

# iPhone 3G Disassembly



Comparison with previous iPhone

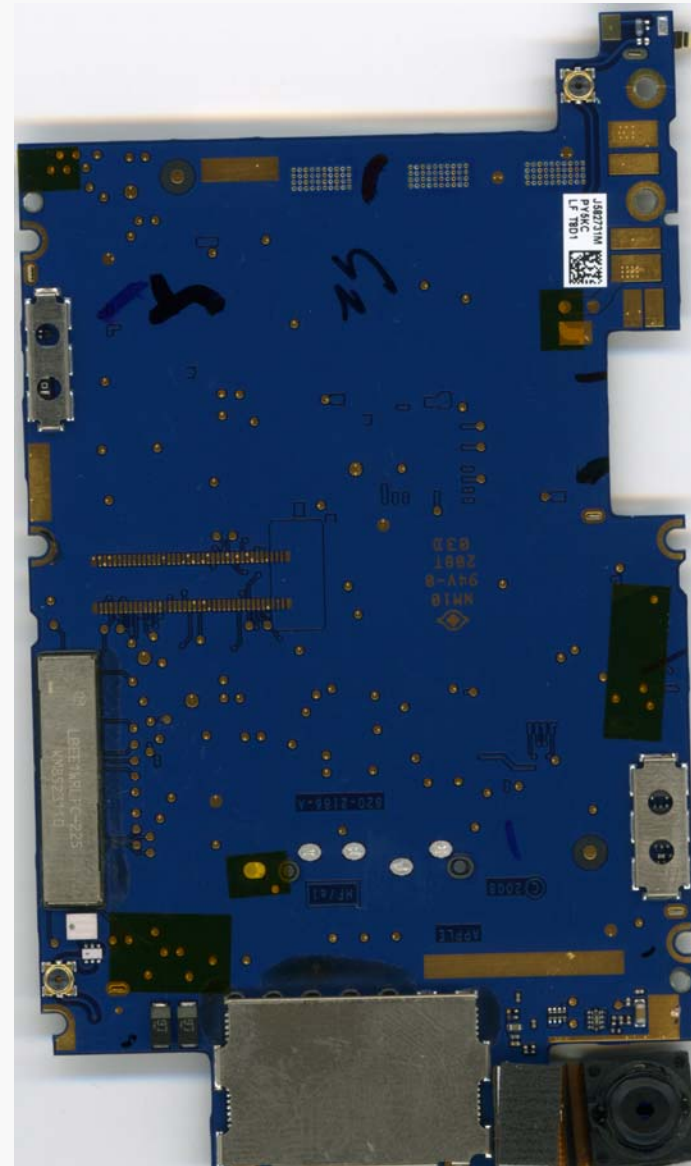
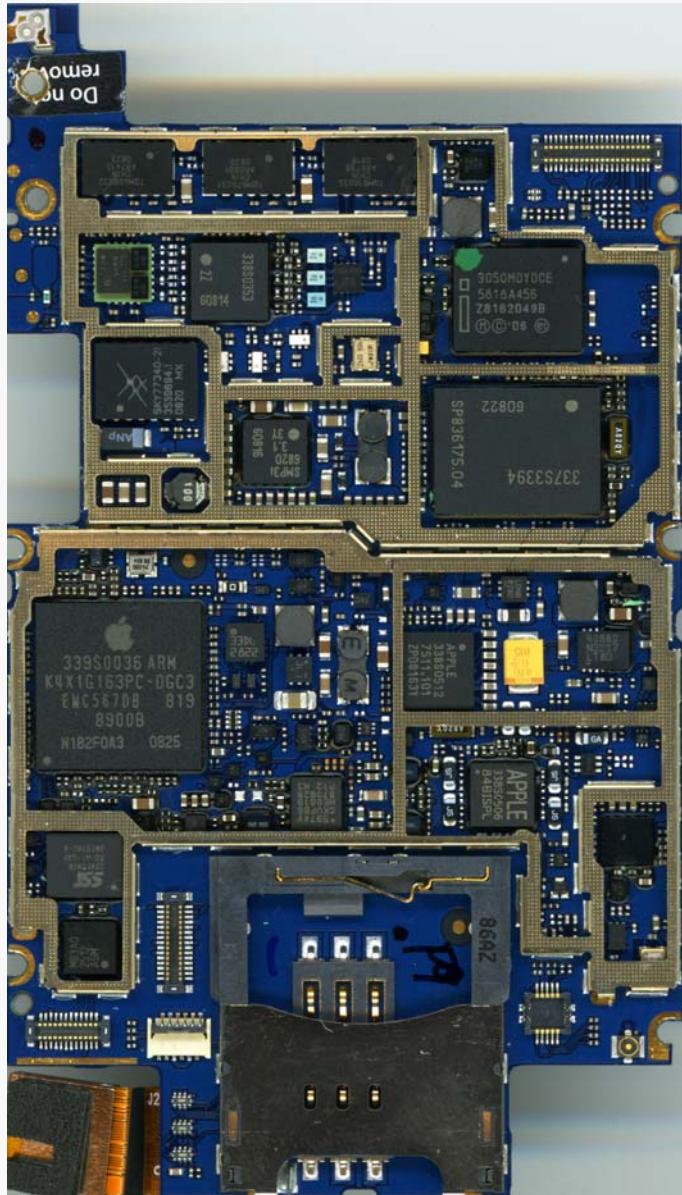
Openmoko  
open. mobile. free.

# iPhone 3G at a glance

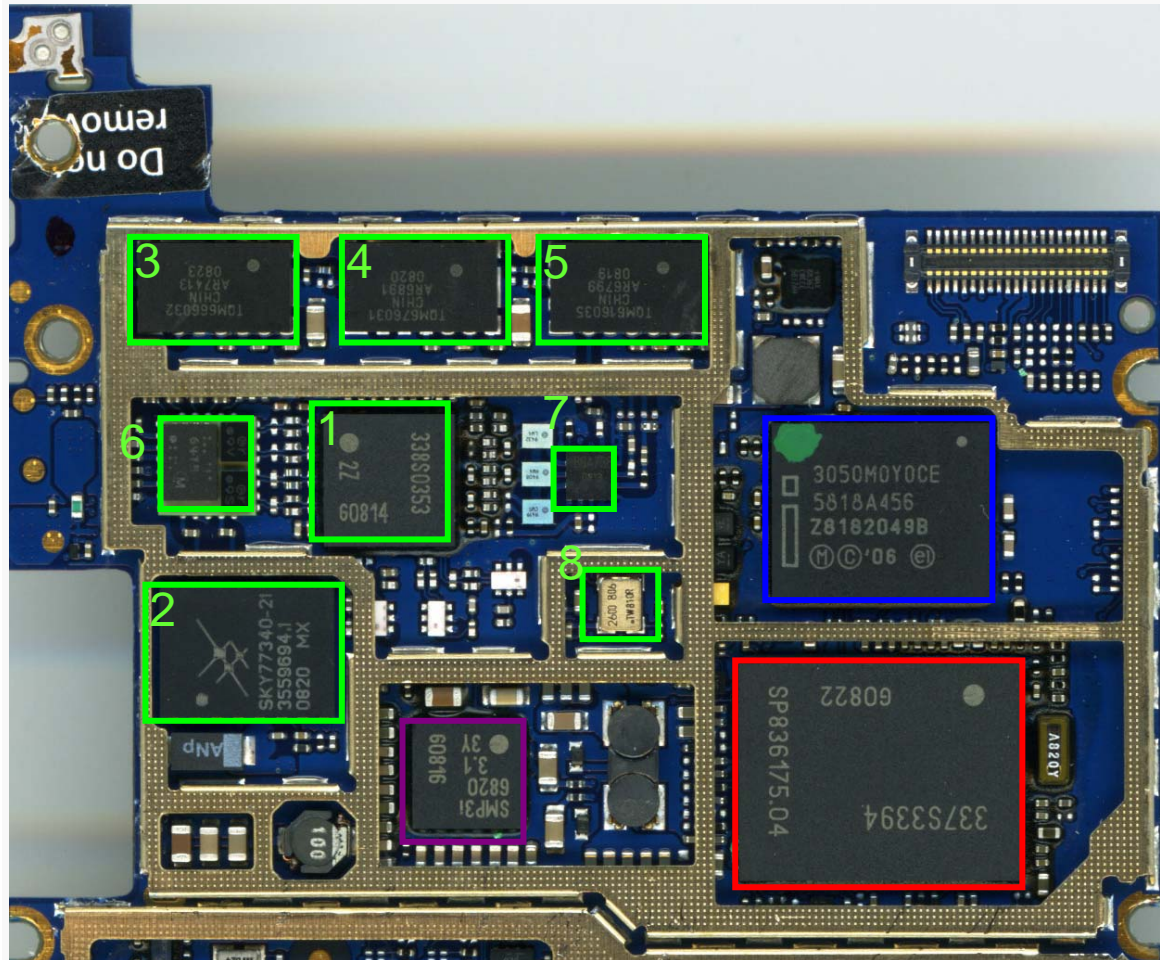


Available:	2008, July
Network:	GSM 850 / 900 / 1800 / 1900 HSDPA 850 / 1900 / 2100
Data:	GPRS + EDGE+WCDMA+HSDPA+WIFI
Screen:	320 x 480 pixels, 3.5 inches
Camera:	2 mega pixels FF
Size:	115.5 x 62.1 x 12.3 mm / 133grams
Bluetooth:	Yes
Color	Black(8/16 GB), White (16 GB)
Infra-red:	No
Polyphonic:	Yes
Memory Card	No
Battery life:	10 hours talktime / 300 hours standby

# PCBA

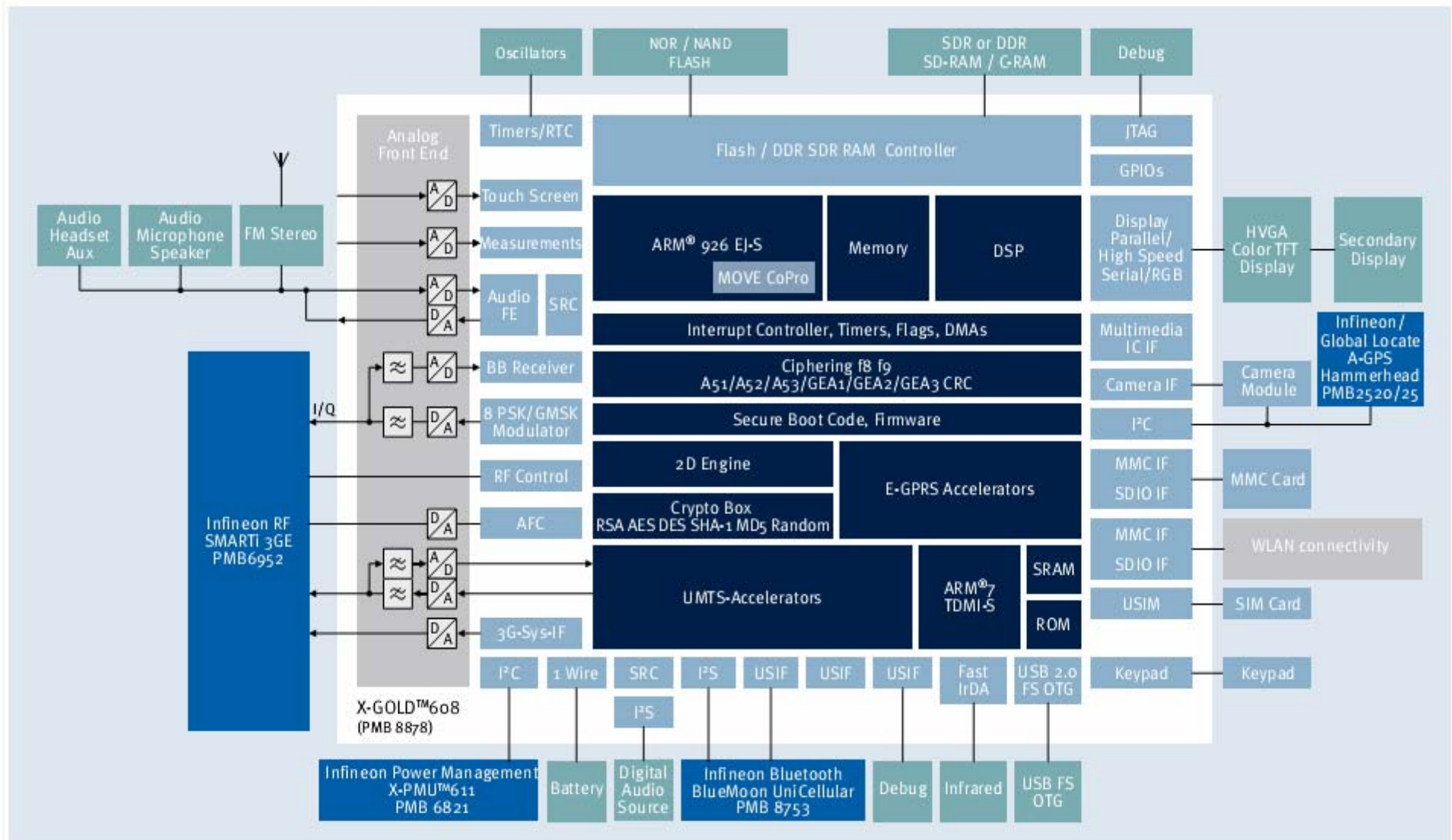


# Wireless MODEM

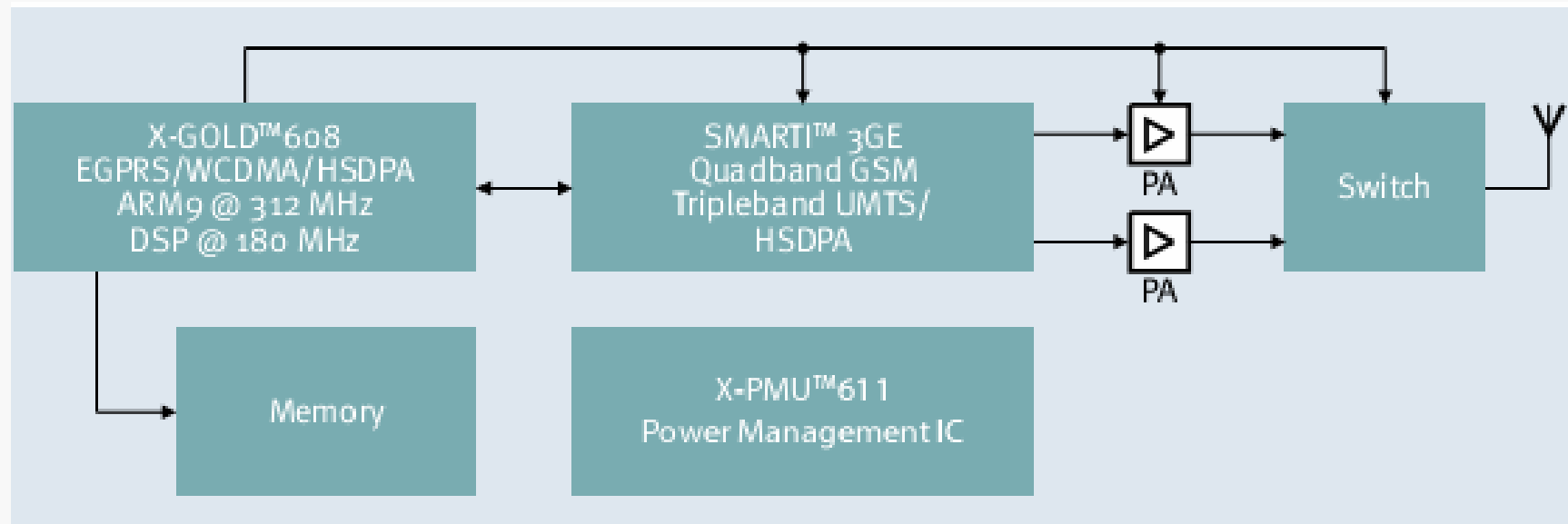


DBB	Infinion XMM 6080 ARM 926 Based (Guess?)
NOR+SRAM	Intel 3050MOYOCE 5818A456 (16MB NOR+8MB PSRAM)
PMU	Infinion PMB 6820
RF Parts	1. Infineon PMB6952 Dual Mode W-DMA/EDGE 2. Skyworks SKY77340 EDGE Quad-band PA 3. TriQuint TQM666032 4. TriQuint TQM676031 5. TriQuint TQM616035 ( 2100, 1900, 850PA-duplexers respectively ) 6. Murata Quad-band FEM 7. Infineon BGA736 Tri-band LNA 8. TCXO

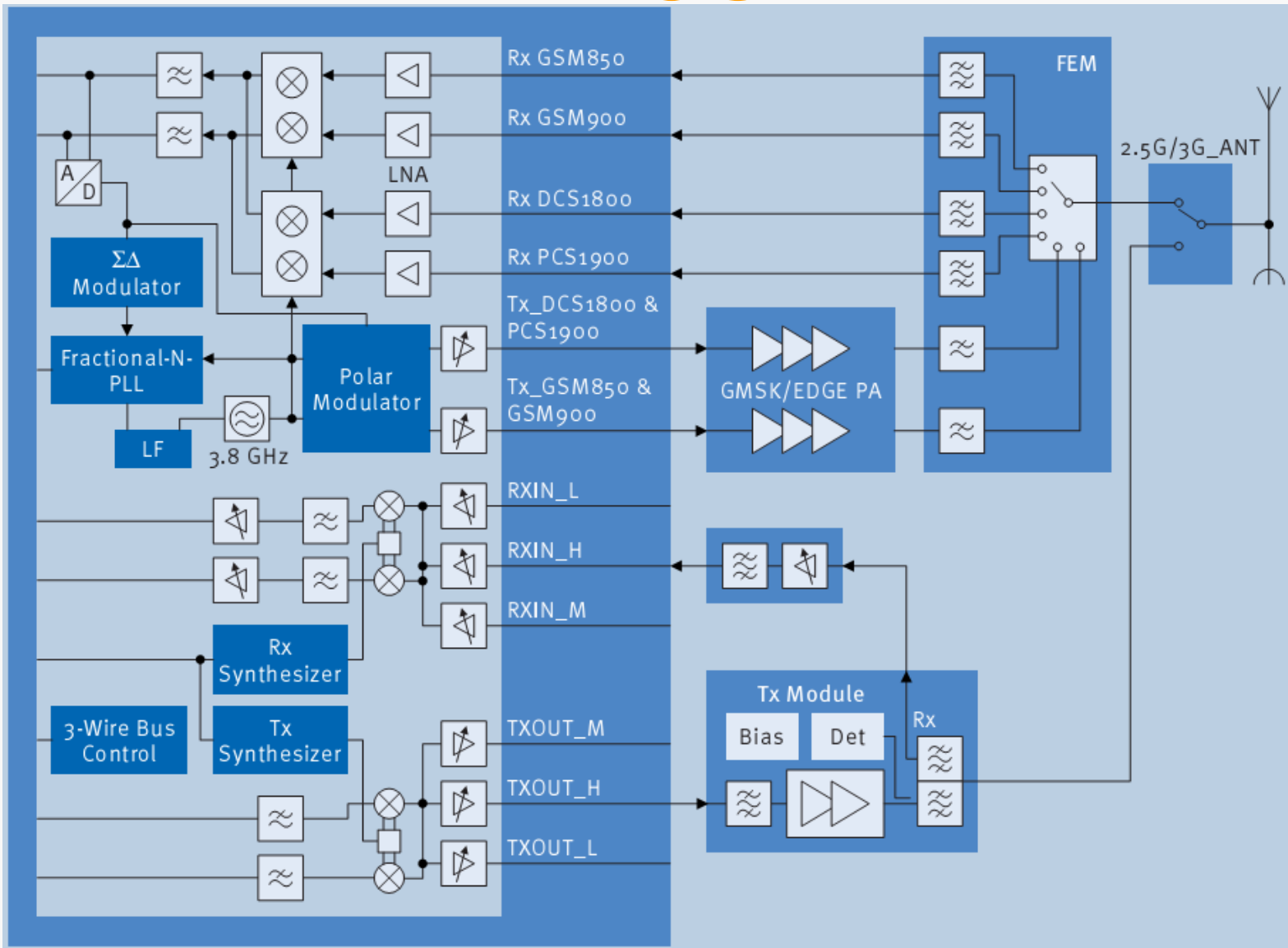
# XMM 6080 Block I



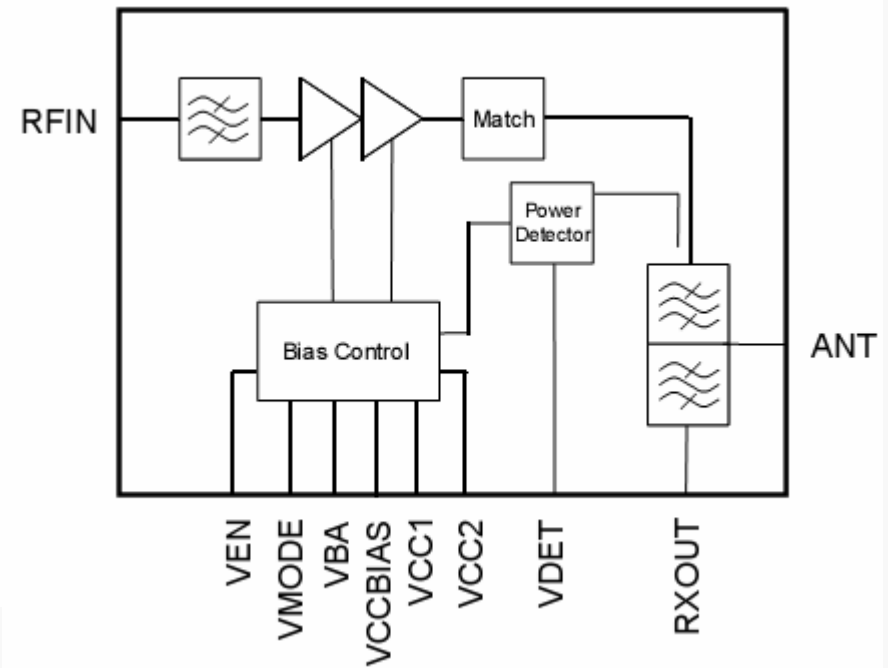
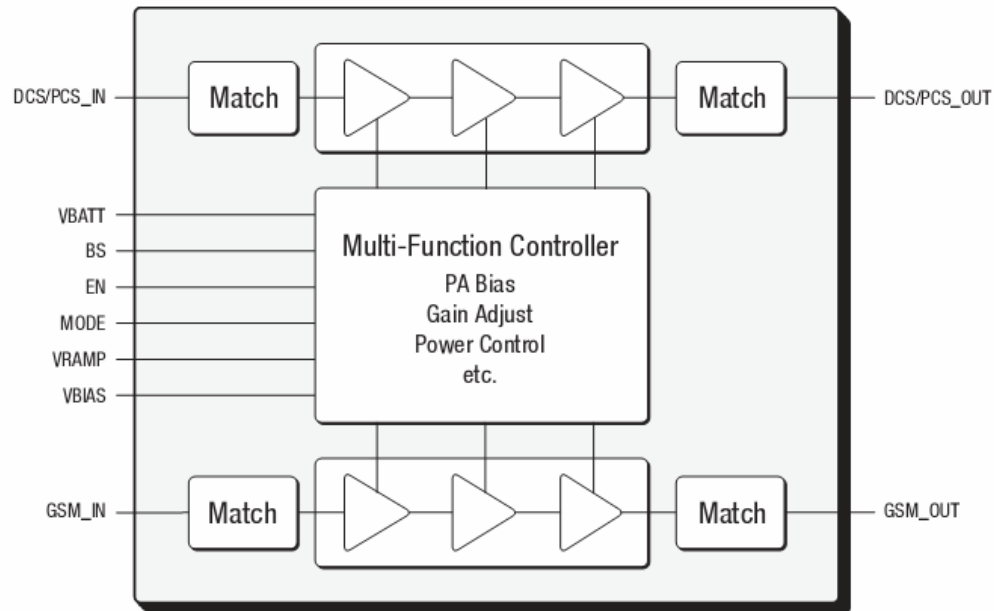
# XMM 6080 Block II



# PMB6952 Block

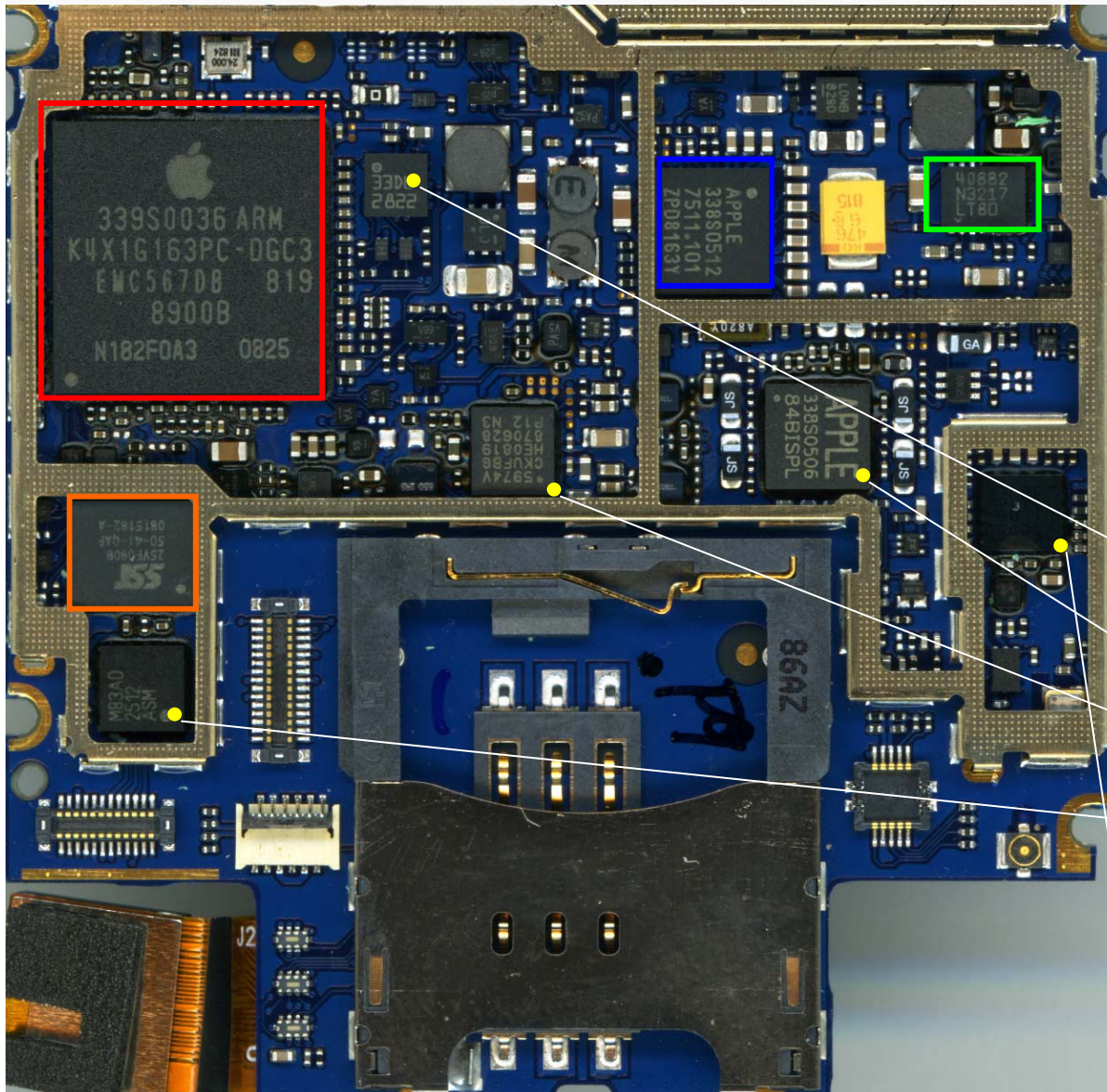


# PA Parts



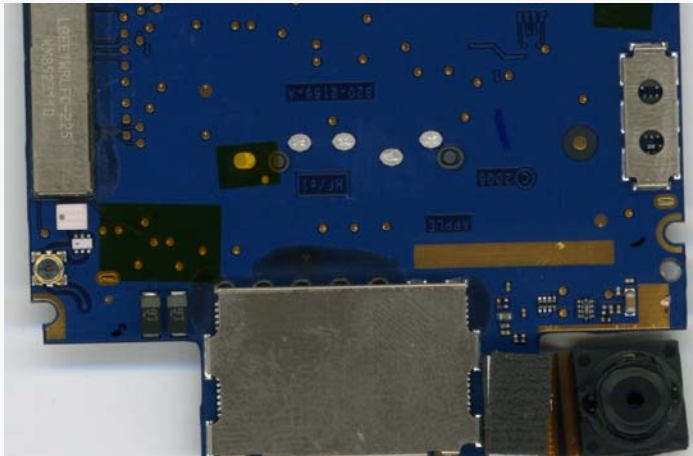


# Logic Board

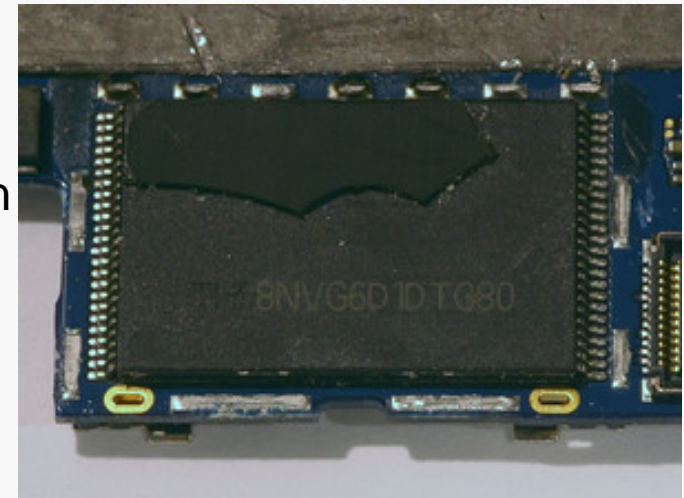


CPU	SAMSUNG 64XX Series with SAMSUNG 128MB M-DDR
PMU	NXP
Flash	SST 4Mb (SST25VF040B)
Battery Charger/USB Controller	Linear LTC4088-2
G Sensor	ST LIS331AL
Audio Codec	Wolfson WM6180C
Touch screen controller	Broadcom BCM5974
Display Interface	NS LM2512AA
GPS	Infineon PMB2525(HH II)

# NAND Flash?

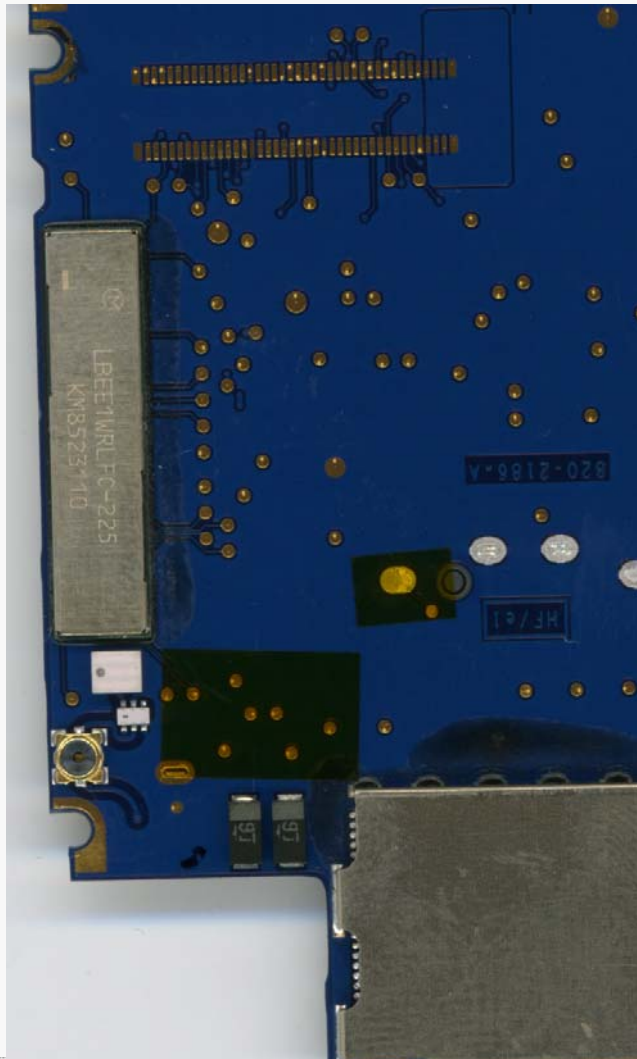


Remove Shielding Can



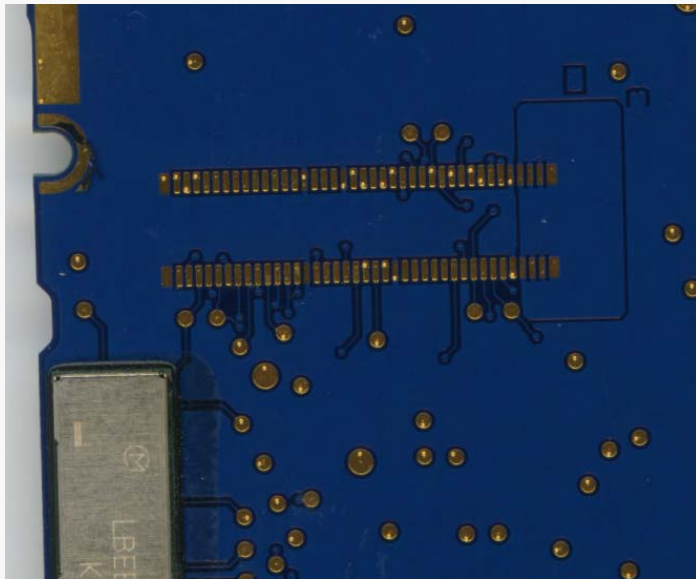
Toshiba TH58NVG6D1DTG80  
(8GB)

# Where are the other wireless chip??



These chips/modules may implement WIFI/BT (Vendor: Murata). But one thing for sure, these components must be the customized parts.

# Some interesting detections from PCB

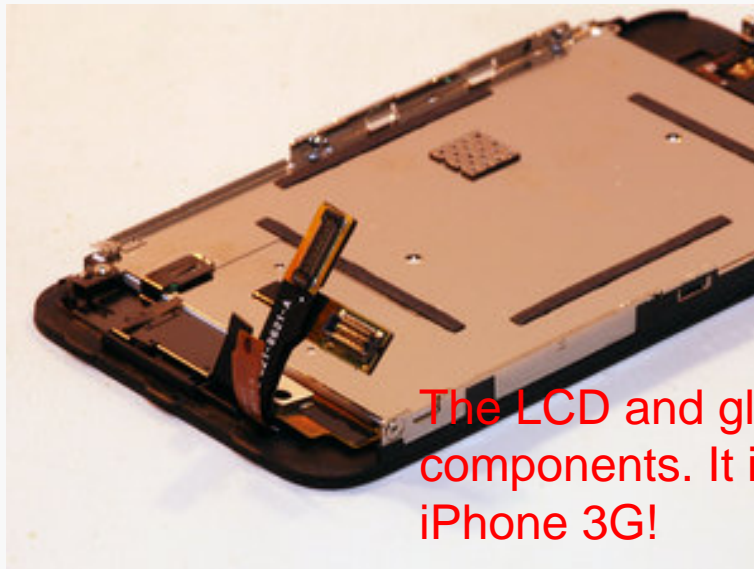
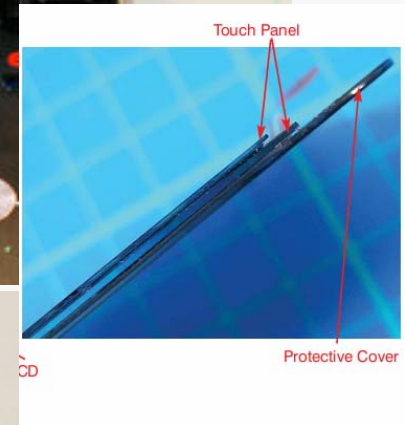
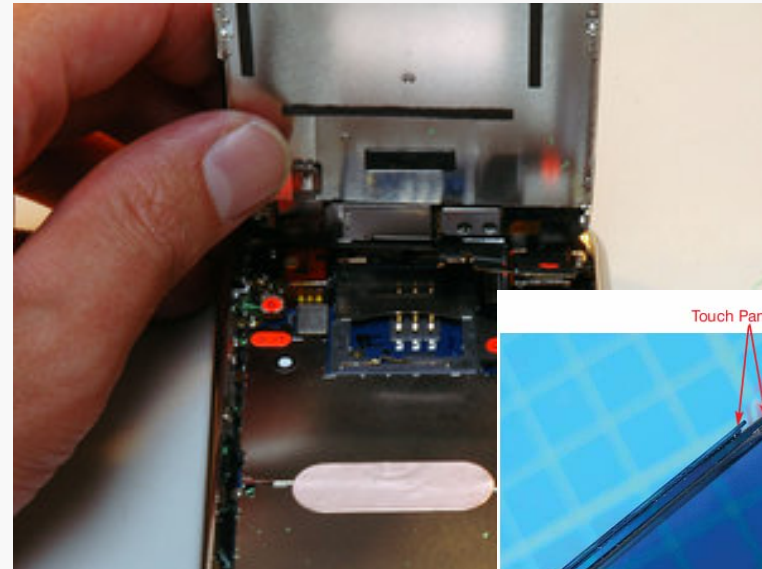


Debug Connector?

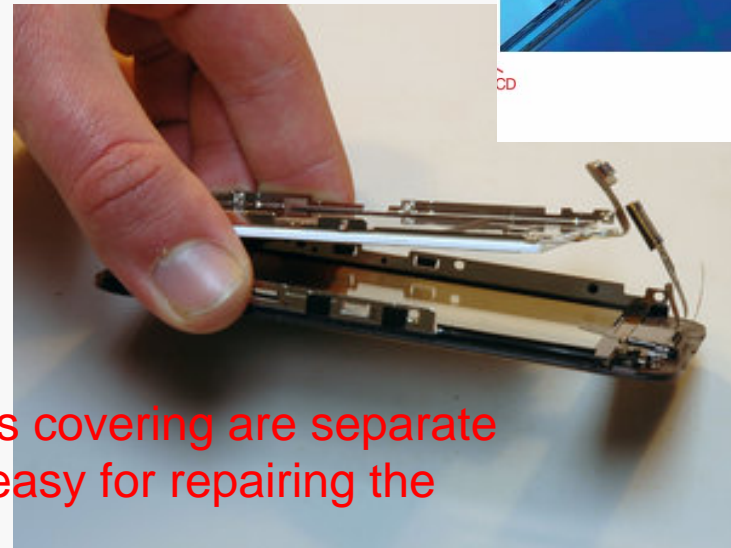


NAN Ya PCB!

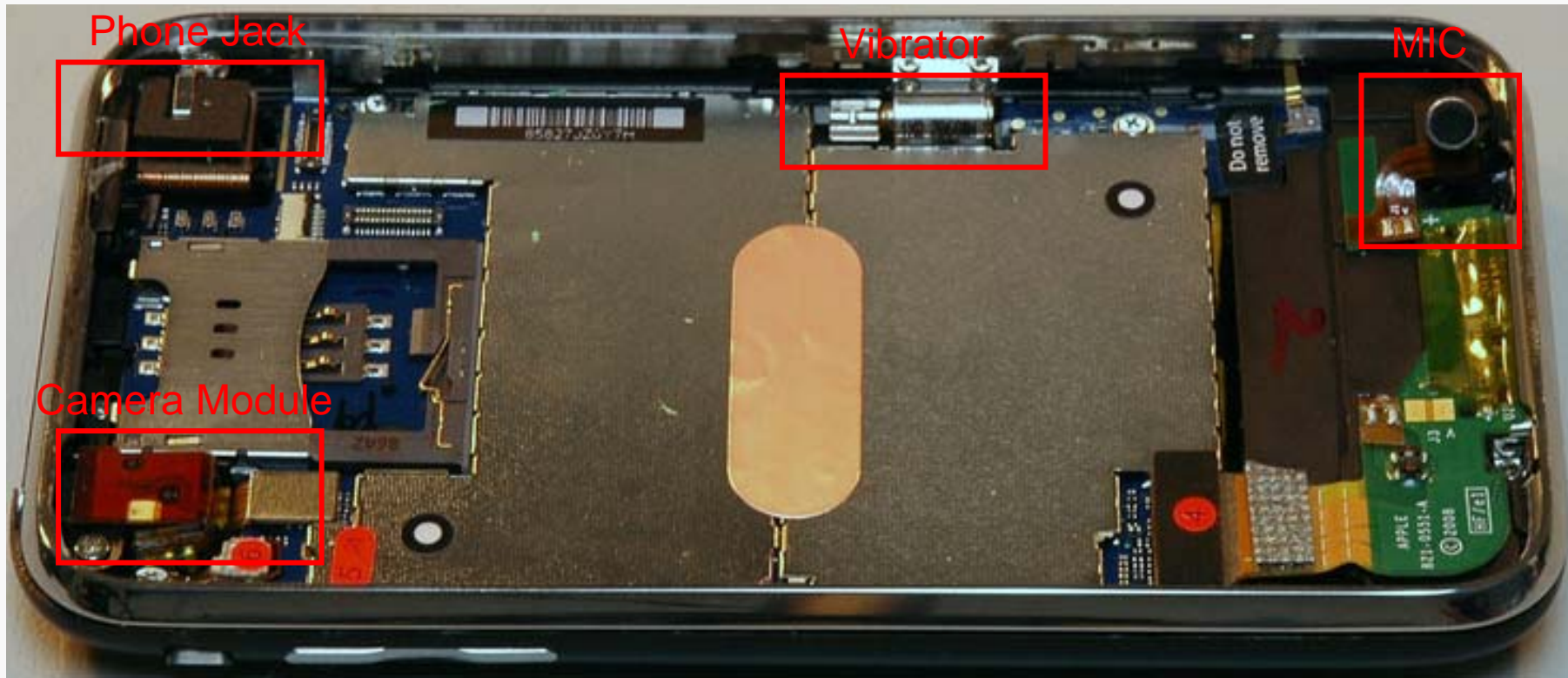
# Disassembly I



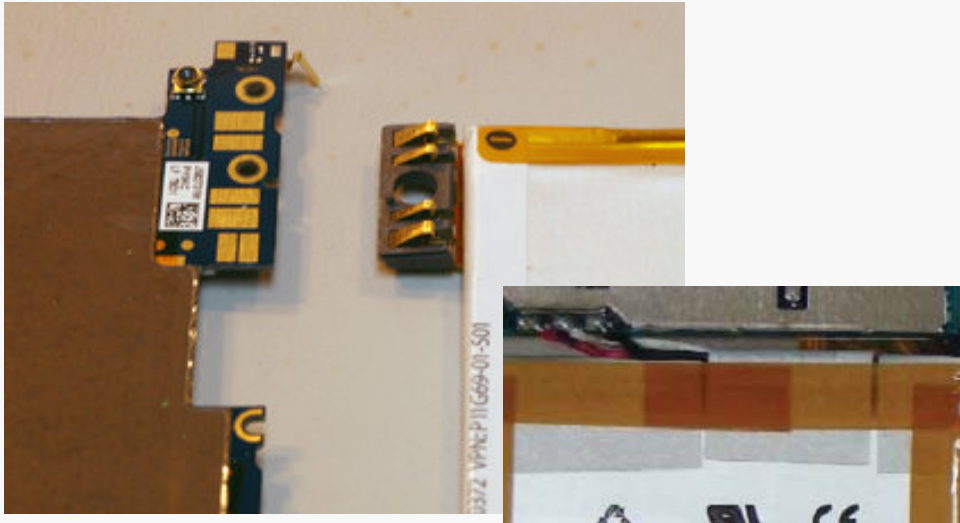
The LCD and glass covering are separate components. It is easy for repairing the iPhone 3G!



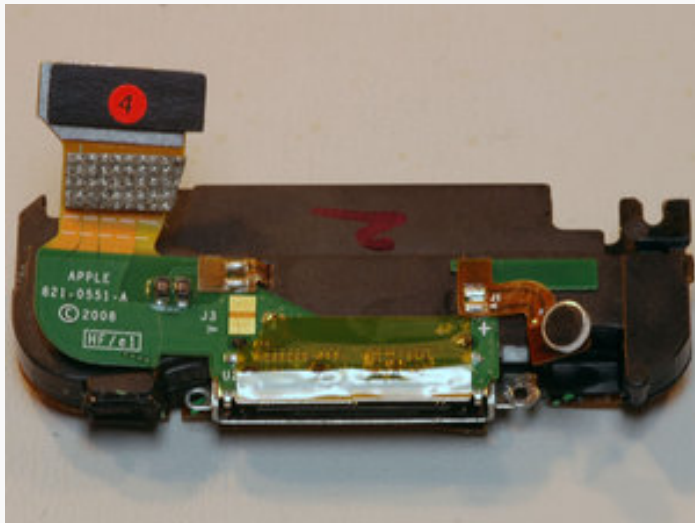
# Disassembly II



# Disassembly III



The battery isn't soldered on. It helps to replace the battery. But the spring type connection may cause the supply voltage drop while the phone drops on the ground.



Dock and headphone connector. The primary antenna is on the other side of this part.

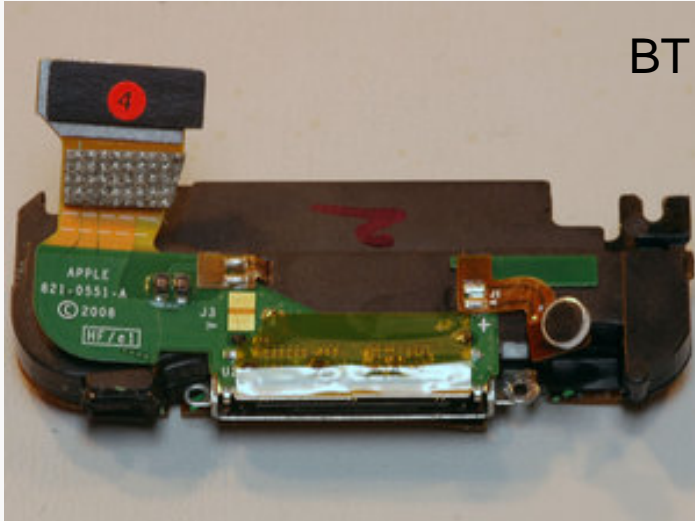
# Disassembly IV

Unlike the metal rear panel on the original iPhone. Made from ABS plastic. The coat on the back feels nice and is very reflective.



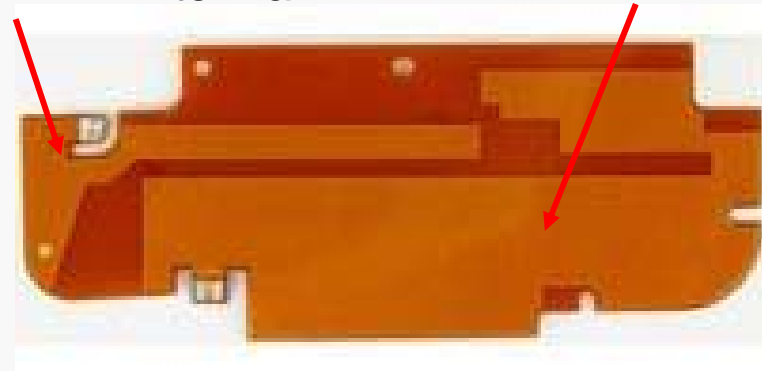


# Antenna Location

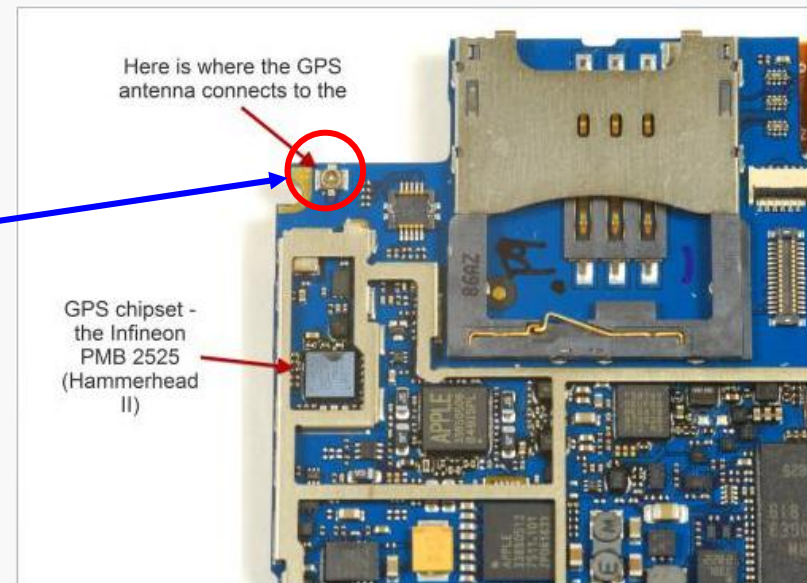


BT and WLAN Antenna

3.5G WWAN Antenna



GPS Antenna on the top

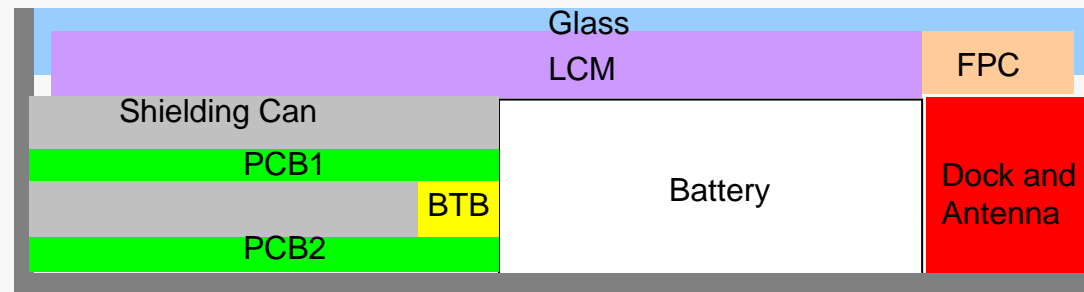


Here is where the GPS antenna connects to the

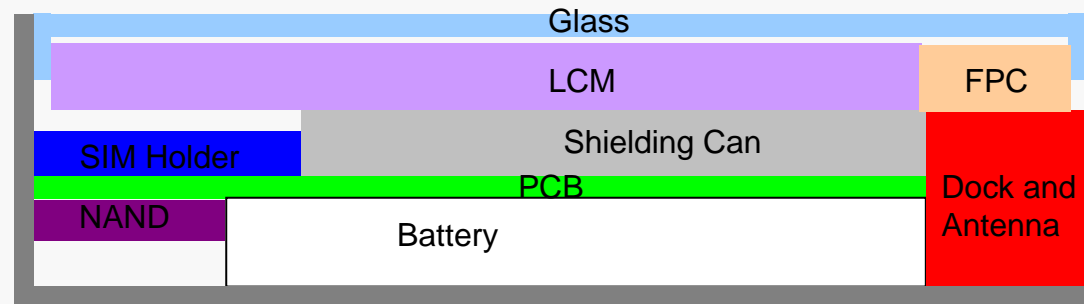
GPS chipset - the Infineon PMB 2525 (Hammerhead II)

# Mechanical Staking

iPhone



iPhone 3G



# Battery Spec

iPhone

Public Information		Release date: 2008-01-08
Issued by:	DK_DEMKO	(UL International Demko A/S)
Certificate Number:	DK-10696/A2	
Product:	Li-ion Battery Pack	
Model/Type reference:	616-0290	
Rating and principal characteristic:	3.7 Vdc, 1350 mAh, Class III (supplied by SELV), IPX0.	
Trade mark (if any):	Sony	
Standard(s) used:	60950-1(ed.1)	
National differences:	If any, not covered by this certificate.	
Issued date:	2007/04/25	

iPhone 3G

Public Information		Release date: 2008-03-04
Issued by:	DE_TUVPS	(TÜV SÜD Product Service GmbH)
Certificate Number:	DE 3 - 57479M1	
Product:	Battery Packs	
Model/Type reference:	616-0372	
Rating and principal characteristic:	Rated voltage: 3.7 V d.c. Rated capacity: 1150 mAh Protection class: III	
Trade mark (if any):		
Standard(s) used:	60950-1(ed.1)	
National differences:	If any, not covered by this certificate.	
Issued date:	2008/03/04	

# HW Cost Analysis

<b>Baseband Functionality</b>	
Application Processor with DDR	\$20.50
Vedio Processor	\$5.50
Audio Codec	\$2.00
PMU	\$2.20
NAND Flash (8GB)	\$22.00
ASIC DSP	\$6.00
<b>Wireless Functionality</b>	
802.11b/g Wifi/Bluetooth	\$15.50
AGPS	\$3.60
<b>WWEN Fuctionality</b>	
DBB	\$17.50
ABB	\$2.80
RF Trensceiver	\$4.50
64Mb NOR+32Mb PSRAM MCP	\$1.89
PA Parts	\$8.60
Other RF components	\$2.50
<b>Camera Module</b>	
2.0 MP FF Module	\$7.00
<b>Display</b>	
3.5 Inch Touch Screen	\$30.50
Touch screen controller	\$1.15
<b>Other PCB Level Components</b>	
G sensor, Proximity Sensor, Ambient Sensor	\$3.00
PCB Substrate	\$3.50
Other Passive and Discrete Semi	\$17.80
<b>Mechanical Components/Enclosure</b>	
	\$12.00
<b>Battery</b>	
	\$4.50
<b>Accessory/Packing Etc.</b>	
	\$8.30
<b>Final Manufacturing and Margin</b>	
	\$15.50
<b>Total</b>	<b>\$218.34</b>

The BOM cost is very close to 2G iPhone on sale last year. It is obvious the NAND depreciation compensates for the high price of 3G MODEM. The cost will be reduced quarter by quarter. The cheaper iPhone we can get.