FCC TEST REPORT

FCC ID: 2AU8U-P8II

On Behalf of

Shanghai e-Compass Science & Technology Co., Ltd

Handheld data collection terminal

Model No.: P8II

Prepared for	:	Shanghai e-Compass Science & Technology Co., Ltd
Address	:	Floor 1-3, Unit 12-13,No.159, Tianzhou Rd., Xuhui District, Shanghai

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

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Date of Report	:	November 20, 2019
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TEST REPORT DECLARATION

Applicant	:	Shanghai e-Compass Science & Technology Co., Ltd
Address	:	Floor 1-3, Unit 12-13,No.159, Tianzhou Rd., Xuhui District, Shanghai
Manufacturer	:	Shenzhen UniStrong Science & Technology Co.,Ltd.
Address	:	B, 4-4Factory, Zhengcheng Road, FuyongBaoan District, Shenzhen, China
EUT Description	:	Handheld data collection terminal
		(A) Model No. : P8II
		(B) Trademark : N/A

Measurement Standard Used:

FCC CFR Title 47 Part 2
FCC CFR Title 47 Part22 Subpart H
FCC CFR Title 47 Part24 Subpart E
ANSIC 63.26:2015, TIA/EIA-603-E:2016

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:	Ella Liang Project Engineer	Ella Liang
Approved by (name + signature).....:	Simple Guan Project Manager	
Date of issue…… ……..:	November 20, 2019	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	November 20, 2019	Initial released Issue	Simple Guan

1 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 2.1310 Part 2.1091	Pass* (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(5) Part 24.232 (c)	Pass
Peak-to-Average Ratio	Part 2.1046 Part 22.913(d) Part 24.232 (d)	Pass
Modulation Characteristics	Part 2.1047	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049	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) Part 22.355, Part 24.235	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2) Part 22.355, Part 24.235	Pass

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

2 General Information

2.1 General Description of EUT

Description/PMN	:	Handheld data collection terminal
Model Number/HVIN(s)	:	P8II
Diff	:	N/A
Trademark	:	N/A
Test Voltage	:	DC 3.8V by battery DC 5V from adapter input AC 230V, 50Hz
Support Networks		GPRS, EGPRS, WCDMA
Support Bands		GSM850, PCS1900, WCDMA Band V, WCDMA Band II
TX Frequency		GSM850: 824.20MHz-848.80MHz PCS1900: 1850.20MHz-1909.80MHz WCDMA Band V: 826.40MHz -846.60MHz WCDMA Band II: 1852.40MHz -1907.60MHz
GPRS Class		12
EGPRS Class		12
Modulation type		GPRS: GMSK EGPRS: GMSK/8PSK WCDMA Band II/V: QPSK
Antenna type		Internal antenna
Antenna gain		Internal Antenna, Maximum Gain is 0dBi for GSM Internal Antenna, Maximum Gain is 0dBi for WCDMA
Software version	:	RF01.62.43.03
Hardware version/FVIN	:	I22-MB_V1.1

Remark: The worst-case simultaneous transmission configuration was evaluated with no non-compliance found. Results in this report are only for 2G and 3G function, and there is no other transmitter involved.

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	4181	836.20	9399	1879.80
190	836.60	661	1880.00	4182	836.40	9400	1880.00
191	836.80	662	1880.20	4183	836.60	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 II		WCDMA Band V	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.20	512	1850.20	9262	1852.40	4132	826.40
190	836.60	661	1880.00	9400	1880.00	4183	836.60
251	848.80	810	1909.80	9538	1907.60	4233	846.60

2.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 2, Part 22 subpart H, Part 24 subpart E of the FCC CFR 47, RSS-Gen, RSS-132, RSS-133, RSS-139 Rules, KDB 971168 D01 v03r01, ANSI C63.26 and TIA/EIA-603-E.

2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd
Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961
Designation Number: CN1236

July 15, 2019 Certificated by IC
Registration Number: 12135A

2.4 Measurement Uncertainty

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	2.74dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB(Polarize: V)
	2.57dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	4.16dB(Polarize: H)
	4.13dB(Polarize: V)
Uncertainty for radio frequency	5.4×10-8
Uncertainty for conducted RF Power	0.37dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3 Test Instruments list

Equipment	Manufacturer	Model No.	Serial No.	Last cal.	Cal Interval
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	2019.09.07	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	2018.04.13	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	00059	2018.09.26	2Year
Filter	KANGMAI	ZLPF-LDC-1000-1959	1209002075	2019.09.06	1Year
Filter	WAINWRIGHT	WHKX2.80/18G-12SS	SN1	2019.09.06	1Year
Filter	WAINWRIGHT	WHKX1.0G/15G-10SS	SN40	2019.09.06	1Year
RF Cable	Resenberger	Cable 4	N/A	2019.09.05	1Year
CMU200	ROHDE&SCHWARZ	CMU200	116785	2019.09.05	1Year
CMW500	ROHDE&SCHWARZ	CMW500	1201.0002K50-117239-sM	2019.09.05	1Year
Signal Analyzer	Agilent	N9020A	MY499100060	2019.09.05	1Year
vector Signal Generator	Agilent	N5182A	MY49060042	2019.09.05	1Year
vector Signal Generator	Agilent	E4438C	US44271917	2019.09.05	1Year
Amplifier	Agilent	8449B	3008A02664	2019.09.05	1Year
Test Receiver	ROHDE&SCHWARZ	ESR	1316.3003K03-102082-Wa	2019.09.06	1Year
9*6*6 anechoic	CHENYU	9*6*6	N/A	/	/
RF Cable	Resenberger	Cable 1	N/A	2019.09.05	1Year
RF Cable	Resenberger	Cable 2	N/A	2019.09.06	1Year
RF Cable	Resenberger	Cable 3	N/A	2019.09.05	1Year
Power Sensor	Power Radio	RPR3006W	15100041SNO91	2019.09.06	1Year
20dB Attenuator	ICPROBING	IATS1	82347	2019.09.20	1Year
L.I.S.N.#1	SCHWARZBECK	NSLK8126	8126-466	2019.09.05	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	101043	2019.09.05	1Year
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2019.09.20	1Year
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2019.09.20	1Year
Temperature& Humidity test chamber	GZGONGWEN	GDS-250	080821	2019.09.10	1Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1207)	2018.04.13	2Year
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-627	2018.09.24	2Year
Spectrum analyzer	Agilent	E4407B	MY49510055	2019.09.05	1Year
Signal Analyzer	Agilent	N9020A	MY499100060	2019.09.05	1Year
Horm Antenna	SCHWARZBECK	BBHA 9170	00946	2019.09.07	1Year

4 System test configuration

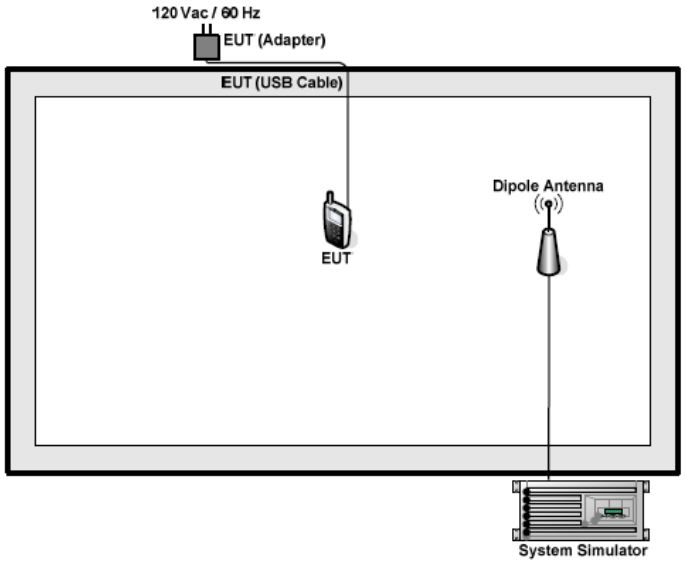
4.1 Test mode

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.

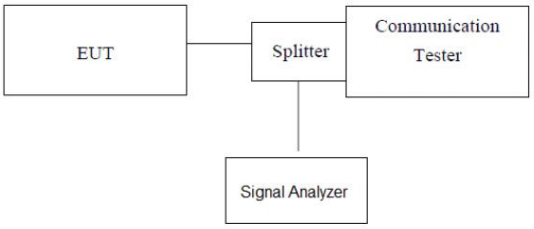
Test modes		
Band	Radiated	Conducted
GSM 850	■ GPRS 1 link ■ EPRS 1 link	■ GPRS 1 link ■ EGPRS 1 link
PCS 1900	■ GPRS 1 link ■ EGPRS 1 link	■ GPRS 1 link ■ EGPRS 1 link
WCDMA II	■ RMC 12.2Kbps link	■ RMC 12.2Kbps link
WCDMA Band V	■ RMC 12.2Kbps link	■ RMC 12.2Kbps link

Note: The maximum power levels are GPRS multi-slot class 12 mode for GMSK link, EGPRS multi-slot class 12 mode for 8PSK link, RMC12.2Kbps mode for WCDMA Band V/II. only these modes were used for all tests.

4.2 Configuration of Tested System



4.3 Conducted AV Output Power

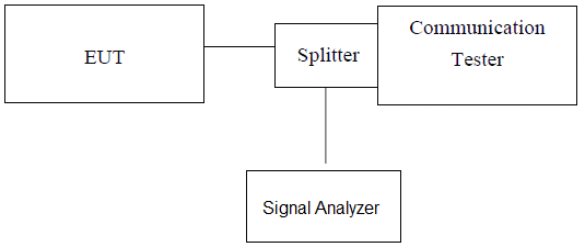
Test Requirement:	FCC part22.913(a)(5) , FCC part24.232(b)
Test Method:	FCC part2.1046, ANSI/TIA-603-E, ANSI C63.26 clause 5.2.4 FCC KDB971168 D01 v03r01 Section 5.2.
Limit:	GSM850, WCDMA Band V: 7W(ERP) PCS1900, WCDMA Band II: 2W(EIRP)
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the Signal Analyzer 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 frame average power.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

Conducted Burst 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
GPRS (GMSK, 1 TX slot)	30.77	30.92	32.02	28.61	28.55	28.78
GPRS (GMSK, 2 TX slot)	30.19	29.84	30.66	27.41	28.05	28.68
GPRS (GMSK, 3 TX slot)	28.68	30.77	29.15	26.70	26.69	28.15
GPRS (GMSK, 4 TX slot)	28.91	30.44	28.87	23.51	24.89	25.69
EGPRS (8PSK, 1 TX slot)	26.14	26.78	27.79	26.80	27.15	26.06
EGPRS (8PSK, 2 TX slot)	24.71	23.93	23.44	24.38	23.95	23.21
EGPRS (8PSK, 3 TX slot)	21.95	23.41	22.57	20.07	22.71	22.37
EGPRS (8PSK, 4 TX slot)	19.93	21.03	20.02	20.46	21.04	19.63

Burst Average Power (dBm)						
Band	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	23.30	24.11	23.68	23.34	24.10	22.48
HSDPA Subtest-1	22.52	23.19	22.98	20.75	21.23	21.21
HSDPA Subtest-2	23.68	23.32	23.03	21.84	22.49	21.66
HSDPA Subtest-3	23.02	22.81	22.26	20.93	22.64	23.04
HSDPA Subtest-4	21.91	22.86	24.41	22.37	21.94	21.37
HSUPA Subtest-1	21.30	24.05	23.32	21.15	21.87	22.06
HSUPA Subtest-2	24.60	23.11	22.93	21.60	23.97	21.74
HSUPA Subtest-3	22.48	23.42	22.39	21.79	23.03	22.39
HSUPA Subtest-4	23.40	23.66	22.56	22.89	22.62	21.11
HSUPA Subtest-5	23.80	23.08	23.61	22.47	21.75	23.60
AMR	22.60	23.28	24.17	21.39	22.61	23.69

4.4 Peak-to-Average Ratio

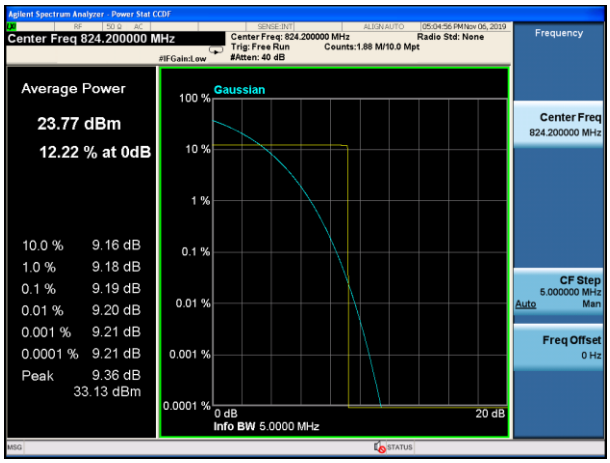
Test Requirement:	Part 22.913(d), FCC part24.232(d)
Test Method:	FCC part2.1046, ANSI/TIA-603-E, ANSI C63.26 Clause 5.2.3.4 FCC KDB971168 D01 v03r01 Section 5.7
Limit:	13db
Test setup:	 ***Note:** Measurement setup for testing on Antenna connector*
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the Signal Analyzer 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. 6. Record the maximum peak-to-average ratio value.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement data

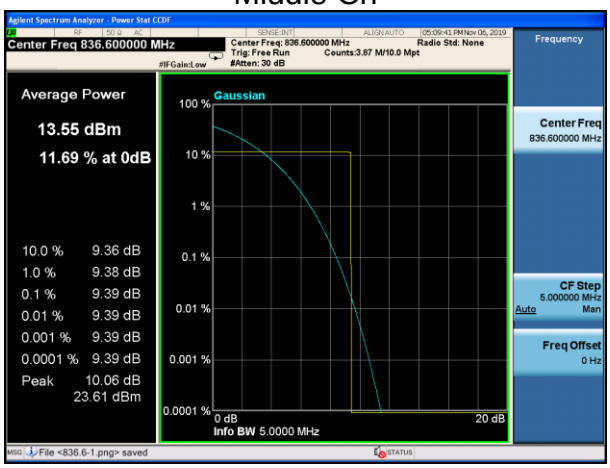
Test mode	Peak to Average Ratio （dB）			Limit （dB）	Result
	Low Ch.	Middle Ch.	High Ch.		
GSM/TM1/GSM850(GPRS)	9.19	9.39	9.73	13	PASS
GSM/TM1/GSM1900(GPRS)	10.16	8.66	9.55	13	PASS

GPRS 850

Low Ch



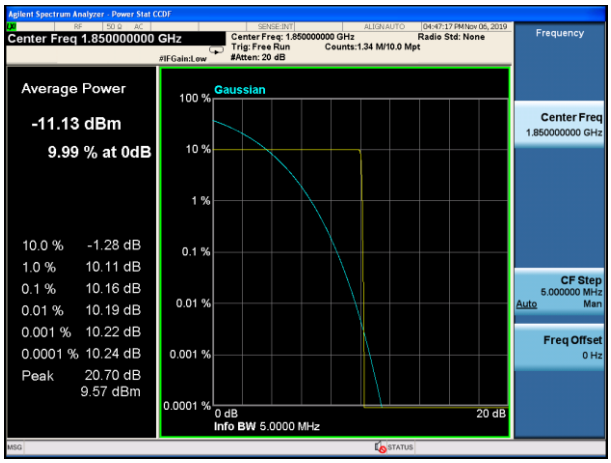
Middle Ch



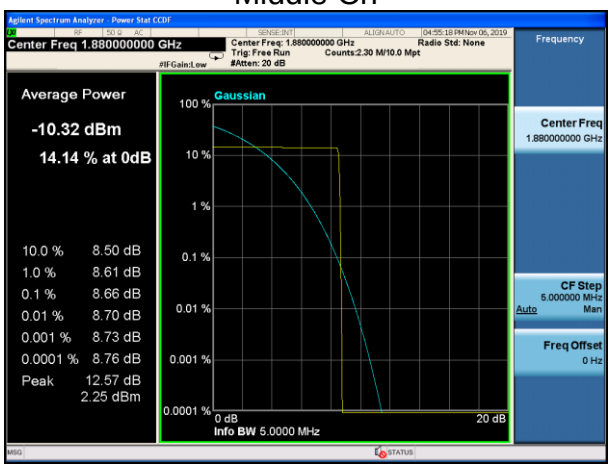
High Ch

GPRS 1900

Low Ch



Middle Ch

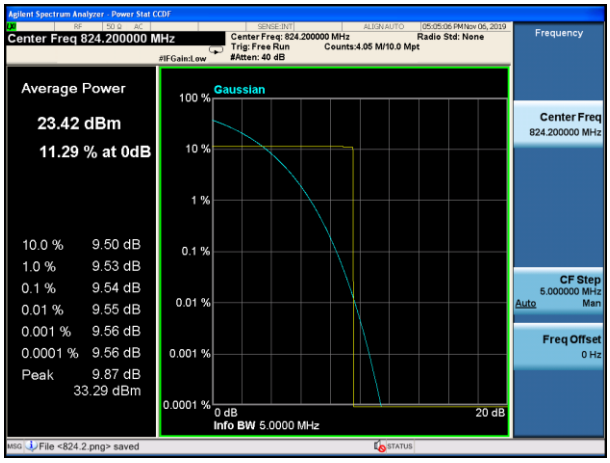


High Ch

Test mode	Peak to Average Ratio （dB）			Limit （dB）	Result
	Low Ch.	Middle Ch.	High Ch.		
GSM/TM1/GSM850(EGPRS)	9.54	8.83	9.01	13	PASS
GSM/TM1/GSM1900(EGPRS)	10.29	9.35	9.70	13	PASS

EGPRS 850

Low Ch

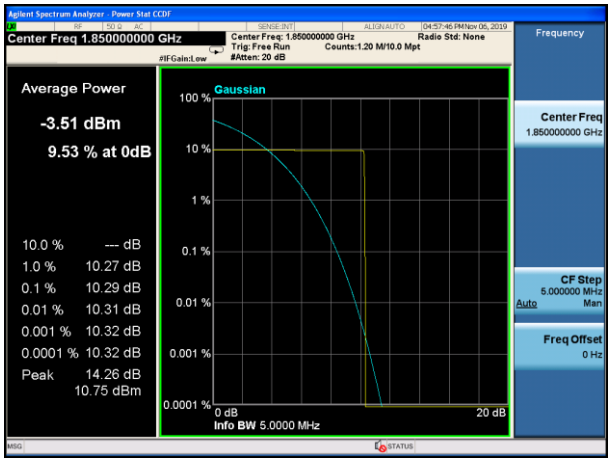


Middle Ch

High Ch

EGPRS 1900

Low Ch



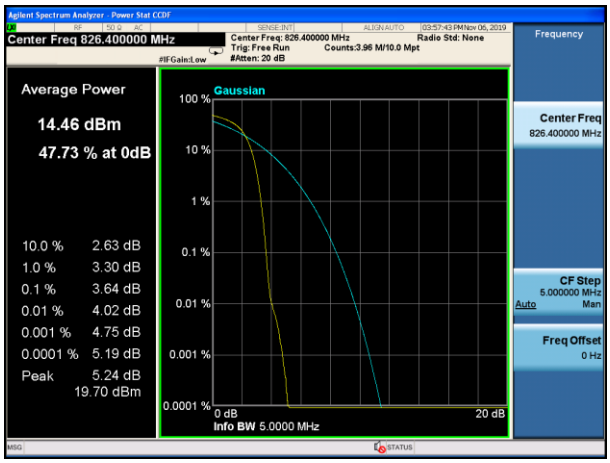
Middle Ch

High Ch

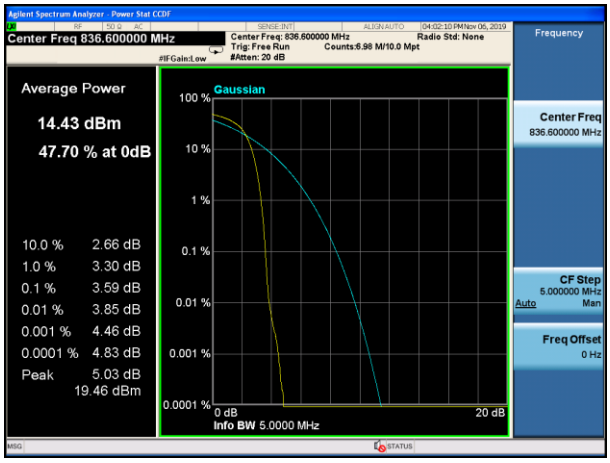
Test mode	Peak to Average Ratio (dB)			Limit (dB)	Result
	Low Ch.	Middle Ch.	High Ch.		
WCDMA Band II	3.64	3.59	3.77	13	PASS
WCDMA Band V	3.73	3.56	3.72		

WCDMA Band II

Low Ch



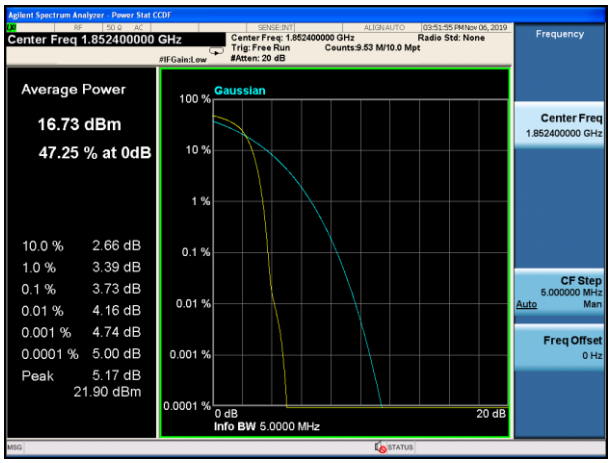
Middle Ch



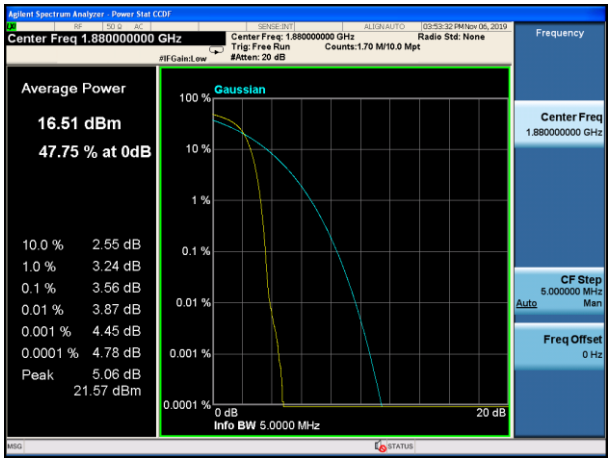
High Ch

WCDMA Band V

Low Ch

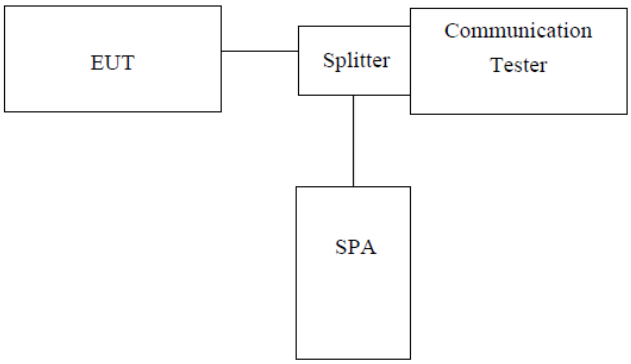


Middle Ch



High Ch

4.5 Occupy Bandwidth

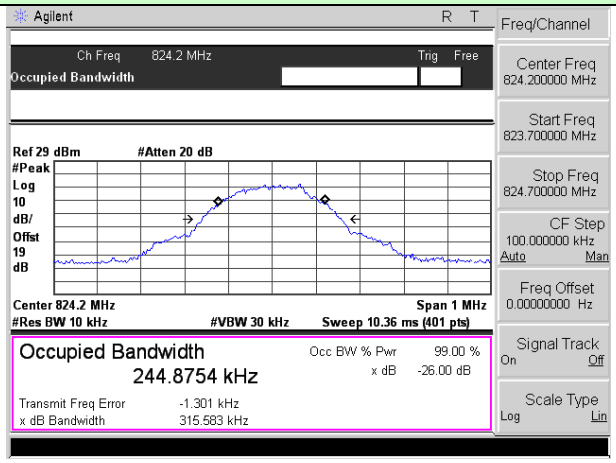
Test Requirement:	Part 2.1049
Test Method:	KDB 971168 D01 v03r1 clause 4, FCC part2.1049, ANSI/TIA-603-E, ANSI C63.26 clause 5.4, RSS-Gen Section 6.7.
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The EUT's output RF connector was connected with a short cable 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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

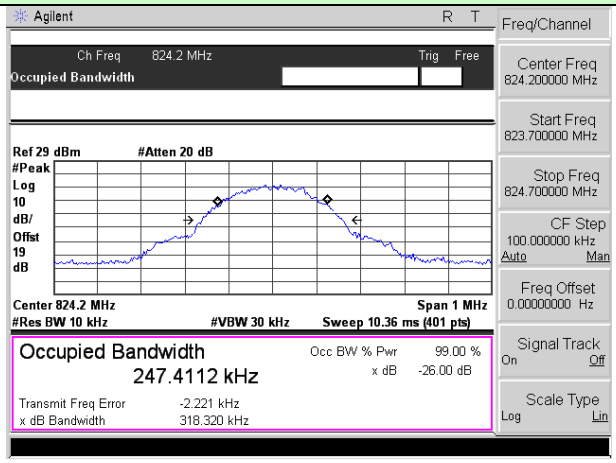
EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
GSM 850 (GPRS 1 link)	128	824.20	244.8754	315.583
	190	836.60	240.3808	322.348
	251	848.80	243. 3703	319.356
GSM 850 (EGPRS 1 link)	128	824.20	247.4112	318.320
	190	836.60	243.7477	320.127
	251	848.80	243.3472	320.278
PCS 1900 (GPRS 1 link)	512	1850.20	249.6332	322.491
	661	1880.00	242.8773	318.337
	810	1909.80	243.9253	315.463
PCS 1900 (EGPRS 1 link)	512	1850.20	248.7813	325.138
	661	1880.00	242.6946	313.192
	810	1909.80	244.0325	317.424
WCDMA Band V (RMC 12.2Kbps link)	4132	826.40	4171.0	4733
	4183	836.60	4172.3	4741
	4233	846.60	4178.2	4751
WCDMA Band II (RMC 12.2Kbps link)	9262	1852.4	4186.5	4739
	9400	1880.0	4187.8	4729
	9538	1907.6	4189.7	4715

Test plot as follows:

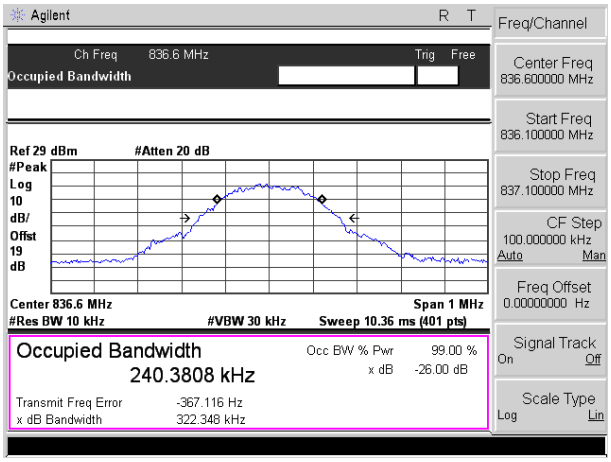
GSM 850 (GPRS 1 link)	GSM 850 (EGPRS 1 link)



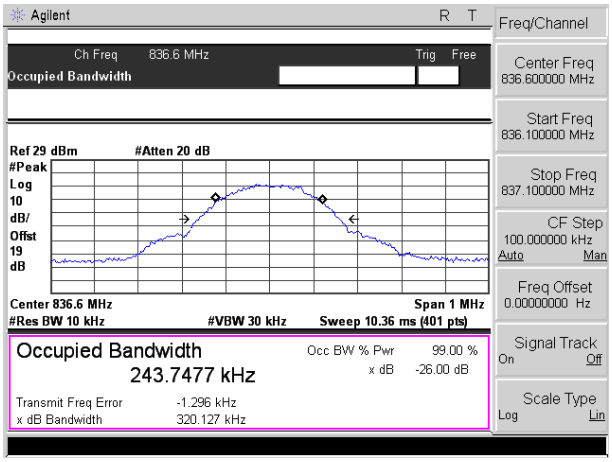
Lowest channel



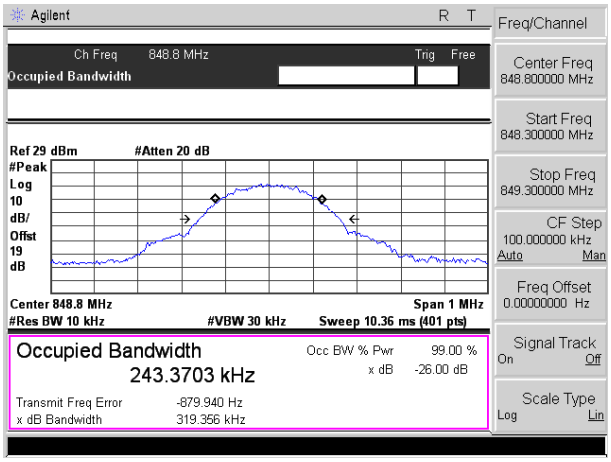
Lowest channel



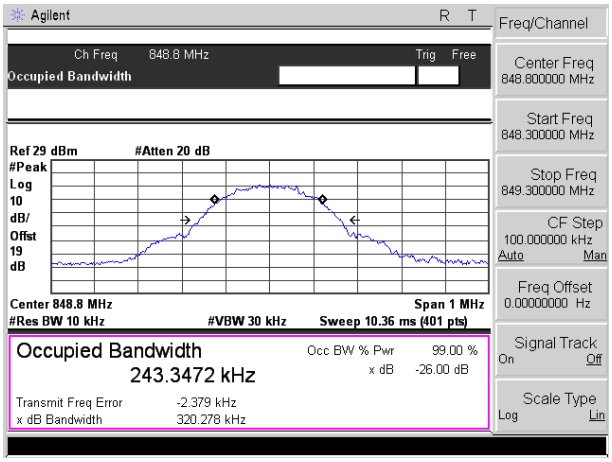
Middle channel



Middle channel

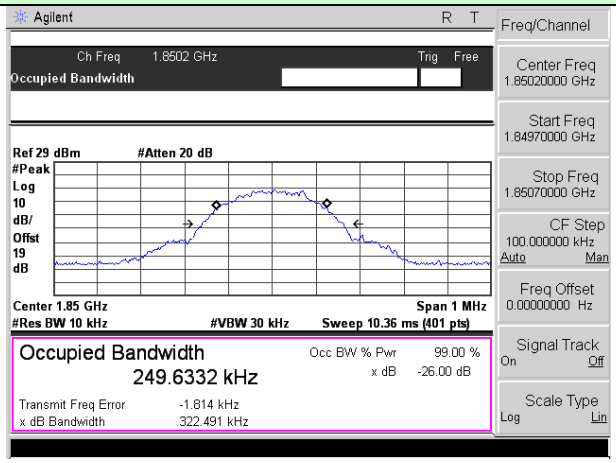


Highest channel

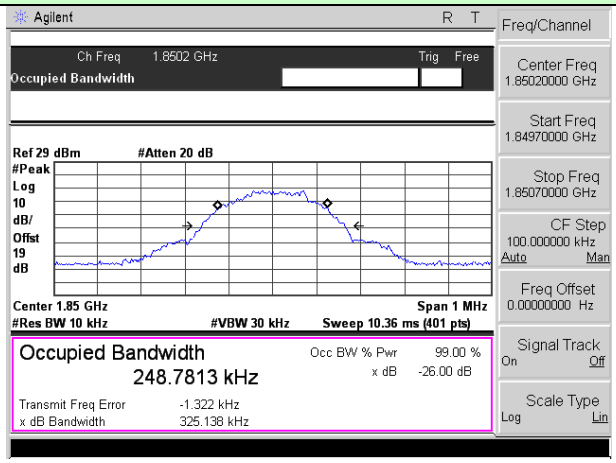


Highest channel

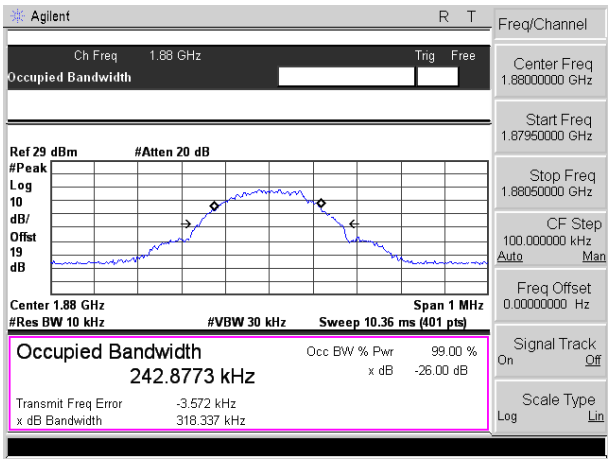
PCS 1900 (GPRS 1 link)	PCS 1900 (EGPRS 1 link)



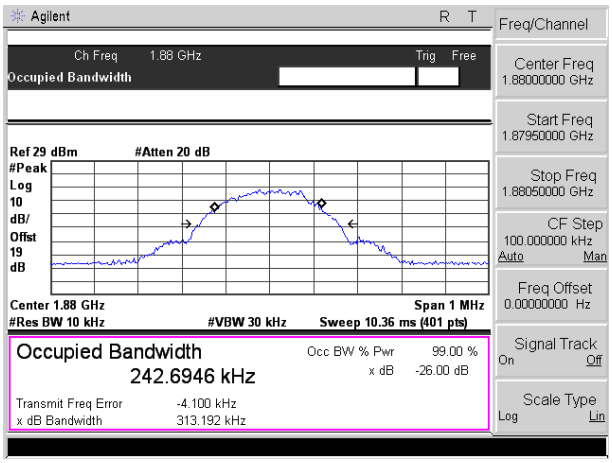
Lowest channel



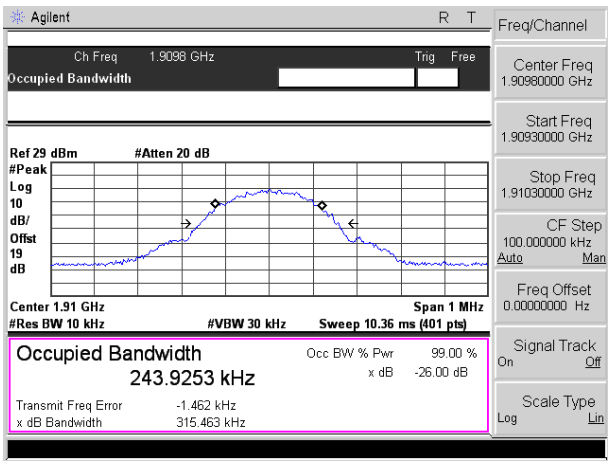
Lowest channel



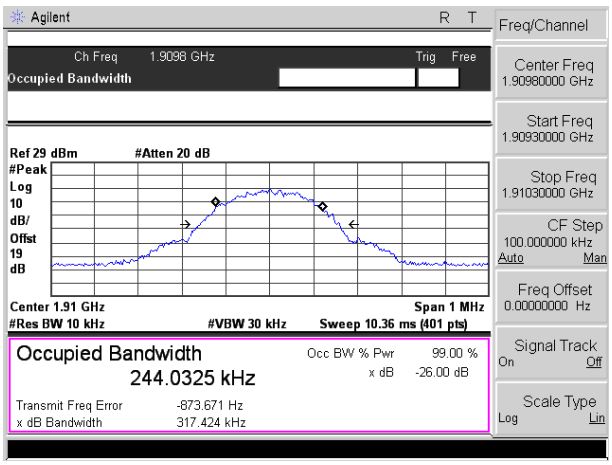
Middle channel



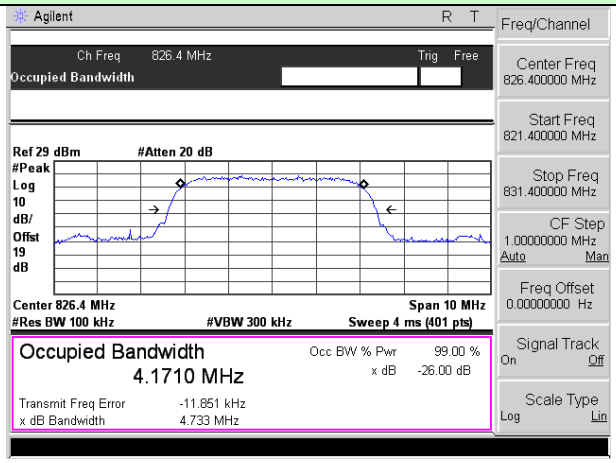
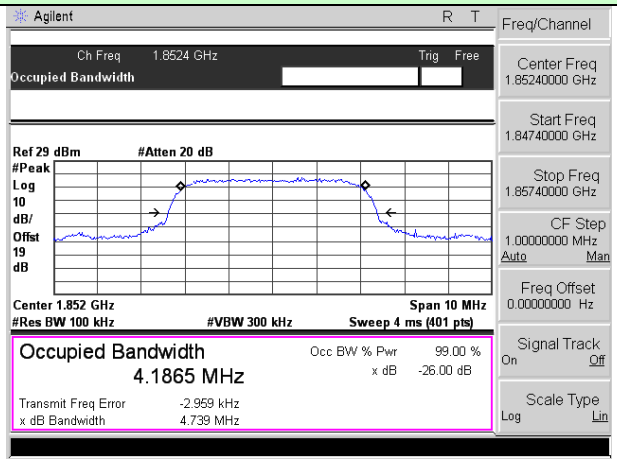
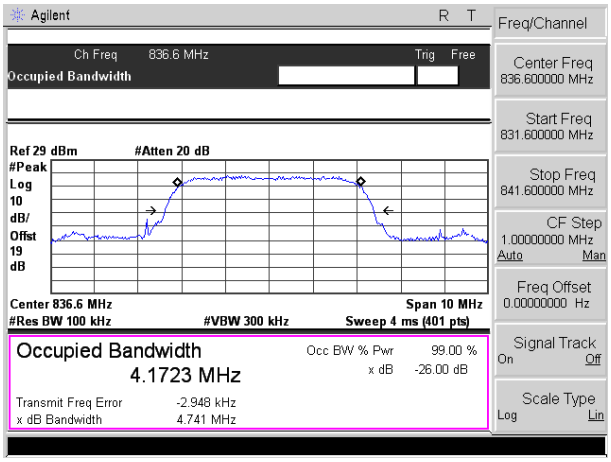
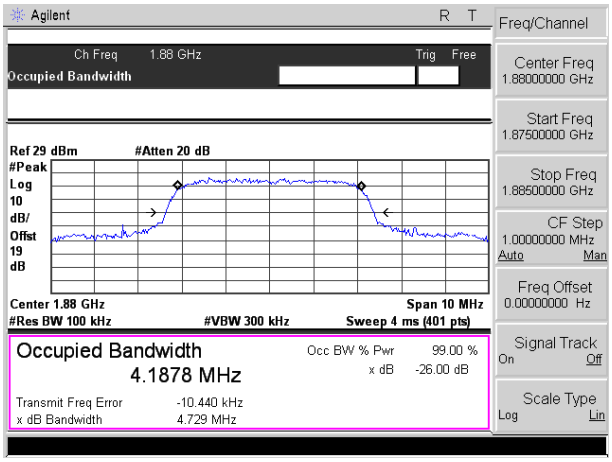
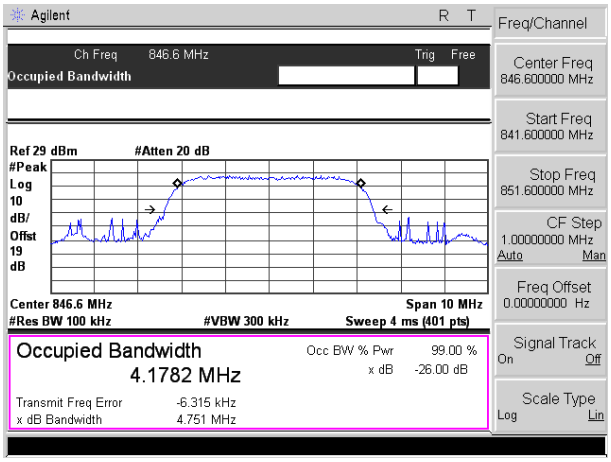
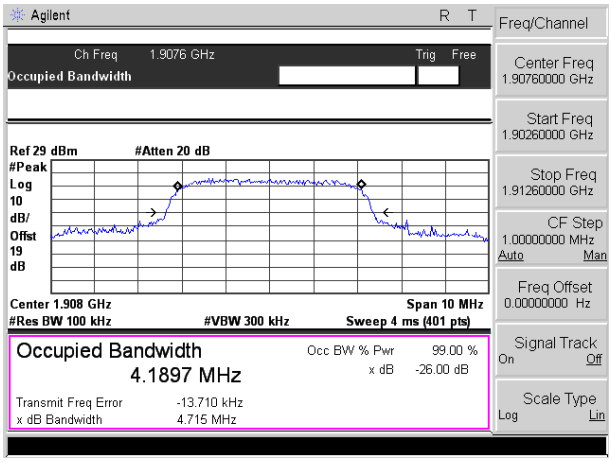
Middle channel



Highest channel



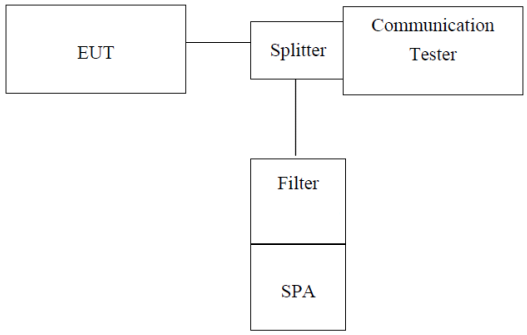
Highest channel

WCDMA Band V (RMC 12.2Kbps link)	WCDMA Band II (RMC 12.2Kbps link)
	
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

4.6 MODULATION CHARACTERISTIC

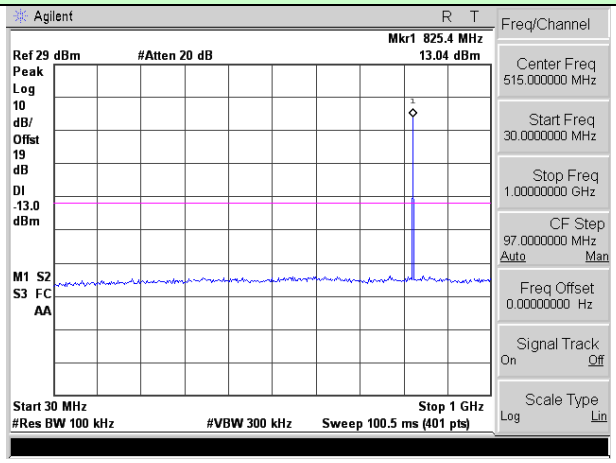
According to FCC § 2.1047(d), Part 22H, 24E & 27C, there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.
According to RSS-132, RSS-133, RSS-199, the equipment certified under these standards shall employ digital modulation, but there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

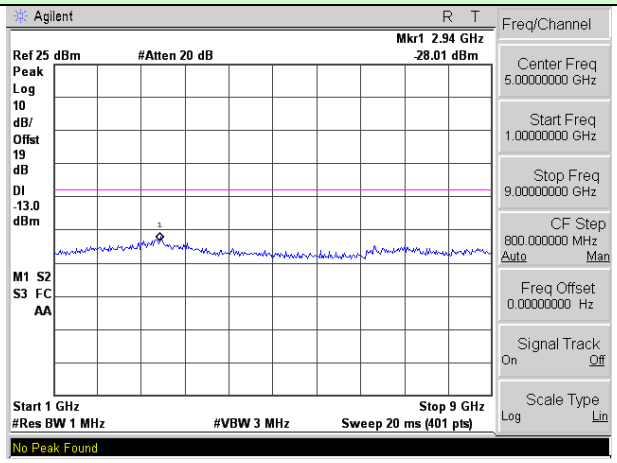
4.7 Out of band emission at antenna terminals

Test Requirement:	FCC part22.917(a), FCC part24.238(a)
Test Method:	KDB 971168 D01 v03r1 clause 6, FCC part2.1051, ANSI/TIA-603-E, ANSI C63.26 clause 5.7
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= 1MHz, VBW = 3MHz, 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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

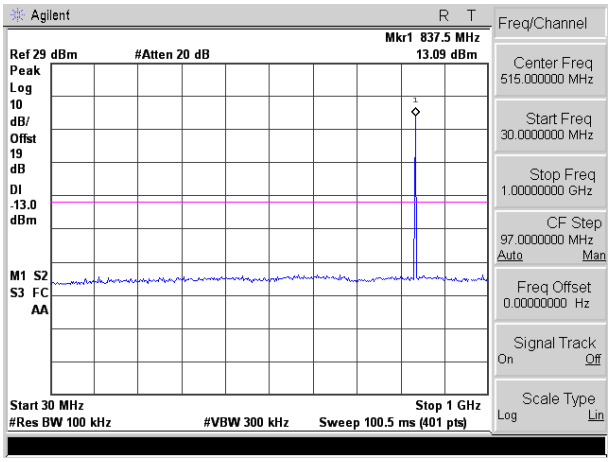
Test plot as follows:

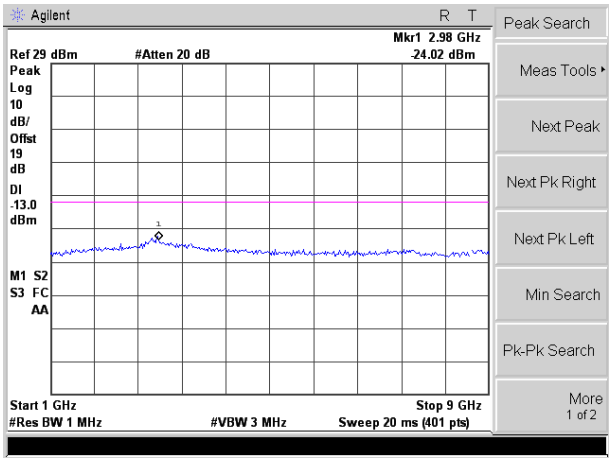
Test Mode: Traffic mode	GSM 850 (GPRS 1 link)



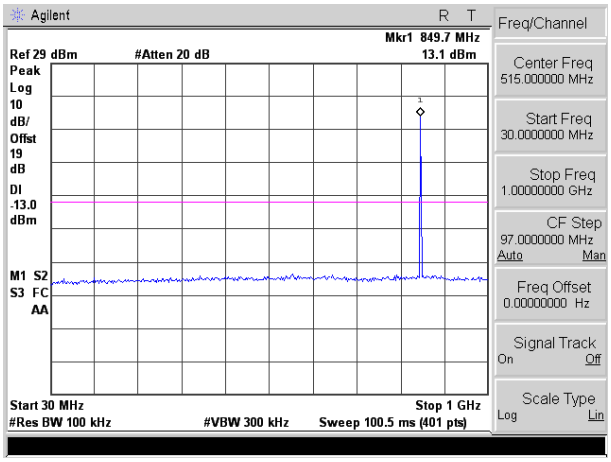


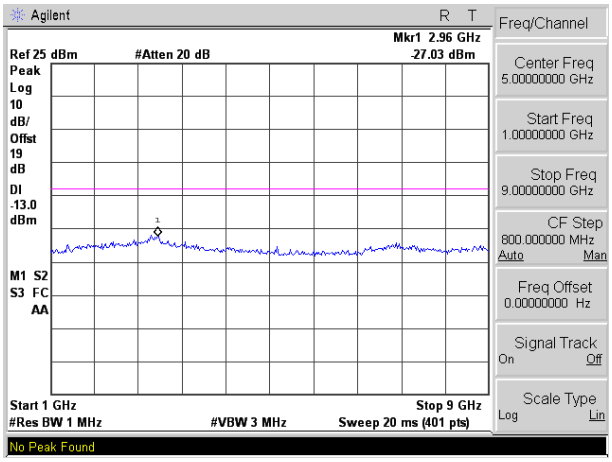
Lowest channel





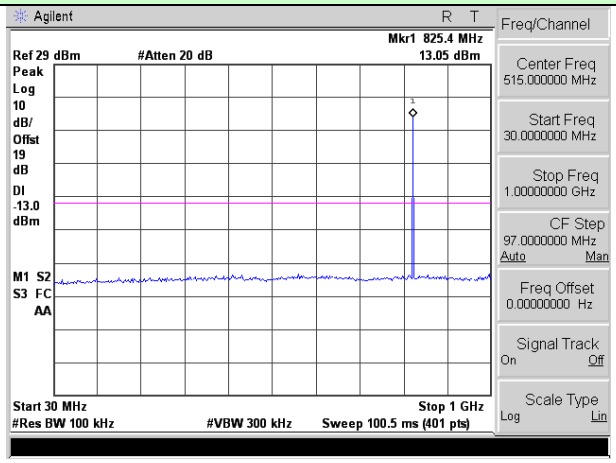
Middle channel

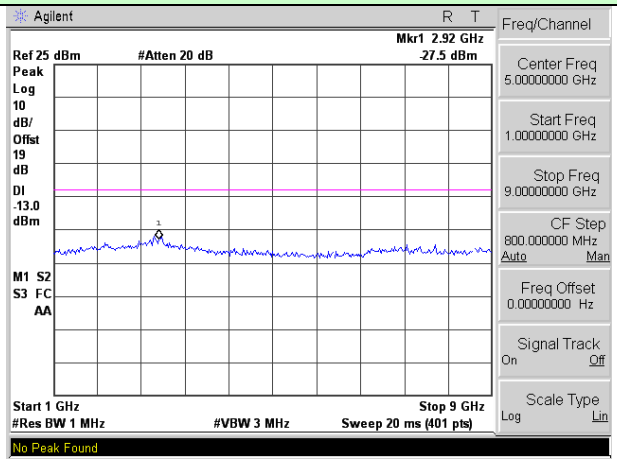




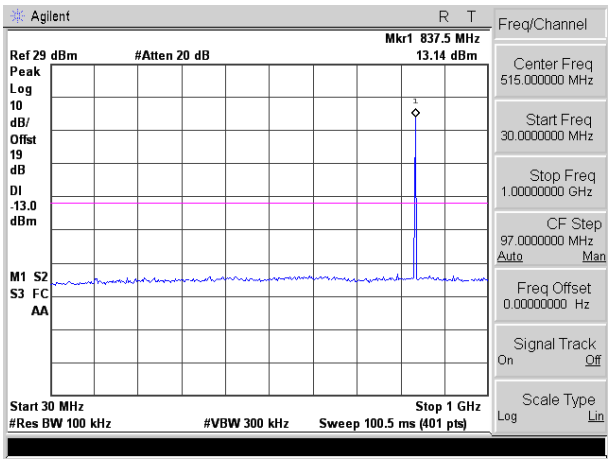
Highest channel

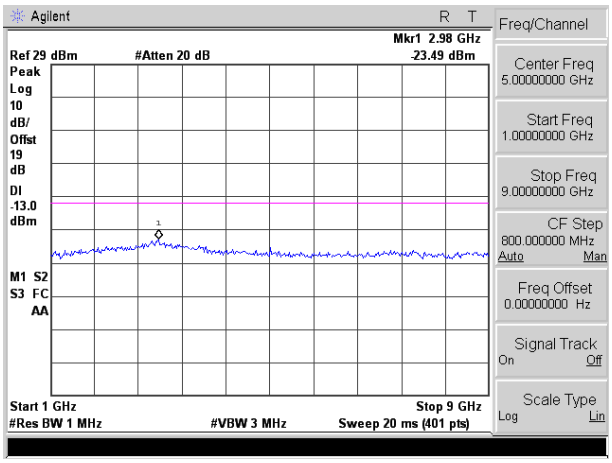
Test Mode: Traffic mode	GSM 850 (EGPRS 1 link)



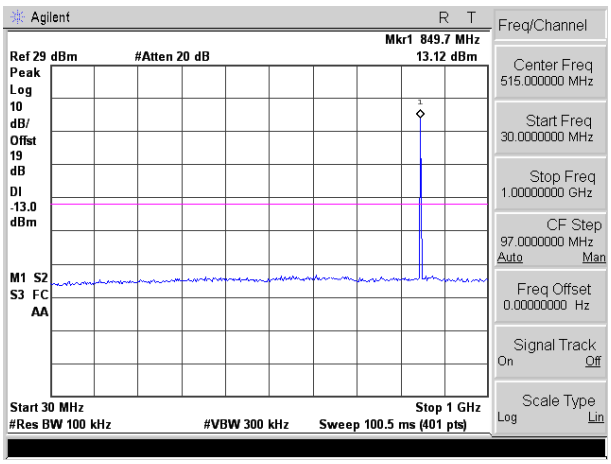


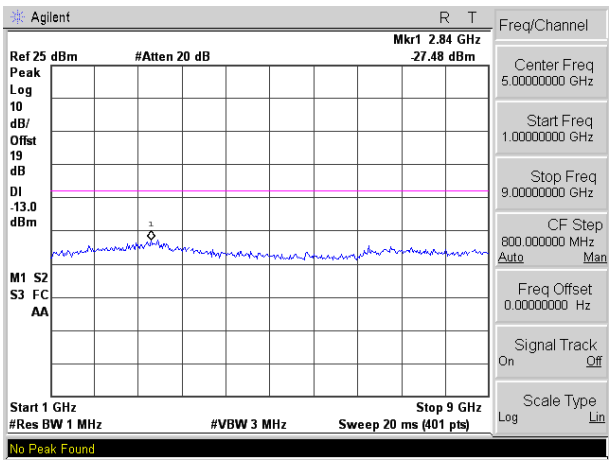
Lowest channel





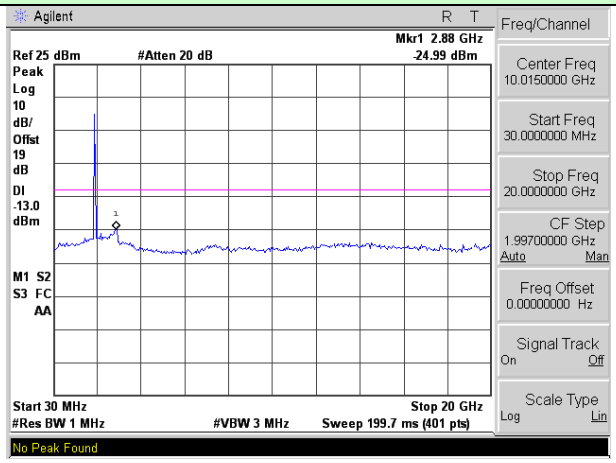
Middle channel

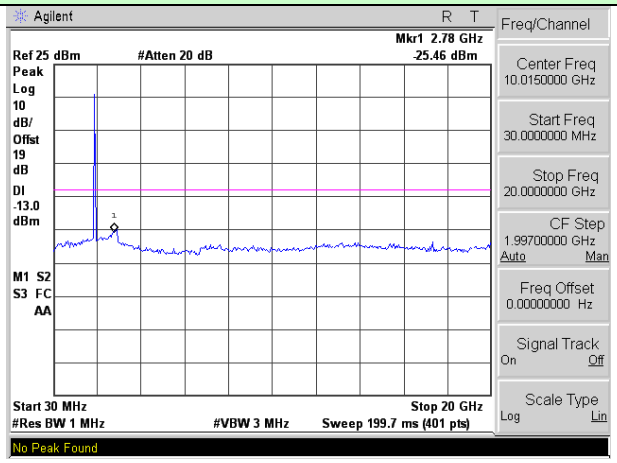




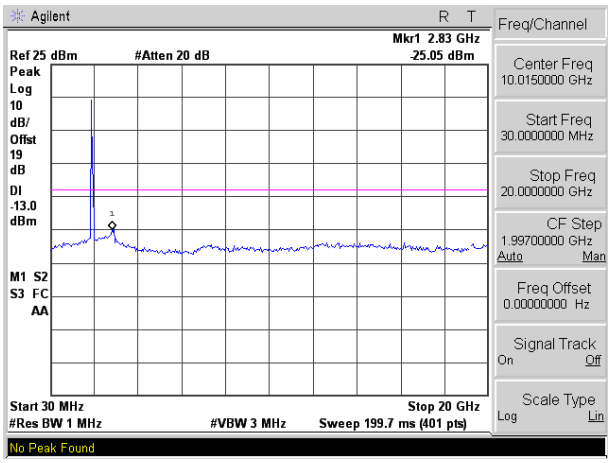
Highest channel

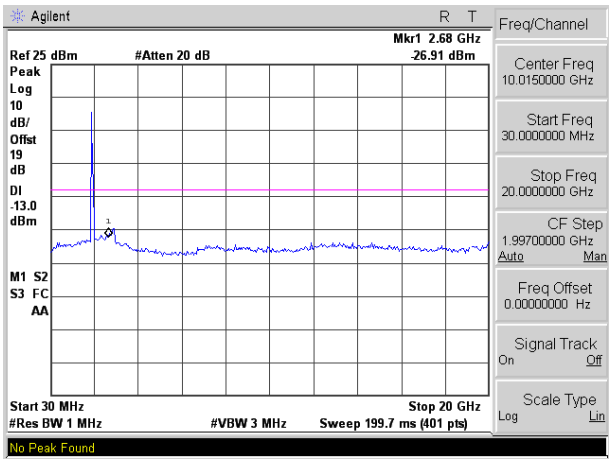
Test Mode: Traffic mode	
PCS1900 (GPRS 1 link)	PCS1900 (EGPRS 1 link)



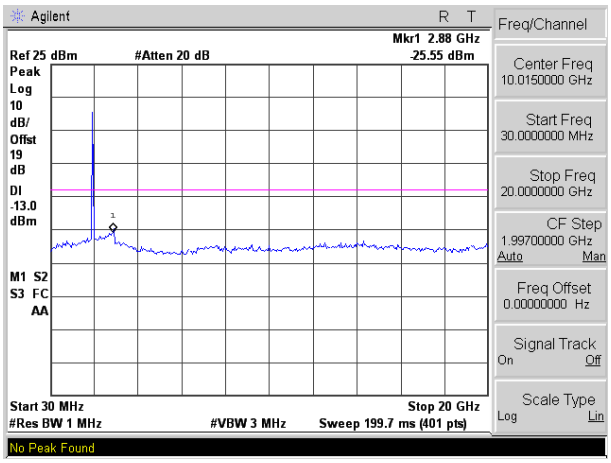


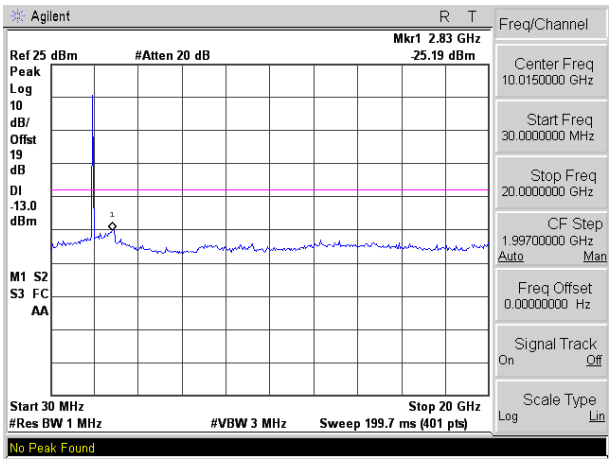
Lowest channel





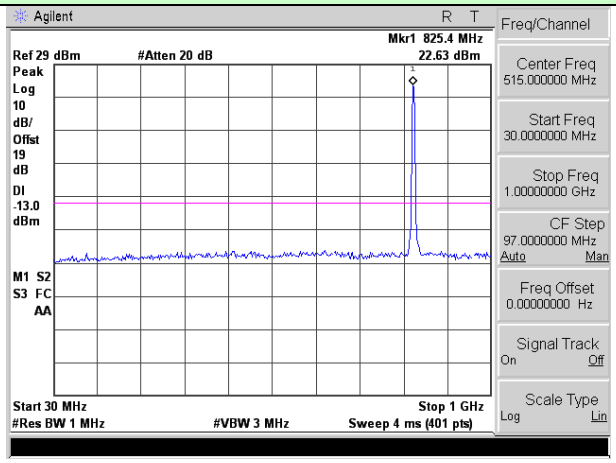
Middle channel

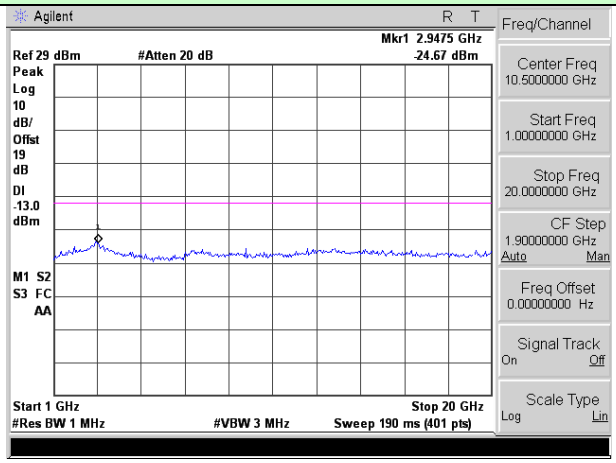




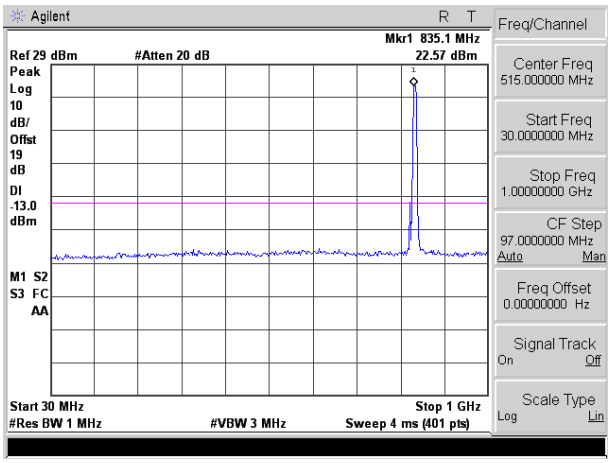
Highest channel

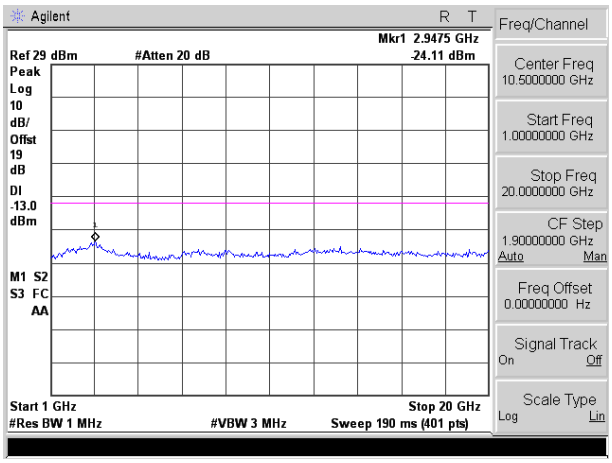
Test Mode: Traffic mode	WCDMA Band V (RMC 12.2Kbps link)



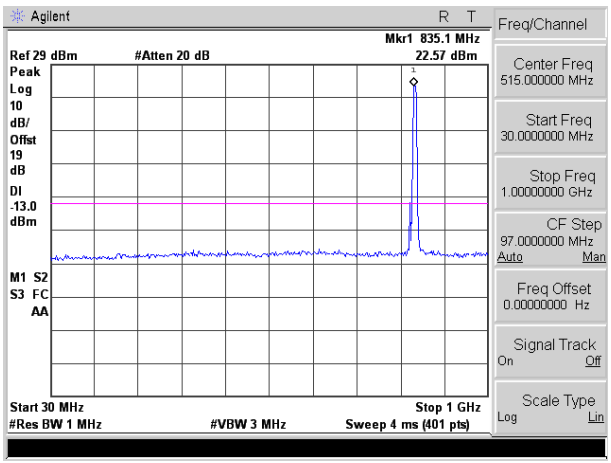


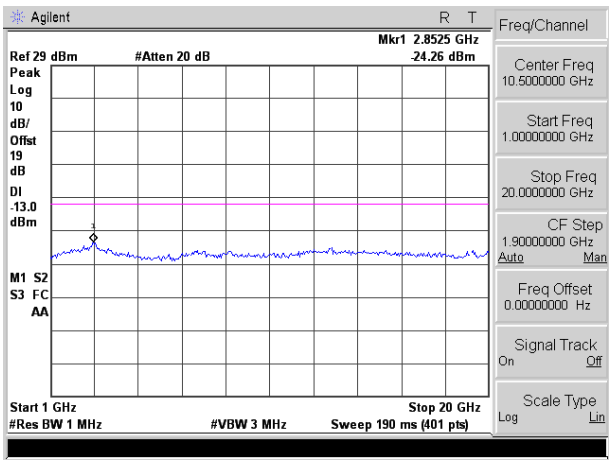
Lowest channel





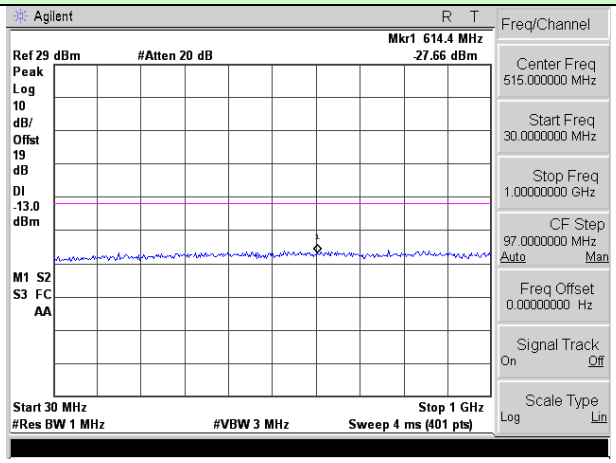
Middle channel

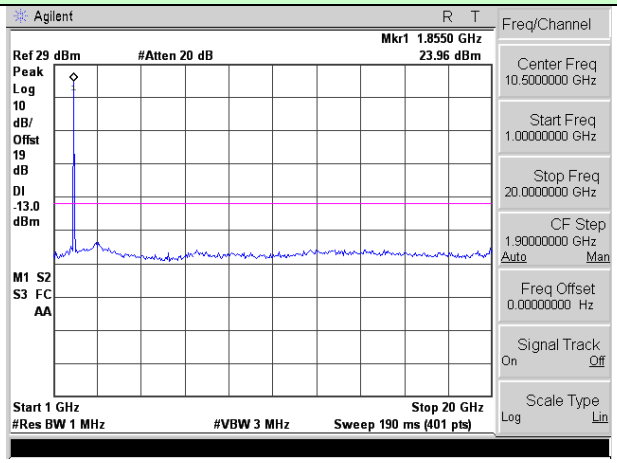




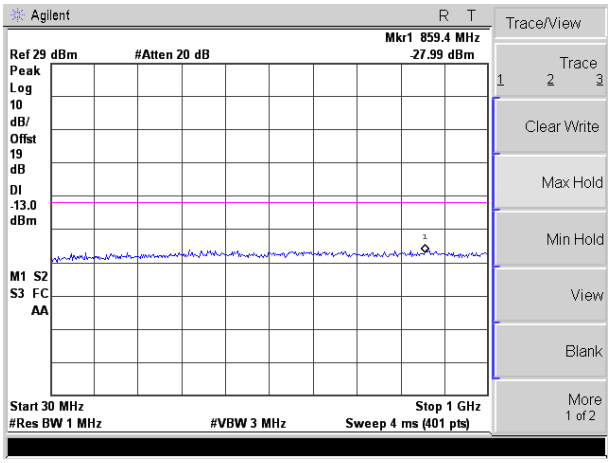
Highest channel

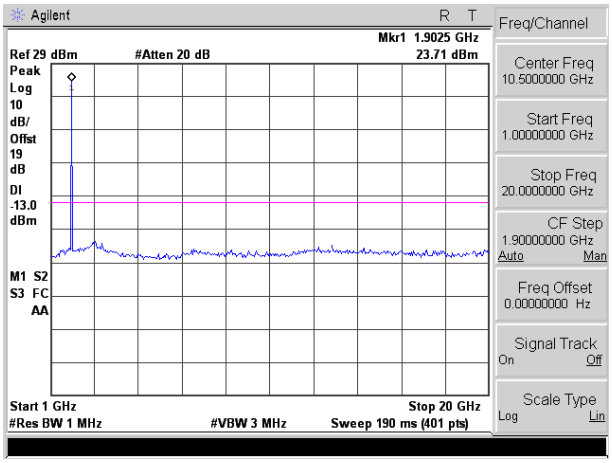
Test Mode: Traffic mode	WCDMA Band II (RMC 12.2Kbps link)



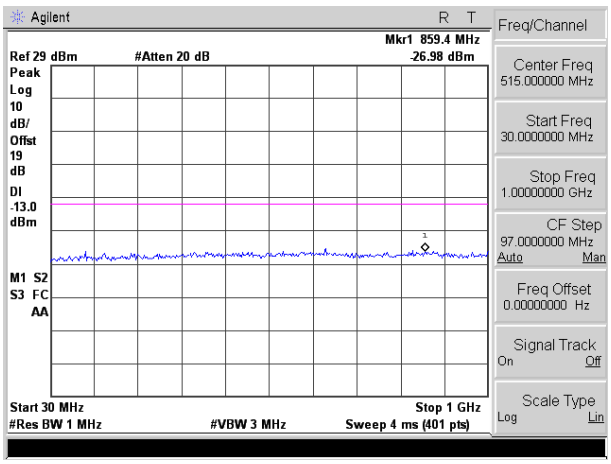


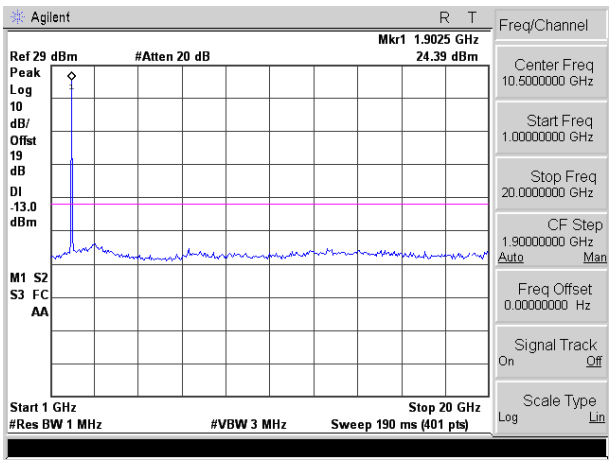
Lowest channel





Middle channel

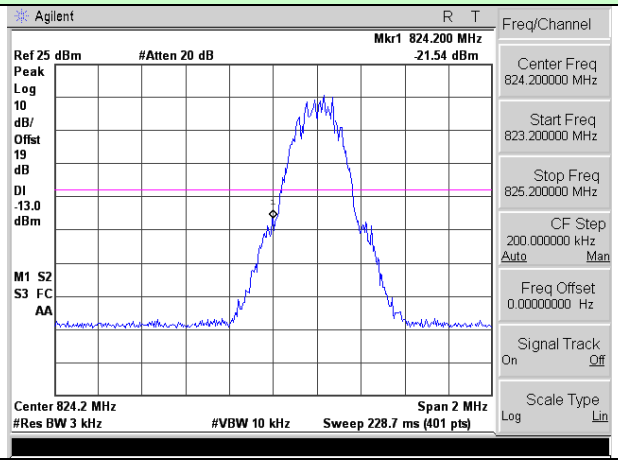




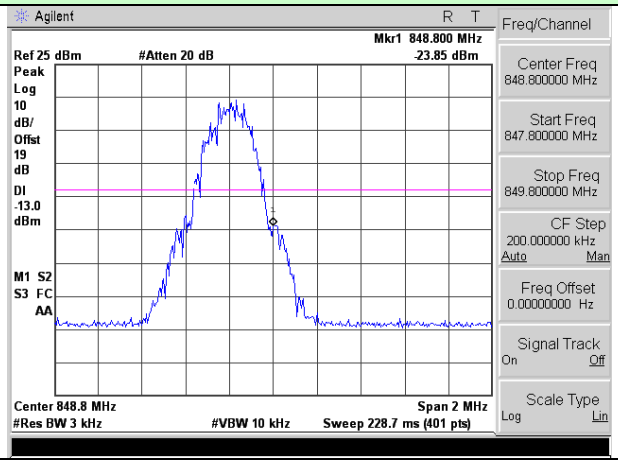
Highest channel

Band Edge:

Test Mode: Traffic mode	GSM850 (GPRS 1 link)

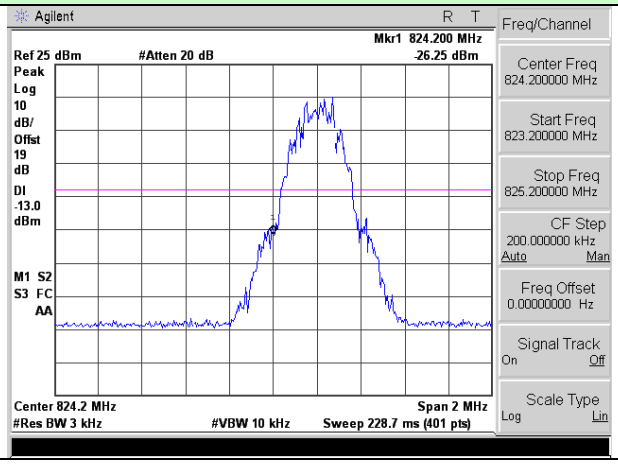


Lowest channel

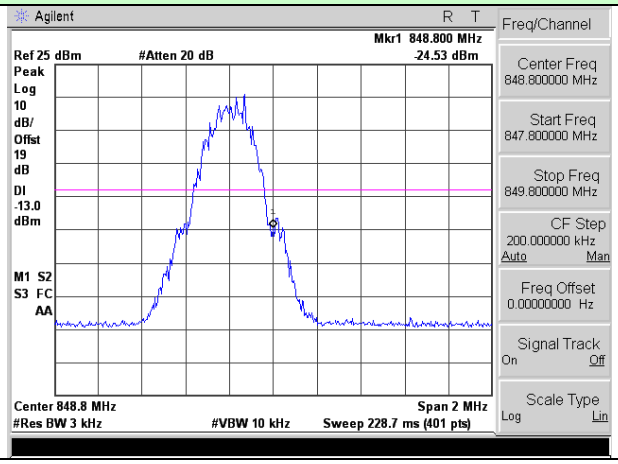


Highest channel

Test Mode: Traffic mode	GSM850 (EGPRS 1 link)

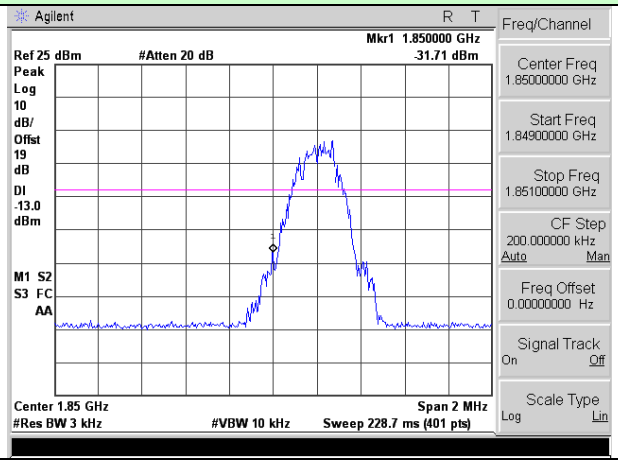


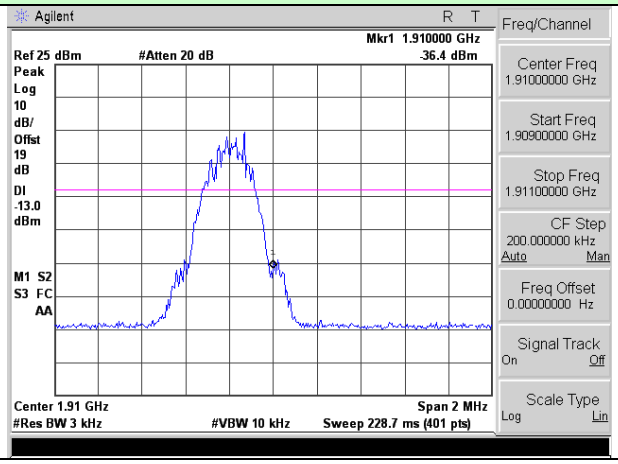
Lowest channel



Highest channel

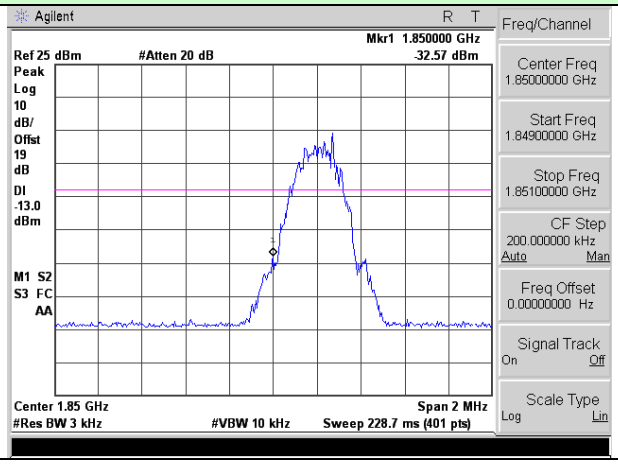
Test Mode: Traffic mode	PCS1900 (GPRS 1 link)

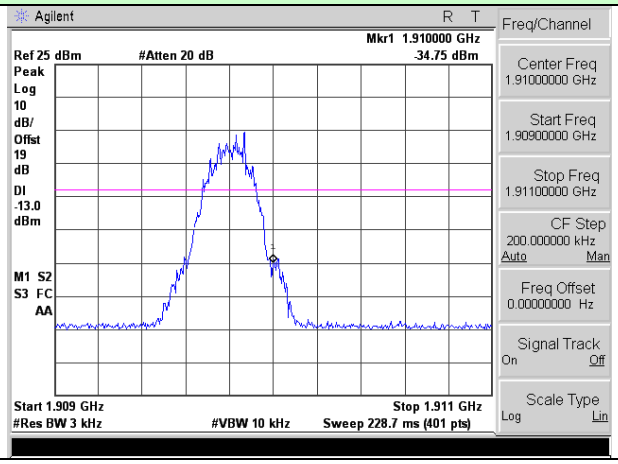




Lowest channel Highest channel

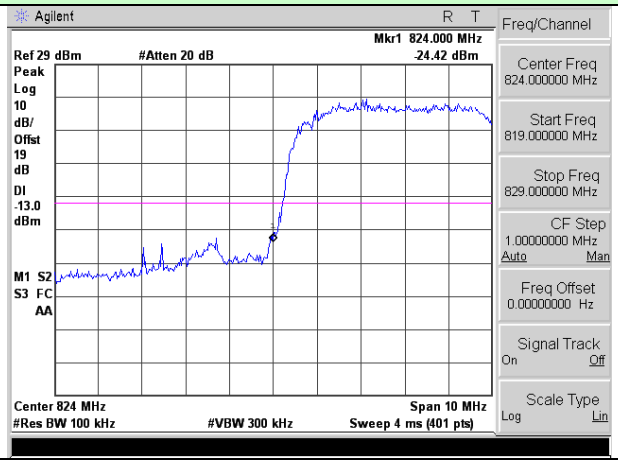
Test Mode: Traffic mode	PCS1900 (EGPRS 1 link)



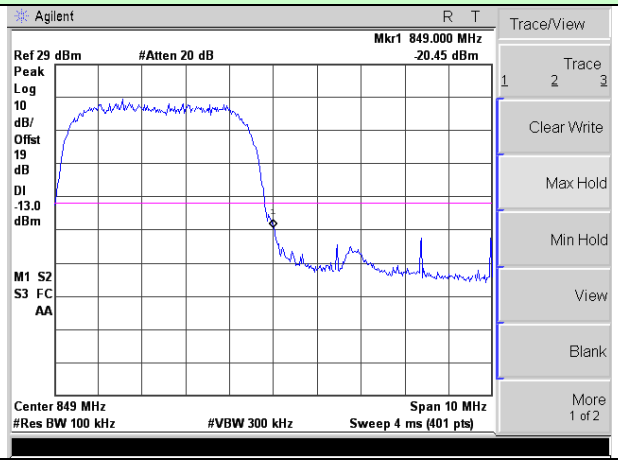


Lowest channel Highest channel

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

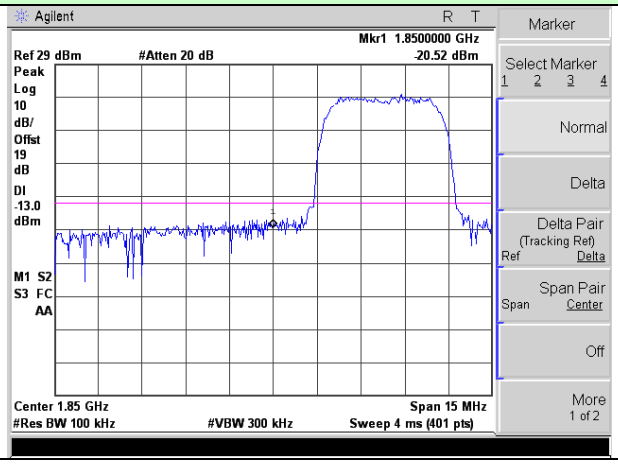


Lowest channel

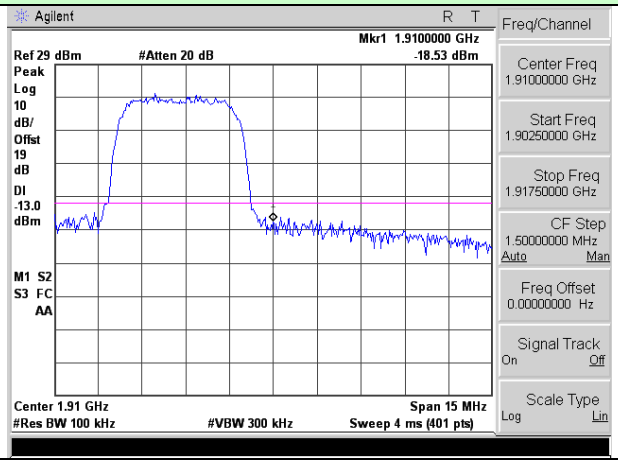


Highest channel

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

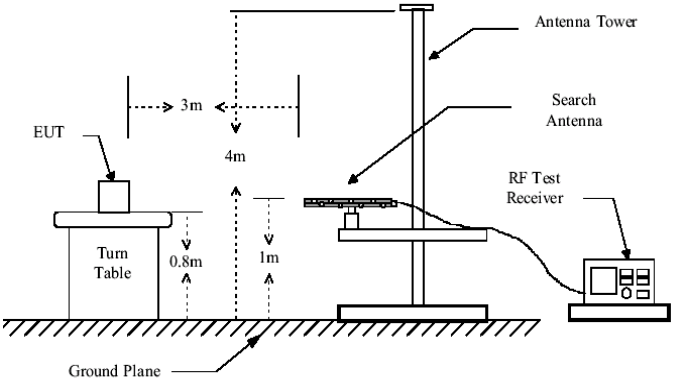
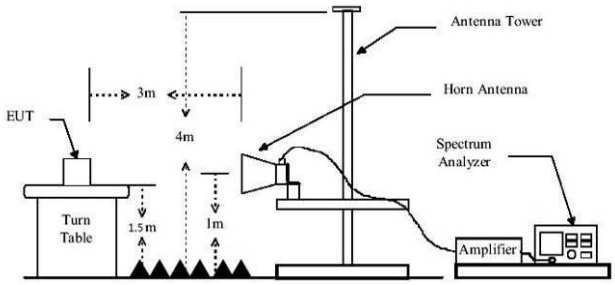
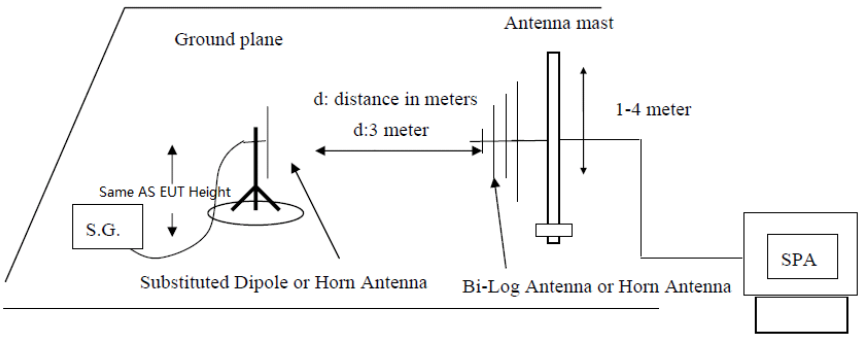


Lowest channel



Highest channel

4.8 ERP, EIRP Measurement

Test Requirement:	FCC part22.913(a)(5), FCC part24.232(b)
Test Method:	KDB 971168 D01 v03r1 clause 5.8, FCC part2.1051, ANSI/TIA-603-E, ANSI C63.26 clause 5.7
Limit:	GSM850, WCDMA Band V: 7W PCS1900, WCDMA Band II: 2W
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 1712.6-1752.4, 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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	H,E1,E2 mean for EUT polarization of X, Y, Z

Measurement Data

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (GPRS 1 link)	Lowest	H	V	25.45	38.45	Pass
			H	28.05		
		E1	V	24.61		
			H	28.00		
		E2	V	24.64		
			H	27.96		
	Middle	H	V	23.74	38.45	Pass
			H	26.94		
		E1	V	24.51		
			H	27.98		
		E2	V	25.38		
			H	27.62		
	Highest	H	V	24.88	38.45	Pass
			H	27.48		
		E1	V	24.84		
			H	27.95		
		E2	V	24.47		
			H	27.27		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
GSM850 (EGPRS 1 link)	Lowest	H	V	19.70	38.45	Pass
			H	23.89		
		E1	V	18.99		
			H	23.51		
		E2	V	19.11		
			H	23.91		
	Middle	H	V	19.25	38.45	Pass
			H	23.39		
		E1	V	19.04		
			H	22.99		
		E2	V	19.55		
			H	23.42		
	Highest	H	V	18.83	38.45	Pass
			H	23.61		
		E1	V	18.95		
			H	22.78		
		E2	V	19.19		
			H	23.53		

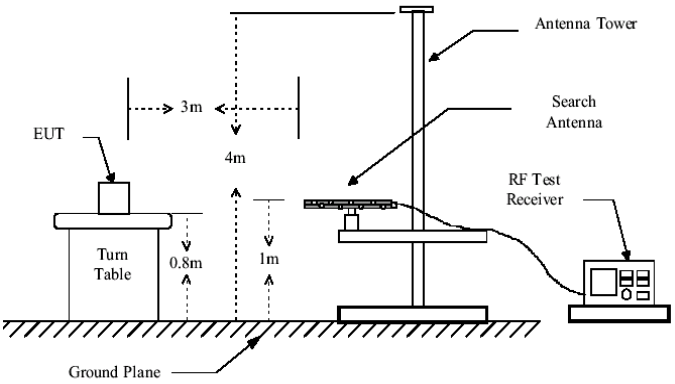
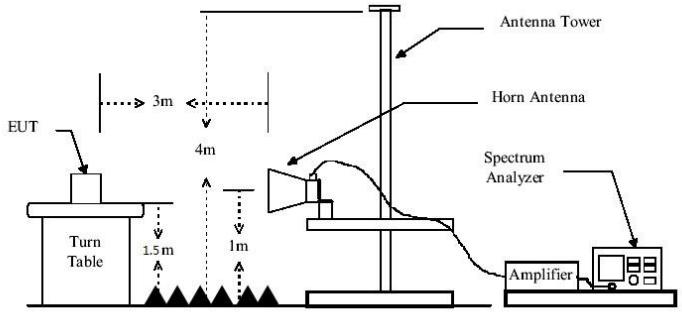
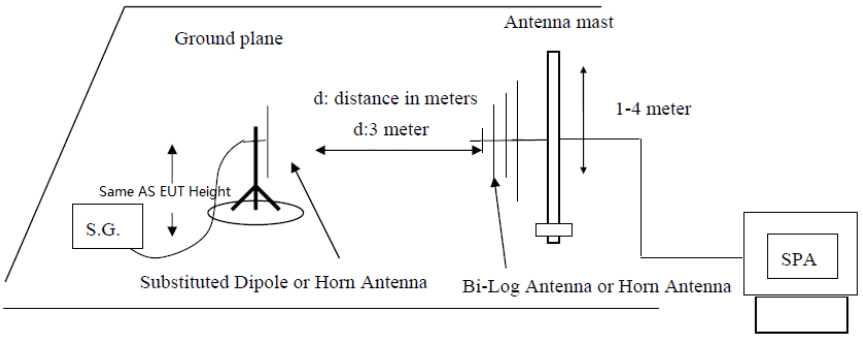
EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (GPRS 1 link)	Lowest	H	V	24.47	33.01	Pass
			H	27.68		
		E1	V	24.36		
			H	28.21		
		E2	V	23.31		
			H	26.78		
	Middle	H	V	23.49	33.01	Pass
			H	25.72		
		E1	V	24.47		
			H	27.20		
		E2	V	24.44		
			H	26.99		
	Highest	H	V	24.90	33.01	Pass
			H	26.68		
		E1	V	23.88		
			H	28.15		
		E2	V	23.90		
			H	27.61		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (EGPRS 1 link)	Lowest	H	V	23.31	33.01	Pass
			H	25.80		
		E1	V	22.66		
			H	25.26		
		E2	V	21.27		
			H	25.96		
	Middle	H	V	20.94	33.01	Pass
			H	25.81		
		E1	V	22.62		
			H	24.95		
		E2	V	20.98		
			H	24.82		
	Highest	H	V	23.53	33.01	Pass
			H	25.71		
		E1	V	24.36		
			H	25.91		
		E2	V	22.94		
			H	26.74		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
WCDMA Band V	Lowest	H	V	16.55	38.45	Pass
			H	20.56		
		E1	V	16.52		
			H	19.35		
		E2	V	15.09		
			H	19.91		
	Middle	H	V	15.24	38.45	Pass
			H	19.58		
		E1	V	16.93		
			H	19.04		
		E2	V	15.26		
			H	17.98		
	Highest	H	V	17.40	38.45	Pass
			H	19.54		
		E1	V	16.19		
			H	20.50		
		E2	V	17.31		
			H	19.97		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
WCDMA Band II	Lowest	H	V	17.77	33.01	Pass
			H	20.82		
		E1	V	17.30		
			H	20.41		
		E2	V	16.77		
			H	20.79		
	Middle	H	V	17.55	33.01	Pass
			H	20.69		
		E1	V	17.65		
			H	19.74		
		E2	V	17.45		
			H	18.89		
	Highest	H	V	18.32	33.01	Pass
			H	21.11		
		E1	V	18.18		
			H	21.41		
		E2	V	18.20		
			H	21.16		

4.9 Field strength of spurious radiation measurement

Test Requirement:	FCC part22.917(a), FCC part24.238(a)
Test Method:	KDB 971168 D01 v03r1 clause 7, FCC part2.1051, ANSI/TIA-603-E, ANSI C63.26 clause 5.5
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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

Test mode:	GSM850(GPRS)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1648.40	Vertical	-46.43	-13.00	Pass
2472.60	V	-46.47		
3296.80	V	-47.28		
4121.00	V	-47.07		
4945.20	V	-46.31		
1648.40	Horizontal	-43.25	-13.00	Pass
2472.60	H	-42.36		
3296.80	H	-42.03		
4121.00	H	-39.29		
4945.20	H	-38.73		
Test mode:	**GSM850(GPRS)**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.20	Vertical	-46.52	-13.00	Pass
2509.80	V	-46.57		
3346.40	V	-47.21		
4183.00	V	-47.11		
5019.60	V	-46.30		
1673.20	Horizontal	-43.23	-13.00	Pass
2509.80	H	-42.35		
3346.40	H	-41.88		
4183.00	H	-39.34		
5019.60	H	-38.65		
Test mode:	**GSM850(GPRS)**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1697.60	Vertical	-46.45	-13.00	Pass
2546.40	V	-46.55		
3395.20	V	-47.30		
4244.00	V	-47.17		
5092.80	V	-46.33		
1697.60	Horizontal	-43.19	-13.00	Pass
2546.40	H	-42.38		
3395.20	H	-42.02		
4244.00	H	-39.41		
5092.80	H	-38.66		

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 20dB lower than the limit and not show in test report.

Test mode:	GSM850(EGPRS)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1648.40	Vertical	-47.23	-13.00	Pass
2472.60	V	-47.21		
3296.80	V	-46.89		
4121.00	V	-47.09		
4945.20	V	-46.07		
1648.40	Horizontal	-41.89	-13.00	Pass
2472.60	H	-42.45		
3296.80	H	-41.18		
4121.00	H	-40.32		
4945.20	H	-39.42		
Test mode:	**GSM850(EGPRS)**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.20	Vertical	-47.79	-13.00	Pass
2509.80	V	-48.11		
3346.40	V	-48.14		
4183.00	V	-47.78		
5019.60	V	-46.21		
1673.20	Horizontal	-42.83	-13.00	Pass
2509.80	H	-42.63		
3346.40	H	-42.00		
4183.00	H	-40.64		
5019.60	H	-39.57		
Test mode:	**GSM850(EGPRS)**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1697.60	Vertical	-47.31	-13.00	Pass
2546.40	V	-47.45		
3395.20	V	-47.17		
4244.00	V	-47.25		
5092.80	V	-46.34		
1697.60	Horizontal	-42.95	-13.00	Pass
2546.40	H	-43.01		
3395.20	H	-42.26		
4244.00	H	-41.20		
5092.80	H	-39.57		

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 20dB lower than the limit and not show in test report.

Test mode:	PCS1900(GPRS)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3700.40	Vertical	-44.34	-13.00	Pass
5550.60	V	-47.40		
7400.80	V	-46.05		
9251.00	V	-44.66		
11101.20	V	-42.99		
3700.40	Horizontal	-42.75	-13.00	Pass
5550.60	H	-38.66		
7400.80	H	-38.88		
9251.00	H	-38.53		
11101.20	H	-35.36		
Test mode:	**PCS1900(GPRS)**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-46.56	-13.00	Pass
5640.00	V	-46.01		
7520.00	V	-44.53		
9400.00	V	-44.12		
11280.00	V	-42.72		
3760.00	Horizontal	-42.67	-13.00	Pass
5640.00	H	-40.19		
7520.00	H	-39.68		
9400.00	H	-37.85		
11280.00	H	-36.50		
Test mode:	**PCS1900(GPRS)**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3819.60	Vertical	-46.40	-13.00	Pass
5729.40	V	-46.43		
7639.20	V	-45.60		
9549.00	V	-45.48		
11458.80	V	-44.76		
3819.60	Horizontal	-42.30	-13.00	Pass
5729.40	H	-39.53		
7639.20	H	-39.18		
9549.00	H	-39.27		
11458.80	H	-36.92		

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 20dB lower than the limit and not show in test report.

Test mode:	PCS1900(EGPRS)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3700.40	Vertical	-45.36	-13.00	Pass
5550.60	V	-45.55		
7400.80	V	-45.41		
9251.00	V	-44.11		
11101.20	V	-44.45		
3700.40	Horizontal	-41.57	-13.00	Pass
5550.60	H	-38.90		
7400.80	H	-37.78		
9251.00	H	-38.72		
11101.20	H	-36.54		
Test mode:	**PCS1900(EGPRS)**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-45.49	-13.00	Pass
5640.00	V	-46.03		
7520.00	V	-45.89		
9400.00	V	-44.73		
11280.00	V	-42.96		
3760.00	Horizontal	-43.66	-13.00	Pass
5640.00	H	-38.95		
7520.00	H	-38.47		
9400.00	H	-39.48		
11280.00	H	-36.93		
Test mode:	**PCS1900(EGPRS)**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3819.60	Vertical	-45.69	-13.00	Pass
5729.40	V	-45.67		
7639.20	V	-44.94		
9549.00	V	-43.91		
11458.80	V	-43.42		
3819.60	Horizontal	-42.66	-13.00	Pass
5729.40	H	-38.69		
7639.20	H	-39.11		
9549.00	H	-37.44		
11458.80	H	-37.18		

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 20dB 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)		
1652.80	Vertical	-48.40	-13.00	Pass
2479.20	V	-48.25		
3305.60	V	-48.71		
4132.00	V	-47.66		
4958.40	V	-46.83		
1652.80	Horizontal	-43.78	-13.00	Pass
2479.20	H	-42.97		
3305.60	H	-42.30		
4132.00	H	-41.07		
4958.40	H	-41.51		
Test mode:	**WCDMA Band V**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1672.80	Vertical	-48.25	-13.00	Pass
2509.20	V	-48.25		
3345.60	V	-47.81		
4182.00	V	-48.72		
5018.40	V	-48.03		
1672.80	Horizontal	-42.31	-13.00	Pass
2509.20	H	-43.72		
3345.60	H	-42.37		
4182.00	H	-41.20		
5018.40	H	-41.08		
Test mode:	**WCDMA Band V**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1693.20	Vertical	-49.19	-13.00	Pass
2539.80	V	-48.62		
3386.40	V	-47.33		
4233.00	V	-49.29		
5079.60	V	-47.83		
1693.20	Horizontal	-41.80	-13.00	Pass
2539.80	H	-43.25		
3386.40	H	-40.61		
4233.00	H	-41.33		
5079.60	H	-40.85		

Remark：

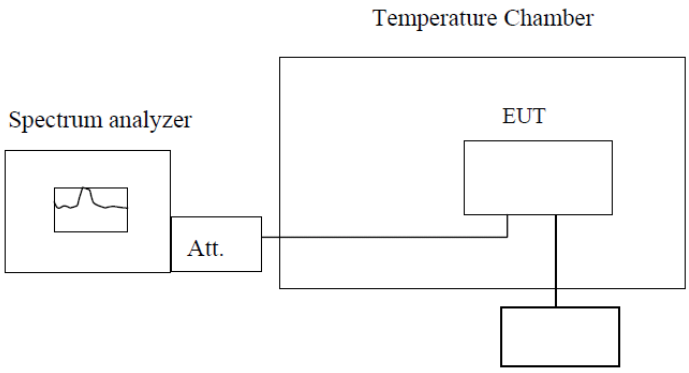
1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are 20dB lower than the limit and not show in test report.

Test mode:	WCDMA Band II		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3704.80	Vertical	-46.19	-13.00	Pass
5557.20	V	-46.56		
7409.60	V	-45.59		
9262.00	V	-43.51		
11114.40	V	-44.48		
3704.80	Horizontal	-41.84	-13.00	Pass
5557.20	H	-38.85		
7409.60	H	-38.86		
9262.00	H	-38.22		
11114.40	H	-36.22		
Test mode:	**WCDMA Band II**		**Test channel:**	**Middle**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-46.06	-13.00	Pass
5640.00	V	-46.81		
7520.00	V	-44.49		
9400.00	V	-44.48		
11280.00	V	-42.43		
3760.00	Horizontal	-41.11	-13.00	Pass
5640.00	H	-38.70		
7520.00	H	-39.05		
9400.00	H	-38.42		
11280.00	H	-35.25		
Test mode:	**WCDMA Band II**		**Test channel:**	**Highest**
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3815.20	Vertical	-46.56	-13.00	Pass
5722.80	V	-45.76		
7630.40	V	-45.57		
9538.00	V	-45.08		
11445.60	V	-44.12		
3815.20	Horizontal	-43.21	-13.00	Pass
5722.80	H	-38.91		
7630.40	H	-39.04		
9538.00	H	-38.98		
11445.60	H	-37.21		

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 20dB lower than the limit and not show in test report.

4.10 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 2.1055(a)(1)(b), Part 22.355, Part 24.235
Test Method:	FCC Part2.1055(d)(1)(2), ANSI/TIA-603-E FCC KDB971168 D01 v03r01 Section 8, ANSI C63.26 clause 5.6.
Limit:	2.5ppm (Band V) Within the authorized bands of operation(Band II, Band IV)
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 20°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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	If all frequencies stability are comply with the lower limit, then all results can be considered qualified

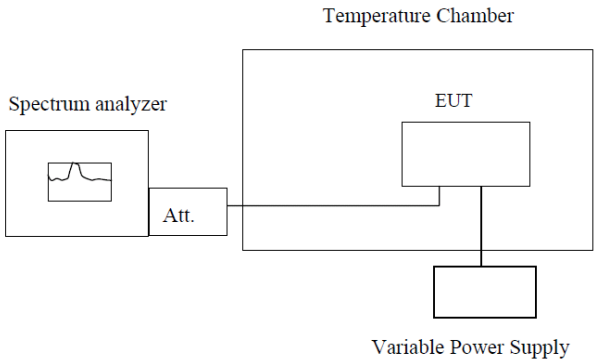
Measurement Data

Reference Frequency: GSM850 (GPRS 1 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	13	0.0150	2.5	Pass
	-10	24	0.0292		
	0	11	0.0137		
	10	16	0.0194		
	20	8	0.0101		
	30	7	0.0087		
	40	19	0.0223		
	50	28	0.0329		
Reference Frequency: GSM850 (EGPRS 1 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	12	0.0140	2.5	Pass
	-10	27	0.0319		
	0	14	0.0167		
	10	7	0.0083		
	20	13	0.0158		
	30	11	0.0129		
	40	25	0.0304		
	50	27	0.0328		

Reference Frequency: PCS1900 (GPRS 1 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	29	0.0152	within authorized band	Pass
	-10	52	0.0274		
	0	34	0.0178		
	10	36	0.0192		
	20	26	0.0138		
	30	26	0.0136		
	40	48	0.0257		
	50	34	0.0179		
Reference Frequency: PCS1900 (EGPRS 1 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	28	0.0147	within authorized band	Pass
	-10	51	0.0271		
	0	27	0.0145		
	10	26	0.0139		
	20	25	0.0133		
	30	18	0.0096		
	40	49	0.0259		
	50	32	0.0172		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	7	0.0085	2.5	Pass
	-10	18	0.0221		
	0	3	0.0041		
	10	17	0.0200		
	20	4	0.0049		
	30	8	0.0094		
	40	8	0.0101		
	50	22	0.0267		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880.0MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
7.2	-20	34	0.0178	within authorized band	Pass
	-10	52	0.0279		
	0	36	0.0189		
	10	32	0.0171		
	20	30	0.0158		
	30	25	0.0136		
	40	46	0.0244		
	50	33	0.0178		

4.11 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 2.1055(d)(1)(2), Part 22.355, Part 24.235
Test Method:	FCC Part2.1055(d)(1)(2), ANSI/TIA-603-E FCC KDB971168 D01 v03r01 Section 8, ANSI C63.26 clause 5.6.
Limit:	2.5ppm (Band V) Within the authorized bands of operation(Band II, Band IV)
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 20°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 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	1. Manufacturer specified the battery operating end point voltage is 6.1VDC, max voltage is 8.3VDC. 2. If all frequencies stability are comply with the lower limit, then all results can be considered qualified

Measurement Data

Reference Frequency: GSM850 (GPRS 1 link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
20	8.3	28	0.0340	2.5	Pass
	7.2	30	0.0362		
	6.1	27	0.0320		
Reference Frequency: GSM850 (EGPRS 1 link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
20	8.3	22	0.0265	2.5	Pass
	7.2	33	0.0391		
	6.1	28	0.0334		

Reference Frequency: PCS1900 (GPRS 1 link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	8.3	33	0.0175	within authorized band	Pass
	7.2	33	0.0177		
	6.1	31	0.0163		
Reference Frequency: PCS1900 (EGPRS 1 link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	8.3	24	0.0127	within authorized band	Pass
	7.2	32	0.0170		
	6.1	35	0.0186		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	8.3	22	0.0267	2.5	Pass
	7.2	30	0.0360		
	6.1	20	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	8.3	34	0.0181	within authorized band	Pass
	7.2	33	0.0174		
	6.1	32	0.0168		

---------THE END OF REPORT-------