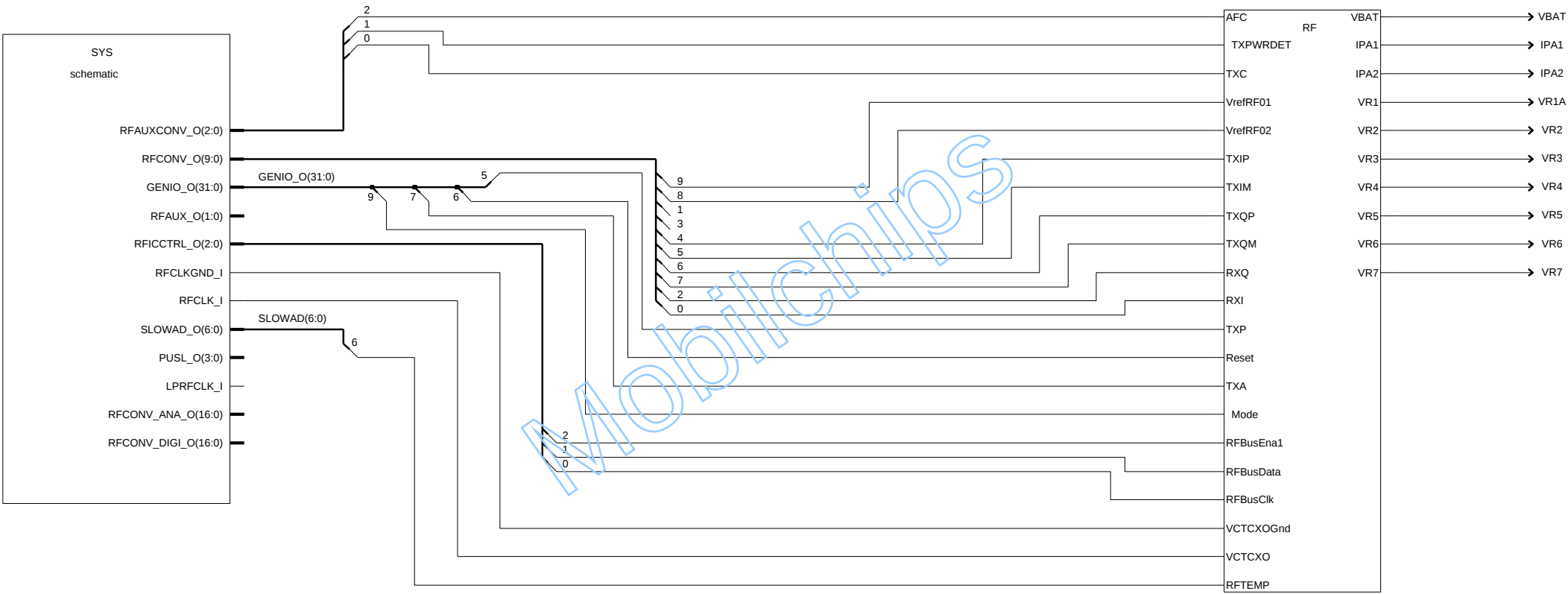
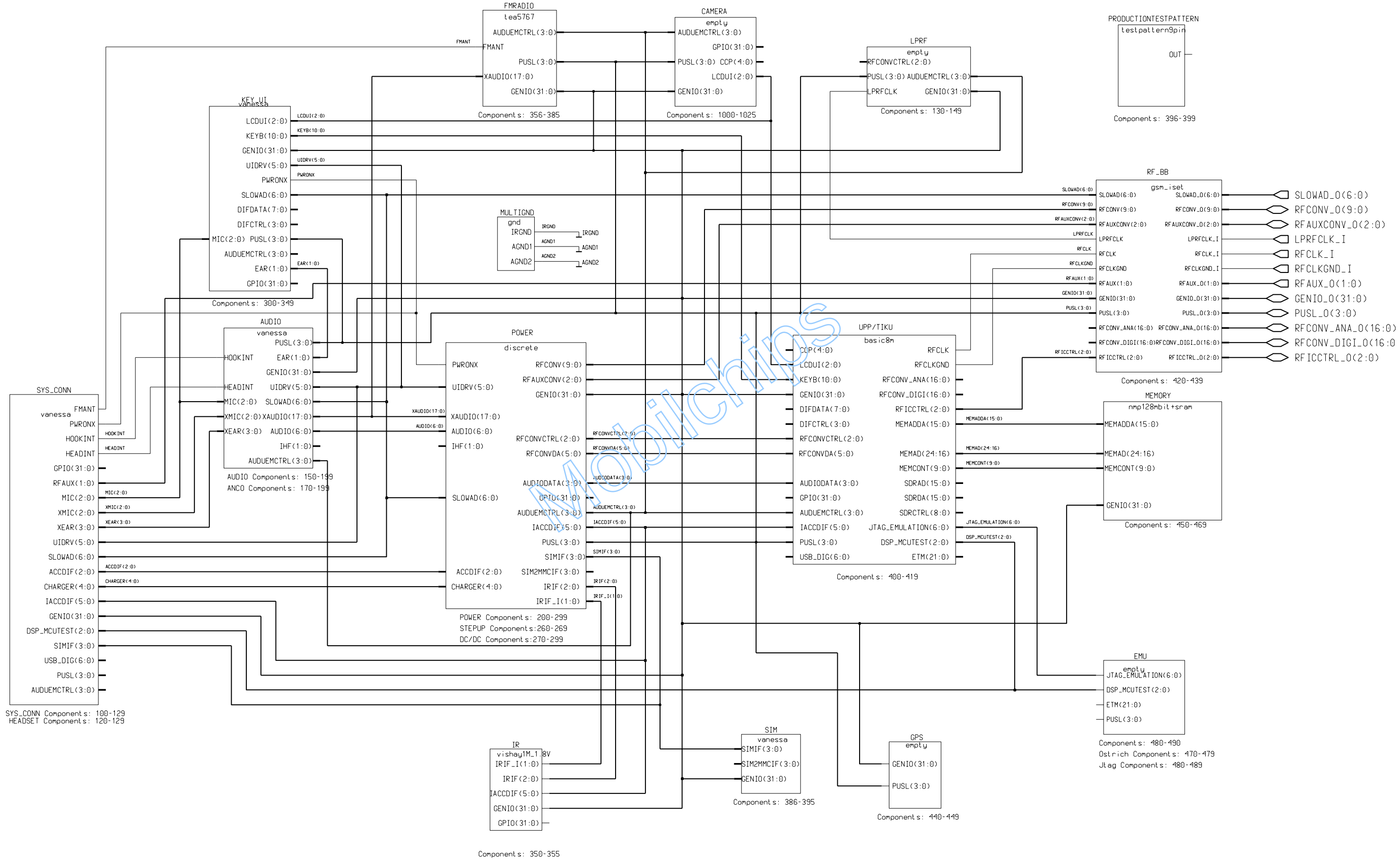
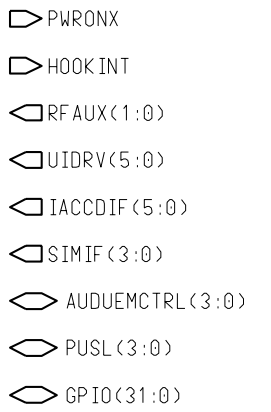


Block diagram 1 (ver.0.0 ed.4)

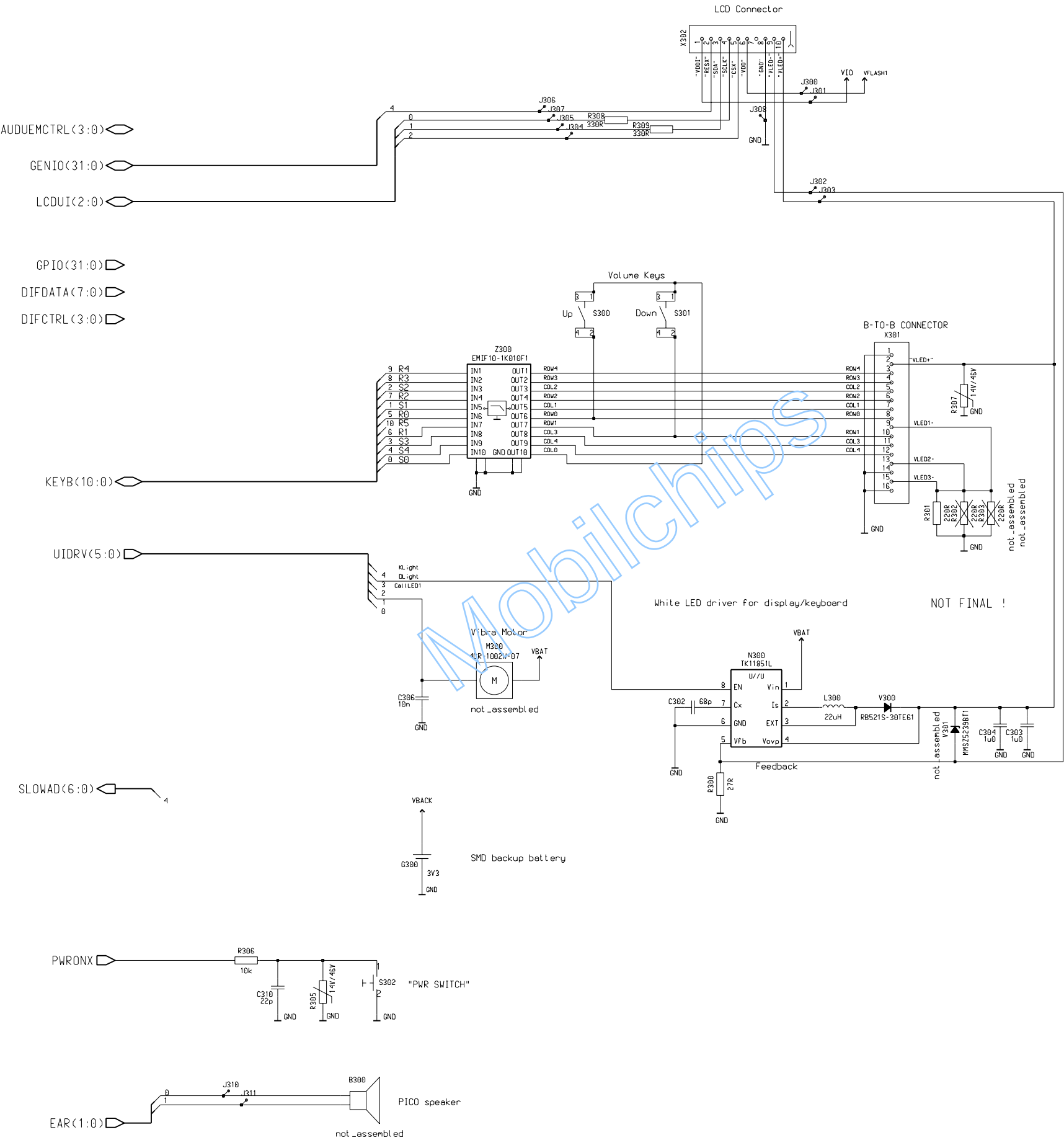


Block Diagram 2 (ver. 0 ed. 275)

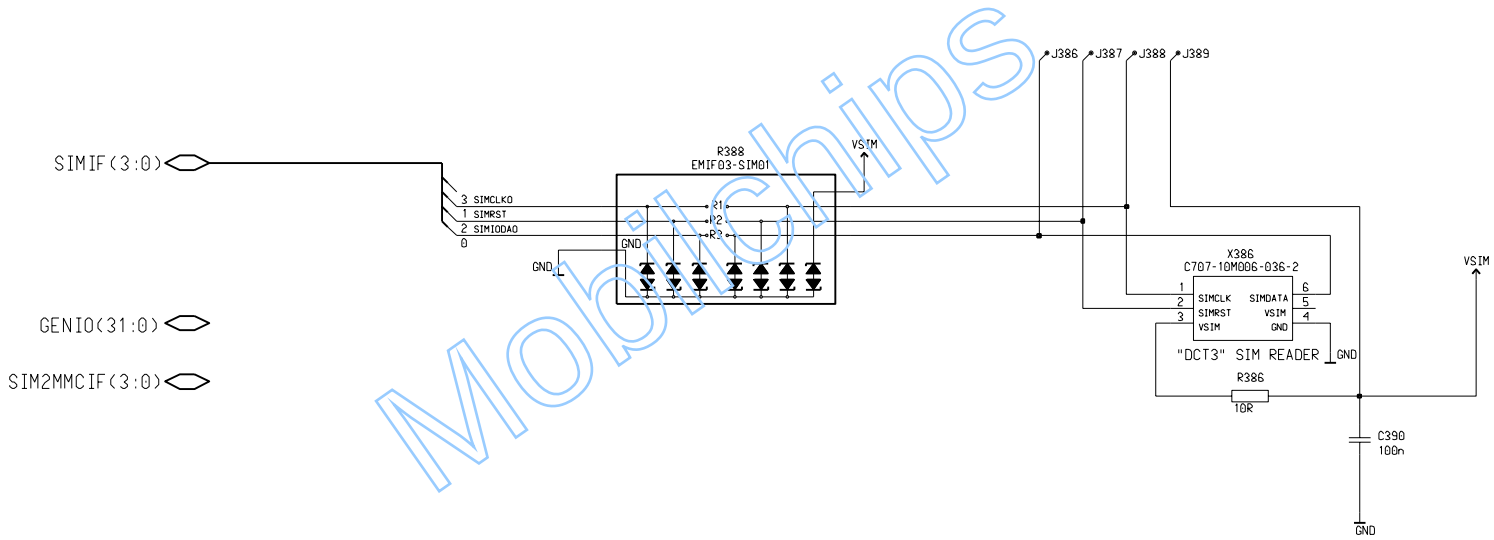




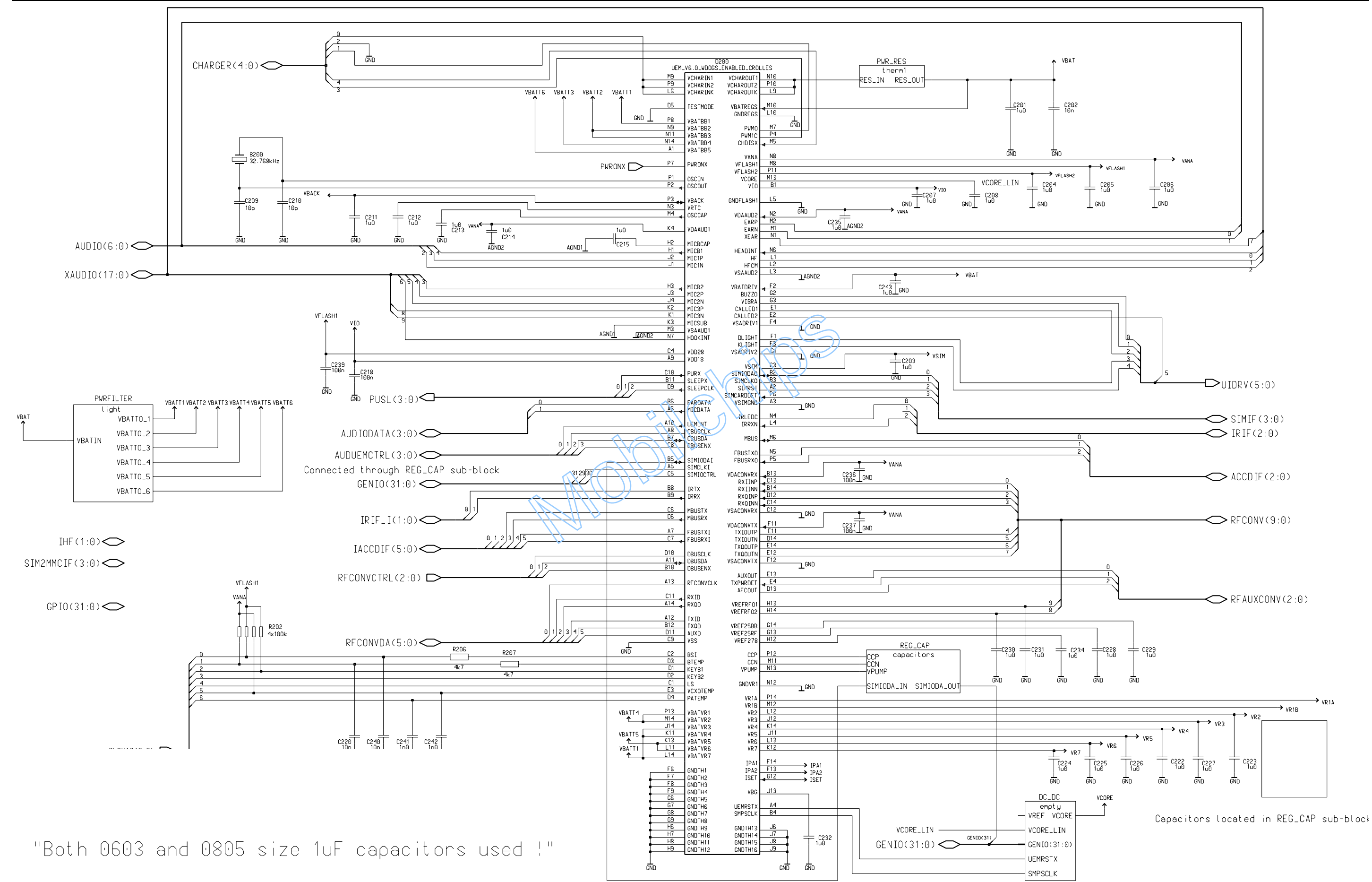
User Interface (ver. 0.0 ed. 53)



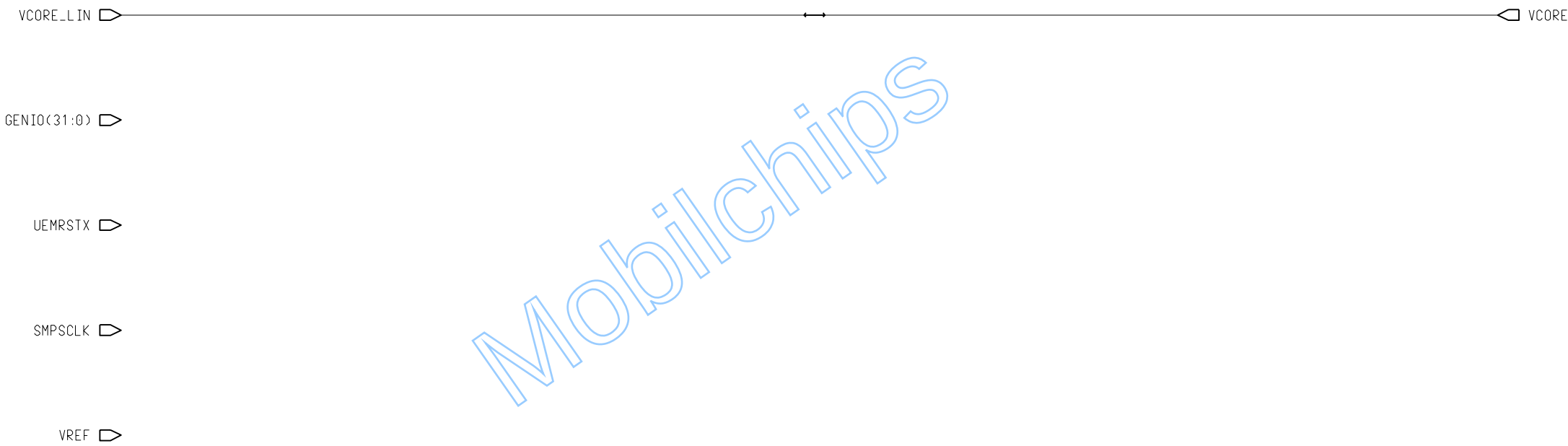
SIM reader (ver.0.0 ed. 15)



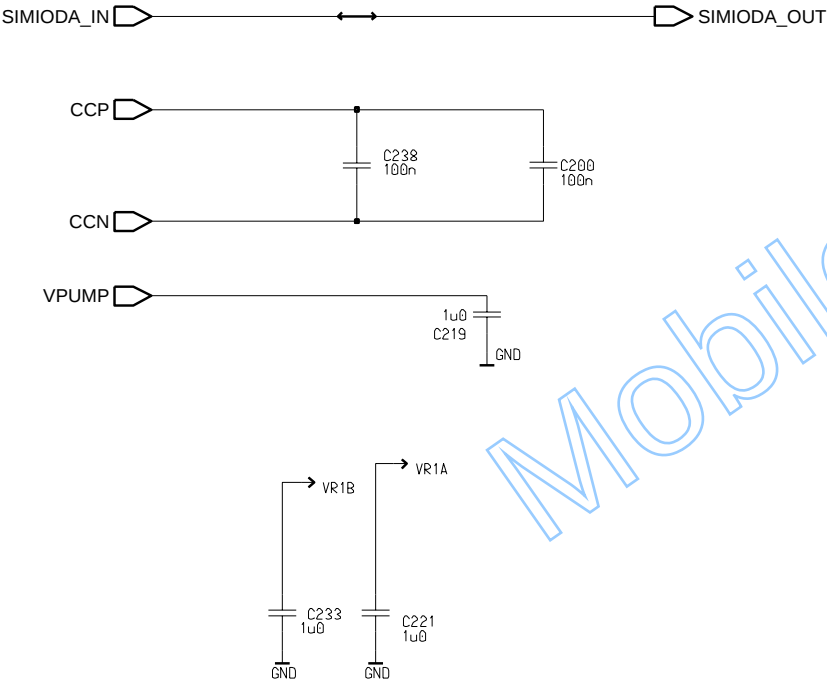
Power management (ver. 1.3 ed. 106)



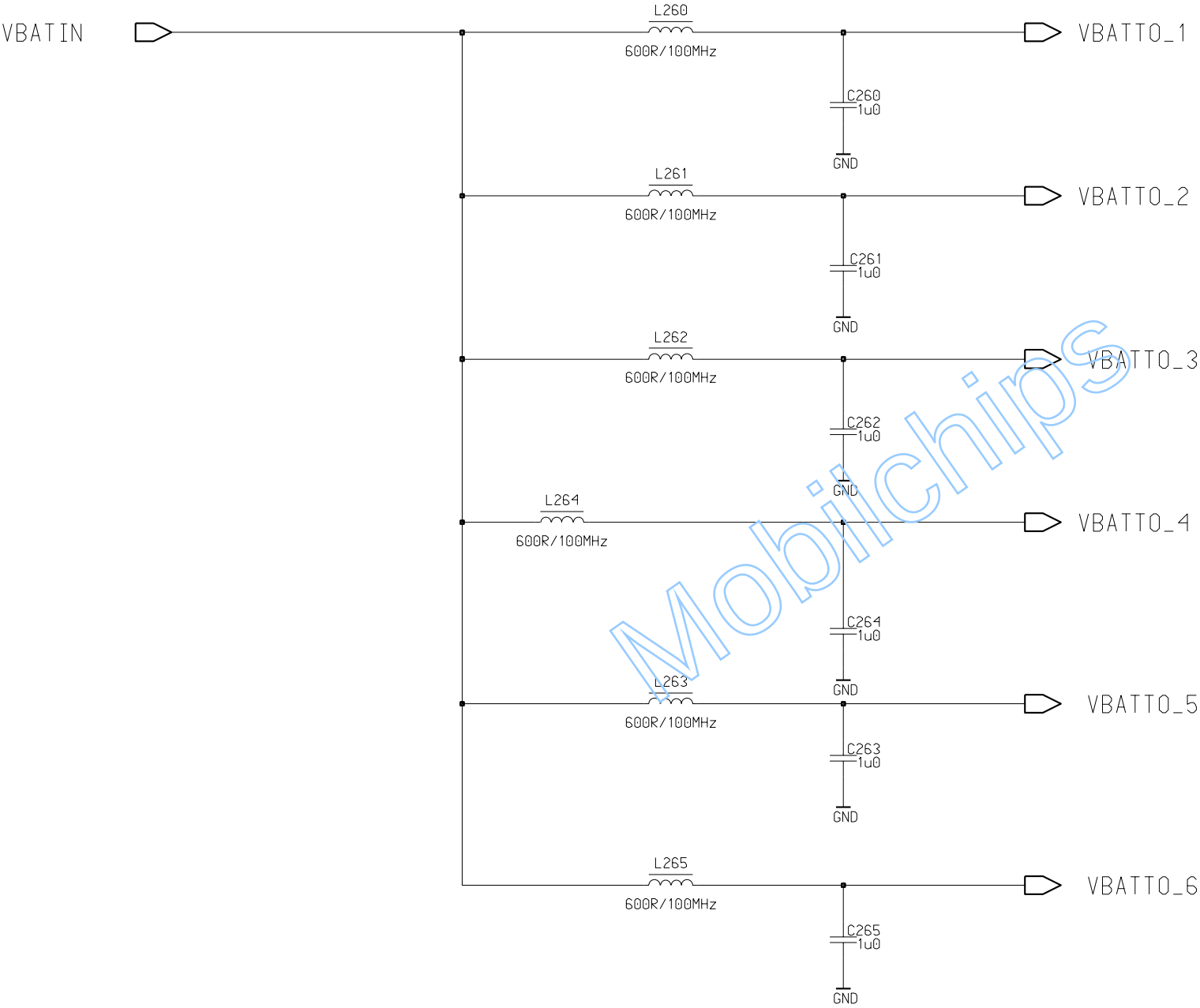
"Both 0603 and 0805 size 1uF capacitors used !"



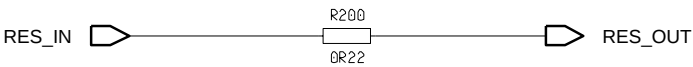
Old power discrete (ver. 0 ed.7)



Light filtering (ed. 2.0 ver 27)

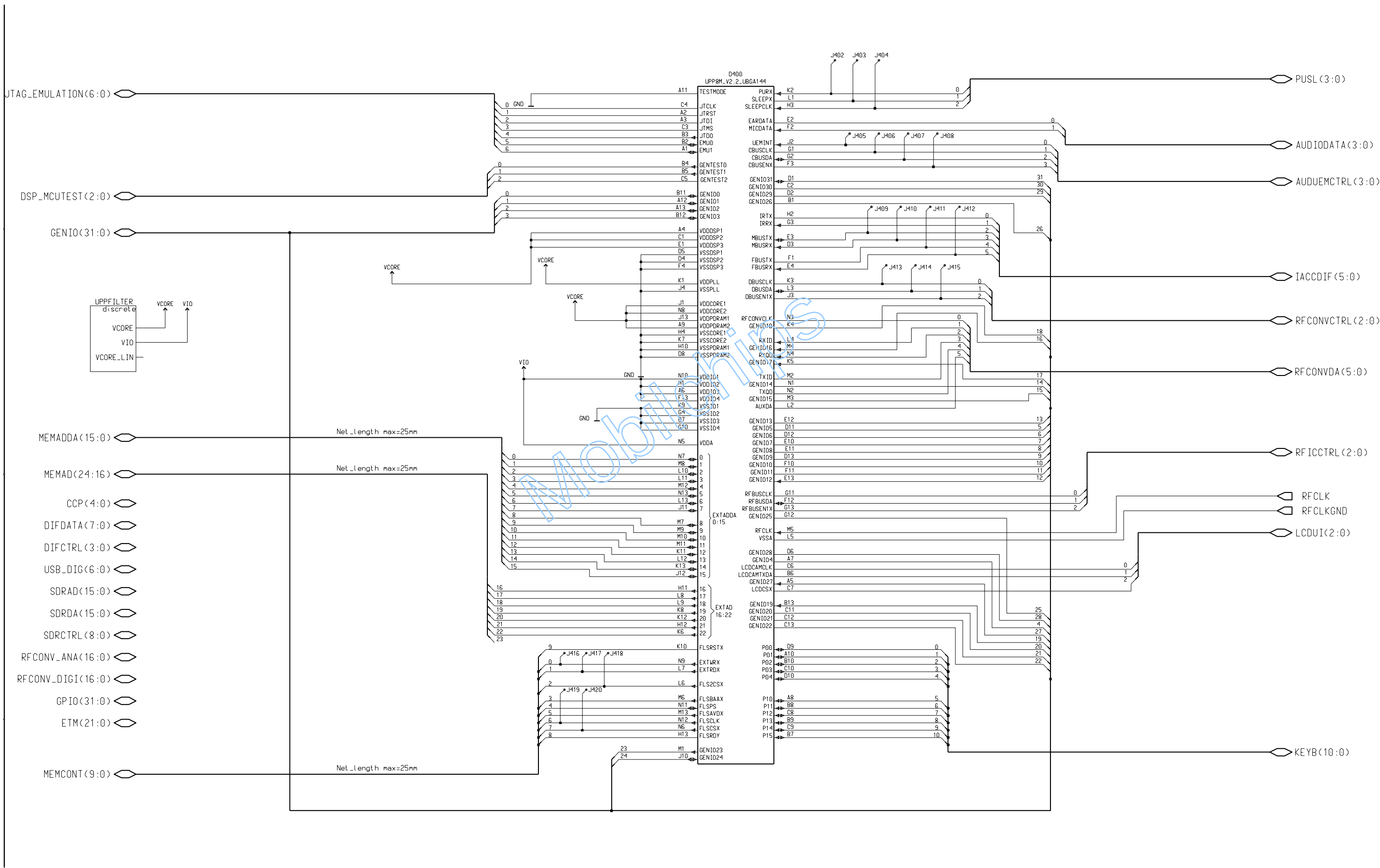


Power thermal resistor

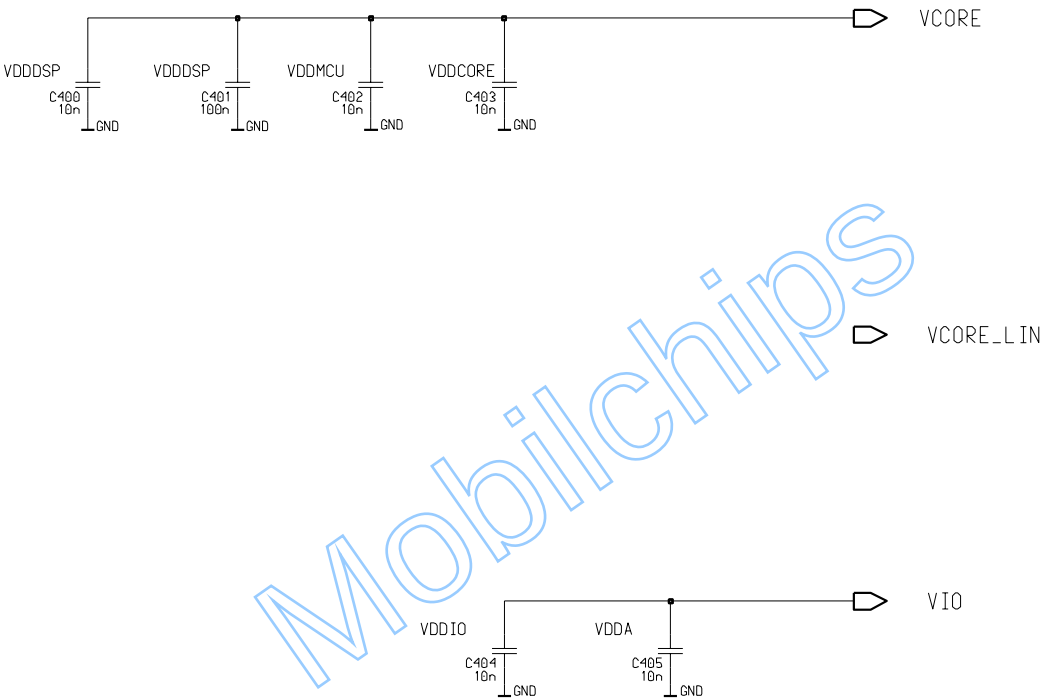


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UPP_8M (ed. 2.0 ver. 101)

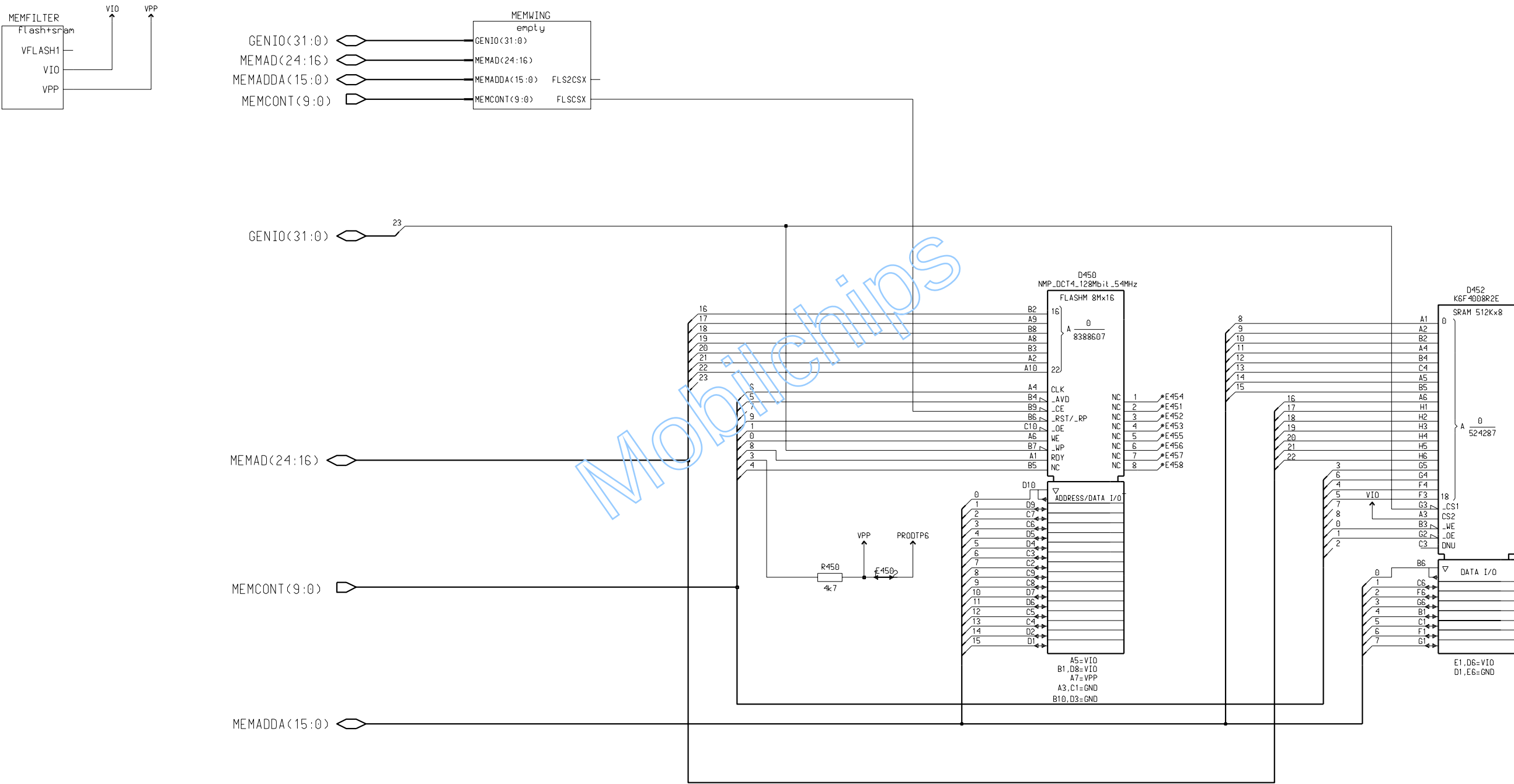


UPP decoupling capacitors (ed.1.3 ver. 9)

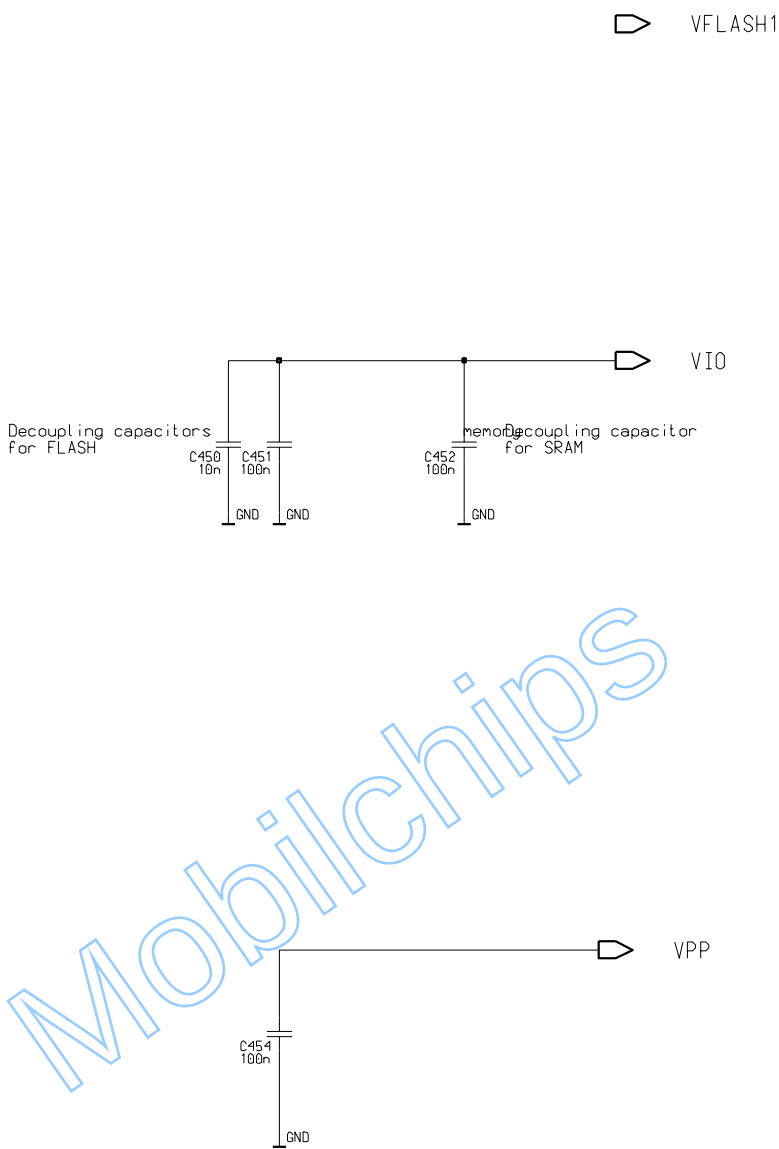


Flash (ed. 2.0 ver.28)

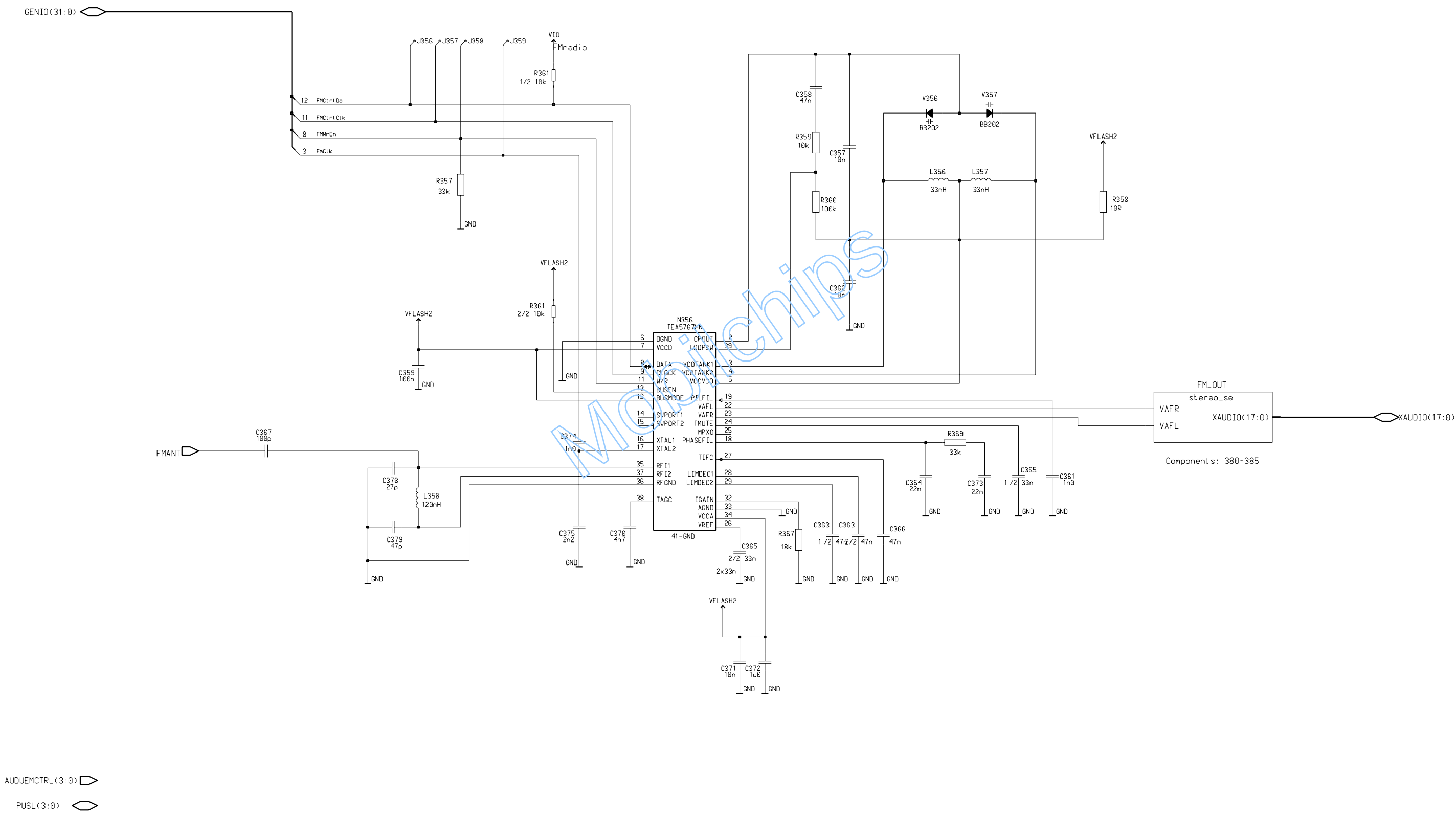
NOTE !!
USE nmp128mbit_54mhz



Flash decoupling capacitors (ver. 2.0 ed.4)



FM radio IC (ver.1.3 ed 145)

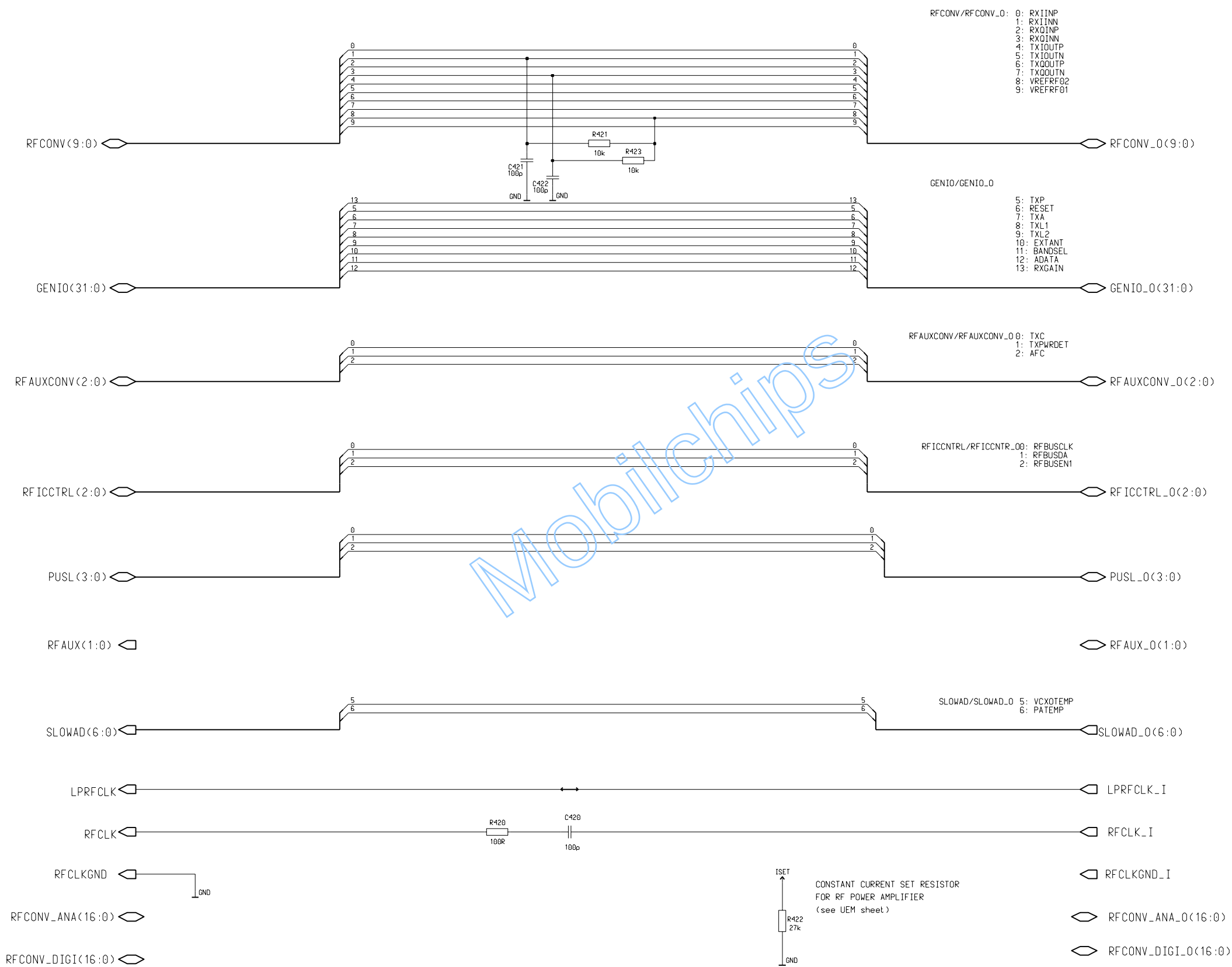


FM radio unit (Ver. 0.0 ed. 117)

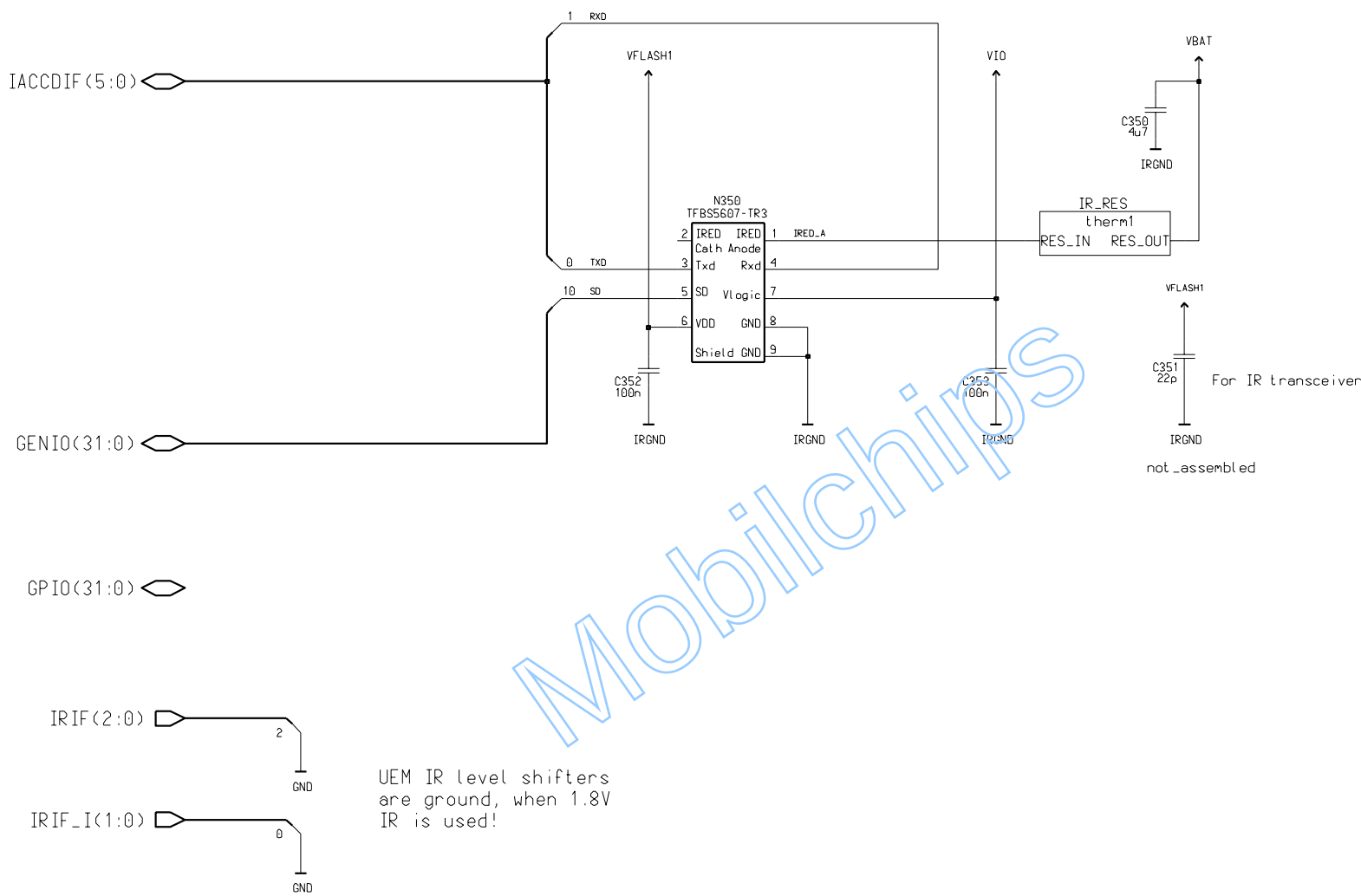


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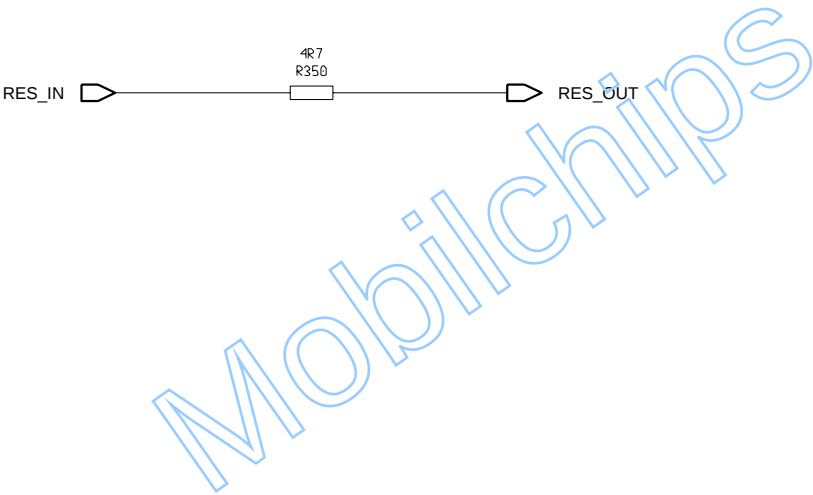
RF/BB interface (ver. 1.3 ed. 40)



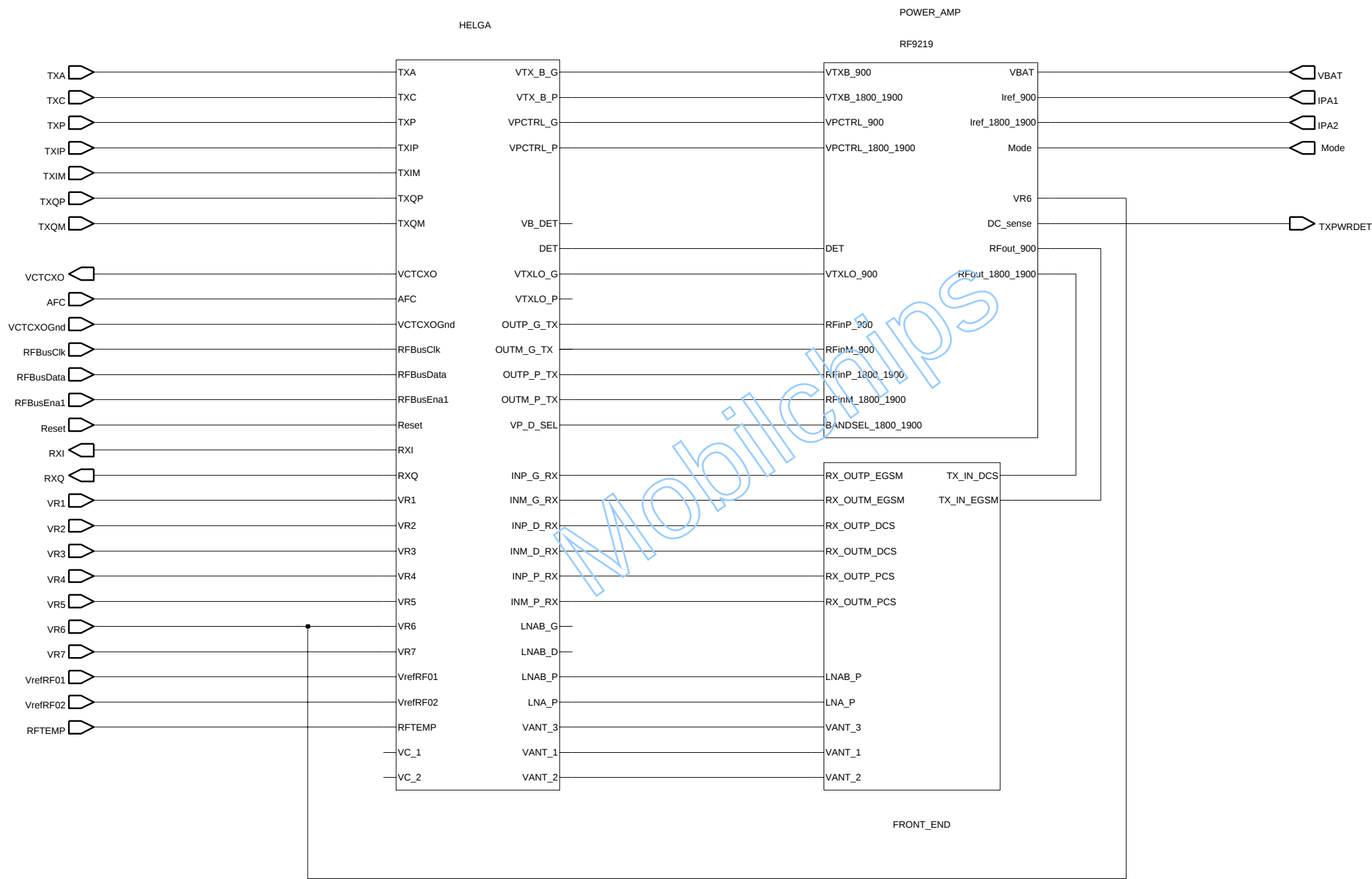
IR (Ver. 0.0 ed. 32)



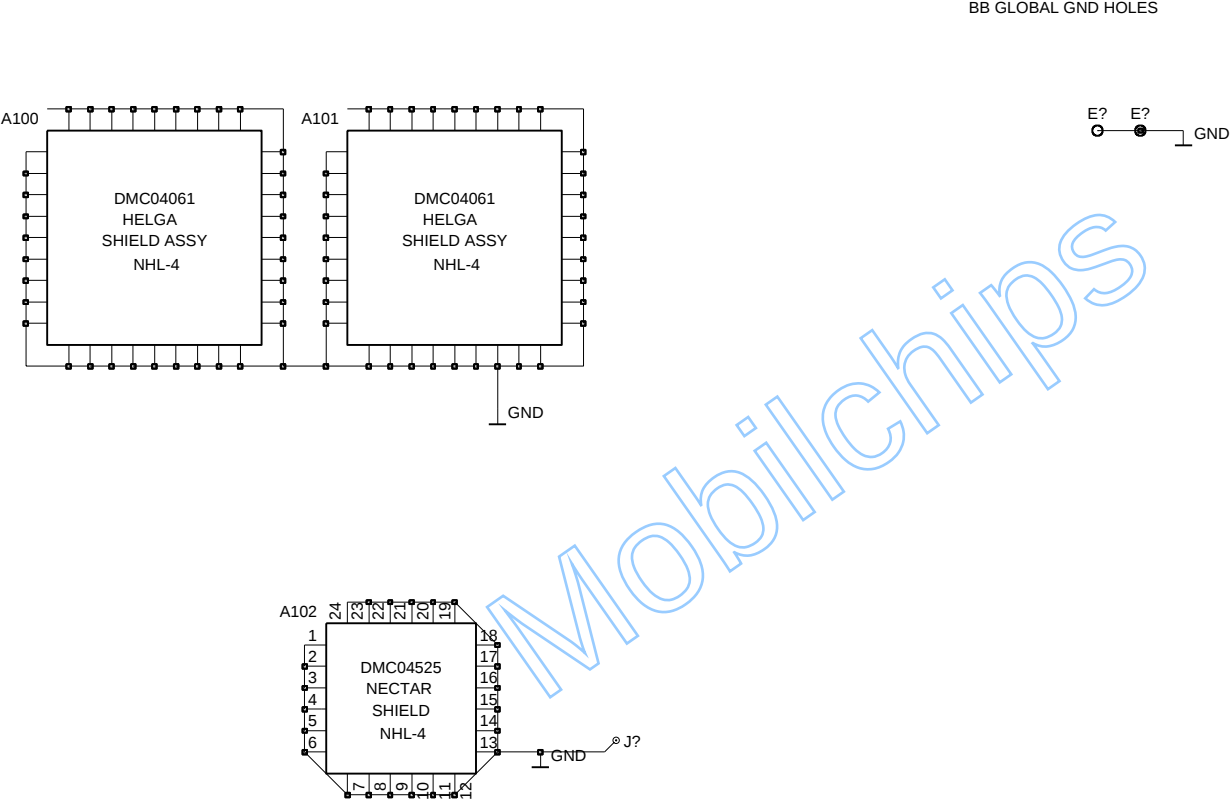
IR thermal resistor (ver. 0.0 ed. 5)



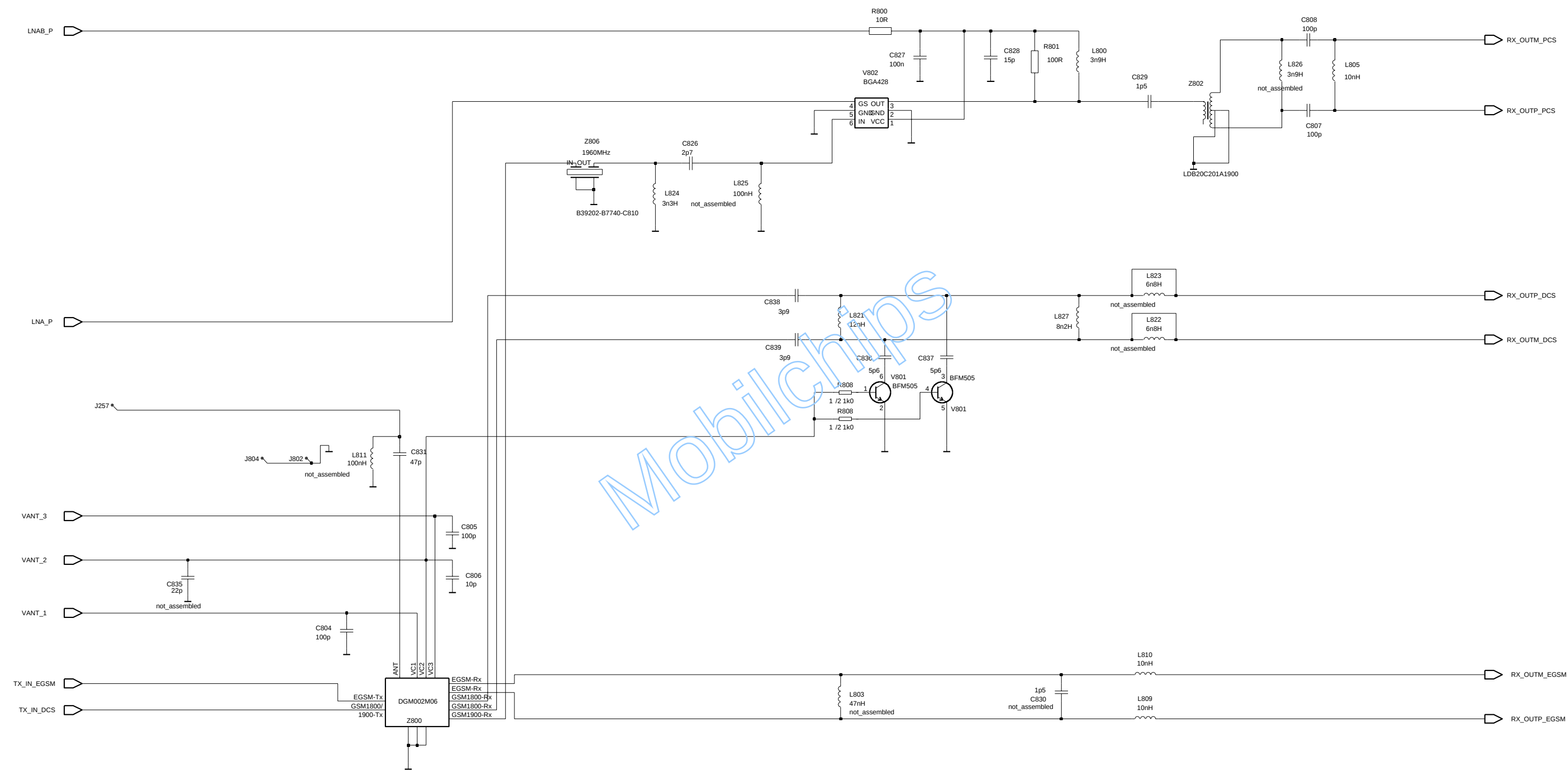
RF Block Diagram (ver. 0.0 ed.5)



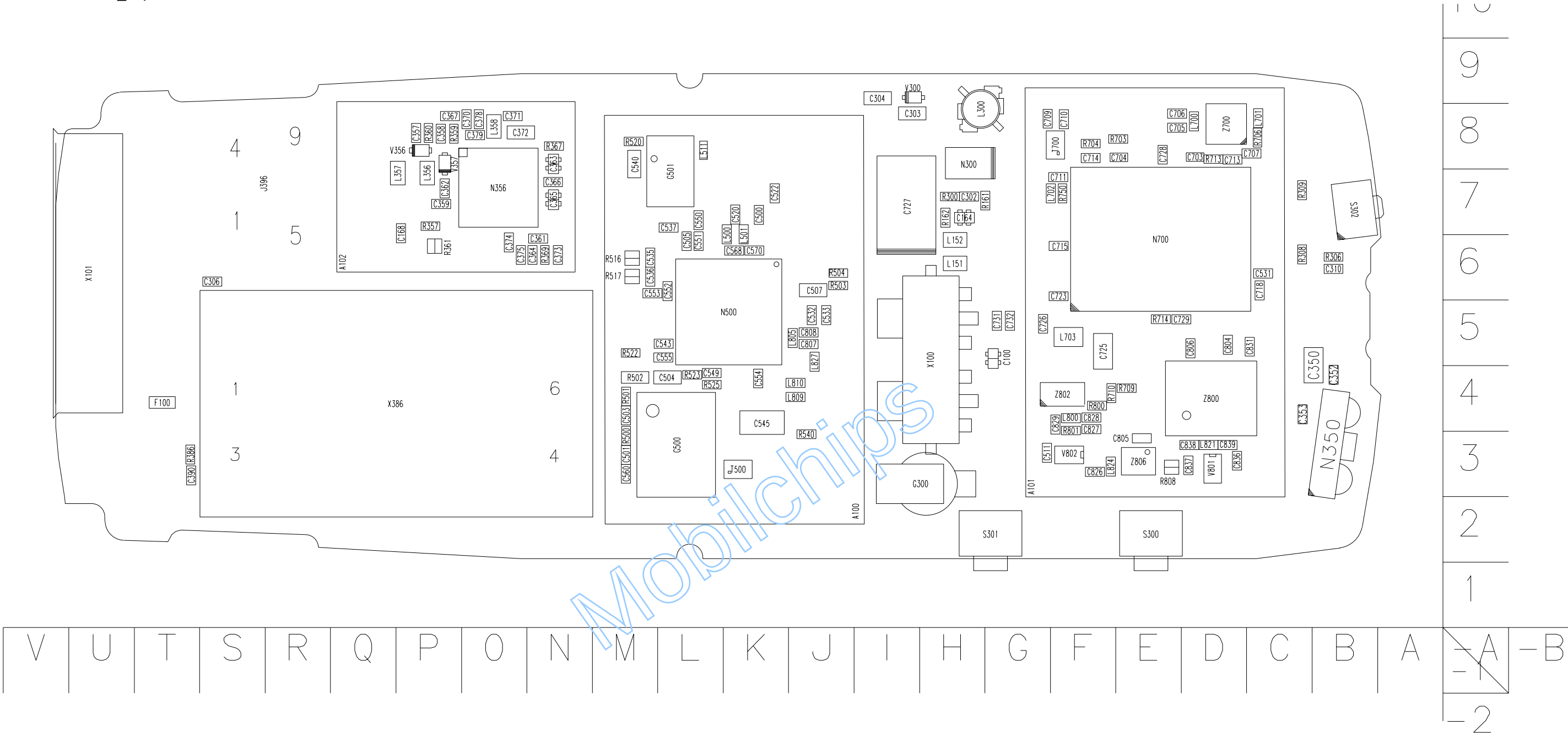
RF shields (ver. 0.0 ed.6)



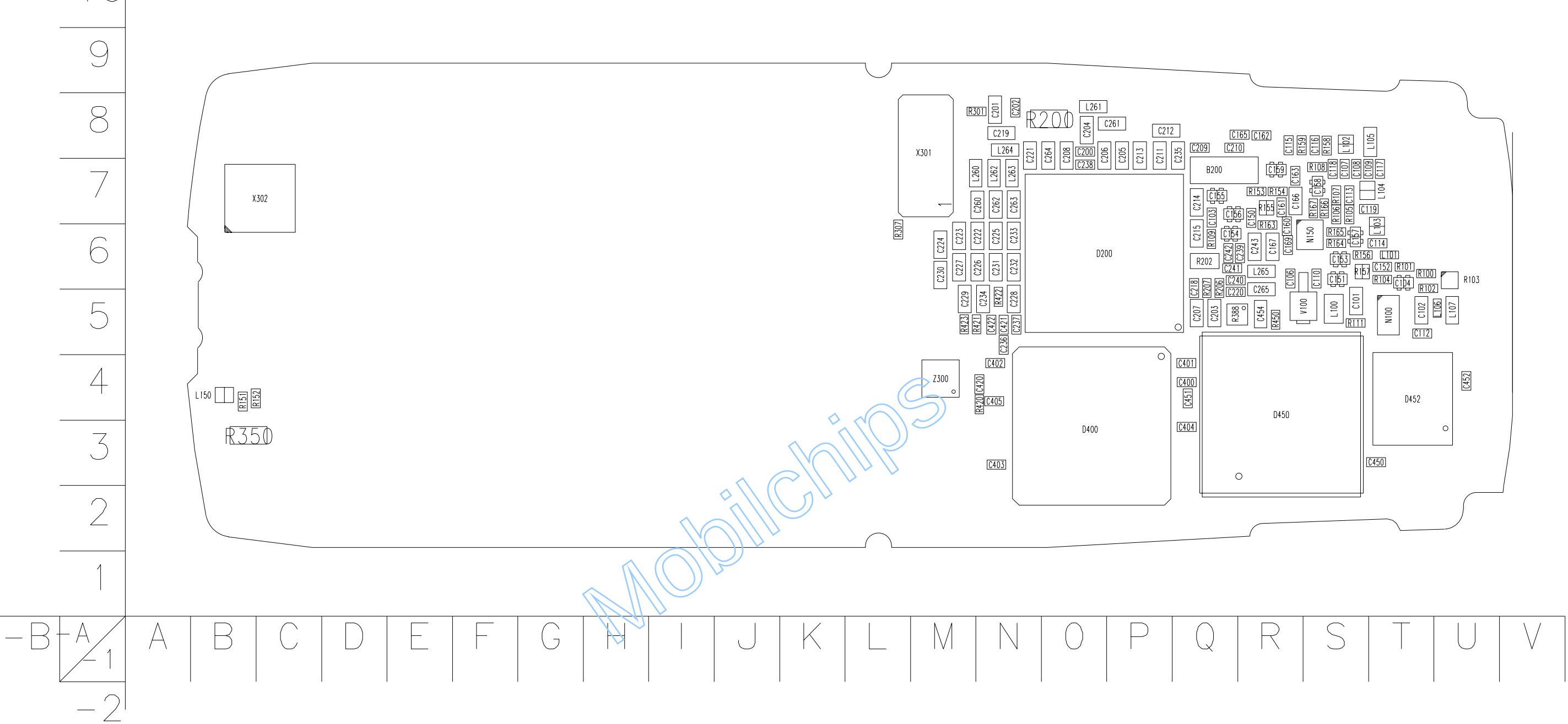
RX Front End and Antenna Switch (ver. 0.0 ed.2)



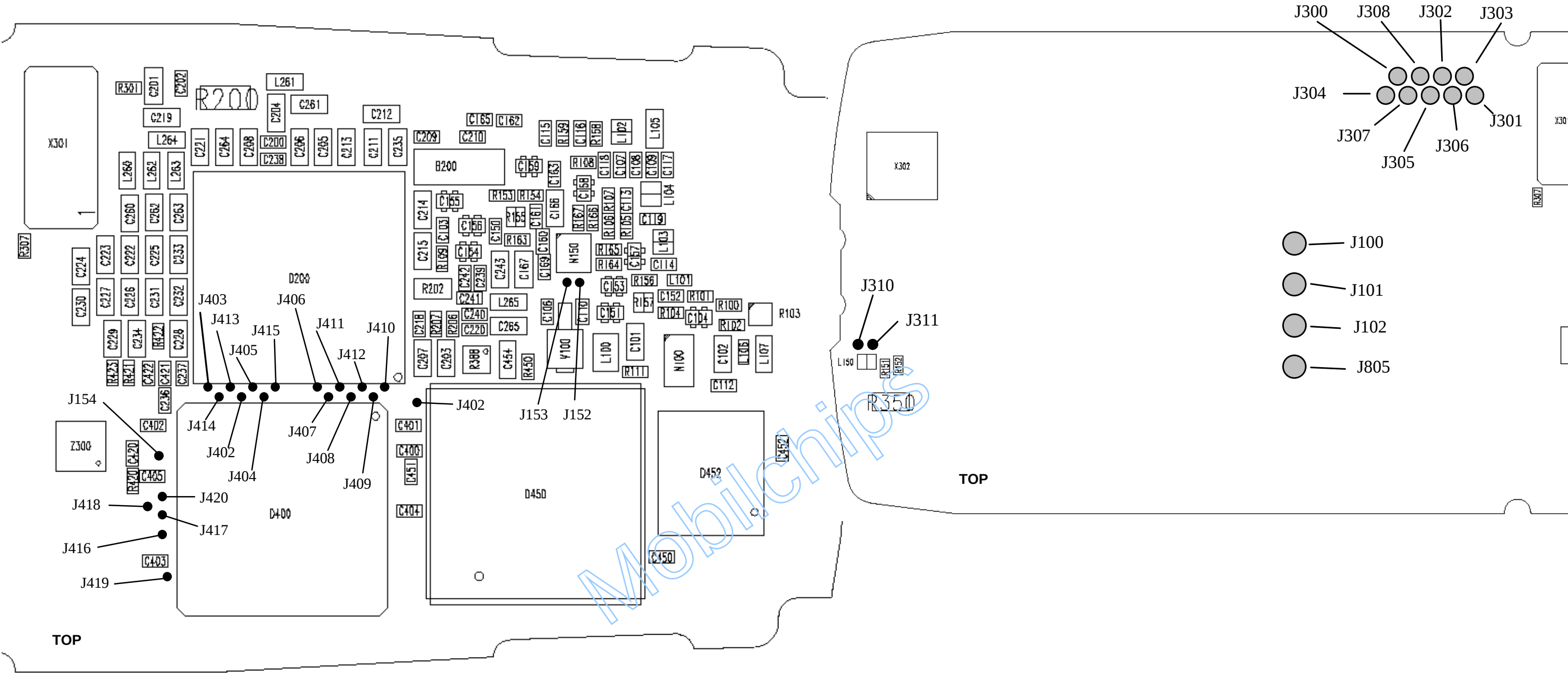
Parts Placement TB4_18, bottom



Parts Placement TB4_18, top



Test Points TB4_18, top side



List of Test Points

Test Points

Signal	Test point	Function	Characteristics	Note	Signal	Test point	Function	Characteristics	Note
STISClk	PRODTP1	STI serial clock	Digital signal 1.8 V		FMWrEn	J358	FM-radio write enable	Digital signal 1.8 V	From UPP to FM-radio
FBUSTXO	PRODTP2	Flash programming data and phone control	2.78V digital signal	From phone to FPS-8/PC	FMClk	J359	Reference clock for FM-radio, 32 kHz	Digital signal 1.8 V	From UPP to FM-radio
FBUSRXO	PRODTP3	Flash programming data and phone control	2.78V digital signal	From FPS-8/PC to phone	SIMDATA	J386	SIM data	Digital signal 1.8 / 3V	From / to UEM / SIM card
STITxD	PRODTP4	STI data (Tx)	Digital signal 1.8 V		SIMRST	J387	SIM reset	Digital signal 1.8 / 3V	From UEM to SIM card
STIRxD	PRODTP5	STI data (Rx)	Digital signal 1.8 V		SIMCLK	J388	SIM clock	3.25MHz digital clock signal 1.8 / 3V	From UEM to SIM card
VPP	PRODTP6	Flash programming voltage	1.8V internal voltage 12V external voltage		VSIM	J389	Power supply for SIM card	1.8V or 3V	Depends on the SIM card
MBUS	PRODTP7	Flash programming clock and phone control	2.78V digital signal 6.5 MHz max.	Bi-directional phone control	PURX	J402	Power up reset	1.8V digital signal	From UEM to UPP
GND	PRODTP8	Ground			SLEEPX	J403	Sleep mode control signal	1.8V when not in sleep 0V when in sleep mode	
NC	PRODTP9			Not used	SLEEPCLK (40)	J404	Sleep mode timing clock	32.768kHz digital clock 1.8V	
VBATT (10)	J100	Battery voltage			UEMINT	J405	Interrupt request for UPP	1.8V digital signal	From UEM to UPP
BSI	J101	Battery size indicator Local mode indicator SIM removal indicator Flash programming start signal	1V in normal mode 0V in local mode If BSI line rises > 2.1V 2.78V BSI pulse	To UEM A/D converter	CBUSCLK	J406	Serial control bus clock	1MHz digital clock signal 1.8V	From UPP (MCU) to UEM Controlled by MCU
BTEMP	J102	Battery temp. Indicator Test mode indicator	About 0.8V at 25°C 0V in test mode		CBUSDA	J407	Serial control bus data input/output	1.8V digital signal	Between UPP (MCU) and UEM Controlled by MCU
HSEAR L	J103	FM radio audio L		Production testpoint	CBUSENX	J408	CBUS enable signal	1.8V digital signal	From UPP (MCU) to UEM Controlled by MCU
HSEAR R	J104	FM radio audio R		Production testpoint	MBUSTX	J409	MBUS from UPP to UEM	1.8V digital signal	
FMANT	J105	FM radio antenna		Production testpoint	MBUSRX	J410	MBUS from UEM to UPP	1.8V digital signal	
ENB	J152	Audio amplifier enable	Digital signal 1.8 V	From UPP to amplifier	FBUSTX	J411	FBUS from UPP to UEM	1.8V digital signal	
CLK	J153	Audio amplifier serial clock	Digital signal 1.8 V	From UPP to amplifier	FBUSRX	J412	FBUS from UEM to UPP	1.8V digital signal	
DATA	J154	Audio amplifier data	Digital signal 1.8 V	From UPP to amplifier	DBUSCLK	J413	DBUS clock	13MHz digital clock signal 1.8V	From UPP (DSP) to UEM Generated by UPP
VFLASH1	J300	Supply voltage to LCD	2.78 V	From UEM to LCD	DBUSDA (50)	J414	DBUS data input/output	1.8V digital signal	Between UEM and UPP (DSP)
VIO (20)	J301	Supply voltage to LCD (IO)	1.8 V	From UEM to LCD	DBUSEN1X	J415	DBUS selection and enable	1.8V digital signal	From UPP (DSP) to UEM

Test Points

VLED-	J302	LED driver feedback	~0.5V	From LCD to LED driver	EXTWRX	J416	Flash memory write enable	1.8V digital signal	
VLED+	J303	LED driver output voltage	~7.5V V	From LED driver to LCD	EXTRDX	J417	Flash memory read enable	1.8V digital signal	
CSX	J304	LCD Chip select	Digital signal 1.8 V	From UPP to LCD	FLS2CSX	J418	2ndFlash memory chip select	1.8V digital signal	Not used
SDA	J305	LCD Serial Data	Digital signal 1.8 V	From UPP to LCD	FLSCLK	J419	Flash memory clock	35MHz digital clock signal 1.8V	In burst mode
RESX	J306	LCD Reset	Digital signal 1.8 V	From UPP to LCD	FLSCSX	J420	Flash memory chip select	1.8V digital signal	
SCLK	J307	LCD Serial Clock	Digital signal 1.8 V 6.5 MHz	From UPP to LCD	RFBUSCLK	J501	HELGA control clock	13MHz digital clock signal 1.8V	From UPP to HELGA
GND	J308	Ground (for module jig)			RFBUSEN1	J502	HELGA chip select	1.8V digital signal	From UPP to HELGA
EARP	J310	Earpiece line (positive)	Audio signal (differential)	From UEM to Earpiece	RFBUSRST	J503	HELGA Reset	1.8V digital signal	From UPP to HELGA
EARN	J311	Earpiece line (negative)	Audio signal (differential)	From UEM to Earpiece	RFBUSDATA (60)	J509	HELGA control serial data	1.8V digital signal	From UPP to HELGA
FMCtrlDa (30)	J356	FM-radio serial data	Digital signal 1.8 V	From UPP to FM-radio	GND	J805	Ground (for module jig)		
FMCtrl-Clk	J357	FM-radio serial clock	Digital signal 1.8 V	From UPP to FM-radio	FMWrEn	J358	FM-radio write enable	Digital signal 1.8 V	From UPP to FM-radio
GND	J308	Ground (for module jig)			FMClk	J359	Reference clock for FM-radio, 32 kHz	Digital signal 1.8 V	From UPP to FM-radio
EARP	J310	Earpiece line (positive)	Audio signal (differential)	From UEM to Earpiece	SIMDATA	J386	SIM data	Digital signal 1.8 / 3V	From / to UEM / SIM card
EARN	J311	Earpiece line (negative)	Audio signal (differential)	From UEM to Earpiece	SIMRST	J387	SIM reset	Digital signal 1.8 / 3V	From UEM to SIM card
FMCtrlDa (30)	J356	FM-radio serial data	Digital signal 1.8 V	From UPP to FM-radio	SIMCLK	J388	SIM clock	3.25MHz digital clock signal 1.8 / 3V	From UEM to SIM card
FMCtrl-Clk	J357	FM-radio serial clock	Digital signal 1.8 V	From UPP to FM-radio	VSIM	J389	Power supply for SIM card	1.8V or 3V	Depends on the SIM card

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