



FCC Test Report

FCC ID: 2AMQOA8

Product Name:	A8 Android Handheld Computer
Trademark:	N/A
Model Name:	A8, A8(2D), A8(CCD), DAH-A422
Prepared For:	Alium Technology Inc
Address:	3728 Julian In Leander TX 78641
Prepared By:	Shenzhen BCTC Technology Co., Ltd.
Address:	NO.101, Yousong Road, Longhua New District, Shenzhen, Guangdong, P.R.China
Test Date:	May 22 - Jun. 05, 2017
Date of Report:	Jun. 05, 2017
Report No.:	BCTC-FY170503099-4E



VERIFICATION OF COMPLIANCE

Applicant's name : Alium Technology Inc

Address : 3728 Julian In Leander TX 78641

Manufacturer's Name : OBM TECHNOLOGIES INC.

Address : RM.401, BLDG #9, 600 GUANGSHAN ER ROAD, TIANHE DISTRICT, GUANGZHOU, CHINA

Product description

Product name : A8 Android Handheld Computer

Trademark: N/A

Model Name: A8

Test procedure FCC CFR Title 47 Part 2: 2015
FCC CFR Title 47 Part22 Subpart H: 2015
FCC CFR Title 47 Part24 Subpart E: 2015
ANSI/ TIA/ EIA-603-D-2010
FCC KDB 971168 D01 Power Meas. License Digital Systems v02v02

This device described above has been tested by BCTC, and the test results show that the equipment under test (EUT) is in compliance with the requirements. And it is applicable only to the tested sample identified in the report.

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Test Result : **Pass**

Prepared by(Engineer): Jack Bu

Reviewer(Supervisor): Jade Yang

Approved(Manager): Carson Zhang

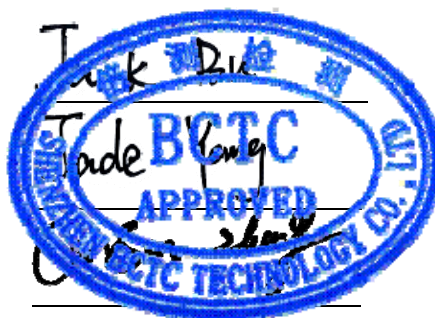




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1.TEST SUMMARY

Test Items	Test Requirement	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Passed* (Please refer to SAR Report)
Conducted RF Output Power	2.1046	PASS
Peak to Average Ratio	2.1055,22.355 24.235,27.54	PASS
99% & -26 dB Occupied Bandwidth	2.1049, 22.917 24.238,	PASS
Frequency Stability	2.1055, 22.355 24.235,	PASS
Conducted Out of Band Emissions	2.1051,2.1057 22.917, 24.238	PASS
Band Edge	2.1051,2.1057 22.917, 24.238	PASS
Transmitter Radiated Power (EIPR/ERP)	22.913, 24.232	PASS
Radiated Out of Band Emissions	2.1053,2.1057 22.917, 24.238	PASS



2.GENERAL PRODUCT INFORMATION

2.1. Description of Device (EUT)

Product Name:	A8 Android Handheld Computer
Trademark	N/A
Model No.:	A8 A8(2D), A8(CCD), DAH-A422
Model Difference	All the models above are the same, Only model name is different.
Operation Frequency:	Bluetooth:2402~2480MHz WIFI:2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40)) GSM 850MHz: Tx: 824.20 - 848.80MHz (at intervals of 200kHz); Rx: 869.20 - 893.80MHz (at intervals of 200kHz) GSM 1900MHz: Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz); Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz) WCDMA Band V: Tx: 826.40 - 846.60MHz (at intervals of 200kHz); Rx: 871.40 - 891.60MHz (at intervals of 200kHz)
Channel numbers:	Bluetooth: 40 Channels for low energy connections 79 Channels for classic rate / EDR connections WIFI:11 Channel for 802.11b/g/n(HT20), 7 Channel for 802.11n(HT40)
Channel separation:	Bluetooth:1M WIFI:5M
Modulation technology:	BLE: GFSK Bluetooth: GFSK, $\pi/4$ DPSK, 8DPSK WIFI:DBPSK/ DQPSK/CCK/BPSK/ QPSK/ 16QAM/ 64QAM GSM/GPRS/EGPRS Mode with GMSK Modulation WCDMA Mode with BPSK Modulation HSDPA Mode with QPSK, 16QAM Modulation HSUPA Mode with QPSK, 16QAM Modulation
Antenna Type:	Internal Antenna
Antenna gain:	0dBi (BT &WIFI) 1dBi (GSM&WCDMA)
Power supply:	DC 3.7V from battery
GPRS Class:	12
EGPRS Class:	12

2.2. Product Function

Refer to Technical Construction Form and User Manual.

2.3. Independent Operation Modes

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

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

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

The conducted average power tables are as follows:

Conducted Average Power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.20	836.60	848.80	1850.20	1880.00	1909.80
	32.14	32.08	32.26	30.11	30.26	30.18



3. TEST SITES

3.1. Test Facilities

Site Description

Name of Firm : Shenzhen BCTC Technology Co., Ltd.

Site Location : NO.101, Yousong Road, Longhua New District,
Shenzhen, Guangdong, P.R.China

Lab Qualifications : Certificated by Industry Canada
Registration No.: 12655A
Date of registration: January 19, 2015

Certificated by FCC, USA
Registration No.: 187086
Date of registration: November 28, 2014

Certificated by CNAS China
Registration No.: CNAS L6046
Date of registration: February 3, 2013

3.1.1. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$



3.2. List of Test and Measurement Instruments

3.2.1. For conducted emission at the mains terminals test

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESCI	1166.5950K03 -101165-ha	2016.08.27	2017.08.26
2	LISN	SCHWARZBECK	NSLK8127	8127739	2016.08.27	2017.08.26
3	LISN	R&S	NSLK8126	8126487	2016.08.27	2017.08.26
4	RF cables	R&S	R204	R20X	2016.08.27	2017.08.26
5	Attenuator	R&S	ESH3-Z2	143206	2016.08.27	2017.08.26

3.2.2. For radiated test

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4407B	MY45108040	2016.08.27	2017.08.26
2	Test Receiver (9kHz-7GHz)	R&S	ESPI	101318	2016.08.27	2017.08.26
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB 9168	VULB91 68-438	2016.08.27	2017.08.26
4	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1201	2016.09.03	2017.09.03
5	Horn Antenna (14GHz-40GHz)	SCHWARZBECK	BBHA 9170	9170-181	2016.09.03	2017.09.03
6	Amplifier (9KHz-6GHz)	SCHWARZBECK	BBV9744	9744-0037	2016.08.27	2017.08.26
7	Amplifier (1GHz-18GHz)	SCHWARZBECK	BBV9718	9718-309	2016.08.27	2017.08.26
8	Amplifier (18GHz-40GHz)	SCHWARZBECK	BBV 9721	9721-205	2016.08.27	2017.08.26
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	00014	2016.09.03	2017.09.03
10	RF cables1 (9kHz-1GHz)	R&S	R203	R20X	2016.08.27	2017.08.26
11	RF cables2 (1GHz-40GHz)	R&S	R204	R21X	2016.08.27	2017.08.26
12	Antenna connector	Florida RF Labs	N/A	RF 01#	2016.08.27	2017.08.26
13	Power Metter	ANRITSU	ML2487A	6K00001568	2016.08.27	2017.08.26
14	Power Sensor (AV)	ANRITSU	ML2491A	030989	2016.08.27	2017.08.26
15	Signal Analyzer 9kHz-26.5GHz	Agilent	N9010A	MY48030494	2016.08.27	2017.08.26
16	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	2016.08.27	2017.08.26
17	D.C. Power Supply	LongWei	PS-305D	010964729	2016.08.27	2017.08.26
18	Bilog Antenna	TESEQ	CBL6111D	31217	2016.08.27	2017.08.26



19	System Simulator	Agilent	E5515C	GB43130252	2016.08.27	2017.08.26
20	High Pass filter	KANGMAI	WHKX1.0/1.5 G-10SS	40	2016.08.27	2017.08.26
21	Filter	COM-MW	ZBSF-C836.5-25-X	BCTC042	2016.08.27	2017.08.26
22	Filter	COM-MW	ZBSF-C1747.5-75-X2	BCTC045	2016.08.27	2017.08.26
23	Filter	COM-MW	ZBSF-C1880-60-X2	BCTC047	2016.08.27	2017.08.26
24	Splitter	Agilent	11435B	1125162	2016.08.27	2017.08.26
RF CONDUCTED TEST						
1	System Simulator	Agilent	E5515C	GB43130252	2016.08.27	2017.08.26
2	Spectrum Analyzer	Agilent	E4407B	MY45108040	2016.08.27	2017.08.26
3	DC Power Supply	LongWei	PS-305D	010965682	2016.08.27	2017.08.26
4	Constant temperature and humidity box	GF	GTH-800-40-2 P	MAA9906-012	2016.08.27	2017.08.26
5	Universal radio communication tester	R&S	CMU200	115295	2016.08.27	2017.08.26



4. TEST SET-UP

4.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

4.2. Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



(EUT: A8 Android Handheld Computer)

4.3. Test Environment:

Ambient conditions in the test laboratory:

Items	Actual
Temperature (°C)	21~23
Humidity (%RH)	50~65



5. EMISSION TEST RESULTS

5.1. Conducted RF Output Power

5.1.1. Limit

According to FCC section 2.1046(a) , FCC part22.913(a) and FCC part 24.232(b) ,for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

5.1.2. Test Setup

The EUT, which is powered by the adapter, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power.

5.1.3. Test Result

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT.

Measurement data



The conducted power tables are as follows:

Average Conducted Power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.20	836.60	848.80	1850.20	1880.00	1909.80
GSM (GMSK, 1 TX slot)	32.87	32.73	33.04	30.38	30.12	30.69
GPRS (GMSK, 1 TX slot)	32.90	32.70	33.05	29.34	28.95	29.57
GPRS (GMSK, 2 TX slot)	32.65	31.65	32.39	28.58	27.94	28.52
GPRS (GMSK, 3 TX slot)	29.99	29.47	30.32	26.92	27.72	27.14
GPRS (GMSK, 4 TX slot)	24.15	24.76	24.61	24.94	24.21	24.43
EGPRS(GMSK, 1 TX slot)	27.83	27.66	27.77	25.88	25.51	25.43
EGPRS(GMSK, 2 TX slot)	26.13	26.93	26.48	24.96	24.94	24.00
EGPRS(GMSK, 3 TX slot)	24.54	24.62	24.28	23.97	23.37	23.09
EGPRS(GMSK, 4 TX slot)	23.15	23.87	23.22	22.58	22.52	22.64
EGPRS (8PSK, 1 TX slot)	27.63	27.59	27.02	25.26	25.87	25.59
EGPRS (8PSK, 2 TX slot)	26.02	26.81	26.09	24.09	24.95	24.43
EGPRS (8PSK, 3 TX slot)	24.46	23.84	24.20	23.31	23.31	23.94
EGPRS (8PSK, 4 TX slot)	23.17	22.79	23.16	21.91	21.65	22.03

Average Conducted Power			
Band	WCDMA Band V.		
Frequency	826.4	836.6	846.6
RMC 12.2Kbps	23.38	23.23	23.27
RMC 64kbps	23.32	23.11	23.19
RMC 144kbps	23.26	23.00	23.11
RMC 384kbps	23.20	22.89	23.02
HSDPA Subtest-1	23.01	22.89	23.00
HSDPA Subtest-2	22.95	22.88	23.00
HSDPA Subtest-3	22.90	22.84	22.92
HSDPA Subtest-4	22.87	22.75	22.94
HSUPA Subtest-1	22.85	22.84	22.88
HSUPA Subtest-2	22.82	22.73	22.90
HSUPA Subtest-3	22.95	22.83	22.94
HSUPA Subtest-4	22.77	22.76	22.90

Note: Measurement Uncertainty: ± 2.6 dB.



5.2. -26dB and 99% Occupied Bandwidth

5.2.1. Limit

According to FCC section 2.1049 and FCC part22.913(a) and FCC part24.232(b), the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth,

5.2.2. Test Setup

The EUT, which is powered by the adapter, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power.



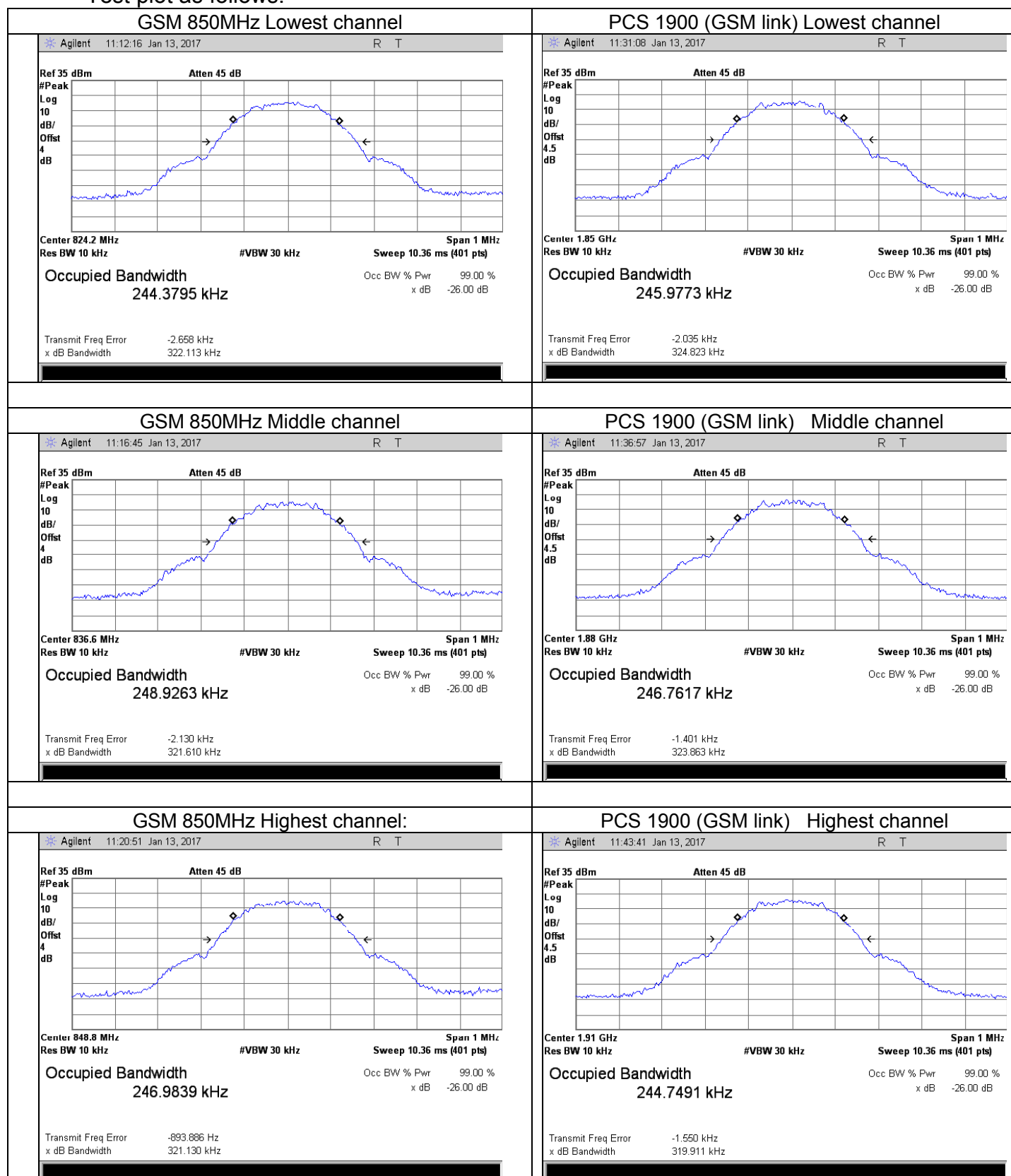
5.2.3. Test Result

Measurement Data

EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
GSM 850 (GSM link)	128	824.20	244.380	322.113
	190	836.60	248.926	321.610
	251	848.80	246.984	321.130
GSM 850 (GPRS 8 link)	128	824.20	243.435	320.829
	190	836.60	244.238	318.408
	251	848.80	245.565	318.404
GSM 850 (EGPRS 8 link)	128	824.20	248.632	324.102
	190	836.60	241.858	320.675
	251	848.80	249.164	318.182
PCS 1900 (GSM link)	512	1850.20	245.977	324.823
	661	1880.00	246.762	323.863
	810	1909.80	244.749	319.911
PCS 1900 (GPRS 8 link)	512	1850.20	246.639	324.536
	661	1880.00	245.427	319.614
	810	1909.80	245.843	317.283
PCS 1900 (EGPRS 8 link)	512	1850.20	246.626	322.447
	661	1880.00	247.350	322.804
	810	1909.80	247.192	320.172
WCDMA Band V (RMC 12.2Kbps link)	4132	826.4	4163.7	4695.0
	4175	836.0	4171.5	4696.0
	4233	846.6	4172.5	4697.0
HSDPA	4132	826.4	4163.3	4694.0
	4175	836.0	4151.7	4696.4
	4233	846.6	4175.2	4696.0
HSUPA	4132	826.4	4163.6	4695.0
	4175	836.0	4175.1	4694.0
	4233	846.6	4174.5	4696.0

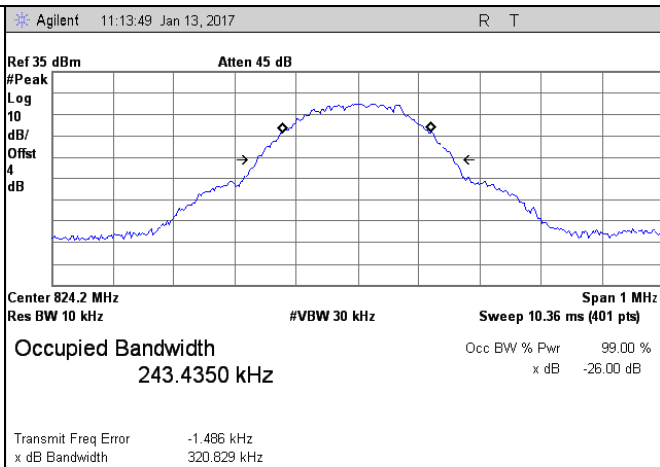
Note: Measurement Uncertainty: $\pm 20\text{Hz}$.

Test plot as follows:

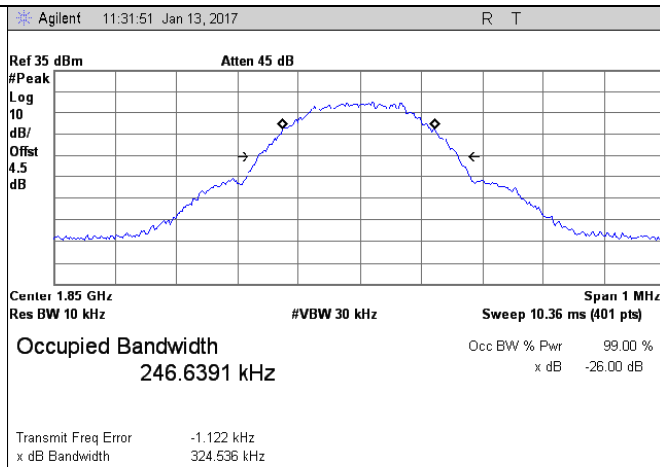




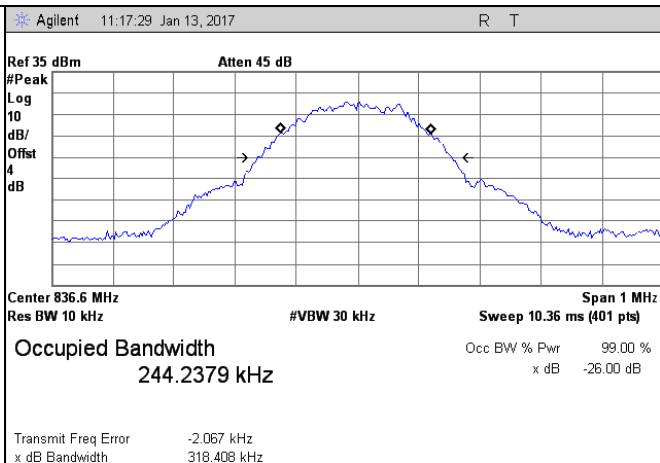
GPRS 850MHz Lowest channel



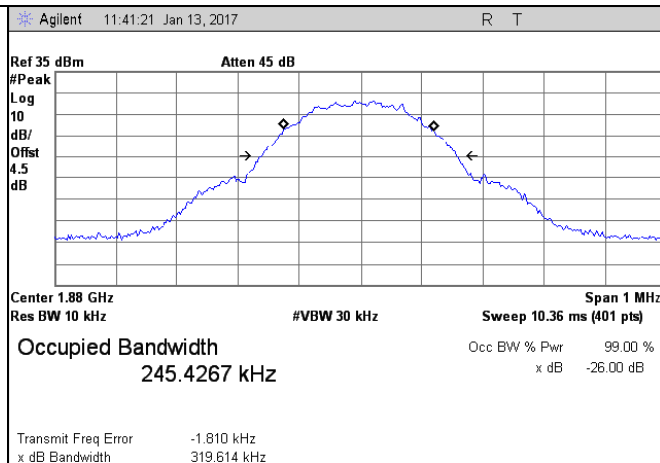
GPRS 1900 Lowest channel



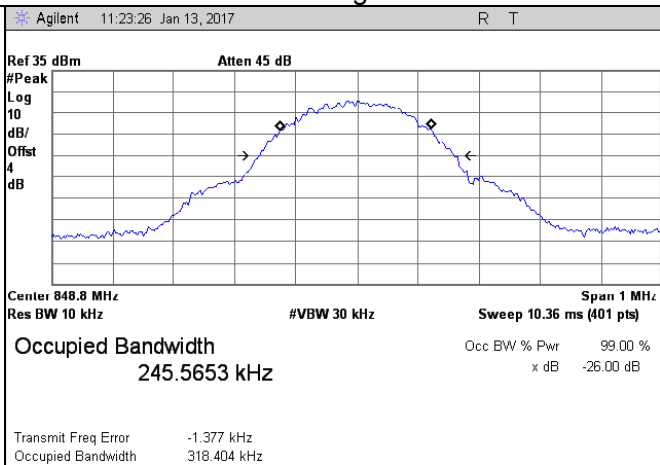
GPRS 850MHz Middle channel



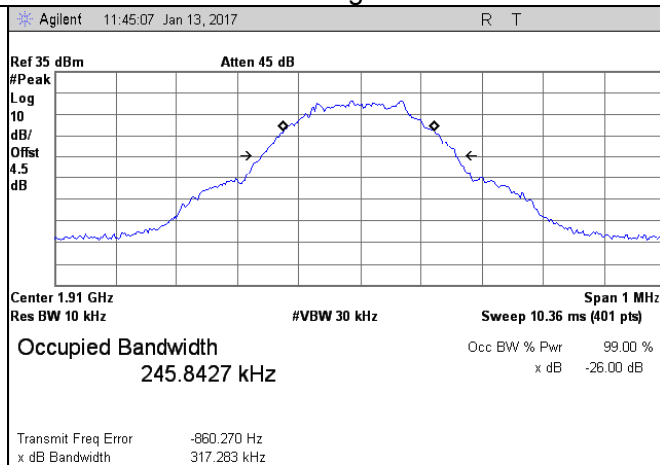
GPRS 1900 Middle channel



GPRS 850MHz Highest channel:

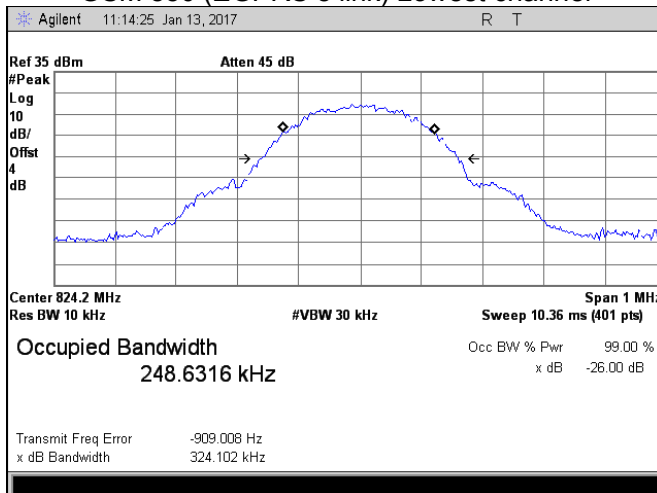


GPRS 1900 Highest channel

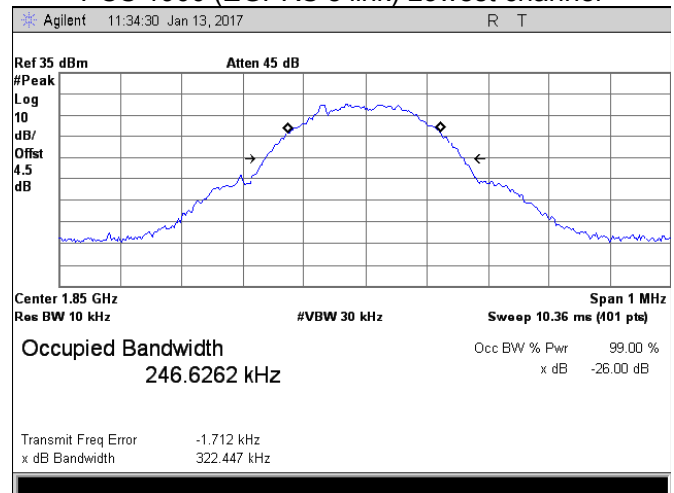




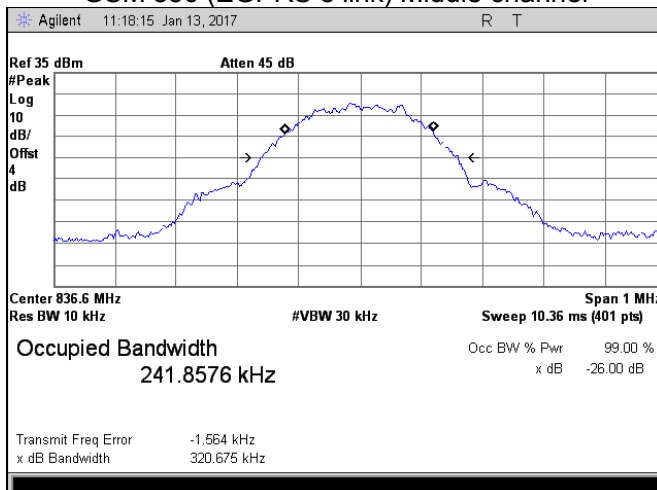
GSM 850 (EGPRS 8 link) Lowest channel



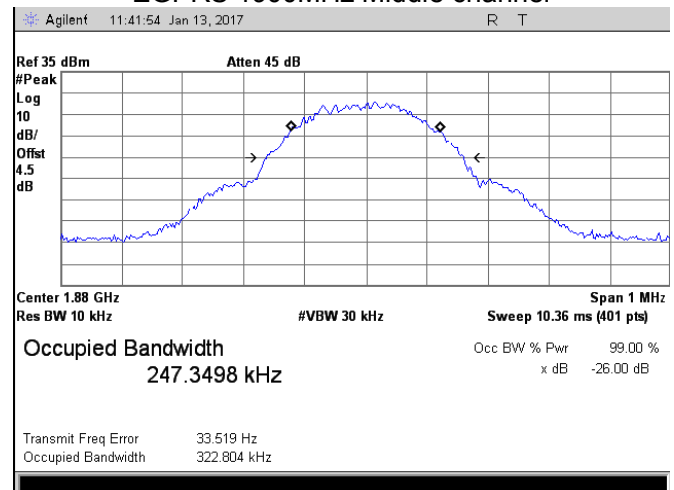
PCS 1900 (EGPRS 8 link) Lowest channel



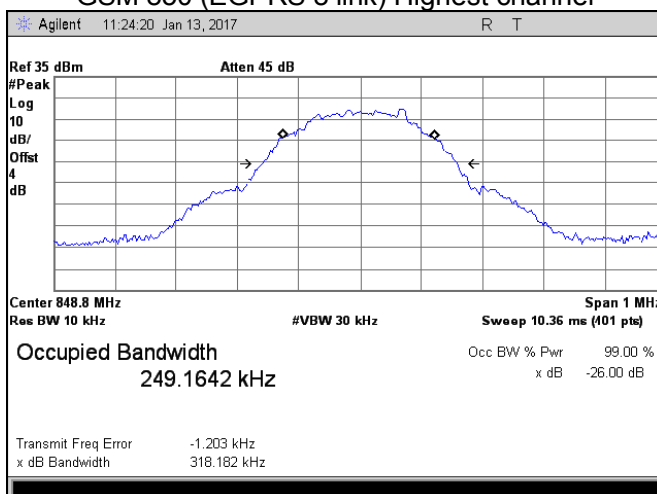
GSM 850 (EGPRS 8 link) Middle channel



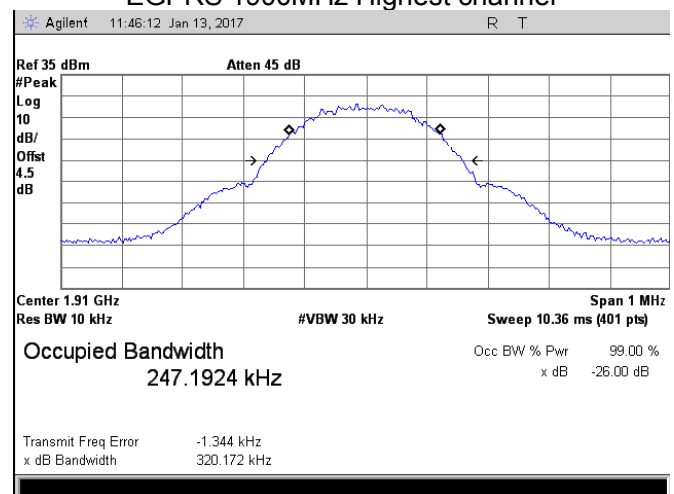
EGPRS 1900MHz Middle channel



GSM 850 (EGPRS 8 link) Highest channel

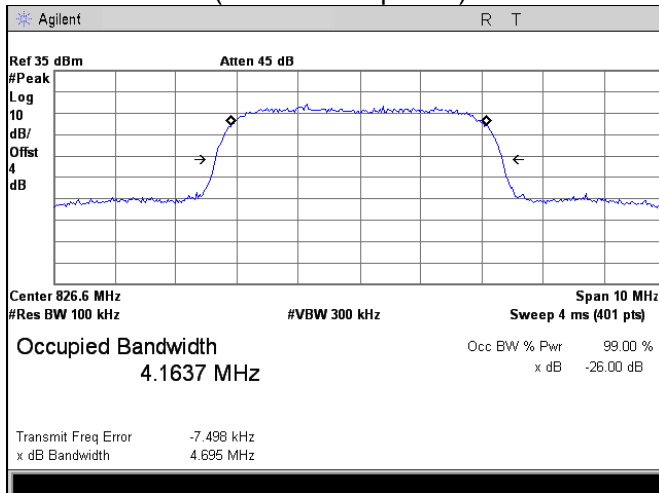


EGPRS 1900MHz Highest channel

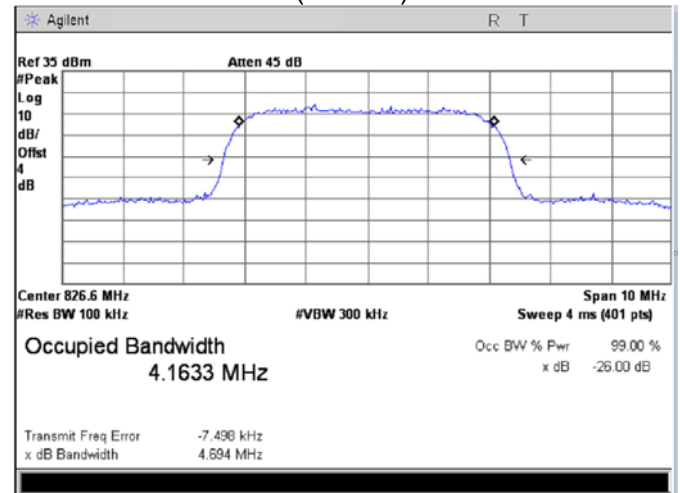




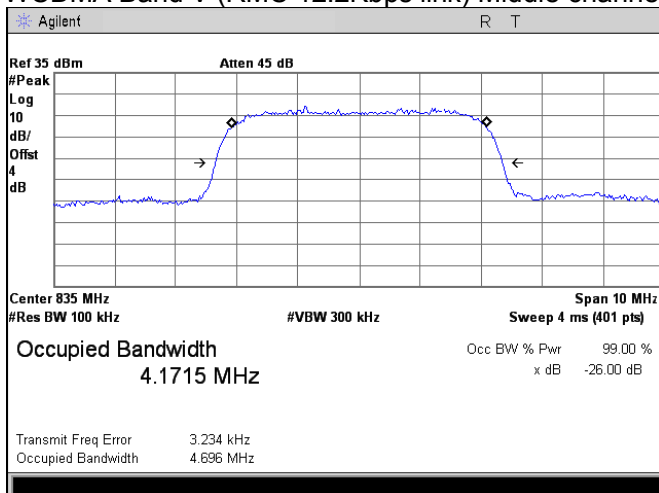
WCDMA Band V (RMC 12.2Kbps link) Lowest channel



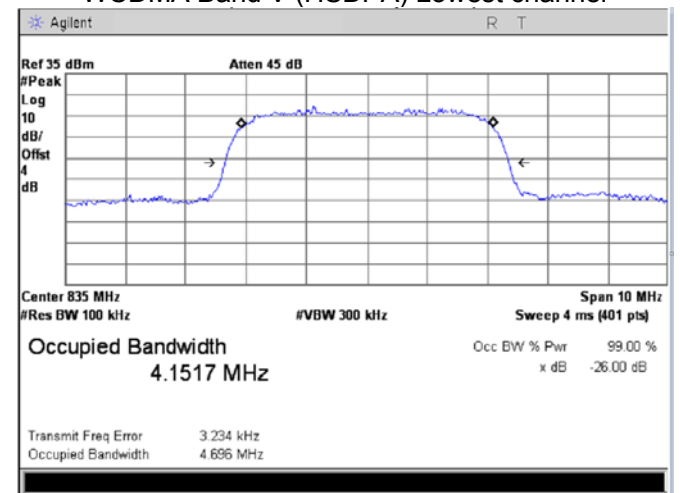
WCDMA Band V (HSDPA) Lowest channel



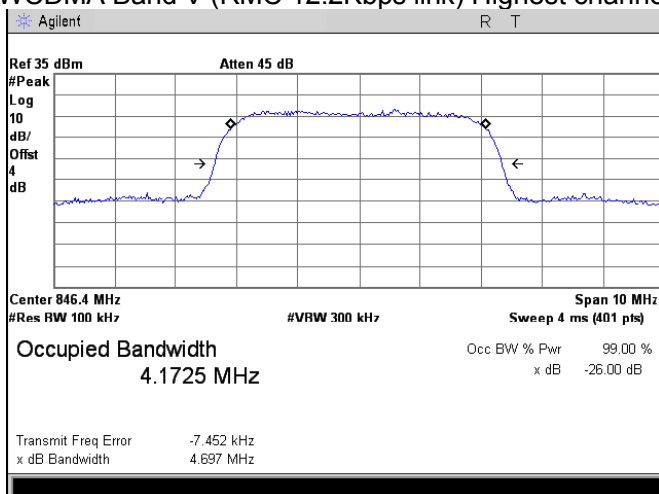
WCDMA Band V (RMC 12.2Kbps link) Middle channel



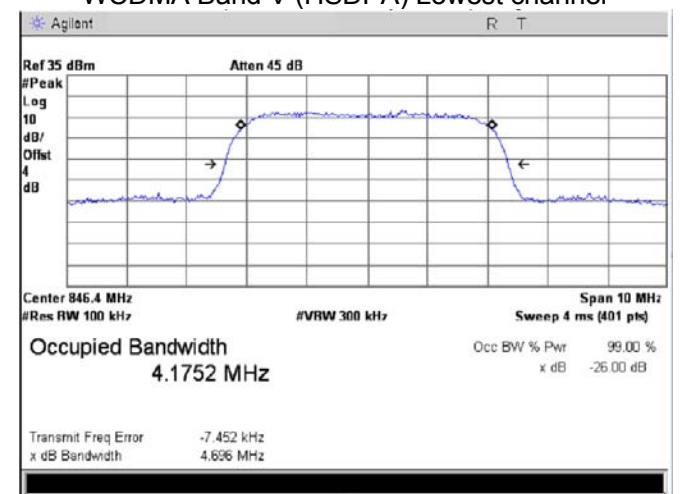
WCDMA Band V (HSDPA) Lowest channel



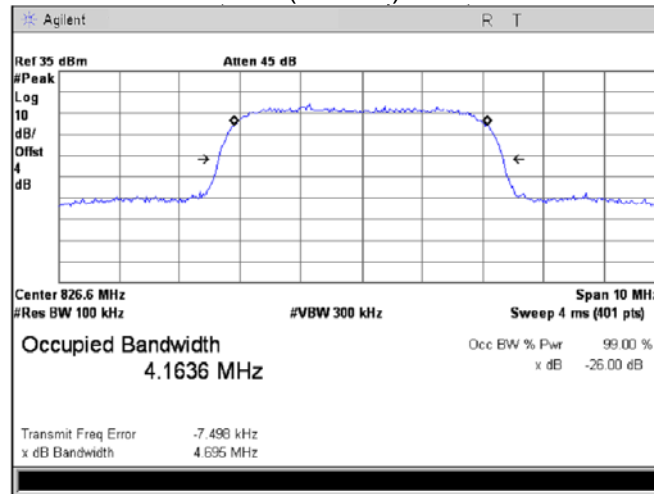
WCDMA Band V (RMC 12.2Kbps link) Highest channel



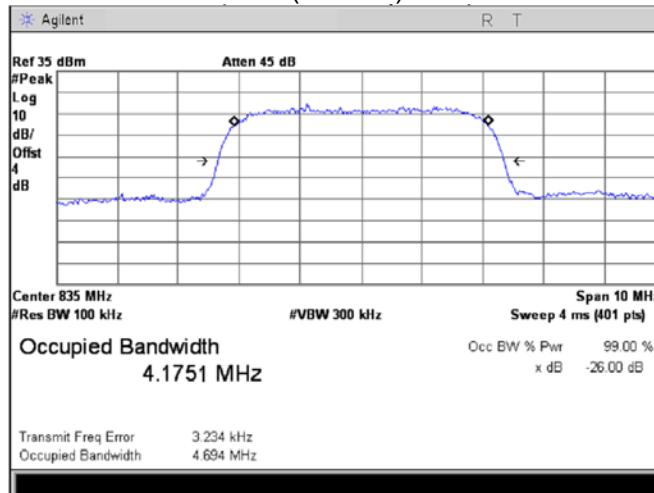
WCDMA Band V (HSDPA) Lowest channel



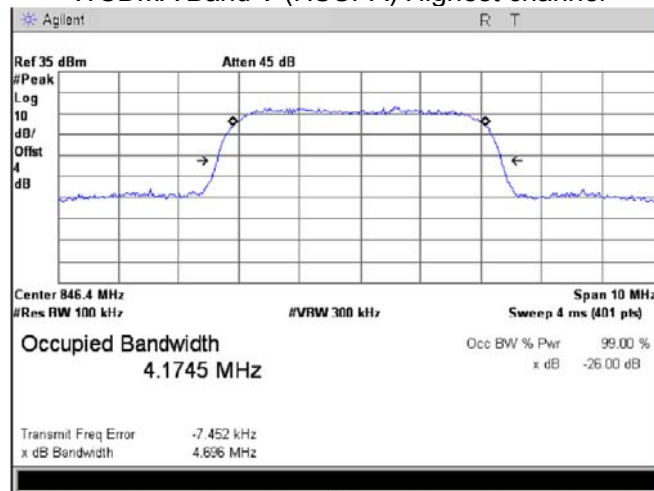
WCDMA Band V (HSUPA) Lowest channel



WCDMA Band V (HSUPA) Middle channel



WCDMA Band V (HSUPA) Highest channel

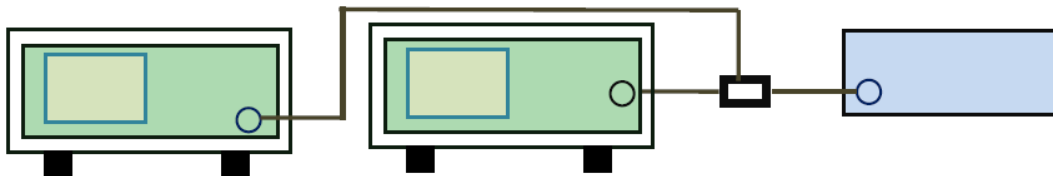


5.3. Peak to Average Ratio

5.3.1. Limit

According to FCC section 27.50(d)(5) , the peak to average ratio(PAR) of the transmission may not exceed 13dB.

5.3.2. Test Setup



5.3.3. Test Procedure

According with KDB 971168 v02r02

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal " RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the " on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

5.3.4. Test Result



Measurement data as follows:

Band	Channel	Conducted power(dBm)		Peak-Average Ratio(PAR)
		Peak	Average	
PCS1900	Low	31.31	30.63	0.68
	Middle	31.25	30.67	0.58
	High	31.28	30.79	0.49
EGPRS 1900	Low	31.36	29.752	1.61
	Middle	31.43	29.52	1.91
	High	31.38	29.68	1.70
WCDMA Band V	Low	27.61	24.18	3.43
	Middle	27.68	25.12	2.56
	High	27.87	24.93	2.94

Note: Measurement Uncertainty: ± 0.2 dB.

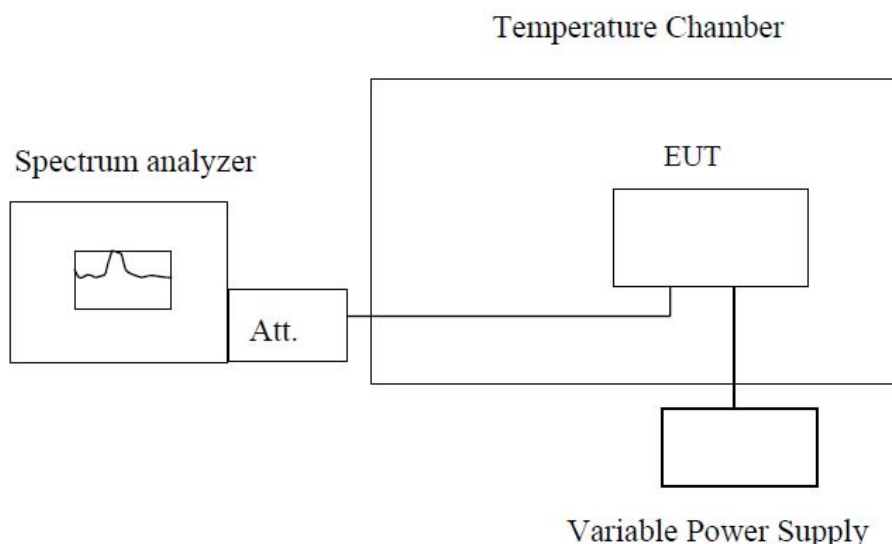
5.4. Frequency Stability

5.4.1. Limit

According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

5.4.2. Test Setup



Note : Measurement setup for testing on Antenna connector

The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber.

The EUT is commanded by the System Simulator (SS) to operate at the maximum output power

5.4.3. Test Result

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.25VDC and 3.4VDC which are specified by the applicant; the normal temperature here used is 25°C . The frequency deviation limit of 850MHz band is $\pm 2.5\text{ppm}$, and 1900MHz is $\pm 1\text{ppm}$



Test Conditions			Frequency Deviation			Result
Band	Power(Vdc)	Temperature (°C)	Frequency Error(Hz)	ppm	Limit	
GSM850 (GSM link) Middle channel =836.6MHz	3.7	-30	42	0.0502	±2.5	PASS
	3.7	-20	51	0.0610		
	3.7	-10	38	0.0454		
	3.7	0	46	0.0550		
	3.7	10	30	0.0359		
	3.7	20	54	0.0645		
	3.7	30	39	0.0466		
	3.7	40	62	0.0741		
	3.7	50	35	0.0418		
	4.25	25	40	0.0478		
	3.70	25	24	0.0287		
	3.40	25	36	0.0430		
GPRS850 (Middle channel =836.6MHz	3.7	-30	32	0.0383	±2.5	PASS
	3.7	-20	46	0.0550		
	3.7	-10	38	0.0454		
	3.7	0	49	0.0586		
	3.7	10	31	0.0371		
	3.7	20	45	0.0538		
	3.7	30	28	0.0335		
	3.7	40	37	0.0442		
	3.7	50	26	0.0311		
	4.25	25	53	0.0634		
	3.70	25	49	0.0586		
	3.40	25	35	0.0418		
GSM850 (EGPRS 8 link) Middle channel =836.6MHz	3.7	-30	27	0.0323	±2.5	PASS
	3.7	-20	43	0.0514		
	3.7	-10	29	0.0347		
	3.7	0	44	0.0526		
	3.7	10	52	0.0622		
	3.7	20	36	0.0430		
	3.7	30	28	0.0335		
	3.7	40	42	0.0502		
	3.7	50	45	0.0538		
	4.25	25	37	0.0442		
	3.70	25	24	0.0287		
	3.40	25	58	0.0693		



Test Conditions			Frequency Deviation			Result
Band	Power(Vdc)	Temperature(°C)	Frequency Error(Hz)	ppm	Limit	
PCS1900 (GSM link) Middle channel =1880MHz	3.7	-30	47	0.0250	±1	PASS
	3.7	-20	69	0.0367		
	3.7	-10	51	0.0271		
	3.7	0	33	0.0176		
	3.7	10	54	0.0287		
	3.7	20	60	0.0319		
	3.7	30	53	0.0282		
	3.7	40	41	0.0218		
	3.7	50	39	0.0207		
	4.25	25	57	0.0303		
	3.70	25	62	0.0330		
	3.40	25	33	0.0176		
GPRS1900 Middle channel =1880MHz	3.7	-30	56	0.0298	±1	PASS
	3.7	-20	38	0.0202		
	3.7	-10	34	0.0181		
	3.7	0	27	0.0144		
	3.7	10	34	0.0181		
	3.7	20	61	0.0324		
	3.7	30	65	0.0346		
	3.7	40	32	0.0170		
	3.7	50	55	0.0293		
	4.25	25	62	0.0330		
	3.70	25	37	0.0197		
	3.40	25	68	0.0362		
PCS1900 (EGPRS 8 link) Middle channel =1880MHz	3.7	-30	57	0.0303	±1	PASS
	3.7	-20	24	0.0128		
	3.7	-10	36	0.0191		
	3.7	0	25	0.0133		
	3.7	10	41	0.0218		
	3.7	20	38	0.0202		
	3.7	30	28	0.0149		
	3.7	40	42	0.0223		
	3.7	50	37	0.0197		
	4.25	25	21	0.0112		
	3.70	25	39	0.0207		
	3.40	25	64	0.0340		



Test Conditions			Frequency Deviation			Result
Band	Power(Vdc)	Temperature(°C)	Frequency Error(Hz)	ppm	Limit	
WCDMA Band V Middle channel=835. 0MHz	3.7	-30	45	0.0539	±2.5	PASS
	3.7	-20	42	0.0503		
	3.7	-10	67	0.0802		
	3.7	0	30	0.0359		
	3.7	10	22	0.0263		
	3.7	20	41	0.0491		
	3.7	30	24	0.0287		
	3.7	40	53	0.0635		
	3.7	50	67	0.0802		
	4.25	25	42	0.0503		
	3.70	25	64	0.0766		
	3.40	25	79	0.0946		
HSDPA Middle channel=835. 0MHz	3.7	-30	31	0.0371	±2.5	PASS
	3.7	-20	38	0.0455		
	3.7	-10	49	0.0587		
	3.7	0	27	0.0323		
	3.7	10	68	0.0814		
	3.7	20	42	0.0503		
	3.7	30	53	0.0635		
	3.7	40	26	0.0311		
	3.7	50	37	0.0443		
	4.25	25	28	0.0335		
	3.70	25	74	0.0886		
	3.40	25	60	0.0719		
HSUPA Middle channel=835. 0MHz	3.7	-30	34	0.0407	±2.5	PASS
	3.7	-20	52	0.0623		
	3.7	-10	40	0.0479		
	3.7	0	36	0.0431		
	3.7	10	52	0.0623		
	3.7	20	65	0.0778		
	3.7	30	48	0.0575		
	3.7	40	37	0.0443		
	3.7	50	25	0.0299		
	4.25	25	73	0.0874		
	3.70	25	32	0.0383		
	3.40	25	54	0.0647		

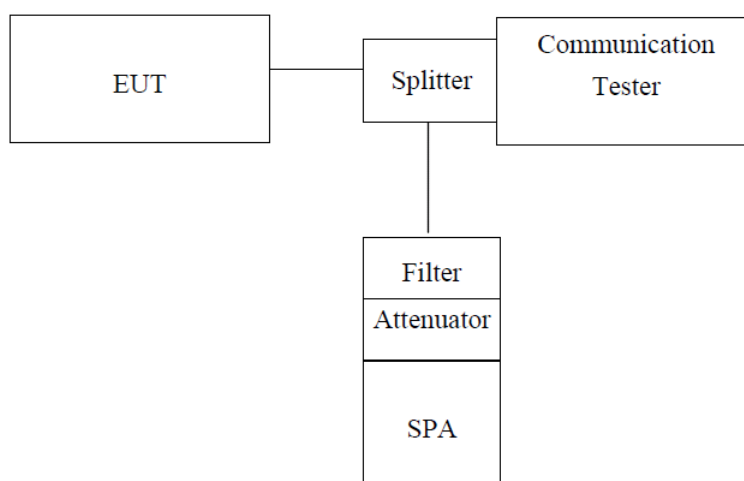
Note: Measurement Uncertainty: ±20Hz.

5.5. Conducted Spurious Emissions

5.5.1. Limit

According to FCC section 22.917(a) and FCC section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

5.5.2. Test Setup



Note: Measurement setup for testing on Antenna connector

5.5.3. Measurement Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 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.

For the out of band: Set the RBW, VBW = 100KHz, Start=30MHz, Stop= 10th harmonic.

Limit = -13dBm

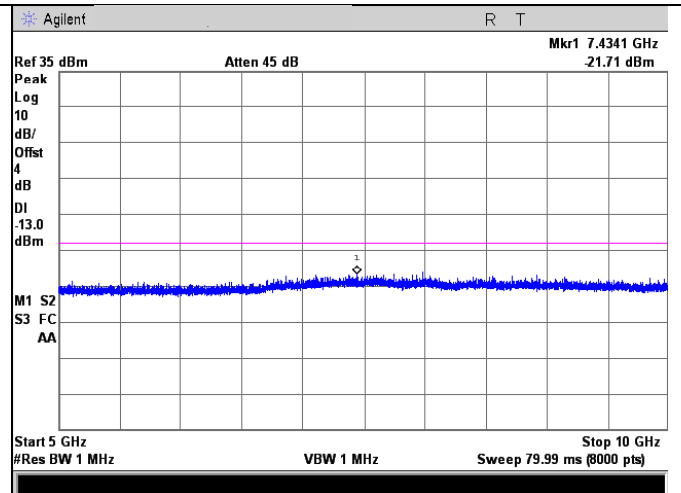
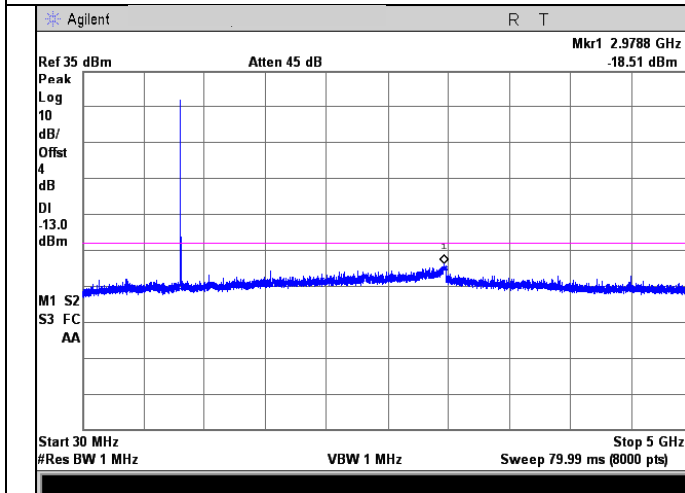
5.5.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

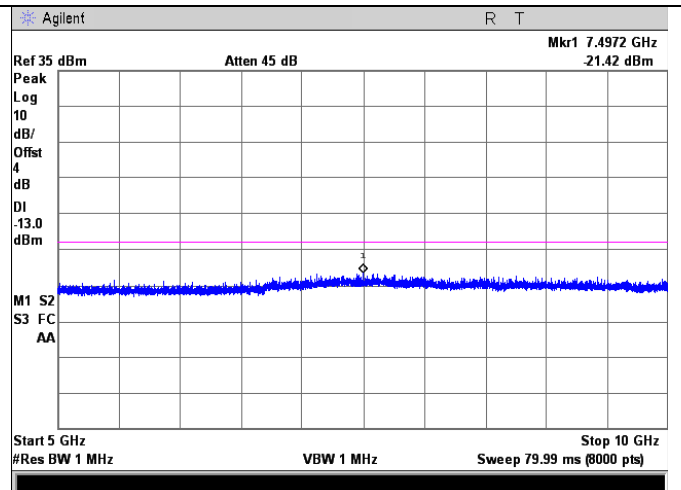
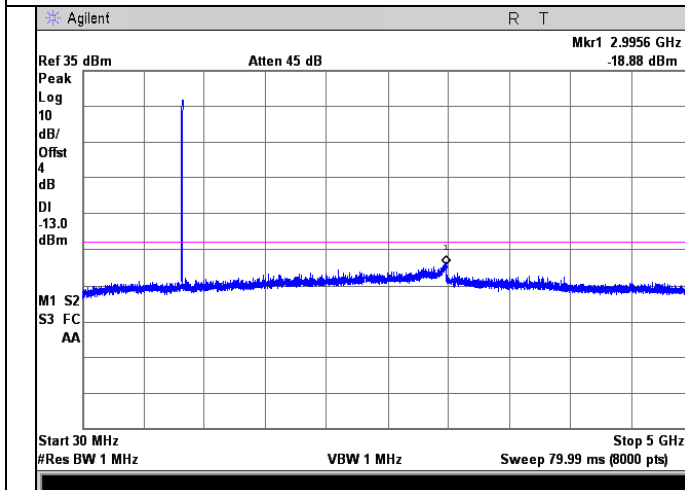
Test plot as follows:



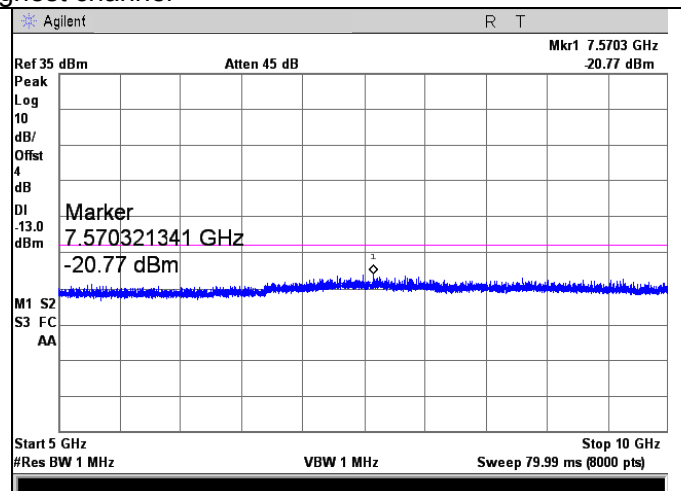
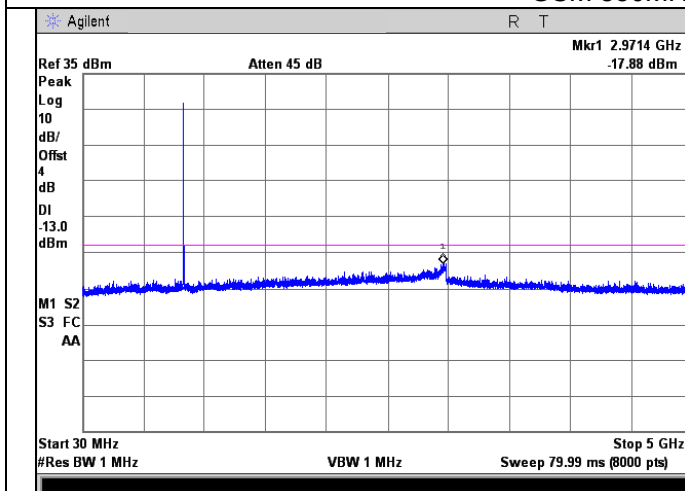
GSM 850MHz Lowest channel



GSM 850MHz Middle channel

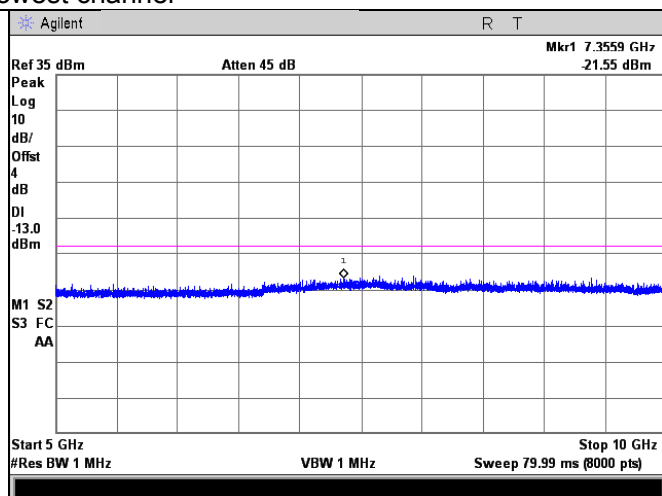
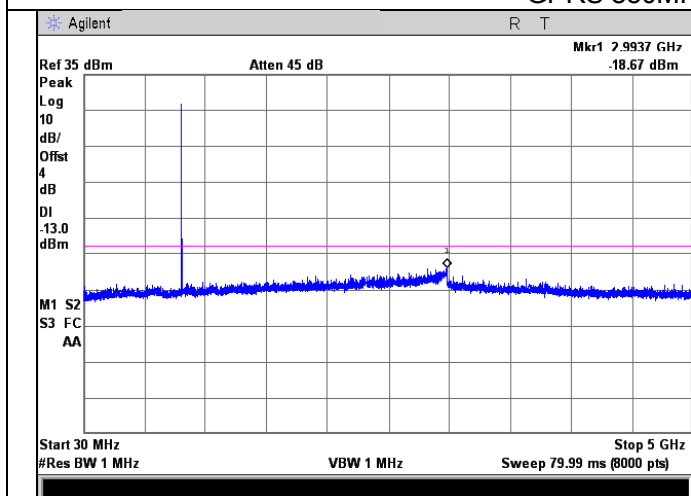


GSM 850MHz Highest channel

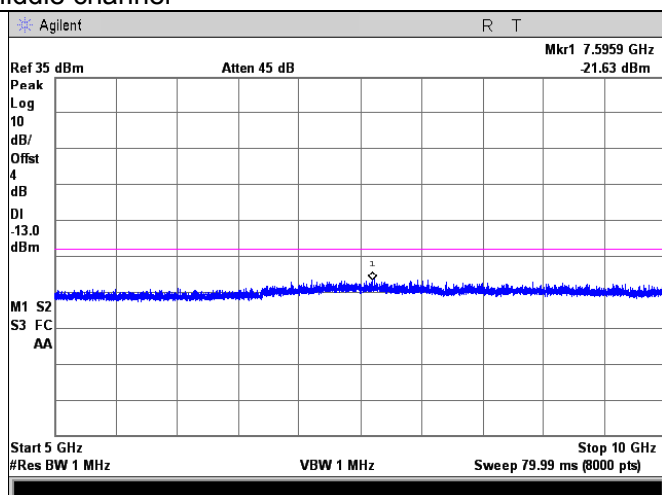
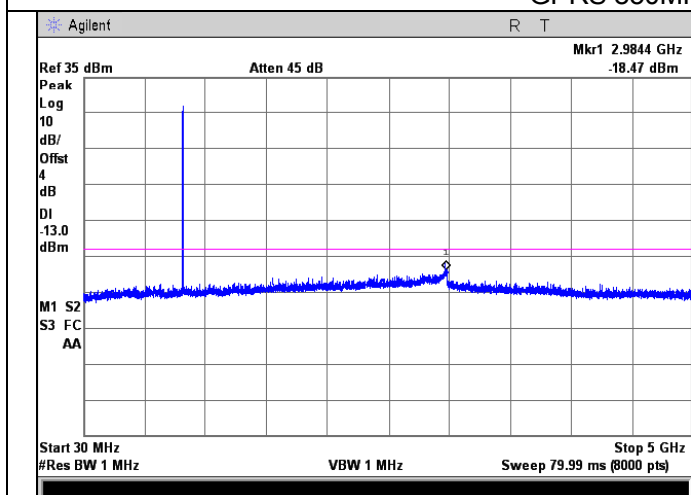




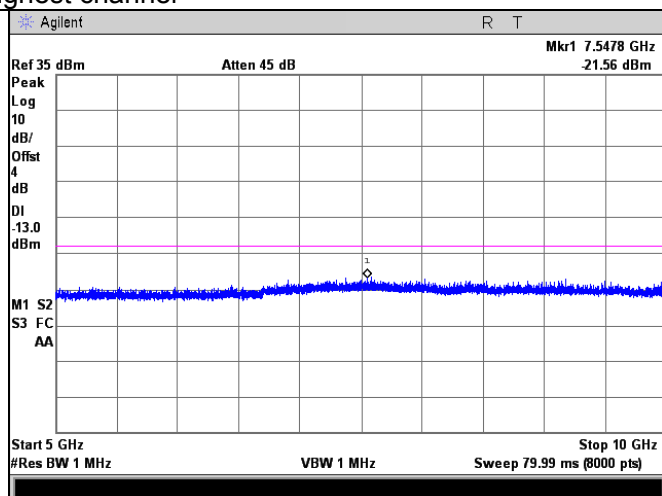
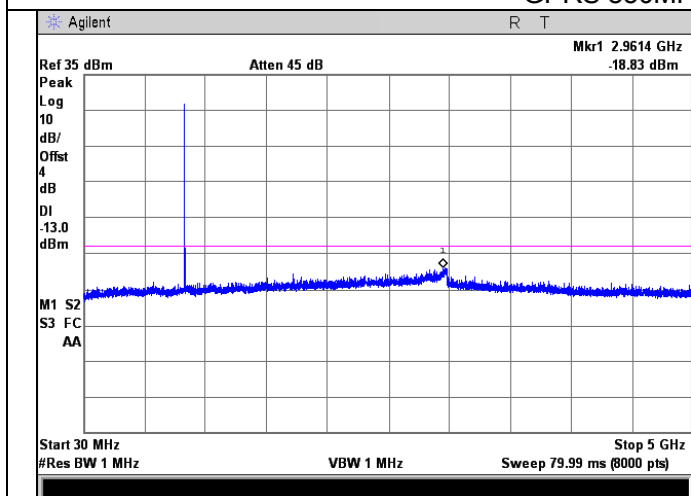
GPRS 850MHz Lowest channel



GPRS 850MHz Middle channel

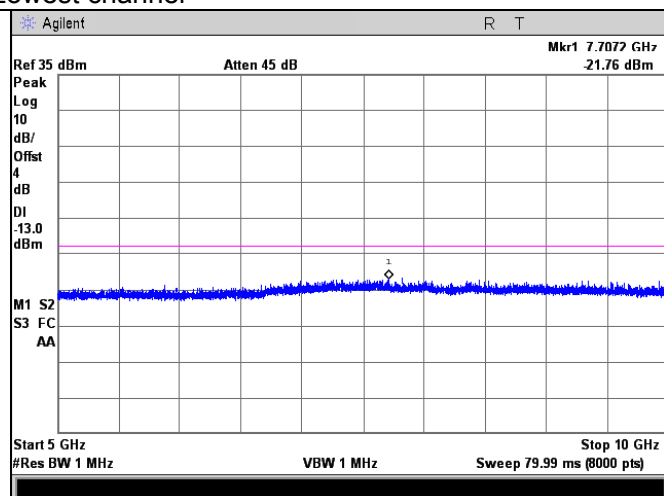
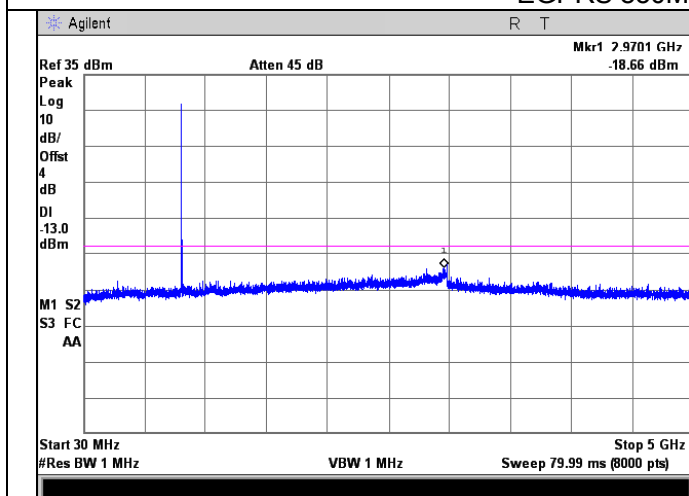


GPRS 850MHz Highest channel

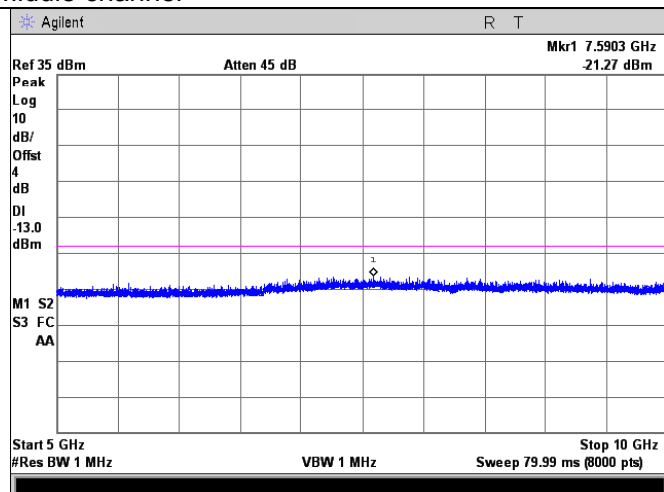
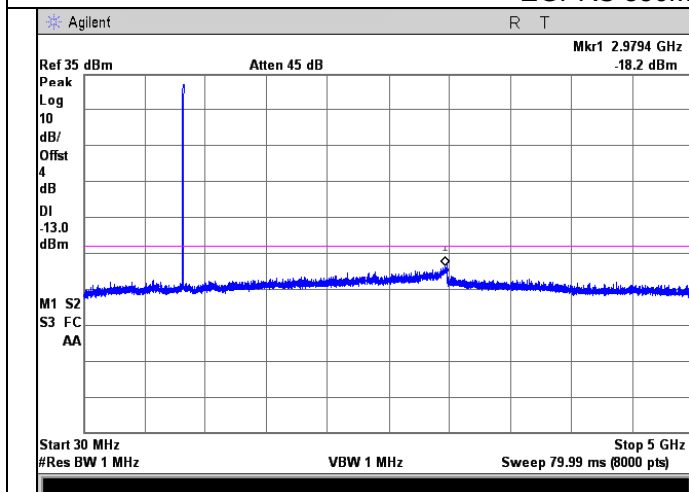




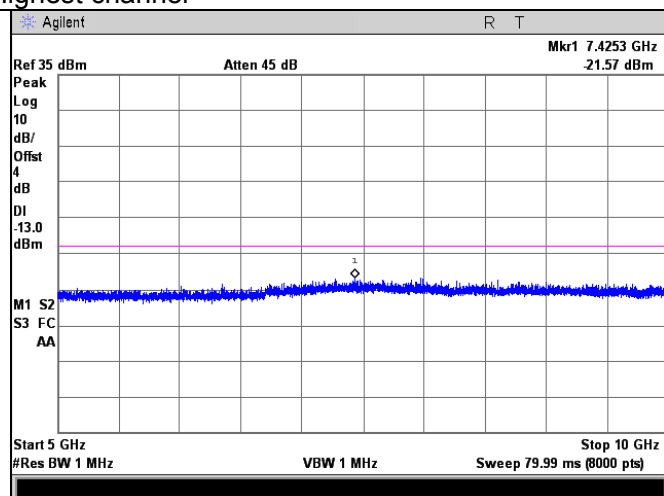
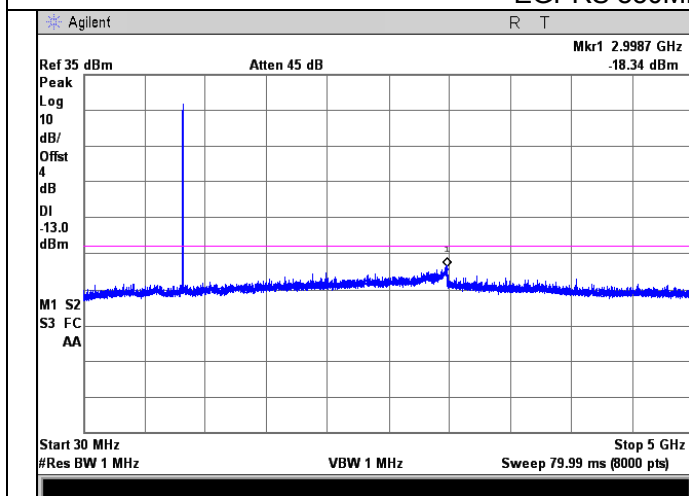
EGPRS 850MHz Lowest channel



EGPRS 850MHz Middle channel

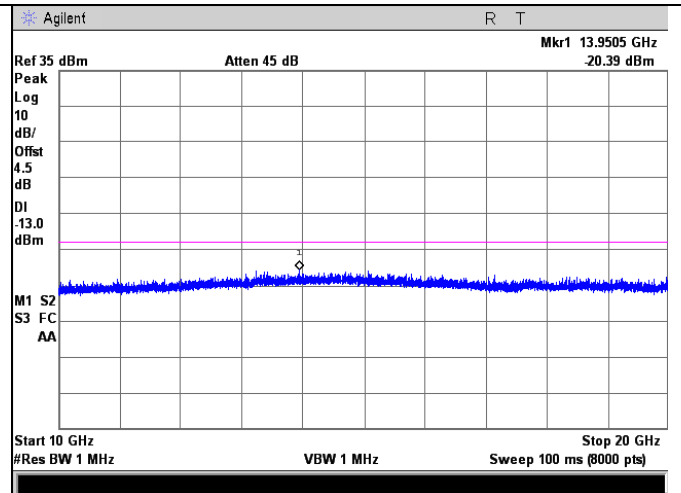
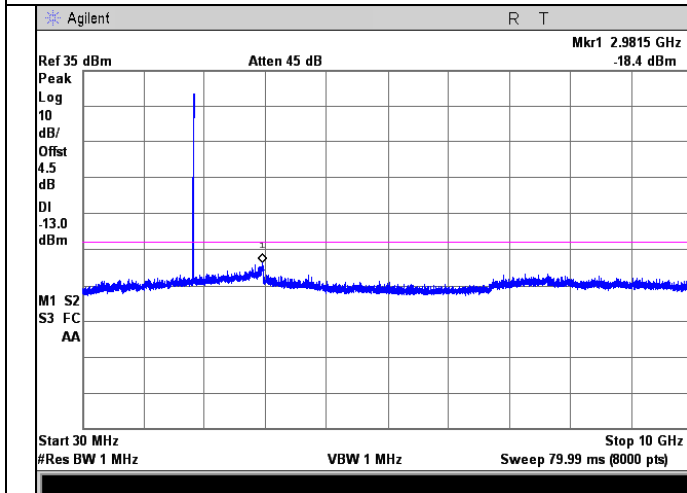


EGPRS 850MHz Highest channel

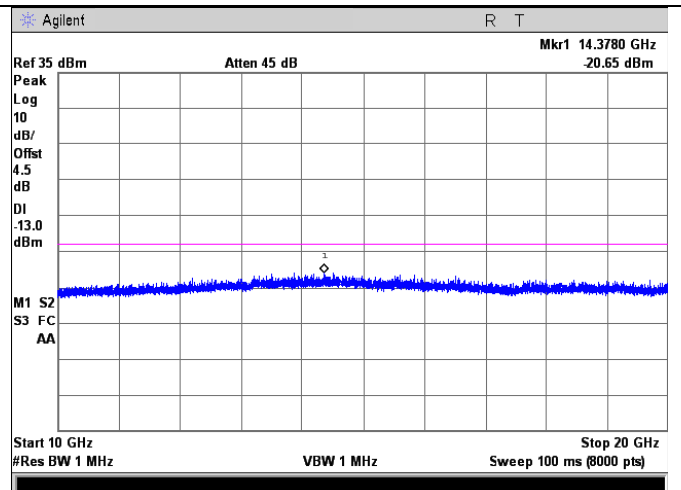
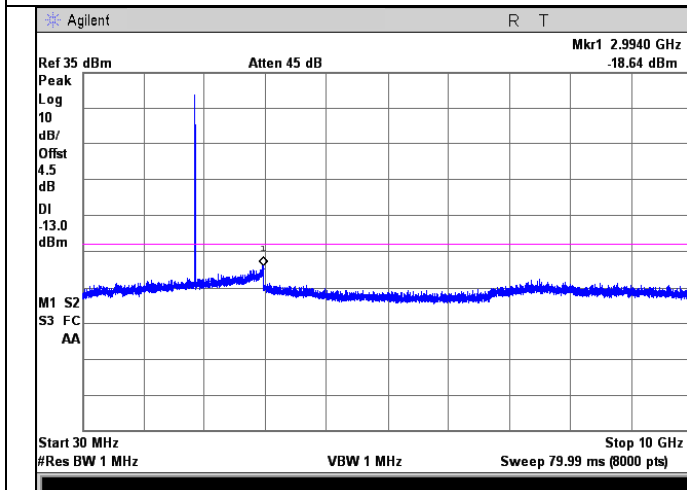




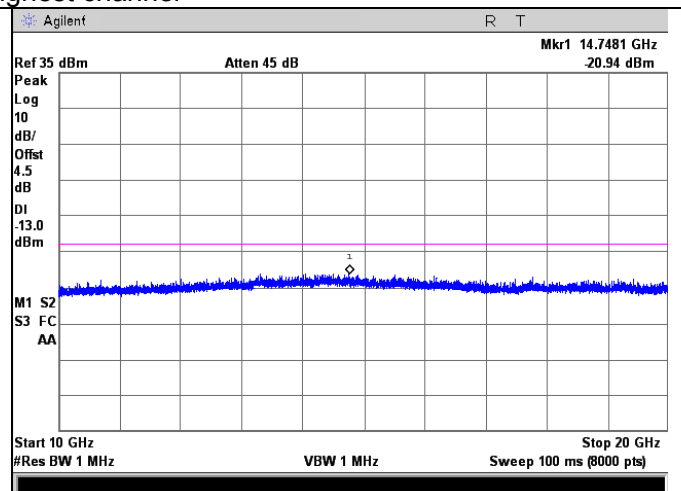
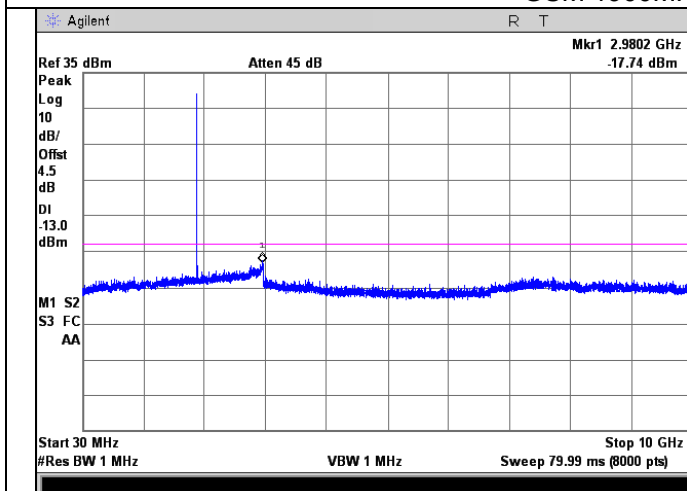
GSM 1900MHz Lowest channel



GSM 1900MHz Middle channel

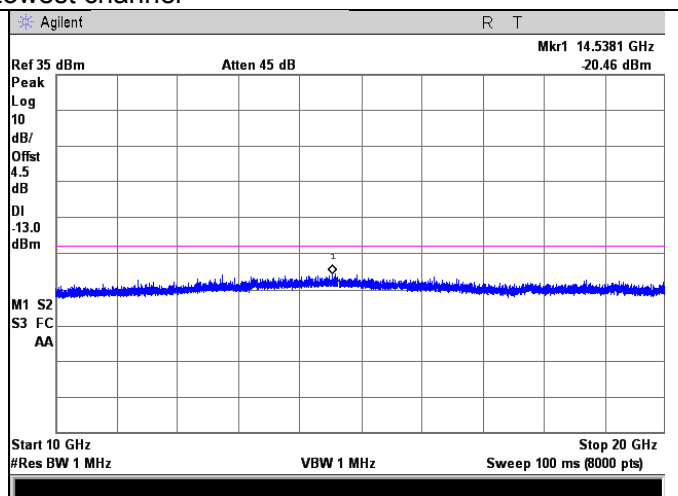
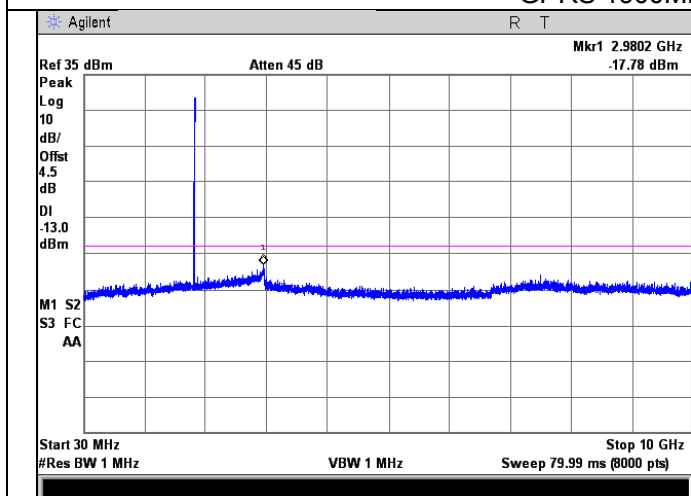


GSM 1900MHz Highest channel

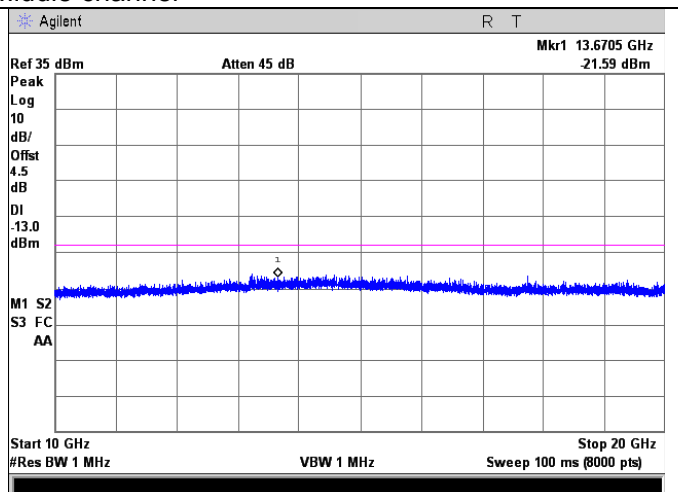
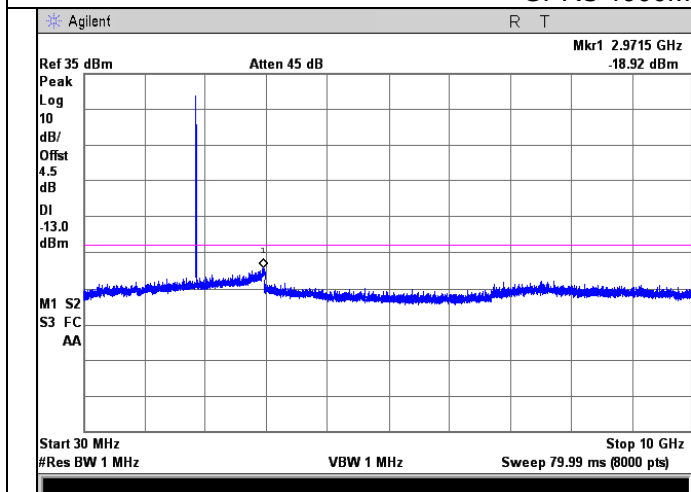




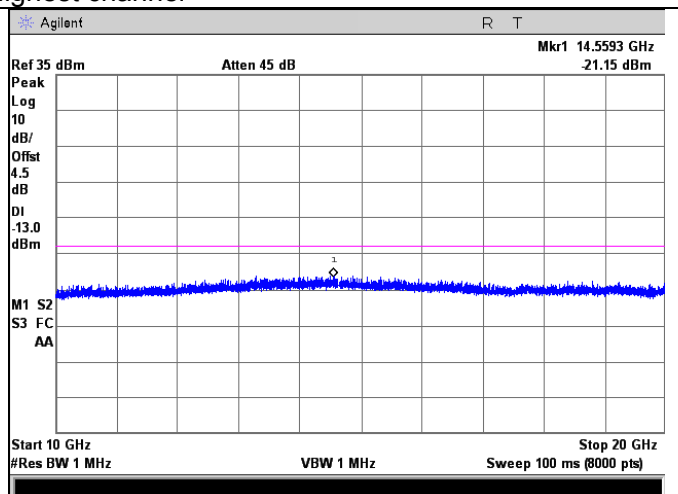
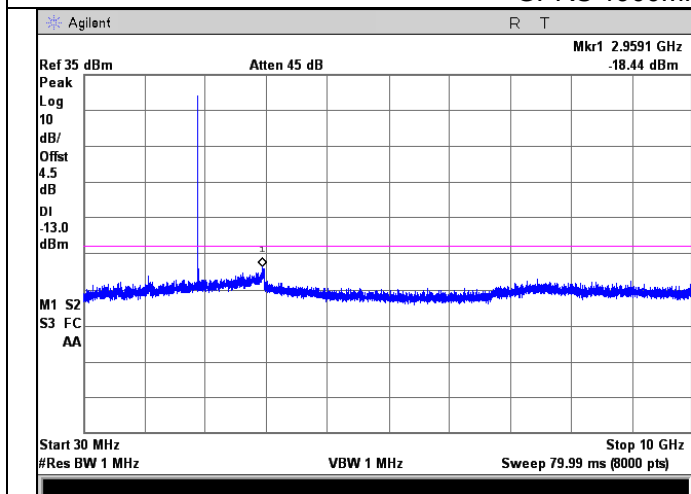
GPRS 1900MHz Lowest channel



GPRS 1900MHz Middle channel

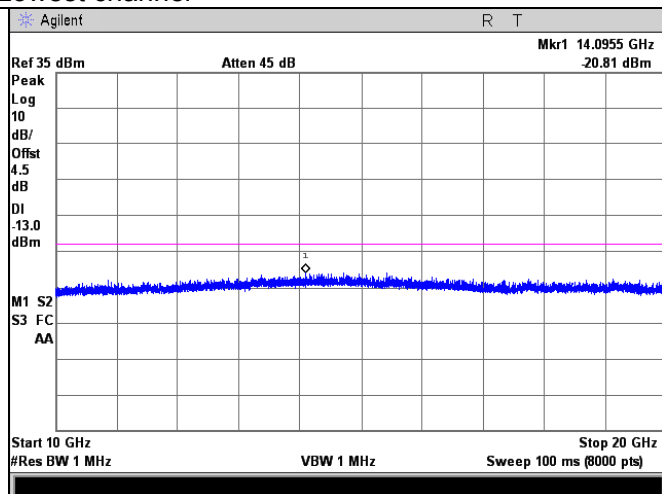
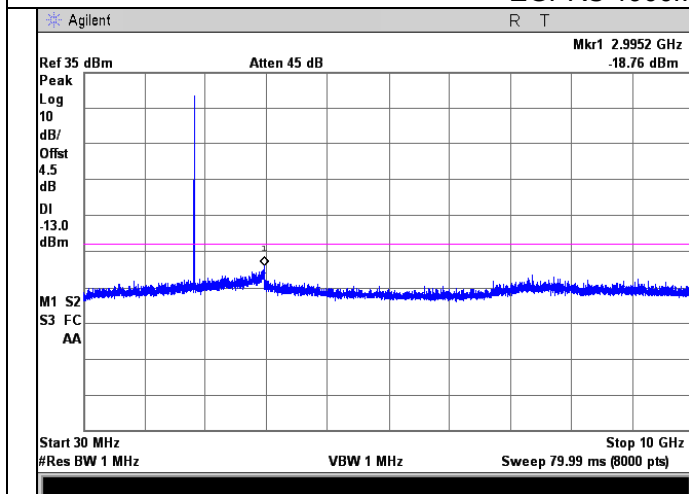


GPRS 1900MHz Highest channel

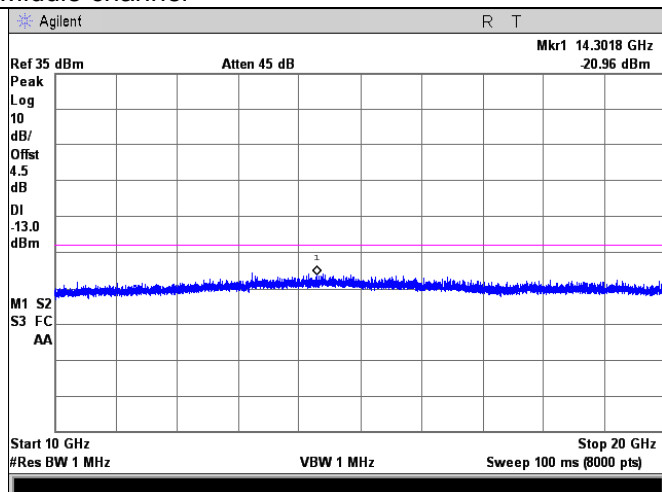
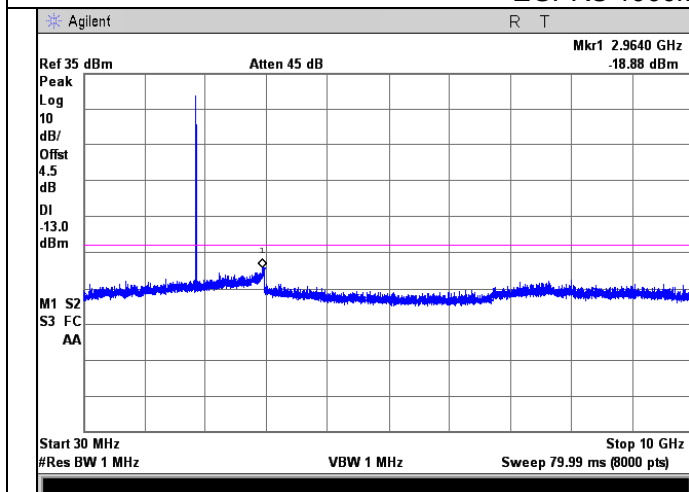




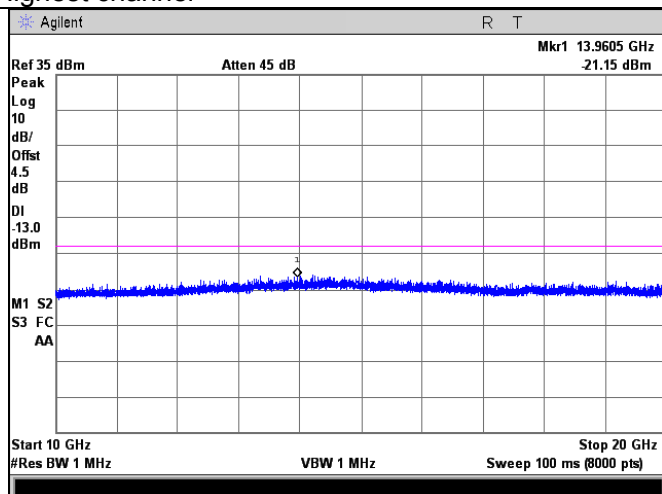
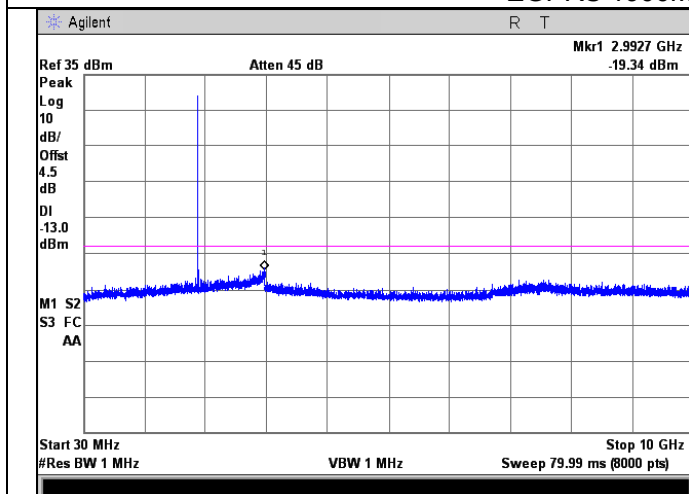
EGPRS 1900MHz Lowest channel



EGPRS 1900MHz Middle channel

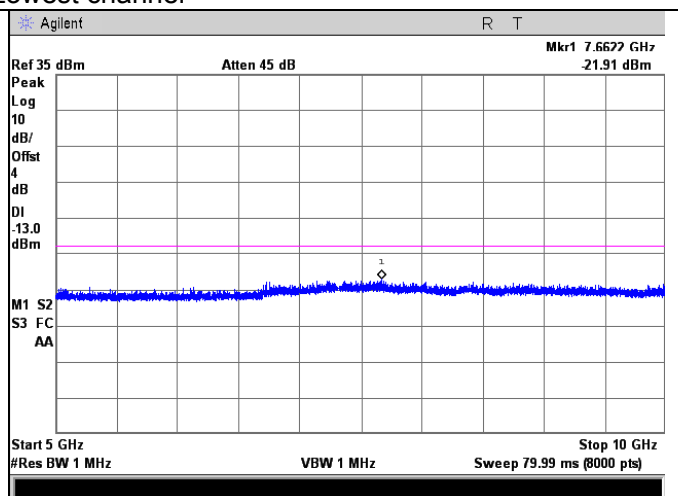
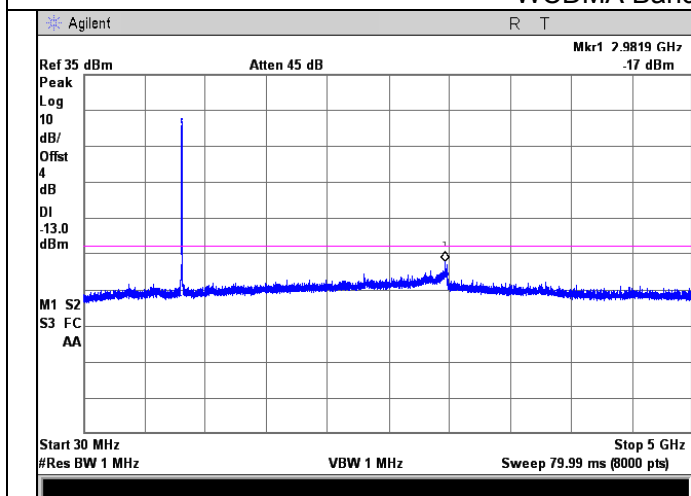


EGPRS 1900MHz Highest channel

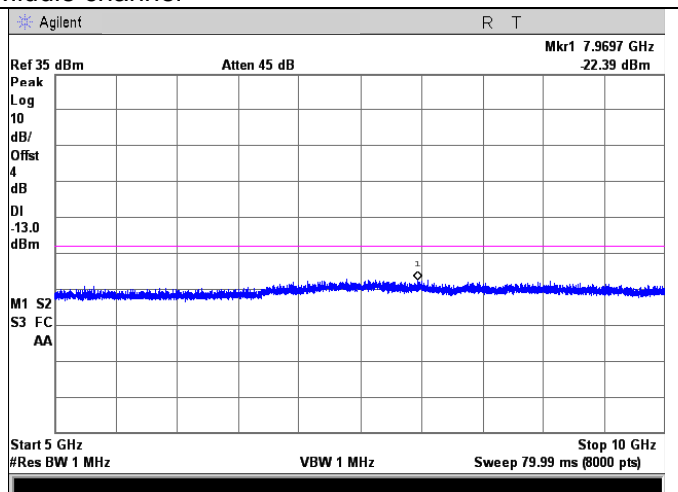
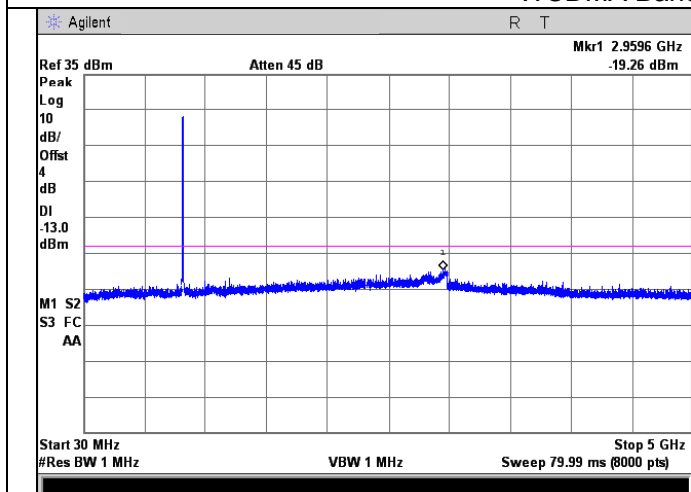




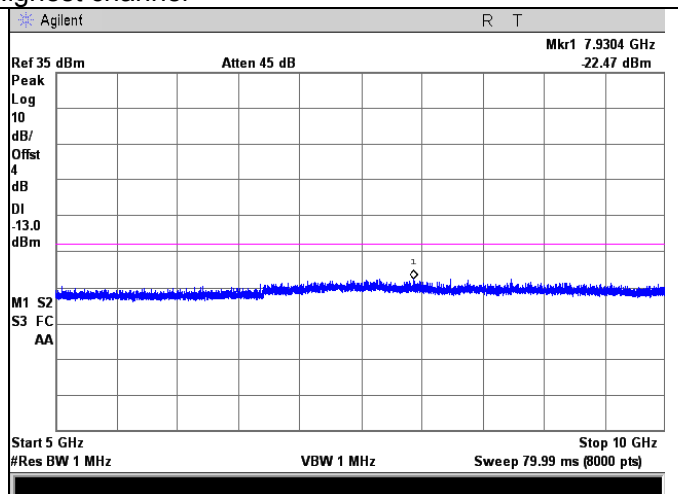
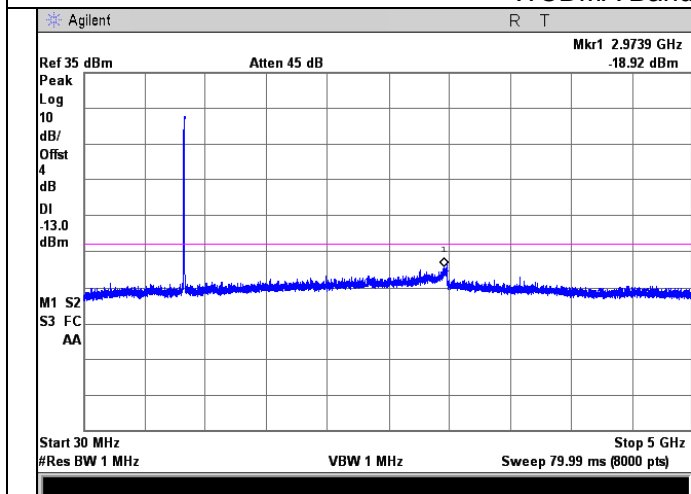
WCDMA Band V Lowest channel



WCDMA Band V Middle channel

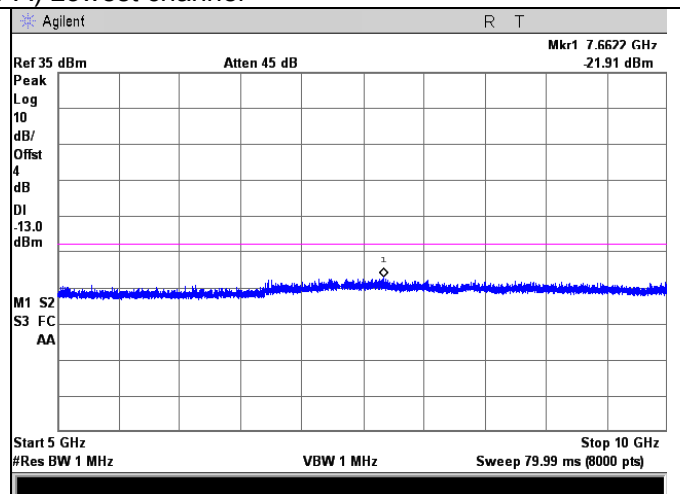
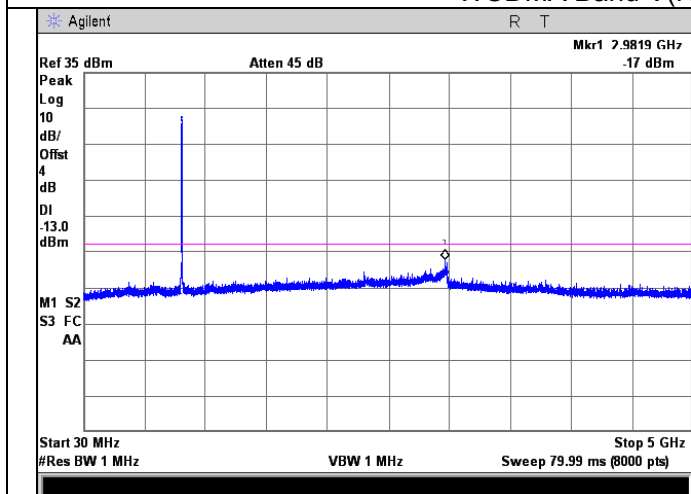


WCDMA Band V Highest channel

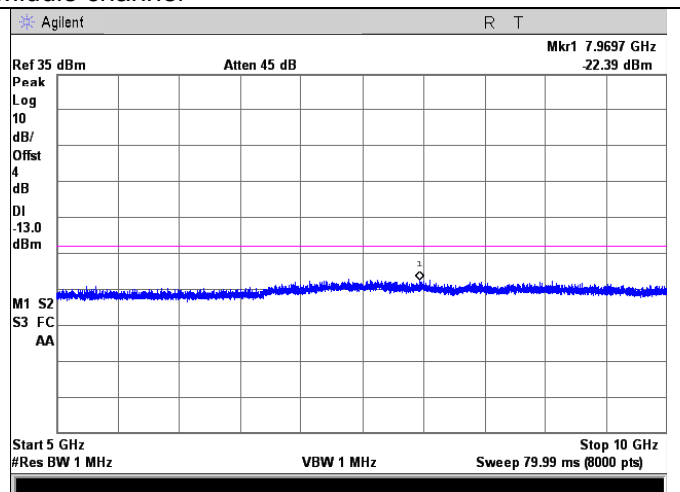
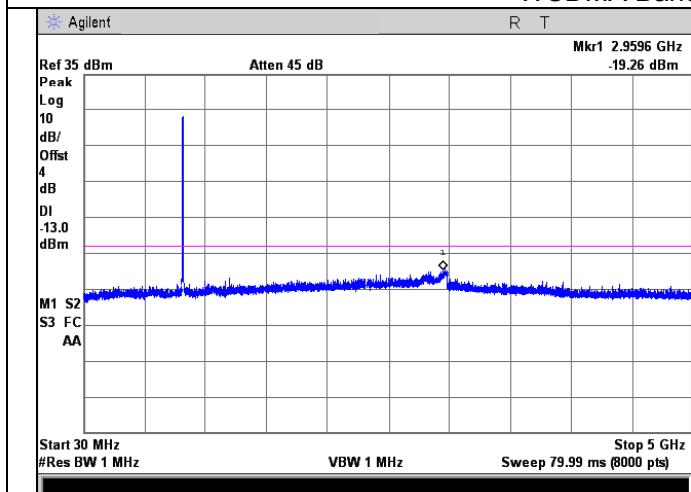




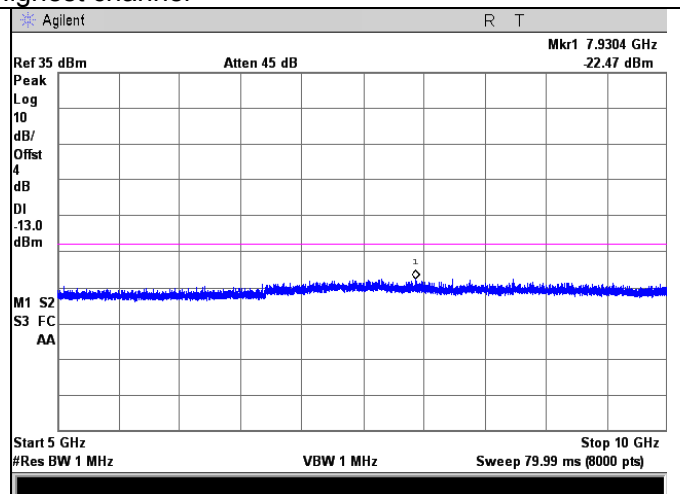
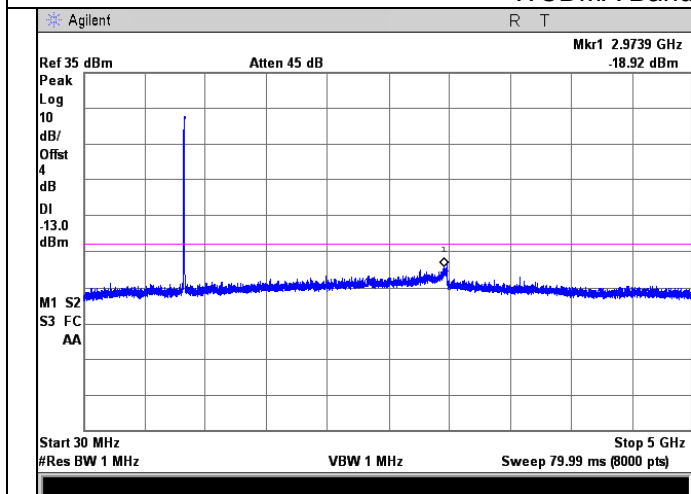
WCDMA Band V(HSDPA) Lowest channel



WCDMA Band V Middle channel

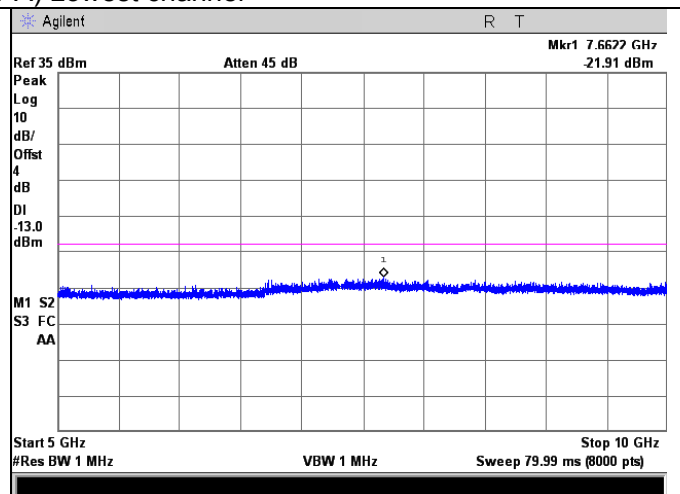
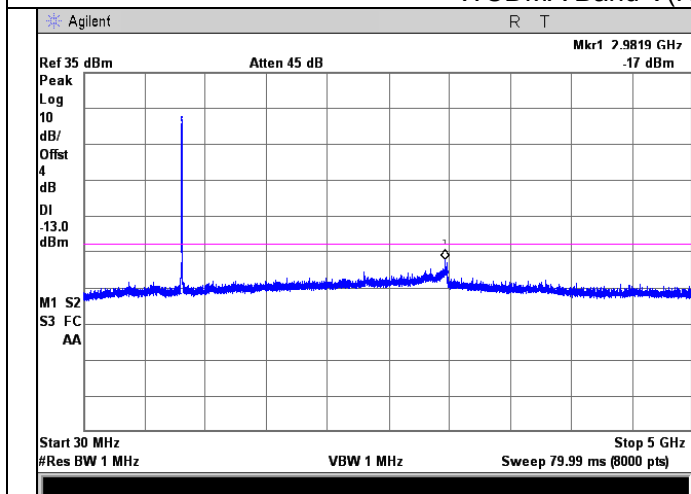


WCDMA Band V Highest channel

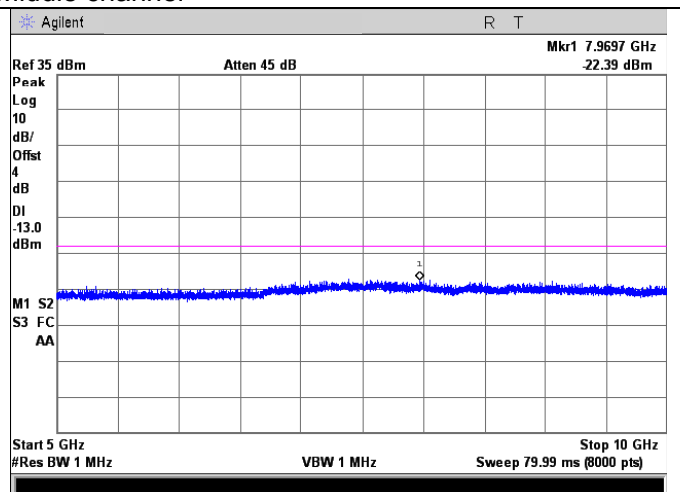
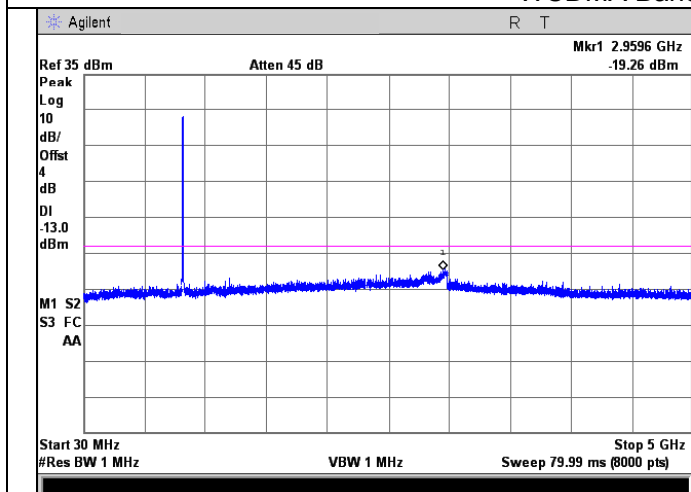




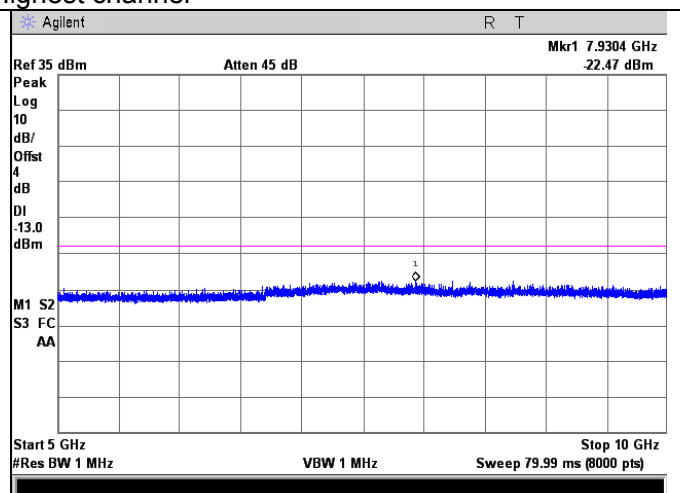
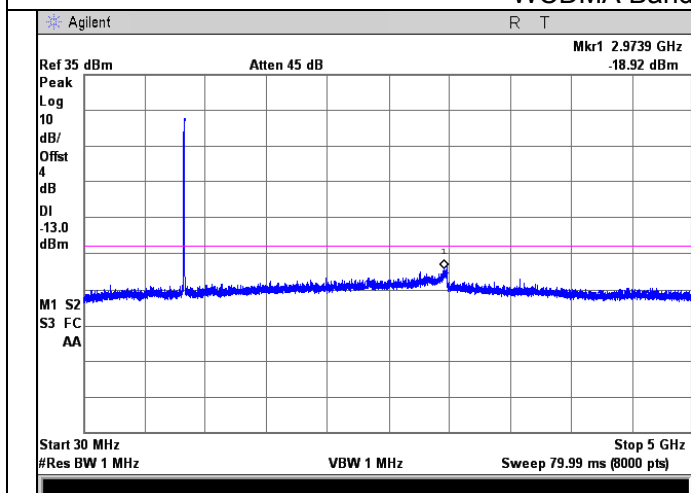
WCDMA Band V(HSUPA) Lowest channel



WCDMA Band V Middle channel



WCDMA Band V Highest channel

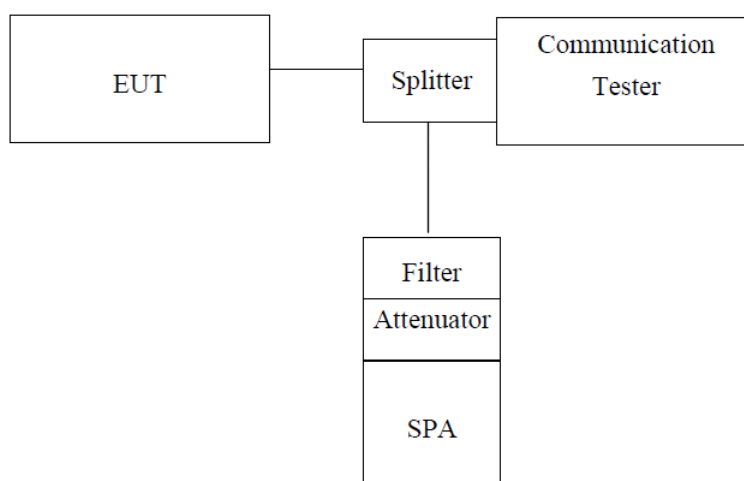


5.6. Conducted Out of Band Emissions

5.6.1. Limit

According to FCC section 22.917(b) and FCC section 24.238(b), 27.53(g)(h) in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

5.6.2. Test Setup



Note: Measurement setup for testing on Antenna connector

5.6.3. Measurement Procedure

The EUT, which is powered by the adapter, is coupled to the Spectrum Analyzer and the System Simulator with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the System Simulator to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the System Simulator.

and reference KDB 971168 D01 Power Meas. License Digital Systems v02v02

5.6.4. Test Result

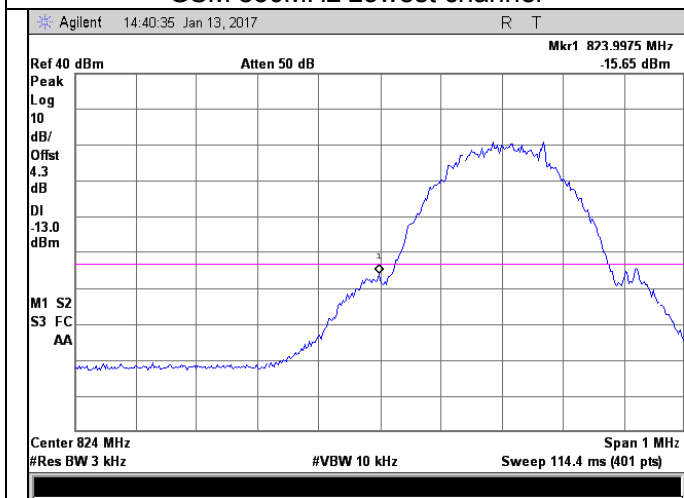
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

Note: Offset=Cable loss+ $10\log((-26\text{dB bandwidth}/100)/\text{RBW})$

Test plot as follows:

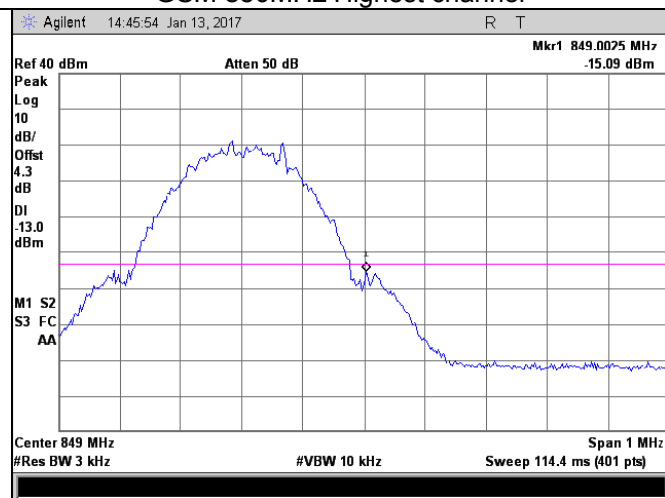


GSM 850MHz Lowest channel



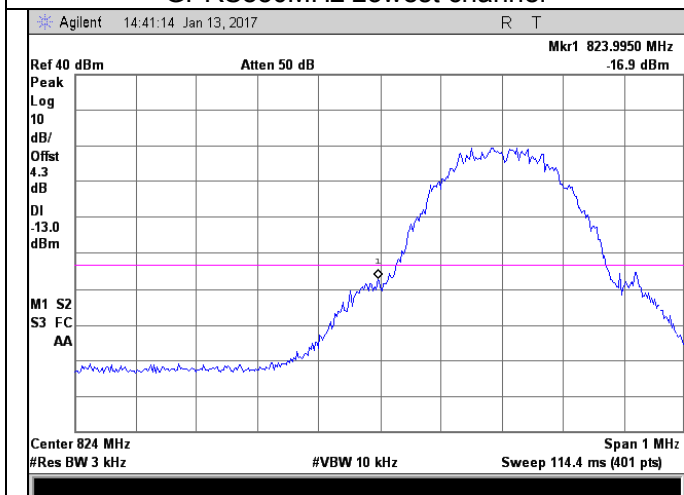
Note: Offset=Cable loss (4.0) + 10log(3.22/3)=4.0+0.3=4.3dB

GSM 850MHz Highest channel



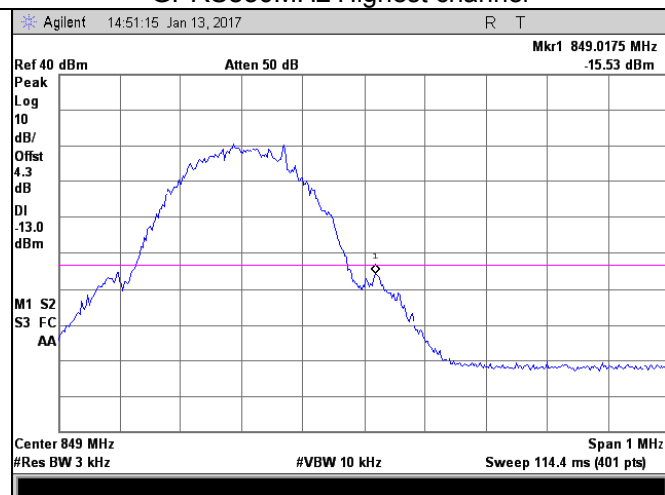
Note: Offset=Cable loss (4.0) + 10log(3.21/3)=4.0+0.3=4.3dB

GPRS850MHz Lowest channel



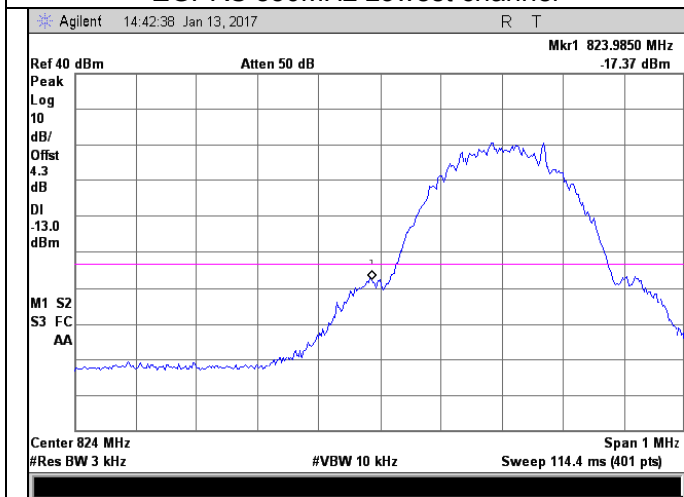
Note: Offset=Cable loss (4.0) + 10log(3.20/3)=4.0+0.3=4.3dB

GPRS850MHz Highest channel



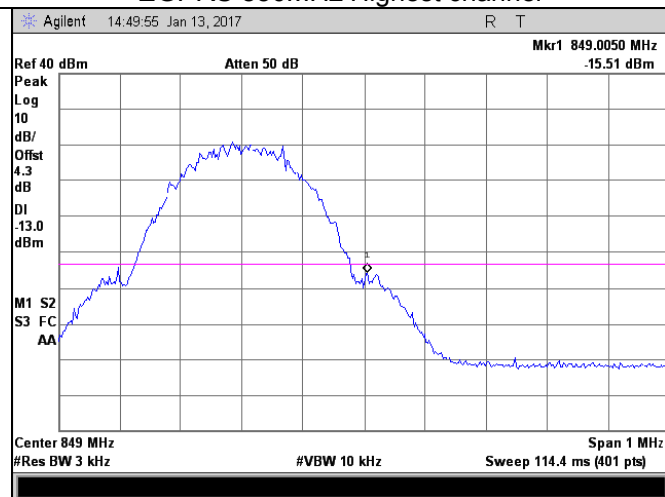
Note: Offset=Cable loss (4.0) + 10log(3.18/3)=4.0+0.3=4.3dB

EGPRS 850MHz Lowest channel



Note: Offset=Cable loss (4.0) + 10log(3.24/3)=4.0+0.3=4.3dB

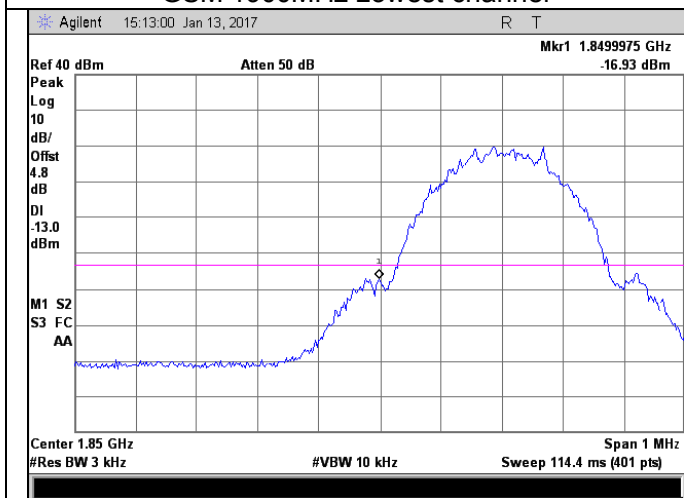
EGPRS 850MHz Highest channel



Note: Offset=Cable loss (4.0) + 10log(3.18/3)=4.0+0.3=4.3dB

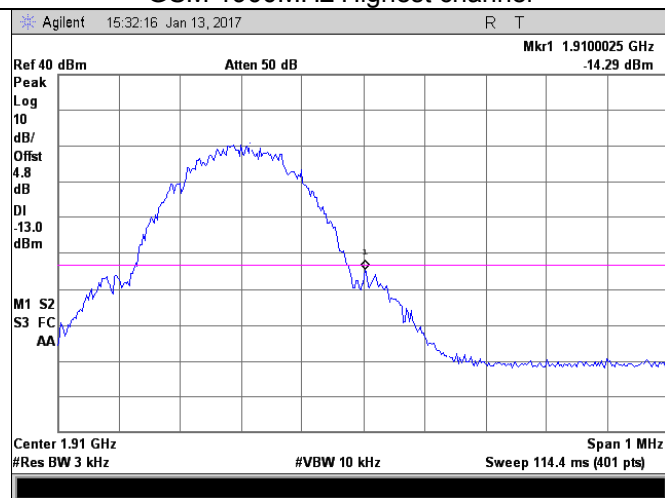


GSM 1900MHz Lowest channel



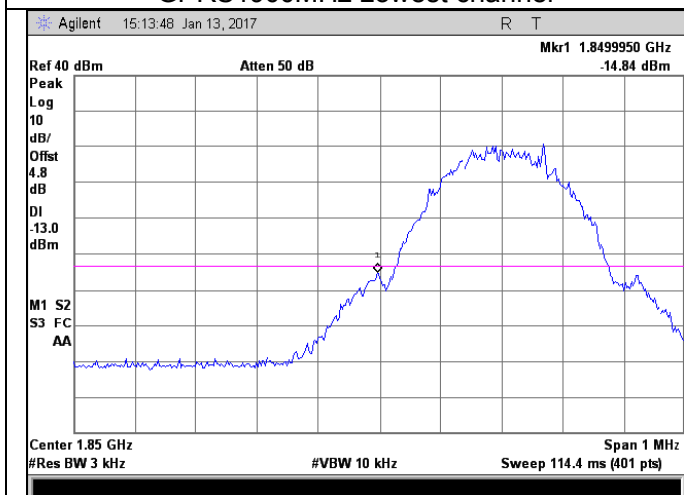
Note: Offset=Cable loss (4.5) + 10log (3.24/3)=4.5+0.3=4.8dB

GSM 1900MHz Highest channel



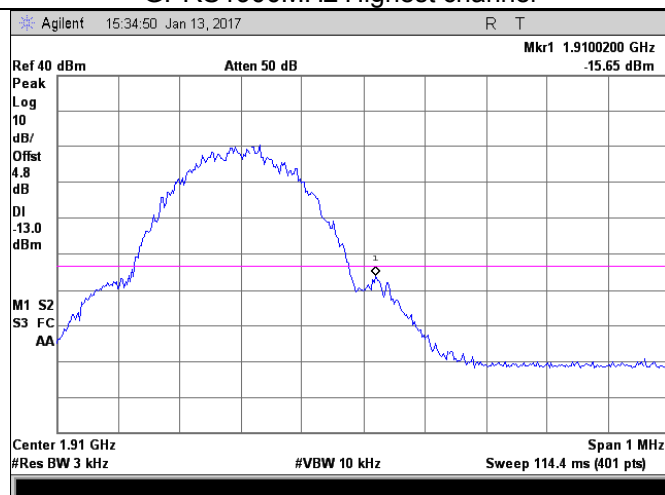
Note: Offset=Cable loss (4.5) + 10log (3.19 /3)=4.5+0.3=4.8dB

GPRS1900MHz Lowest channel



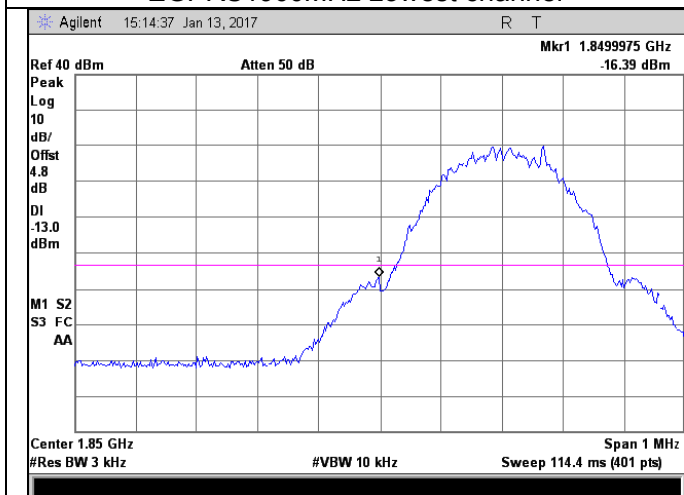
Note: Offset=Cable loss (4.5) + 10log (3.24/3)=4.5+0.3=4.8dB

GPRS1900MHz Highest channel



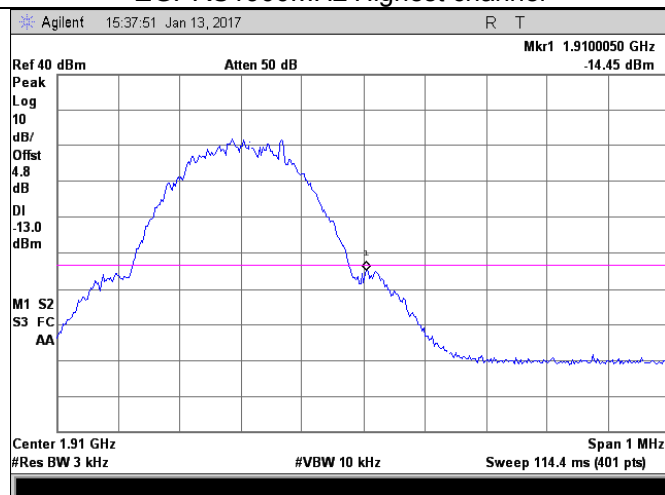
Note: Offset=Cable loss (4.5) + 10log (3.17/3)=4.5+0.3=4.8dB

EGPRS1900MHz Lowest channel



Note: Offset=Cable loss (4.5) + 10log (3.22/3)=4.5+0.3=4.8dB

EGPRS1900MHz Highest channel



Note: Offset=Cable loss (4.5) + 10log (3.20/3)=4.5+0.3=4.8dB



WCDMA Band V Lowest channel		WCDMA Band V Highest channel	
Note: Offset=Cable loss (4.0) + 10log (46.95/30)=4.0+1.9=5.9 dB		Note: Offset=Cable loss (4.0) + 10log (46.97/30)=4.0+1.9=5.9 dB	
Note: Offset=Cable loss (4.5) + 10log (47.12/30)=4.5+2.0=6.5dB		Note: Offset=Cable loss (4.5) + 10log (47.14/30)=4.5+2.0=6.5dB	

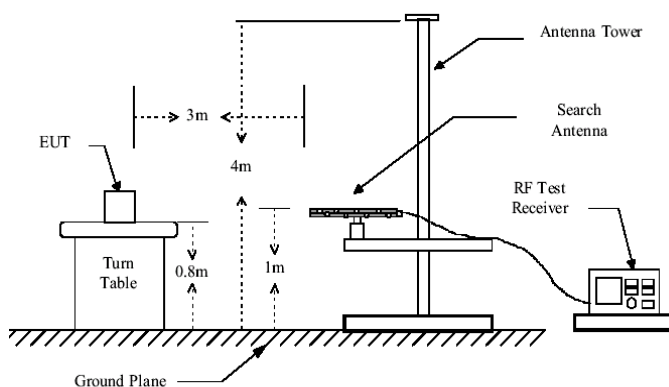
5.7. Transmitter Radiated Power (EIRP/ERP)

5.7.1. Limit

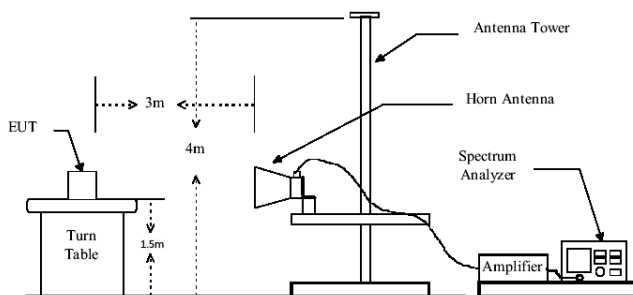
According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7Watts, and FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.

5.7.2. Test Setup

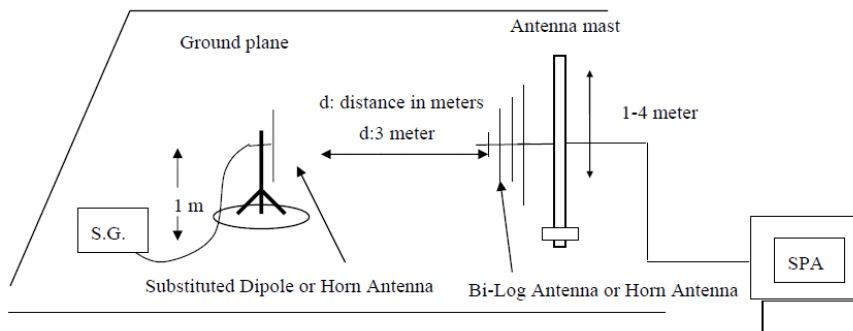
Below 1GHz



Above 1GHz



Substituted method:





5.7.3. Measurement Procedure

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. All test in Full-Anechoic Chamber.

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.

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 as follows:

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

For BAND II: $ERP = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$

For BAND V: $EIRP = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$

5.7.4. Test Result



EUT mode	Channel	Antenna Pol.	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)	Result
GSM850	Lowest	V	17.32	15.70	1.67	31.35	38.45	Pass
		H	15.48	15.68	1.65	29.51		
	Middle	V	17.29	15.70	1.67	31.32	38.45	Pass
		H	15.58	15.70	1.67	29.61		
	Highest	V	18.76	15.70	1.71	32.75	38.45	Pass
		H	15.41	15.70	1.71	29.40		
GPRS850	Lowest	V	16.88	15.68	1.65	30.91	38.45	Pass
		H	14.62	15.68	1.65	28.65		
	Middle	V	17.50	15.70	1.67	31.53	38.45	Pass
		H	15.64	15.70	1.67	29.67		
	Highest	V	18.38	15.70	1.71	32.37	38.45	Pass
		H	14.47	15.70	1.71	28.46		
GSM850 (EGPRS 8 link)	Lowest	V	16.36	15.68	1.65	30.39	38.45	Pass
		H	15.25	15.68	1.65	29.28		
	Middle	V	17.63	15.70	1.67	31.66	38.45	Pass
		H	15.87	15.70	1.67	29.90		
	Highest	V	18.34	15.70	1.71	32.33	38.45	Pass
		H	17.72	15.70	1.71	31.71		



WCDMA Band V	Lowest	V	6.26	15.68	1.65	20.29	38.45	Pass
		H	5.85	15.68	1.65	19.88		
	Middle	V	7.39	15.70	1.67	21.42	38.45	Pass
		H	6.42	15.70	1.67	20.45		
	Highest	V	8.62	15.70	1.71	22.61	38.45	Pass
		H	7.31	15.70	1.71	21.30		
WCDMA Band V HSDPA	Lowest	V	6.35	15.68	1.65	20.38	38.45	Pass
		H	5.94	15.68	1.65	19.97		
	Middle	V	7.5	15.70	1.67	21.53	38.45	Pass
		H	6.21	15.70	1.67	20.24		
	Highest	V	8.53	15.70	1.71	22.52	38.45	Pass
		H	7.42	15.70	1.71	21.41		
WCDMA Band V HSUPA	Lowest	V	6.17	15.68	1.65	20.2	38.45	Pass
		H	5.69	15.68	1.65	19.72		
	Middle	V	7.27	15.70	1.67	21.3	38.45	Pass
		H	6.08	15.70	1.67	20.11		
	Highest	V	8.24	15.70	1.71	22.23	38.45	Pass
		H	7.18	15.70	1.71	21.17		



EUT mode	Channel	Antenna Pol.	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)	Result
PCS1900 (GSM link)	Lowest	V	12.51	19.35	2.54	29.32	33	Pass
		H	10.33	19.35	2.54	27.14		
	Middle	V	13.82	19.51	2.62	30.71	33	Pass
		H	11.65	19.51	2.62	28.54		
	Highest	V	12.79	19.96	2.69	30.06	33	Pass
		H	10.52	19.96	2.69	27.79		
GPRS1900	Lowest	V	12.38	19.35	2.54	29.19	33	Pass
		H	10.76	19.35	2.54	27.57		
	Middle	V	13.24	19.51	2.62	30.13	33	Pass
		H	11.85	19.51	2.62	28.74		
	Highest	V	12.38	19.96	2.69	29.65	33	Pass
		H	10.43	19.96	2.69	27.70		
EGPRS1900 (EGPRS 8 link)	Lowest	V	12.57	19.35	2.54	29.38	33	Pass
		H	11.21	19.35	2.54	28.02		
	Middle	V	13.86	19.51	2.62	30.75	33	Pass
		H	11.77	19.51	2.62	28.66		
	Highest	V	12.23	19.96	2.69	29.50	33	Pass
		H	11.65	19.96	2.69	28.92		

5.8. Radiated Out of Band Emissions

5.8.1. Limit

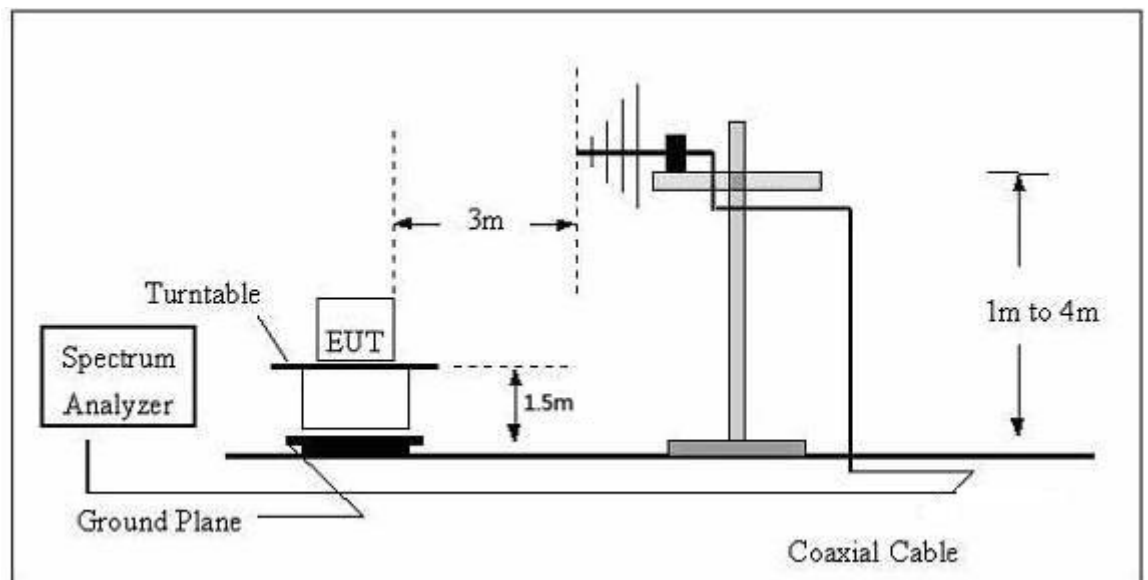
According to FCC section 22.917(a) and section 24.238(a), 27.53(g) the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power

(P) by a factor of at least $43 + 10 \cdot \log(P)$ dB. This calculated to be -13dBm.

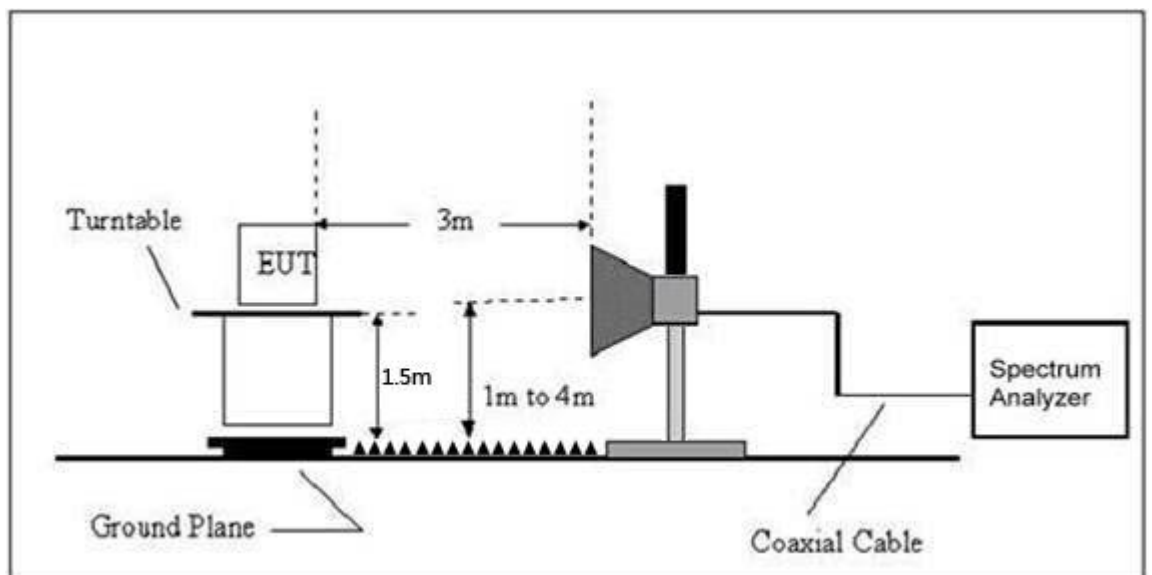
The spurious emission with frequency band 1900 according to FCC section 2.1057.

5.8.2. Test Setup

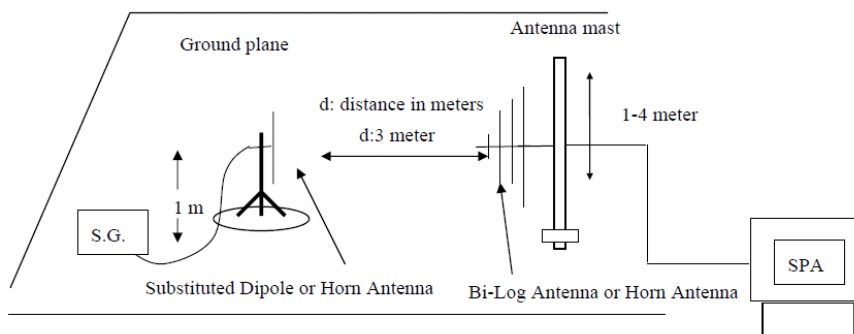
Below 1GHz



Above 1GHz



Substituted method:



5.8.3. Measurement Procedure

The EUT was placed on a non-conductive, The measurement antenna was placed at a distance of 3 meters from the EUT. 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. all test in Full-Anechoic Chamber.

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.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

$EIRP \text{ (Level)} = S.G. \text{ output (dBm)} + \text{Antenna Gain(dBi)} - \text{Cable Loss (dB)}$

Note: Measurement Uncertainty: $\pm 3.6 \text{ dB}$.

The data show only the worst results, and the other results are very low and not shown in the report.



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
GSM 850 Lowest	104.76	Vertical	-75.62	4.38	0.38	-71.62	-13	PASS
	1648.40	Vertical	-30.14	6.51	1.35	-24.98		
	2472.60	Vertical	-34.87	6.88	2.53	-30.52		
	3296.80	Vertical	-36.84	7.61	3.67	-32.90		
	4121.00	Vertical	-46.57	8.67	4.06	-41.96		
	4945.20	Vertical	-38.84	9.35	4.38	-33.87		
	138.26	Horizontal	-74.28	4.12	0.51	-70.67		
	2472.40	Horizontal	-33.87	6.51	1.35	-28.71		
	3296.80	Horizontal	-36.28	6.88	2.53	-31.93		
	4121.00	Horizontal	-46.67	7.61	3.67	-42.73		
	4945.20	Horizontal	-48.83	8.67	4.06	-44.22		
	5769.40	Horizontal	-42.97	9.35	4.38	-38.00		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
GSM 850 Middle	94.31	Vertical	-74.41	3.76	0.38	-71.03	-13	PASS
	1648.70	Vertical	-31.29	6.51	1.35	-26.13		
	2472.10	Vertical	-32.28	6.88	2.53	-27.93		
	3296.50	Vertical	-41.34	7.61	3.67	-37.40		
	4121.30	Vertical	-48.55	8.67	4.06	-43.94		
	4945.70	Vertical	-44.63	9.35	4.38	-39.66		
	137.69	Horizontal	-75.38	4.12	0.51	-71.77		
	2472.10	Horizontal	-28.26	6.51	1.35	-23.10		
	3296.20	Horizontal	-33.47	6.88	2.53	-29.12		
	4121.70	Horizontal	-47.92	7.61	3.67	-43.98		
	4945.00	Horizontal	-48.34	8.67	4.06	-43.73		
	5769.60	Horizontal	-38.85	9.35	4.38	-33.88		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
GSM 850 Highest	88.69	Vertical	-74.16	3.35	0.38	-71.19	-13	PASS
	1648.30	Vertical	-32.78	6.51	1.35	-27.62		
	2472.10	Vertical	-32.53	6.88	2.53	-28.18		
	3296.50	Vertical	-35.64	7.61	3.67	-31.70		
	4121.40	Vertical	-42.87	8.67	4.06	-38.26		
	4945.20	Vertical	-47.65	9.35	4.38	-42.68		
	138.22	Horizontal	-75.58	4.12	0.51	-71.97		
	2472.90	Horizontal	-30.31	6.51	1.35	-25.15		
	3296.30	Horizontal	-33.58	6.88	2.53	-29.23		
	4121.20	Horizontal	-37.67	7.61	3.67	-33.73		
	4945.70	Horizontal	-46.53	8.67	4.06	-41.92		
	5769.60	Horizontal	-54.36	9.35	4.38	-49.39		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	Level (dBm)		
PCS1900 Lowest	76.25	Vertical	-75.86	3.21	0.38	-73.03	-13	PASS
	3700.40	Vertical	-47.34	7.76	3.75	-43.33		
	5550.60	Vertical	-46.55	9.84	4.94	-41.65		
	7400.80	Vertical	-38.79	10.21	5.32	-33.90		
	9251.00	Vertical	-45.83	11.36	6.02	-40.49		
	11101.20	Vertical	-45.41	14.52	6.68	-37.57		
	137.21	Horizontal	-76.79	4.12	0.51	-73.18		
	3700.40	Horizontal	-49.34	7.76	3.75	-45.33		
	5550.60	Horizontal	-46.29	9.84	4.94	-41.39		
	7400.80	Horizontal	-43.53	10.21	5.32	-38.64		
	9251.00	Horizontal	-46.50	11.36	6.02	-41.16		
	11101.20	Horizontal	-47.75	14.52	6.68	-39.91		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	Level (dBm)		
PCS1900 Middle	88.14	Vertical	-75.16	3.35	0.38	-72.19	-13	PASS
	3760.00	Vertical	-46.65	7.76	3.75	-42.64		
	5640.00	Vertical	-46.92	9.84	4.94	-42.02		
	7520.00	Vertical	-43.26	10.21	5.32	-38.37		
	9400.00	Vertical	-45.58	11.36	6.02	-40.24		
	11280.00	Vertical	-47.23	14.52	6.68	-39.39		
	137.56	Horizontal	-74.72	4.12	0.51	-71.11		
	3760.00	Horizontal	-44.83	7.76	3.75	-40.82		
	5640.00	Horizontal	-45.94	9.84	4.94	-41.04		
	7520.00	Horizontal	-38.85	10.21	5.32	-33.96		
	9400.00	Horizontal	-45.63	11.36	6.02	-40.29		
	11280.00	Horizontal	-46.72	14.52	6.68	-38.88		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	Level (dBm)		
PCS190 0 Highest	89.06	Vertical	-76.92	3.35	0.38	-73.95	-13	PASS
	3819.60	Vertical	-48.21	7.79	3.53	-43.95		
	5729.40	Vertical	-42.55	9.88	5.02	-37.69		
	7639.20	Vertical	-38.54	10.25	5.54	-33.83		
	9549.00	Vertical	-45.84	11.38	6.16	-40.62		
	11458.80	Vertical	-46.97	14.56	6.72	-39.13		
	137.29	Horizontal	-76.14	4.12	0.51	-72.53		
	3819.60	Horizontal	-46.38	7.79	3.53	-42.12		
	5729.40	Horizontal	-43.53	9.88	5.02	-38.67		
	7639.20	Horizontal	-36.72	10.25	5.54	-32.01		
	9549.00	Horizontal	-43.92	11.38	6.16	-38.70		
	11458.80	Horizontal	-45.67	14.56	6.72	-37.83		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
WCDMA Band V Lowest	87.48	Vertical	-76.29	3.35	0.38	-73.32	-13	PASS
	1652.80	Vertical	-28.47	6.51	1.35	-23.31		
	2479.20	Vertical	-36.26	6.88	2.53	-31.91		
	3305.60	Vertical	-38.16	7.61	3.67	-34.22		
	4132.00	Vertical	-46.33	8.67	4.06	-41.72		
	4958.40	Vertical	-42.59	9.35	4.38	-37.62		
	138.21	Horizontal	-74.72	4.12	0.51	-71.11		
	1652.80	Horizontal	-35.83	6.51	1.35	-30.67		
	2479.20	Horizontal	-36.96	6.88	2.53	-32.61		
	3305.60	Horizontal	-46.24	7.61	3.67	-42.30		
	4132.00	Horizontal	-48.43	8.67	4.06	-43.82		
	4958.40	Horizontal	-45.67	9.35	4.38	-40.70		



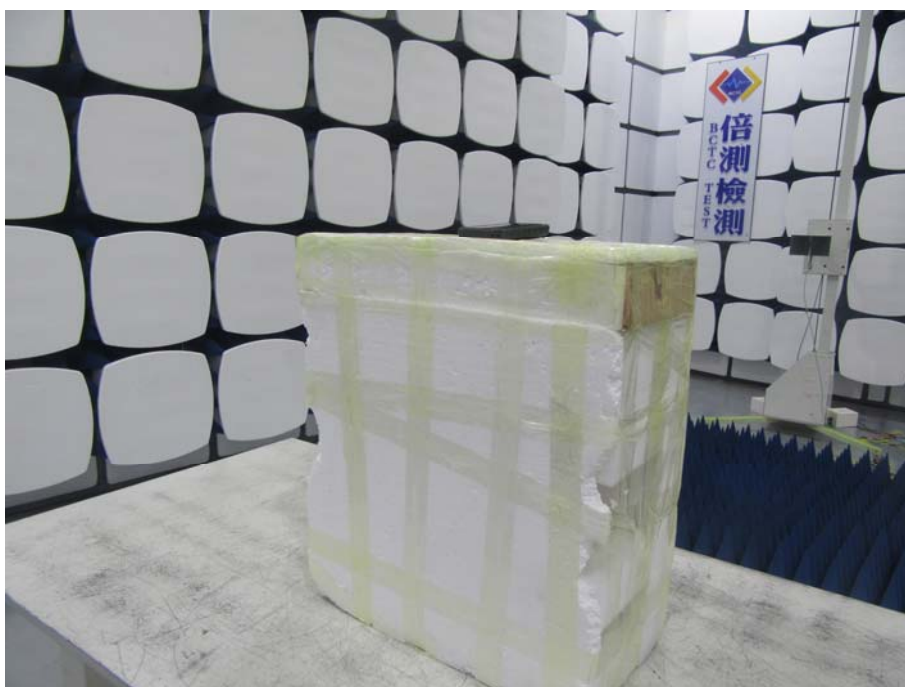
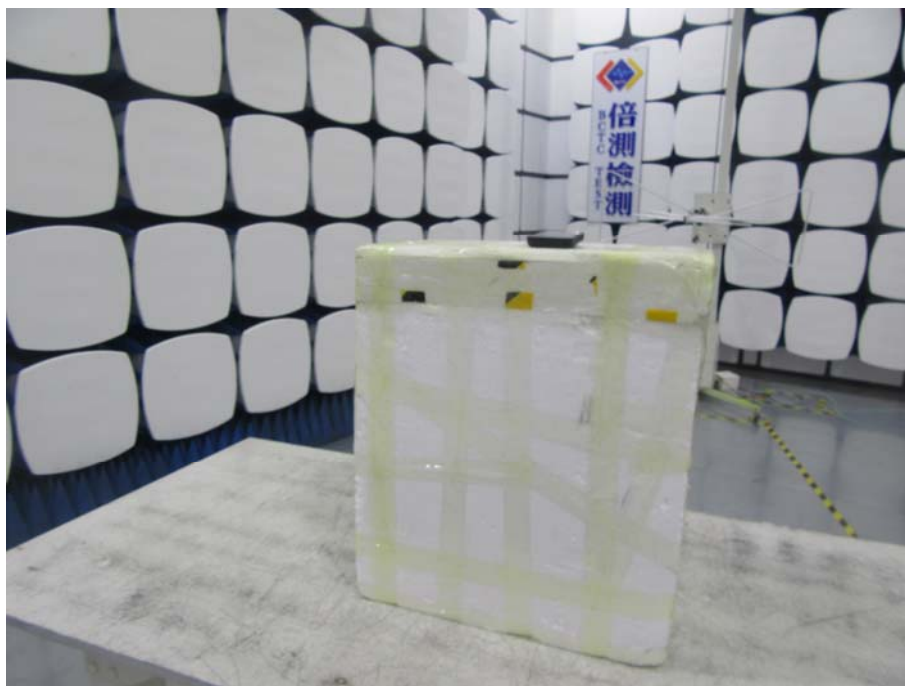
Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
WCDMA Band V Middle	79.38	Vertical	-75.24	3.61	0.38	-72.01	-13	PASS
	1670.00	Vertical	-33.58	6.58	1.38	-28.38		
	2505.00	Vertical	-33.76	6.92	2.57	-29.41		
	3340.00	Vertical	-41.54	7.67	3.72	-37.59		
	4175.00	Vertical	-46.68	8.75	4.19	-42.12		
	5010.00	Vertical	-42.58	9.48	4.45	-37.55		
	139.86	Horizontal	-75.72	4.12	0.51	-72.11		
	1670.00	Horizontal	-28.83	6.58	1.38	-23.63		
	2505.00	Horizontal	-33.65	6.92	2.57	-29.30		
	3340.00	Horizontal	-49.64	7.67	3.72	-45.69		
	4175.00	Horizontal	-48.72	8.75	4.19	-44.16		
	5010.00	Horizontal	-38.76	9.48	4.45	-33.73		



Band	Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
		Polarization	S.G. output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	Level (dBm)		
WCDMA Band V Highest	77.53	Vertical	-76.71	3.61	0.38	-73.48	-13	PASS
	1693.20	Vertical	-34.86	6.57	1.48	-29.77		
	2539.80	Vertical	-34.92	6.96	2.67	-30.63		
	3386.40	Vertical	-35.34	7.68	3.78	-31.44		
	4233.00	Vertical	-43.58	8.76	4.24	-39.06		
	5079.60	Vertical	-45.33	9.47	4.63	-40.49		
	137.65	Horizontal	-75.86	4.12	0.51	-72.25		
	1693.20	Horizontal	-30.38	6.57	1.48	-25.29		
	2539.80	Horizontal	-31.72	6.96	2.67	-27.43		
	3386.40	Horizontal	-39.46	7.68	3.78	-35.56		
	4233.00	Horizontal	-46.30	8.76	4.24	-41.78		
	5079.60	Horizontal	-54.86	9.47	4.63	-50.02		

6. PHOTOGRAPHS OF TEST SET-UP

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7. PHOTOGRAPHS OF THE EUT



***** END OF REPORT *****