

FCC Report

(GSM/WCDMA)

Applicant: SPECTRA Technologies Holdings Co. Ltd.

Address of Applicant: Unit 1301-09, 19-20, Tower II, Grand Century Place, 193 Prince Edward Road West, Kowloon, Hong Kong .

Equipment Under Test (EUT)

Product Name: Wireless POS Terminal

Model No.: T1000 WCDMA

FCC ID: VWZT1000W

Applicable standards: FCC CFR Title 47 Part 2: 2012
FCC CFR Title 47 Part22 Subpart H: 2012
FCC CFR Title 47 Part24 Subpart E: 2012

Date of sample receipt: August 17, 2013

Date of Test: August 17- September 9, 2013

Date of report issued: September 9, 2013

Test Result : PASS *

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

Authorized Signature:

A circular blue stamp with the text "GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD." around the perimeter and "GTS" in the center. Below the stamp is a handwritten signature in black ink.

Robinson Lo

Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of GTS International Electrical Approvals or testing done by GTS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by GTS International Electrical Approvals in writing.

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2 Version

Version No.	Date	Description
00	September 9, 2013	Original

Prepared By:

hank.yan

Date:

September 9, 2013

Project Engineer

Check By:

Hans.Hu

Date:

September 9, 2013

Reviewer

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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)
Conducted emissions	Part 15.207	Pass
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:	SPECTRA Technologies Holdings Co. Ltd.
Address of Applicant:	Unit 1301-09, 19-20, Tower II, Grand Century Place, 193 Prince Edward Road West, Kowloon, Hong Kong .
Manufacturer:	SPECTRA Technologies Holdings Co. Ltd.
Address of Manufacturer:	Unit 1301-09, 19-20, Tower II, Grand Century Place, 193 Prince Edward Road West, Kowloon, Hong Kong .

5.2 General Description of EUT

Product Name:	Wireless POS Terminal
Trade mark:	T1000 WCDMA
Support Networks:	GSM, GPRS, EGPRS, WCDMA
Support Bands:	GSM850, PCS1900, WCDMA Band II, WCDMA Band V
TX Frequency:	GSM850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz WCDMA Band II: 1852.40MHz -1907.60MHz WCDMA Band V: 826.40MHz-846.60MHz
GPRS Class:	10
EGPRS Class:	10
Modulation type:	GSM/GPRS: GMSK EGPRS: GMSK / 8PSK WCDMA Band II / WCDMA Band V: QPSK
Hardware Version:	T1000-MBv2c
Software Version:	T1000 System Pack V1.5 release
Antenna type:	Integral antenna
Antenna gain:	GSM850/WCDMA Band V: 1.5dBi PCS1900/WCDMA Band II: 3dBi
Power supply:	Li-Polymer Battery 7.4V 1750mAh
Adapter information :	Model:ADP036-094B Input: AC 100V~240V 1.0A 50/60Hz Output: DC 9.0V 4A

Operation Frequency List:

GSM 850		PCS1900		WCDMA Band V		WCDMA Band II	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20	4132	826.40	9262	1852.40
129	824.40	513	1850.40	4133	826.60	9263	1852.60
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
189	836.40	660	1879.80	4182	836.40	9399	1879.80
190	836.60	661	1880.00	4183	836.60	9400	1880.00
191	836.80	662	1880.20	4184	836.80	9401	1880.20
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
250	848.60	809	1909.60	4232	846.40	9537	1907.40
251	848.80	810	1909.80	4233	846.60	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 V		WCDMA Band II	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20	4132	826.40	9262	1852.40
190	836.60	661	1880.00	4183	836.60	9400	1880.00
251	848.80	810	1909.80	4233	846.60	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 fully 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	Feb. 24 2013	Feb. 23 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. 6, 2012	Dec. 5, 2013

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS264	Sep. 08 2011	Sep. 07 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 02 2013	Jul. 01 2014
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 02 2013	Jul. 01 2014
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jul. 02 2013	Jul. 01 2014
5	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 02 2013	Jul. 01 2014
6	Coaxial Cable	GTS	N/A	GTS227	Jul. 02 2013	Jul. 01 2014
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

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	<ul style="list-style-type: none"> ■ GSM link ■ EGPRS 8 link 	<ul style="list-style-type: none"> ■ GSM link ■ EGPRS 8 link
PCS 1900	<ul style="list-style-type: none"> ■ GSM link ■ EGPRS 8 link 	<ul style="list-style-type: none"> ■ GSM link ■ EGPRS 8 link
WCDMA Band II	<ul style="list-style-type: none"> ■ RMC 12.2Kbps link 	<ul style="list-style-type: none"> ■ RMC 12.2Kbps link
WCDMA Band V	<ul style="list-style-type: none"> ■ RMC 12.2Kbps link 	<ul style="list-style-type: none"> ■ RMC 12.2Kbps link

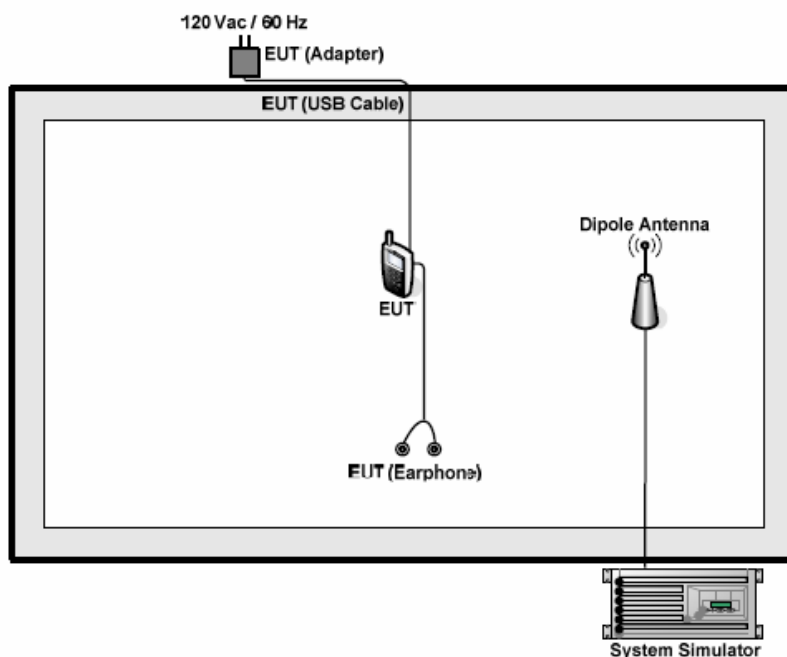
Note: The maximum power levels are GSM mode for GMSK link, EGPRS multi-slot class 8 mode for 8PSK link, RMC12.2Kbps mode for WCDMA band V. only these modes were used for all tests.

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)	32.37	32.85	32.99	29.30	28.97	28.54
GPRS (GMSK, 1 TX slot)	32.35	32.84	32.96	29.26	28.95	28.50
GPRS (GMSK, 2 TX slot)	31.60	32.09	32.21	28.07	27.76	27.31
GPRS (GMSK, 3 TX slot)	29.63	30.12	30.24	26.03	25.72	25.27
EGPRS(GMSK, 1 TX slot)	32.31	32.80	32.92	29.19	28.88	28.43
EGPRS(GMSK, 2 TX slot)	31.58	32.07	32.19	27.95	27.64	27.19
EGPRS(GMSK, 3 TX slot)	29.58	30.07	30.19	25.98	25.67	25.22
EGPRS (8PSK, 1 TX slot)	27.13	27.66	27.66	24.25	23.82	23.45
EGPRS (8PSK, 2 TX slot)	25.90	26.40	26.44	22.93	22.60	22.31
EGPRS (8PSK, 3 TX slot)	24.02	24.55	24.53	21.41	21.01	20.85

Conducted Power (dBm)						
	WCDMA Band II			WCDMA Band V		
Channel	9262	9400	9538	4132	4183	4233
Frequency	1852.4	1880.0	1907.6	826.4	836.6	846.6
RMC 12.2Kbps	24.86	25.57	25.18	25.27	25.05	24.76
RMC 64Kbps	24.81	25.54	25.14	25.22	25.02	24.49
RMC 144Kbps	24.80	25.52	25.13	25.21	25.00	24.48
RMC 384Kbps	24.76	25.49	25.17	25.17	24.97	24.52
HSDPA Subtest-1	24.84	25.55	25.17	25.25	25.03	24.52
HSDPA Subtest-2	24.82	25.52	25.15	25.23	25.00	24.50
HSDPA Subtest-3	24.77	25.49	25.12	25.18	24.97	24.47
HSDPA Subtest-4	24.79	25.50	25.16	25.20	24.98	24.51
HSUPA Subtest-1	24.84	25.54	25.16	25.25	25.02	24.51
HSUPA Subtest-2	24.82	25.49	25.14	25.23	24.97	24.49
HSUPA Subtest-3	24.81	25.52	25.10	25.22	25.00	24.45
HSUPA Subtest-4	24.76	25.47	25.17	25.17	24.95	24.52
HSUPA Subtest-5	24.82	24.45	25.09	25.23	23.93	24.44
AMR	24.81	24.50	25.14	25.22	23.98	24.49

7.2 Configuration of Tested System

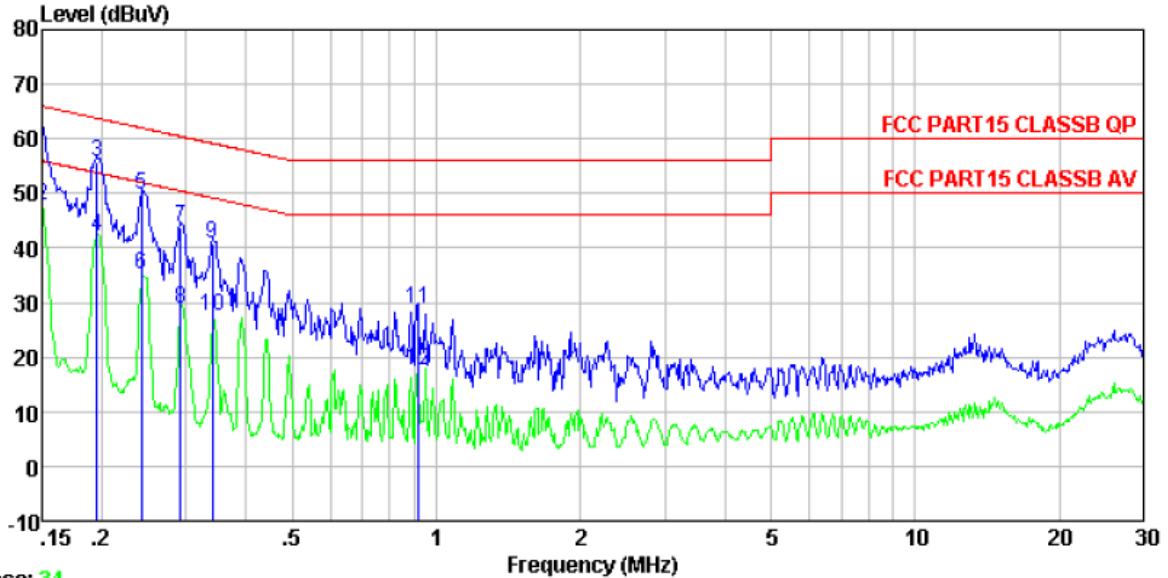


7.3 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.207														
Test Method:	ANSI C63.4:2003														
Test Frequency Range:	150KHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table> <p>* Decreases with the logarithm of the frequency.</p>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test setup:	<p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test procedure:	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement. 														
Test Instruments:	Refer to section 6 for details														
Test mode:	Pre-scan all modes in section 5.3, and found the PC mode which is the worst mode, so only the data of worst mode was show on the test report.														
Test results:	Pass														

Measurement Data

Line:

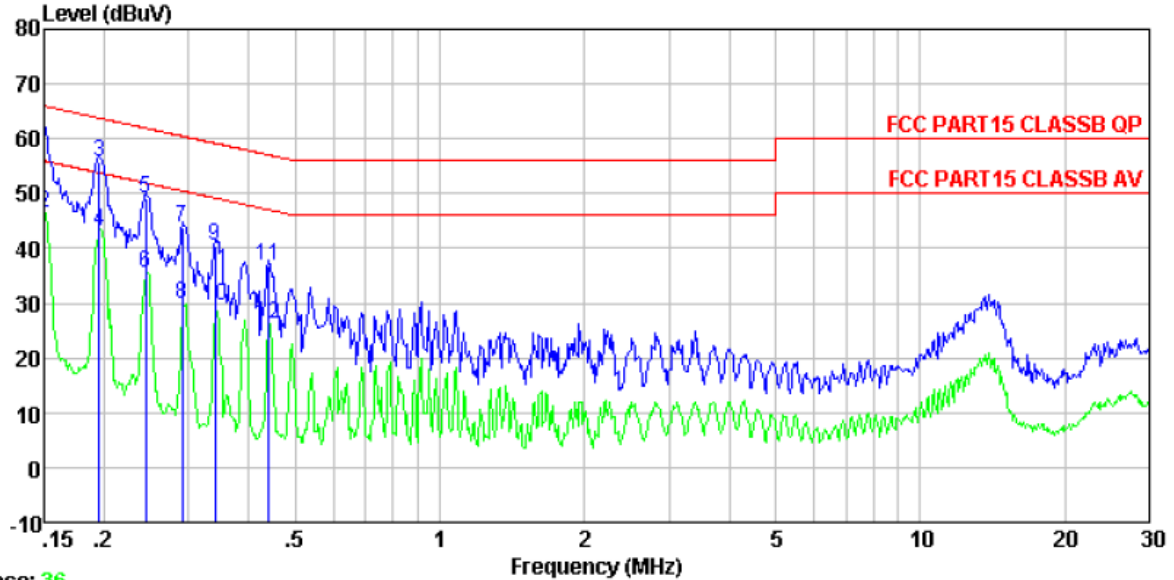


Trace: 34

Condition : FCC PART15 CLASSB QP LISN-2013 LINE
 Job No. : 1287RF
 Test mode : WCDMA Mode
 Test Engineer: Ying

	Read Freq	LISN Level	Cable Factor	Cable Loss	Limit Level	Over Line	Remark
	MHz	dBuV	dB	dB	dBuV	dB	
1	0.150	61.49	0.15	0.12	61.76	66.00	-4.24 QP
2	0.150	47.39	0.15	0.12	47.66	56.00	-8.34 Average
3	0.195	55.49	0.14	0.13	55.76	63.80	-8.04 QP
4	0.195	41.98	0.14	0.13	42.25	53.80	-11.55 Average
5	0.242	49.46	0.12	0.12	49.70	62.04	-12.34 QP
6	0.242	34.84	0.12	0.12	35.08	52.04	-16.96 Average
7	0.292	43.49	0.11	0.10	43.70	60.46	-16.76 QP
8	0.292	28.75	0.11	0.10	28.96	50.46	-21.50 Average
9	0.341	40.74	0.11	0.10	40.95	59.18	-18.23 QP
10	0.341	27.24	0.11	0.10	27.45	49.18	-21.73 Average
11	0.914	28.71	0.14	0.13	28.98	56.00	-27.02 QP
12	0.914	17.41	0.14	0.13	17.68	46.00	-28.32 Average

Neutral:



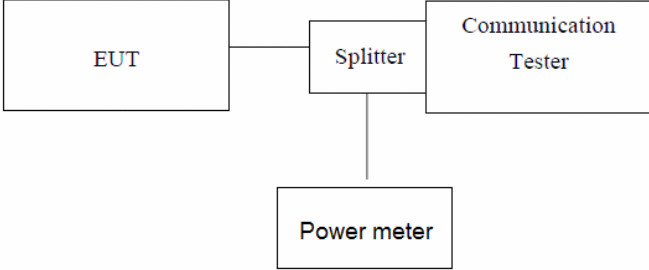
Trace: 36
 Condition : FCC PART15 CLASSB QP LISN-2013 NEUTRAL
 Job No. : 1287RF
 Test mode : WCDMA Mode
 Test Engineer: Ying

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	61.58	0.07	0.12	61.77	66.00	-4.23	QP
2	0.150	46.25	0.07	0.12	46.44	56.00	-9.56	Average
3	0.195	55.47	0.07	0.13	55.67	63.80	-8.13	QP
4	0.195	43.02	0.07	0.13	43.22	53.80	-10.58	Average
5	0.244	48.88	0.06	0.11	49.05	61.95	-12.90	QP
6	0.244	35.48	0.06	0.11	35.65	51.95	-16.30	Average
7	0.291	43.65	0.06	0.10	43.81	60.50	-16.69	QP
8	0.291	29.78	0.06	0.10	29.94	50.50	-20.56	Average
9	0.341	40.42	0.06	0.10	40.58	59.18	-18.60	QP
10	0.341	29.23	0.06	0.10	29.39	49.18	-19.79	Average
11	0.440	36.52	0.06	0.11	36.69	57.07	-20.38	QP
12	0.440	26.11	0.06	0.11	26.28	47.07	-20.79	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

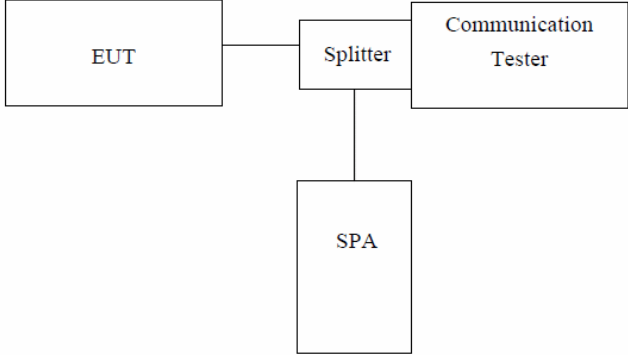
7.4 Conducted Peak Output Power

Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1046
Limit:	GSM850, WCDMA Band V: 7W PCS1900, WCDMA Band II: 2W
Test setup:	 <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 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 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

EUT Mode	Channel	Frequency (MHz)	PK power (dBm)	Limit (dBm)	Result
GSM 850 (GSM link)	128	824.20	32.37	38.45	Pass
	190	836.60	32.85		
	251	848.80	32.99		
GSM 850 (EGPRS 8 link)	128	824.20	27.13	38.45	Pass
	190	836.60	27.66		
	251	848.80	27.66		
PCS 1900 (GSM link)	512	1850.20	29.30	33.01	Pass
	661	1880.00	28.97		
	810	1909.80	28.54		
PCS 1900 (EGPRS 8 link)	512	1850.20	24.25	33.01	Pass
	661	1880.00	23.82		
	810	1909.80	23.45		
WCDMA Band V (RMC 12.2Kbps link)	4132	826.4	25.27	38.45	Pass
	4183	836.6	25.05		
	4233	846.6	24.76		
WCDMA Band II (RMC 12.2Kbps link)	9262	1852.4	24.86	33.01	Pass
	9400	1880.0	25.57		
	9538	1907.6	25.18		

7.5 Occupy Bandwidth

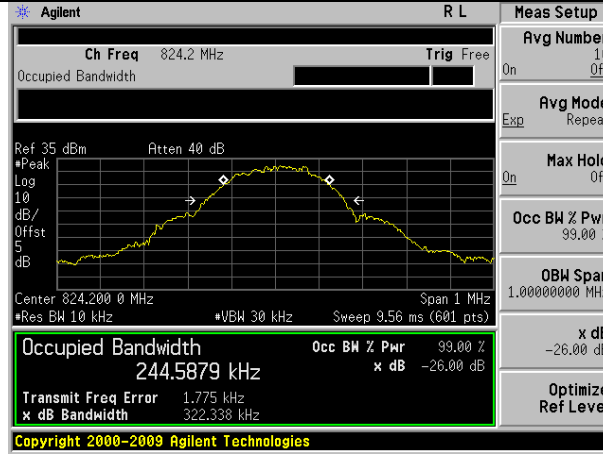
Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1049
Test setup:	 <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT's output RF connector was connected with a short cable to the spectrum 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 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

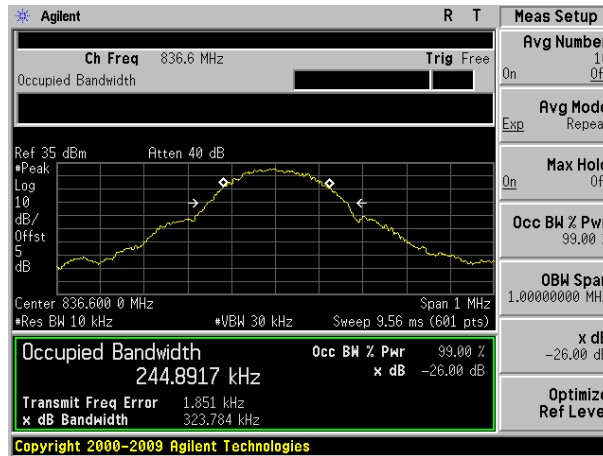
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
GSM 850 (GSM link)	128	824.20	244.588	322.338
	190	836.60	244.892	323.784
	251	848.80	244.777	317.663
GSM 850 (EGPRS 8 link)	128	824.20	246.256	323.900
	190	836.60	246.879	325.275
	251	848.80	246.392	321.029
PCS 1900 (GSM link)	512	1850.20	244.906	316.878
	661	1880.00	244.656	324.355
	810	1909.80	243.574	311.832
PCS 1900 (EGPRS 8 link)	512	1850.20	246.928	323.073
	661	1880.00	246.144	323.053
	810	1909.80	246.704	320.203
WCDMA Band V (RMC 12.2Kbps link)	4132	826.4	4177.1	4776
	4183	836.6	4170.3	4744
	4233	846.6	4213.8	4836
WCDMA Band II (RMC 12.2Kbps link)	9262	1852.4	4142.1	4699
	9400	1880.0	4161.8	4710
	9538	1907.6	4163.5	4749

Test plot as follows:

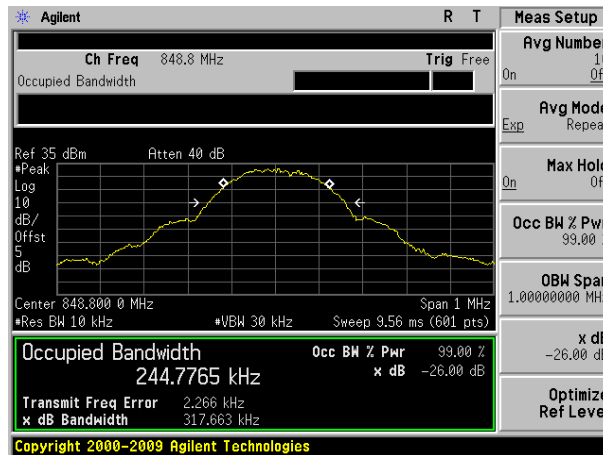
Test band: GSM 850 (GSM link)



Lowest channel



Middle channel

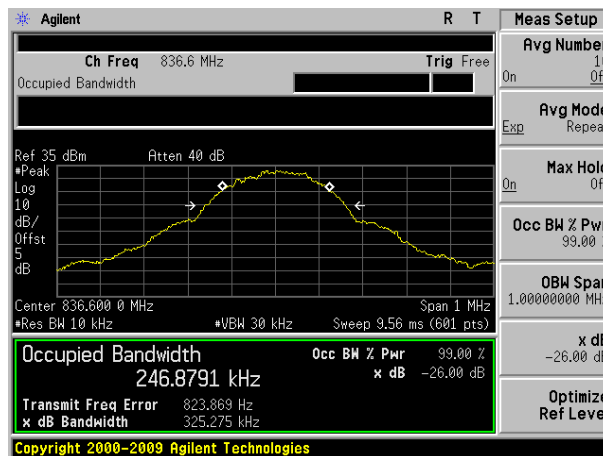


Highest channel:

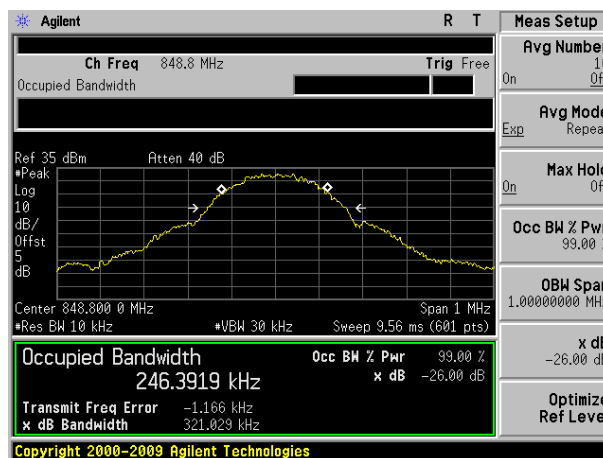
Test band: GSM 850 (EGPRS 8 link)



Lowest channel



Middle channel

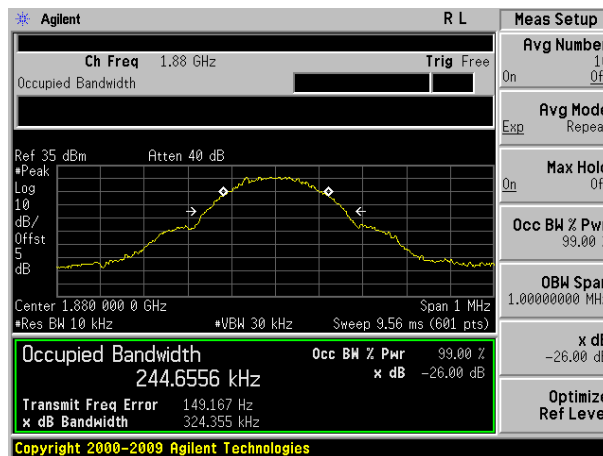


Highest channel:

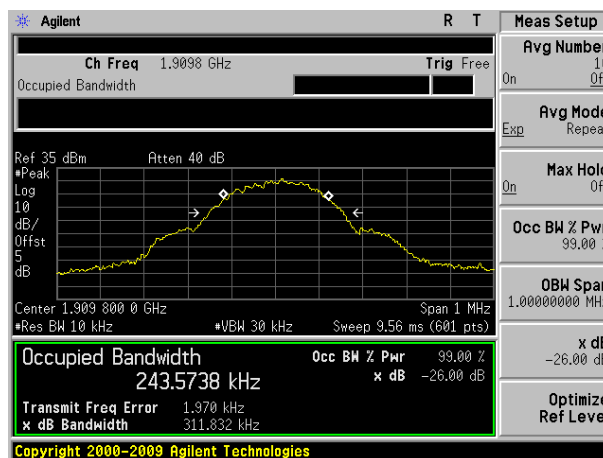
Test band: PCS 1900 (GSM link)



Lowest channel

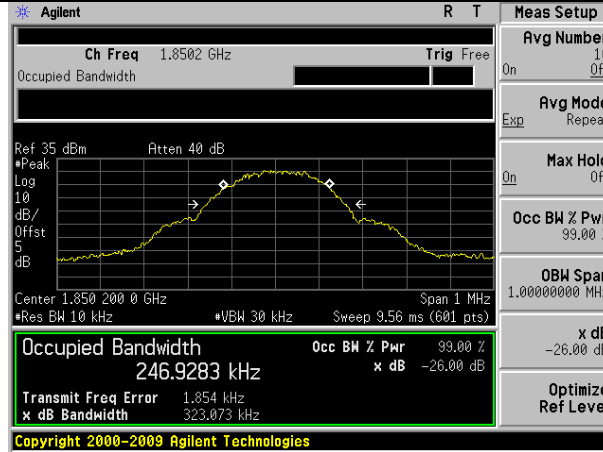


Middle channel

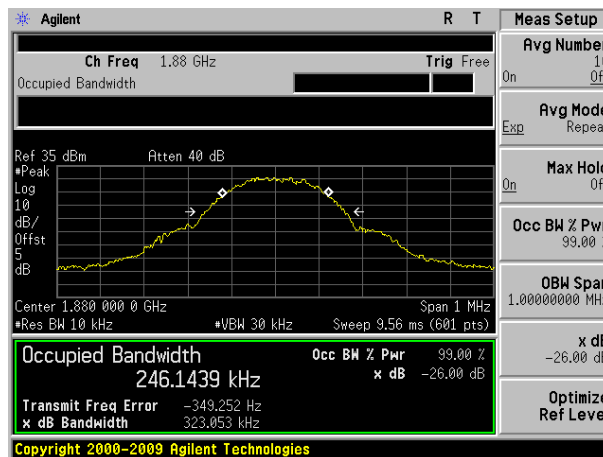


Highest channel:

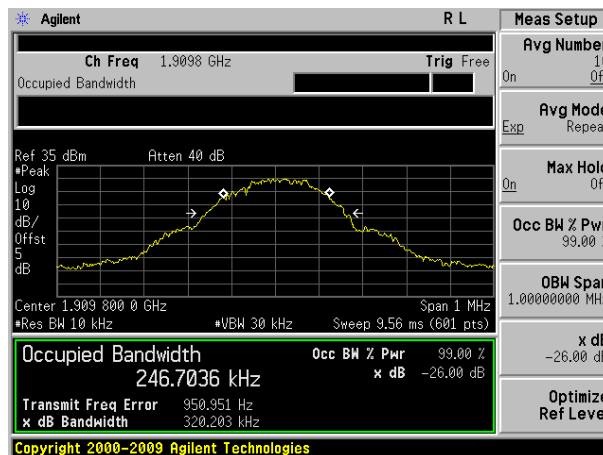
Test band: PCS 1900 (EGPRS 8 link)



Lowest channel

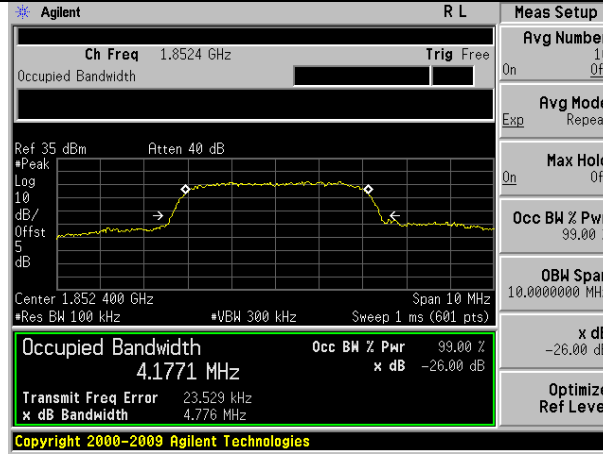


Middle channel

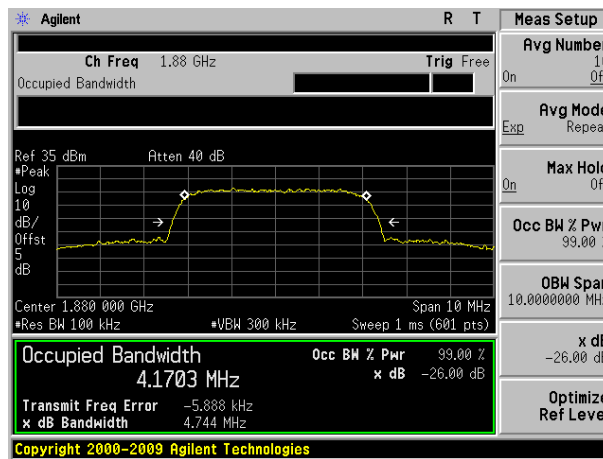


Highest channel:

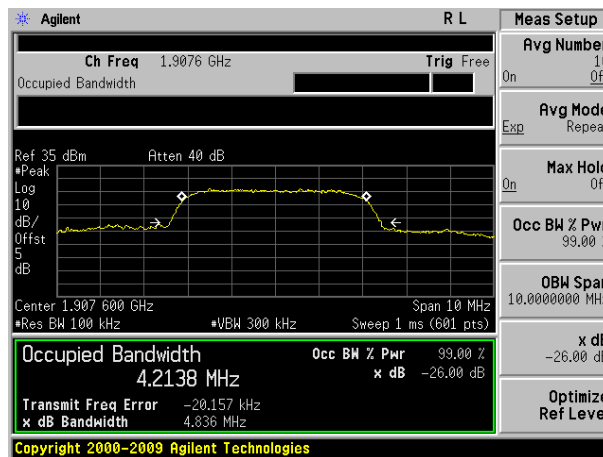
Test band: WCDMA Band V (RMC 12.2Kbps link)



Lowest channel

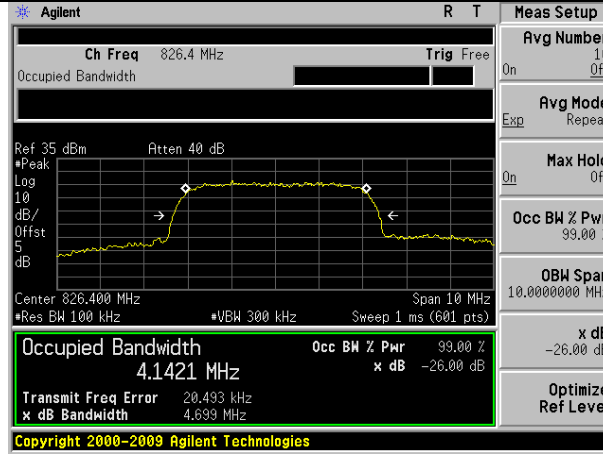


Middle channel

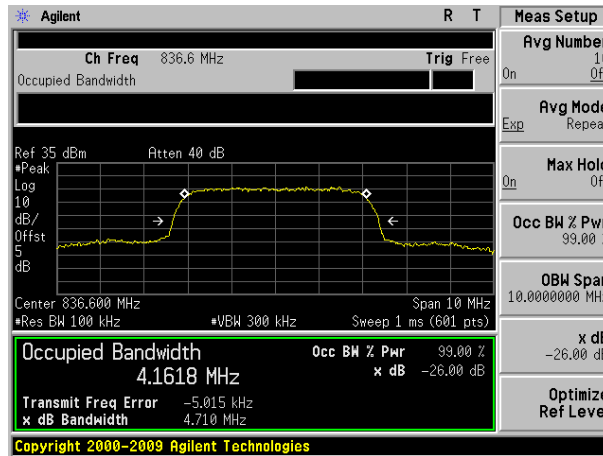


Highest channel:

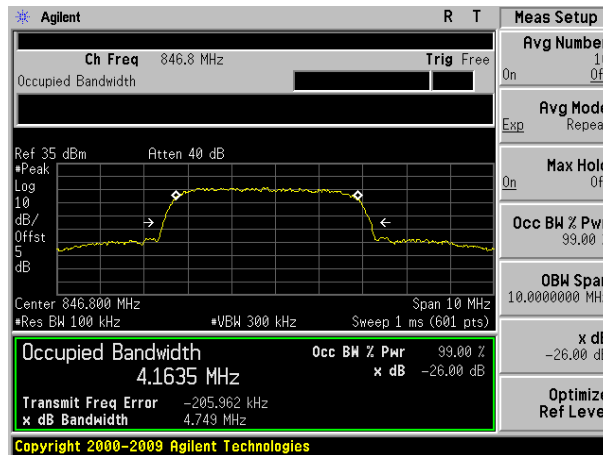
Test band: WCDMA Band II (RMC 12.2Kbps link)



Lowest channel



Middle channel

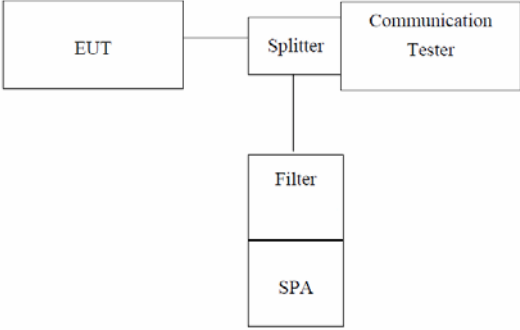


Highest channel:

7.6 MODULATION CHARACTERISTIC

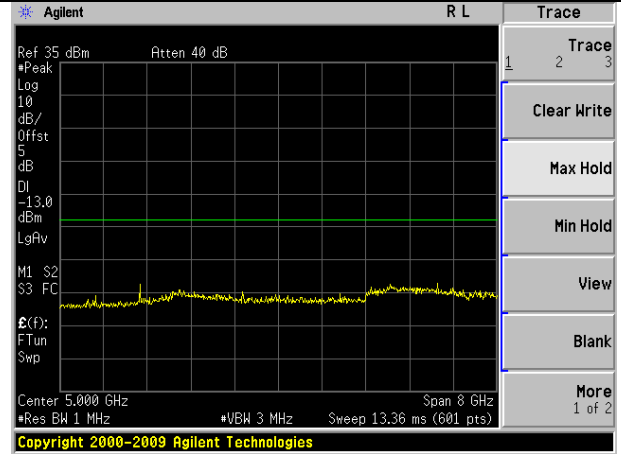
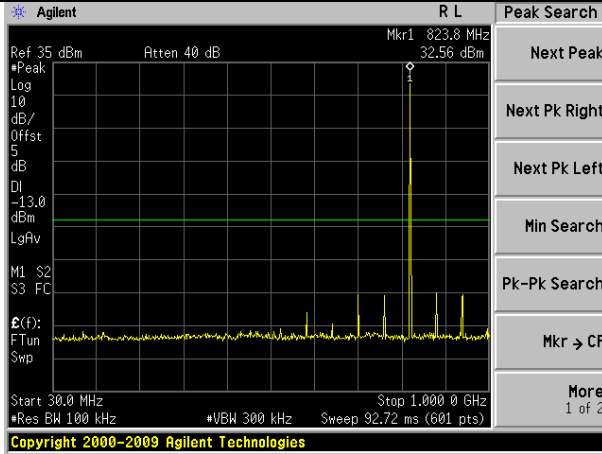
According to FCC § 2.1047(d), Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

7.7 Out of band emission at antenna terminals

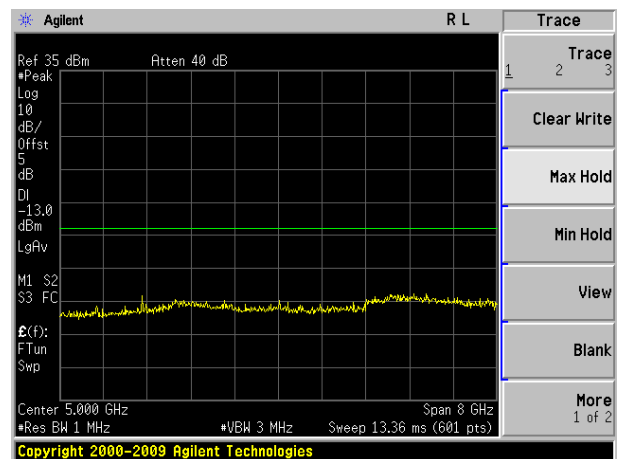
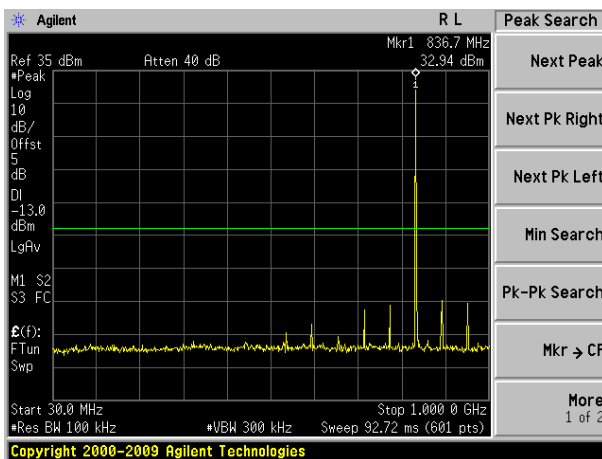
Test Requirement:	FCC part22.917(a) and FCC part24.238(a)
Test Method:	FCC part2.1051
Limit:	-13dBm
Test setup:	 <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer 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 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

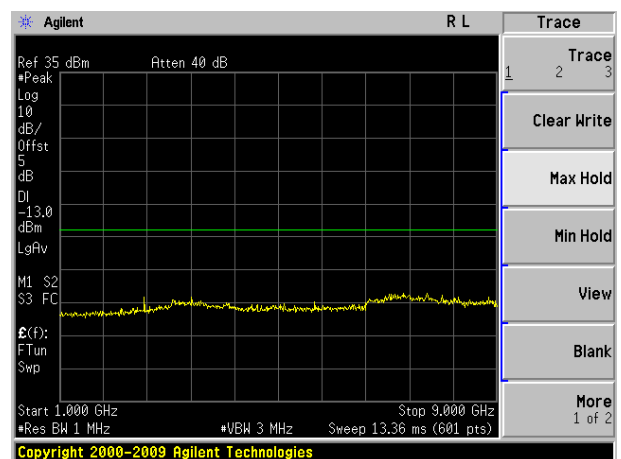
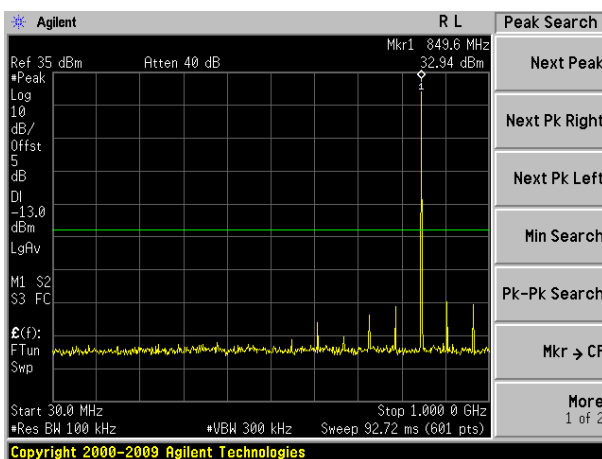
Test Mode: GSM 850 (GSM link)



Lowest channel

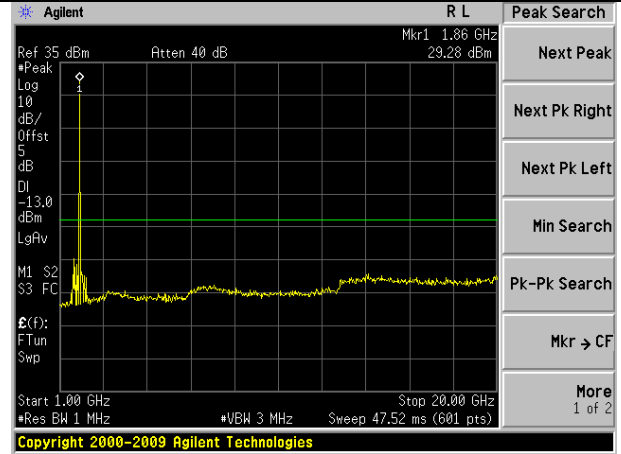
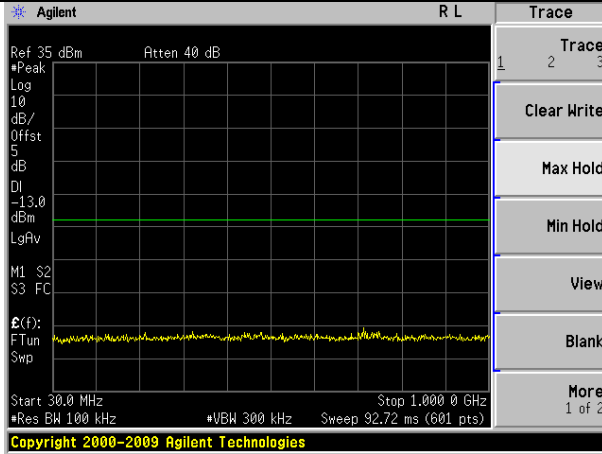


Middle channel

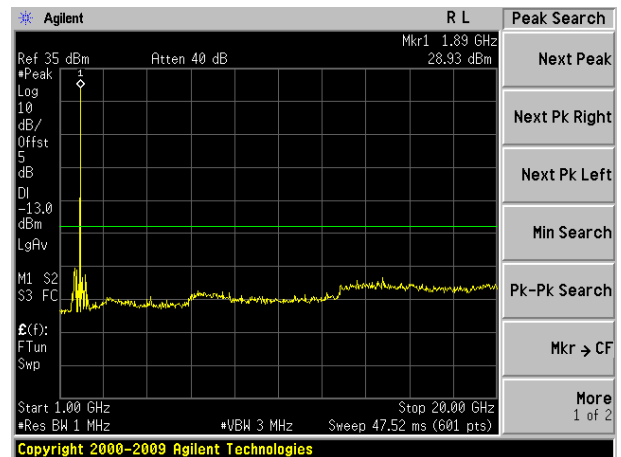
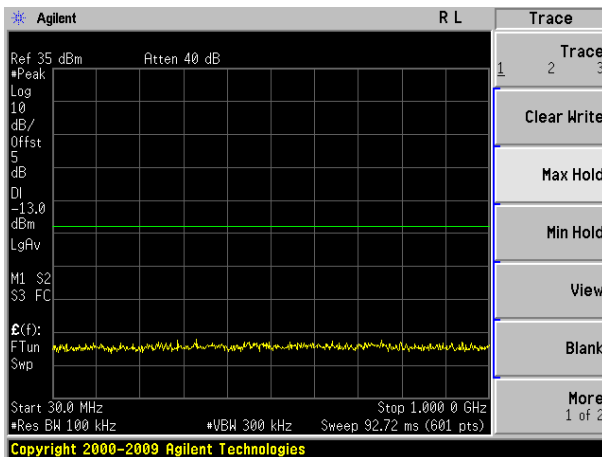


Highest channel

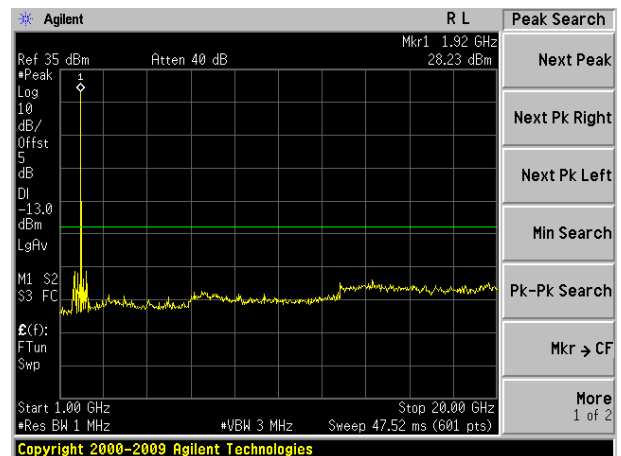
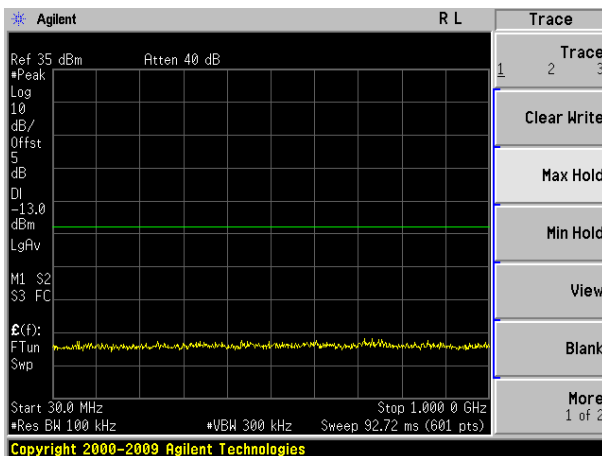
Test Mode: PCS1900 (GSM link)



Lowest channel

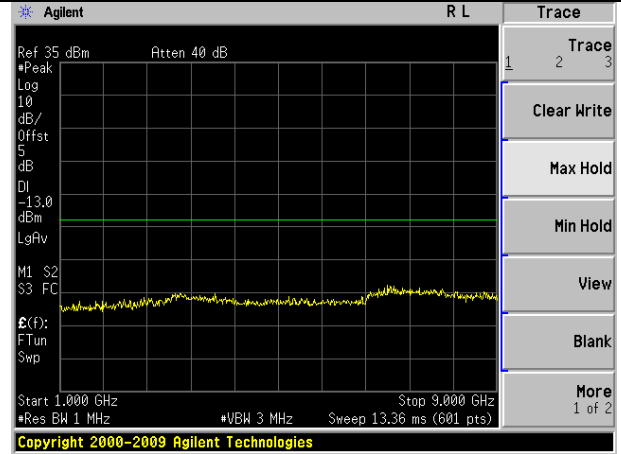
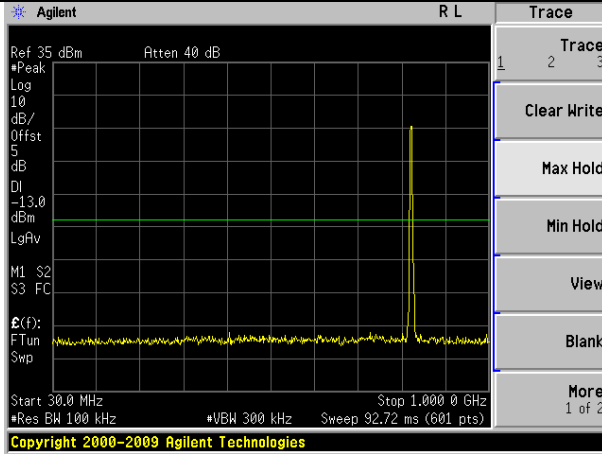


Middle channel

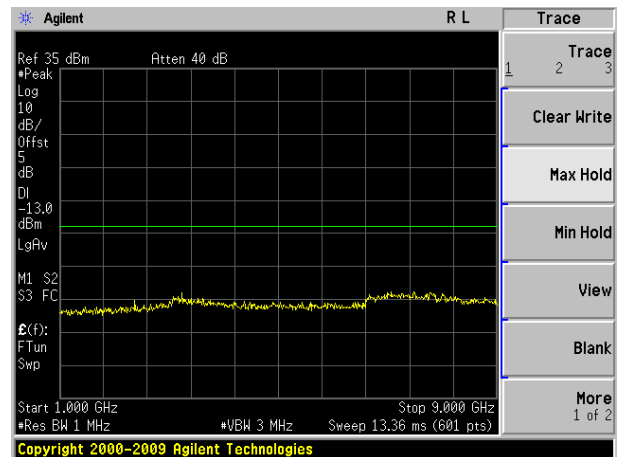
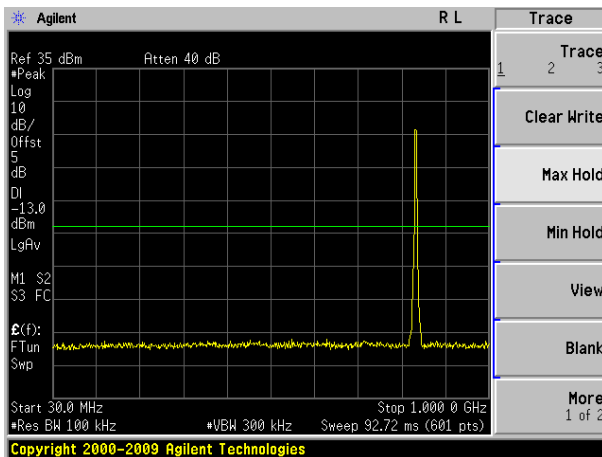


Highest channel

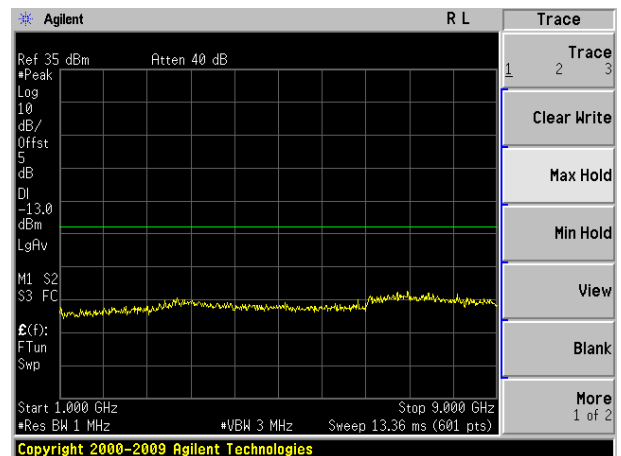
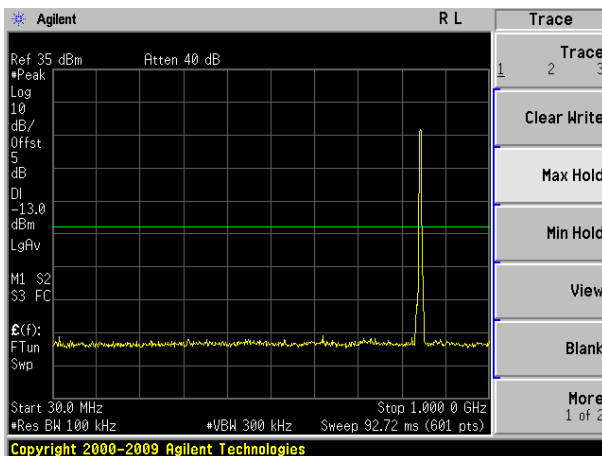
Test Mode: WCDMA Band V (RMC 12.2Kbps link)



Lowest channel

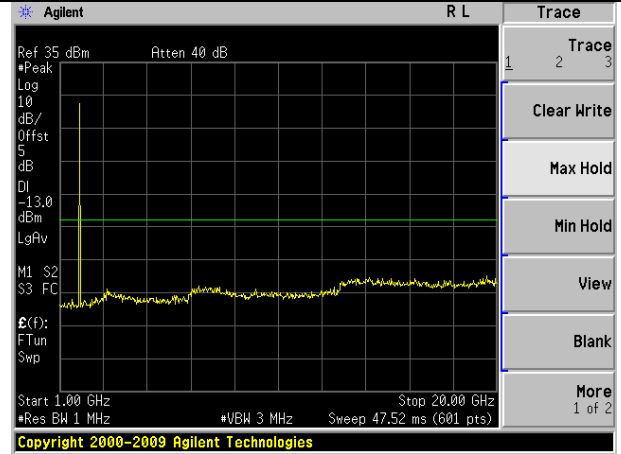
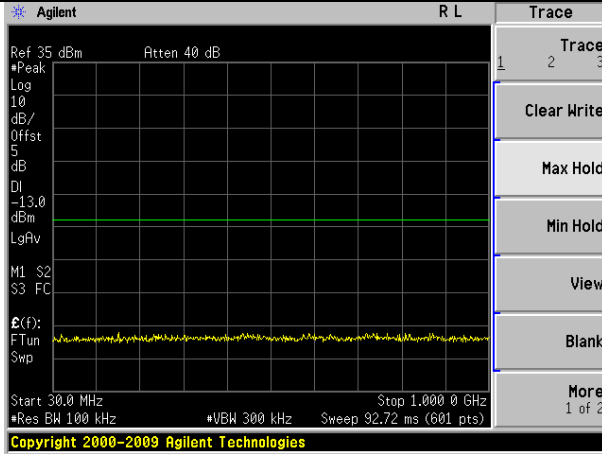


Middle channel

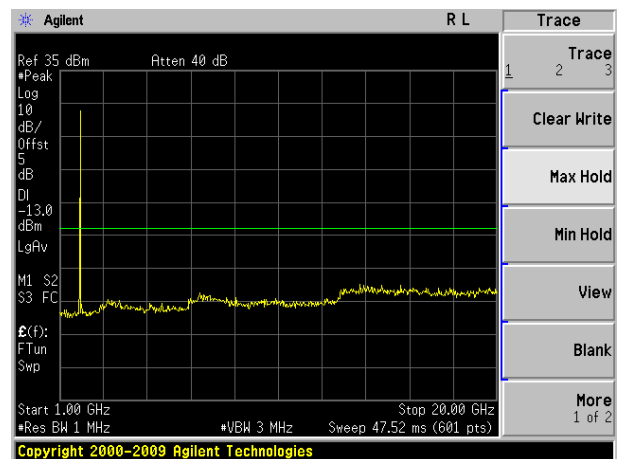
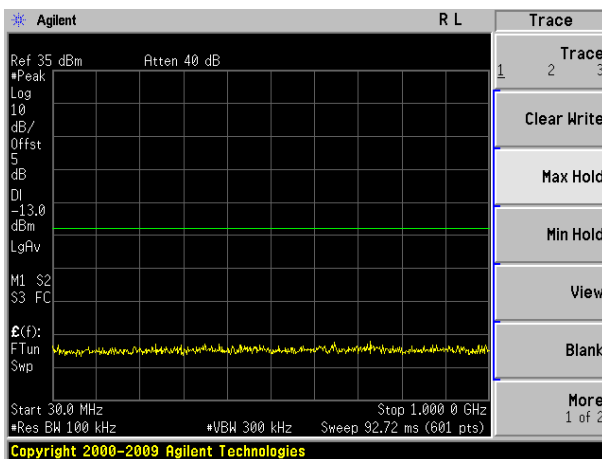


Highest channel

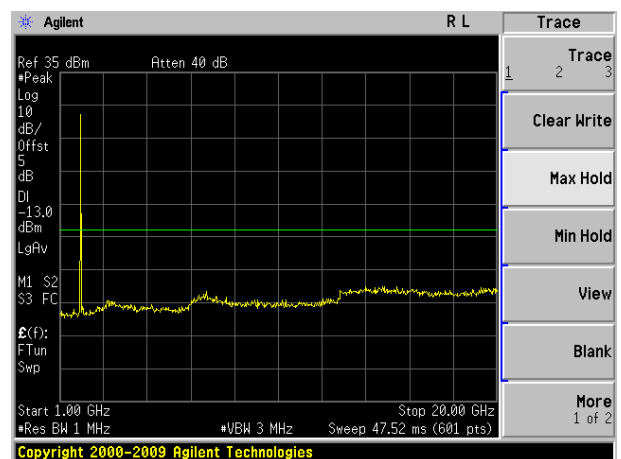
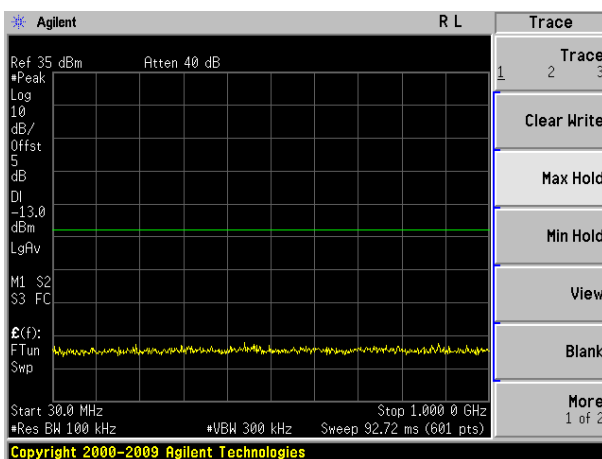
Test Mode: WCDMA Band II (RMC 12.2Kbps link)



Lowest channel



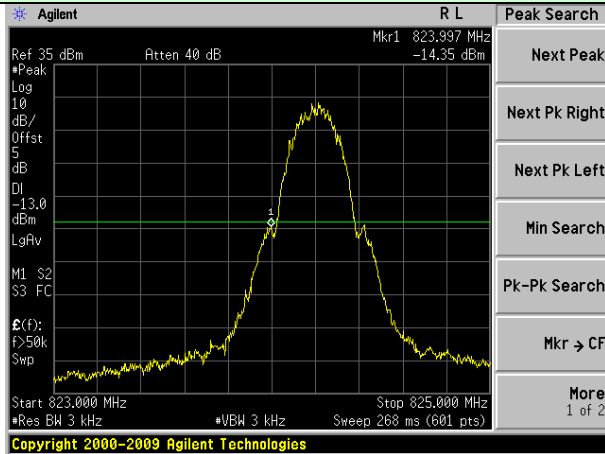
Middle channel



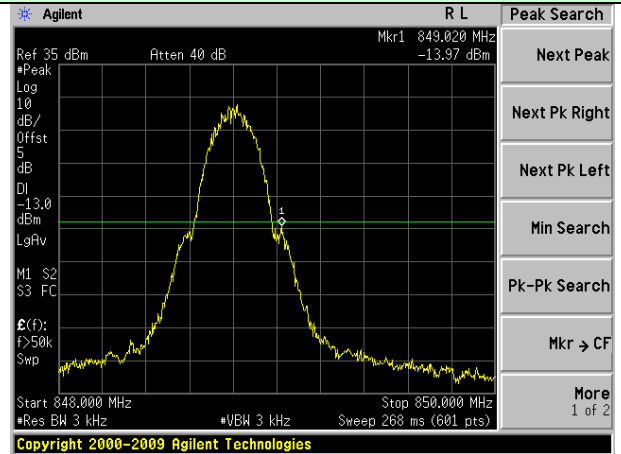
Highest channel

Band Edge:

Test Mode: **GSM850 (GSM link)**

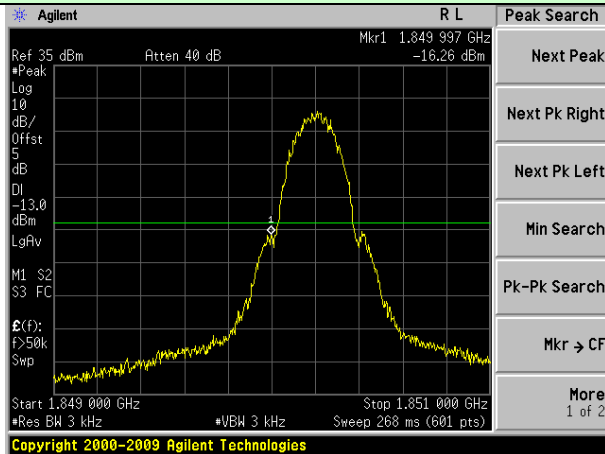


Lowest channel

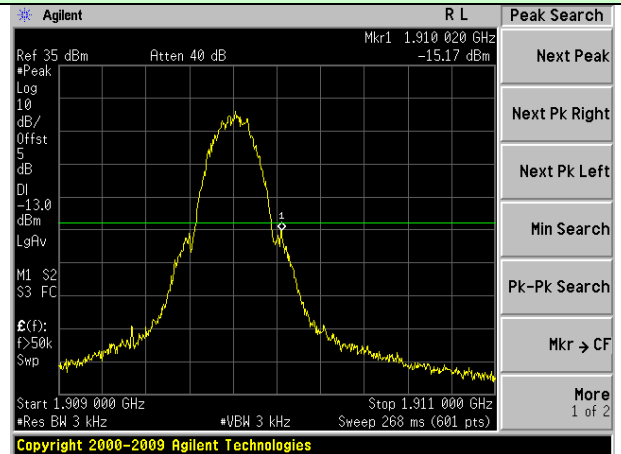


Highest channel

Test Mode: **PCS1900 (GSM link)**

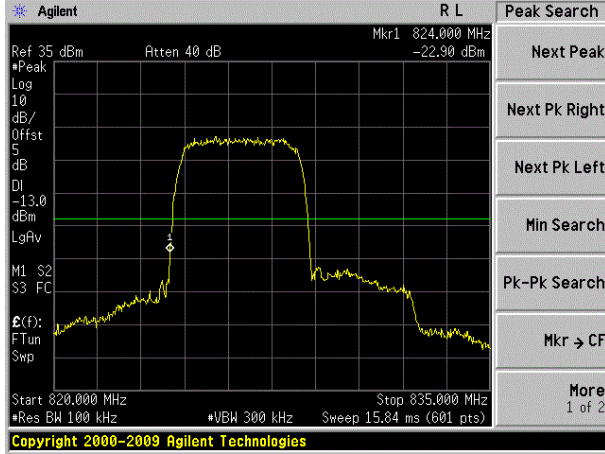


Lowest channel

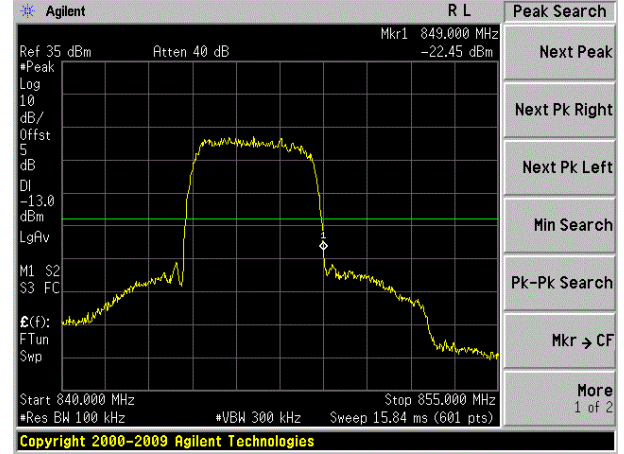


Highest channel

Test Mode: WCDMA Band V (RMC 12.2Kbps link)

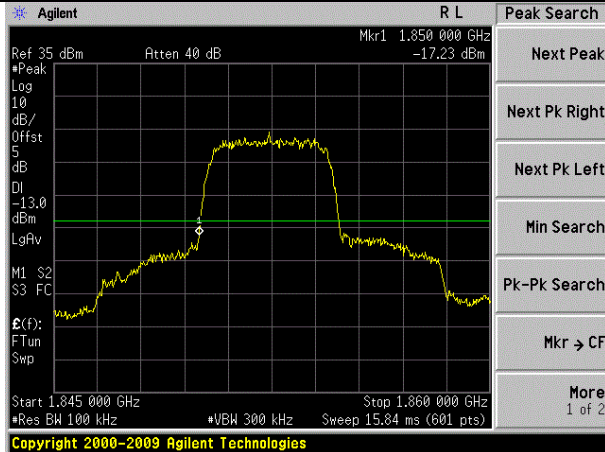


Lowest channel

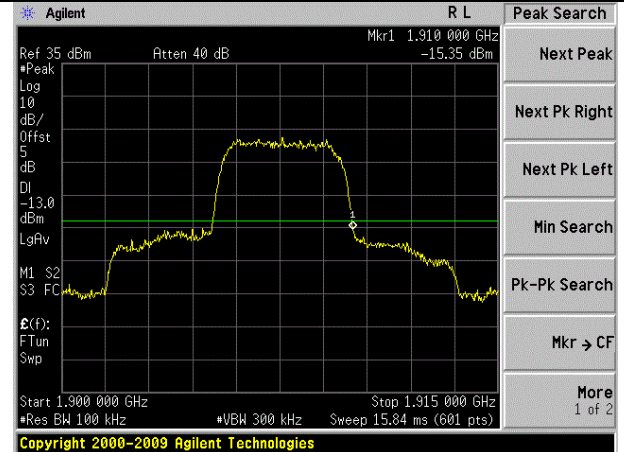


Highest channel

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

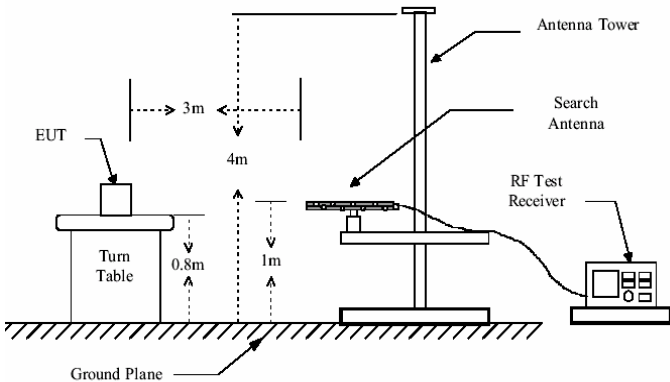
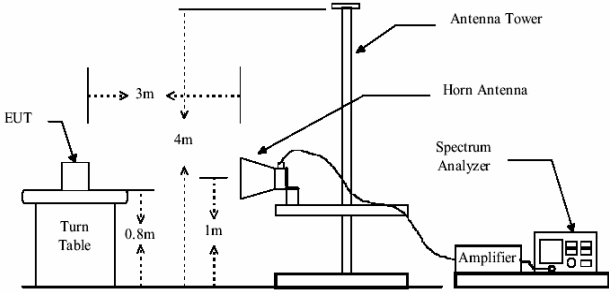
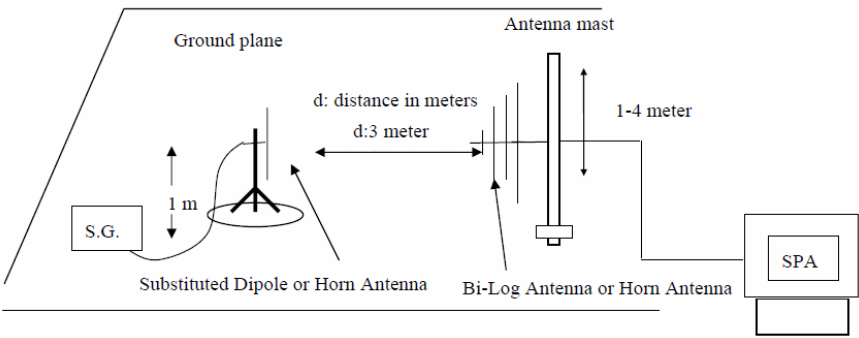


Lowest channel



Highest channel

7.8 ERP, EIRP Measurement

Test Requirement:	FCC part22.913(a) and FCC part24.232(b)
Test Method:	FCC part2.1046
Limit:	GSM850, WCDMA Band V: 7W ERP PCS1900, WCDMA Band II: 2W EIRP
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on a 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 in 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 a dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows: $\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$ 4. EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: $\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$
<p>Test Instruments:</p>	<p>Refer to section 5.8 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>

Measurement Data

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (GSM link)	Lowest	H	V	33.38	38.45	Pass
			H	29.66		
		E1	V	23.15		
			H	30.20		
		E2	V	22.31		
			H	27.56		
	Middle	H	V	33.82	38.45	Pass
			H	30.26		
		E1	V	23.90		
			H	30.99		
		E2	V	24.59		
			H	28.50		
	Highest	H	V	34.11	38.45	Pass
			H	29.59		
		E1	V	23.46		
			H	29.25		
		E2	V	21.66		
			H	28.52		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (EGPRS 8 link)	Lowest	H	V	28.54	38.45	Pass
			H	24.65		
		E1	V	17.83		
			H	25.21		
		E2	V	16.95		
			H	22.44		
	Middle	H	V	28.92	38.45	Pass
			H	25.19		
		E1	V	18.53		
			H	25.95		
		E2	V	19.26		
			H	23.35		
	Highest	H	V	28.95	38.45	Pass
			H	24.22		
		E1	V	17.80		
			H	23.86		
		E2	V	15.92		
			H	23.10		

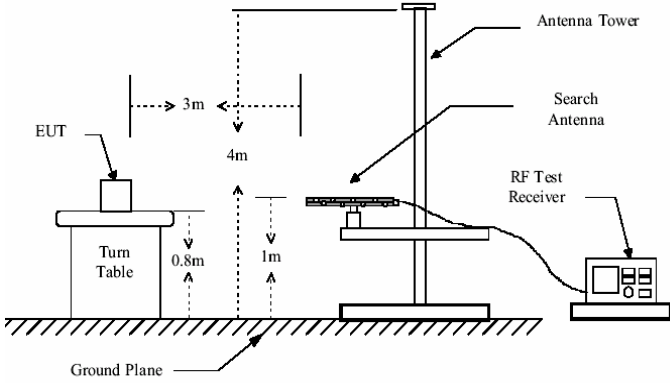
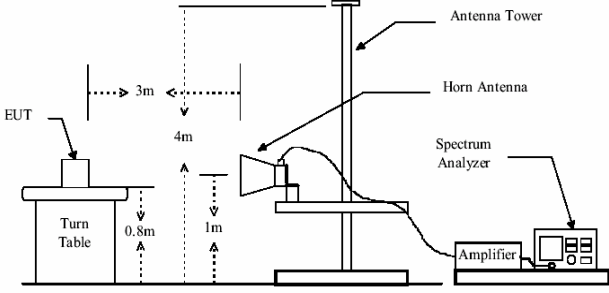
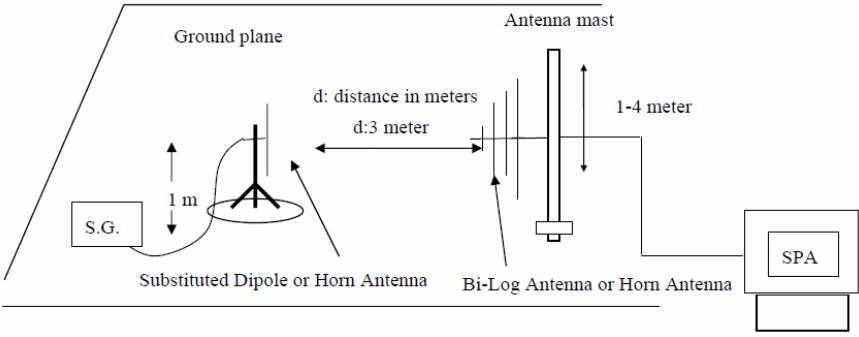
EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (GSM link)	Lowest	H	V	30.73	33.01	Pass
			H	27.83		
		E1	V	22.75		
			H	28.25		
		E2	V	22.09		
			H	26.19		
	Middle	H	V	30.09	33.01	Pass
			H	27.31		
		E1	V	22.35		
			H	27.88		
		E2	V	22.88		
			H	25.93		
	Highest	H	V	29.73	33.01	Pass
			H	26.20		
		E1	V	21.42		
			H	25.93		
		E2	V	20.01		
			H	25.36		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (EGPRS 8 link)	Lowest	H	V	25.22	33.01	Pass
			H	22.06		
		E1	V	16.52		
			H	22.51		
		E2	V	15.80		
			H	20.26		
	Middle	H	V	24.85	33.01	Pass
			H	21.82		
		E1	V	16.41		
			H	22.44		
		E2	V	16.99		
			H	20.32		
	Highest	H	V	24.58	33.01	Pass
			H	20.73		
		E1	V	15.52		
			H	20.44		
		E2	V	13.99		
			H	19.82		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
WCDMA Band V	Lowest	H	V	26.53	33.01	Pass
			H	22.70		
		E1	V	15.98		
			H	23.25		
		E2	V	15.11		
			H	20.53		
	Middle	H	V	26.38	33.01	Pass
			H	22.71		
		E1	V	16.15		
			H	23.46		
		E2	V	16.86		
			H	20.89		
	Highest	H	V	25.97	33.01	Pass
			H	21.31		
		E1	V	14.99		
			H	20.95		
		E2	V	13.13		
			H	20.20		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
WCDMA Band II	Lowest	H	V	25.95	33.01	Pass
			H	23.15		
		E1	V	18.23		
			H	23.55		
		E2	V	17.60		
			H	21.56		
	Middle	H	V	26.47	33.01	Pass
			H	23.78		
		E1	V	18.98		
			H	24.33		
		E2	V	19.51		
			H	22.45		
	Highest	H	V	26.31	33.01	Pass
			H	22.90		
		E1	V	18.28		
			H	22.64		
		E2	V	16.92		
			H	22.09		

7.9 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:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

<p>Test Procedure:</p>	<ol style="list-style-type: none"> 1. The EUT was placed on a 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. $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
<p>Test Instruments:</p>	<p>Refer to section 5.8 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>

Measurement Data

Test mode:	GSM850		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1648.40	Vertical	-38.31	-13.00	Pass
2472.60	V	-40.41		
3296.80	V	-42.14		
4121.00	V	-43.82		
4945.20	V	---		
1648.40	Horizontal	-42.35	-13.00	Pass
2472.60	H	-45.32		
3296.80	H	-46.51		
4121.00	H	-48.59		
4945.20	H	---		
Test mode:	GSM850		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.20	Vertical	-37.96	-13.00	Pass
2509.80	V	-40.43		
3346.40	V	-42.47		
4183.00	V	-44.45		
5019.60	V	---		
1673.20	Horizontal	-42.71	-13.00	Pass
2509.80	H	-46.22		
3346.40	H	-47.61		
4183.00	H	-50.06		
5019.60	H	---		
Test mode:	GSM850		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1697.60	Vertical	-38.07	-13.00	Pass
2546.40	V	-41.21		
3395.20	V	-43.79		
4244.00	V	-46.31		
5092.80	V	---		
1697.60	Horizontal	-44.10	-13.00	Pass
2546.40	H	-48.55		
3395.20	H	-50.32		
4244.00	H	-53.43		
5092.80	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:	PCS1900		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3700.40	Vertical	-38.24	-13.00	Pass
5550.60	V	-41.11		
7400.80	V	-43.47		
9251.00	V	-45.77		
11101.20	V	---		
3700.40	Horizontal	-43.75	-13.00	Pass
5550.60	H	-47.81		
7400.80	H	-49.43		
9251.00	H	-52.27		
11101.20	H	---		
Test mode:	PCS1900		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-37.92	-13.00	Pass
5640.00	V	-40.74		
7520.00	V	-43.05		
9400.00	V	-45.31		
11280.00	V	---		
3760.00	Horizontal	-43.33	-13.00	Pass
5640.00	H	-47.32		
7520.00	H	-48.91		
9400.00	H	-51.70		
11280.00	H	---		
Test mode:	PCS1900		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3819.60	Vertical	-38.02	-13.00	Pass
5729.40	V	-41.23		
7639.20	V	-43.87		
9549.00	V	-46.45		
11458.80	V	---		
3819.60	Horizontal	-44.19	-13.00	Pass
5729.40	H	-48.74		
7639.20	H	-50.55		
9549.00	H	-53.73		
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 V		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
1648.80	Vertical	-39.55	-13.00	Pass	
2473.20	V	-42.80			
3297.60	V	-45.47			
4122.00	V	-48.08			
4946.40	V	---			
1648.80	Horizontal	-45.80	-13.00	Pass	
2473.20	H	-50.40			
3297.60	H	-52.24			
4122.00	H	-55.46			
4946.40	H	---			
Test mode:		WCDMA Band V		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
1673.20	Vertical	-39.73	-13.00	Pass	
2509.80	V	-42.72			
3346.40	V	-45.18			
4183.00	V	-47.57			
5019.60	V	---			
1673.20	Horizontal	-45.47	-13.00	Pass	
2509.80	H	-49.71			
3346.40	H	-51.39			
4183.00	H	-54.35			
5019.60	H	---			
Test mode:		WCDMA Band V		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
1697.20	Vertical	-38.99	-13.00	Pass	
2545.80	V	-42.25			
3394.40	V	-44.93			
4243.00	V	-47.55			
5091.60	V	---			
1697.20	Horizontal	-45.26	-13.00	Pass	
2545.80	H	-49.88			
3394.40	H	-51.72			
4243.00	H	-54.95			
5091.60	H	---			

Remark :

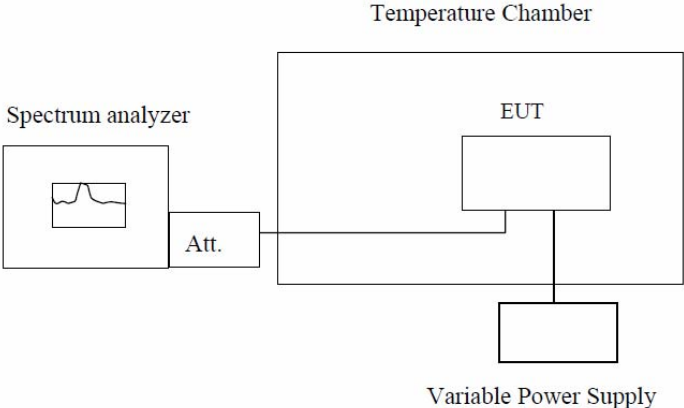
1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	WCDMA Band II		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3704.80	Vertical	-40.31	-13.00	Pass
5557.20	V	-43.45		
7409.60	V	-46.03		
9262.00	V	-48.55		
11114.40	V	---		
3704.80	Horizontal	-46.34	-13.00	Pass
5557.20	H	-50.79		
7409.60	H	-52.56		
9262.00	H	-55.67		
11114.40	H	---		
Test mode:	WCDMA Band II		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-39.04	-13.00	Pass
5640.00	V	-41.84		
7520.00	V	-44.14		
9400.00	V	-46.38		
11280.00	V	---		
3760.00	Horizontal	-44.41	-13.00	Pass
5640.00	H	-48.37		
7520.00	H	-49.95		
9400.00	H	-52.72		
11280.00	H	---		
Test mode:	WCDMA Band II		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3815.20	Vertical	-39.27	-13.00	Pass
5722.80	V	-42.15		
7630.40	V	-44.51		
9538.00	V	-46.82		
11445.60	V	---		
3815.20	Horizontal	-44.80	-13.00	Pass
5722.80	H	-48.87		
7630.40	H	-50.50		
9538.00	H	-53.35		
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.

7.10 Frequency stability V.S. Temperature measurement

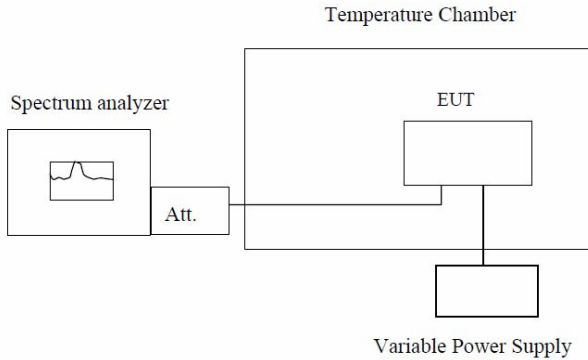
Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	2.5ppm
Test setup:	 <p>Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input 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°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.40	-30	34	0.0408	2.5	Pass
	-20	31	0.0376		
	-10	27	0.0328		
	0	26	0.0311		
	10	25	0.0295		
	20	22	0.0263		
	30	26	0.0311		
	40	29	0.0344		
	50	27	0.0328		
Reference Frequency: GSM850 (EGPRS 8 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.40	-30	39	0.0464	2.5	Pass
	-20	35	0.0419		
	-10	29	0.0352		
	0	28	0.0330		
	10	26	0.0308		
	20	22	0.0263		
	30	28	0.0330		
	40	29	0.0341		
	50	30	0.0359		
Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.40	-30	46	0.0244	2.5	Pass
	-20	43	0.0231		
	-10	40	0.0212		
	0	39	0.0205		
	10	37	0.0199		
	20	35	0.0186		
	30	39	0.0205		
	40	39	0.0209		
	50	40	0.0214		

Reference Frequency: PCS1900 (EGPRS 8 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
7.40	-30	50	0.0264	2.5	Pass
	-20	46	0.0246		
	-10	41	0.0218		
	0	39	0.0209		
	10	37	0.0199		
	20	34	0.0181		
	30	39	0.0209		
	40	40	0.0213		
	50	42	0.0222		
Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.40	-30	36	0.0430	2.5	Pass
	-20	33	0.0395		
	-10	29	0.0344		
	0	27	0.0327		
	10	26	0.0309		
	20	23	0.0275		
	30	27	0.0327		
	40	28	0.0335		
	50	29	0.0349		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.40	-30	49	0.0258	2.5	Pass
	-20	46	0.0243		
	-10	42	0.0221		
	0	40	0.0214		
	10	39	0.0206		
	20	36	0.0191		
	30	40	0.0214		
	40	41	0.0217		
	50	42	0.0223		

7.11 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:	 <p style="text-align: center;">Temperature Chamber</p> <p style="text-align: center;">Spectrum analyzer</p> <p style="text-align: center;">Att.</p> <p style="text-align: center;">EUT</p> <p style="text-align: center;">Variable Power Supply</p> <p>Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 25 °C . 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 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	24	0.0287	2.5	Pass
	7.40	22	0.0263		
	8.51	26	0.0311		
Reference Frequency: GSM850 (EGPRS 8 link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	23	0.0280	2.5	Pass
	7.40	22	0.0263		
	8.51	25	0.0296		
Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	39	0.0197	2.5	Pass
	7.40	35	0.0223		
	8.51	37	0.0207		
Reference Frequency: PCS1900 (EGPRS 8 link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	40	0.0197	2.5	Pass
	7.40	35	0.0223		
	8.51	37	0.0207		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	27	0.0197	2.5	Pass
	7.40	23	0.0223		
	8.51	25	0.0207		
Reference Frequency: WCDMA Band II Middle channel=940 channel=1880.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	6.29	39	0.0197	2.5	Pass
	7.40	36	0.0223		
	8.51	38	0.0207		

-----End-----