FCC Report

(Mobile Phone)

Applicant:	SHENZHEN TIANRUIXIANG COMMUNICATION EQUIPMENT LIMITED
Address of Applicant:	RM5C Shuisong Building,Tairan Eight Road, Chegongmiao, Futian District, Shenzhen

Equipment Under Test (EUT)

Product Name:	Mobile Phone
Model No.:	A17
FCC ID:	2ABXF-A17
Applicable standards:	FCC CFR Title 47 Part 2: 2013 FCC CFR Title 47 Part22 Subpart H: 2013 FCC CFR Title 47 Part24 Subpart E: 2013
Date of sample receipt:	February 14, 2014
Date of Test:	February 14-20, 2014
Date of report issued:	February 20, 2014
Test Result :	PASS *

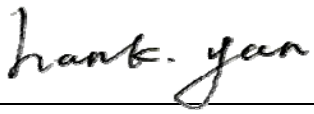
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*February 20, 2014*	*Original*

Prepared By:  ***Date:*** *February 20, 2014*

Project Engineer

Check By:  ***Date:*** *February 20, 2014*

Reviewer

3 Contents

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4 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass* (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(2) Part 24.232 (c)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917 Part 24.238	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 (a) Part 24.238 (a)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a)	Pass
Out of band emission, Band Edge	Part 22.917 (a) Part 24.238 (a)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	SHENZHEN TIANRUIXIANG COMMUNICATION EQUIPMENT LIMITED
Address of Applicant:	RM5C Shuisong Building,Tairan Eight Road, Chegongmiao, Futian District, Shenzhen
Manufacturer:	XINYUANTONG
Address of Manufacturer:	Rm 201,Yuetong B Building, Minzhi Road, Baoan District, Shenzhen City

5.2 General Description of EUT

Product Name:	Mobile Phone
Model No.:	A17
Support Networks:	GSM, GPRS, EGPRS, WCDMA
Support Bands:	GSM850, PCS1900, WCDMA Band II
TX Frequency:	GSM850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz WCDMA Band II: 1852.40MHz -1907.60MHz
GPRS Class:	12
EGPRS Class:	12
Modulation type:	GSM/GPRS: GMSK EGPRS: GMSK / 8PSK WCDMA Band II: QPSK
IMEI:	358688000000158
Hardware Version:	X818-MB-v8.0
Software Version:	TRX818_72M_BT_FM__TP_LCD_WVGA480X800_WG_BT_DTV_GPS_A17_V027_20131226_1613
Antenna type:	Integral antenna
Antenna gain:	-0.8dBi(GSM850) -0.8dBi(DCS1900) -0.6dBi(WCDMA1900)
AC adapter:	Model No.: UT-OB-0106A Input: AC 100-240V, 50/60Hz, 0.15A Output: DC 5.0V, 0.5A
Power supply:	Type: lithium-ion 3.7V 1350mAh Voltage: DC 3.7V

Operation Frequency List:

GSM 850		PCS1900		WCDMA Band II	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20	9262	1852.40
129	824.40	513	1850.40	9263	1852.60
⋮	⋮	⋮	⋮	⋮	⋮
189	836.40	660	1879.80	9399	1879.80
190	836.60	661	1880.00	9400	1880.00
191	836.80	662	1880.20	9401	1880.20
⋮	⋮	⋮	⋮	⋮	⋮
250	848.60	809	1909.60	9537	1907.40
251	848.80	810	1909.80	9538	1907.60

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Final test channel:

GSM 850		PCS1900		WCDMA Band II	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20	9262	1852.40
190	836.60	661	1880.00	9400	1880.00
251	848.80	810	1909.80	9538	1907.60

5.3 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules.

5.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603 and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057

5.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **CNAS —Registration No.: CNAS L5775**

CNAS has accredited Global United Technology Services Co., Ltd. To ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

● **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

5.6 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-27798480

Fax: 0755-27798960

6 Test Instruments list

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 29 2013	Mar. 28 2014
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 02 2013	Jul. 01 2014
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Jul. 02 2013	Jul. 01 2014
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 28 2013	June 27 2014
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 29 2013	Mar. 28 2014
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	Mar. 30 2013	Mar. 29 2014
9	Coaxial Cable	GTS	N/A	GTS211	Mar. 30 2013	Mar. 29 2014
10	Coaxial cable	GTS	N/A	GTS210	Mar. 30 2013	Mar. 29 2014
11	Coaxial Cable	GTS	N/A	GTS212	Mar. 30 2013	Mar. 29 2014
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 02 2013	Jul. 01 2014
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 02 2013	Jul. 01 2014
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2013	June 27 2014
15	Band filter	Amindeon	82346	GTS219	Mar. 30 2013	Mar. 29 2014
16	Universal radio communication tester	Rohde & Schwarz	CMU200	GTS235	May 10 2013	May 09 2014
17	Signal Generator	Rohde & Schwarz	SML03	GTS236	May 10 2013	May 09 2014
18	Temp. Humidity/ Barometer	Oregon Scientific	BA-888	GTS248	May 10 2013	May 09 2014
19	D.C. Power Supply	Instek	PS-3030	GTS232	NA	NA
20	Splitter	Agilent	11636B	GTS237	May 10 2013	May 09 2014
21	Power meter	Rohde & Schwarz	NRVS	GTS238	May 10 2013	May 09 2014
22	Spectrum Analyzer	Agilent	E4440A	GTS533	Dec. 5, 2013	Dec. 4 2014

7 System test configuration

7.1 Test mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
GSM 850	■ GSM link ■ EGPRS 8 link	■ GSM link ■ EGPRS 8 link
PCS 1900	■ GSM link ■ EGPRS 8 link	■ GSM link ■ EGPRS 8 link
WCDMA BandV	■ RMC 12.2Kbps link	■ RMC 12.2Kbps link

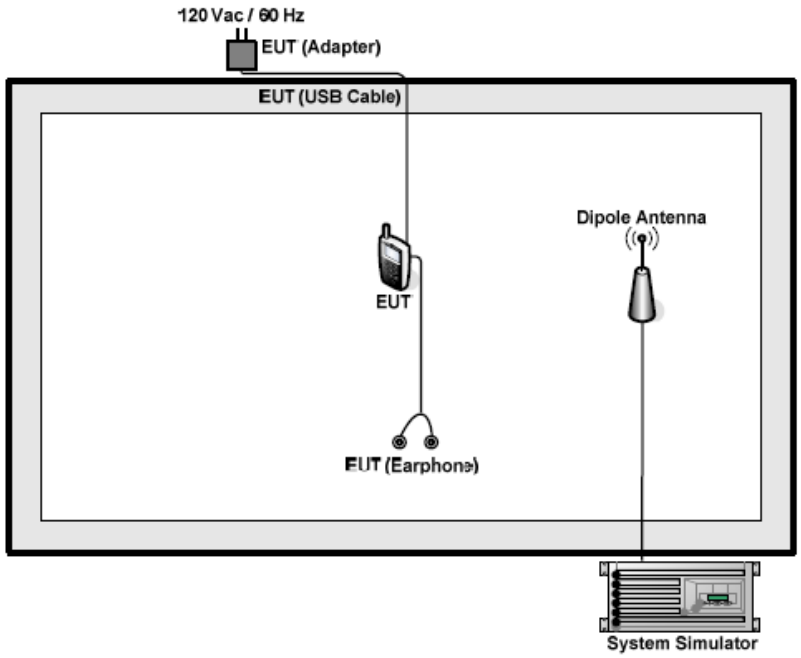
Note: The maximum power levels are GSM mode for GMSK link, EGPRS multi-slot class 8 mode for 8PSK link, RMC12.2Kbps mode for WCDMA band II. only these modes were used for all tests.

The conducted power tables are as follows:

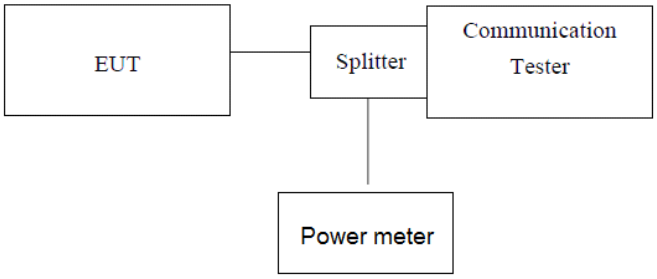
Conducted Power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency	824.20	836.60	848.80	1850.20	1880.00	1909.80
GSM (GMSK, 1 TX slot)	32.47	32.75	33.10	29.10	28.58	28.73
GPRS (GMSK, 1 TX slot)	32.41	32.57	32.77	28.97	28.46	28.72
GPRS (GMSK, 2 TX slot)	31.49	31.77	32.39	28.62	28.25	28.30
GPRS (GMSK, 3 TX slot)	31.32	31.55	32.22	27.11	26.51	26.95
GPRS (GMSK, 4 TX slot)	30.53	30.75	30.47	26.77	26.00	26.45
EGPRS(GMSK, 1 TX slot)	31.98	32.26	32.78	28.65	28.10	28.37
EGPRS(GMSK, 2 TX slot)	30.61	30.12	31.41	27.73	27.22	27.46
EGPRS(GMSK, 3 TX slot)	29.40	29.70	30.06	26.97	26.50	26.96
EGPRS(GMSK, 4 TX slot)	27.56	27.87	28.44	26.52	26.34	25.28
EGPRS (8PSK, 1 TX slot)	31.81	31.81	32.04	28.12	28.32	28.40
EGPRS (8PSK, 2 TX slot)	30.52	30.31	30.29	27.81	27.68	27.59
EGPRS (8PSK, 3 TX slot)	29.11	29.64	30.06	26.70	26.55	26.26
EGPRS (8PSK, 4 TX slot)	28.23	28.03	28.41	26.02	26.12	26.04

Conducted Power			
Band	WCDMA Band II		
Channel	9262	9400	9538
Frequency	1852.4	1880.0	1907.6
RMC 12.2Kbps	23.58	23.37	23.17
RMC 64Kbps	23.31	23.16	23.03
RMC 144Kbps	23.19	23.03	23.00
RMC 384Kbps	23.11	22.98	22.98
HSDPA Subtest-1	23.36	23.18	23.05
HSDPA Subtest-2	23.34	23.17	23.04
HSDPA Subtest-3	23.33	23.15	23.02
HSDPA Subtest-4	23.31	23.14	23.00
HSUPA Subtest-1	23.35	23.19	23.06
HSUPA Subtest-2	23.34	23.16	23.04
HSUPA Subtest-3	23.33	23.14	23.03
HSUPA Subtest-4	23.31	23.13	23.00
HSUPA Subtest-5	23.28	23.12	22.99
AMR	23.32	23.18	23.05

7.2 Configuration of Tested System



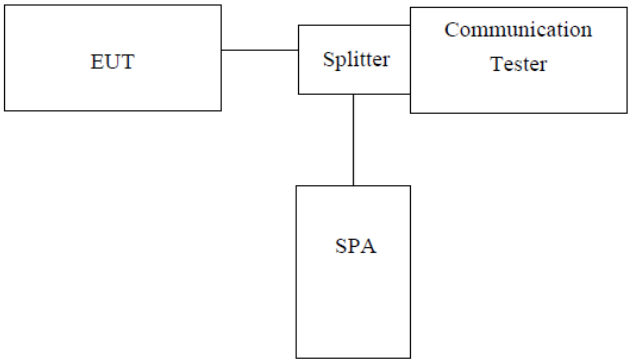
7.3 Conducted Peak Output Power

Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1046
Limit:	GSM850,: 7W PCS1900, WCDMA Band II: 2W
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement. 3. Set EUT at maximum power through base station. 4. Select lowest, middle, and highest channels for each band and different modulation. 5. Measure the maximum burst average power.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

EUT Mode	Channel	Frequency (MHz)	PK power (dBm)	Limit (dBm)	Result
GSM 850 (GSM link)	128	824.20	32.47	38.45	Pass
	190	836.60	32.75		
	251	848.80	33.10		
GSM 850 (GPRS 4 link)	128	824.20	32.41	38.45	Pass
	190	836.60	32.57		
	251	848.80	32.77		
GSM 850 (EGPRS 8 link)	128	824.20	28.23	38.45	Pass
	190	836.60	28.03		
	251	848.80	28.41		
PCS 1900 (GSM link)	512	1850.20	29.10	33.01	Pass
	661	1880.00	28.58		
	810	1909.80	28.73		
PCS 1900 (GPRS 4 link)	512	1850.20	28.97	33.01	Pass
	661	1880.00	28.46		
	810	1909.80	28.72		
PCS 1900 (EGPRS 8 link)	512	1850.20	26.02	33.01	Pass
	661	1880.00	26.12		
	810	1909.80	26.04		
WCDMA Band II (RMC 12.2Kbps link)	9262	1852.4	23.58	33.01	Pass
	9400	1880.0	23.37		
	9538	1907.6	23.17		

7.4 Occupy Bandwidth

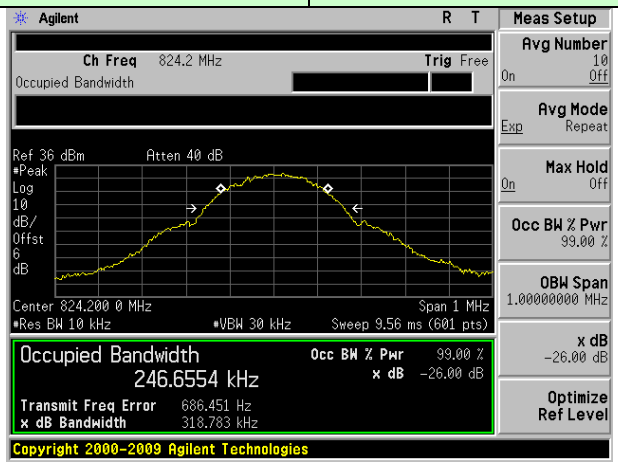
Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1049
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

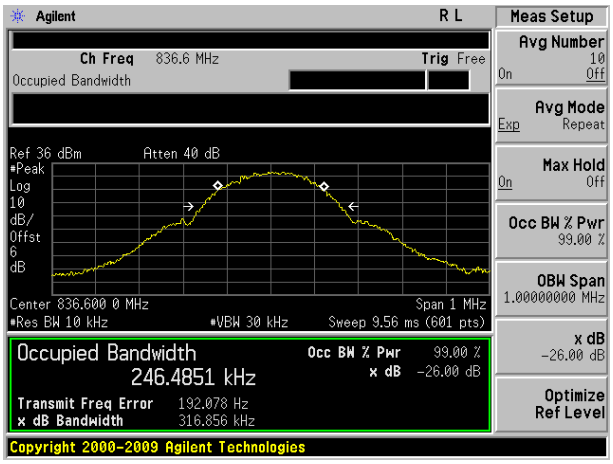
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
GSM 850 (GSM link)	128	824.20	246.655	318.783
	190	836.60	246.485	316.856
	251	848.80	244.863	314.535
GSM 850 (GPRS 4 link)	128	824.20	246.732	311.132
	190	836.60	249.417	318.894
	251	848.80	247.065	317.471
GSM 850 (EGPRS 8 link)	128	824.20	244.525	319.412
	190	836.60	244.932	321.198
	251	848.80	245.690	322.337
PCS 1900 (GSM link)	512	1850.20	247.096	323.603
	661	1880.00	248.442	315.749
	810	1909.80	246.721	316.367
PCS 1900 (GPRS 4 link)	512	1850.20	240.987	314.279
	661	1880.00	242.062	320.136
	810	1909.80	242.035	315.510
PCS 1900 (EGPRS 8 link)	512	1850.20	247.308	321.750
	661	1880.00	247.936	320.962
	810	1909.80	247.203	316.544
WCDMA Band II (RMC 12.2Kbps link)	9262	1852.4	4147.50	4701.00
	9400	1880.0	4154.50	4730.00
	9538	1907.6	4152.10	4725.00

Test plot as follows:

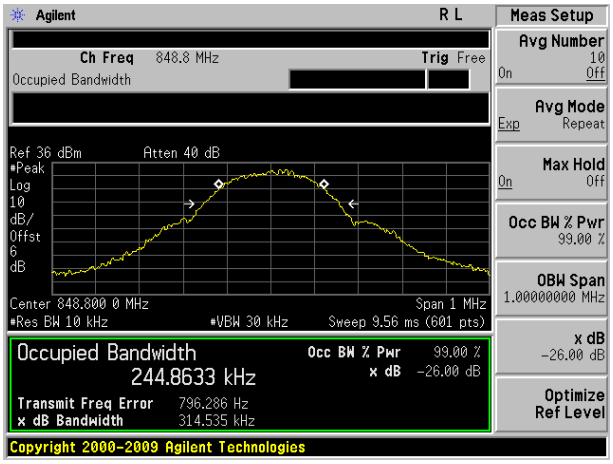
Test band:	GSM 850 (GSM link)



Lowest channel

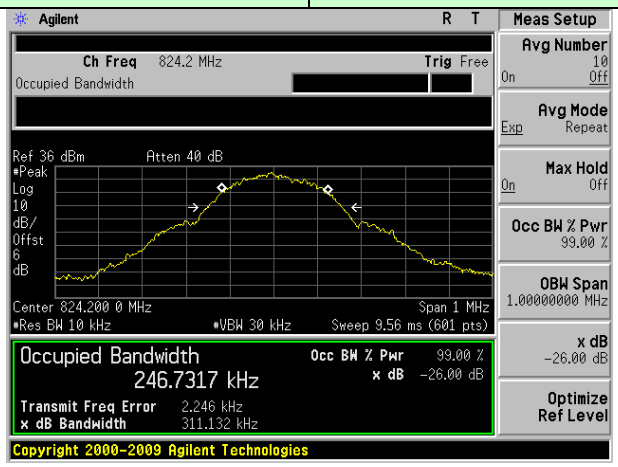


Middle channel

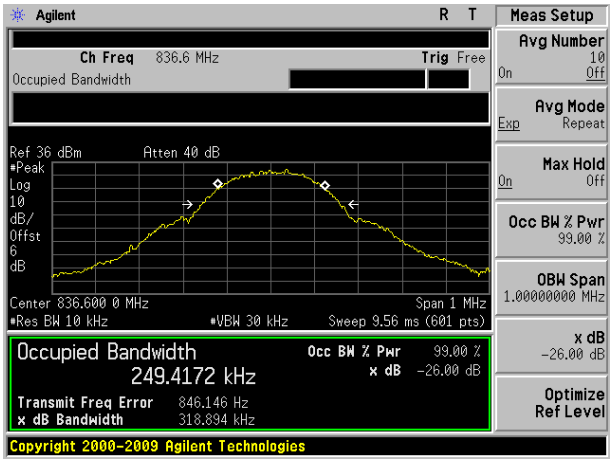


Highest channel:

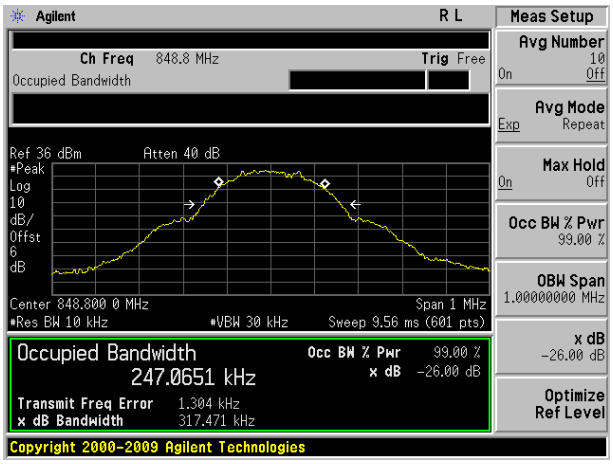
Test band:	GSM 850 (GPRS 4 link)



Lowest channel

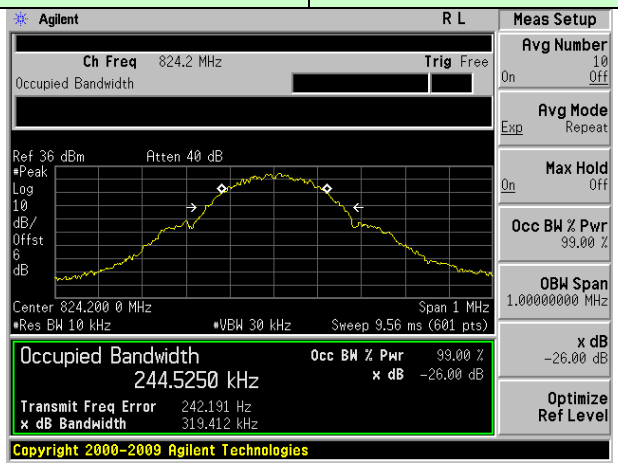


Middle channel



Highest channel:

Test band:	GSM 850 (EGPRS 8 link)



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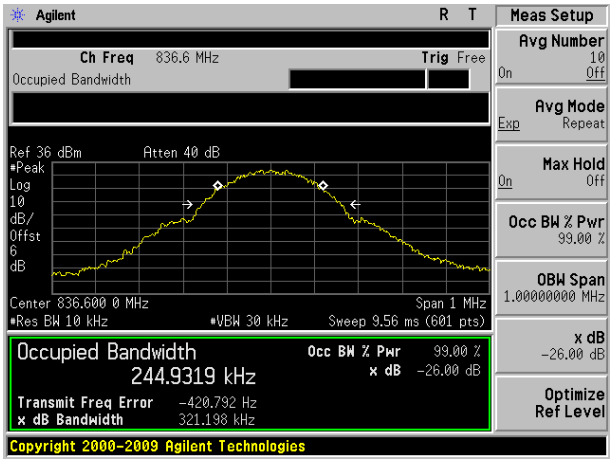

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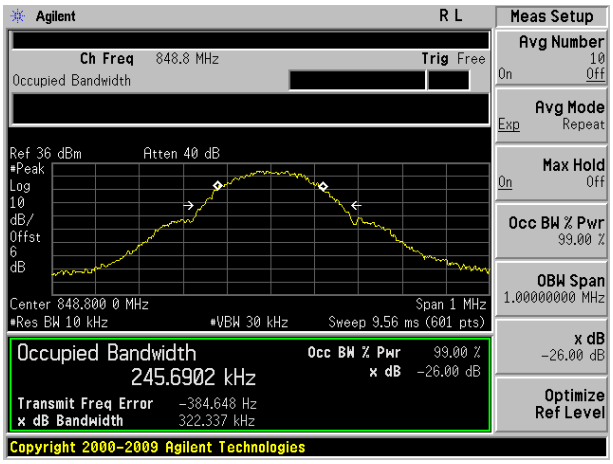
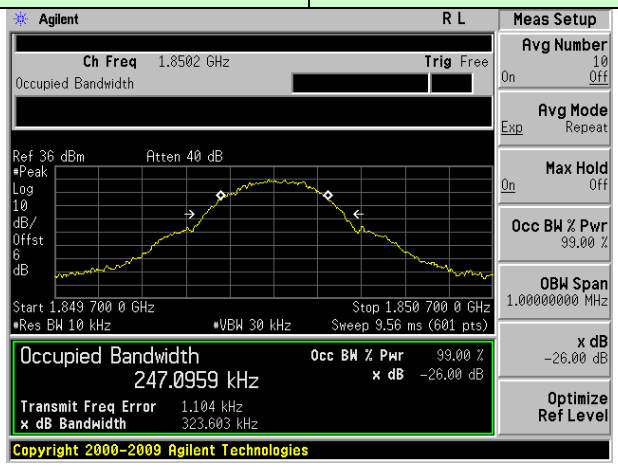


Highest channel:

Test band:	PCS 1900 (GSM link)



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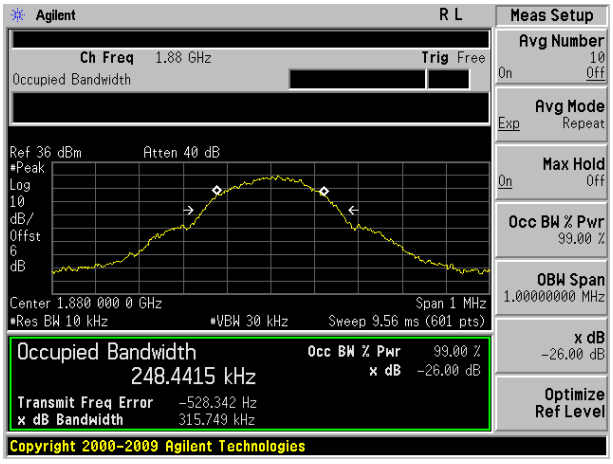

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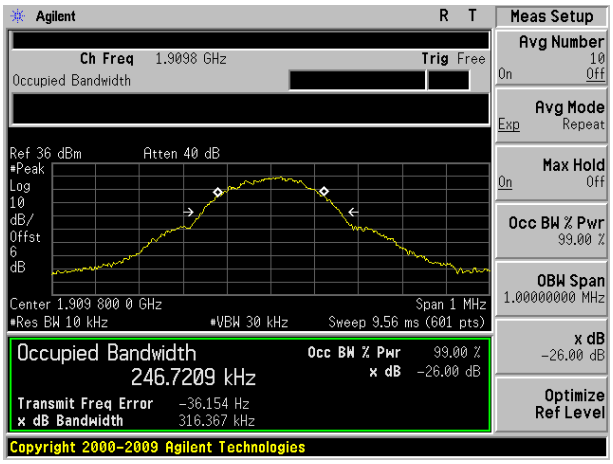
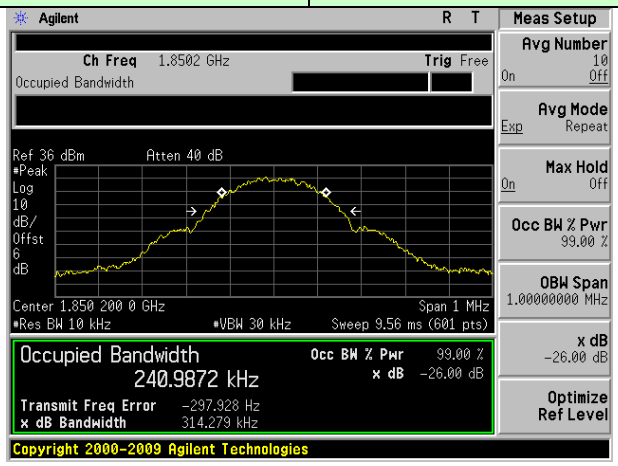


Highest channel:

Test band:	PCS 1900 (GPRS 4 link)



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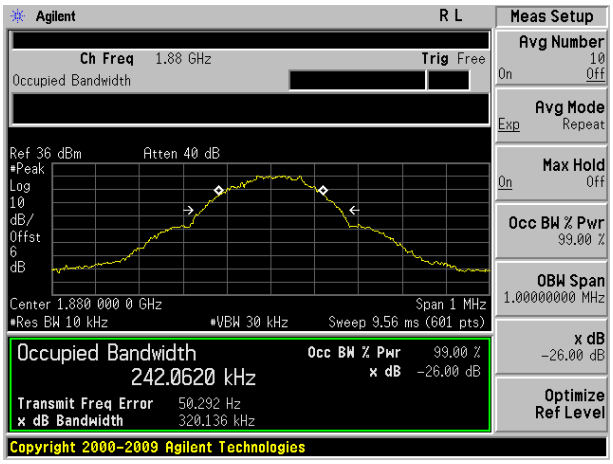

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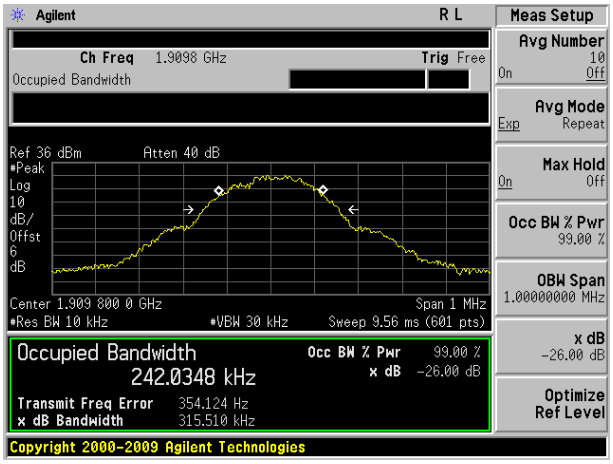
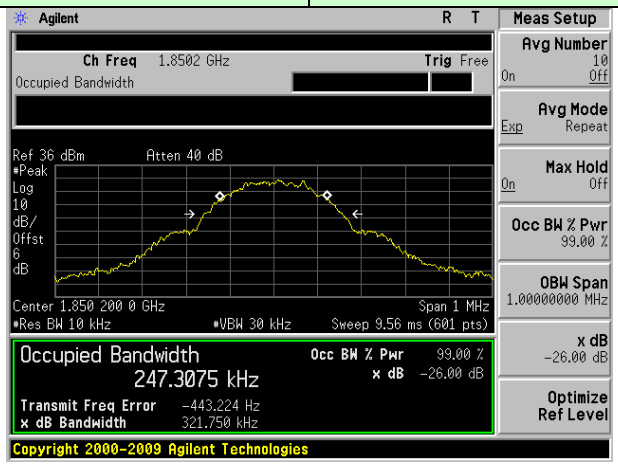
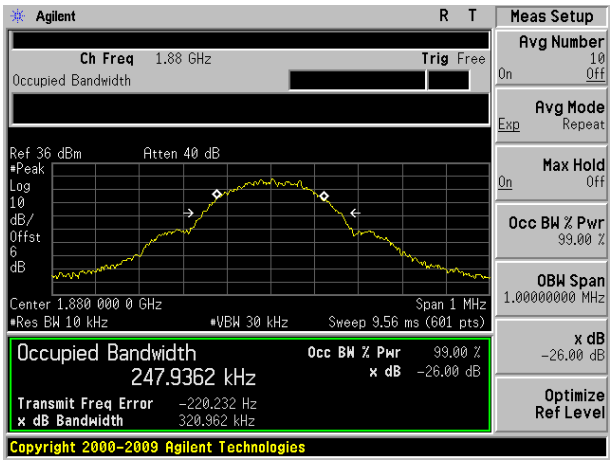


Highest channel:

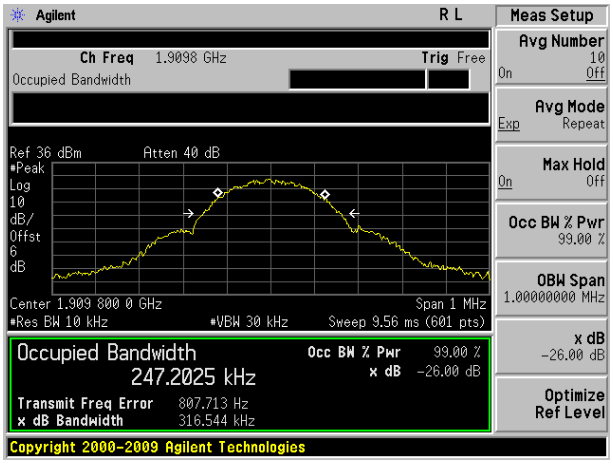
Test band:	PCS 1900 (EGPRS 8 link)



Lowest channel

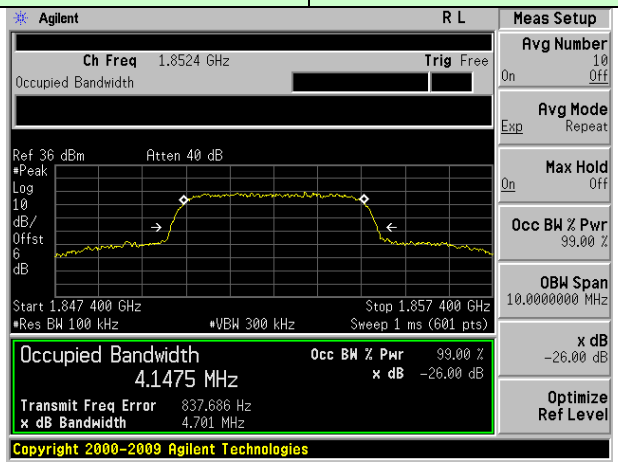


Middle channel

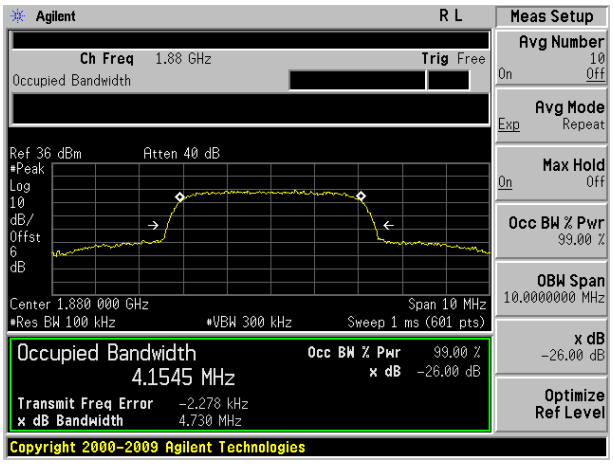


Highest channel:

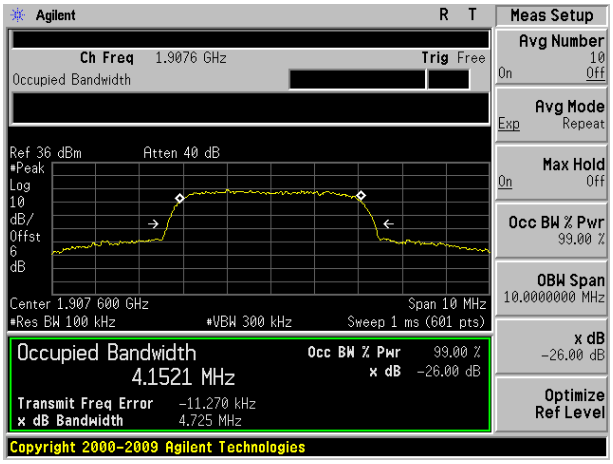
Test band:	WCDMA Band II (RMC 12.2Kbps link)



Lowest channel



Middle channel

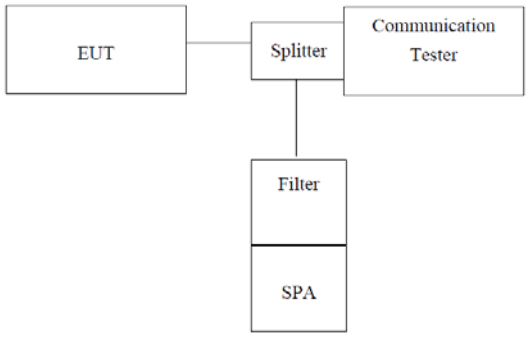


Highest channel:

7.5 MODULATION CHARACTERISTIC

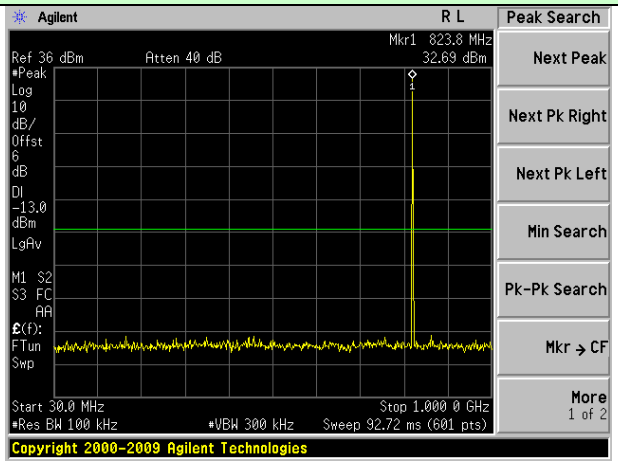
According to FCC § 2.1047(d), Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

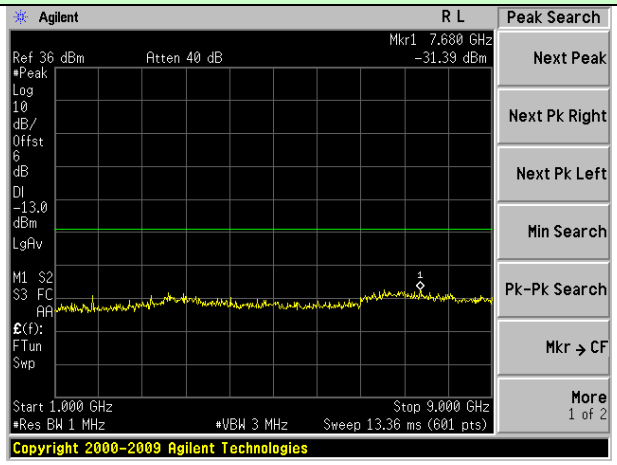
7.6 Out of band emission at antenna terminals

Test Requirement:	FCC part22.917(a) and FCC part24.238(a)
Test Method:	FCC part2.1051
Limit:	-13dBm
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

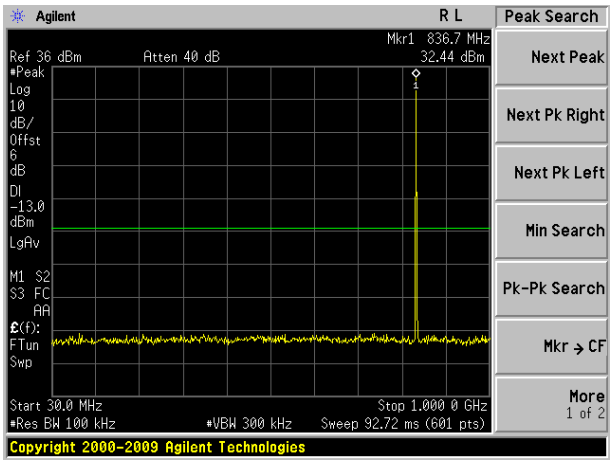
Test plot as follows:

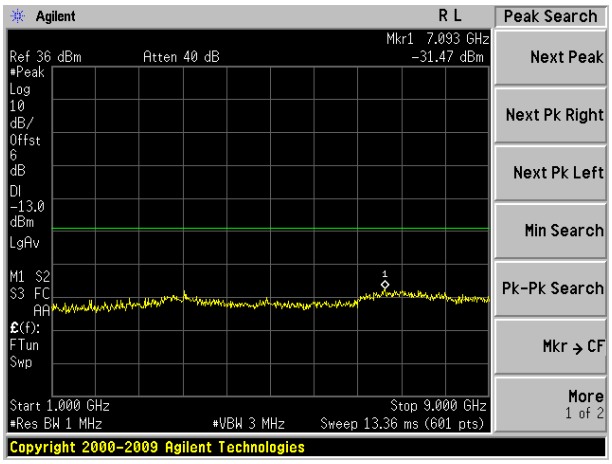
Test Mode: Traffic mode	GSM 850 (GSM link)



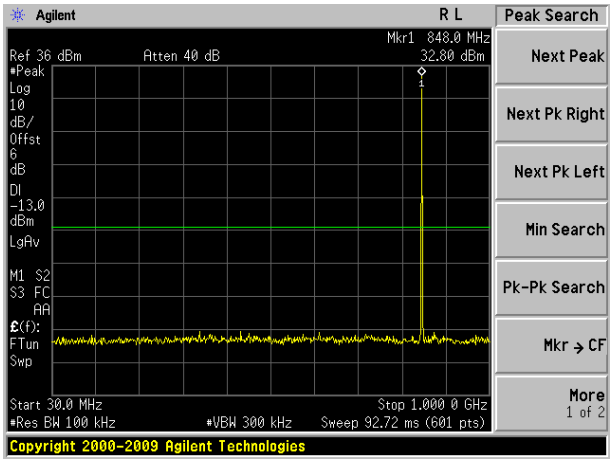


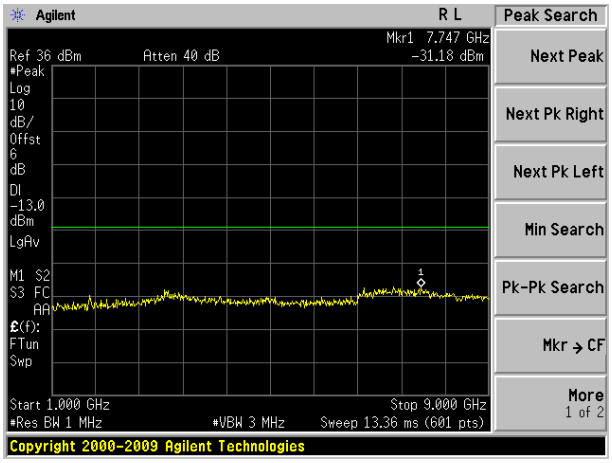
Lowest channel





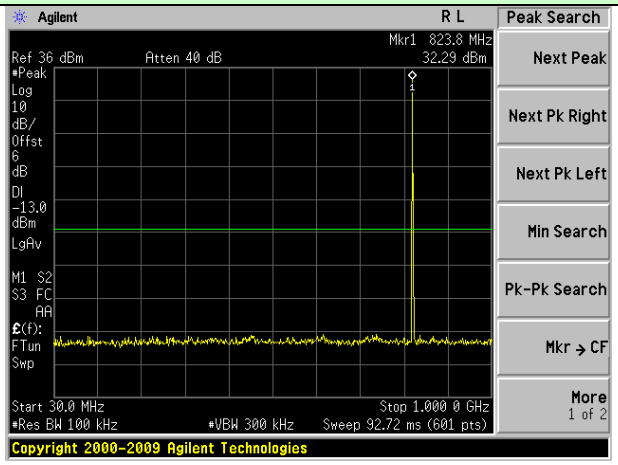
Middle channel

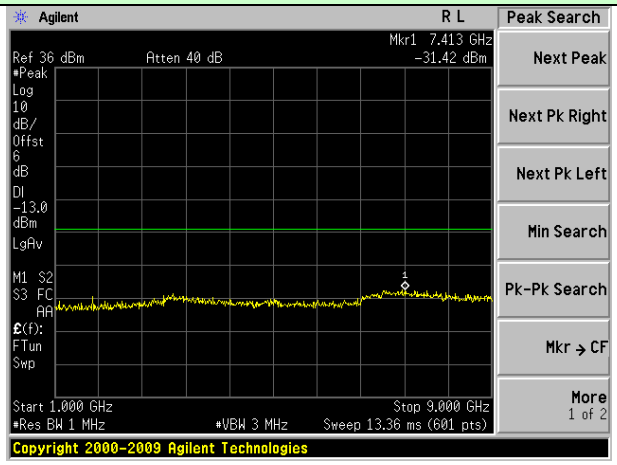




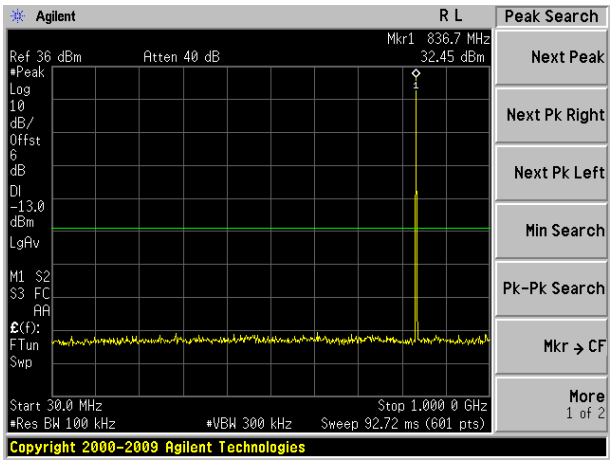
Highest channel

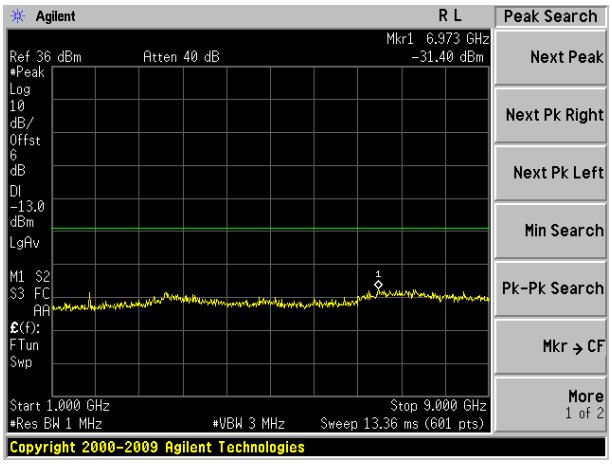
Test Mode: Traffic mode	GSM 850 (GPRS 4 link)



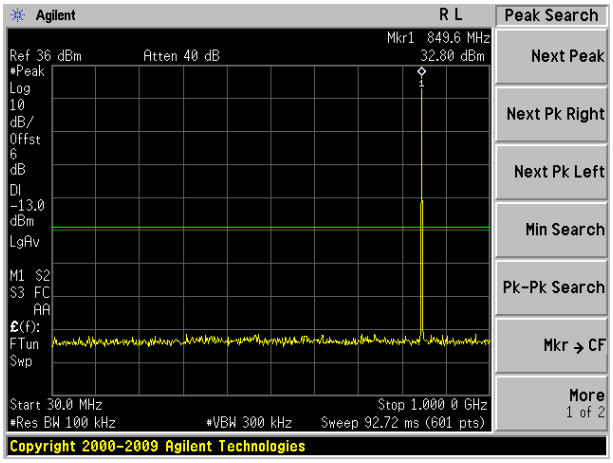


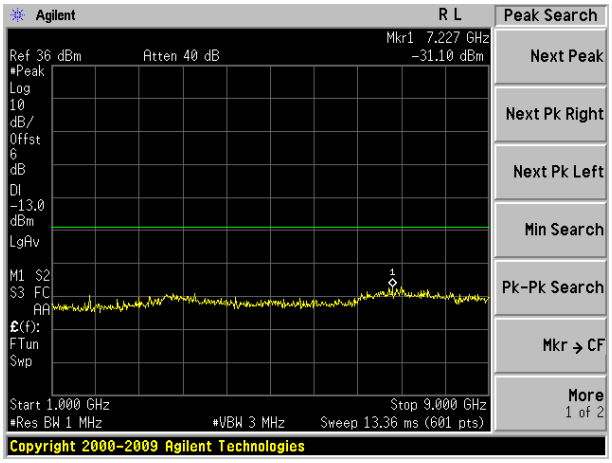
Lowest channel





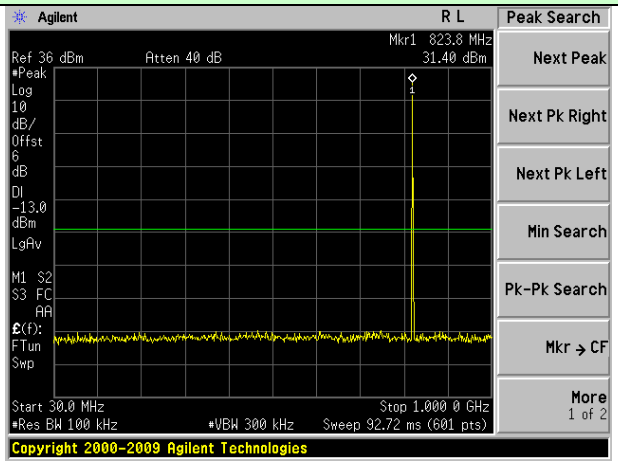
Middle channel

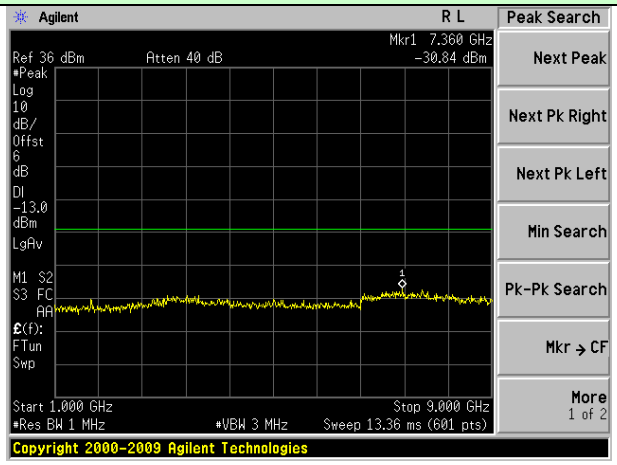




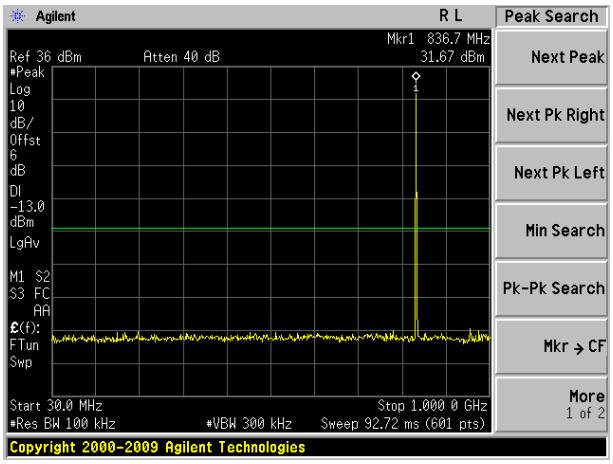
Highest channel

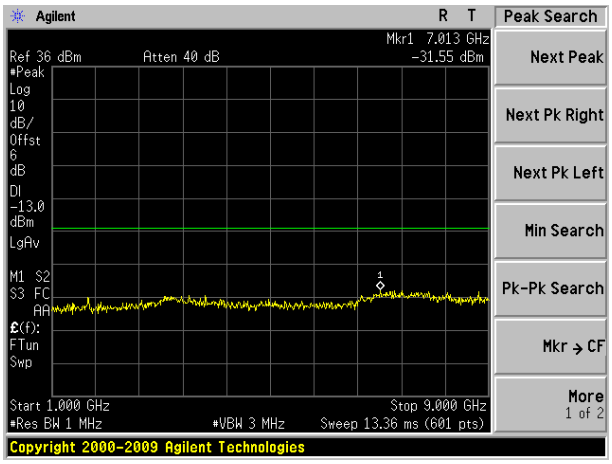
Test Mode: Traffic mode	GSM 850 (EGPRS 8 link)



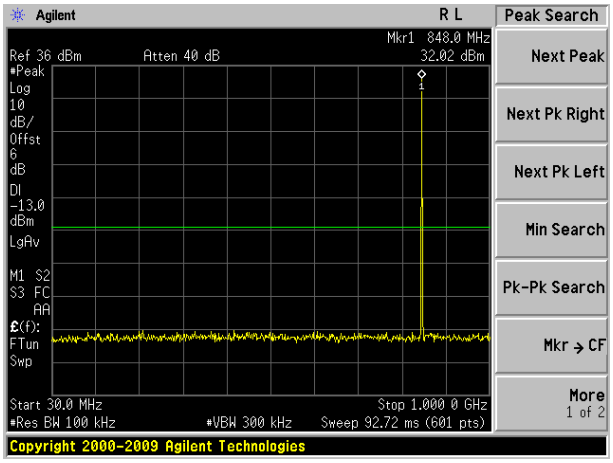


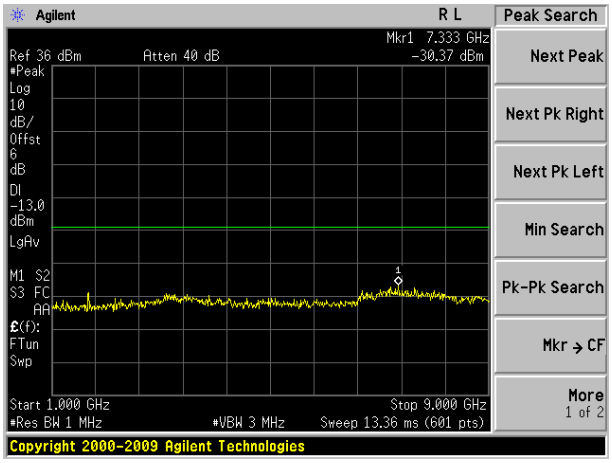
Lowest channel





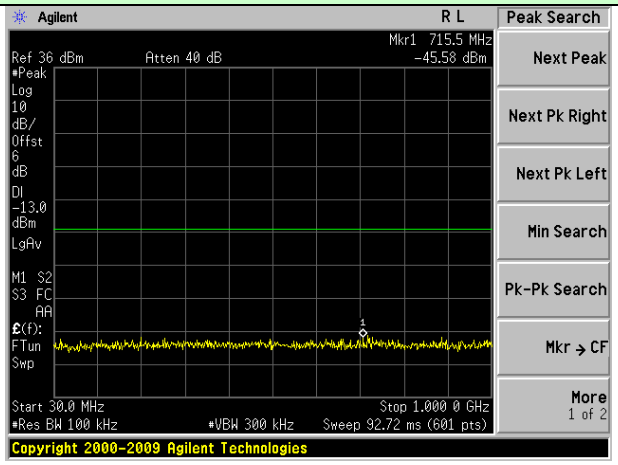
Middle channel

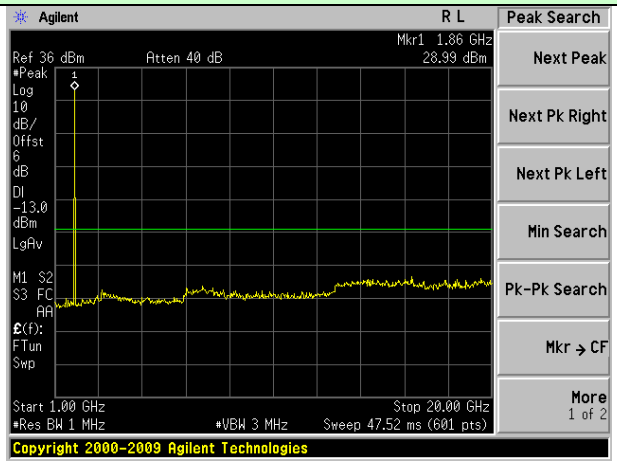




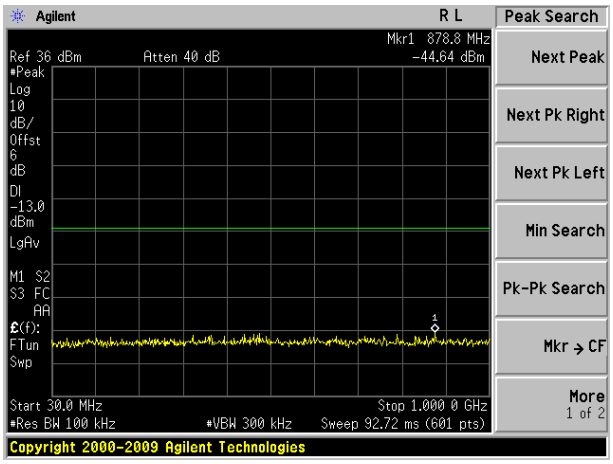
Highest channel

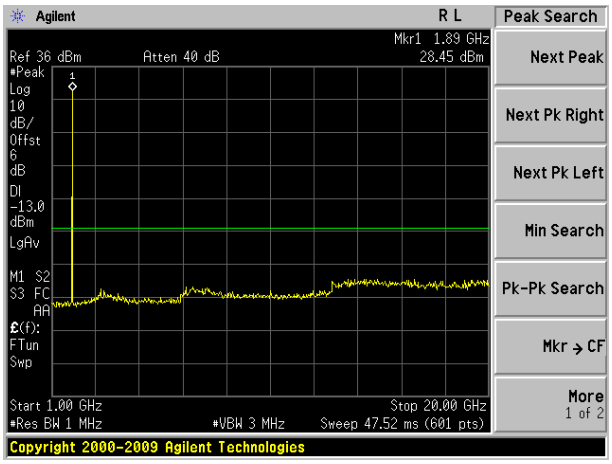
Test Mode: Traffic mode	PCS1900 (GSM link)



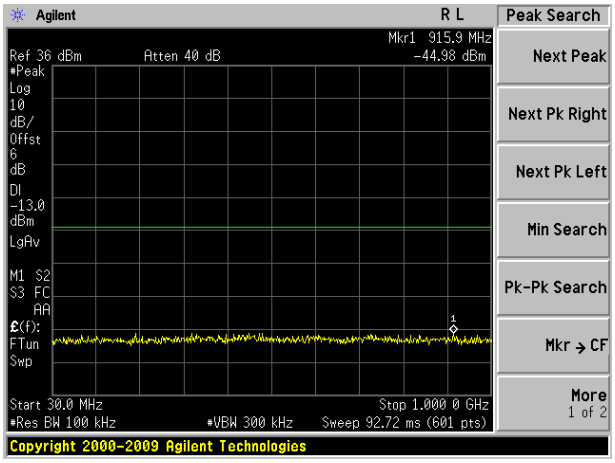


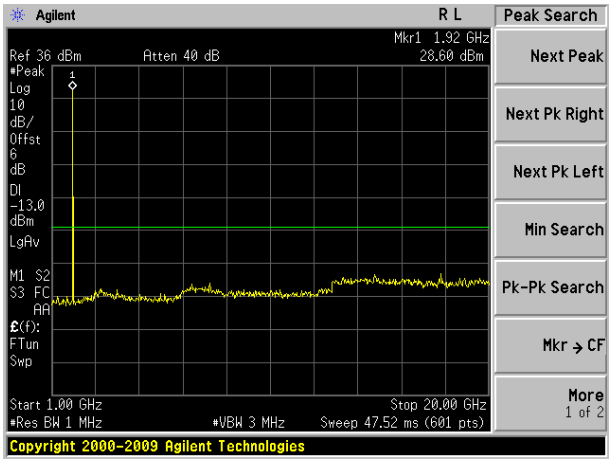
Lowest channel





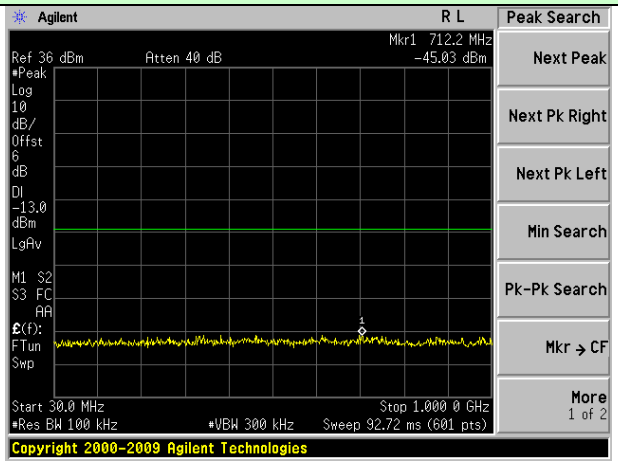
Middle channel

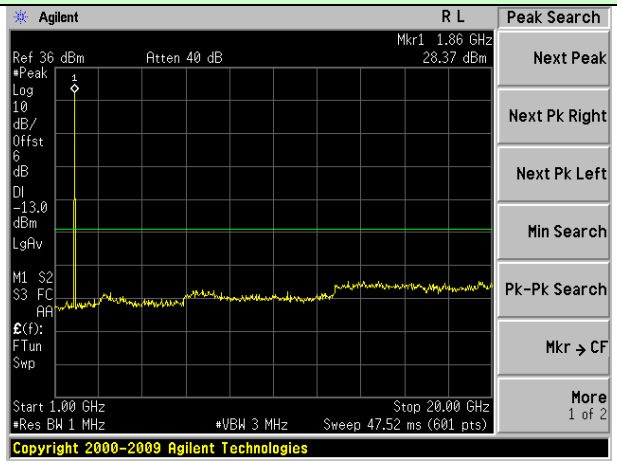




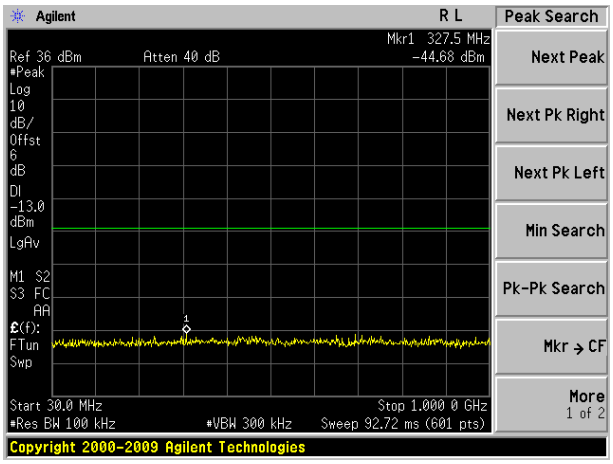
Highest channel

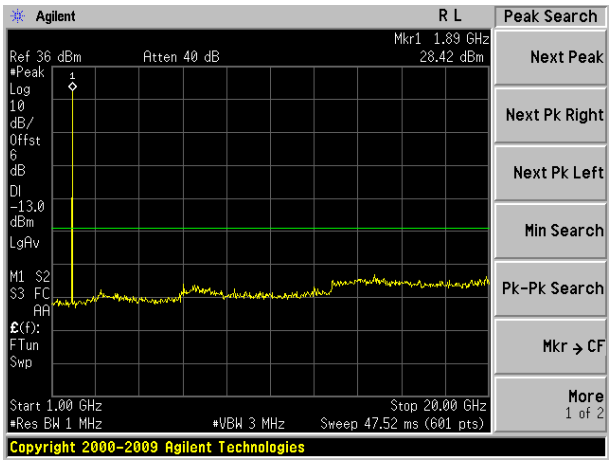
Test Mode: Traffic mode	PCS1900 (GPRS 4 link)



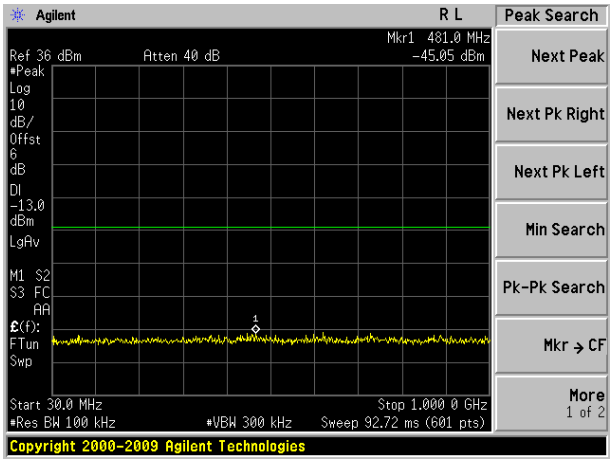


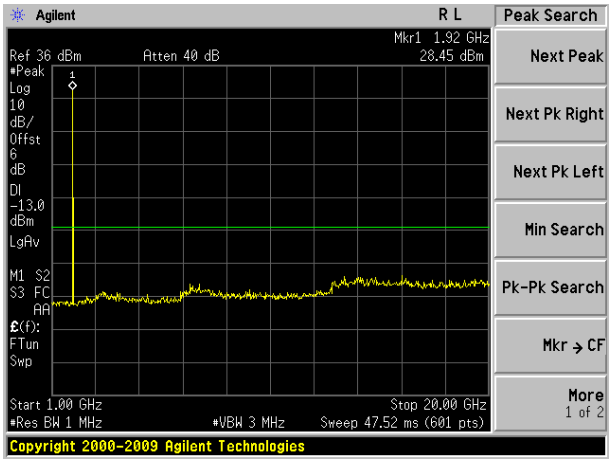
Lowest channel





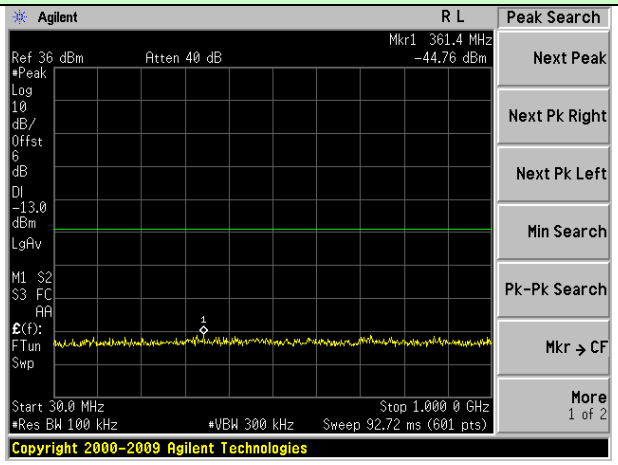
Middle channel

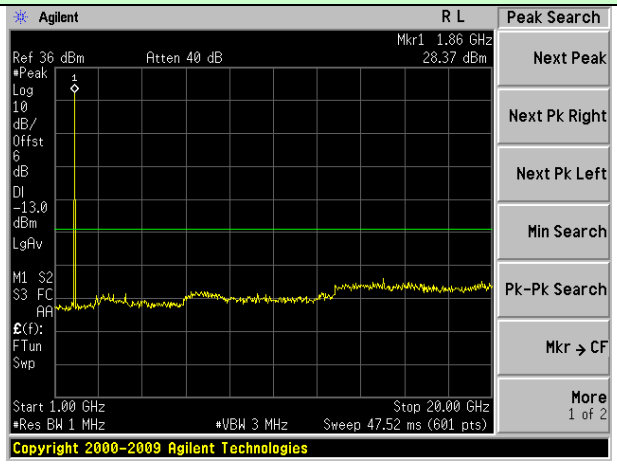




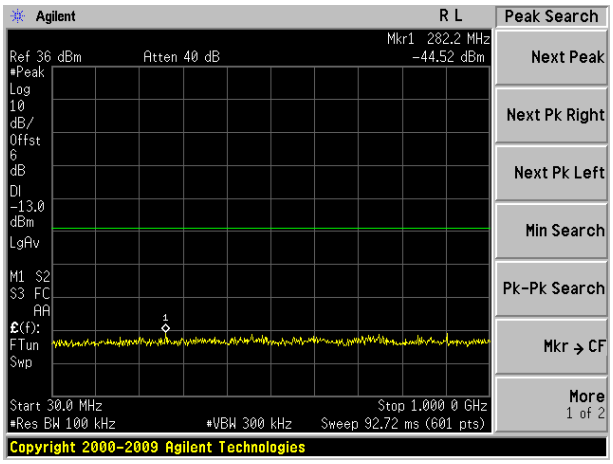
Highest channel

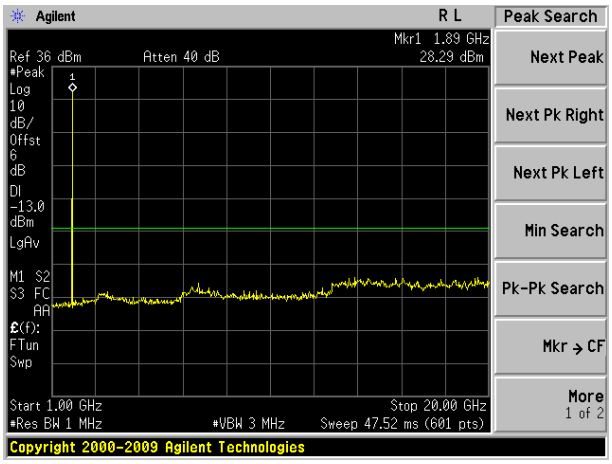
Test Mode: Traffic mode	PCS1900 (EGPRS 8 link)



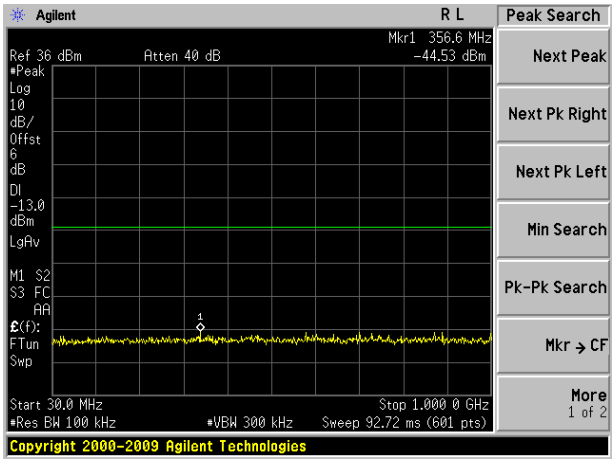


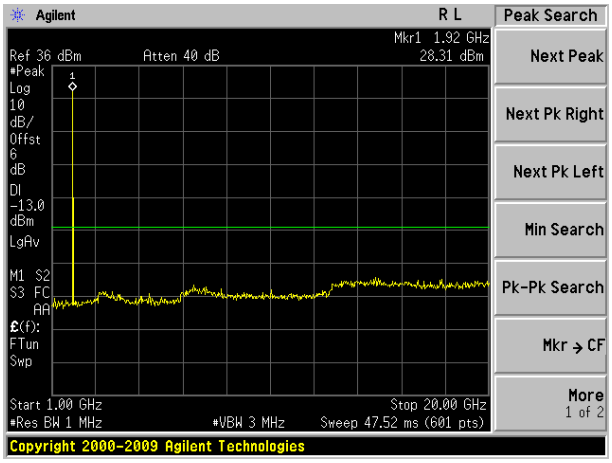
Lowest channel





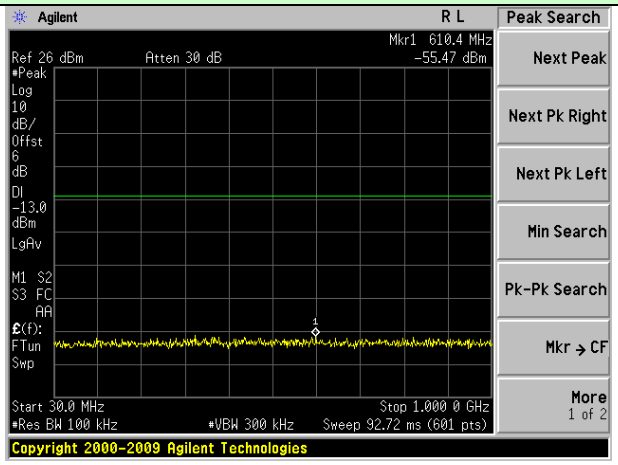
Middle channel

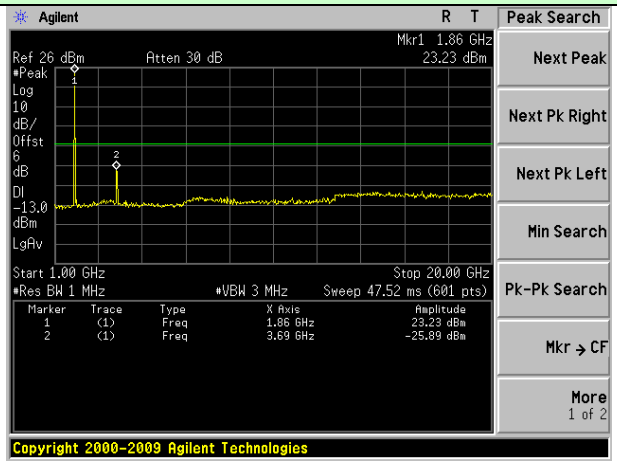




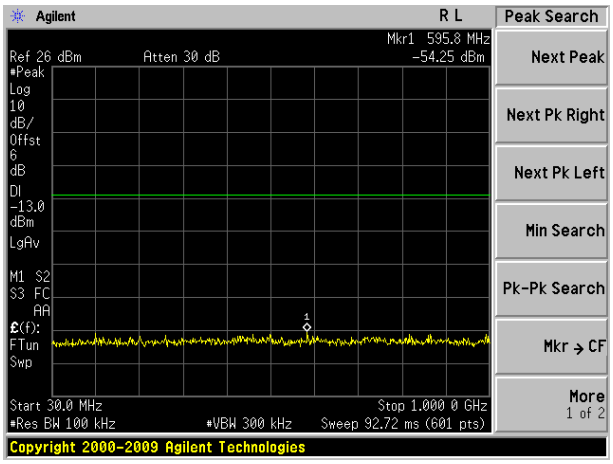
Highest channel

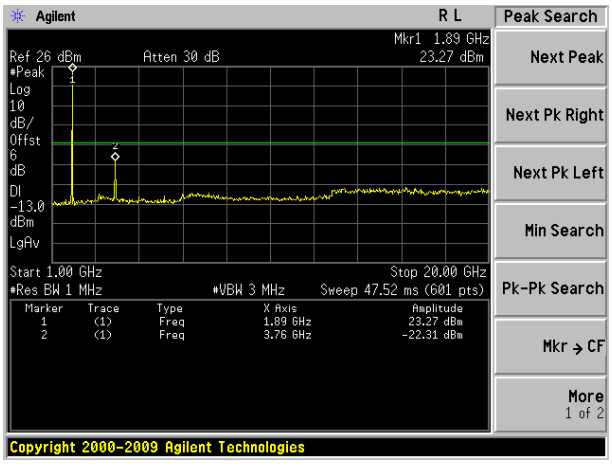
Test Mode: Traffic mode	WCDMA Band II (RMC 12.2Kbps link)



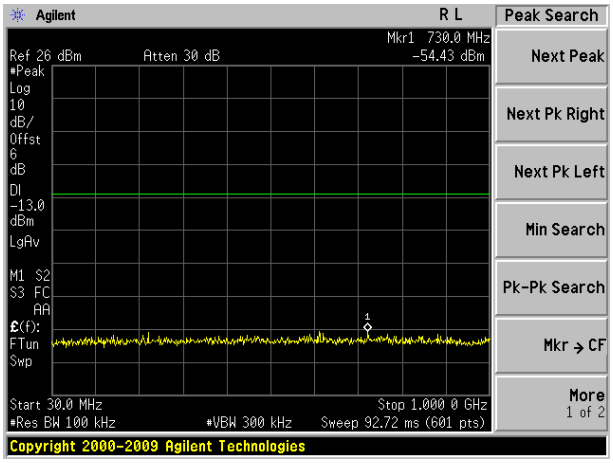


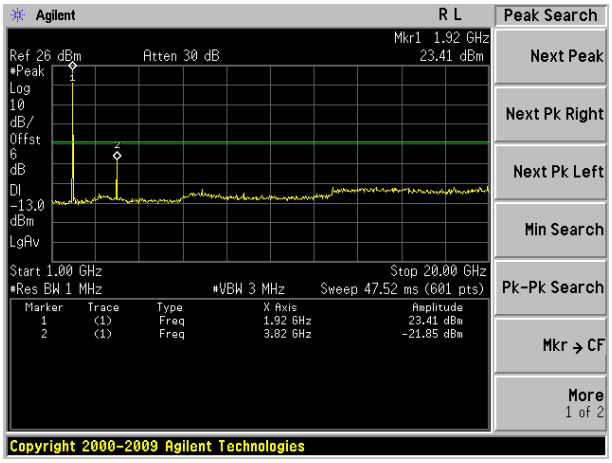
Lowest channel





Middle channel

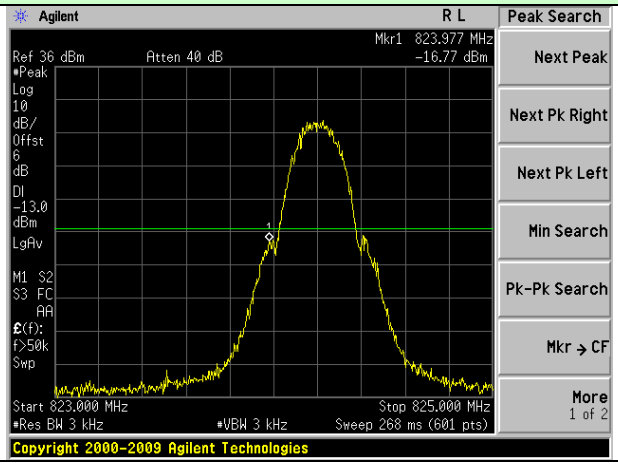




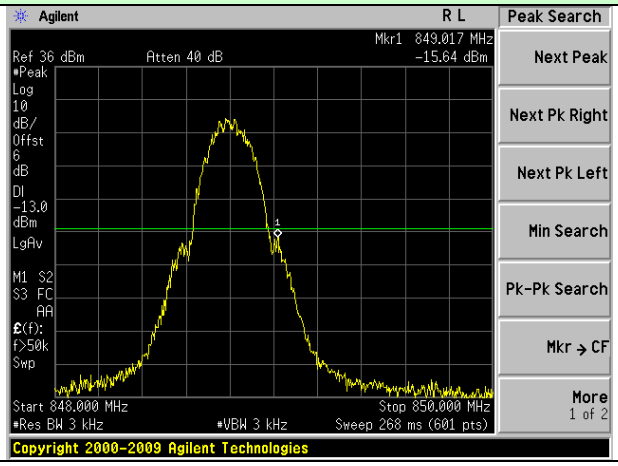
Highest channel

Band Edge:

Test Mode: Traffic mode	GSM850 (GSM link)

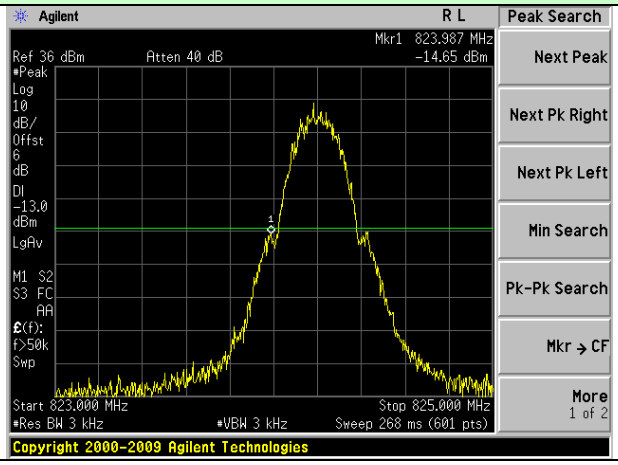


Lowest channel

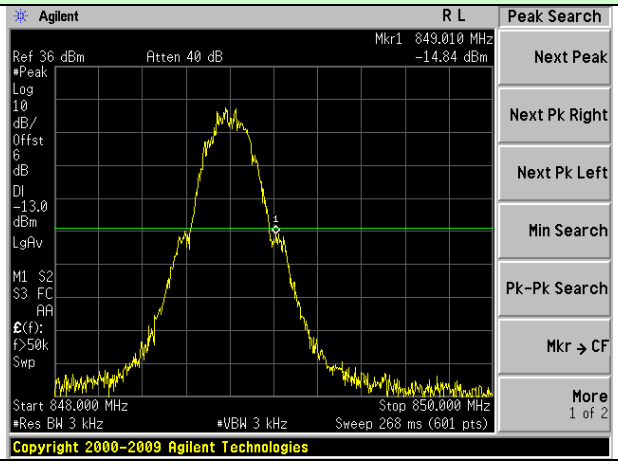


Highest channel

Test Mode: Traffic mode	GSM850 (GPRS 4 link)

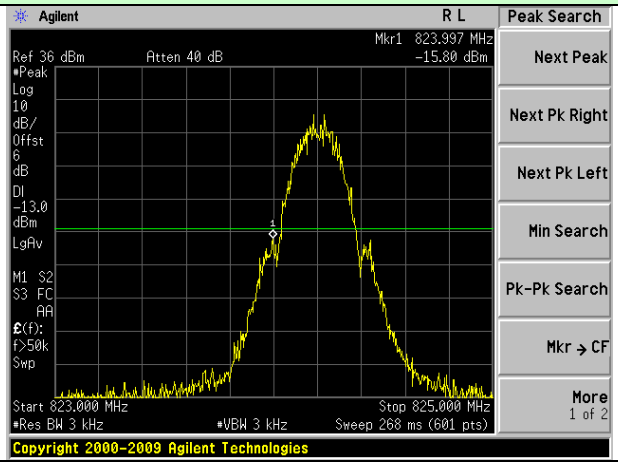


Lowest channel

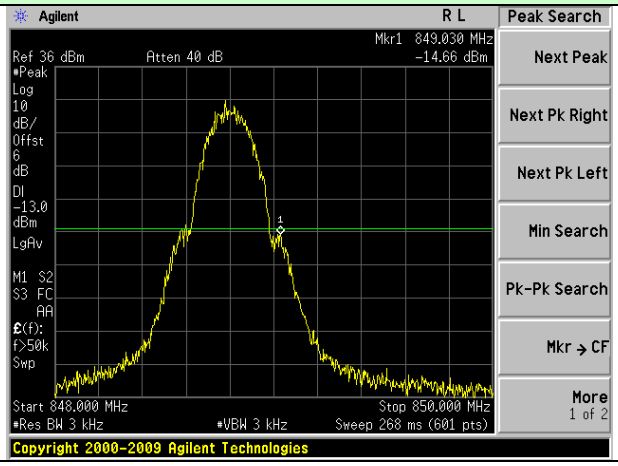


Highest channel

Test Mode: Traffic mode	GSM850 (EGPRS 8 link)

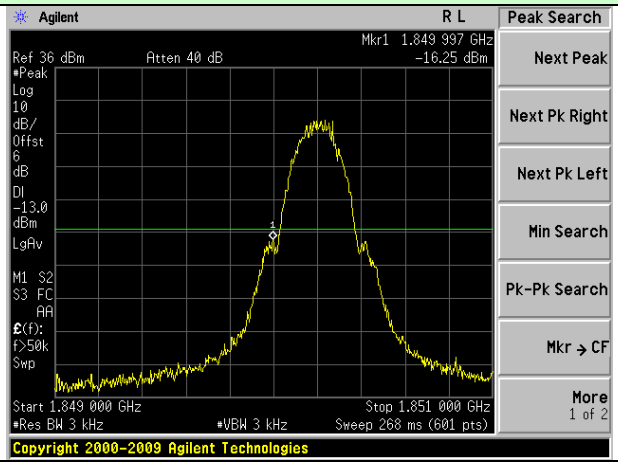


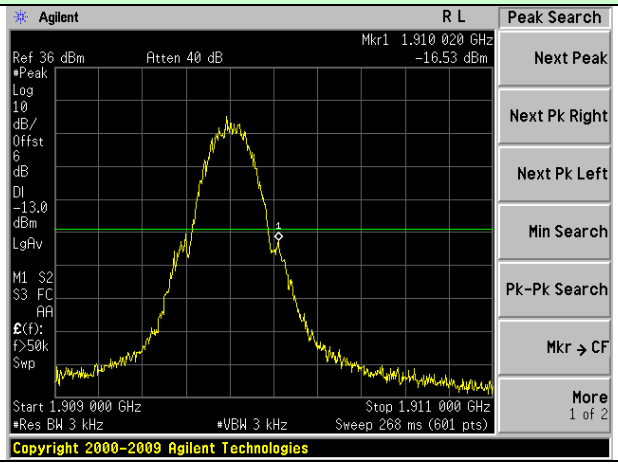
Lowest channel



Highest channel

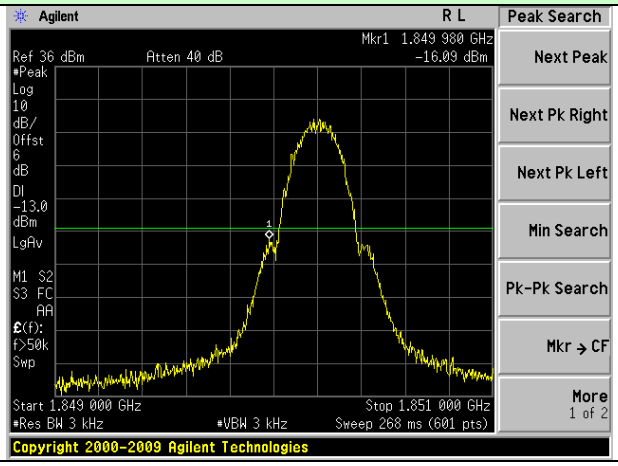
Test Mode: Traffic mode	PCS1900 (GSM link)

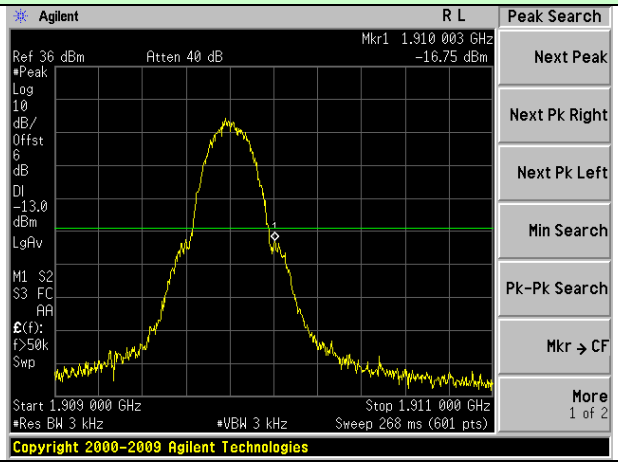




Lowest channel | Highest channel

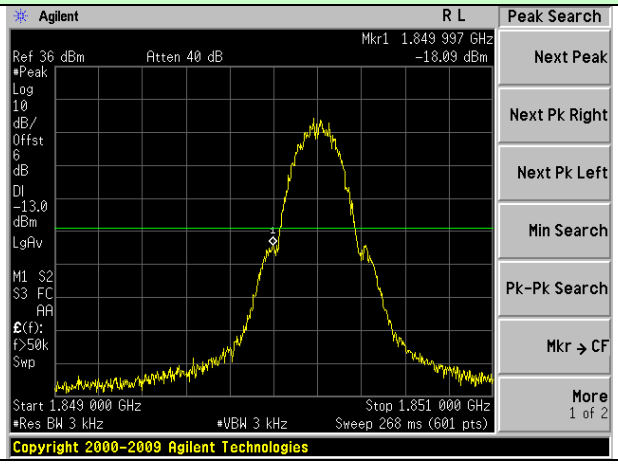
Test Mode: Traffic mode	PCS1900 (GPRS 4 link)

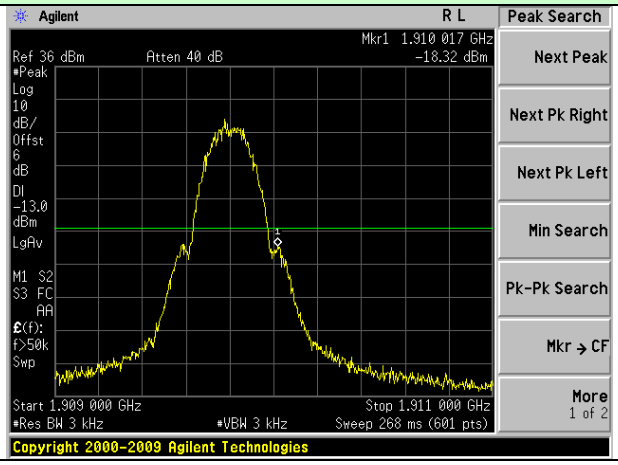




Lowest channel | Highest channel

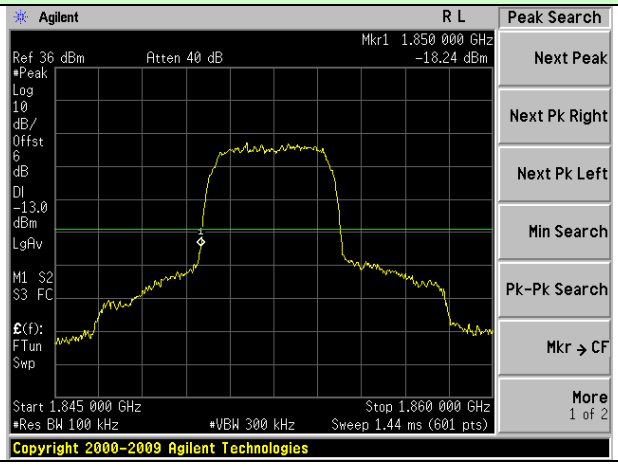
Test Mode: Traffic mode	PCS1900 (EGPRS 8 link)



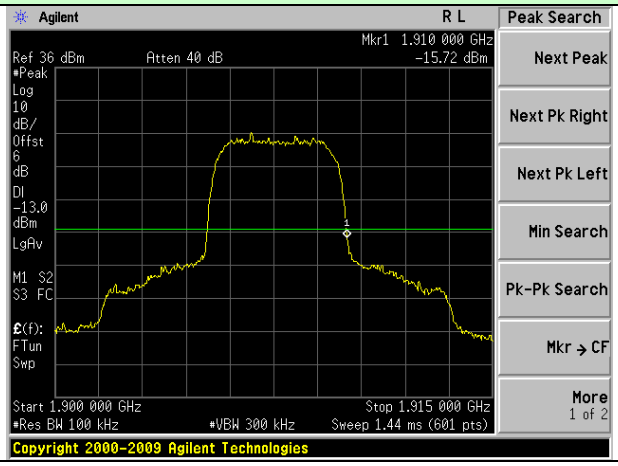


Lowest channel | Highest channel

Test Mode: Traffic mode	WCDMA Band II (RMC 12.2Kbps link)

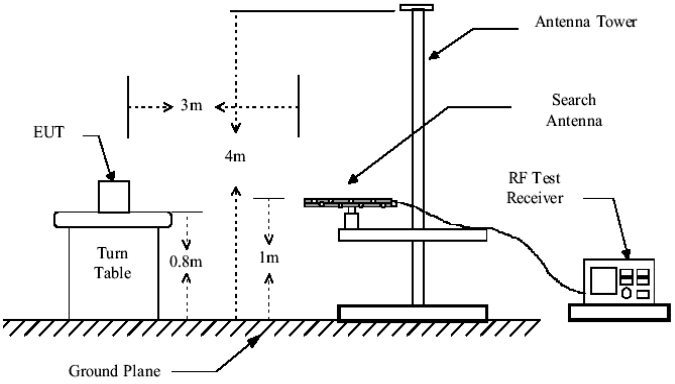
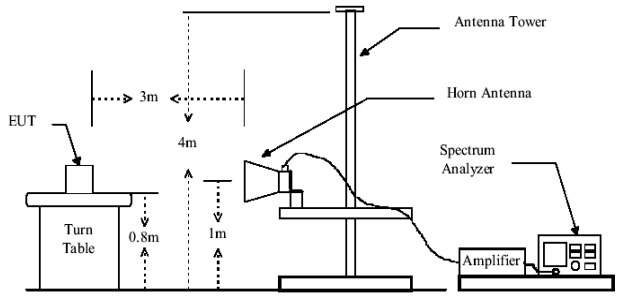
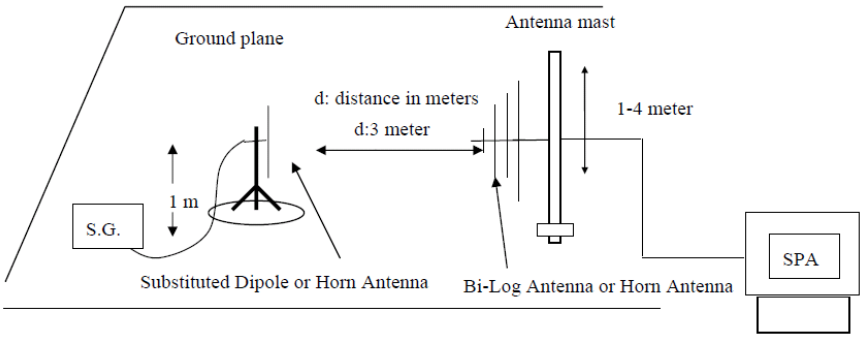


Lowest channel



Highest channel

7.7 ERP, EIRP Measurement

Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1046
Limit:	GSM850 7W ERP PCS1900 2W EIRP
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated. 3. ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated asfollows: ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB) 4. EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (GSM link)	Lowest	H	V	32.96	38.45	Pass
			H	29.97		
		E1	V	24.74		
			H	30.40		
		E2	V	24.06		
			H	28.28		
	Middle	H	V	33.29	38.45	Pass
			H	30.43		
		E1	V	25.31		
			H	31.01		
		E2	V	25.87		
			H	29.01		
	Highest	H	V	33.68	38.45	Pass
			H	30.05		
		E1	V	25.12		
			H	29.77		
		E2	V	23.67		
			H	29.18		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (GPRS 4 link)	Lowest	H	V	32.79	38.45	Pass
			H	29.80		
		E1	V	24.57		
			H	30.23		
		E2	V	23.89		
			H	28.11		
	Middle	H	V	33.12	38.45	Pass
			H	30.26		
		E1	V	25.14		
			H	30.84		
		E2	V	25.70		
			H	28.84		
	Highest	H	V	33.51	38.45	Pass
			H	29.88		
		E1	V	24.95		
			H	29.60		
		E2	V	23.50		
			H	29.01		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (EGPRS 8 link)	Lowest	H	V	27.22	38.45	Pass
			H	24.14		
		E1	V	18.73		
			H	24.58		
		E2	V	18.03		
			H	22.39		
	Middle	H	V	27.36	38.45	Pass
			H	24.40		
		E1	V	19.12		
			H	25.01		
		E2	V	19.70		
			H	22.94		
	Highest	H	V	27.58	38.45	Pass
			H	23.83		
		E1	V	18.74		
			H	23.54		
		E2	V	17.25		
			H	22.94		

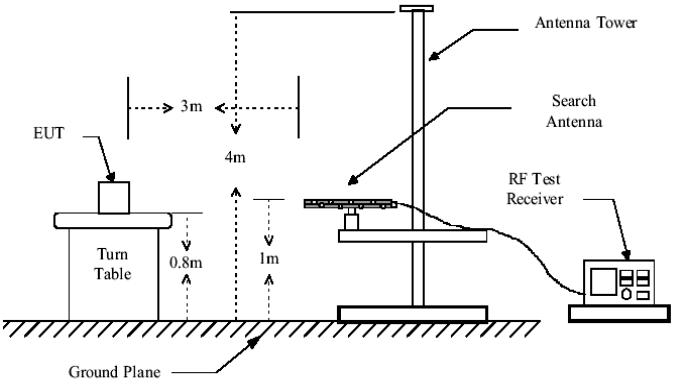
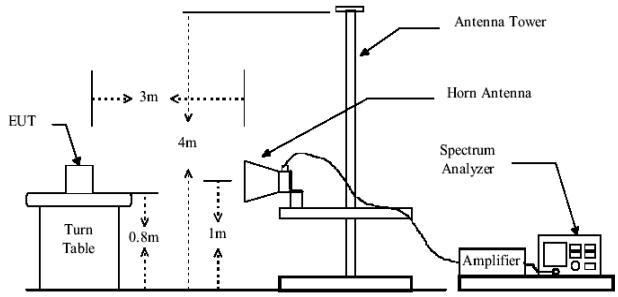
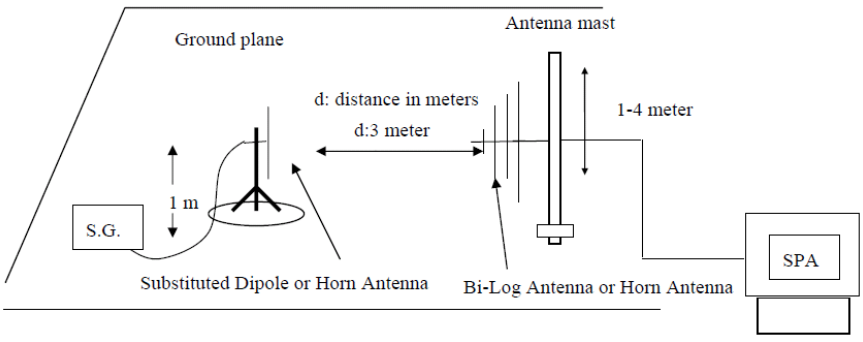
EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (GSM link)	Lowest	H	V	29.10	33.01	Pass
			H	26.42		
		E1	V	21.73		
			H	26.81		
		E2	V	21.12		
			H	24.90		
	Middle	H	V	29.45	33.01	Pass
			H	26.88		
		E1	V	22.30		
			H	27.41		
		E2	V	22.80		
			H	25.61		
	Highest	H	V	29.90	33.01	Pass
			H	26.64		
		E1	V	22.23		
			H	26.39		
		E2	V	20.93		
			H	25.87		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (GPRS 4 link)	Lowest	H	V	28.93	33.01	Pass
			H	26.25		
		E1	V	21.56		
			H	26.64		
		E2	V	20.95		
			H	24.73		
	Middle	H	V	29.28	33.01	Pass
			H	26.71		
		E1	V	22.13		
			H	27.24		
		E2	V	22.63		
			H	25.44		
	Highest	H	V	29.73	33.01	Pass
			H	26.47		
		E1	V	22.06		
			H	26.22		
		E2	V	20.76		
			H	25.70		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (EGPRS 8 link)	Lowest	H	V	25.78	33.01	Pass
			H	21.57		
		E1	V	15.94		
			H	22.03		
		E2	V	15.21		
			H	19.75		
	Middle	H	V	25.10	33.01	Pass
			H	22.02		
		E1	V	16.53		
			H	22.65		
		E2	V	17.12		
			H	20.50		
	Highest	H	V	25.47	33.01	Pass
			H	21.56		
		E1	V	16.27		
			H	21.27		
		E2	V	14.71		
			H	20.64		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
WCDMA Band II	Lowest	H	V	25.21	33.01	Pass
			H	23.30		
		E1	V	19.95		
			H	23.57		
		E2	V	19.52		
			H	22.22		
	Middle	H	V	25.56	33.01	Pass
			H	23.73		
		E1	V	20.46		
			H	24.10		
		E2	V	20.81		
			H	22.82		
	Highest	H	V	24.42	33.01	Pass
			H	22.10		
		E1	V	18.94		
			H	21.92		
		E2	V	18.02		
			H	21.54		

7.8 Field strength of spurious radiation measurement

Test Requirement:	FCC part22.917(a) and FCC part24.238(a)
Test Method:	FCC part2.1053
Limit:	-13dBm
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

Test mode:	GSM850		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1648.23	Vertical	-40.44	-13.00	Pass
2472.43	V	-42.57		
3296.63	V	-44.32		
4120.83	V	-46.03		
4945.03	V	---		
1648.23	Horizontal	-44.53	-13.00	Pass
2472.43	H	-47.55		
3296.63	H	-48.75		
4120.83	H	-50.86		
4945.03	H	---		
Test mode:	**GSM850**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.03	Vertical	-41.30	-13.00	Pass
2509.63	V	-43.96		
3346.23	V	-46.14		
4182.83	V	-48.27		
5019.43	V	---		
1673.03	Horizontal	-46.40	-13.00	Pass
2509.63	H	-50.16		
3346.23	H	-51.66		
4182.83	H	-54.29		
5019.43	H	---		
Test mode:	**GSM850**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1697.43	Vertical	-41.70	-13.00	Pass
2546.23	V	-44.48		
3395.03	V	-46.76		
4243.83	V	-48.99		
5092.63	V	---		
1697.43	Horizontal	-47.04	-13.00	Pass
2546.23	H	-50.97		
3395.03	H	-52.54		
4243.83	H	-55.29		
5092.63	H	---		

Remark：

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	PCS1900		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3700.23	Vertical	-39.93	-13.00	Pass
5550.43	V	-42.50		
7400.63	V	-44.60		
9250.83	V	-46.66		
11101.80	V	---		
3700.23	Horizontal	-44.86	-13.00	Pass
5550.43	H	-48.49		
7400.63	H	-49.94		
9250.83	H	-52.48		
11101.80	H	---		
Test mode:	**PCS1900**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3759.83	Vertical	-38.76	-13.00	Pass
5639.83	V	-40.76		
7519.83	V	-42.40		
9399.83	V	-44.01		
11290.00	V	---		
3759.83	Horizontal	-42.60	-13.00	Pass
5639.83	H	-45.43		
7519.83	H	-46.56		
9399.83	H	-48.54		
11290.00	H	---		
Test mode:	**PCS1900**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3819.43	Vertical	-38.32	-13.00	Pass
5729.23	V	-40.45		
7639.03	V	-42.20		
9548.83	V	-43.91		
11458.80	V	---		
3819.43	Horizontal	-42.41	-13.00	Pass
5729.23	H	-45.43		
7639.03	H	-46.63		
9548.83	H	-48.74		
11458.80	H	---		

Remark：

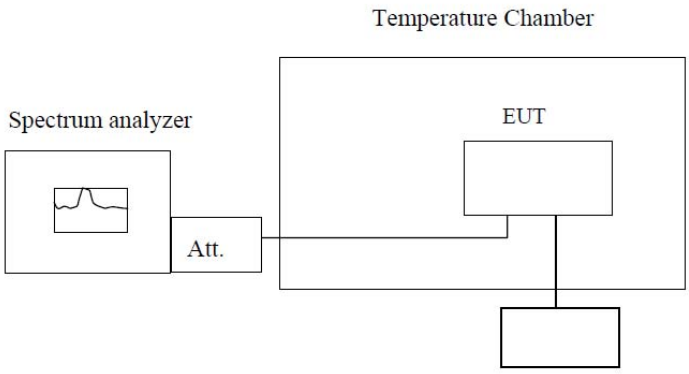
1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	WCDMA Band II		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3704.46	Vertical	-39.73	-13.00	Pass
5556.86	V	-42.77		
7409.26	V	-45.27		
9261.66	V	-47.71		
11114.40	V	---		
3704.46	Horizontal	-45.57	-13.00	Pass
5556.86	H	-49.87		
7409.26	H	-51.59		
9261.66	H	-54.60		
11114.40	H	---		
Test mode:	**WCDMA Band II**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3759.83	Vertical	-40.31	-13.00	Pass
5639.83	V	-43.20		
7519.83	V	-45.57		
9399.83	V	-47.89		
11280.00	V	---		
3759.83	Horizontal	-45.86	-13.00	Pass
5639.83	H	-49.95		
7519.83	H	-51.58		
9399.83	H	-54.44		
11280.00	H	---		
Test mode:	**WCDMA Band II**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3815.03	Vertical	-39.42	-13.00	Pass
5722.63	V	-42.12		
7630.23	V	-44.33		
9537.83	V	-46.50		
11445.60	V	---		
3815.03	Horizontal	-44.60	-13.00	Pass
5722.63	H	-48.42		
7630.23	H	-49.94		
9537.83	H	-52.61		
11445.60	H	---		

Remark：

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

7.9 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

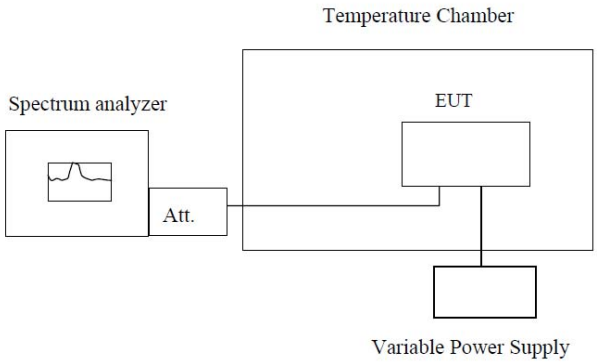
Measurement Data

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	64	0.0770	2.5	Pass
	-20	58	0.0687		
	-10	48	0.0577		
	0	44	0.0522		
	10	41	0.0495		
	20	35	0.0412		
	30	44	0.0522		
	40	51	0.0605		
	50	48	0.0577		
Reference Frequency: GSM850 (GPRS 4 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	59	0.0703	2.5	Pass
	-20	53	0.0628		
	-10	46	0.0552		
	0	44	0.0527		
	10	40	0.0477		
	20	36	0.0427		
	30	44	0.0527		
	40	48	0.0577		
	50	50	0.0602		
Reference Frequency: GSM850 (EGPRS 8 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	52	0.0616	2.5	Pass
	-20	46	0.0550		
	-10	40	0.0484		
	0	39	0.0462		
	10	35	0.0418		
	20	31	0.0374		
	30	39	0.0462		
	40	42	0.0506		
	50	44	0.0528		

Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error			Result
		Hz	ppm		
3.70	-30	103	0.0548	2.5	Pass
	-20	97	0.0516		
	-10	85	0.0451		
	0	81	0.0430		
	10	79	0.0419		
	20	71	0.0376		
	30	81	0.0430		
	40	89	0.0473		
	50	85	0.0451		
Reference Frequency: PCS1900 (GPRS 4 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error			Result
		Hz	ppm		
3.70	-30	99	0.0525	2.5	Pass
	-20	92	0.0491		
	-10	82	0.0436		
	0	80	0.0424		
	10	76	0.0402		
	20	69	0.0369		
	30	76	0.0402		
	40	86	0.0458		
	50	86	0.0458		
Reference Frequency: PCS1900 (EGPRS 8 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error			Result
		Hz	ppm		
3.70	-30	86	0.0460	2.5	Pass
	-20	81	0.0431		
	-10	72	0.0382		
	0	70	0.0372		
	10	66	0.0352		
	20	61	0.0323		
	30	66	0.0352		
	40	75	0.0401		
	50	75	0.0401		

Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880.0MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	86	0.0456	2.5	Pass
	-20	77	0.0410		
	-10	67	0.0354		
	0	63	0.0335		
	10	58	0.0307		
	20	51	0.0270		
	30	63	0.0335		
	40	70	0.0372		
	50	67	0.0354		

7.10 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

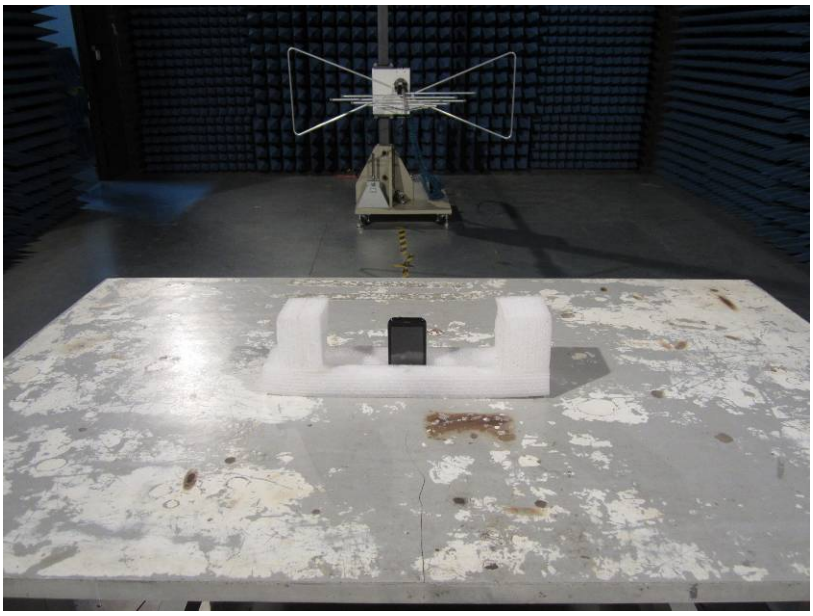
Measurement Data

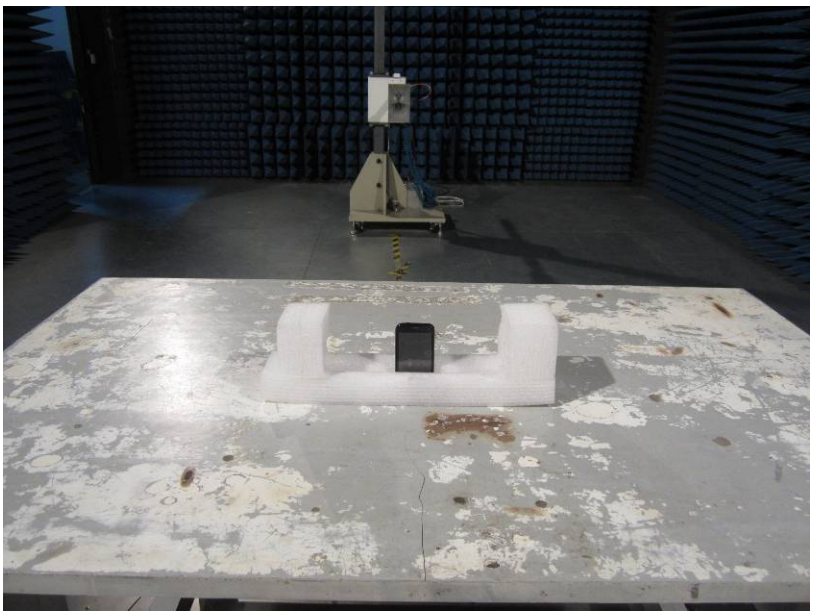
Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	39	0.0467	2.5	Pass
	3.70	35	0.0412		
	3.40	46	0.0550		
Reference Frequency: GSM850 (GPRS 4 link) Middle channel=190 channel=836.6MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	41	0.0495	2.5	Pass
	3.70	37	0.0443		
	3.40	44	0.0521		
Reference Frequency: GSM850 (EGPRS 8 link) Middle channel=190 channel=836.6MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	45	0.0538	2.5	Pass
	3.70	40	0.0482		
	3.40	47	0.0567		

Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	53	0.0280	2.5	Pass
	3.70	47	0.0251		
	3.40	50	0.0266		
Reference Frequency: PCS1900 (GPRS 4 link) Middle channel=661 channel=1880MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	51	0.0270	2.5	Pass
	3.70	47	0.0248		
	3.40	49	0.0263		
Reference Frequency: PCS1900 (EGPRS 8 link) Middle channel=661 channel=1880MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	46	0.0245	2.5	Pass
	3.70	42	0.0225		
	3.40	45	0.0238		
Reference Frequency: WCDMA Band II Middle channel=940 channel=1880.0MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	51	0.0271	2.5	Pass
	3.70	44	0.0231		
	3.40	48	0.0255		

8 Test Setup Photo

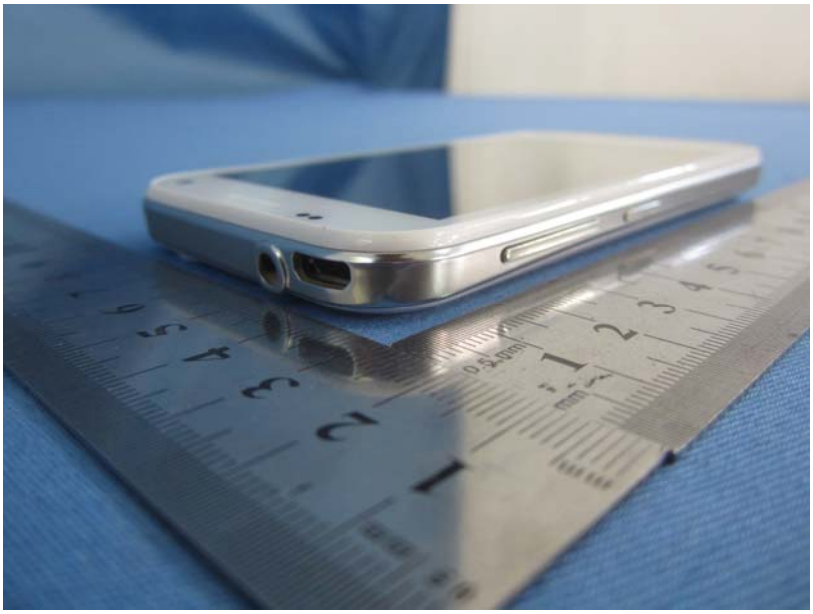
Radiated Emission

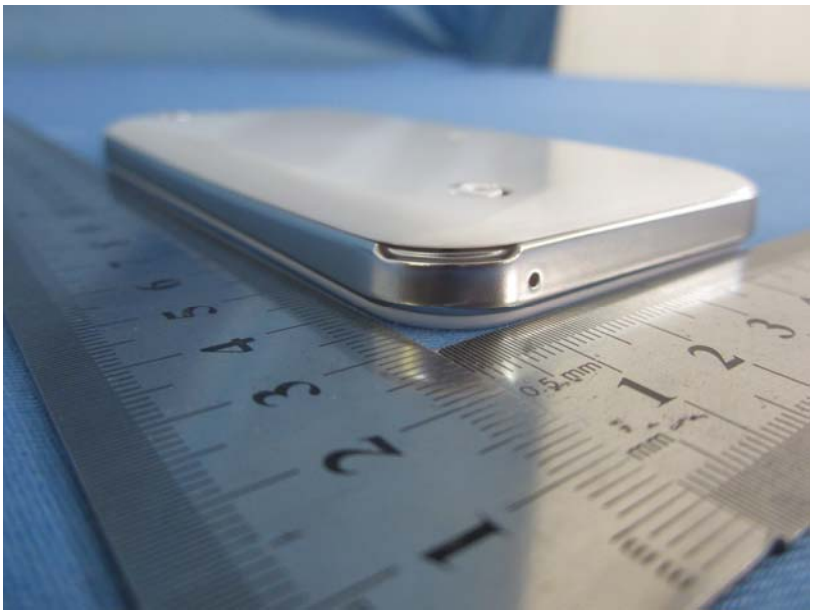


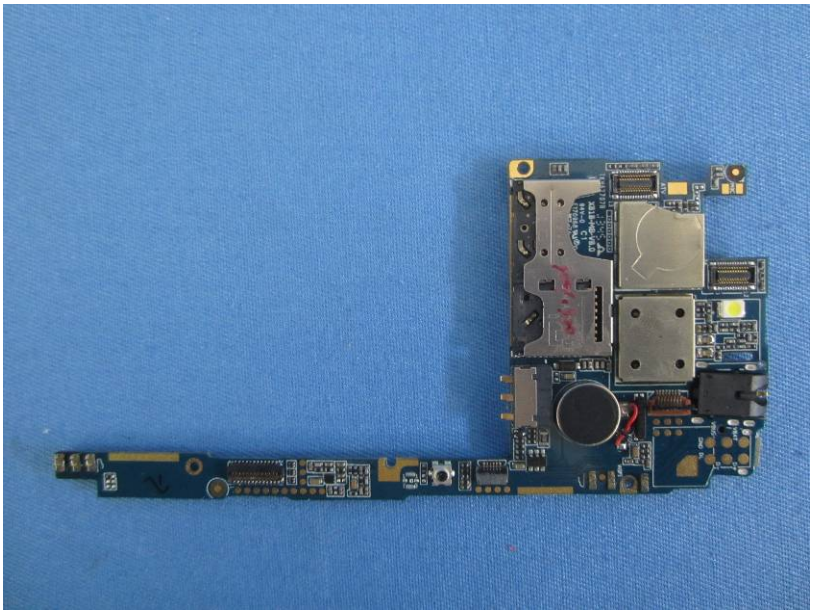


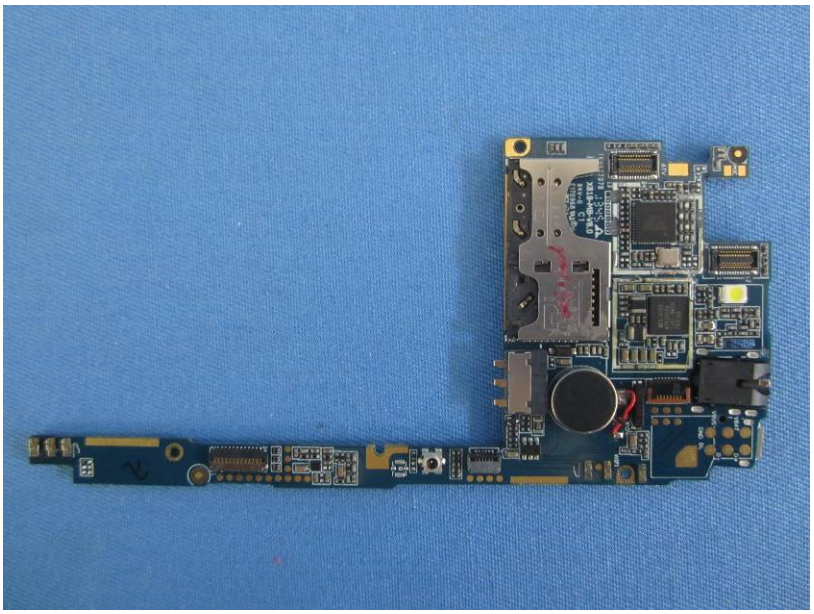
9 EUT Constructional Details

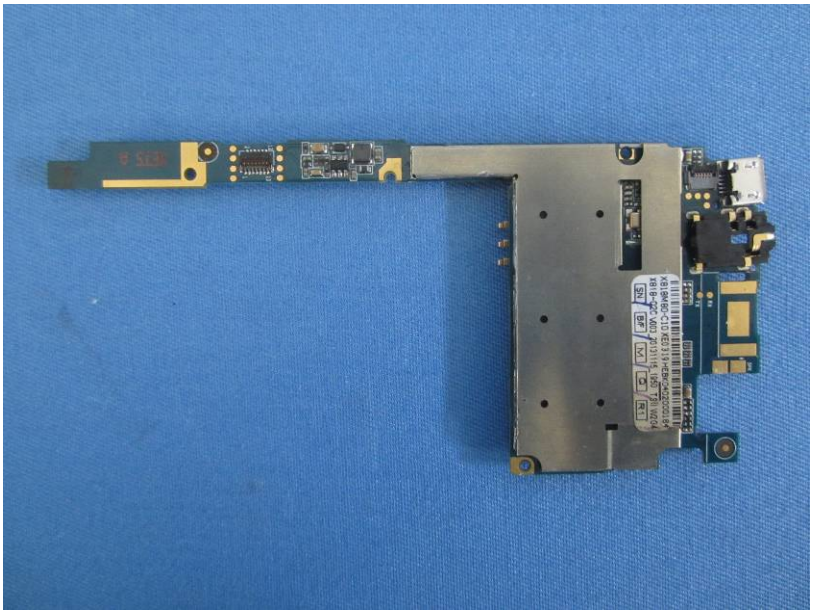
The phone has different color case. They are identical in everything except for the color of the case.

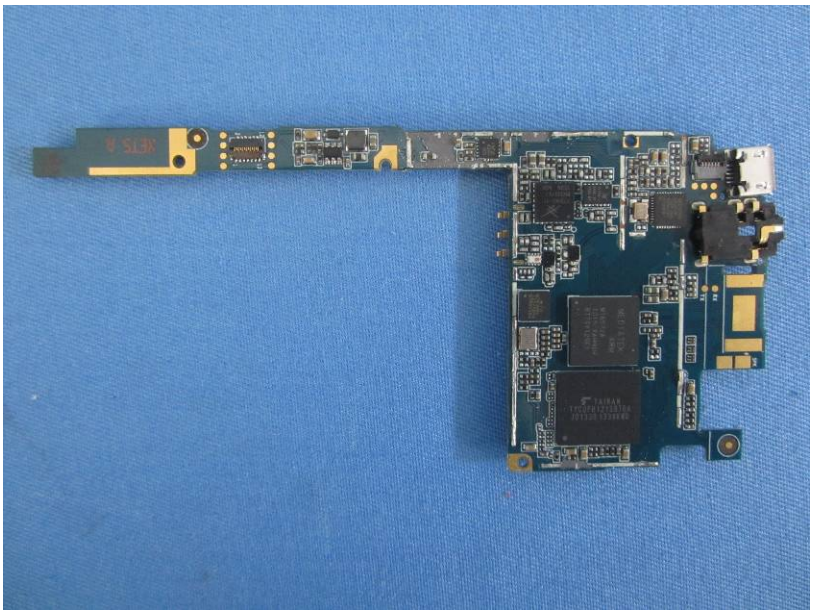













1350mAh 3.7V 4.995Wh
Made in China
Manu Date:08.01.2014


RECHARGEABLE Li-ion
BATTERY.
USE SPECIFIED
CHARGER ONLY.
MUST BE DISPOSED OF
PROPERLY.
MAY EXPLODE IF
DAMAGED OR
DISPOSED OF IN FIRE.
DO NOT SHORT-
CIRCUIT.
Li-ion

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