FCC TEST REPORT

According to

FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E

Applicant	: MAXWEST TELECOM
Address	: 11037 warner ave #201 fountain valley, ca, 92708 USA
Manufacturer	: MAXWEST TELECOM
Address	: 11037 warner ave #201 fountain valley, ca, 92708 USA
Equipment	: GSM MOBILE PHONE
Model No.	: MX-210TV
Trade Name	: MAXWEST
FCC ID	: ONGMX210TV

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Document history

Attachment No.	Date	Description

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Address	: 11037 warner ave #201 fountain valley, ca, 92708 USA
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Equipment	: GSM MOBILE PHONE
Model No.	: MX-210TV
Trade Name	: MAXWEST
FCC ID	: ONGMX210TV

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2009 and TIA/EIA 603** and the energy emitted by this equipment was ***passed*** **FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E** in both radiated and conducted emission limits.
Testing was carried out on Dec 05,2013 at ***Cerpass Technology Corp.***

Signature

Miro Chueh/ Technical director

1. Report of Measurements and Examinations

FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E ANSI C63.4: 2009 and TIA/EIA 603		
Test Parameter	Test Performed	Remark
Conducted Emission	YES	PASS
Field Strength of Spurious Radiation Measurement	YES	PASS
Occupied Bandwidth	YES	PASS
Maximum Peak Output Power	YES	PASS
ERP & EIRP Measurement	YES	PASS
Out of Band Emission at Antenna Terminals	YES	PASS
Frequency Stability V.S. Temperature Measurement	YES	PASS
Requency Stability V.S. Voltage Measurement	YES	PASS

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

WCDMA Mobile Phone	Model No:	MX-210TV
Operation Frequency Range	GSM /GPRS 850:824.2MHz-848.8MHz GSM /GPRS 1900:1850.2MHz-1909.8MHz	
Adapter	Model No.:	S050-100-US
	Input:	100-240V 50/60Hz 0.2A
	Output:	5V 1A
Battery	Charge battery	3.7V/800MHA
	Charge limited voltage	4.2V

2.2. Test Manner

Test Manner	
a	During testing, the interface cables and equipment positions were varied according to 47 CFR, Part 2, PART 22 Subpart H and PART 24 Subpart E.
b	Adjust the EUT at the test mode and the test channel. Then test.

The test modes:

The EUT had been tested under operating condition.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

EUT staying in continuous transmitting mode was programmed.

GSM 850:
Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing.

GSM 1900:
Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

GPRS 850:
Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing.

GPRS 1900:
Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

2.3. Description of Test System

No.	Device	Manufacturer	Model No.	Description
1	N/A	N/A	N/A	N/A

2.4. General Information of Test

Test Site:	Cerpass Technology Corp.
Performand Location :	No.66,Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China
NVLAP LAB Code :	200814-0
FCC Registration Number :	916572, 331395
IC Registration Number :	7290A-1, 7290A-2
VCCI Registration Number :	T-1945 for Telecommunication Test C-2919 for Conducted emission test R-2670 for Radiated emission test below 1GHz G-227 for Radiated emission test above 1GHz

Laboratory accreditation

2.5. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE/NEUTRAL	±2.71 dB
Radiated Emission	30 MHz ~ 25GHz	Vertical	±4.11 dB
		Horizontal	±4.10 dB
Occupied Bandwidth	---	---	±7500 Hz
Maximum Peak Output Power	---	---	±1.4 dB
Band Edges	---	---	±2.2 dB
Power Spectral Density	---	---	±2.2 dB

3. Test of Conducted Emission

3.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2003 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

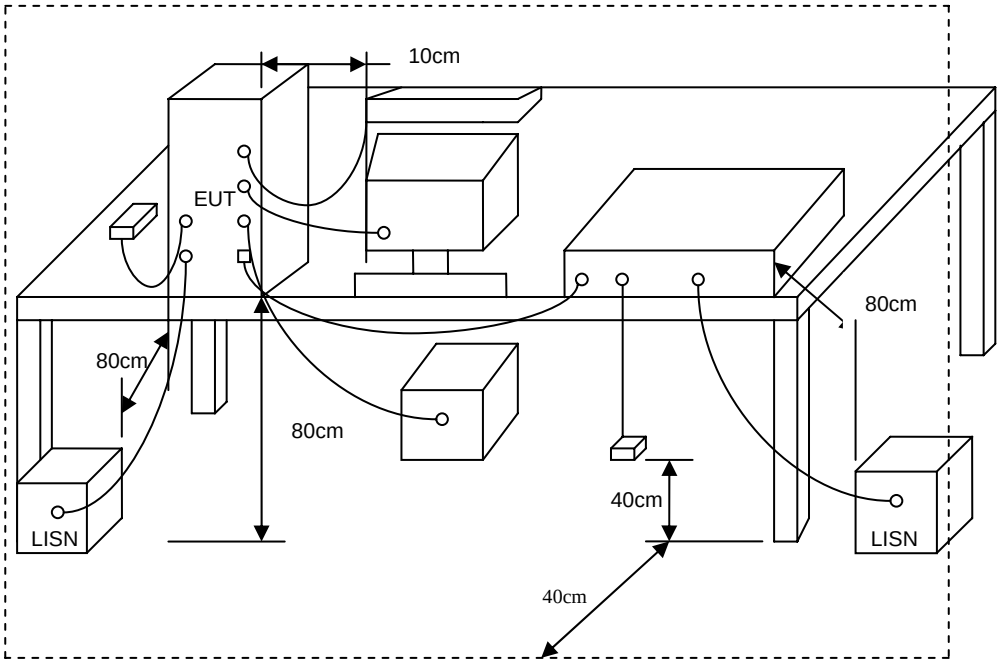
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

3.2. Test Procedures

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

3.3. Typical Test Setup

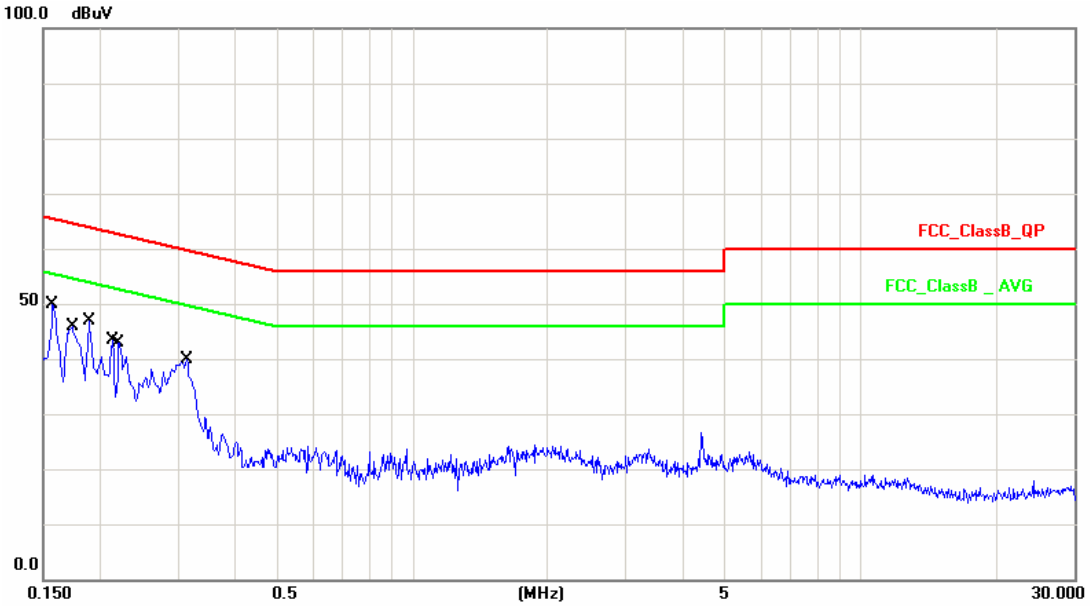


3.4. Measurement Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100565	2013.01.15	2014.01.14
AMN	R&S	ESH2-Z5	100182	2013.03.14	2014.03.13
Two-Line V-Network	R&S	ENV216	100325	2013.03.14	2014.03.13
ISN	FCC	FCC-TLISN-T2-02	20379	2013.03.14	2014.03.13
ISN	FCC	FCC-TLISN-T4-02	20380	2013.03.14	2014.03.13
ISN	FCC	FCC-TLISN-T8-02	20381	2013.03.14	2014.03.13
Attenuator	R&S	ESH3-Z2	100529	2013.01.11	2014.01.10
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2013.08.14	2014.08.13

3.5. Test Result and Data

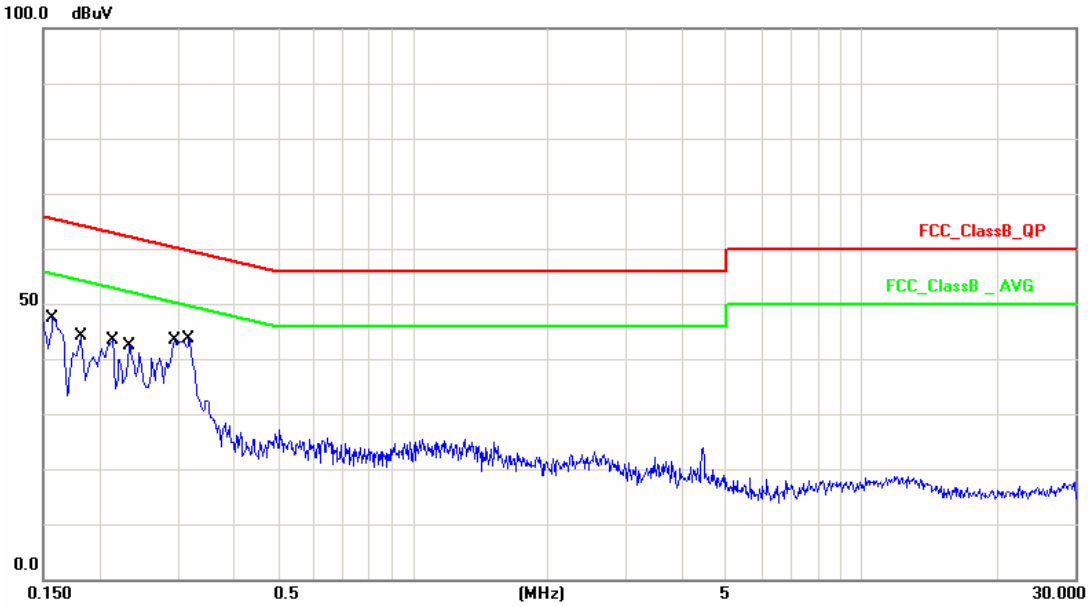
Test Mode :	Normal Link	Phase :	Line
Temperature :	20°C	Humidity:	51%
Pressur(mbar) :	1002	Date:	2013-12-03



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	9.87	33.70	43.57	65.57	-22.00	QP
2	0.1580	9.87	14.50	24.37	55.57	-31.20	AVG
3	0.1740	9.87	29.44	39.31	64.77	-25.46	QP
4	0.1740	9.87	10.15	20.02	54.77	-34.75	AVG
5	0.1900	9.87	28.53	38.40	64.04	-25.64	QP
6	0.1900	9.87	9.75	19.62	54.04	-34.42	AVG
7	0.2140	9.87	26.10	35.97	63.05	-27.08	QP
8	0.2140	9.87	9.07	18.94	53.05	-34.11	AVG
9	0.2220	9.87	25.34	35.21	62.74	-27.53	QP
10	0.2220	9.87	9.24	19.11	52.74	-33.63	AVG
11	0.3140	9.87	25.44	35.31	59.86	-24.55	QP
12	0.3140	9.87	15.29	25.16	49.86	-24.70	AVG

Note: Measurement Level = Reading Level + Correct Factor

Test Mode :	Normal Link	Phase :	Neutral
Temperature :	20°C	Humidity :	51%
Pressur(mbar) :	1002	Date :	2013-12-03



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	9.50	33.47	42.97	65.57	-22.60	QP
2	0.1580	9.50	13.50	23.00	55.57	-32.57	AVG
3	0.1820	9.50	29.99	39.49	64.39	-24.90	QP
4	0.1820	9.50	11.06	20.56	54.39	-33.83	AVG
5	0.2140	9.50	26.43	35.93	63.05	-27.12	QP
6	0.2140	9.50	9.33	18.83	53.05	-34.22	AVG
7	0.2340	9.50	25.20	34.70	62.31	-27.61	QP
8	0.2340	9.50	9.79	19.29	52.31	-33.02	AVG
9	0.2940	9.51	30.48	39.99	60.41	-20.42	QP
10	0.2940	9.51	16.86	26.37	50.41	-24.04	AVG
11	0.3180	9.51	29.12	38.63	59.76	-21.13	QP
12	0.3180	9.51	16.65	26.16	49.76	-23.60	AVG

Note: Measurement Level = Reading Level + Correct Factor

4. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

4.1. Test Limit

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 + 10log(P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

4.2. Test Procedures

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously &Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unlessotherwise noted as quasi-peak.For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidthis set to 1 MHz for peak measurements and 10 Hz for average measurements.A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid

overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.The spectrum analyzer’s 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels

referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

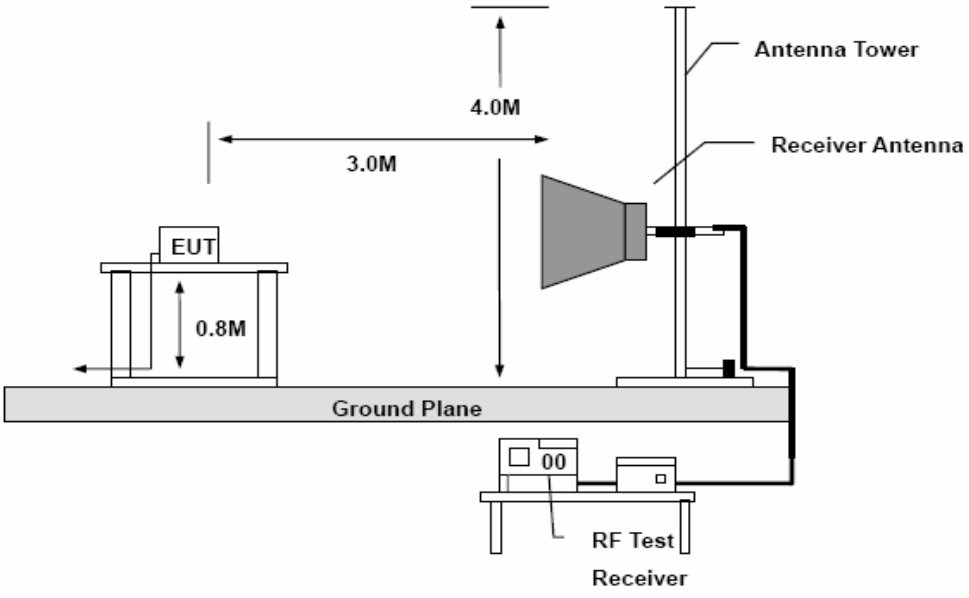
(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

4.3. Typical Test Setup



4.4. Measurement Equipment

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	100563	2013.03.10	2014.03.09
H64 Preamplifier	HP	8447F	3113A05582	2013.03.10	2014.03.09
Preamplifier	Agilent	8449B	3008A02342	2013.03.10	2014.03.09
Ultra Broadband Antenna	R&S	HL562	100362	2013.05.03	2014.05.02
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2013.05.03	2014.05.02
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-347	2013.05.03	2014.05.02
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

4.5. Test Result and Data

Radiated Spurious Emission Measurement Result:

Engineer : Matt	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 128**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.97	V	-14.07	-11.29	-25.36	-13.00	-12.36
108.85	V	-12.85	-13.44	-26.29	-13.00	-13.29
114.55	V	-13.11	-13.78	-26.89	-13.00	-13.89
130.67	V	-14.65	-14.15	-28.80	-13.00	-15.80
141.74	V	-14.21	-14.47	-28.68	-13.00	-15.68
829.19	V	-27.76	1.87	-25.89	-13.00	-12.89
75.38	H	-12.54	-16.63	-29.17	-13.00	-16.17
85.64	H	-13.18	-15.27	-28.45	-13.00	-15.45
109.16	H	-12.54	-14.25	-26.79	-13.00	-13.79
125.87	H	-11.28	-14.15	-25.43	-13.00	-12.43
312.06	H	-15.36	-9.74	-25.10	-13.00	-12.10
896.77	H	-23.59	-2.44	-26.03	-13.00	-13.03

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 190**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.59	V	-12.55	-11.29	-23.84	-13.00	-10.84
110.32	V	-11.74	-13.44	-25.18	-13.00	-12.18
114.86	V	-12.35	-13.78	-26.13	-13.00	-13.13
131.74	V	-12.54	-14.15	-26.69	-13.00	-13.69
141.18	V	-13.57	-14.47	-28.04	-13.00	-15.04
829.95	V	-26.76	1.87	-24.89	-13.00	-11.89
74.05	H	-12.43	-16.63	-29.06	-13.00	-16.06
86.42	H	-13.94	-15.27	-29.21	-13.00	-16.21
110.77	H	-12.58	-14.25	-26.83	-13.00	-13.83
128.84	H	-12.57	-14.15	-26.72	-13.00	-13.72
314.74	H	-15.68	-9.74	-25.42	-13.00	-12.42
899.68	H	-24.82	-2.44	-27.26	-13.00	-14.26

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 251**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.62	V	-11.95	-11.29	-23.24	-13.00	-10.24
107.85	V	-13.51	-13.44	-26.95	-13.00	-13.95
110.11	V	-12.53	-13.78	-26.31	-13.00	-13.31
127.18	V	-12.84	-14.15	-26.99	-13.00	-13.99
136.20	V	-13.95	-14.47	-28.42	-13.00	-15.42
828.84	V	-27.57	1.87	-25.70	-13.00	-12.70
74.52	H	-12.01	-16.63	-28.64	-13.00	-15.64
85.19	H	-12.41	-15.27	-27.68	-13.00	-14.68
108.62	H	-11.54	-14.25	-25.79	-13.00	-12.79
127.40	H	-11.11	-14.15	-25.26	-13.00	-12.26
311.20	H	-14.65	-9.74	-24.39	-13.00	-11.39
895.63	H	-22.25	-2.18	-24.43	-13.00	-11.43

Engineer : MATT	**Time :2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 512**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.92	V	-12.70	-11.01	-23.71	-13.00	-10.71
107.18	V	-11.59	-13.44	-25.03	-13.00	-12.03
117.35	V	-12.84	-13.65	-26.49	-13.00	-13.49
127.46	V	-12.34	-14.15	-26.49	-13.00	-13.49
136.74	V	-11.47	-14.47	-25.94	-13.00	-12.94
830.95	V	-26.65	1.87	-24.78	-13.00	-11.78
75.06	H	-12.05	-16.63	-28.68	-13.00	-15.68
84.35	H	-11.91	-15.27	-27.18	-13.00	-14.18
107.84	H	-13.06	-14.25	-27.31	-13.00	-14.31
128.17	H	-12.67	-14.15	-26.82	-13.00	-13.82
312.80	H	-13.85	-9.74	-23.59	-13.00	-10.59
897.85	H	-23.67	-2.44	-26.11	-13.00	-13.11

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 661**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.19	V	-12.45	-11.29	-23.74	-13.00	-10.74
107.48	V	-13.15	-11.47	-24.62	-13.00	-11.62
111.96	V	-12.57	-13.78	-26.35	-13.00	-13.35
128.18	V	-11.18	-14.15	-25.33	-13.00	-12.33
137.06	V	-12.78	-14.47	-27.25	-13.00	-14.25
828.01	V	-24.31	1.87	-22.44	-13.00	-9.44
75.48	H	-14.28	-16.63	-30.91	-13.00	-17.91
87.95	H	-12.67	-15.27	-27.94	-13.00	-14.94
107.48	H	-11.36	-14.25	-25.61	-13.00	-12.61
127.69	H	-12.57	-14.15	-26.72	-13.00	-13.72
311.14	H	-13.39	-9.74	-23.13	-13.00	-10.13
900.32	H	-23.48	-2.44	-25.92	-13.00	-12.92

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 810**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.85	V	-14.18	-11.29	-25.47	-13.00	-12.47
107.18	V	-13.69	-13.44	-27.13	-13.00	-14.13
111.33	V	-12.41	-13.78	-26.19	-13.00	-13.19
128.69	V	-11.15	-14.15	-25.30	-13.00	-12.30
137.14	V	-12.85	-14.47	-27.32	-13.00	-14.32
827.59	V	-23.52	1.87	-21.65	-13.00	-8.65
75.36	H	-11.42	-16.63	-28.05	-13.00	-15.05
87.11	H	-12.09	-15.27	-27.36	-13.00	-14.36
107.35	H	-12.67	-14.25	-26.92	-13.00	-13.92
127.09	H	-13.48	-14.15	-27.63	-13.00	-14.63
311.41	H	-13.68	-9.74	-23.42	-13.00	-10.42
900.20	H	-24.67	-2.18	-26.85	-13.00	-13.85

Engineer : Matt	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 128**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.64	V	-13.54	-11.29	-24.83	-13.00	-11.83
109.54	V	-12.06	-13.44	-25.50	-13.00	-12.50
111.14	V	-13.16	-13.78	-26.94	-13.00	-13.94
127.17	V	-13.64	-14.15	-27.79	-13.00	-14.79
136.22	V	-14.50	-14.47	-28.97	-13.00	-15.97
825.37	V	-28.05	1.87	-26.18	-13.00	-13.18
75.65	H	-12.64	-16.63	-29.27	-13.00	-16.27
85.05	H	-12.16	-15.27	-27.43	-13.00	-14.43
109.64	H	-12.55	-14.25	-26.80	-13.00	-13.80
125.73	H	-12.14	-14.15	-26.29	-13.00	-13.29
312.65	H	-16.09	-9.74	-25.83	-13.00	-12.83
896.06	H	-24.67	-2.44	-27.11	-13.00	-14.11

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 190**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.64	V	-13.05	-11.29	-24.34	-13.00	-11.34
109.54	V	-12.54	-13.44	-25.98	-13.00	-12.98
111.14	V	-13.31	-13.78	-27.09	-13.00	-14.09
127.05	V	-13.59	-14.15	-27.74	-13.00	-14.74
136.25	V	-14.54	-14.47	-29.01	-13.00	-16.01
825.52	V	-28.15	1.87	-26.28	-13.00	-13.28
75.24	H	-12.50	-16.63	-29.13	-13.00	-16.13
85.12	H	-12.08	-15.27	-27.35	-13.00	-14.35
109.54	H	-12.63	-14.25	-26.88	-13.00	-13.88
125.33	H	-12.05	-14.15	-26.20	-13.00	-13.20
312.82	H	-16.95	-9.74	-26.69	-13.00	-13.69
896.64	H	-24.84	-2.44	-27.28	-13.00	-14.28

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 251**

Frequency (MHz)	Antenna Polarization	Antenna Terminals level (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.15	V	-13.54	-11.29	-24.83	-13.00	-11.83
109.50	V	-13.10	-13.44	-26.54	-13.00	-13.54
110.37	V	-12.64	-13.78	-26.42	-13.00	-13.42
128.18	V	-14.06	-14.15	-28.21	-13.00	-15.21
137.96	V	-13.68	-14.47	-28.15	-13.00	-15.15
830.75	V	-28.08	1.87	-26.21	-13.00	-13.21
74.56	H	-11.59	-16.63	-28.22	-13.00	-15.22
87.31	H	-11.32	-15.27	-26.59	-13.00	-13.59
109.37	H	-11.20	-14.25	-25.45	-13.00	-12.45
127.04	H	-12.17	-14.15	-26.32	-13.00	-13.32
312.64	H	-16.73	-9.74	-26.47	-13.00	-13.47
898.95	H	-23.51	-2.18	-25.69	-13.00	-12.69

Engineer : MATT	**Time :2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 512**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.76	V	-14.32	-11.01	-25.33	-13.00	-12.33
105.32	V	-11.18	-13.44	-24.62	-13.00	-11.62
110.98	V	-10.01	-13.65	-23.66	-13.00	-10.66
128.47	V	-12.64	-14.15	-26.79	-13.00	-13.79
134.05	V	-12.59	-14.47	-27.06	-13.00	-14.06
826.64	V	-25.54	1.87	-23.67	-13.00	-10.67
78.48	H	-10.27	-16.63	-26.90	-13.00	-13.90
85.65	H	-10.21	-15.27	-25.48	-13.00	-12.48
104.15	H	-13.33	-14.25	-27.58	-13.00	-14.58
130.95	H	-12.62	-14.15	-26.77	-13.00	-13.77
315.63	H	-12.84	-9.74	-22.58	-13.00	-9.58
892.22	H	-23.15	-2.44	-25.59	-13.00	-12.59

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 661**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.13	V	-14.34	-11.29	-25.63	-13.00	-12.63
100.76	V	-13.16	-11.47	-24.63	-13.00	-11.63
113.18	V	-12.70	-13.78	-26.48	-13.00	-13.48
128.54	V	-12.62	-14.15	-26.77	-13.00	-13.77
140.35	V	-13.74	-14.47	-28.21	-13.00	-15.21
816.95	V	-25.84	1.87	-23.97	-13.00	-10.97
76.12	H	-11.29	-16.63	-27.92	-13.00	-14.92
85.95	H	-11.65	-15.27	-26.92	-13.00	-13.92
108.36	H	-10.37	-14.25	-24.62	-13.00	-11.62
126.47	H	-11.58	-14.15	-25.73	-13.00	-12.73
315.06	H	-13.65	-9.74	-23.39	-13.00	-10.39
895.28	H	-22.48	-2.44	-24.92	-13.00	-11.92

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 810**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBd)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.16	V	-14.85	-11.29	-26.14	-13.00	-13.14
108.48	V	-13.62	-13.44	-27.06	-13.00	-14.06
112.87	V	-12.18	-13.78	-25.96	-13.00	-12.96
128.13	V	-12.09	-14.15	-26.24	-13.00	-13.24
135.95	V	-13.51	-14.47	-27.98	-13.00	-14.98
829.15	V	-25.59	1.87	-23.72	-13.00	-10.72
76.54	H	-11.29	-16.63	-27.92	-13.00	-14.92
81.61	H	-11.65	-15.27	-26.92	-13.00	-13.92
108.13	H	-10.37	-14.25	-24.62	-13.00	-11.62
134.65	H	-11.58	-14.15	-25.73	-13.00	-12.73
315.18	H	-13.65	-9.74	-23.39	-13.00	-10.39
899.31	H	-22.18	-2.44	-24.62	-13.00	-11.62

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 128**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1648.15	V	-24.48	1.29	-23.19	-13.00	-10.19
1648.49	H	-25.92	1.31	-24.61	-13.00	-11.61

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 190**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1673.85	V	-22.54	1.33	-21.21	-13.00	-8.21
1674.16	H	-24.65	1.36	-23.29	-13.00	-10.29

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 850 / CH 251**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1698.64	V	-21.85	1.38	-20.47	-13.00	-7.47
1698.15	H	-23.64	1.41	-22.23	-13.00	-9.23

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 512**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3700.32	V	-25.54	3.41	-22.13	-13.00	-9.13
3700.14	H	-26.18	3.52	-22.66	-13.00	-9.66

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 661**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3760.11	V	-25.18	3.48	-21.70	-13.00	-8.70
3760.32	H	-26.64	3.56	-23.08	-13.00	-10.08

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GSM 1900 / CH 810**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3819.65	V	-24.09	3.57	-20.52	-13.00	-7.52
3819.93	H	-25.94	3.64	-22.30	-13.00	-9.30

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 128**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1650.16	V	-28.97	1.29	-27.68	-13.00	-14.68
1649.84	H	-29.17	1.31	-27.86	-13.00	-14.86

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 190**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1675.19	V	-28.71	1.33	-27.38	-13.00	-14.38
1674.38	H	-29.35	1.36	-27.99	-13.00	-14.99

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 850 / CH 251**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1698.48	V	-28.74	1.38	-27.36	-13.00	-14.36
1697.65	H	-29.84	1.41	-28.43	-13.00	-15.43

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 512**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3700.31	V	-31.18	3.41	-27.77	-13.00	-14.77
3700.18	H	-31.98	3.52	-28.46	-13.00	-15.46

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 661**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3760.18	V	-31.96	3.48	-28.48	-13.00	-15.48
3760.35	H	-32.84	3.56	-29.28	-13.00	-16.28

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

Engineer : MATT	**Time : 2013-12-04**
Site : EMC Lab AC 102	**Margin : 6**
Limit : FCC_Part22&24	**Probe : VERTICAL/ HORIZONTAL**
EUT : Mobile Phone	**Note : GPRS 1900 / CH 810**

Frequency (MHz)	Antenna Polarization	Antenna Terminals leve (dBm)	Substitution Antenna Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3820.18	V	-30.17	3.57	-26.60	-13.00	-13.60
3820.25	H	-32.02	3.64	-28.38	-13.00	-15.38

Note :The other harmonic spurious emissions are under limit 20dB more,
so the results were not shown in the table.

5. Occupied Bandwidth

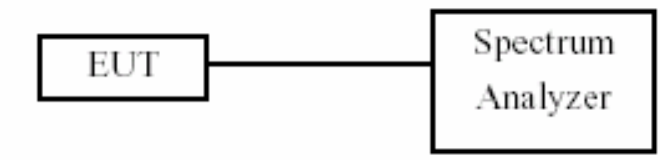
5.1. Test Limit

According to §FCC 2.1049.

5.2. Test Procedures

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -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.

5.3. Test Setup Layout



5.4. Measurement Equipment

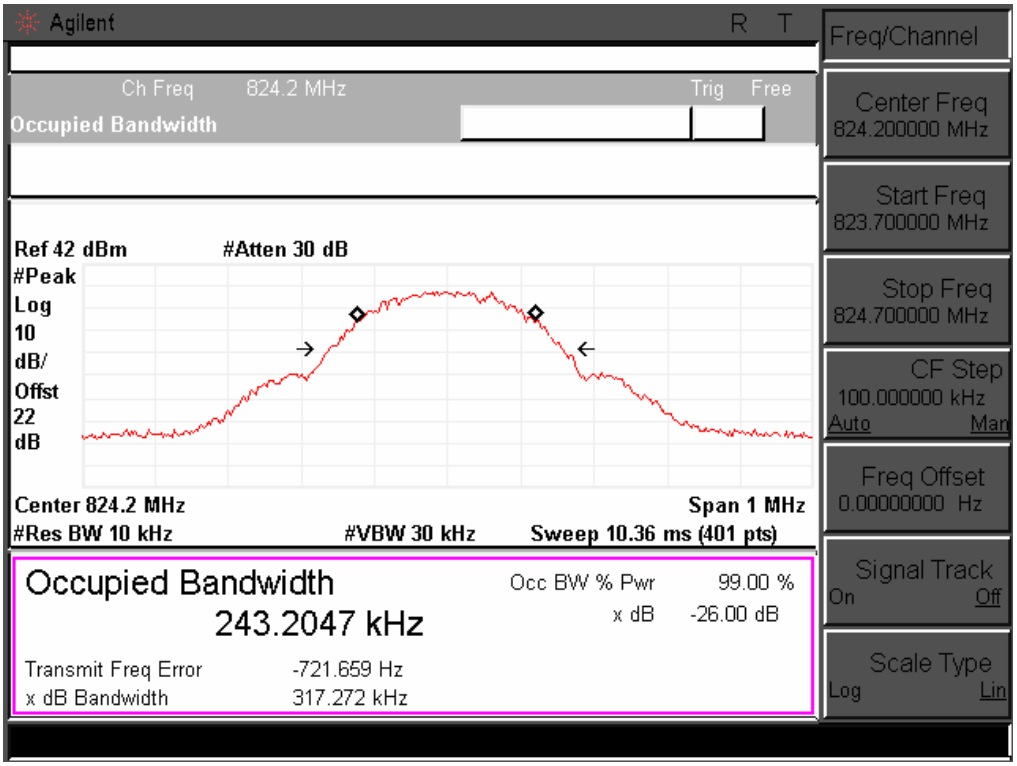
Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

5.5. Test Result and Data

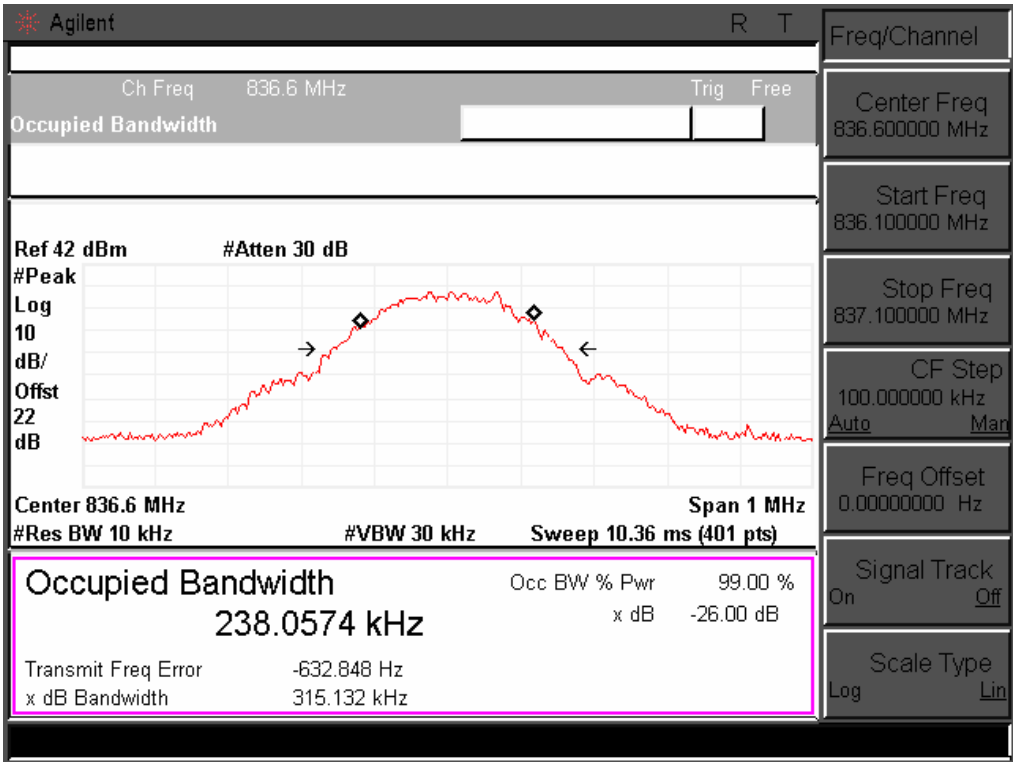
Test Item	Occupied Bandwidth
Test Mode	GSM 850
Test Date	2013-12-04

Channel No.	Frequency (MHz)	Measurement Level (kHz)
128	824.2	317.272
190	836.6	315.132
251	848.8	312.913

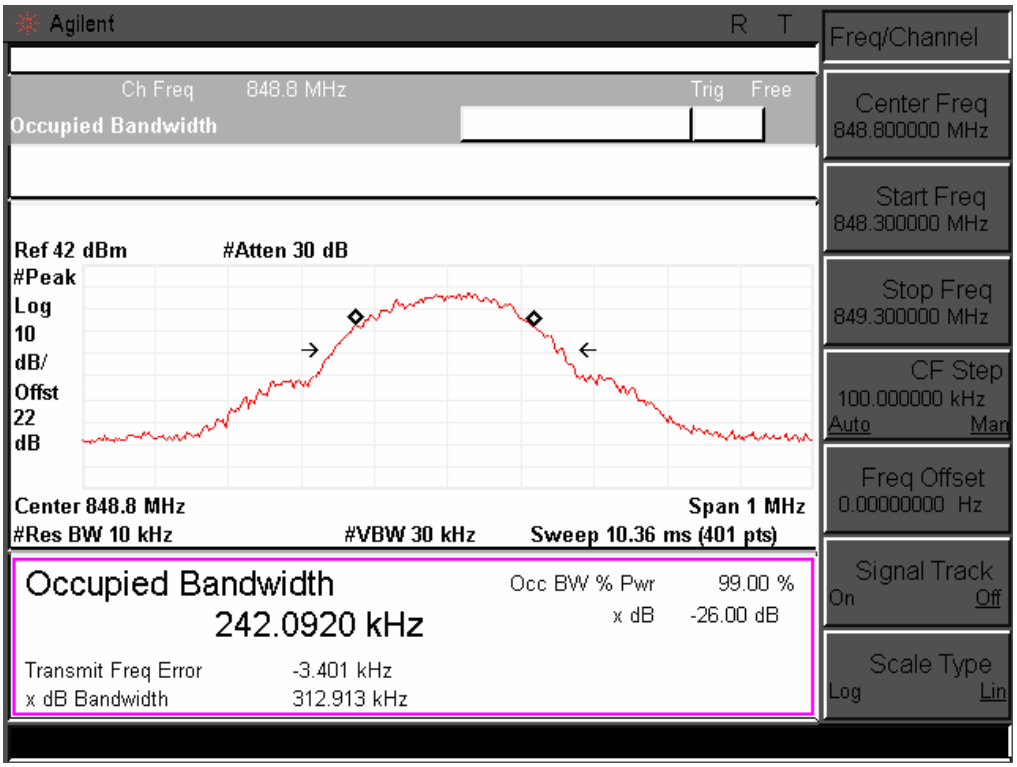
Channel 128



Channel 190



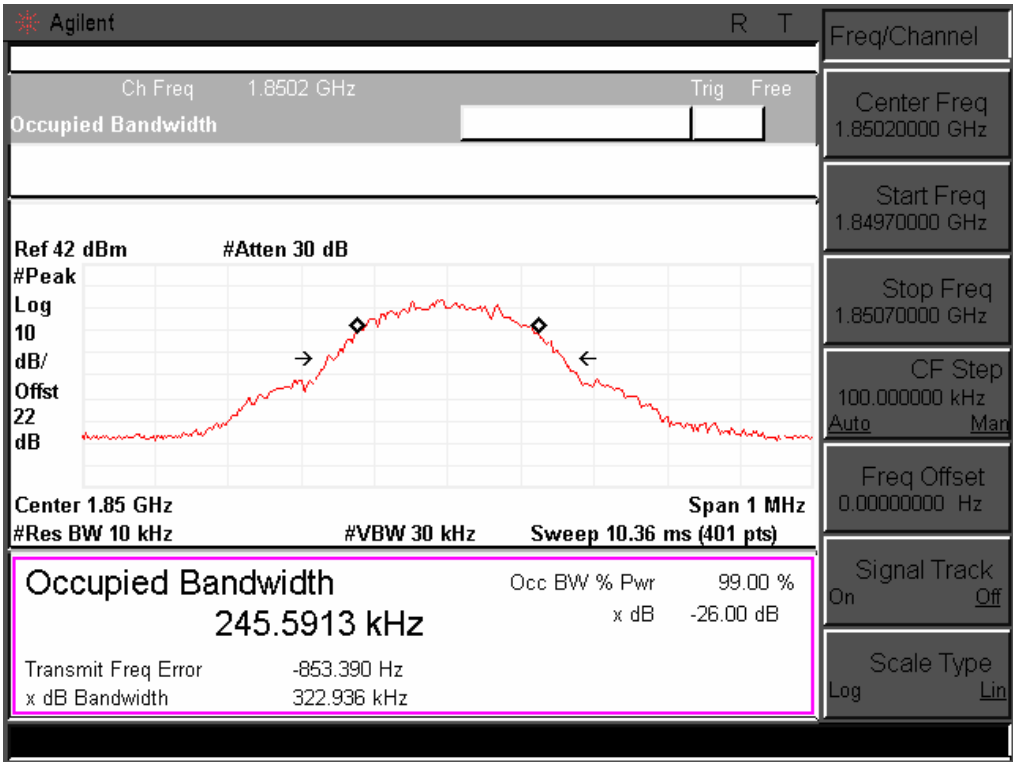
Channel 251



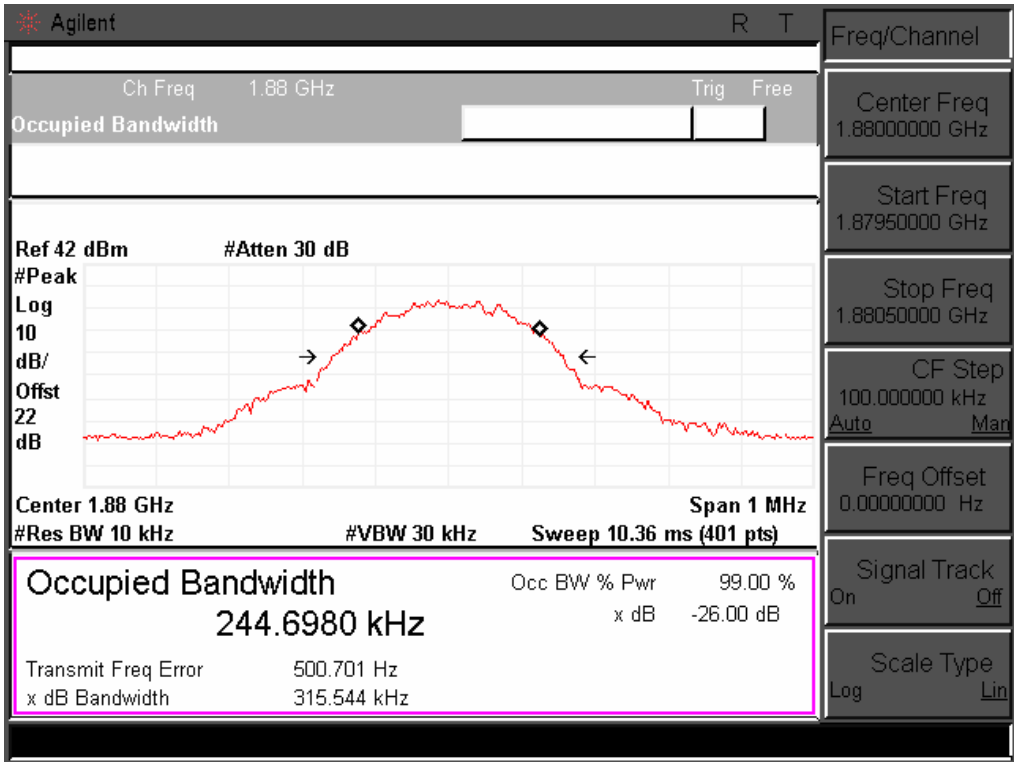
Test Item	Occupied Bandwidth
Test Mode	GSM 1900
Test Date	2013-12-04

Channel No.	Frequency (MHz)	Measurement Level (kHz)
512	1850.2	322.936
661	1880.0	315.544
810	1909.8	318.087

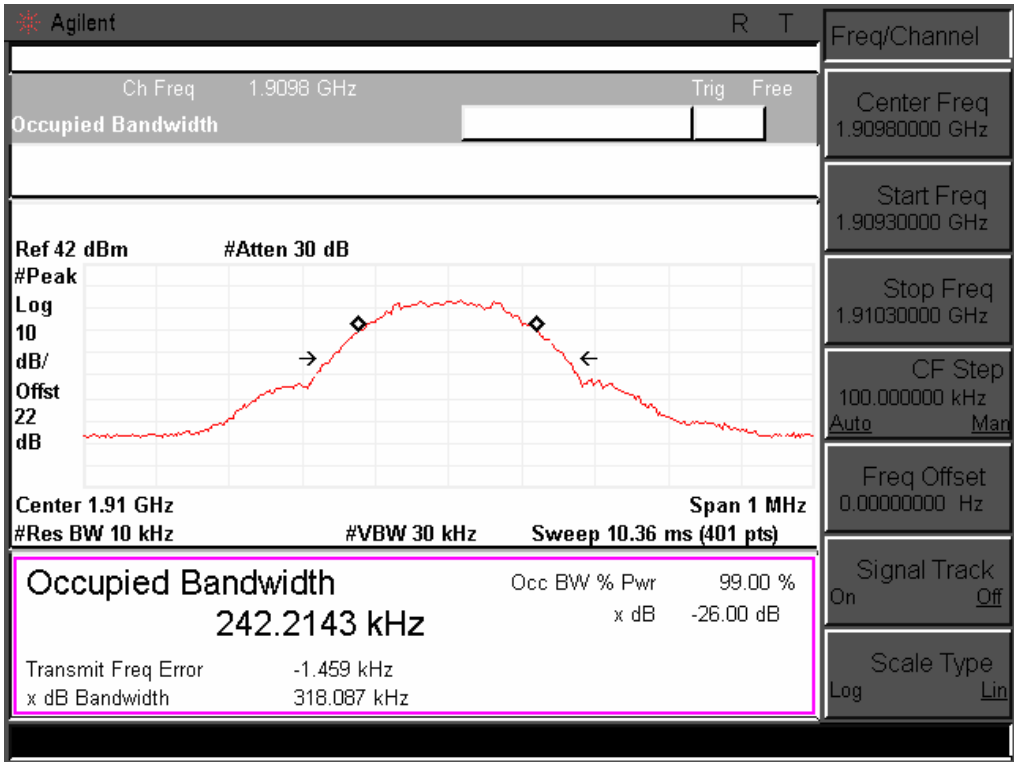
Channel 512



Channel 661



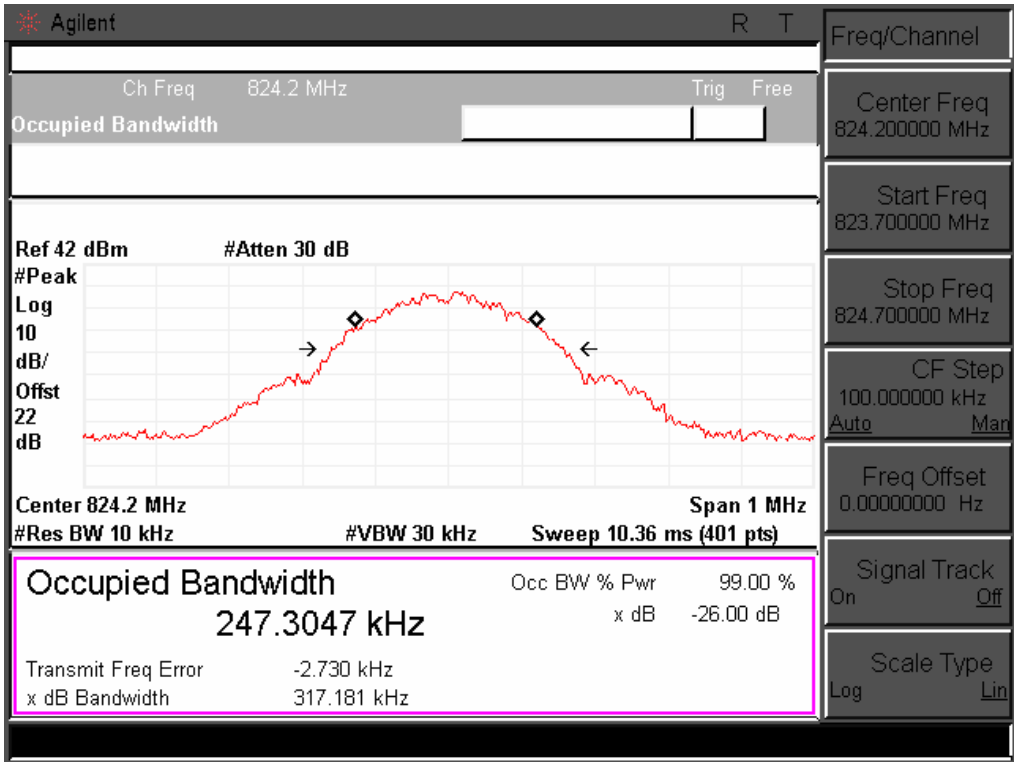
Channel 810



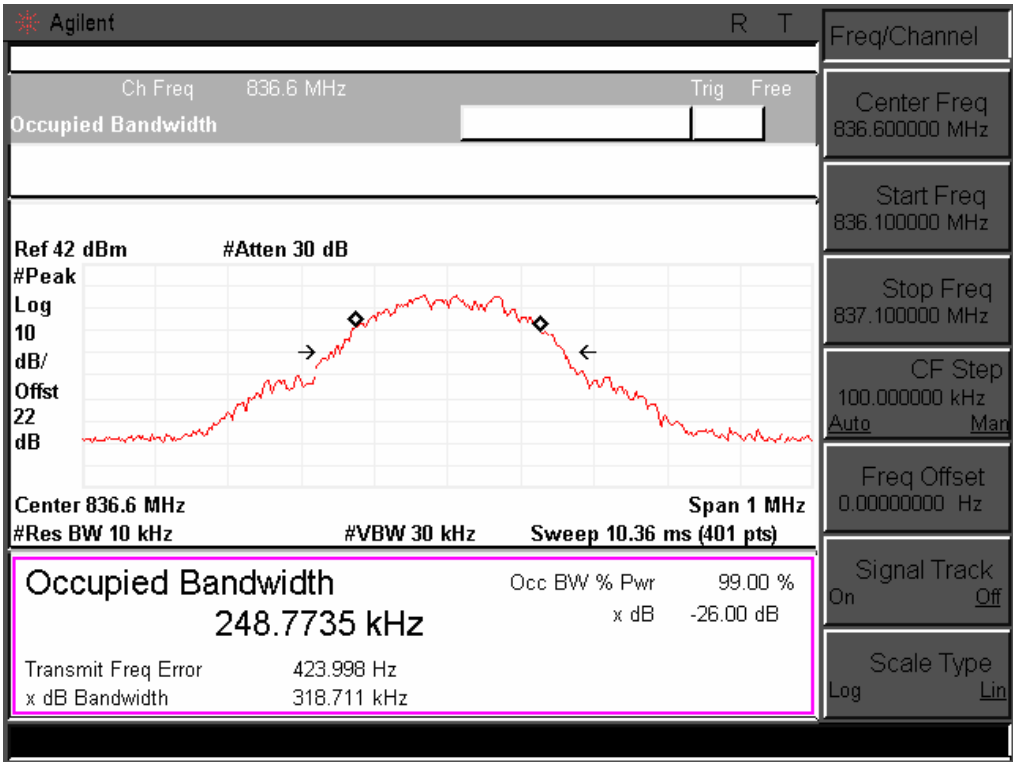
Test Item	Occupied Bandwidth
Test Mode	GPRS 850
Test Date	2013-12-04

Channel No.	Frequency (MHz)	Measurement Level (kHz)
128	824.2	317.181
190	836.6	318.711
251	848.8	317.916

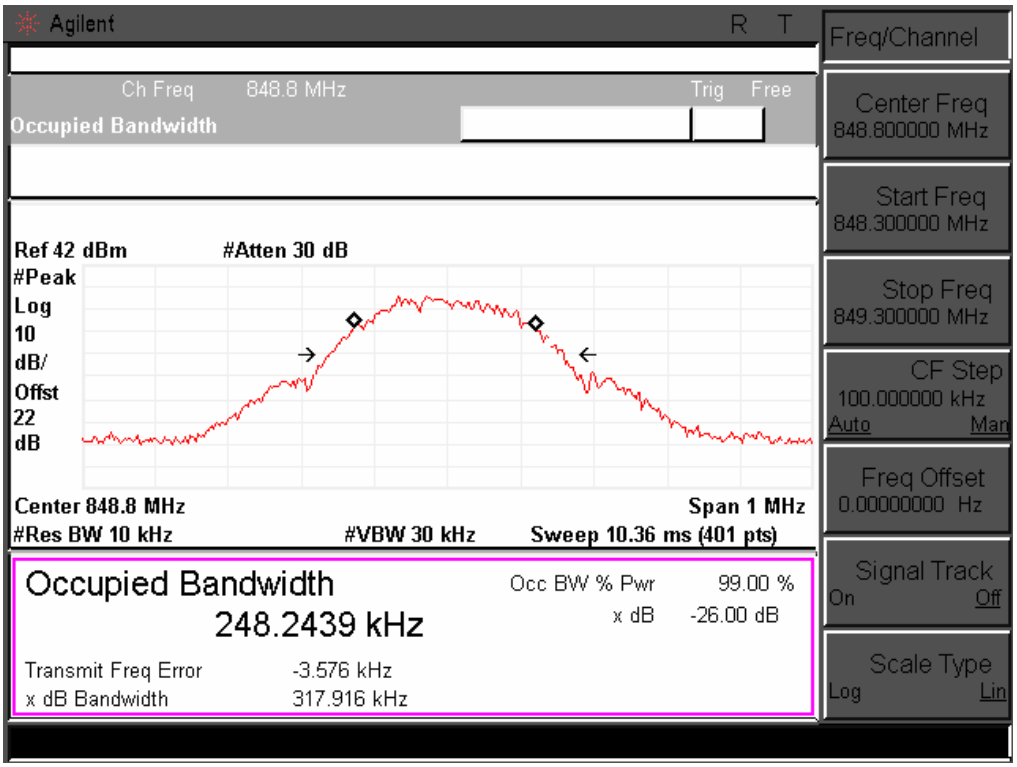
Channel 128



Channel 190



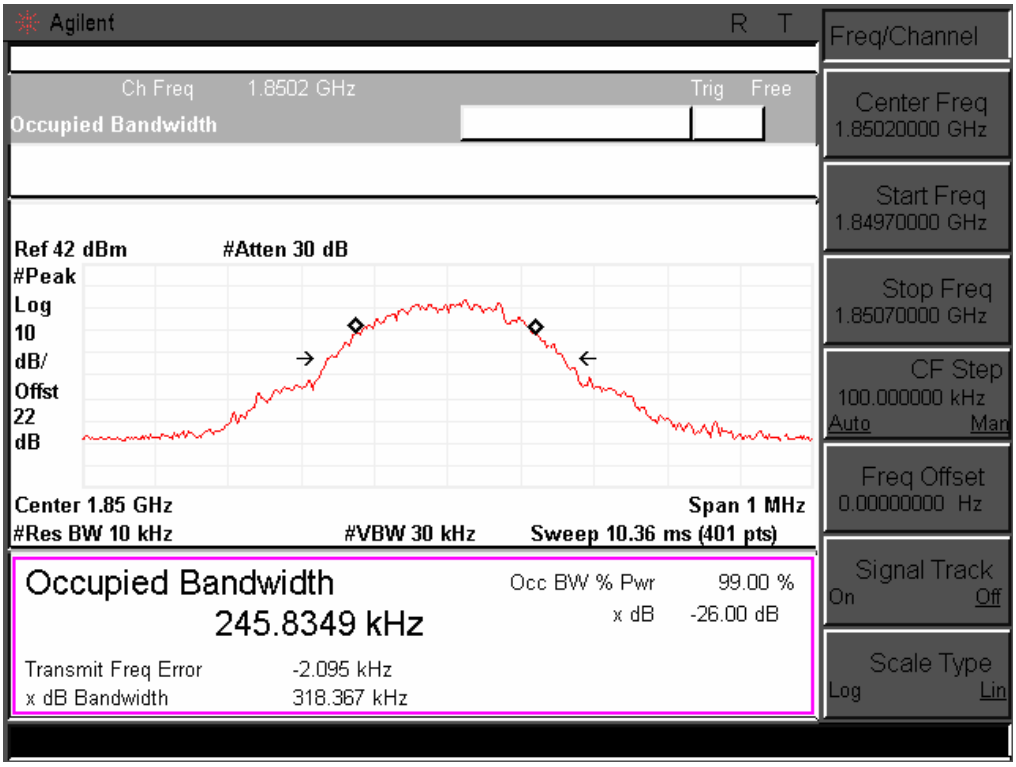
Channel 251



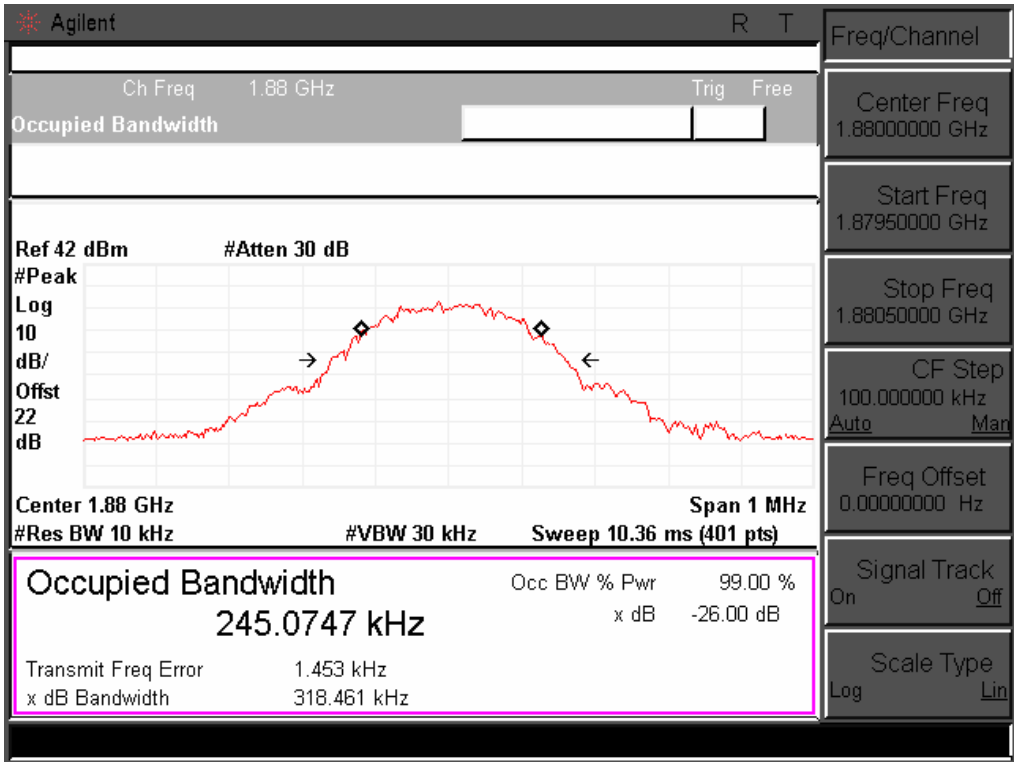
Test Item	Occupied Bandwidth
Test Mode	GPRS 1900
Test Date	2013-12-04

Channel No.	Frequency (MHz)	Measurement Level (kHz)
512	1850.2	318.367
661	1880.0	318.461
810	1909.8	314.426

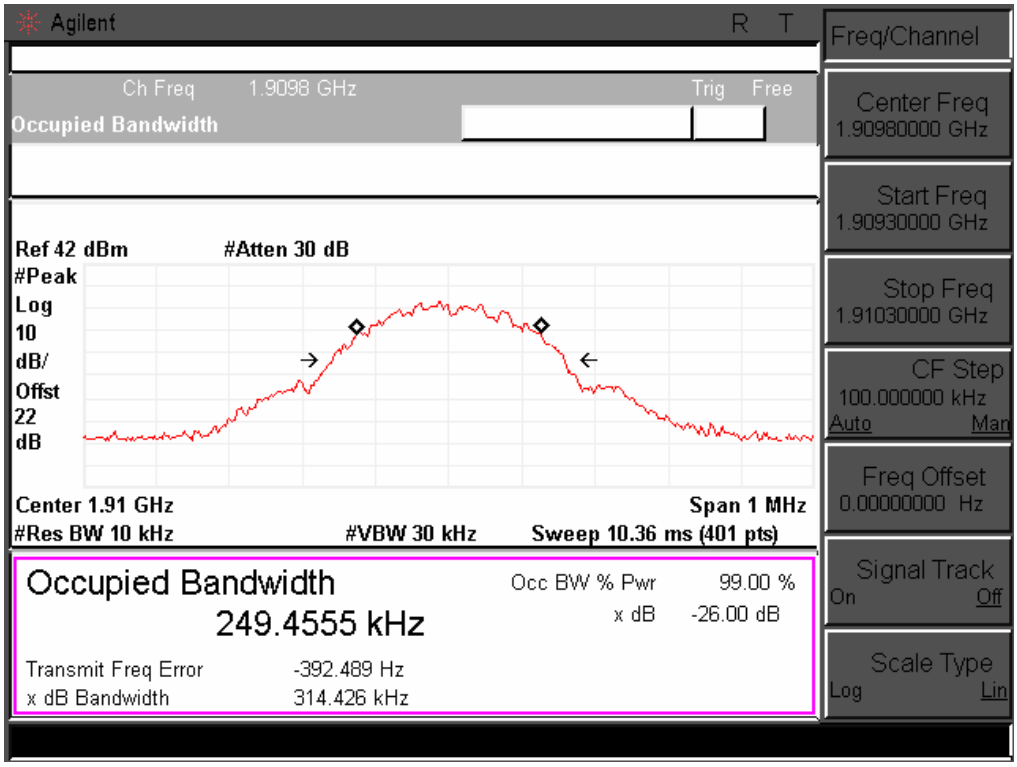
Channel 512



Channel 661



Channel 810



6. Maximum Peak Output Power

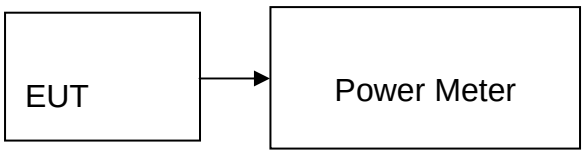
6.1. Test Limit

According to FCC §2.1046.

6.2. Test Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

6.3. Test Setup Layout



6.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Power Meter	NRP	R&S	101206	2013.03.10	2014.03.09
Power Sensor	NRP-Z91	R&S	100385	2013.03.10	2014.03.09
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

6.5. Test Result and Data

Test Item	Maximum Peak Output Power
Test Mode	GSM 850
Test Date	2013-12-05

Channel No.	Frequency (MHz)	Peak Power (dBm)
128	824.2	30.36
190	836.6	30.25
251	848.8	29.98

Test Item	Maximum Peak Output Power
Test Mode	GSM 1900
Test Date	2013-12-05

Channel No.	Frequency (MHz)	Peak Power (dBm)
512	1850.2	28.67
661	1880.0	29.10
810	1909.8	29.23

Test Item	Maximum Peak Output Power
Test Mode	GPRS 850
Test Date	2013-12-05

Channel No.	Frequency (MHz)	Peak Power (dBm)
128	824.2	30.28
190	836.6	30.12
251	848.8	29.86

Test Item	Maximum Peak Output Power
Test Mode	GPRS 1900
Test Date	2013-12-05

Channel No.	Frequency (MHz)	Peak Power (dBm)
512	1850.2	28.65
661	1880.0	29.08
810	1909.8	29.20

7. ERP & EIRP MEASUREMENT

7.1. Test Limit

According to FCC §2.1046

FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

7.2. Test Procedure

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.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

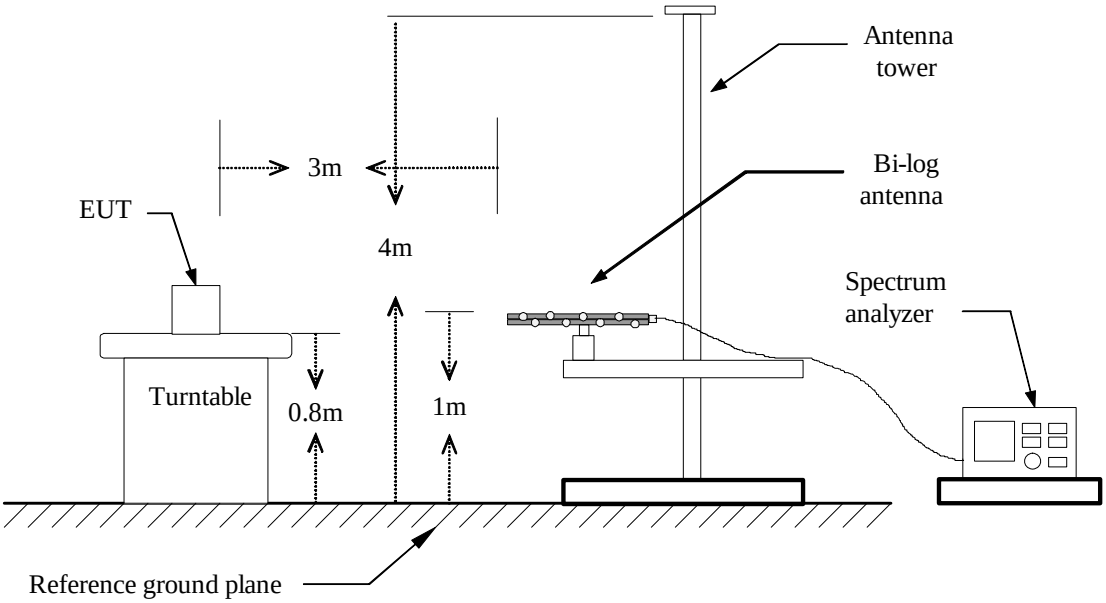
ERP in frequency band 824-849MHz, and EIRP in frequency band 1850 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1850-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

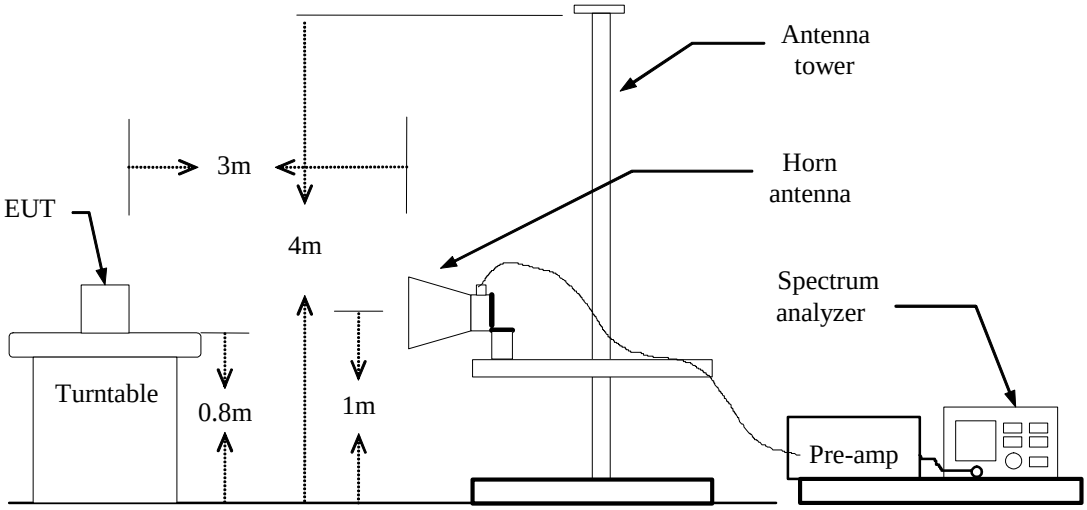
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

7.3. Test Setup Layout

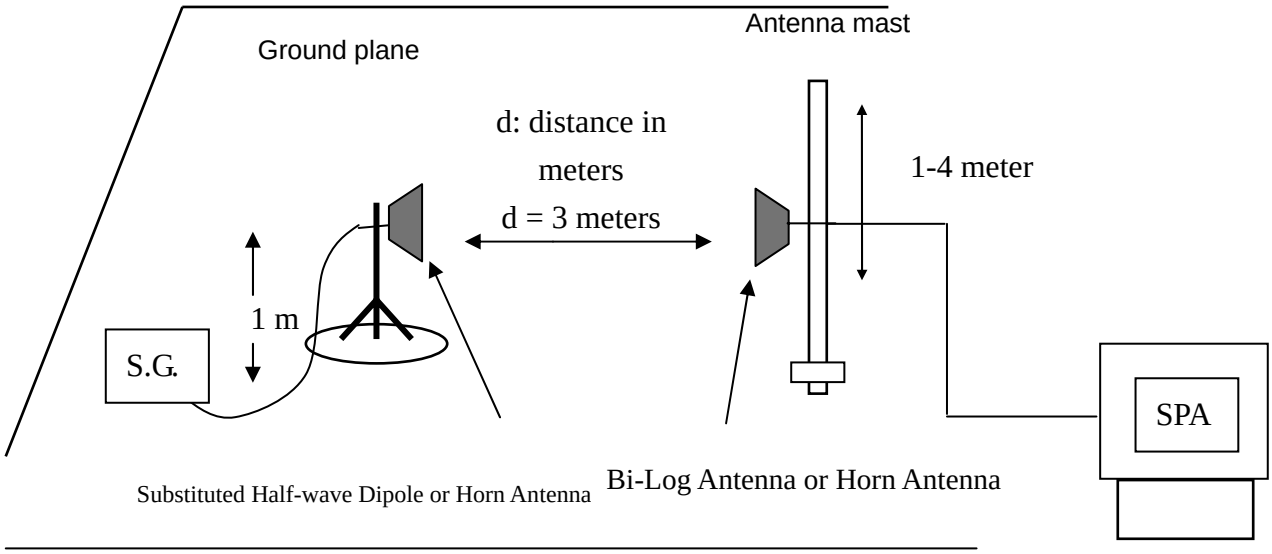
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



7.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
H64 Amplifier	HP	8447F	3113A05582	2013.03.10	2014.03.09
Preamplifier	Agilent	8449B	ED-HE-EMI-077	2013.03.10	2014.03.09
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2013.05.03	2014.05.02
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

7.5. Test Result and Data

GSM 850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.2	V	29.17	1.01	30.18	38.5	-8.32
	824.2	H	29.28	0.96	30.24	38.5	-8.26
190	836.6	V	29.95	1.77	31.72	38.5	-6.78
	836.6	H	28.01	1.46	29.47	38.5	-9.03
251	848.8	V	29.64	1.85	31.49	38.5	-7.01
	848.8	H	28.08	1.54	29.62	38.5	-8.88

GSM 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1852.4	V	26.15	2.34	28.49	33	-4.51
	1852.4	H	25.54	1.88	27.42	33	-5.58
661	1880	V	26.01	2.12	28.13	33	-4.87
	1880	H	25.87	2.41	28.28	33	-4.72
810	1907.6	V	26.63	2.34	28.97	33	-4.03
	1907.6	H	25.67	1.98	27.65	33	-5.35

GPRS 850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.2	V	29.15	1.01	30.16	38.5	-8.34
	824.2	H	29.51	0.96	30.47	38.5	-8.03
190	836.6	V	28.28	1.77	30.05	38.5	-8.45
	836.6	H	29.28	1.46	30.74	38.5	-7.76
251	848.8	V	28.55	1.85	30.40	38.5	-8.1
	848.8	H	28.64	1.54	30.18	38.5	-8.32

GPRS 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (Peak) (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1852.4	V	24.15	2.34	26.49	33	-6.51
	1852.4	H	23.55	1.88	25.43	33	-7.57
661	1880	V	23.65	2.12	25.77	33	-7.23
	1880	H	23.08	2.41	25.49	33	-7.51
810	1907.6	V	23.74	2.34	26.08	33	-6.92
	1907.6	H	23.65	1.98	25.63	33	-7.37

8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

8.1. Test Limit

According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at lease 43 + 10 log P dB.

Mobile Emissions in Base Frequency Range: The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed –80 dBm at the transmit antenna connector.

Band Edge Requirements: In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at lease 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the Out of band Emission.

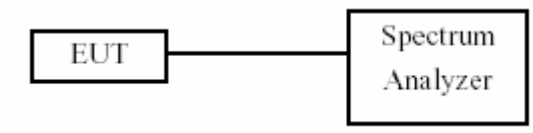
8.2. Test Procedure

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 = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm

Band Edge Requirements (824 MHz and 849 MHz /1850MHz and 1910MHz): 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. Limit, -13dBm.

8.3. Test Setup Layout



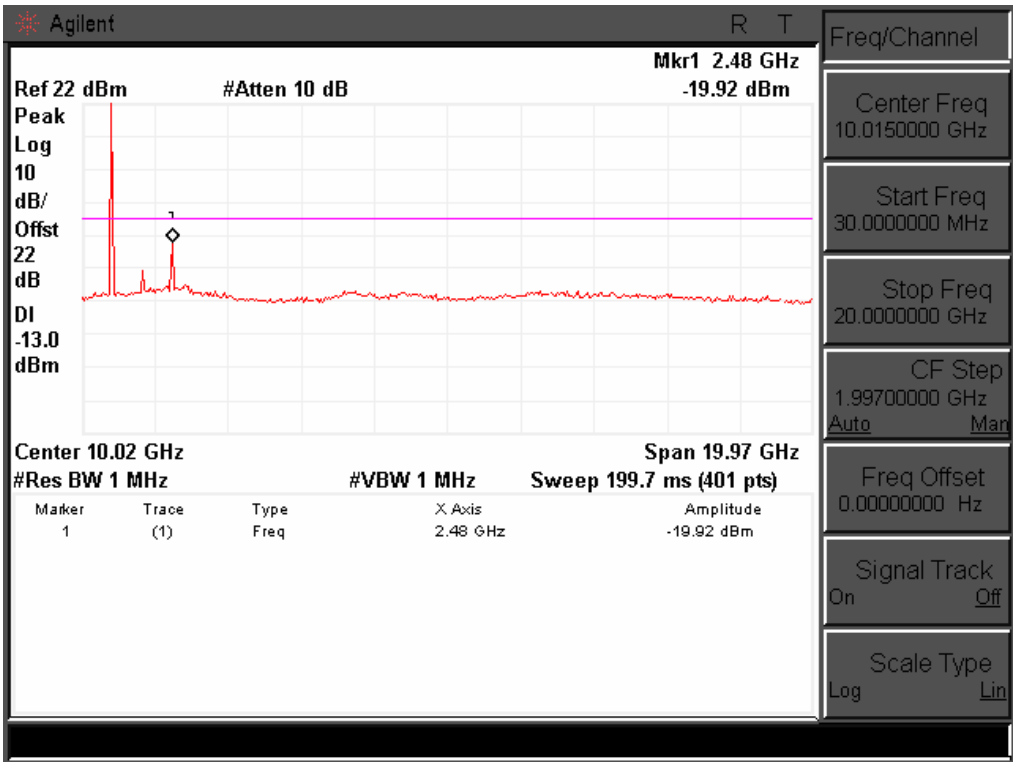
8.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

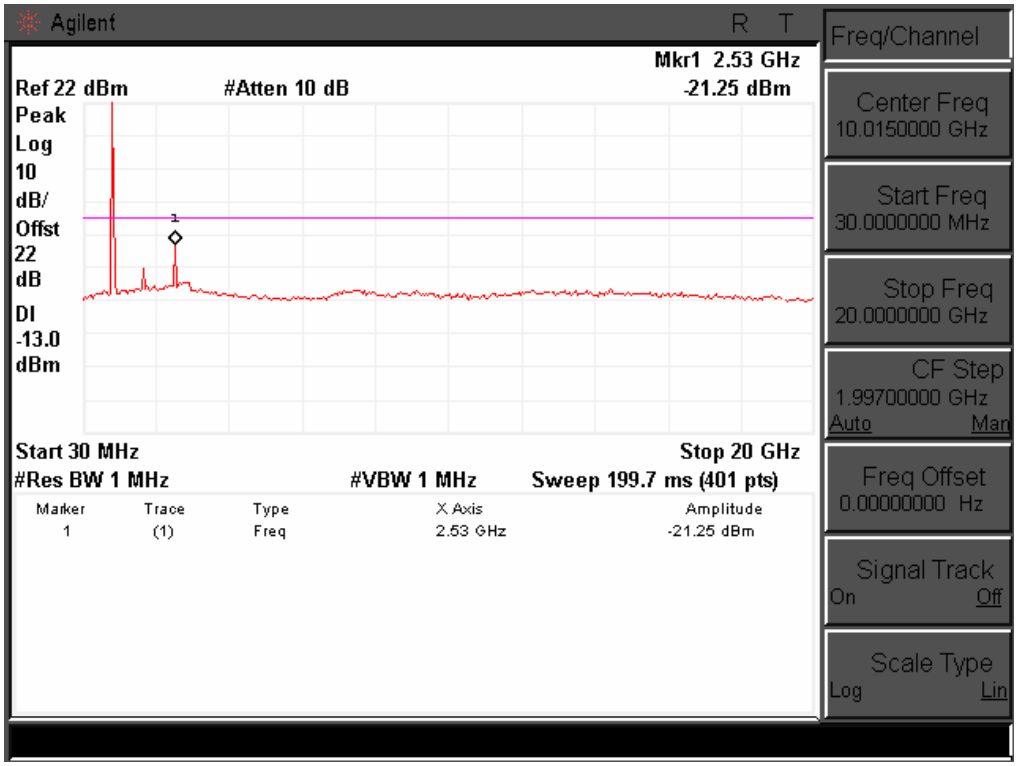
8.5. Test Result and Data

Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	GSM 850
Test Date	2013-12-05

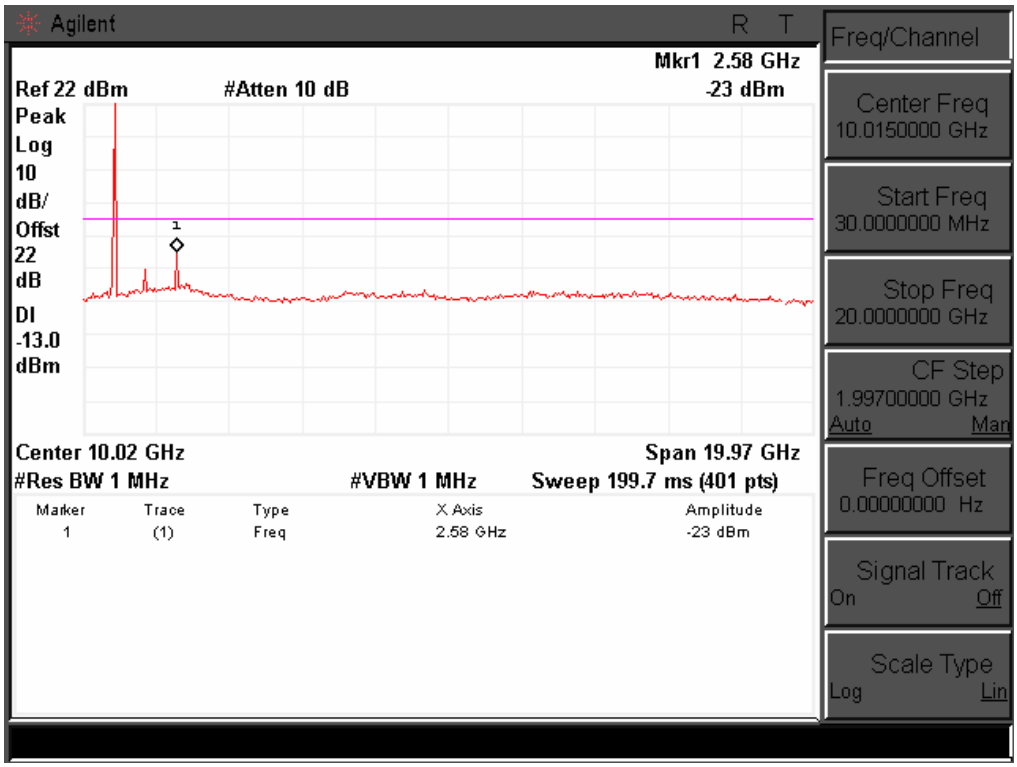
Channel 128



Channel 190

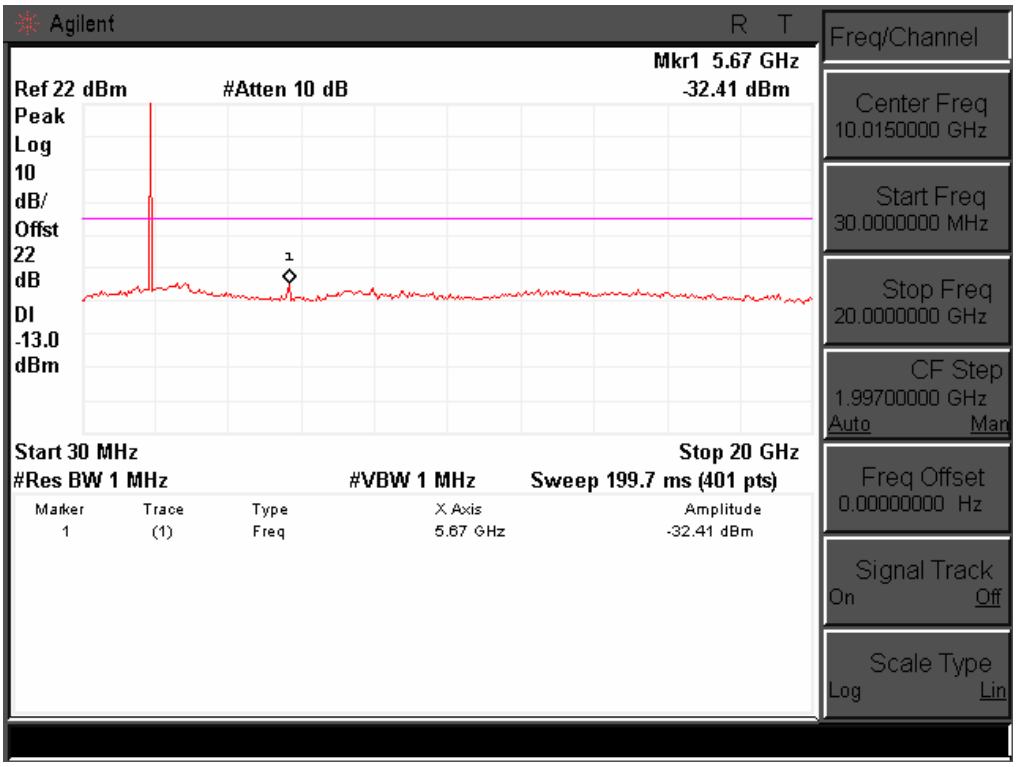


Channel 251

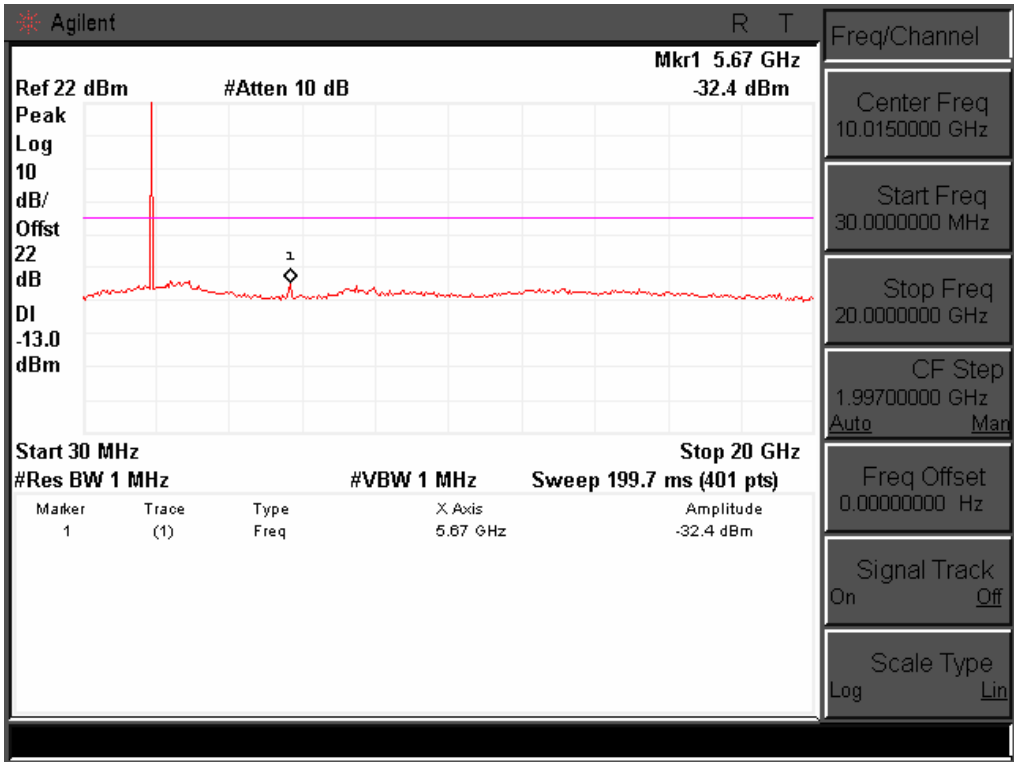


Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	GSM 1900
Test Date	2013-12-05

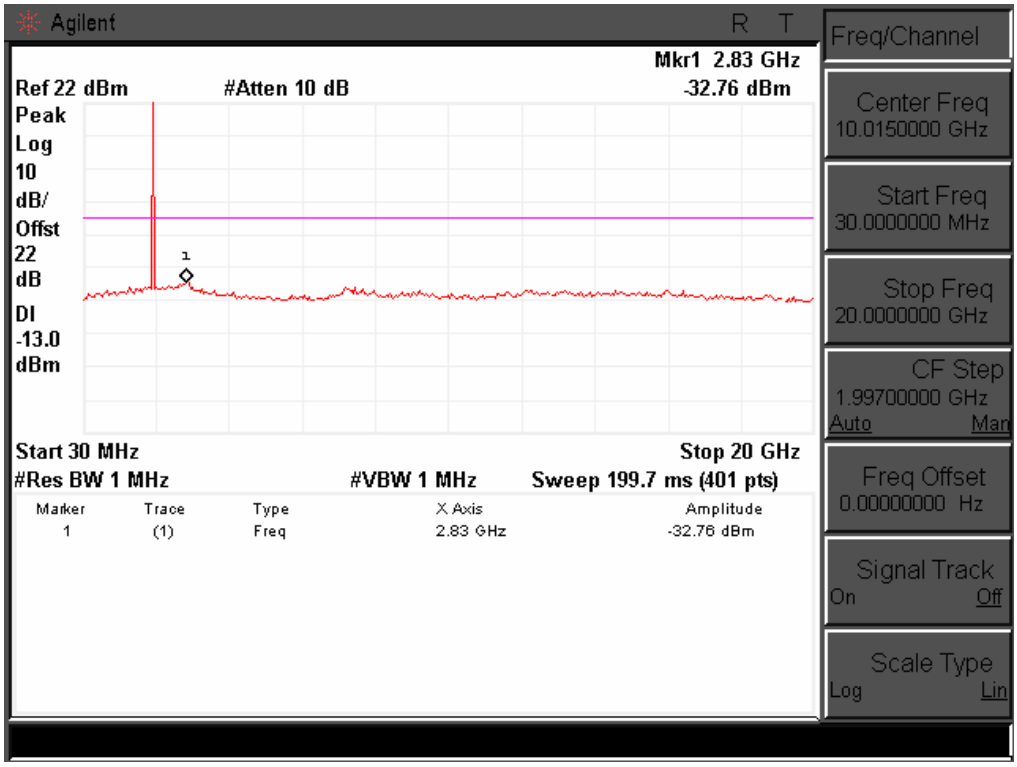
Channel 512



Channel 661

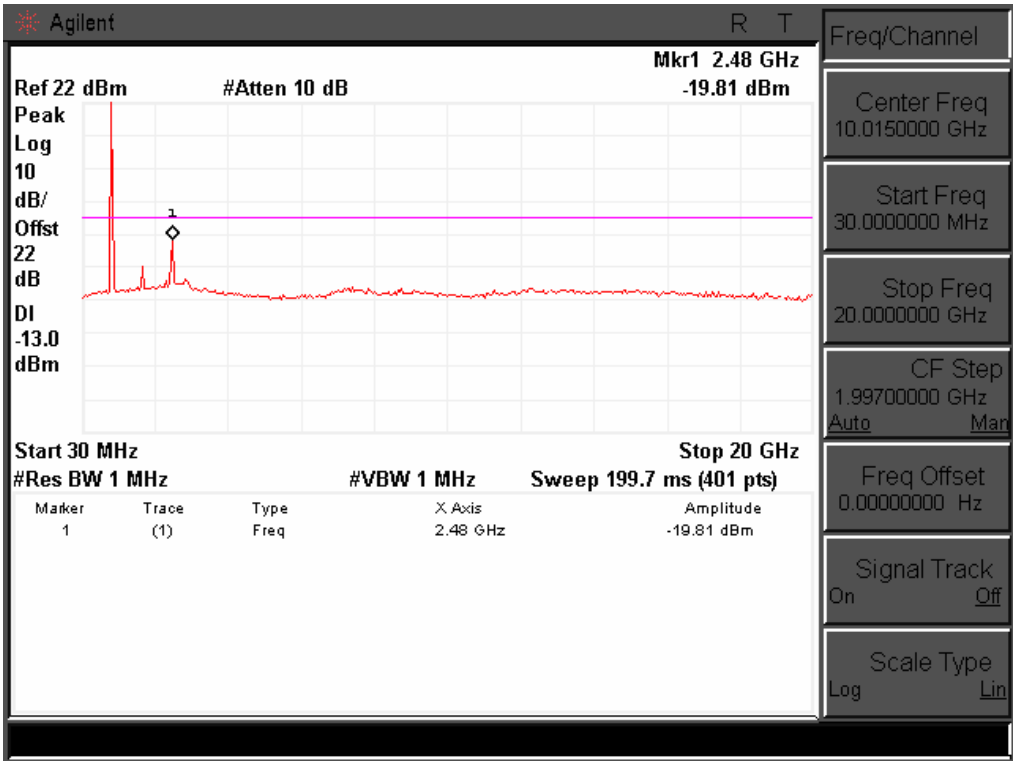


Channel 810

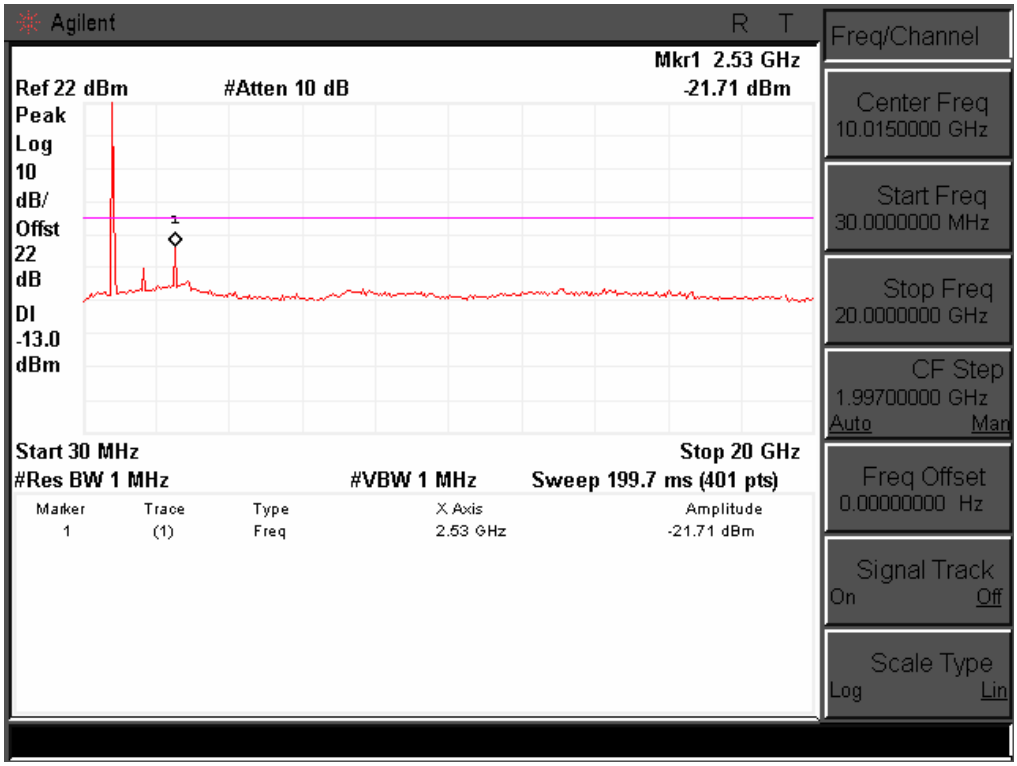


Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	GPRS 850
Test Date	2013-12-05

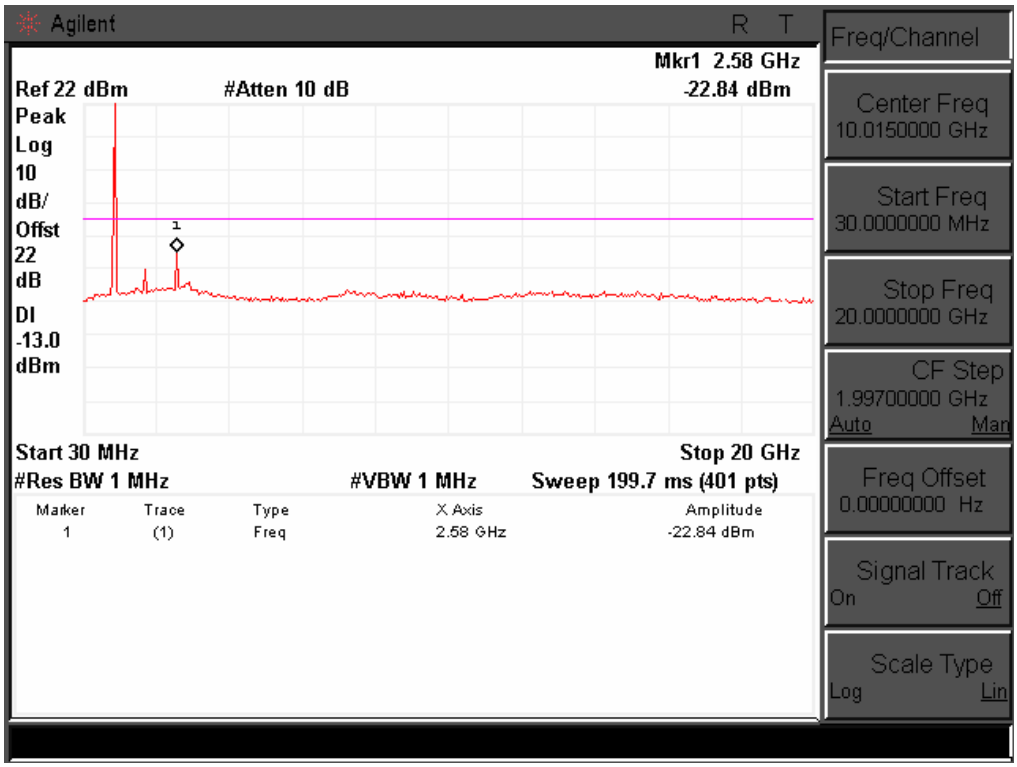
Channel 128



Channel 190

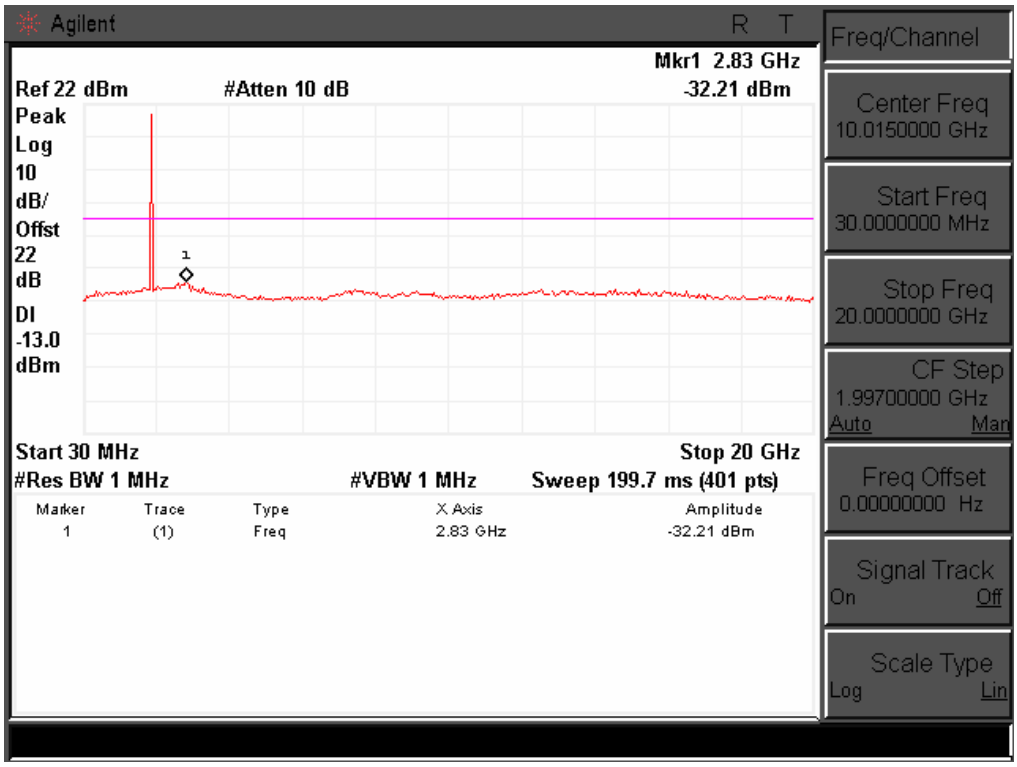


Channel 251

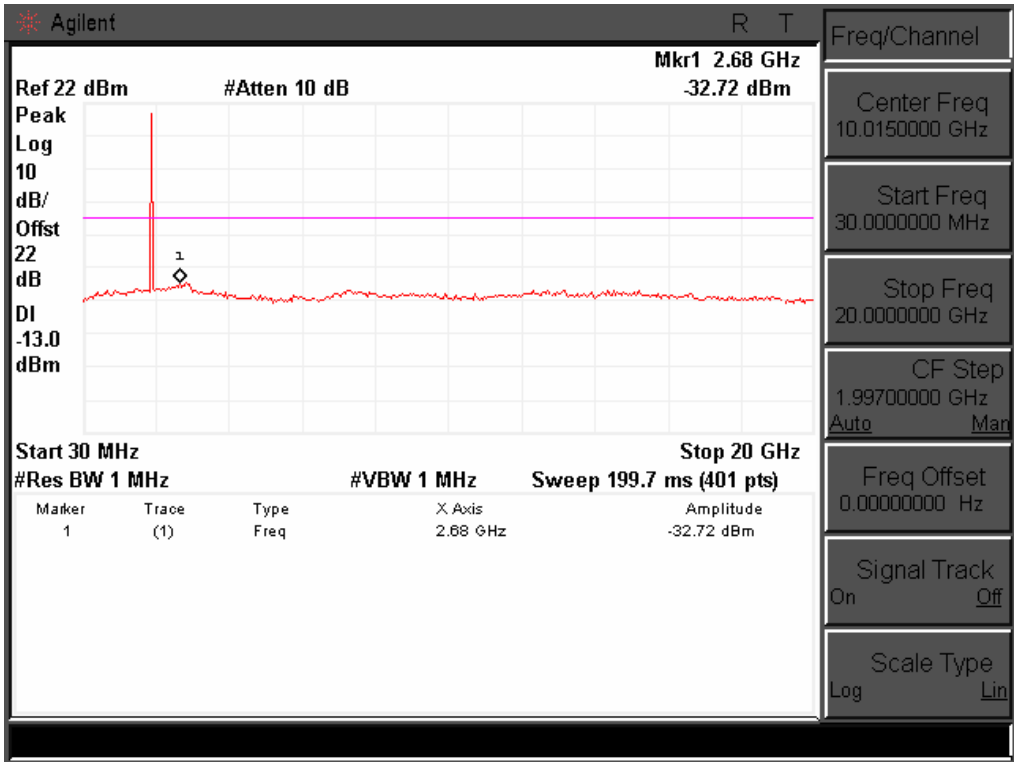


Test Item	Conducted spurious emissions, 30MHz - 20GHz
Test Mode	GPRS 1900
Test Date	2013-12-05

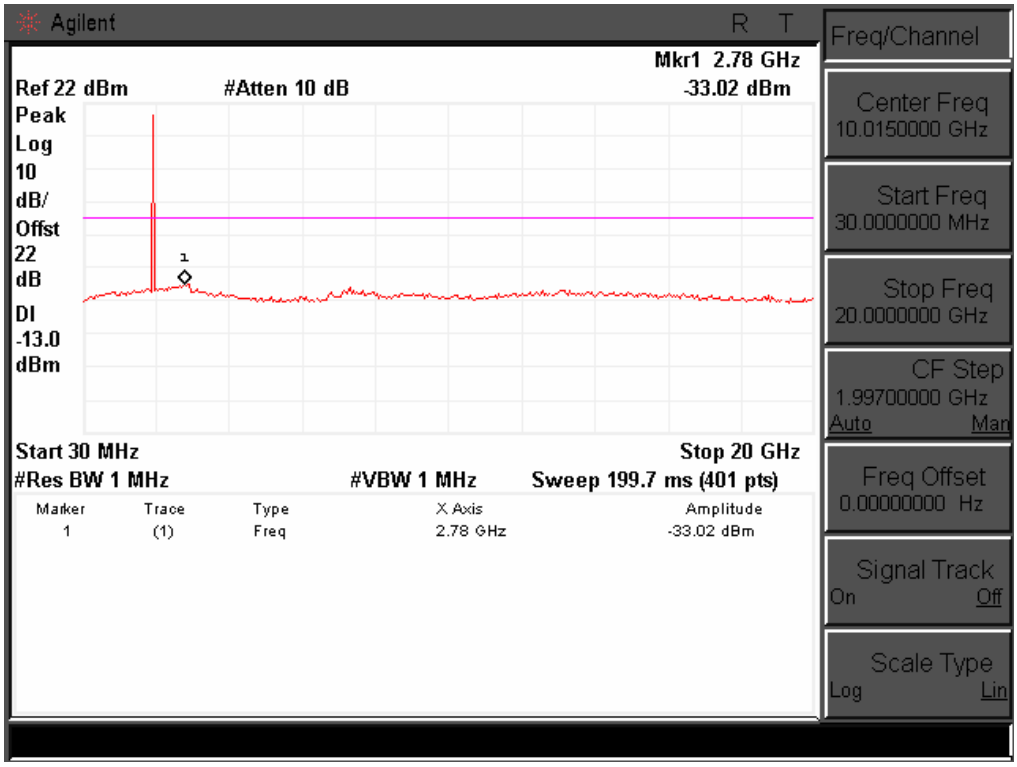
Channel 512



Channel 661

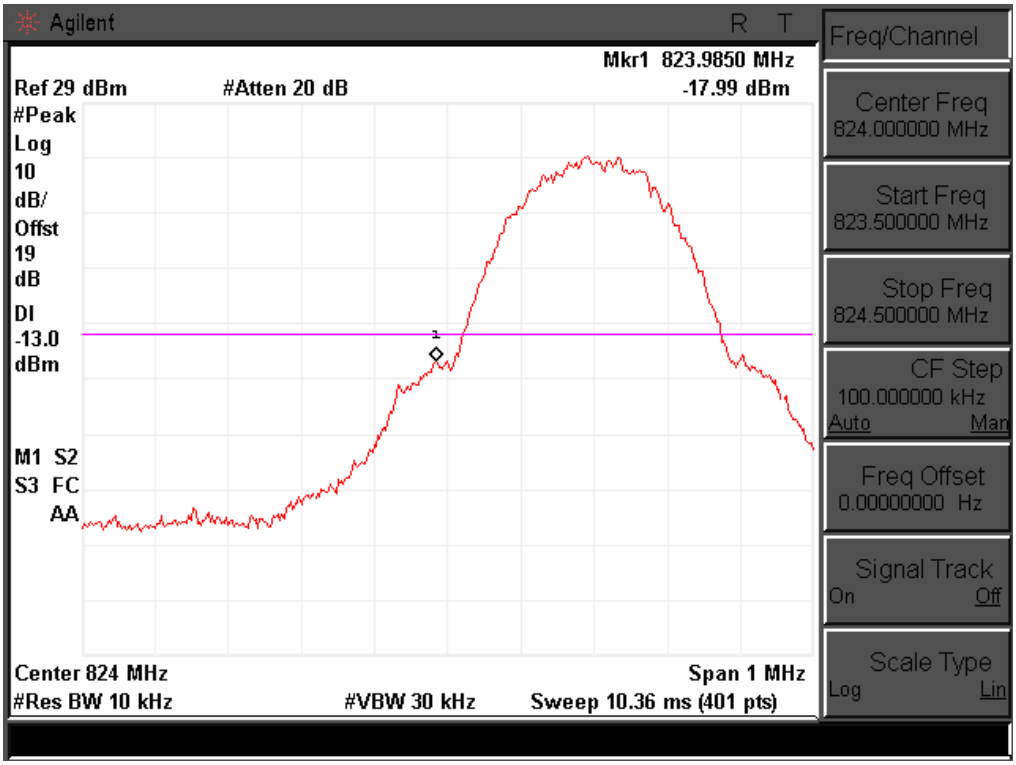


Channel 810

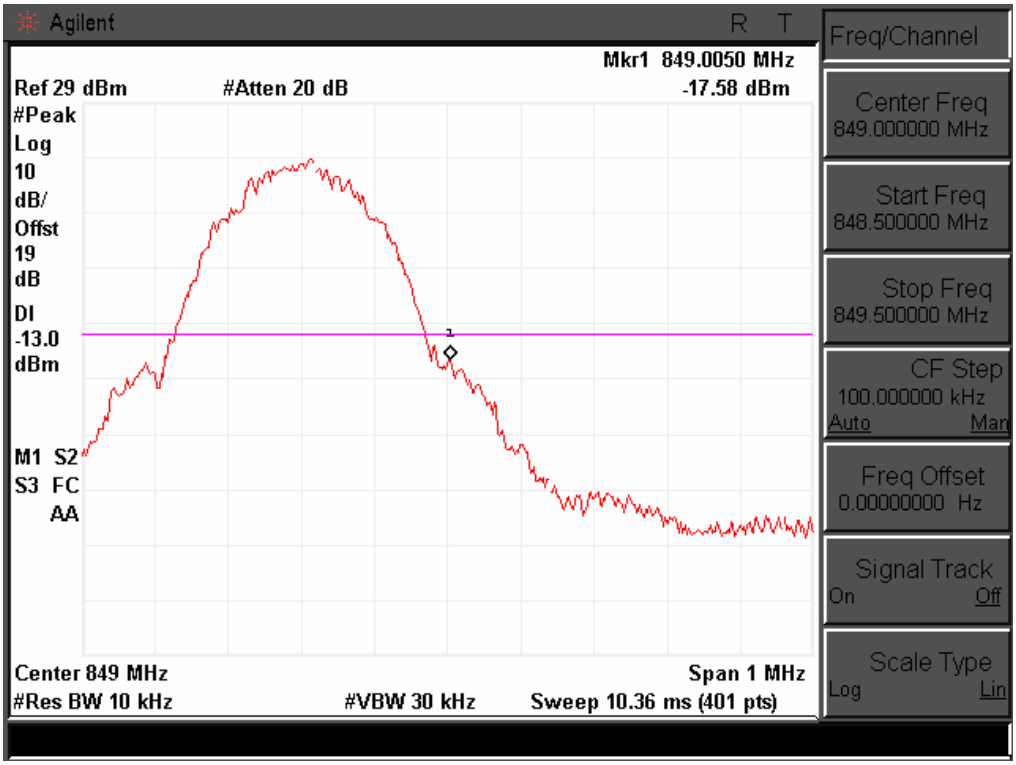


Test Item	Band Edge emissions
Test Mode	GSM 850
Test Date	2013-12-05

Channel 128

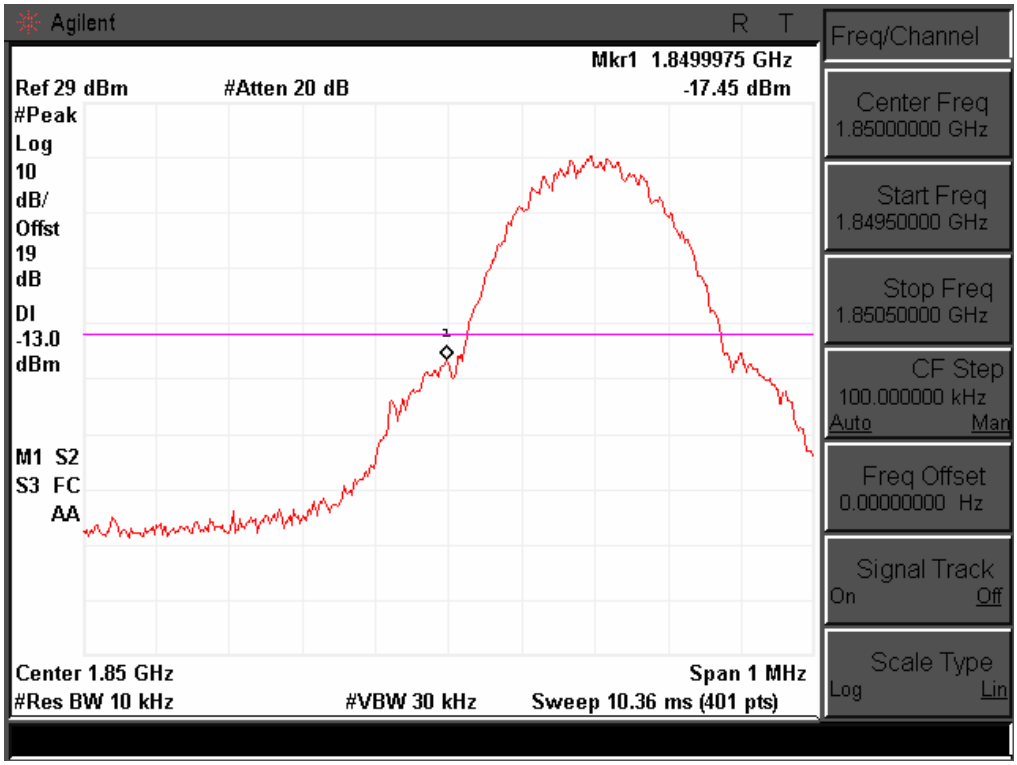


Channel 251

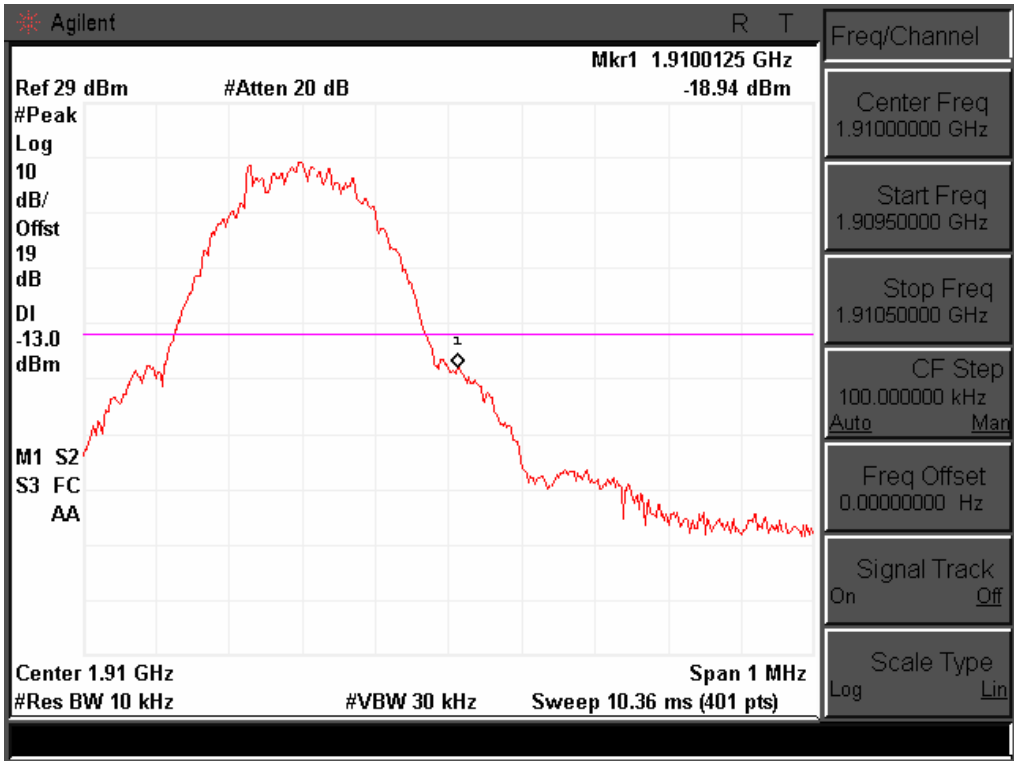


Test Item	Band Edge emissions
Test Mode	GSM 1900
Test Date	2013-12-05

Channel 512

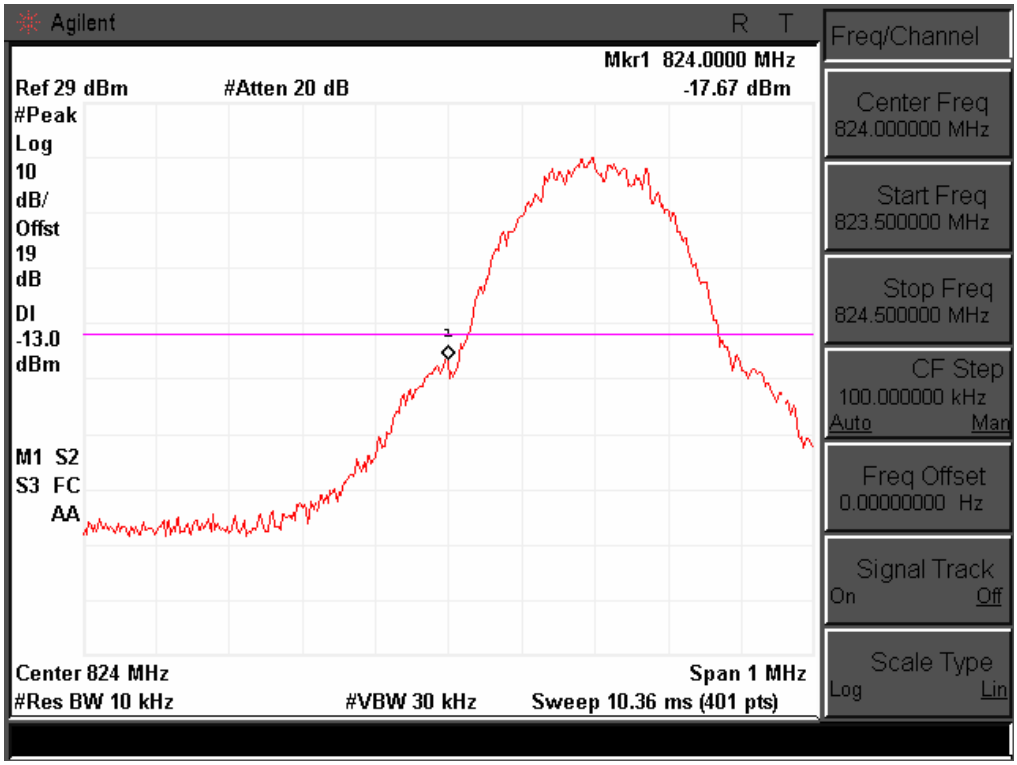


Channel 810

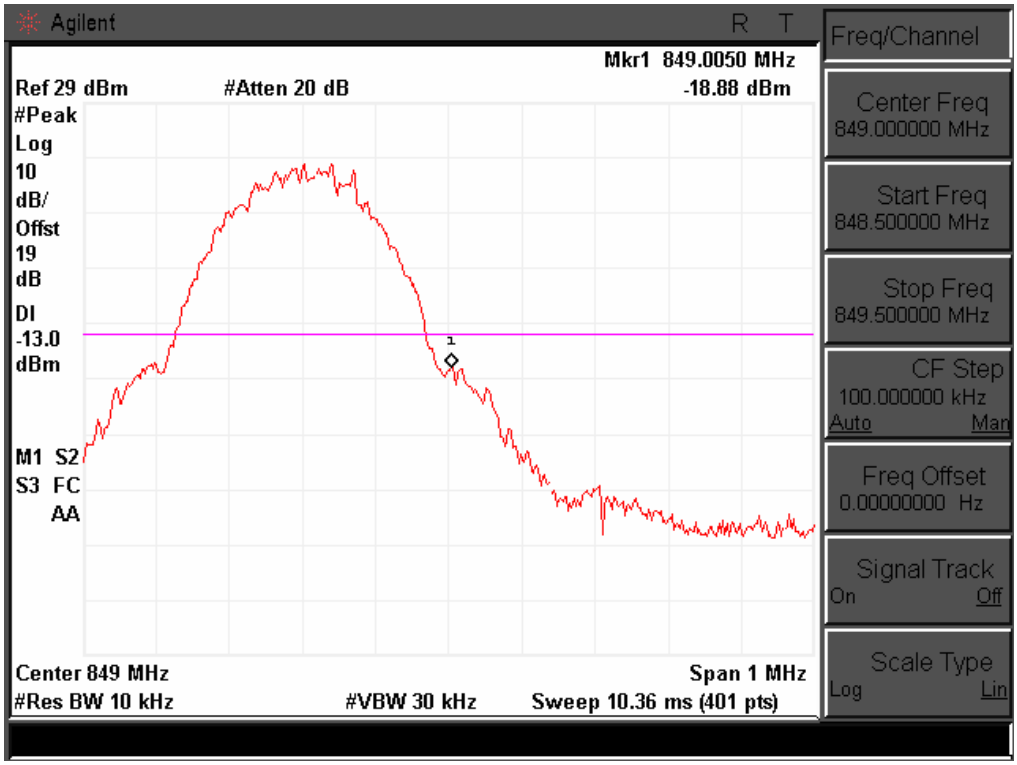


Test Item	Band Edge emissions
Test Mode	GPRS 850
Test Date	2013-12-05

Channel 128

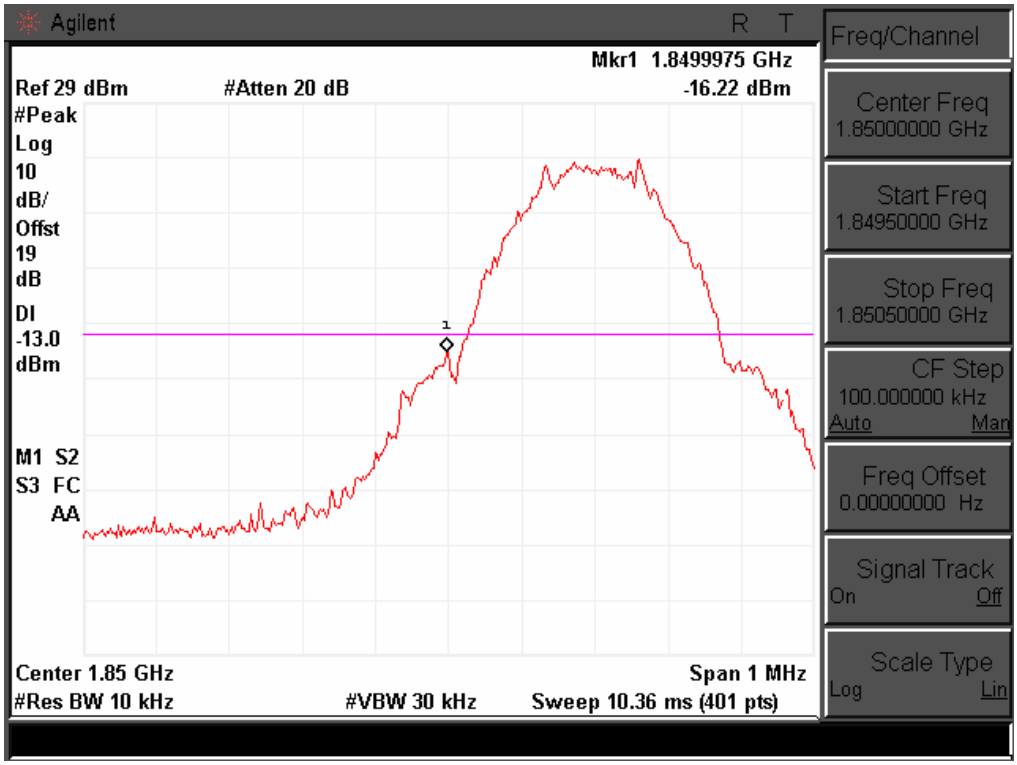


Channel 251

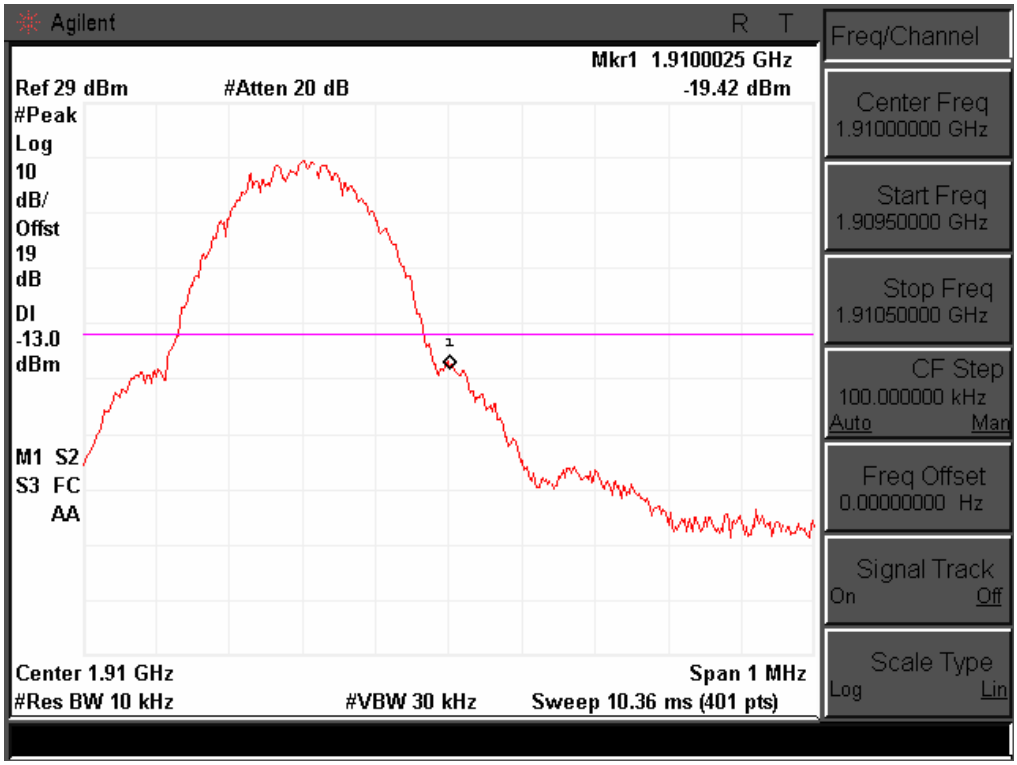


Test Item	Band Edge emissions
Test Mode	GPRS 1900
Test Date	2013-12-05

Channel 512



Channel 810



9. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

9.1. Test Limit

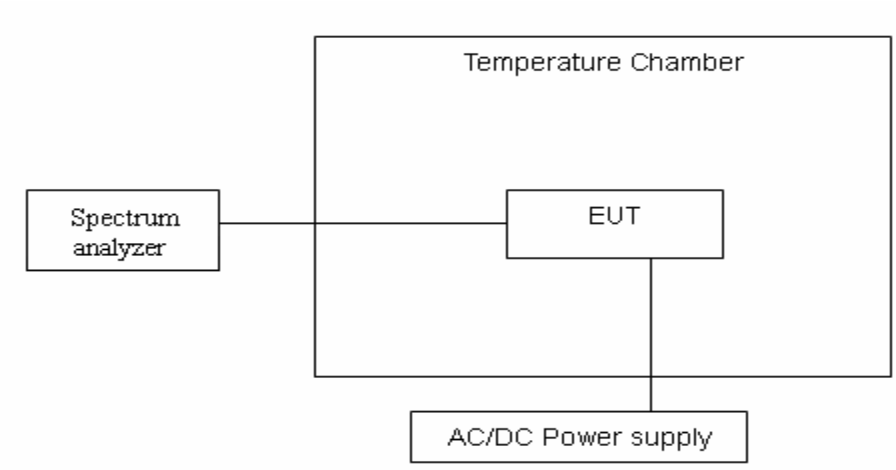
According to FCC §2.1055, FCC §22.355, .FCC §24.235.

Frequency Tolerance: 2.5 ppm

9.2. Test Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

9.3. Test Setup Layout



9.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

9.5. Test Result and Data

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	GSM 850 Channel 190
Test Date	2013-12-05

Reference Frequency: 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83660057	57	2090
	40	83660025	25	
	30	83660034	34	
	20	83660000	0	
	10	83660008	08	
	0	83660013	13	
	-30	83660027	27	

Test Item	Power Spectral Density
Test Mode	GSM 1900 Channel 661
Test Date	2013-12-05

Reference Frequency: 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000006	06	4700
	40	1880000023	23	
	30	1880000047	47	
	20	1880000000	0	
	10	1880000020	20	
	0	1880000014	14	
	-30	1880000025	25	

Test Item	FREQUENCY STABILITY V.S. TEMPERATURE
Test Mode	GPRS 850 Channel 190
Test Date	2013-12-05

Reference Frequency: 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83660036	36	2090
	40	83660028	28	
	30	83660020	20	
	20	83660000	0	
	10	83660014	14	
	0	83660010	10	
	-30	83660037	37	

Test Item	Power Spectral Density
Test Mode	GPRS 1900 Channel 661
Test Date	2013-12-50

Reference Frequency: 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000028	28	4700
	40	1880000035	35	
	30	1880000015	15	
	20	1880000000	0	
	10	1880000033	33	
	0	1880000018	18	
	-30	1880000024	24	

10. REQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

10.1. Test Limit

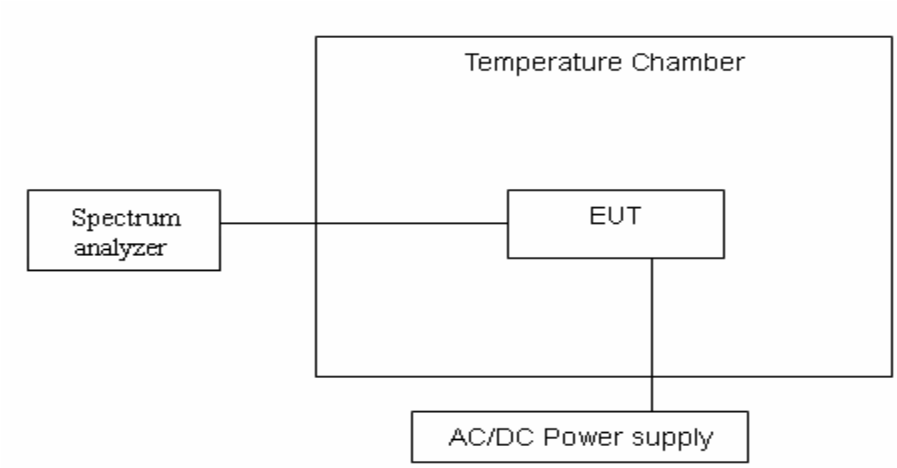
According to FCC §2.1055, FCC §22.355, .FCC §24.235.

10.2. Test Procedure

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (± 10%) and endpoint, record the maximum frequency change.

10.3. Test Setup Layout



10.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY44211883	2013.09.25	2014.09.25
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09

10.5.Test Result and Data

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	GSM 850 Channel 190
Test Date	2013-12-05

Reference Frequency: 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	836599986	14	2090
3.7		836600000	0	
3.6		836599965	35	

Test Item	Power Spectral Density
Test Mode	GSM 1900 Channel 661
Test Date	2013-12-05

Reference Frequency: 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999973	27	4700
3.7		1880000000	0	
3.6		1879999982	18	

Test Item	REQUENCY STABILITY V.S. VOLTAGE
Test Mode	GPRS 850 Channel 190
Test Date	2013-12-05

Reference Frequency: 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	836599971	29	2090
3.7		836600000	0	
3.6		836599986	14	

Test Item	Power Spectral Density
Test Mode	GPRS 1900 Channel 661
Test Date	2013-12-05

Reference Frequency: 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999955	45	4700
3.7		1880000000	0	
3.6		1879999982	18	