Nokia Customer Care 3155/3155i (RM–41), 3152 (RM–61) Mobile Terminal

Baseband Description and Troubleshooting

Contents

Introduction	5
Power Up Sequence	6
Flash Programming	7
Flashing Tool	
Flashing Troubleshooting	8
Flashing Phoenix Interface	10
Audio	11
How the Audio Works	
Audio Troubleshooting	
Audio Phoenix Interface	13
FM Radio	14
How the FM Radio Works	14
FM Radio Test	14
FM Radio Troubleshooting	14
FM Radio Phoenix Interface	15
USB (Universal Serial Bus)	17
How the USB Interface Works	17
USB Troubleshooting	18
Display	20
How the Display Works	20
Display Troubleshooting	20
Display Backlight Troubleshooting	21
Display Phoenix Interface	23
Keypad Backlight	24
How the Keypad Backlight Works	24
Keypad Backlight Troubleshooting	24
Keypad Backlight Display Phoenix Interface	26
GPS	27
How GPS Works	27
GPS Troubleshooting	27
GPS Phoenix Interface	30
UIM Card	31
How the UIM Card Works	31
UIM Card Troubleshooting	31
UIM Card Phoenix Interface	34
System Connector	35
Accessory Detection	36
Battery (Lynx) Interface Circuit	37
Charging	38
Common Problems	39
No Communication During Flash	39
No Communication During Alignment	
Failed Self Test/Calibrate	
Mobile Terminal Not Powering Up	
Shut Down After 32 Seconds	
	40
Key Pads Maltunction	40

Page

No LCD Display	40
Phoenix Tools	. 41
Reference	. 47
Signal references	47
Main PWB Overview	48
Test point map - bottom	. 48
Test point map - top	. 49

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Introduction

The 3155/3155i/3152 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 (UEME IC), which includes the audio circuits, charge control, and voltage regulators
- D2800 Main phone 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 1070 mAh.

Even though the Bluetooth, Camera, Camera flash, External Display and MMC components are on the ASICs, they are not used in the 3155/3155i/3152 baseband module.

Power Up Sequence

When the mobile terminal is dead or jammed always check the Power Up Sequence of the baseband area. Verify all regulator and reset signals are correct to ensure proper power up of UEMEK and D2800 (see Figure 1).



Figure 1: Power-on sequence and timing

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2→		F.J	· · · · · · ·						
	VFLASH1	[·····		-4-1	:		· ·
3→		······································							
	VCORE								
4→		k	· · · · · · · · · · · · · · · · · · ·			, Wi	aw da waa ahaa ahaa ahaa ahaa ahaa ahaa	illiyiliiyilli	
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5 →			~~~~~	*********			minim		
	PURX	Г.	· ·				1		· ·
0-+						· · · · · · · · · · · · · · · · · · ·	••••••••••••••••••••••••••••••••••••••		· · · · · · · ·
	GRP1 1 1 1 GRP3 3 3 3	$\begin{bmatrix} 2.00 \\ 2.00 \end{bmatrix}$) V GRP) V GRP	2 2	: 2 2 2	1.00 V	M50.0	ms Ec	lge
	GRP3[3:3] 2.00	OV GRP	94 [4	:4]2	.00 V			

Figure 2: Measured power-on sequence and timing Flash Programming

Flash Programming

Flashing Tool

Flash programming is done through the VPP, FBUSTX, FBUSRX, MBUS, and BSI signals

BSI = Used to indicate to MCU that the prommer is connected and mobile terminal is in flashing mode

 $\mathsf{MBUS}=\mathsf{Used}$ as clock signal for synchronizing the serial communication between the prommer and MCU

FBUSRX = Data to UPP

FBUSTX = Data to prommer

VPP = 0v/1.8v/12v (read only/normal op. or slow programming/fast programming)

Figure 3 shows the DA-47 flashing tool and Module Jig MJ-57.



Figure 3: DA-54 Flashing Tool and MJ-57 Module Jig

Flashing Troubleshooting

When troubleshooting flashing problems, first make sure the signals from the FPS-8 to the D2800 processor are functioning properly before replacing any component. Once signals between production test points and the D2200 and the D2800 processor have been checked, verify that the interface between D2800 processor and flash is correct.

While all the signals between D2800 processor and flash are not visible, the available signals will help identify the components that may need to be replaced.



Figure 4: Flashing diagram

When troubleshooting the flashing to diagnose and determine faulty components, check the signals in the following sequence:

- Make sure the signals from the tester are making contact with the production flash pads.
- Use Phoenix External to either program or erase a mobile terminal that is not working. This allows you to monitor the signals form the FPS-8 to the D2800 processor.

- When flashing or erasing the mobile terminal, monitor the MBUSRX and FBUSRX signals from the UEMEK to the D2800 processor for a signal at these points. If either signal does not appear, check the signal at the production test points. If the signal is ok, check the UEMEK. Re-flow or replace the UEMEK.
- Next make sure that the D2800 processor sends information back to the FPS-8 through the FBUSTX signal. If there is no activity at this point re-flow or replace the processor.
- If all points are ok, make sure the FBUSTX signal goes through the UEMEK by measuring the signal at the FBUSTXO at production test points. If there is no signal present, reflow or replace the UEMEK.
- If all signals form the production test points to the UEMEK to the D2800 processor are functioning, it is safe to assume that the UEMEK and D2800 processor are ok.

Continue troubleshooting the D2800 processor as it interfaces with the flash. Verify the available signal interface between the processor and flash as follows:

- Erase or program the mobile terminal to monitor the D2800 processor and flash interface as verified earlier using Phoenix External.
- When programming or erasing the mobile terminal, monitor the FLSCSX, FLSCLK, EXTRDX, and EXTWRX flash signals. If any of these signals has no activity, re-flow or replace the D2800 processor.
- If all signals are ok, re-flow or replace the flash.

If additional troubleshooting is still required to determine why the mobile terminal cannot be flashed, verify all the baseband voltages. In particular, check the VIO since it is one of the regulators that powers the flash chip.

Flashing Phoenix Interface

Run EZ Flash in Phoenix to flash the mobile terminal.

🌠 Pl	hoenix						
File	Flashing	Tools	CDMA	Troubleshooting	Tuning	Window	Help
	FPS-11	l Flash					
	Promm FPS-BC EZ Flas Blueto	er Main I Mainte sh oth Flas	tenance mance :her				



🔓 EZ Flash		
Fhone Information		
Product Code:		<u>Flash</u>
Description	5	<u>è</u> elect
		<u>H</u> elp
Flash File:		
Reflash image in phone		
Optional saving & restoring		
Calendar 🔽 To- <u>d</u> o List 🔽 <u>G</u> allery, games, apple	ets, etc.	
Phone Book		
Status Messages		
1		

Figure 6: EZ Flash in Phoenix

Audio

How the Audio Works

The baseband supports three microphone inputs and two earpiece outputs. The microphone inputs are MIC1, MIC2, and MIC3:

- MIC1 input is used for the moblie terminal's internal microphone
- MIC2 input is used for headsets (Pop-Port[™])
- MIC3 input is used for the Universal Headset

Every microphone input can have either a differential or single-ended AC connection to the UEMEK circuit. In the Nokia 3155/3155i/3152, the internal microphone (MIC1) and external microphone (MIC2) for Pop-Port[™] accessory detection are both differential. However, the Universal Headset interface is single-ended. The microphone signals from different sources are connected to separate inputs at the UEMEK. Inputs for the microphone signals are differential types. Also, MICB1 is used for MIC1 and MICB2 is used for MIC2 and MIC3 (Universal Headset).



Figure 7: Audio components

Audio Troubleshooting

When troubleshooting the audio, make these common checks (see Figure 8):

- Perform visual inspection of all the ASIPs and the UEMEK.
- Inject 1KHz signal into MiC1 and trace it to the earpiece. Only when using IHF signal will be amplified by a factor of 8.



Figure 8: UEMEK Side of Audio Diagram

- Make sure the audio amplifier and solder are ok.
- Make sure the IHF speaker contacts are ok.
- Make sure output is amplified by 8x. If not, check that the gain resistors network is correct.



Figure 9: IHF Troubleshooting

Audio Phoenix Interface

Run Audio Test in Phoenix to chec	k the audio functionality.
 MiC1 - Use the first option to route the audio from the internal microphone to the headset speaker. MiC2 - Use the second option to route the audio signal from the headset microphone to internal earpiece. MiC3 - Use the first and second options to test MIC3. Open channel and insert the universal headset. The UEM automatically re-routes the audio signal to the UHJ. Earpiece - Use the second option to hear audio from internal earpiece. IHF - Use the fifth option to route audio signal to IHF speaker out. 	Audio Test Internal Audio Loop Audio Ext microphone in Ext speaker out Digital in directly back to digital out Sigma-delta modulator out to Dac in Ext microphone in Ihf speaker out Ext microphone in Ext speaker out Fm radio in Ext speaker out Fm radio in Ext speaker out
	Buzzer Strength Yolume Frequency On 1000 Off 1000 Set Test Mode Elose

Figure 10: Audio Test in Phoenix

FM Radio

How the FM Radio Works

The D2800 turns on the FM radio and sets the frequency using the CBUS serial interface as the communication channel. A high frequency FM radio signal comes in through RFIN1 Pin to the FM radio chip and gets demodulated into a low frequency signal and is sent to the UEMEK for amplification. The amplified signal then gets routed back either to the universal headset or to the system connector for the stereo headset.





FM Radio Test

To hear the FM radio, you first connect headset to Pop-Port[™] or UHJ ports because the headset is an FM radio antenna. Connect the headset to UHJ port to control the FM radio using Phoenix. If you connect a headset (such as HDS-3) to a Pop-Port[™] connector, then you cannot control the mobile terminal because you have already occupied the connection port (Pop-Port[™]). In this case you have to have jumper wires on the production test points (Fbus Tx/RX,GND).

FM Radio Troubleshooting

When troubleshooting the FM radio, make these common checks (see Figure 12):

- Check Power Supply VIO and VANA
- Check SleepCLK
- Check FMANT
- Check for activity on CBUS
- Check output of FM radio on VAFR and VAFL

- If the audio signal not correct (with 800mv DC-offset), then check FM radio chip for shorts, voids, and misalignments
- If the audio signal is correct (with 800mv DC-offset), then check the UEMEK for shorts, voids, and misalignments



• If the UEMEK and FM Radio Chip is correct, check the system connector

Figure 12: FM Radio Chip and Antenna

FM Radio Phoenix Interface

Checks for the FM radio that can be perform with Phoenix include:

- Verify the FM radio is working by connecting headset to UHJ
- Turn on the FM radio
- Set frequency and volume



Figure 13: Phoenix FM Radio Control panel

USB (Universal Serial Bus)

How the USB Interface Works

When the mobile terminal is connected to a computer using a DKU-2 data cable, the computer will provide Vbus (5V) to and pull down D+ a,d D – lines. The mobile terminal will respond by pulling the D+ line high. The computer acknowledges and starts transferring data at 12Mbits/sec.



Figure 14: USB interface block diagram

USB Troubleshooting

First connect mobile terminal to the computer using a DKU-2 data cable. Check under device manager if the computer recognizes the mobile terminal as a USB device. If the mobile terminal is recognized, there is no hardware fault and you can stop troubleshooting.



Figure 15: PC Device Manager

When troubleshooting the USB, make these common checks (see Figure 26 and Figure 27):

- Perform a visual inspection on Pop-Port[™] connector, ESD Protection, NUT Chip, and caps and Inductors
- Check Vout, Vflash1, and ACI Line. If not correct, check UEMEK under X-ray or change the part.
- Check for activity on the USB D+ and USB D lines. If there is no activity, check D2800 under X-ray or change the part.



Figure 16: USB Chip and Diagram



Figure 17: USB Vout

Display

How the Display Works

Nokia 3155/3155i/3152 has a large main display (160 x 130 color depth), controlled by the D2800 engine through a parallel interface. The secondary, black and white display (96 x 68) is controlled by the D2800 engine through a serial interface. The UEMEK powers using VIO and VFlash1.



Figure 18: Nokia 3155/3155i/3152 UI Display

Display Troubleshooting

When troubleshooting the display, make these common checks (see Figure 19):

- Check that the display is connected properly and is making good contact with LCD connector. If no display, replace the LCD.
- Check the power supply VIO and VFlash1. If not correct, check the UEMEK.
- Check the activity on the LCD test points. If no activity, check or replace D2800
- Check the parallel interface (DIF) for the main display
- Check that the DIF CLk is 4.8MHz
- Check the serial interface (LCD) for the secondary display
- Check that the LCD CLk is 2.4MHz



Figure 19: Display Chips and Frequency

Display Backlight Troubleshooting

When troubleshooting the display backlight, make these common checks (see Figure 20):

- Perform visual inspection of LCD connector and LED Driver circuitry
- If the display backlight does not turn on, check VLED +(~12V) for the main display; VLED 2+ for the secondary display and VLED - (~.5V) on display connector for both
- If there, then you can assume the driver is working properly and the LED inside the display might be faulty. Change display.
- Check VLED + and VLED on Display Driver circuitry
- Check Dlight is enabled high (~4V) for secondary LCD. If not correct, check UEMEK.

- Check Klight is enabled high (~4V) for main LCD and keypad LEDs. If not correct, check UEMEK.
- Check Vbat(~4V) and Vin(~4V) are present on driver inputs. If not, check power supply connection.



Figure 20: Display Backlight Chip and Diagram

Display Phoenix Interface

Display test			
Select test:		¥.	
Тор 🖄	0	Top <u>Y</u> : 0	<u>[</u>
<u>₩</u> idth:	0	Height: 0	[
<u>G</u> rey level	50	Ψ.	
Select pattern:		Y	St <u>a</u> rt
Lights			
□ <u>D</u> isplay	Display <u>b</u> rightness:		J
		0%	100%
☐ Keypad	Keypad brightness:		
		0%	100%

Figure 21: Phoenix Display Test option

Keypad Backlight

How the Keypad Backlight Works

Klight coming out of UEMEK controls the keypad backlight LEDs. Klight enables the LED driver, which is a constant voltage supply for all the keypad LED in series. The current is set for all the branches by Rset which in this case is 33k Ohms and equates to 10mA through each LED.



Figure 22: Keypad Backlight Diagram

Keypad Backlight Troubleshooting

When troubleshooting keypad backlight, make these common checks (see Figure 23 and Figure 24):

- Perform visual inspection of all the components including LEDs
- Check Vbat to make sure the driver has power
- Check Klight to make sure driver is enabled by the UEMEK. If not correct, check the UEMEK.
- If lights are too dim or too bright, check Rset. Rset controls the current going through the LEDs.
- Check Vout to make sure LEDs are getting power. If still not working, change LED. Make sure LED orientation is correct.



Figure 23: Keypad Backlight Chip and Diagram

Keypad Backlight Display Phoenix Interface

Run the Displa	v Test in	Phoenix to	check the	keypad	backlight.
nun tite Dispit	y icscin		CHECK CHE	Reypud	oucking it.

	Test			
	Display test			
	belect test			
	l op 🔀:	U	Top Y: U	
	<u>₩</u> idth:	0	Height: 0	
	Grey level	50	Ψ	
	Select pattern	r.	Y	Start
	-Liahts			
Turn on Dlight	Lights	Display <u>b</u> rightness:		
Turn on Dlight	Lights	Display <u>b</u> rightness:		
Turn on Dlight	Lights Display	Display <u>b</u> rightness: Keypad brightness:	0%	
Turn on Dlight — Turn on Klight —	Lights	Display <u>b</u> rightness: Keypad brightness:	0%	· · · · · · · · · · · · · · · · · · ·

Figure 24: Phoenix Display Test option

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GPS

How GPS Works

This is for emergency 911 GPS service only. When you dial 911, the GPS turns on by using Vcore_Lin and VIO from UEMEK. GPS communicates with the D2800 using the UART interface. This turns on the BB chip and the RF chip. They synchronize with the mobile terminal using the 19.2Mhz clock. The mobile terminal locates the closest satellite and downloads the location coordinates to send them to the Emergency desk.



Figure 25: GPS Block Diagram

GPS Troubleshooting

When troubleshooting GPS, make these common checks (see Figure 26 and Figure 27):

- Check the Power Vcore and VIO
- Check that GPS_RF_CLk = 19.2Mhz
- Check the GPS_EN_Reset
- Check that Sleep_CLK = 32.768kHz
- Check that VRF_GPS = 2.78
- Check that the GPS clock = 16.384Mhz

- Run Test Mode 1 on Phoenix
- Check USART activity



Figure 26: GPS Power VCore or VIO

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Figure 27: GPS Chip

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GPS Phoenix Interface

CW test will fail unless CW tone is injected in GPS RF connector 🌃 GPS Testing _ 🗆 × Test Mode Test Setup Function Signal level at GPS antenna connector: -110dBm @ 1575.520152 MHz Galvanic GPS Quick Test -Use fixed attenuator (i.e. 20dB) GPS Quick Test Radiated GPS Receiver Control (AMS) **Rx Version Information** Execute Test Steps Version : not performed Self-test : not performed Oscillator : not performed CW Test : not preformed not preformed Test Summary Help Ready ...

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

Figure 28: Phoenix GPS Testing option

UIM Card

How the UIM Card Works

The Nokia 3155/3155i/3152 supports two types of UIM cards that work at 1.8V and 3.0V. When the mobile terminal is switched on with a UIM card, the D2800 sends a 1.8V signal to the UIM card and waits for the UIM card's response and identification. After a wait period, if there is no answer from the UIM card, the mobile terminal will send another signal at 1.8V. In this case UEMEK acts as a level shifter and raises the signal to 3.0V. If there is still no response, the mobile terminal will not allow access. If there is a response, then the mobile terminal powers up.



Figure 29: UIM Card Block Diagram

UIM Card Troubleshooting

When troubleshooting UIM cards, make these common checks (see Figure 30 and Figure 31):

• Check Vsim 1.8V or 3.0V. Vsim comes from UEMEK and goes through the SIM ESD protection chip. Check for bad or damaged solder joints. Replace chips if necessary.



Figure 30: Vsim check



Figure 31: Detection sequence

• Verify communication signals



Figure 32: Commuication signals

• If no signals are present: (1) check contacts on Sim connector are correct, (2) check ESD chips are correct, and (3) check the UEMEK is correct. Replace damaged parts if necessary.



Figure 33: Vsim check

UIM Card Phoenix Interface

Run the SIM-Lock Status in Phoenix to test a SIM (or UIM) card.



Figure 34: Phoenix SIM Testing options

System Connector

Figure 35 provides a mapping for the system connetor. The 3155/3155i/3152 supports Pop-Port[™] and Universal Headset accessories, differential and single-ended, respectively. Detection of the Pop-Port[™] accessories is done through the ACI signal where the Universal Headset is detected on TIKU_GenIO (4).



Figure 35: System Connector

The pin out on the Pop-Port[™] connector is as follows:

- Charger
- Charger GND
- ACI
- Vout
- USB Vbus
- USB D+ / Fbus Rx
- USB D- / Fbus Tx
- Data GND
- XMic N
- XMic P
- HSear N
- HSear P
- HSear R N
- HSear R P

Accessory Detection

Figure 36 displays how the mobile terminal detects accessories. Dummy accessories pull down to GND ACI Line. Smart accessories pull down ACI line with a 56K Ohm resistor allowing communication between accessory and UEMEK.



Figure 36: Accessory Detection Diagram

Battery (Lynx) Interface Circuit

Figure 37 illustrates the battery interface circuit. The BSI voltage level for different power-up modes:

- normal mode 1.23V
- for the test mode 170MV
- Iocal mode 90MV



Figure 37: Battery Interface Circuit

Charging

When troubleshooting battery charging, make these common checks (see Figure 38, Figure 39 and Figure 40):

Does the battery bar scroll?



Figure 38: Battery indicator bar





Figure 39: Charging layout

Measure BTEMP at V2000. Is it ~25*C? If not, replace the UEME.





 Remove the fuse at F2000 and measure the current. Is it ~850mA ? If not, replace the UEME.

Common Problems

The following section has a list of common problems, along with some standard checks.

No Communication During Flash

- Make sure there is a good connection between flash adaptor and the mobile terminal
- The mobile terminal has to be powered by prommer (FPS-8)
- Check the Baseband regulators VR3, VIO, VCORE, VFLASH1
- The mobile terminal will not able to flash without 19.2Mhz clock into UPP
- Check BSI, MBUS, FBUSRx, FBUSTx, PURX, SLEEPX for bad solder joints between UEM and UPP
- Check the Flash bus signal and VPP voltage level

No Communication During Alignment

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

Failed Self Test/Calibrate

- Make sure the mobile terminal is in local mode
- Make sure power supply provides enough current (usually approximately 500mA and 2A for tuning)
- Use the troubleshooting guide's flow chart to verify the failed circuit
- Check the signals and voltage levels as described in the troubleshooting guide

Mobile Terminal Not Powering Up

Refers to when no power causes the mobile terminal to not able to flash, not to get into local mode and similar problems.

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

Shut Down After 32 Seconds

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

No Audio

- Check for bad contacts or damaged earpiece
- Check for bad connections at mic
- Check for broken or bad solder joint of passive components
- Verify the audio signal paths using BaseBand "audio test" component with Phoenix as described in the troubleshooting guide

Key Pads Malfunction

- Check for protective film left on back of the key dome if a new one was installed
- Check for corrosion on both the key pads and key dome
- Check if flash software was corrupted
- Check for bad joint from UPP to Interface
- Check for pins shorted on or bad on Z300

No LCD Display

- Check for bad connections
- Check for a cracked or damaged display
- Probe test points as described in the troubleshooting guide for missing for incorrect signal level

Phoenix Tools

Baseband menu items in Phoenix Guide.

66 P	hoenix						
File	Flashing	Tools	CDMA	Troubleshooting	Tuning	Window	Help
			Phor Phor User PRL Diag Refu	ne Settings ne Book Data Transfer nostics nrbish			
			SPC	Editor			
			Phor	ne Information			
					_		

Figure 41: CDMA menu in Phoenix



Figure 42: Baseband Troubleshooting menu in Phoenix



Figure 43: Flashing menu in Phoenix

🌠 Р	hoenix						
File	Flashing	Tools	CDMA	Troubleshooting	Tuning) Window	Help
				Phone Control GPS Testing RF Baseband IR Test Self Tests Bluetooth Loca Vibra Test	۰ ۱s		
				Factory		ADC Read Camera Co Display Te FM Radio O MMC Cont SIM-Lock S SIM Test USB Tests	ing ontrol st Control rol Status

Figure 44: Troubleshooting Factory menu in Phoenix

K ADC Reading	
ADC Reading	
Converter Name Raw Value Unit Value Unit	- Read mode
	Co <u>n</u> tinuous
	[nterval:
	5 💌 sec
	- Read Options
	So <u>u</u> rce:
	Baw & Unit 🔻
	Samples
	ognipics.
	1 🗹
	<u>R</u> ead
	<u>Close</u> <u>H</u> elp
Maran Gauge Ven Garan Jahlal	
Ino configuration file available!	

Figure 45: ADC menu in Phoenix

16	EM Calibration				<u> </u>
			Calibrated	Phone Values	
		ADC Offset [mV]			
		ADC Gain [0.0001 mV/bit]			<u>C</u> alibrate
	Battery Size	BSI Gain (100 Ohm)			
	E Battery Temperature	BTEMP Gain			Save To Phone
	✓ Battery Voltage	SCAL Offset [mV]			<u>R</u> ead From Phone
		SCAL Gain			C <u>h</u> ange Phone
	Charger Voltage	VCHAR Gain			Help
		ICHAR Offset			
	I™ Charge Current	ICHAR Gain			
	E Battery Current	IBAT Gain			
	Status:				

Figure 46: EM Calibration menu in Phoenix

🌃 Gener	al I/O					<u>_ 0 ×</u>
Enable	Pin # State	Source		Resistor		TikuEdge v1 GenI0
		AudioCLK	•	PwrDown D	Get Set	
	1 🕂 📘	GenIO Output	-	PwrDown D	Get Set	
	2 🕂 📘	GenIO Output	•	PwrDown D	Get Set	Connection test: 0x2B1100
	3 🕂 H	GenIO Output	•	PwrDown D	Get Set	OCP Interface: Disabled
	4 ÷ H	GenIO Input	-	PwrDown D	Get Set	Addr: n/a Data: n/a
	5 🕂 📘	RxIFAGC	•	PwrDown D	Get Set	Data. IVa
	6 🕂 📘	TxIFAGC	•	PwrDown D	Get Set	
	7 🕂 📘	TxRFAGC	•	PwrDown D	Get Set	
	8 🕂 🖪	GenIO Input	•	PwrDown D	Get Set	
	9 ÷ 🖪	GenIOUSARTTx	•	Active U	Get Set	
	10 🕂 Ħ	GenIOUSARTRx	•	Active U	Get Set	
	11 ÷ H	GenIOUSARTCIkIn	•	PwrDown D	Get Set	
	12 🕂 📘	GenIO Output	•	PwrDown D	Get Set	Get All
	13 🕂 📘	GenIO Output	•	PwrDown D	Get Set	Set All
	14 🕂 📘	NUTFBusEn	•	PwrDown D	Get Set	Auto Desculate
	15 🕂 Η	RFBusEn2X	•	PwrDown D	Get Set	
All setting	is read from p	hone				Help

Figure 47: General IO and GPIO menu in Phoenix

Keyboard Tes	t					_ 🗆
- Keyboard status		_	- Special	Keus		
ADC:	N/A		Slide :	N/A	Genio:	N/A
Matrix	PRESENT		Power :	PRESENT	Softkey count	: 3
Metal dome :	N/A		Roller :	N/A	Clockwise :	N/A
Flip :	N/A		Flip :	N/A	AntiClockwise:	N/A
- Keu state historu	I	_				
Key		SI	tate			
L						
Chard	1	-	1	markete 1	Class	Ulala
Stalt	<u> </u>	au		Tuusu	<u><u></u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>	Teh

Figure 48: Keyboard Test menu in Phoenix

K	Phone Information			_ 🗆 ×
I	Items	Information	<u> </u>	pdate
	Production serial number	EWA003668		
	Product code	0520251		Help
	Module code	0202533		
	Basic production code	0520250		
	ESN plain	044/08936369		
	MCU SW version	V S100_04w21_38.nbp 17-03-2005		
	Phone Type	RM-60		
	HW version	4000		
	PRI File Name	vzwAX042721z5		
	PRL Version	50181		
	ERI Version	50019		
	Phone Model	6235i		
	Dongle Type	PKD-1 Standard Nokia Dongle		
	Dongle Serial No	63231		
	•	•		
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Figure 49: Phone Information menu in Phoenix





🔏 Regulators				_ [] ×
RF Regulators Dn VR1A VR1A VR2 VR2 VR4 VR5 VR5 VR5 VR6 VR7 All Reg. On	RF Reg Ref LQM C C C C C C LQM	Off © © © © Off	Baseband Regulators VFlash2 VSIM VCore	Commands <u>Open</u> <u>Save</u> <u>Default</u> <u>R</u> ead <u>W</u> rite
Current Regulators	0.000	Y Y	Voltage References	



Self 1	Tests				>
Tests					
	Test Name	Startup Test	Result	Detailed	
	ST_AUX_DA_LOOP_TEST	Yes	Passed [0]		
	ST_EAR_DATA_LOOP_TEST	Yes	Passed [0]		
	ST_KEYBOARD_STUCK_TEST	Yes	Passed [0]		
	ST_MBUS_RX_TX_LOOP_TEST	Yes	Passed [0]		
	ST_PPM_VALIDITY_TEST	Yes	Passed [0]		
	ST_SLEEP_X_LOOP_TEST	Yes	Passed [0]		
	ST_TX_IDP_LOOP_TEST	Yes	Passed [0]		
	ST_TX_IQ_DP_LOOP_TEST	Yes	Passed [0]		
	ST_CDMA_CORE_TEST	No	Not executed [3]		
	ST_WARRANTY_TEST	Yes	Passed [0]		
	ST_FLASH_CHECKSUM_TEST	Yes	Passed [0]		
	ST_RADIO_TEST	Yes	Passed [0]		
	ST_LCD_TEST	Yes	Not supported [4]		
	ST_UEM_CBUS_IF_TEST	Yes	Passed [0]		
	ST_PA_TEMP_TEST	Yes	Passed [0]		-
		<u>I</u> nitialize	e <u>D</u> etails	<u>U</u> nselect All <u>S</u> el	ect All
			Start		<u>H</u> elp

Figure 52: Self-test menu in Phoenix

Nokia Customer Care

Reference

Signal references



Figure 53: Signal References

Nokia Customer Care

Main PWB Overview Test point map - bottom



Figure 54: test points - bottom

NOKIA

Test point map - top Vin Voltage Setting PURX Resistors Klight FM Radio LED Driver Vout FM-ANT 0667586 GND Sleep-CLK Status LED Keypad LEDs

Figure 55: test points - top

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