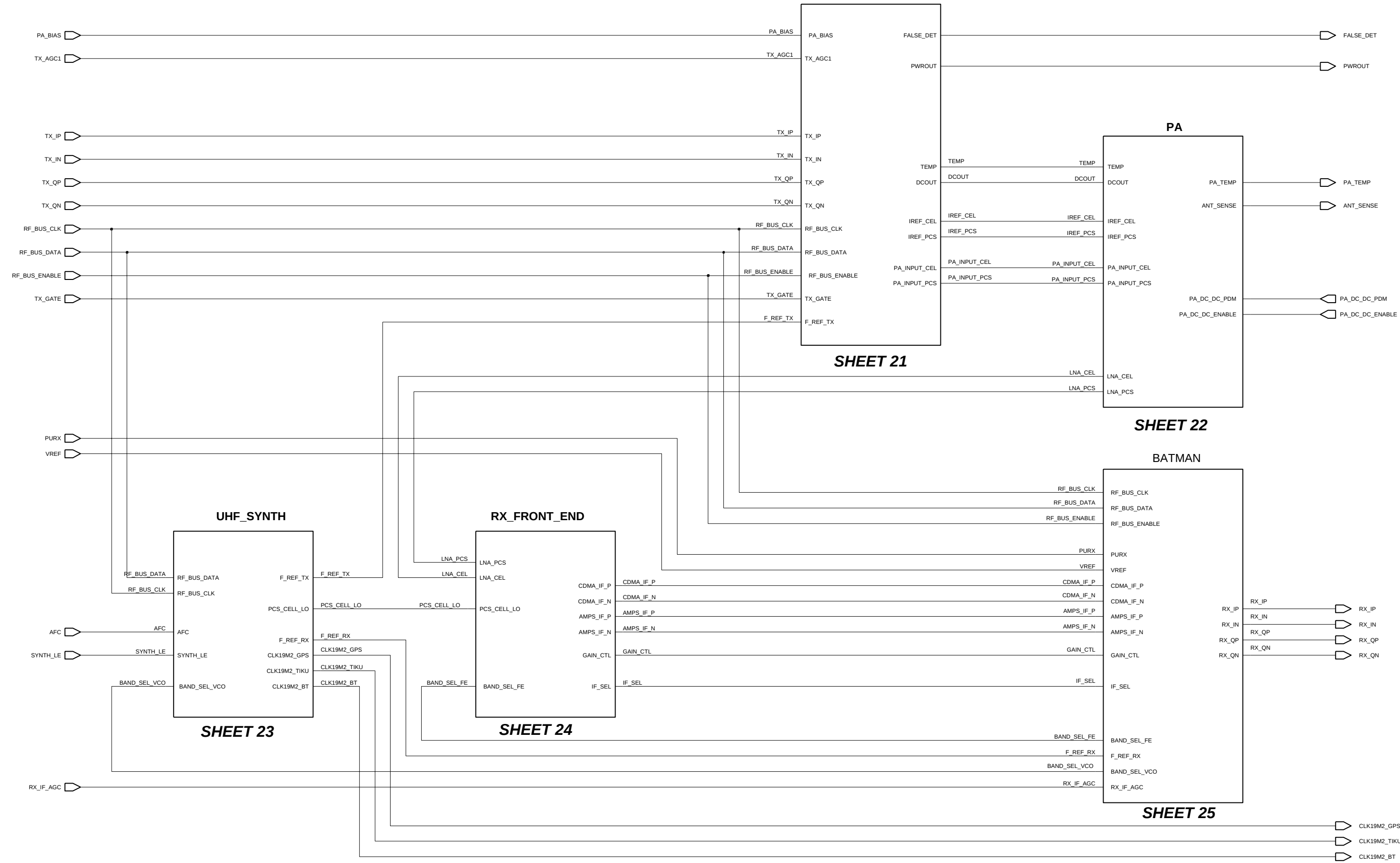
Ensure that VMSD is routed directly between ESD diode and connector

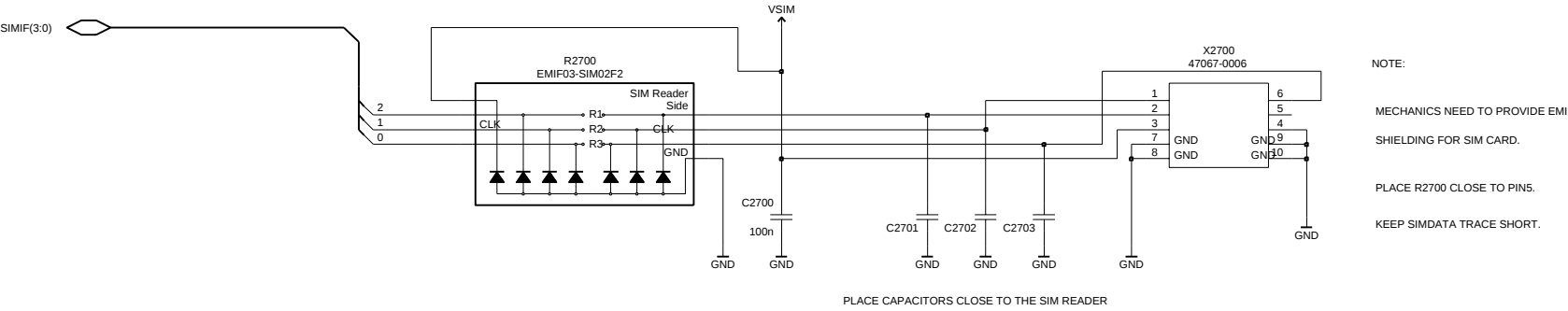


RF-BB Interface

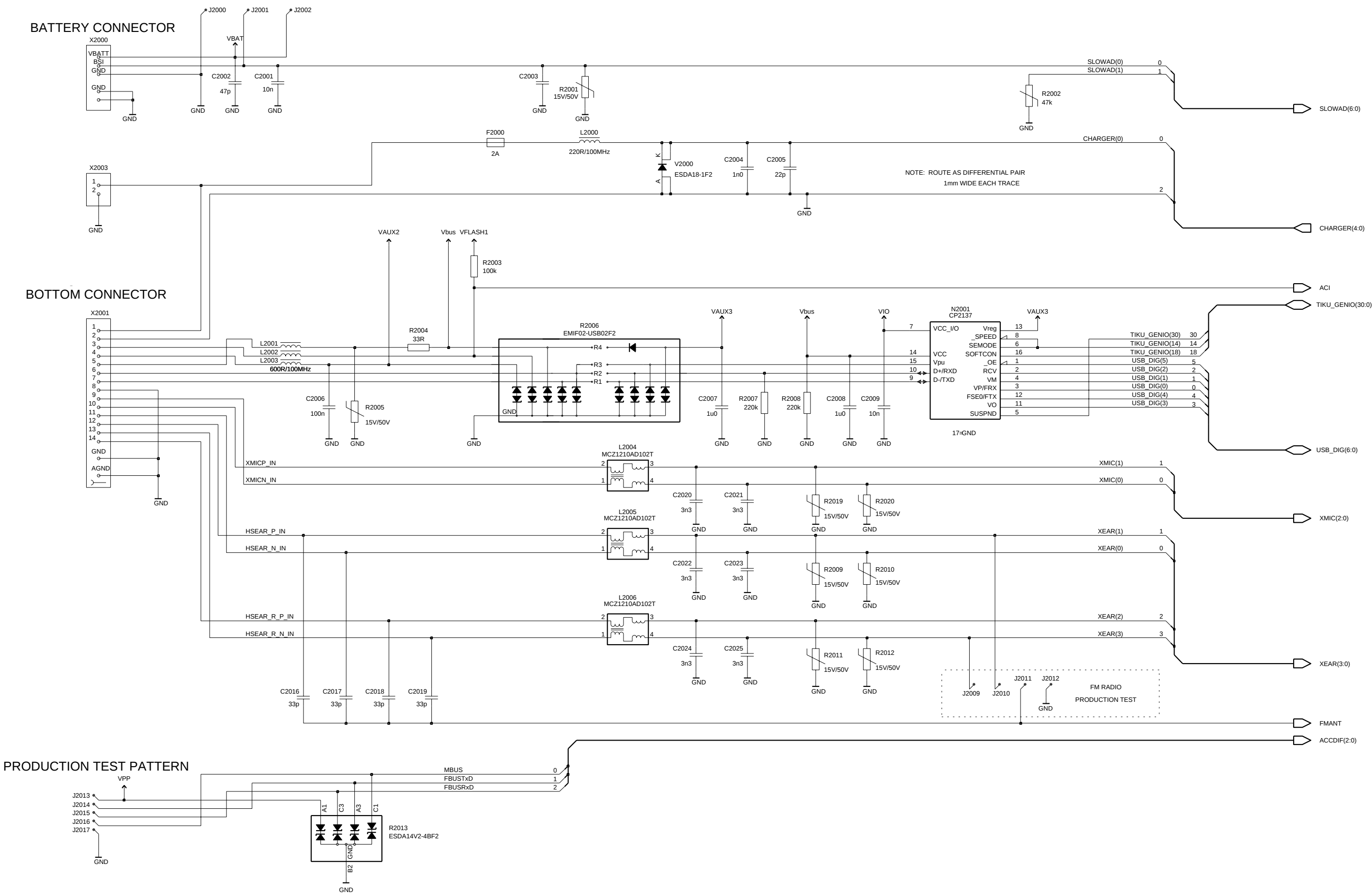


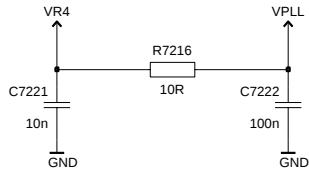
RF - Top Level



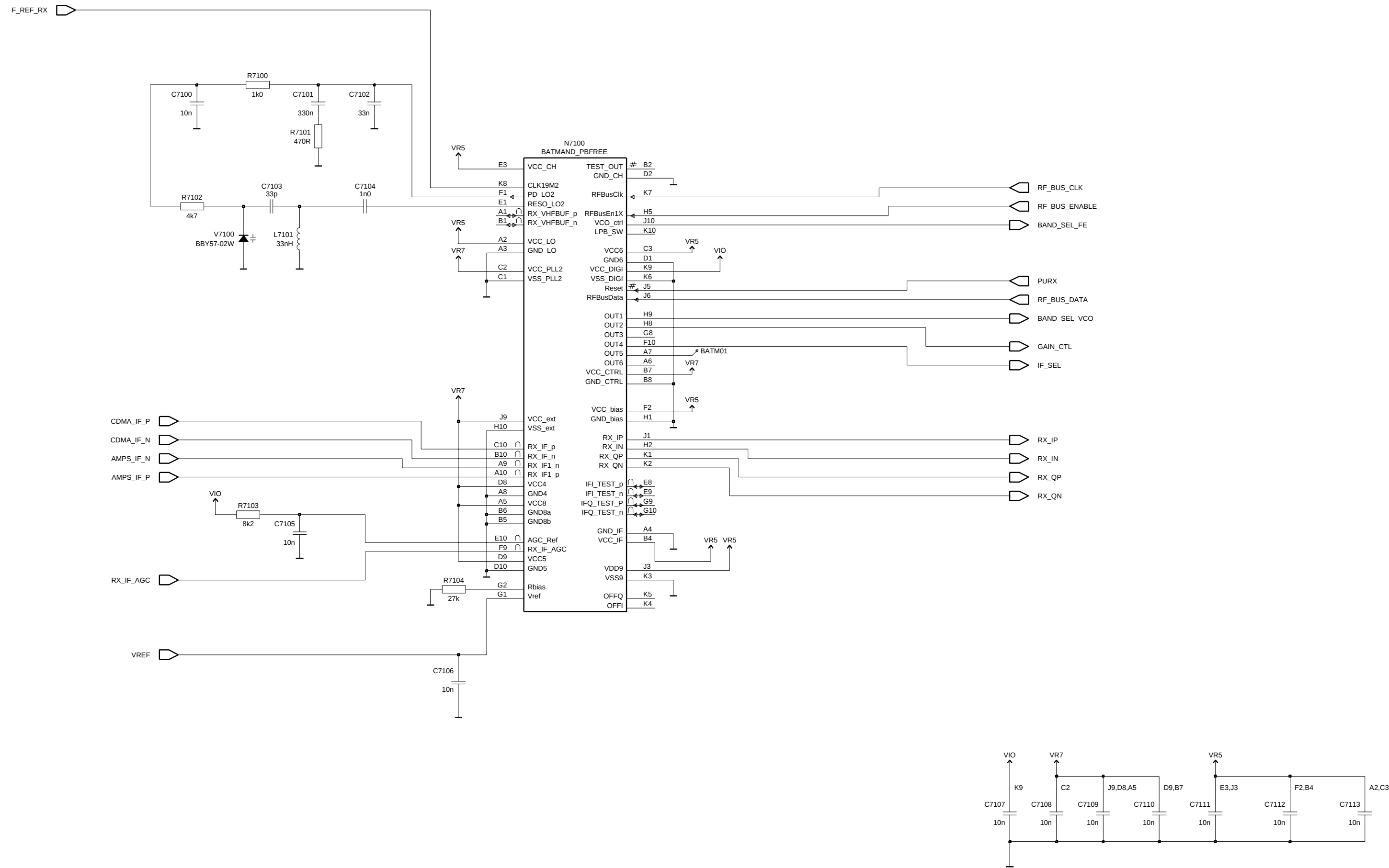


System Connector

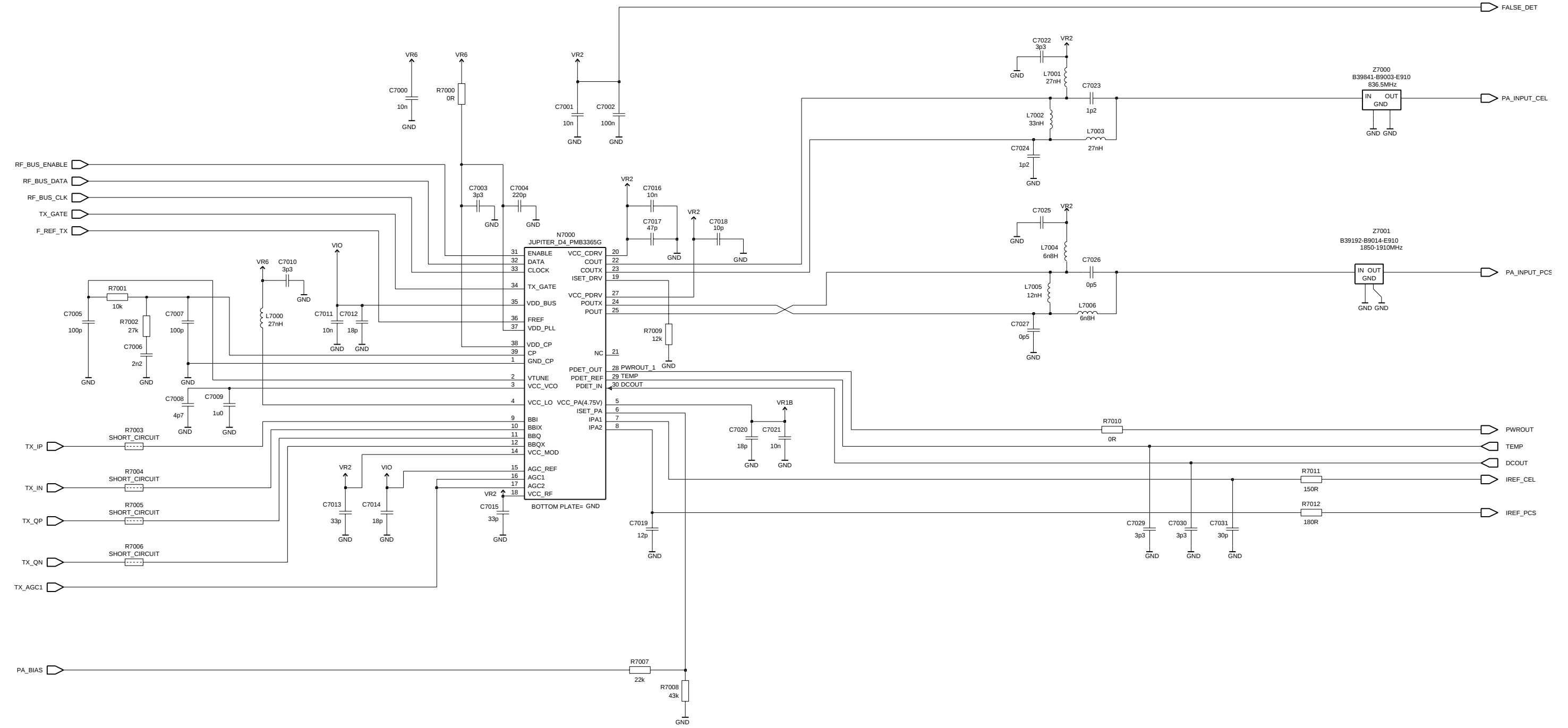




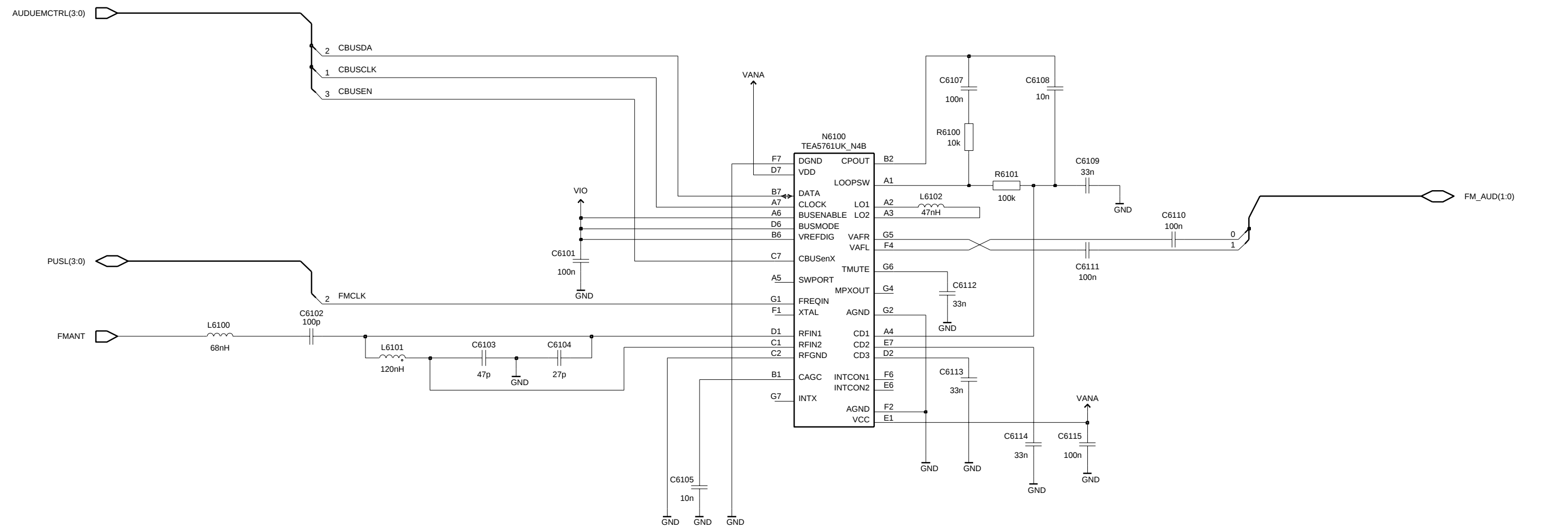
Rx



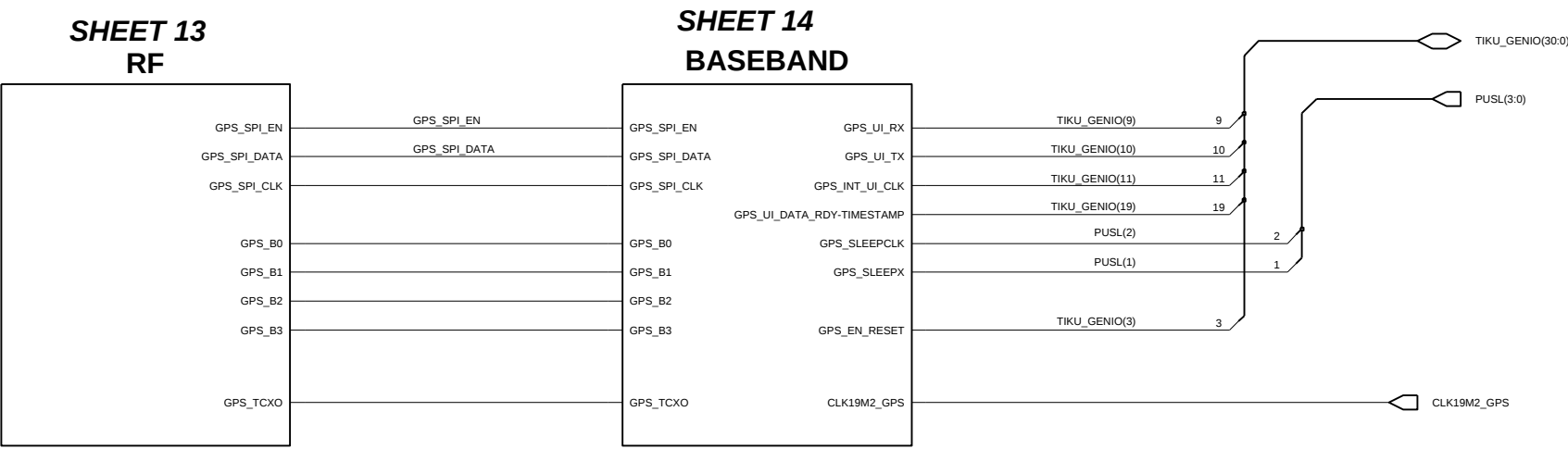
Tx



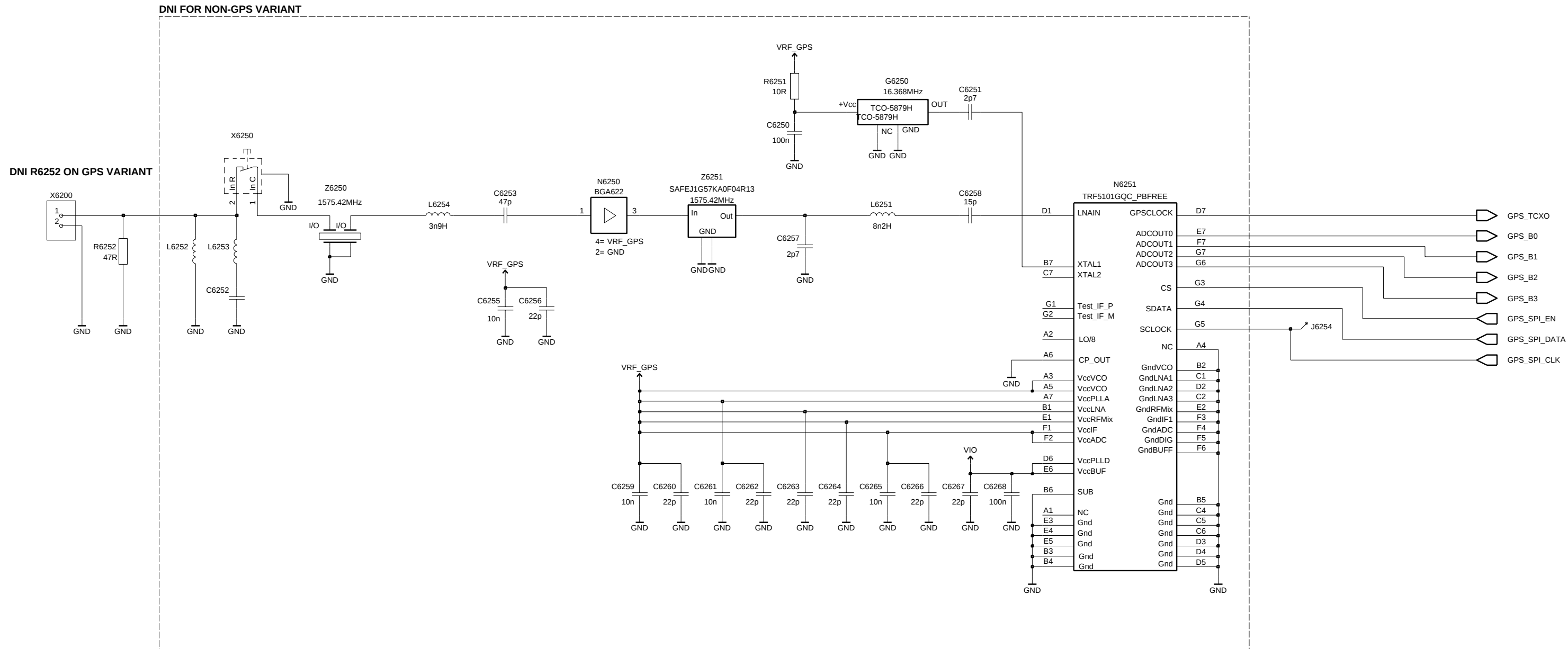
FM Radio

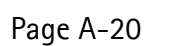


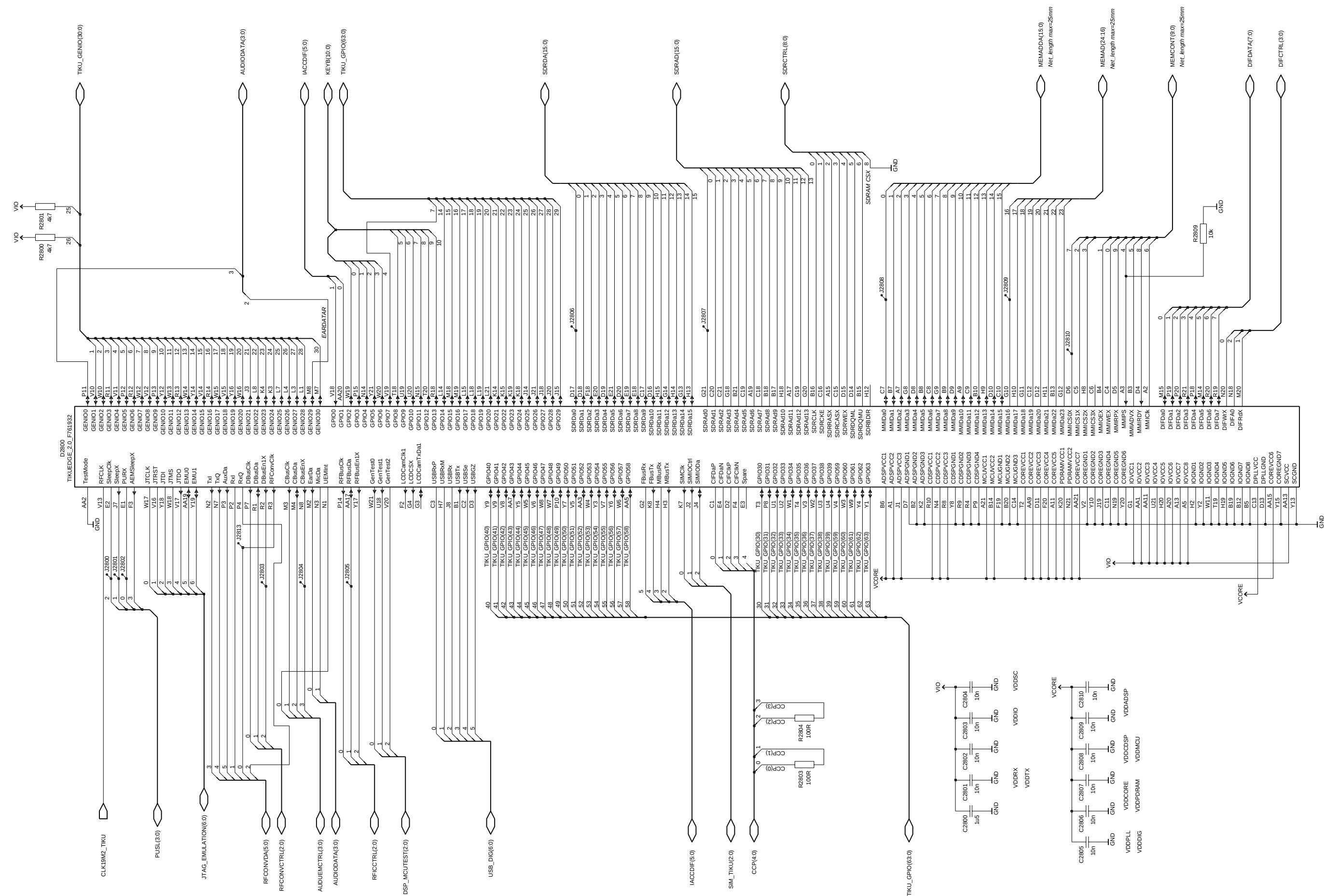
GPS Top Level



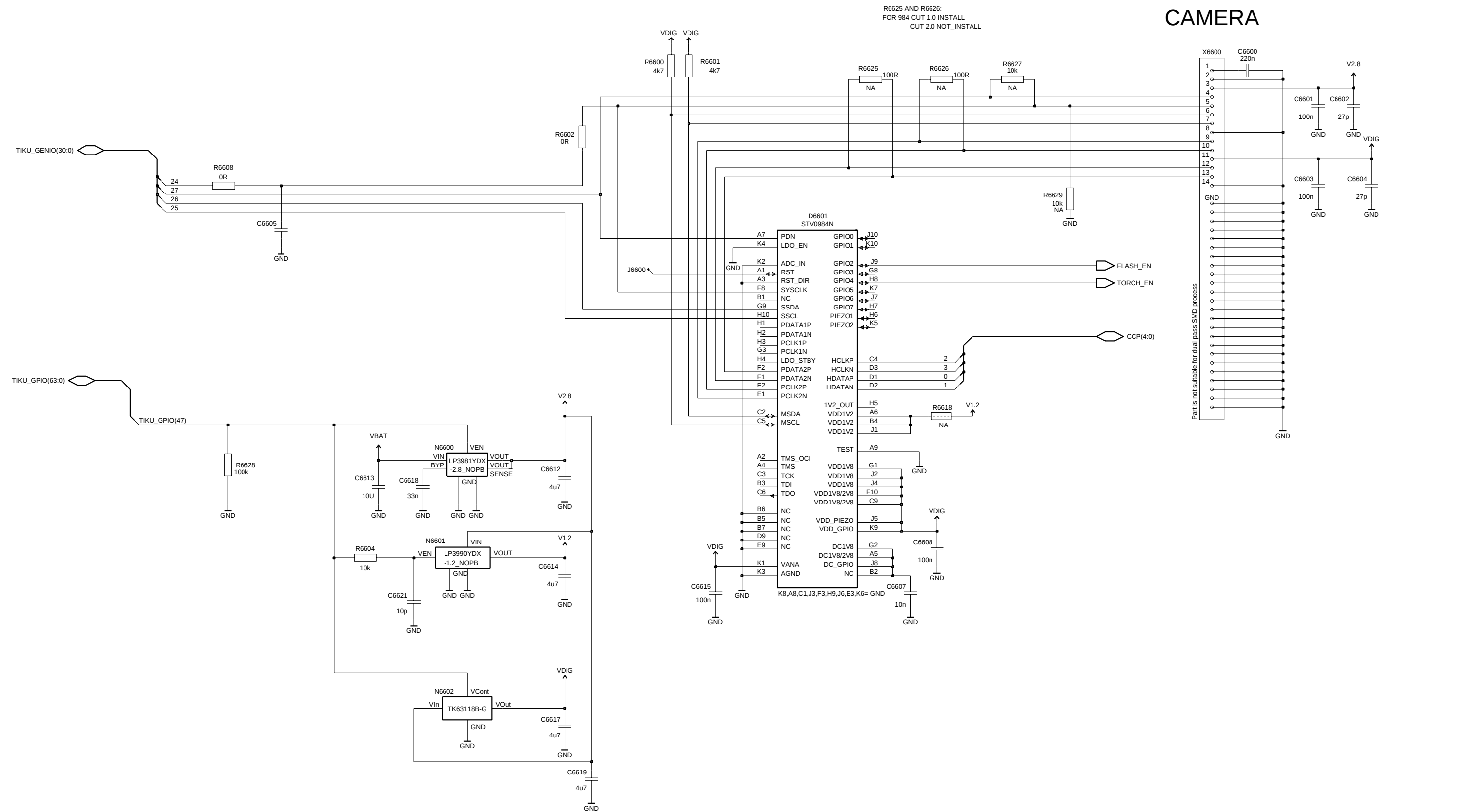
GPS RF



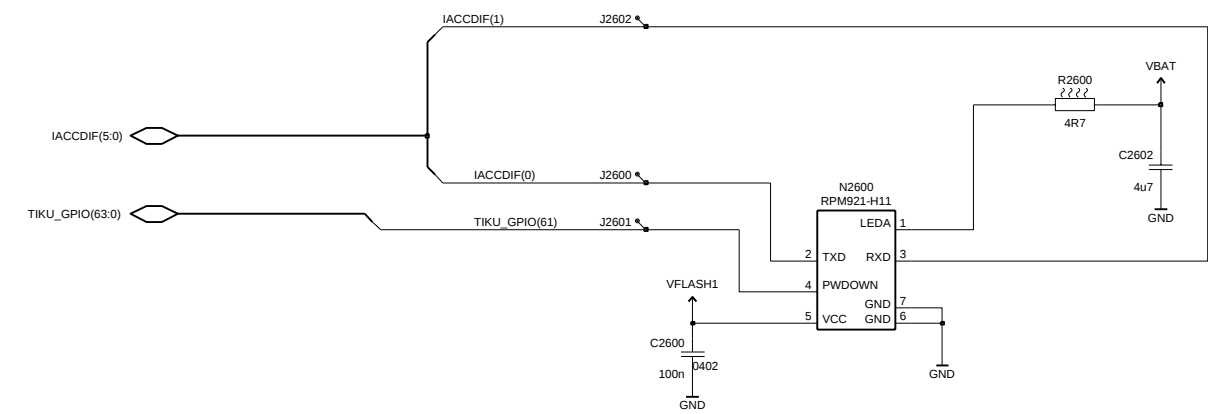


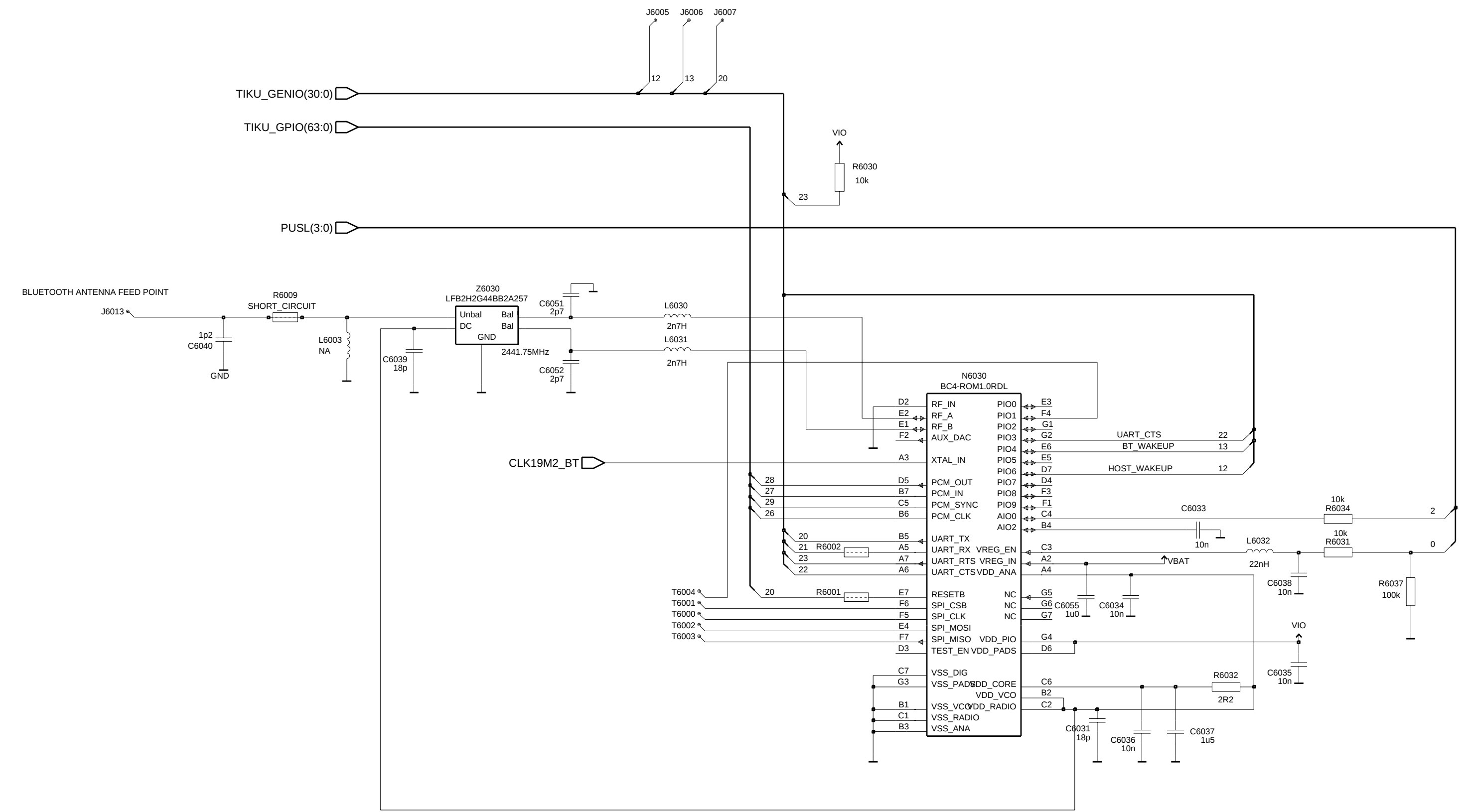


Camera and Flash

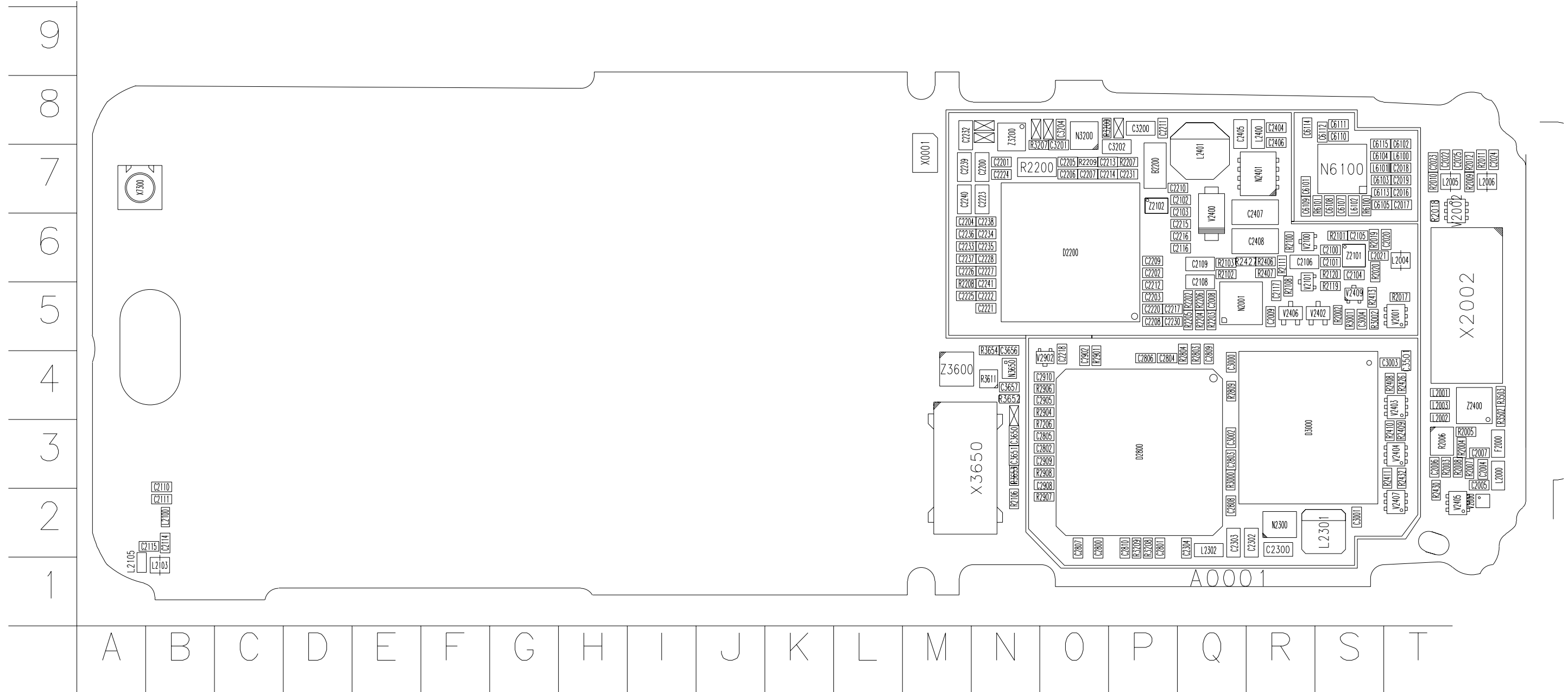


Infrared





6275/6275i Component Layout - Top



6275/6275i Component Layout - Bottom

