TEST REPORT

OF

SP-5050

Model Name: Siragon SP-5050

FCC ID: 2AC6BSP-5050

Trademark: N/A

REPORT NO.: ES140807080E4

ISSUE DATE: September 19, 2014

Prepared for

Síragon Corporation.

8501 NW 17th Street Suite 128 Miami, Florida 33126.

Prepared by

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VERIFICATION OF COMPLIANCE

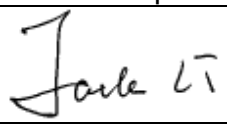
Applicant	:	Síragon Corporation. 8501 NW 17th Street Suite 128 Miami, Florida 33126.
Manufacturer	:	Shenzhen Konka Telecomunications technology Co., Ltd. 9008, Shennan Avenue, Overseas Chinese Town, Shenzhen, China.
Product Description	:	SP-5050
Model Number	:	Siragon SP-5050
File Number	:	ES140807080E4
Date of Test	:	August 08, 2014 to September 19, 2014

We hereby certify that:

The above equipment was tested by SHENZHEN EMTEK CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 22H and FCC Rules Part 24E.

The test results of this report relate only to the tested sample identified in this report.

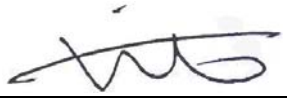
Date of Test : August 08, 2014 to September 19, 2014

Prepared by : 

Jack Li/Editor

Reviewer : 

Joe Xia/Supervisor

Approve & Authorized Signer : 

Lisa Wang/Manager

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Modified Information

Version	Report No.	Revision Data	Summary
Ver.1.0	ES140807080E4	/	Original Version

1 General Information

1.1 Product Description

Device Type:	Mobile Device
Exposure Category:	Uncontrolled Environment/General Population
Product Name:	SP-5050
Model Number:	Siragon SP-5050
Power supply:	3.7V internal rechargeable lithium battery or DC 5V from AC adapter
Adapter:	Model: A31-501000 Input: 100-240V~, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA
IMEI1:	351372098150251
IMEI2:	351372098150269
Hardware Version:	1405411548
Software Version:	Android 4.4.2
Operating Mode(s) &Operating Frequency Range(s):	GSM850: TX824.2MHz~848.8MHz /RX869.2MHz~893.8MHz; PCS1900: TX1850.2MHz~1909.8MHz/RX1930.2MHz~1989.8MHz; WCDMA Band II: TX 1852.4 MHz ~ 1907.6 MHz /RX 1932.4 MHz ~1987.6 MHz;
Modulation:	GMSK for GPRS/GSM; GMSK/8PSK for EDGE; QPSK for WCDMA;
Number of Channels:	124 Channels for GSM850; 299 Channels for PCS1900; 277 Channels for WCDMA Band II;
Type of Antenna:	Ceramic Chip Antenna
Antenna Gain:	1dBi for 2G/ 3G;
RF Output Power:	GSM850/ PCS1900: 32.21dBm/28.84 dBm max WCDMA BAND II: 22.12dBm max;

Note: for more details, please refer to the User's manual of the EUT.

1.2 Related Submittal(s) / Grant(s)

This submittal(s) (test report) is intended for FCC ID: 2AC6BSP-5050 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules, FCC Part 22, Subpart H Rules and FCC Part 24, Subpart E Rules. The composite system is compliance with Subpart B is authorized under a DOC procedure.

1.3 Test Methodology

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

1.3.1 Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
1.3.2 47 CFR Part 2, 22(H), 24(E)
1.3.3 ANSI / TIA / EIA-603-C-2004
1.3.4 FCC KDB 971168 D01 Power Meas. License Digital Systems v01
1.3.5 TIA/EIA 603-D, ANSI C63.4-2009

Remark: 1. All test items were verified and recorded according to the standards and without any deviation during the test.

2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

1.6 Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2013.10.29
The certificate is valid until 2016.10.28
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01:2006(identical to ISO/IEC17025: 2005)
The Certificate Registration Number is L2291

Accredited by TUV Rheinland Shenzhen 2010.5.25
The Laboratory has been assessed according to the requirements ISO/IEC 17025

Accredited by FCC, October 28, 2010
The Certificate Registration Number is 406365.

Accredited by Industry Canada, March 5, 2010
The Certificate Registration Number is 4480A-2.

Name of Firm : SHENZHEN EMTEK CO., LTD

Site Location : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

2 System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 **Conducted Emissions**

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 **Radiated Emissions**

The EUT is a placed on as turn table which is 0.8 m above ground plane.
The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. Emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2009.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

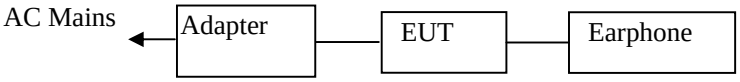


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
1.	SP-5050	N/A	Siragon SP-5050	2AC6BSP-5050	N/A	EUT
2.	Adapter	N/A	A31-501000	N/A	N/A	
3.	Earphone	N/A	N/A	N/A	N/A	

Note:

(1) Unless otherwise denoted as EUT in『Remark』column, device(s) used in tested system is a support equipment.

3 Description of Test Modes

The EUT (SP-5050) has been tested under normal operating condition.
EUT is a composite System, this Report Records GSM850, PCS1900, WCDMA Band II function test data.
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.
Worst result recorded of this test report.

There are two SIM card in the EUT,both the SIM card were tested and the worst data(SIM1) refer to the following pages.

Frequency range investigated for radiated emission is as follows:
1. 30 MHz to 9000 MHz for GSM850.
2. 30 MHz to 19000 MHz for WCDMA Band II.
3. 30 MHz to 19000 MHz for PCS1900.

For GSM850 :
1. For lowest channel : 824.2MHz (Channel 128)
2. For middle channel : 836.4MHz (Channel 189)
3. For highest channel: 848.8MHz (Channel 251)

For PCS1900 :
1. For lowest channel : 1850.2MHz (Channel 512)
2. For middle channel : 1880MHz (Channel 661)
3. For highest channel: 1909.8MHz (Channel 810)

For WCDMA Band II:
1. For lowest channel : 1852.4MHz (Channel 9262)
2. For middle channel : 1880MHz (Channel 9400)
3. For highest channel: 1907.6MHz (Channel 9538)

4 Summary of Test Results

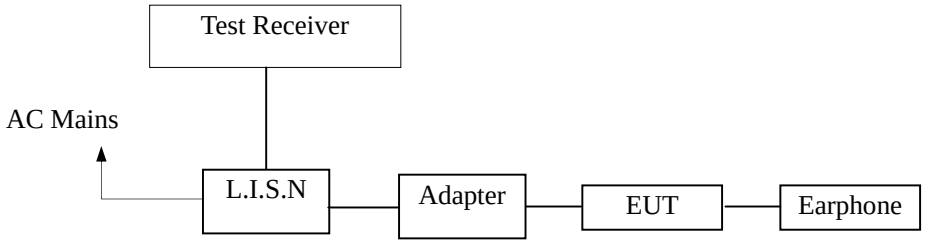
FCC Rules	Description Of Test	Limit	Result
§2.1046	Conducted Output Power	N/A	Pass
§24.232(d)	Peak-to-Average Ratio	< 13 dB	Pass
§22.913(a)(2)	Effective Radiated Power	< 7 Watts	Pass
§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	Pass
§2.1049 §22.905 §22.917(a) §24.238(a)	Occupied Bandwidth	N/A	Pass
§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	<43+10log10(P[Watts])	Pass
§2.1051 §22.917(a) §24.238(a)	Conducted Emission	< 43+10log10(P[Watts])	Pass
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	Pass
§2.1055 §22.355 §24.235	Frequency Stability for Temperature & Voltage	< 2.5 ppm	Pass

5 Conducted Emissions Test

5.1 Measurement Procedure

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.

5.2 Test Set-up (Block Diagram of Configuration)



5.3 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/17/2014	05/16/2015
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	05/17/2014	05/16/2015
50Ω Coaxial Switch	Anritsu	MP59B	M20531	N/A	N/A
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	05/17/2014	05/16/2015
Voltage Probe	Rohde & Schwarz	TK9416	N/A	05/17/2014	05/16/2015
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	05/17/2014	05/16/2015

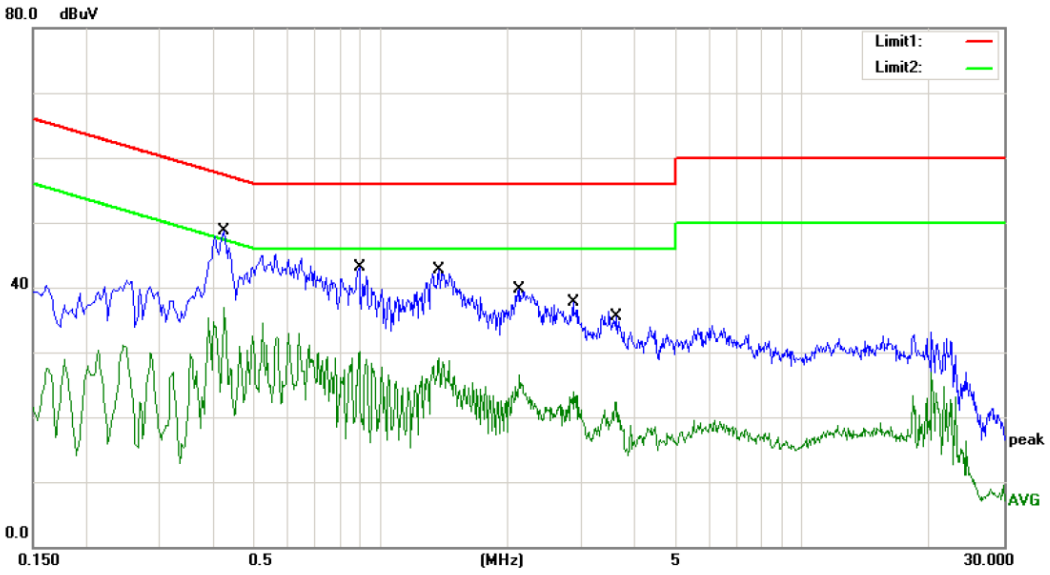
5.4 Conducted Emission Limit

Conducted Emission Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.5 Measurement Result

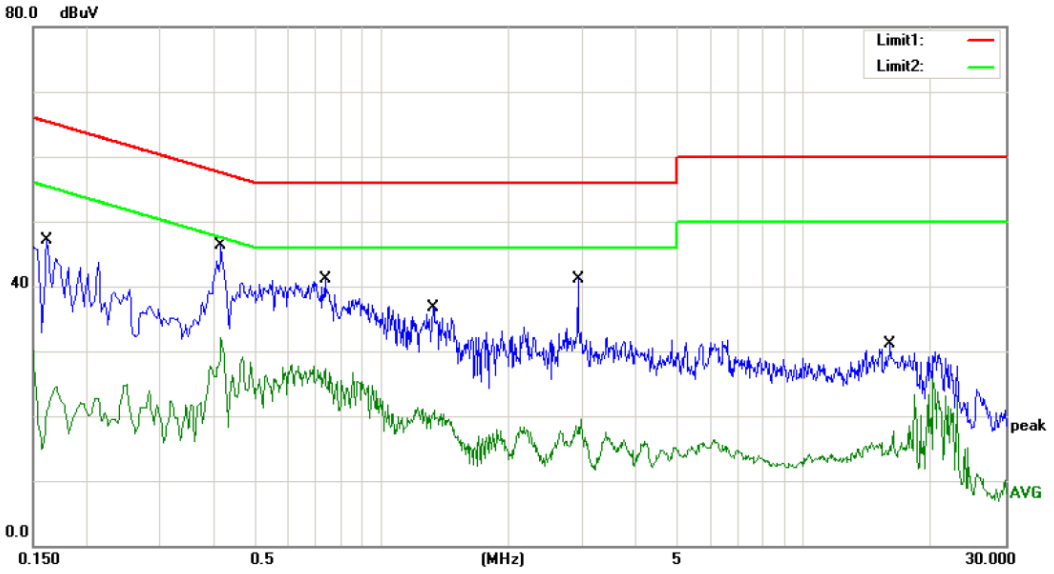
All the modes were tested the data of the worst mode are recorded in the following pages.



Site Conduction #1 Phase: *L1* Temperature: 26
Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 60 %
Mode: Middle Channel（GSM850）
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.4260	48.77	0.00	48.77	57.33	-8.56	QP	
2		0.4260	36.82	0.00	36.82	47.33	-10.51	AVG	
3		0.8900	43.02	0.00	43.02	56.00	-12.98	QP	
4		0.8900	30.06	0.00	30.06	46.00	-15.94	AVG	
5		1.3740	42.63	0.00	42.63	56.00	-13.37	QP	
6		1.3740	29.10	0.00	29.10	46.00	-16.90	AVG	
7		2.1380	39.74	0.00	39.74	56.00	-16.26	QP	
8		2.1380	26.59	0.00	26.59	46.00	-19.41	AVG	
9		2.8660	37.62	0.00	37.62	56.00	-18.38	QP	
10		2.8660	23.91	0.00	23.91	46.00	-22.09	AVG	
11		3.6300	34.71	0.00	34.71	56.00	-21.29	QP	
12		3.6300	22.26	0.00	22.26	46.00	-23.74	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Cai



Site Conduction #1 Phase: N Temperature: 26
Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 60 %
Mode: Middle Channel（GSM850）
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1620	47.10	0.00	47.10	65.36	-18.26	QP	
2		0.1620	24.60	0.00	24.60	55.36	-30.76	AVG	
3	*	0.4180	46.30	0.00	46.30	57.49	-11.19	QP	
4		0.4180	32.17	0.00	32.17	47.49	-15.32	AVG	
5		0.7380	41.03	0.00	41.03	56.00	-14.97	QP	
6		0.7380	27.66	0.00	27.66	46.00	-18.34	AVG	
7		1.3260	36.78	0.00	36.78	56.00	-19.22	QP	
8		1.3260	21.73	0.00	21.73	46.00	-24.27	AVG	
9		2.9260	41.04	0.00	41.04	56.00	-14.96	QP	
10		2.9260	19.42	0.00	19.42	46.00	-26.58	AVG	
11		16.0260	31.07	0.00	31.07	60.00	-28.93	QP	
12		16.0260	23.38	0.00	23.38	50.00	-26.62	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: Cai

6 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

6.1 Measurement Procedure

6.1.1 The testing follows FCC KDB 971168 v02r01 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.

6.1.2 The EUT was placed on a turntable 0.8 meters high in a fully anechoic chamber.

6.1.3 The EUT was placed 3 meters from the receiving antenna, which was mounted on the antenna tower.

6.1.4 GSM operating modes: Set RBW= 1MHz, VBW= 3MHz, RMS detector over burst;UMTS operating modes: Set RBW= 100 kHz, VBW= 300 kHz, RMS detector over frame, and use channel power option with bandwidth=5MHz, per KDB 971168 D01.

6.1.5 The table was rotated 360 degrees to determine the position of the highest radiated power.

6.1.6 The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.

6.1.7 Taking the record of maximum ERP/EIRP.

6.1.8 A dipole antenna was substituted in place of the EUT and was driven by a signal generator.

6.1.9 The conducted power at the terminal of the dipole antenna is measured.

6.1.10 Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.

6.1.11 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

6.1.12 The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).

6.1.13 The EUT shall be replaced by a substitution antenna. The test setup refers to figure below. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antennapolarization.

6.1.14 A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna.

6.1.15 The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.

6.1.16 The measurement results are obtained as described below:

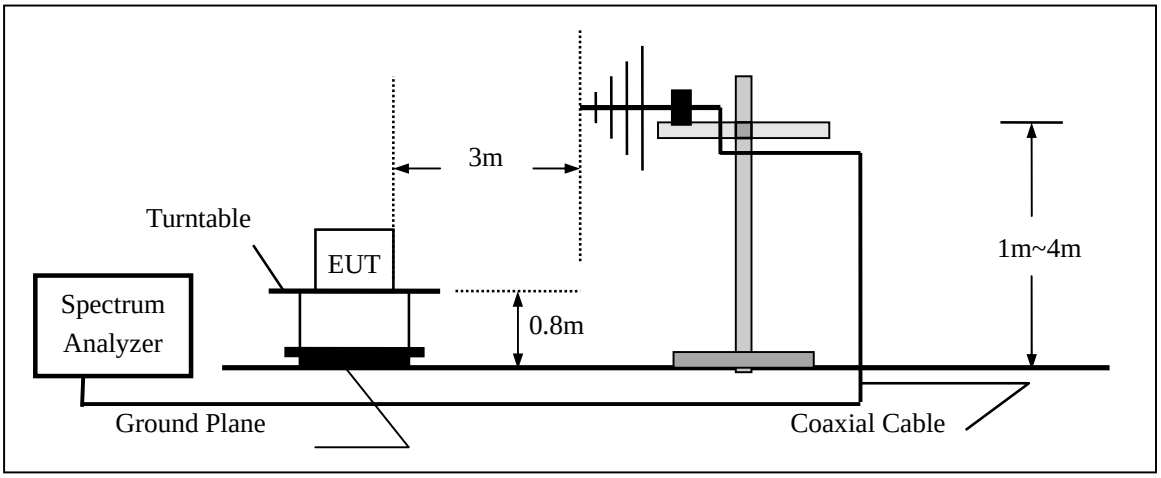
6.1.17 Power(EIRP)=PMea- PAg - Pcl - Ga

6.1.18 This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.

6.1.19 ERP can be calculated from EIRP by subtracting the gain of the dipole,

6.1.20 ERP = EIRP -2.15dBi.

6.2 Test Set-up (Block Diagram of Configuration)



6.3 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	05/17/2014	05/16/2015
Spectrum Analyzer	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	05/17/2014	05/16/2015
Pre-Amplifier	HP	8447D	2944A07999	05/17/2014	05/16/2015
Bilog Antenna	Schwarzbeck	VULB9163	142	05/17/2014	05/16/2015
Loop Antenna	ARA	PLA-1030/B	1029	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9120	D143	05/17/2014	05/16/2015
Cable	Schwarzbeck	AK9513	ACRX1	05/17/2013	05/16/2015
Cable	Rosenberger	N/A	FP2RX2	05/17/2014	05/16/2015
Cable	Schwarzbeck	AK9513	CRPX1	05/17/2014	05/16/2015
Cable	Schwarzbeck	AK9513	CRRX2	05/17/2014	05/16/2015

6.4 Description of ERP &EIRP Measurement

6.4.1 This is the test for the maximum radiated power from the EUT.

6.4.2 Rule Part 24.232(c) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."Rule Part 22.913(a) specifies ” The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.”

6.5 Radiated Emission Limit

GSM850-ERP 22.913(a) (Limits)

	Burst Peak ERP (dBm)
GSM	≤38.45dBm (7W)

PCS1900-EIRP 24.232(c) (Limits)

	Burst Peak EIRP (dBm)
PCS1900	≤33dBm (2W)

WCDMABand II-EIRP 24.232(c) (Limits)

	Burst Peak EIRP (dBm)
WCDMA Band II	≤33dBm (2W)

6.6 Measurement Result

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	GPRS class 8	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK

Horizontal Polarization							
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)
824.2	-17.70	2.11	-52.73	0.87	2.15	29.90	0.9772
836.6	-17.23	2.13	-52.73	0.93	2.15	30.29	**1.0691**
848.8	-18.01	2.13	-52.73	0.97	2.15	29.47	0.8851
Vertical Polarization							
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)
824.2	-23.66	2.11	-52.73	0.87	2.15	23.94	0.2477
836.6	-23.67	2.13	-52.73	0.93	2.15	23.85	0.2427
848.8	-23.59	2.13	-52.73	0.97	2.15	23.89	0.2449

Note:

We performed test at both Polarization H and V and compared which is greater value.
The greater result will be submitted into the report.
Peak ERP(dBm)= P_{Mea} -P_{cl} -P_{Ag} -G_a.

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	EDGE class 12	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK

Horizontal Polarization							
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)
824.2	-21.35	2.11	-52.73	0.87	2.15	26.25	**0.4217**
836.6	-21.41	2.13	-52.73	0.93	2.15	26.11	0.4083
848.8	-21.44	2.13	-52.73	0.97	2.15	26.04	0.4018
Vertical Polarization							
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)
824.2	-27.52	2.11	-52.73	0.87	2.15	20.08	0.1019
836.6	-27.71	2.13	-52.73	0.93	2.15	19.81	0.0957
848.8	-27.58	2.13	-52.73	0.97	2.15	19.90	0.0977

Note:

We performed test at both Polarization H and V and compared which is greater value.
The greater result will be submitted into the report.
Peak ERP(dBm)= P_{Mea} -P_{cl} -P_{Ag} -G_a.

Band:	PCS1900	Test Date:	September 02, 2014
Test Mode:	GPRS class 8	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Measured Distance:	3m	Test By:	KK

Horizontal Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1850.2	-22.44	3.76	-48.53	-4.72	27.05	0.5070
1880	-22.13	3.91	-50.53	-4.59	29.08	**0.8091**
1909.8	-22.72	3.93	-50.53	-4.38	28.26	0.6699
Vertical Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1850.2	-22.76	3.76	-48.53	-4.72	26.73	0.4710
1880	-22.93	3.91	-50.53	-4.59	28.28	0.6730
1909.8	-23.04	3.93	-50.53	-4.38	27.94	0.6223

Note:

We performed test at both Polarization H and V and compared which is greater value.
The greater result will be submitted into the report.
Peak ERP(dBm)= P_{Mea} -P_{cl} -P_{Ag} -G_a.

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	EDGE class12	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK

Horizontal Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1850.2	-24.88	3.76	-48.53	-4.72	24.61	0.2891
1880	-24.99	3.91	-50.53	-4.59	26.22	**0.4188**
1909.8	-25.15	3.93	-50.53	-4.38	25.83	0.3828
Vertical Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1850.2	-25.73	3.76	-48.53	-4.72	23.76	0.2377
1880	-25.88	3.91	-50.53	-4.59	25.33	0.3412
1909.8	-26.02	3.93	-50.53	-4.38	24.96	0.3133

Note:

We performed test at both Polarization H and V and compared which is greater value.
The greater result will be submitted into the report.
Peak ERP(dBm)= P_{Mea} -P_{cl} -P_{Ag} -G_a.

Band:	WCDMA Band II	Test Date :	September 02, 2014
Test Mode:	RMC 12.2Kbps	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK

Horizontal Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1852.4	-24.46	3.76	-48.53	-4.72	25.03	0.3184
1880	-24.92	3.91	-50.53	-4.59	26.29	**0.4256**
1907.6	-25.09	3.93	-50.53	-4.38	25.89	0.3882
Vertical Polarization						
Frequency (MHz)	PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	EIRP (dBm)	EIRP (W)
1852.4	-25.88	3.76	-48.53	-4.72	23.61	0.2296
1880	-25.94	3.91	-50.53	-4.59	25.27	0.3365
1907.6	-26.24	3.93	-50.53	-4.38	24.74	0.2979

Note:

We performed test at both Polarization H and V and compared which is greater value.
The greater result will be submitted into the report.
Peak ERP(dBm)= P_{Mea} -P_{cl} -P_{Ag} -G_a.

7 Field Strength of Spurious Radiation Measurement

7.1 Measurement Procedure

7.1.1 The EUT was placed on a rotatable wooden table with 0.8 meter above ground.

7.1.2 The EUT was set 3 meters from the receiving antenna, which was mounted on the antennatower.

7.1.3 The table was rotated 360 degrees to determine the position of the highest spurious emission.

7.1.4 The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.

7.1.5 Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.

7.1.6 A horn antenna was substituted in place of the EUT and was driven by a signal generator.

7.1.7 Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.

7.1.8 Taking the record of output power at antenna port.

7.1.9 Repeat step 7 to step 8 for another polarization.

7.1.10 The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

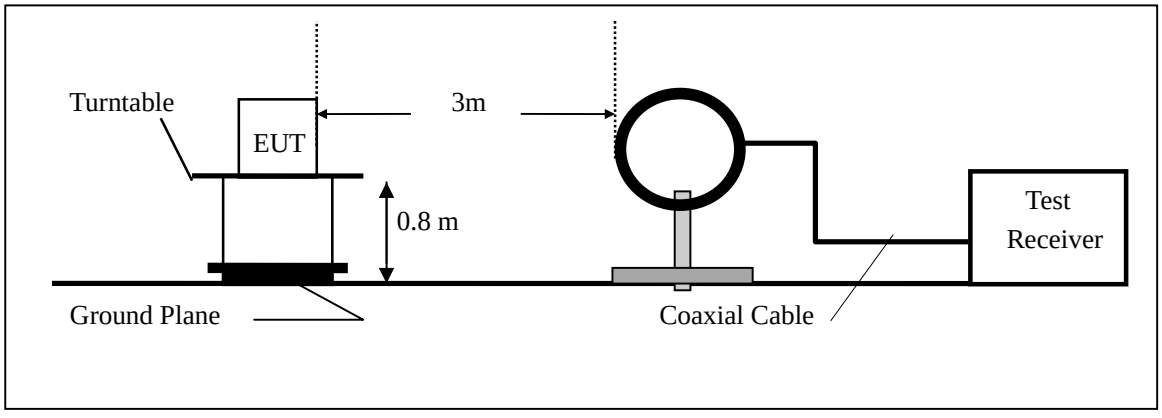
7.1.11 The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)= P(W) - [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

7.1.12 EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

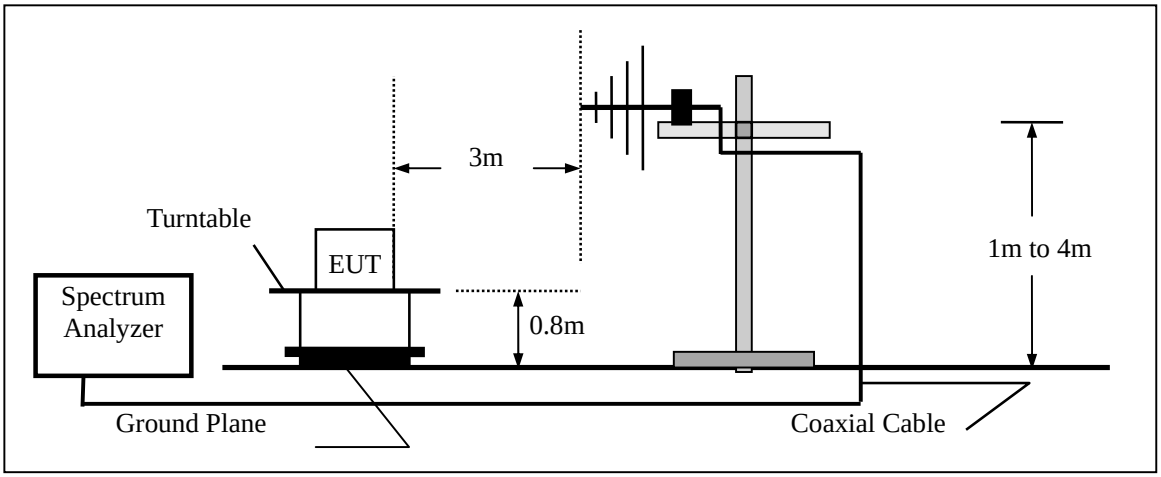
7.1.13 ERP (dBm) = EIRP - 2.15

7.2 Test Set-up (Block Diagram of Configuration)

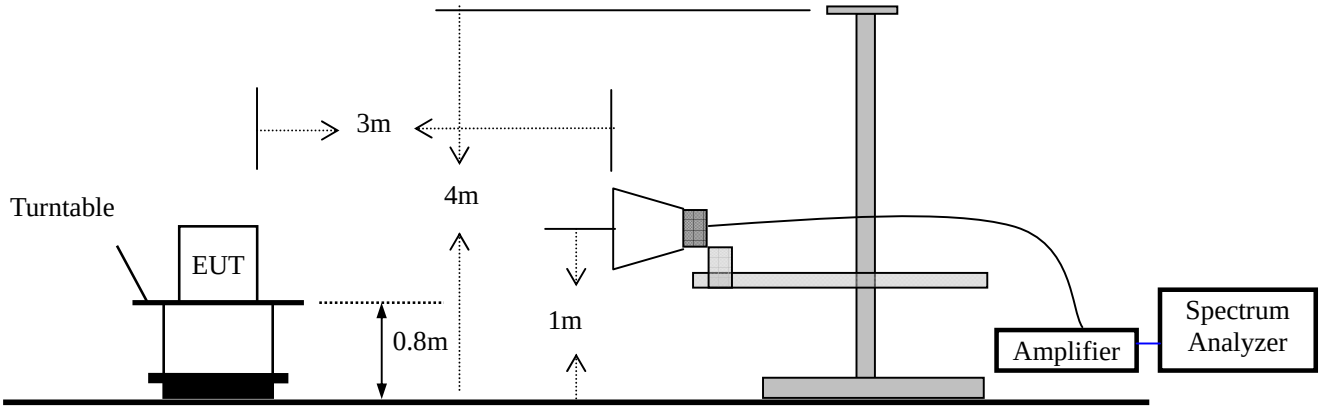
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



7.3 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Rohde & Schwarz	FSP7	839511/010	05/17/2014	05/16/2015
Spectrum Analyzer	HP	E4407B	839840481	05/17/2014	05/16/2015
EMI Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/17/2014	05/16/2015
Pre-Amplifier	HP	8447D	2944A07999	05/17/2014	05/16/2015
Bilog Antenna	Schwarzbeck	VULB9163	142	05/17/2014	05/16/2015
Loop Antenna	ARA	PLA-1030/B	1029	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	05/17/2014	05/16/2015
Horn Antenna	Schwarzbeck	BBHA 9120	D143	05/17/2014	05/16/2015

7.4 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

7.5 Measurement Limit

Part 24.238 and Part 22.917 specify that 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.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

7.6 Measurement Result

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the PCS1900 band (1850.2 MHz, 1880 MHz and 1909.8 MHz) and GSM850 band (824.2MHz, 836.6MHz, 848.8MHz) . It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the PCS1900 ,GSM850 into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

All the modes were tested. the data of the worst mode (Middle Channel) are recorded in the following pages and other mode do not exceed the above mentioned limits.

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH128/824.2 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1648.4	V	-63.62	2.15	-65.77	-13.00
2472.6	V	-60.11	2.15	-62.26	-13.00
3296.8	V	-52.16	2.15	-54.31	-13.00
1648.4	H	-63.96	2.15	-66.11	-13.00
2472.6	H	-61.47	2.15	-63.62	-13.00
3296.8	H	-60.33	2.15	-62.48	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH4189/836.4 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1672.8	V	-66.22	2.15	-68.37	-13.00
2509.2	V	-62.57	2.15	-64.72	-13.00
3345.6	V	-63.15	2.15	-65.30	-13.00
1672.8	H	-68.09	2.15	-70.24	-13.00
2509.2	H	-63.36	2.15	-65.51	-13.00
3345.6	H	-63.29	2.15	-65.44	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH251/848.8 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1697.6	V	-65.25	2.15	-67.40	-13.00
2546.4	V	-61.23	2.15	-63.38	-13.00
3395.2	V	-53.58	2.15	-55.73	-13.00
1697.6	H	-64.77	2.15	-66.92	-13.00
2546.4	H	-62.39	2.15	-64.54	-13.00
3395.2	H	-60.47	2.15	-62.62	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH128/824.2 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1648.4	V	-64.19	2.15	-66.34	-13.00
2472.6	V	-63.07	2.15	-65.22	-13.00
3296.8	V	-55.28	2.15	-57.43	-13.00
1648.4	H	-65.16	2.15	-67.31	-13.00
2472.6	H	-63.45	2.15	-65.60	-13.00
3296.8	H	-62.69	2.15	-64.84	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH4189/836.4 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1672.8	V	-68.32	2.15	-70.47	-13.00
2509.2	V	-64.37	2.15	-66.52	-13.00
3345.6	V	-64.24	2.15	-66.39	-13.00
1672.8	H	-66.78	2.15	-68.93	-13.00
2509.2	H	-64.19	2.15	-66.34	-13.00
3345.6	H	-63.36	2.15	-65.51	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH251/848.8 MHz		

Freq. (MHz)	Ant.Pol. H/V	Correct Factor (dB)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)
1697.6	V	-66.91	2.15	-69.06	-13.00
2546.4	V	-63.95	2.15	-66.10	-13.00
3395.2	V	-63.62	2.15	-65.77	-13.00
1697.6	H	-67.99	2.15	-70.14	-13.00
2546.4	H	-65.68	2.15	-67.83	-13.00
3395.2	H	-64.24	2.15	-66.39	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH512/1850.2 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3700.4	V	-65.58	4.35	-8.05	-61.88	-13.00
5550.6	V	-66.50	5.57	-9.79	-62.28	-13.00
7400.8	V	-67.09	6.54	-11.37	-62.26	-13.00
3700.4	H	-65.29	4.35	-8.05	-61.59	-13.00
5550.6	H	-66.13	5.57	-9.79	-61.91	-13.00
7400.8	H	-65.72	6.54	-11.37	-60.89	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH661/1880 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3760.0	V	-65.10	4.37	-8.01	-61.46	-13.00
5640.0	V	-66.02	5.59	-9.75	-61.86	-13.00
7520.0	V	-66.61	6.56	-11.33	-61.84	-13.00
3760.0	H	-64.81	4.37	-8.01	-61.17	-13.00
5640.0	H	-65.65	5.59	-9.75	-61.49	-13.00
7520.0	H	-65.24	6.56	-11.33	-60.47	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	GPRS class 8 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH810/1909.8 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3819.6	V	-66.12	4.41	-7.99	-62.54	-13.00
5729.4	V	-67.04	5.63	-9.73	-62.94	-13.00
7639.2	V	-67.63	6.6	-11.31	-62.92	-13.00
3819.6	H	-65.83	4.41	-7.99	-62.25	-13.00
5729.4	H	-66.67	5.63	-9.73	-62.57	-13.00
7639.2	H	-66.26	6.6	-11.31	-61.55	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH512/1850.2 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3700.4	V	-66.03	4.35	-8.05	-62.33	-13.00
5550.6	V	-66.72	5.57	-9.79	-62.50	-13.00
7400.8	V	-67.37	6.54	-11.37	-62.54	-13.00
3700.4	H	-65.77	4.35	-8.05	-62.07	-13.00
5550.6	H	-66.82	5.57	-9.79	-62.60	-13.00
7400.8	H	-66.24	6.54	-11.37	-61.41	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH661/1880 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3760.0	V	-65.55	4.37	-8.01	-61.91	-13.00
5640.0	V	-66.24	5.59	-9.75	-62.08	-13.00
7520.0	V	-66.89	6.56	-11.33	-62.12	-13.00
3760.0	H	-65.29	4.37	-8.01	-61.65	-13.00
5640.0	H	-66.34	5.59	-9.75	-62.18	-13.00
7520.0	H	-65.76	6.56	-11.33	-60.99	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	EDGE class 12 Link	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH810/1909.8 MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3819.6	V	-66.57	4.41	-7.99	-62.99	-13.00
5729.4	V	-67.26	5.63	-9.73	-63.16	-13.00
7639.2	V	-67.91	6.6	-11.31	-63.20	-13.00
3819.6	H	-66.31	4.41	-7.99	-62.73	-13.00
5729.4	H	-67.36	5.63	-9.73	-63.26	-13.00
7639.2	H	-66.78	6.6	-11.31	-62.07	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

Band:	WCDMA Band II	Test Date :	September 02, 2014
Test Mode:	RMC 12.2Kbps(QPSK)	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Measured Distance:	3m	Test By:	KK
Channel:	CH9400/1880MHz		

Freq. (MHz)	Ant.Pol. H/V	P_{Mea} (dB)	Path Loss (dB)	Antenna Gain (dBm)	Peak EIRP (dBm)	Limit (dBm)
3760	V	-63.93	4.37	-8.01	-60.29	-13.00
5640	V	-64.85	5.59	-9.75	-60.69	-13.00
7520	V	-65.44	6.56	-11.33	-60.67	-13.00
3760	H	-63.64	4.37	-8.01	-60.00	-13.00
5640	H	-64.48	5.59	-9.75	-60.32	-13.00
7520	H	-64.07	6.56	-11.33	-59.30	-13.00

Note:

P_{Mea}= The power of signal source
P_{pl} = Path loss
G_a = Antenna Gain
Correct Factor(EIRP)=PMea –Ppl -Ga
Peak ERP=Correct Factor –Correction(ERP=EIRP-2.15)

8 Conducted Output Power Measurement

8.1 Measurement Procedure

8.1.1 The transmitter output port was connected to base station.

8.1.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

8.1.3 Set EUT at maximum power through base station.

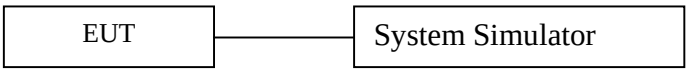
8.1.4 Select lowest, middle, and highest channels for each band and different modulation.

8.1.5 Compare each band and different modulation combination to show the worst data rate.

8.2 Description of Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

8.3 Test SET-UP (Block Diagram of Configuration)



8.4 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015

8.5 Conducted Output Power Limit

GSM850

	Frequency (MHz)	Limit
GSM	824.2	33dBm(2W)
GPRS	836.4	33dBm(2W)
EDGE	848.8	27dBm(0.5W)

PCS1900

	Frequency (MHz)	Limit
GSM	1850.2	30dBm(1W)
GPRS	1880	30dBm(1W)
EDGE	1909.8	26dBm(0.4W)

WCDMA band II

	Frequency (MHz)	Limit
RMC 12.2Kbps	1852.4	24dBm(0.25W)
	1880	24dBm(0.25W)
	1907.6	24dBm(0.25W)

8.6 Measurement Results

SIM1:

Spectrum Detector: PK Test Date : September 02, 2014
Test By: KK Temperature : 24℃
Test Result: PASS Humidity : 53 %
Operation Mode: GSM850 (GPRS class 8)

Cellular Band			
Modes	GSM850		
Channel	128(Low)	189(Mid)	251(High)
Frequency (MHz)	824.2	836.4	848.8
Conducted Power (dBm)	32.21	32.06	31.95
Conducted Power (Watts)	**1.66**	1.61	1.57

Spectrum Detector: PK Test Date : September 02, 2014
Test By: KK Temperature : 24℃
Test Result: PASS Humidity : 53 %
Operation Mode: GSM850 (EDGE class 12)

Cellular Band			
Modes	GSM850		
Channel	128(Low)	189(Mid)	251(High)
Frequency (MHz)	824.2	836.4	848.8
Conducted Power (dBm)	27.58	27.44	27.40
Conducted Power (Watts)	**0.57**	0.55	0.55

Note: maximum burst average power for GSM, and maximum average power for WCDMA.

Spectrum Detector: PK Test Date : September 02, 2014
Test By: KK Temperature : 24℃
Test Result: PASS Humidity : 53 %
Operation Mode: PCS1900 (GPRS class 8)

PCS Band			
Modes	PCS1900		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
Conducted Power (dBm)	29.90	29.31	29.10
Conducted Power (Watts)	**0.77**	0.70	0.69

Spectrum Detector: PK Test Date : September 02, 2014
Test By: KK Temperature : 24℃
Test Result: PASS Humidity : 53 %
Operation Mode: PCS1900 (EDGE class 12)

PCS Band			
Modes	PCS1900		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
Conducted Power (dBm)	25.66	25.42	25.25
Conducted Power (Watts)	0.37	0.35	0.33

Note: maximum burst average power for GSM, and maximum average power for WCDMA.

Spectrum Detector:	PK	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

Operation Mode: WCDMA Band II (RMC 12.2Kbps)

WCDMA Band II			
Modes	WCDMA Band II(RMC 12.2Kbps)		
Channel	9262(Low)	9400(Mid)	9538(High)
Frequency (MHz)	826.4	836.4	846.6
Conducted Power (dBm)	22.12	21.77	21.63
Conducted Power (Watts)	**0.16**	0.15	0.15

Note: maximum burst average power for GSM, and maximum average power for WCDMA.

9 Peak-to-Average Ratio

9.1 Measurement Procedure

9.1.1 The EUT was connected to Spectrum Analyzer and Base Station via power divider.

9.1.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

9.1.3 For GSM/EGPRS operating modes:

a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.

b. Set EUT in maximum power output, and triggered the burst signal.

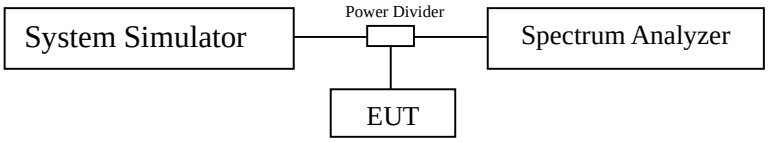
c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.

9.1.4 For UMTS operating modes:

a. Set the CCDF(Complementary Cumulative Distribution Function), option in spectrum analyzer.

b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

9.2 Test Set-up (Block Diagram of Configuration)



9.3 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
Spectrum Analyzer	Rohde & Schwarz	FSV40	132.1-3008K 39-100967-AP	05/17/2014	05/16/2015

9.4 Description of the Peak-to-Average Ratio Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

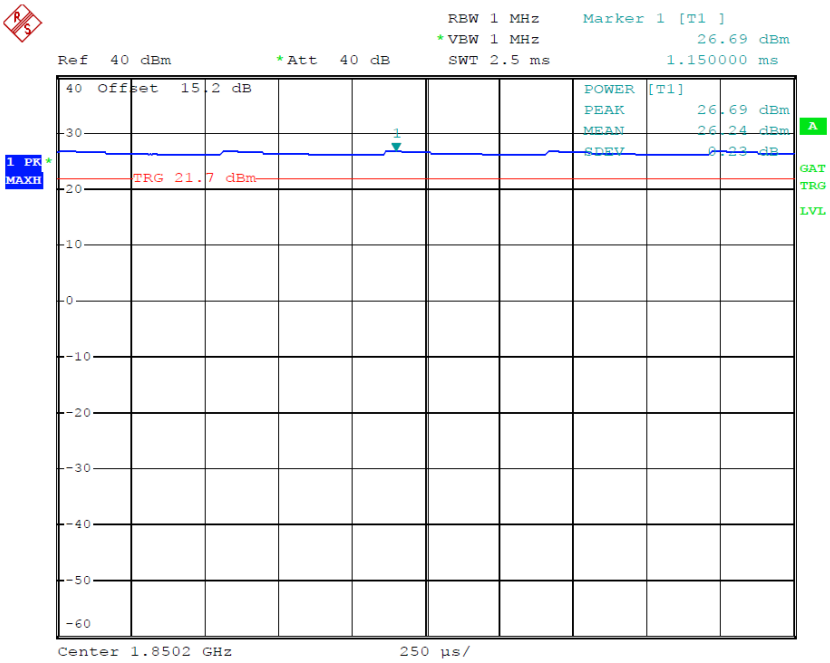
9.5 Measurement Results

Mode:	PCS Band	Test Date:	September 02, 2014
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %

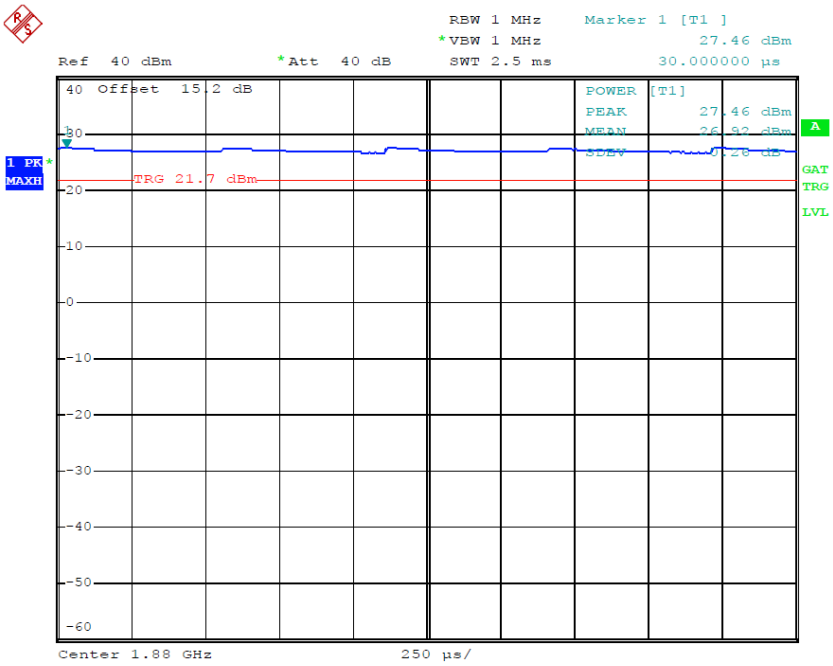
Operation Mode: PCS1900 (GPRS class 8)

PCS Band			
Modes	PCS1900 (GPRS class 8)		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
Peak-to-Average Ratio (dB)	0.33	0.28	0.35

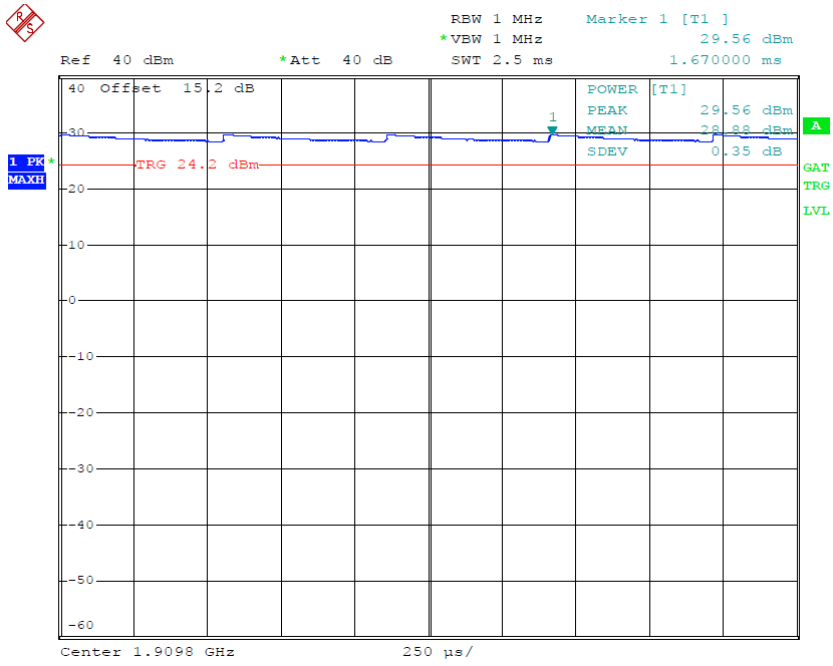
Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Peak-to-Average Ratio on Channel 661 (1880 MHz)



Peak-to-Average Ratio on Channel 661 (1880 MHz)

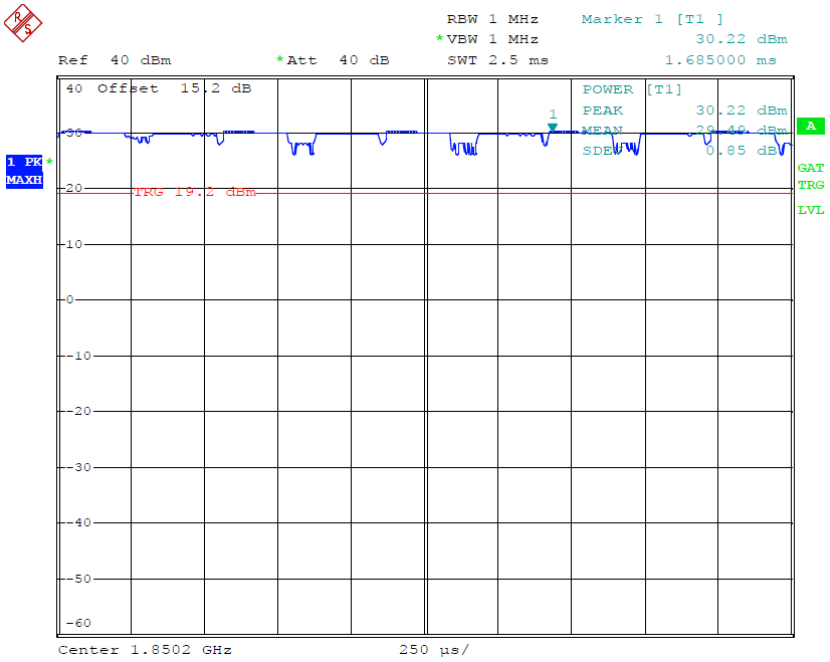


Mode:	PCS Band	Test Date:	September 02, 2014
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %

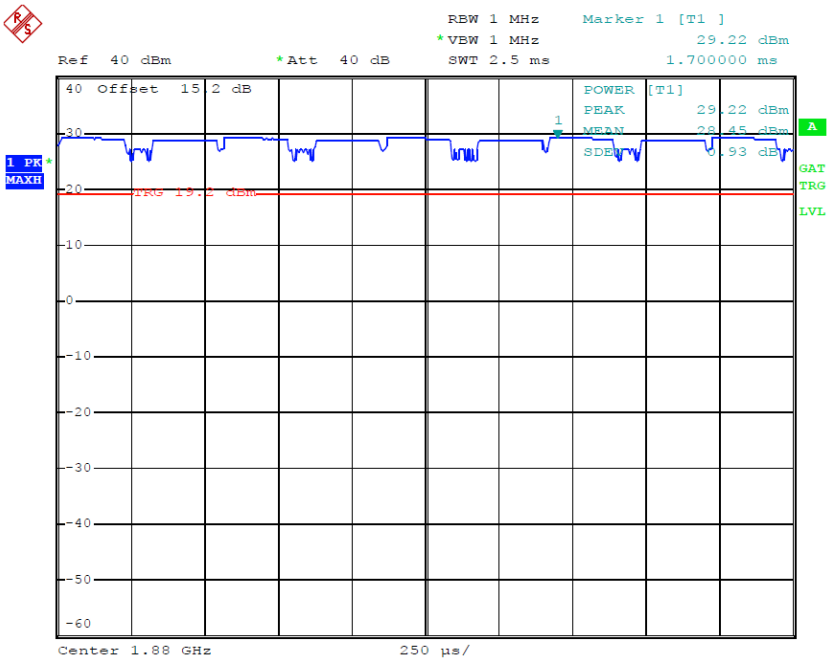
Operation Mode: PCS1900 (EDGE class 12)

PCS Band			
Modes	PCS1900 (GPRS class 8)		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
Peak-to-Average Ratio (dB)	0.85	0.93	0.88

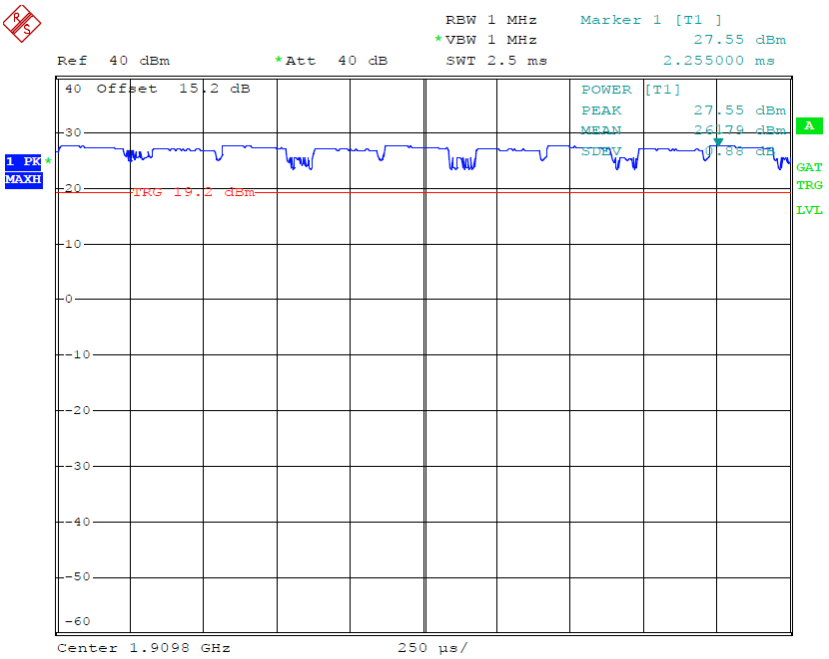
Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Peak-to-Average Ratio on Channel 661 (1880 MHz)



Peak-to-Average Ratio on Channel 661 (1880 MHz)

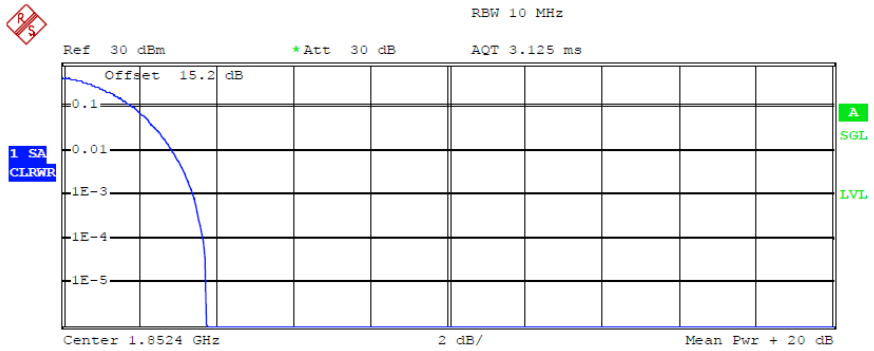


Mode:	WCDMA Band II	Test Date:	September 02, 2014
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %

Operation Mode: WCDMA Band II (RMC 12.2Kbps)

WCDMA Band II			
Modes	WCDMA Band II (RMC 12.2Kbps)		
Channel	9262(Low)	9400(Mid)	9538(High)
Frequency (MHz)	1852.4	1880	1907.6
Peak-to-Average Ratio (dB)	3.40	3.44	3.32

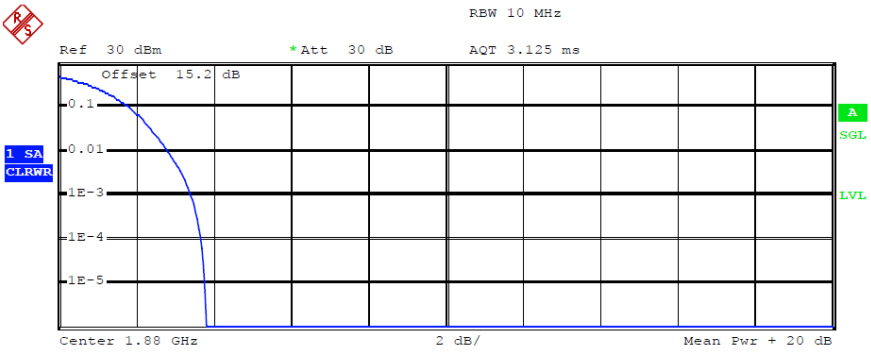
Peak-to-Average Ratio on Channel 9262 (1852.4 MHz)



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	21.17 dBm
Peak	24.92 dBm
Crest	3.75 dB
10 %	1.88 dB
1 %	2.88 dB
.1 %	3.40 dB
.01 %	3.68 dB

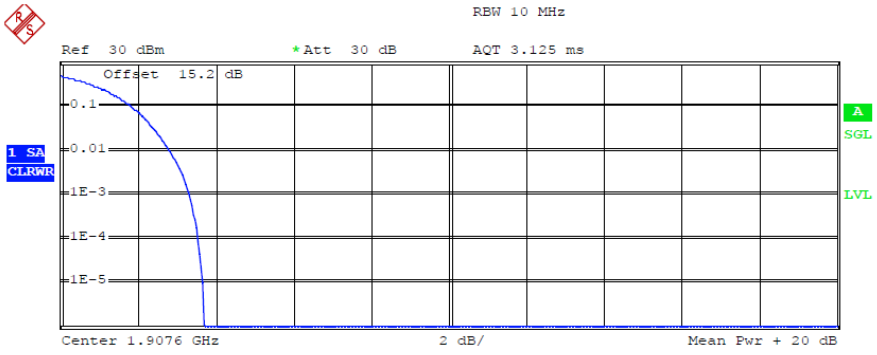
Peak-to-Average Ratio on Channel 9400 (1880 MHz)



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	21.50 dBm
Peak	25.34 dBm
Crest	3.84 dB
10 %	1.84 dB
1 %	2.84 dB
.1 %	3.44 dB
.01 %	3.68 dB

Peak-to-Average Ratio on Channel 9538 (1907.6 MHz)



Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	21.21 dBm
Peak	24.92 dBm
Crest	3.71 dB
10 %	1.84 dB
1 %	2.80 dB
.1 %	3.32 dB
.01 %	3.56 dB

10 99% Occupied Bandwidth and 26dB Bandwidth Test

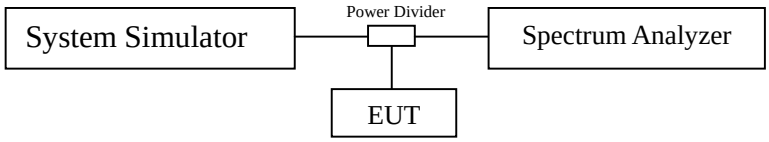
10.1 Measurement Procedure

10.1.1 The EUT was connected to Spectrum Analyzer and Base Station via power divider.

10.1.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

10.1.3 The 99% occupied bandwidth and 26 dB bandwidth of the middle channel for the highest RF powers were measured.

10.2 Test Set-up (Block Diagram of Configuration)



10.3 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
Spectrum Analyzer	Agilent	E4407B	88156318	05/17/2014	05/16/2015

10.4 Description of Measurement

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

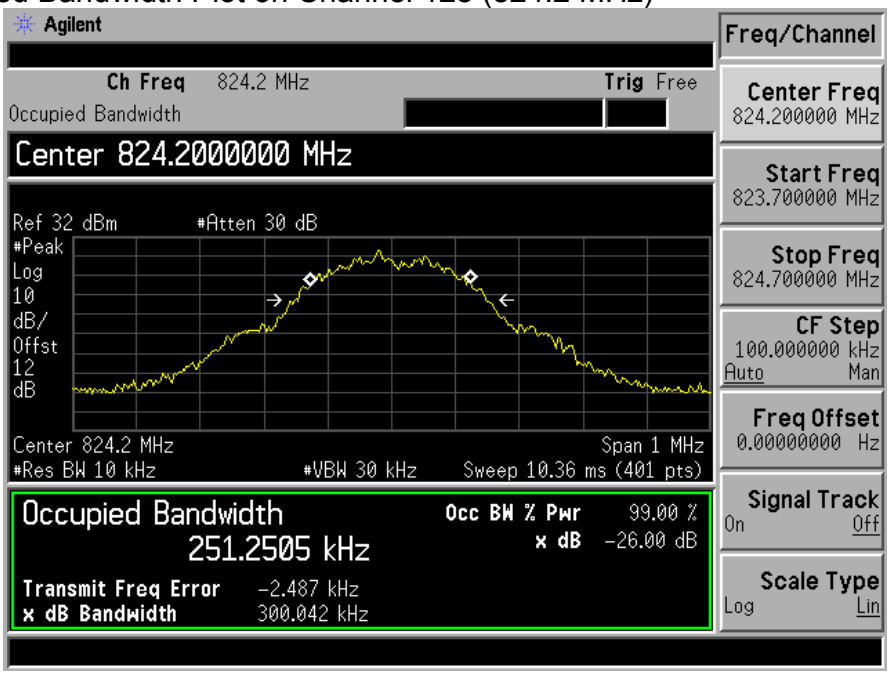
10.5 Measurement Results

Mode:	Cellular Band	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

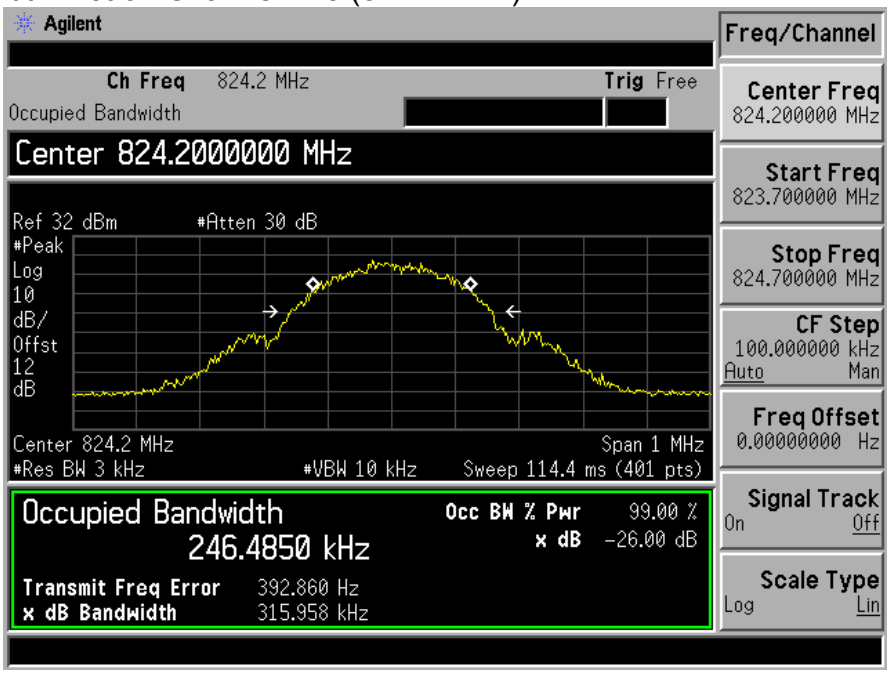
Operation Mode: GSM850(GPRS class 8)

Cellular Band			
Modes	GPRS class 8 Link		
Channel	128(Low)	189(Mid)	251(High)
Frequency (MHz)	824.2	836.4	848.8
99% OBW (MHz)	0.2512	0.2440	0.2433
26dB BW (MHz)	0.3159	**0.3212**	0.3133

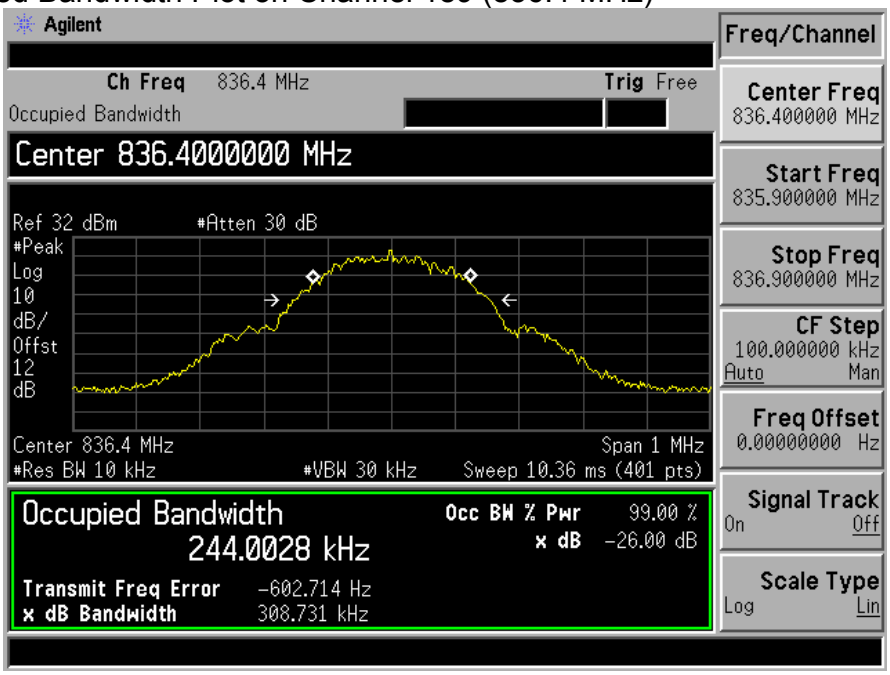
99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



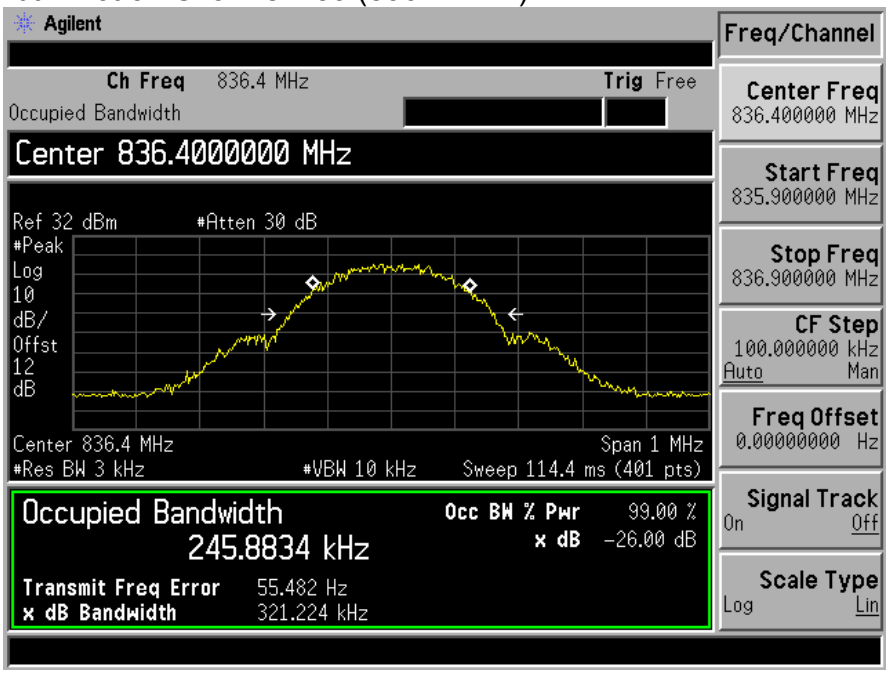
26dB Bandwidth Plot on Channel 128 (824.2 MHz)



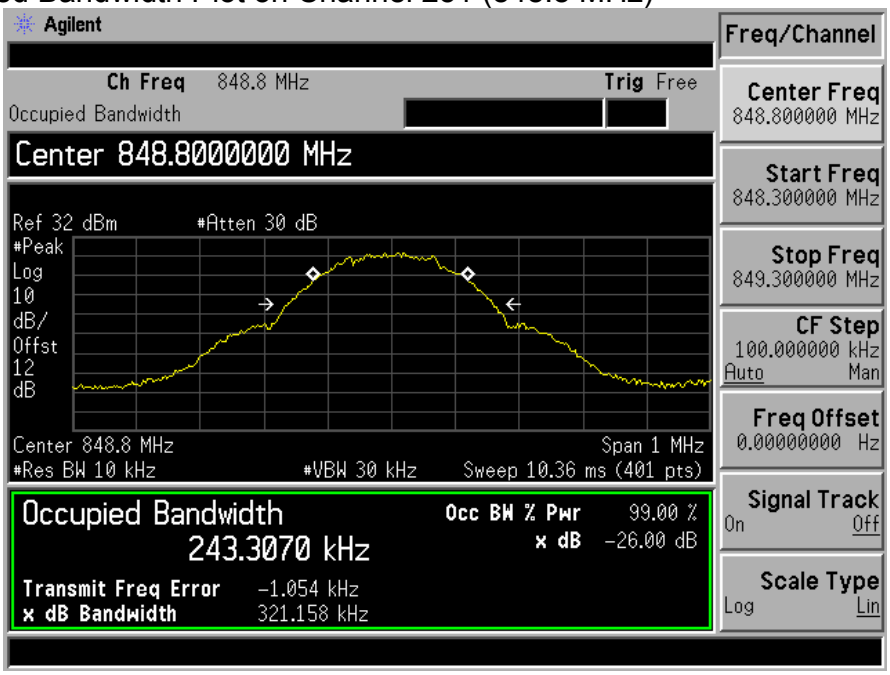
99% Occupied Bandwidth Plot on Channel 189 (836.4 MHz)



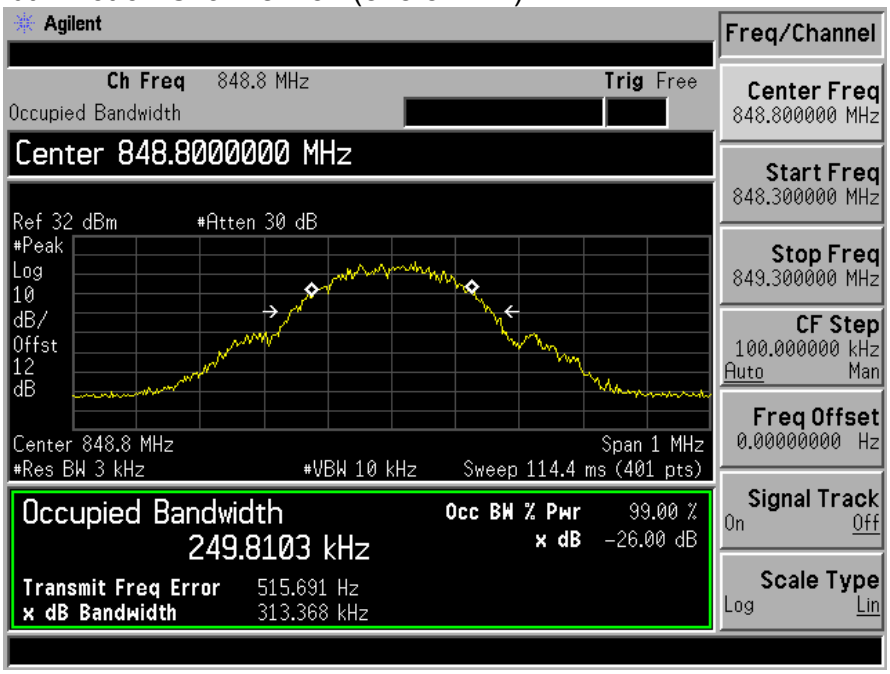
26dB Bandwidth Plot on Channel 189 (836.4 MHz)



99% Occupied Bandwidth Plot on Channel 251 (848.8 MHz)



26dB Bandwidth Plot on Channel 251 (848.8 MHz)

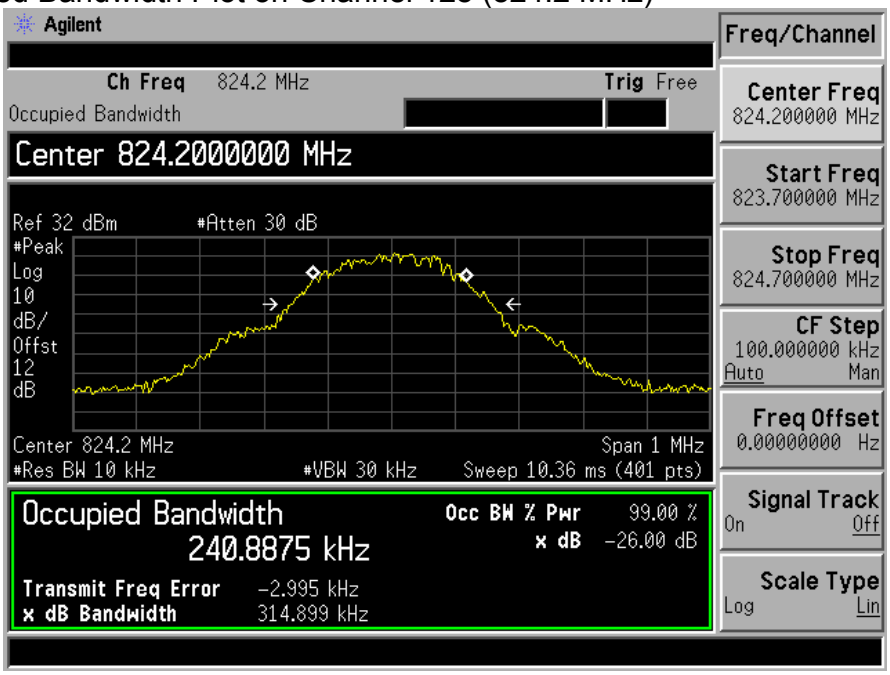


Mode:	Cellular Band	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

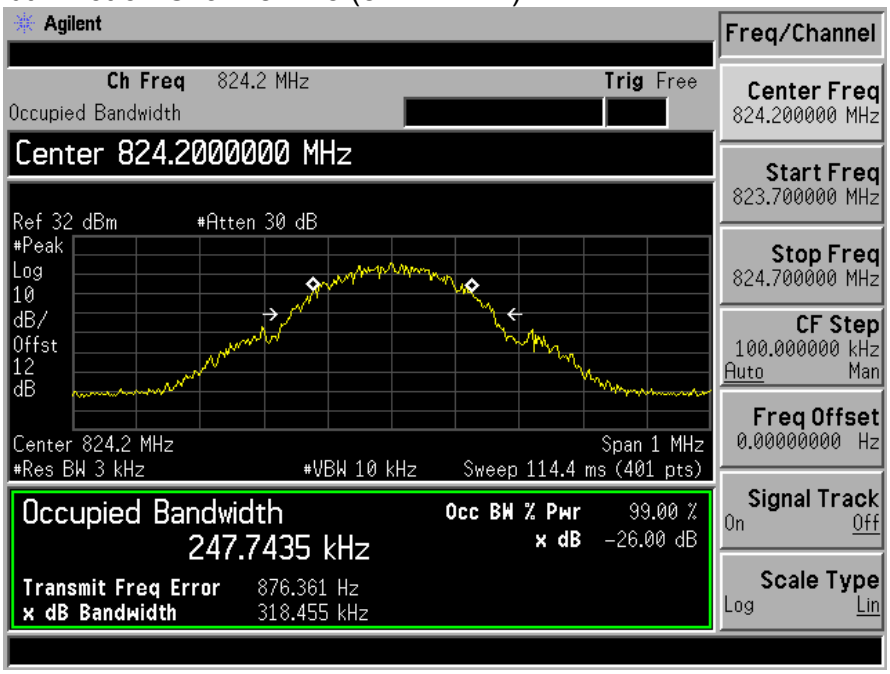
Operation Mode: GSM850(EDGE class 12)

Cellular Band			
Modes	EDGE class 8 Link		
Channel	128(Low)	189(Mid)	251(High)
Frequency (MHz)	824.2	836.4	848.8
99% OBW (MHz)	0.2408	0.2467	0.2469
26dB BW (MHz)	0.3184	**0.3204**	0.3122

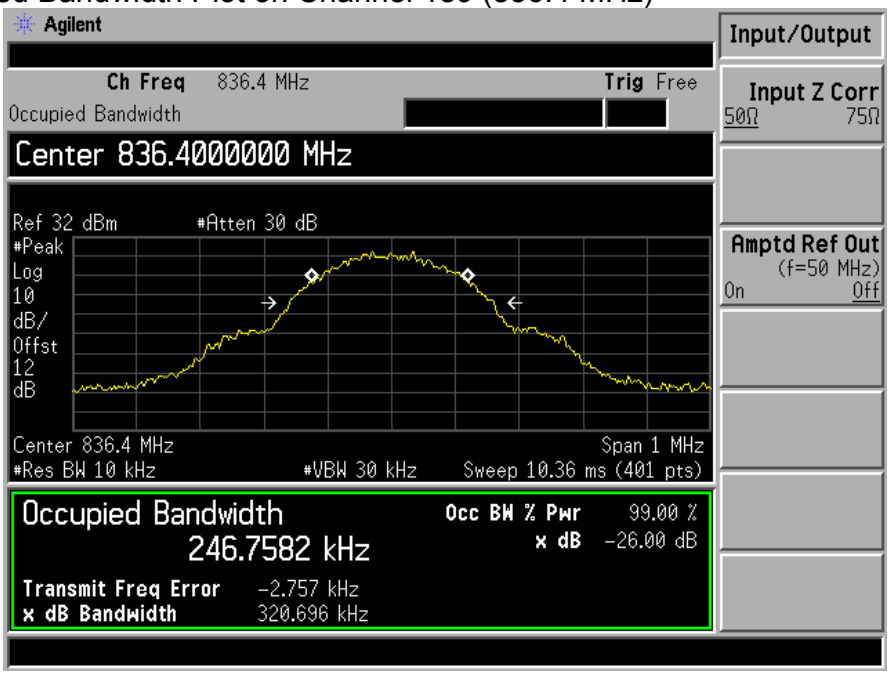
99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



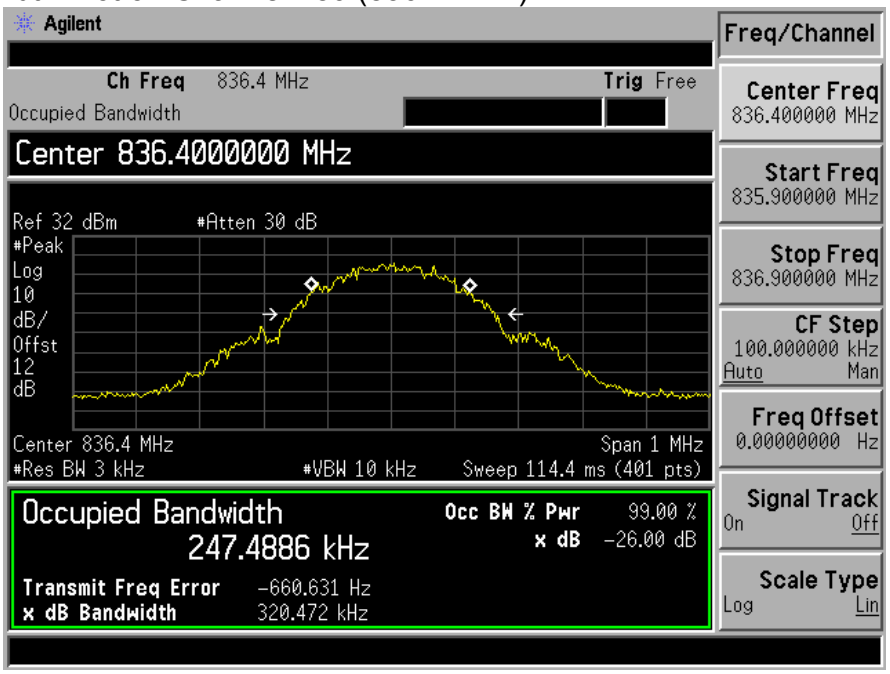
26dB Bandwidth Plot on Channel 128 (824.2 MHz)



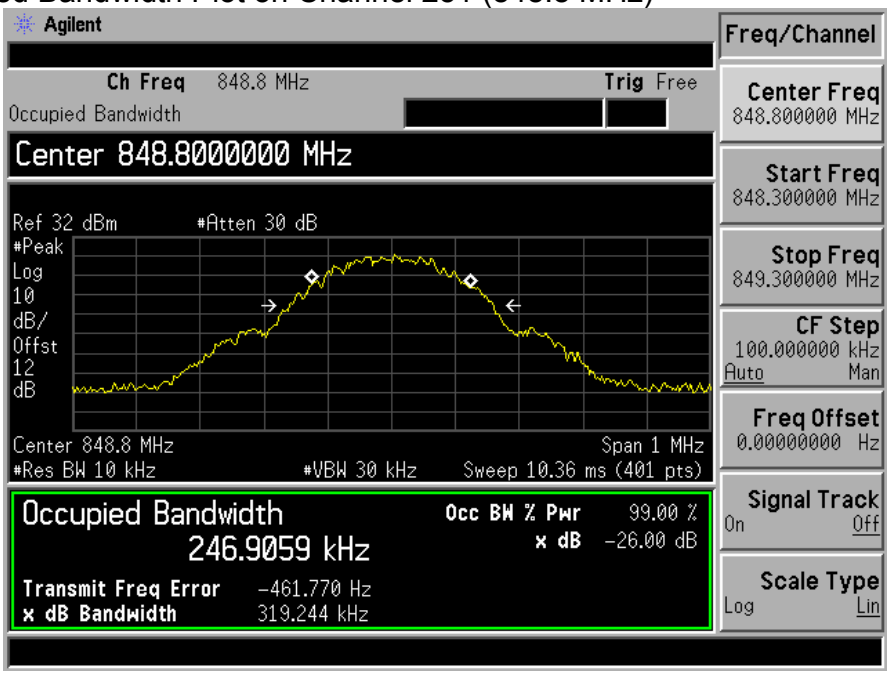
99% Occupied Bandwidth Plot on Channel 189 (836.4 MHz)



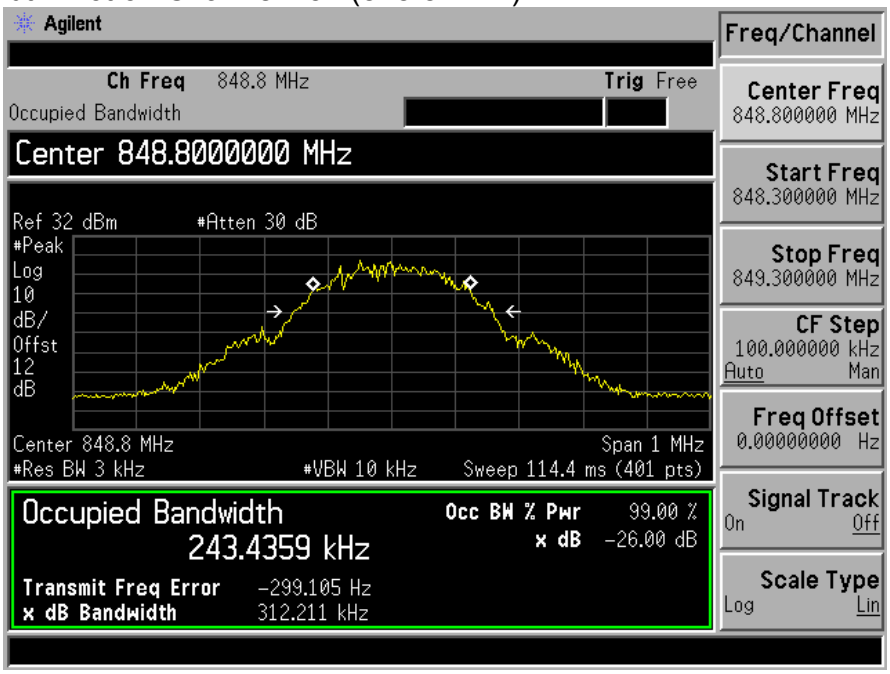
26dB Bandwidth Plot on Channel 189 (836.4 MHz)



99% Occupied Bandwidth Plot on Channel 251 (848.8 MHz)



26dB Bandwidth Plot on Channel 251 (848.8 MHz)

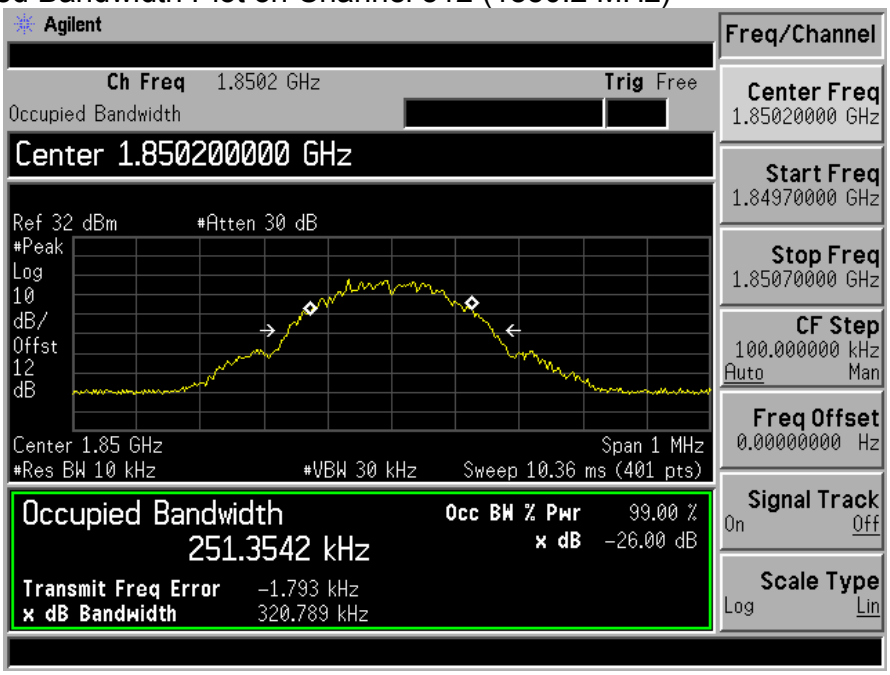


Mode:	PCS Band	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

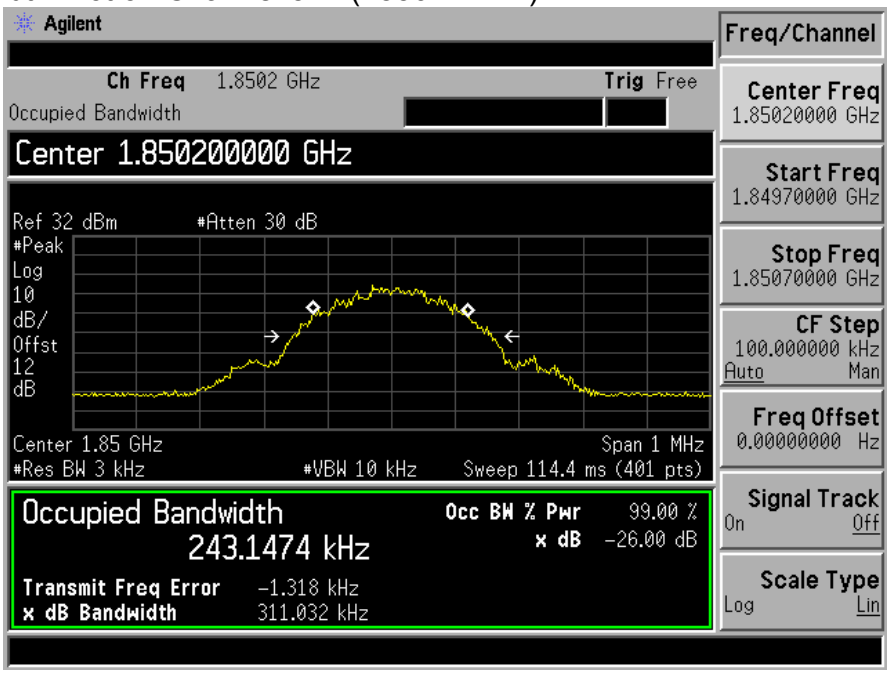
Operation Mode: PCS1900(GPRS class 8)

PCS Band			
Modes	GPRS class 8 Link		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
99% OBW (MHz)	0.2513	0.2484	0.2454
26dB BW (MHz)	0.3110	**0.3145**	0.3115

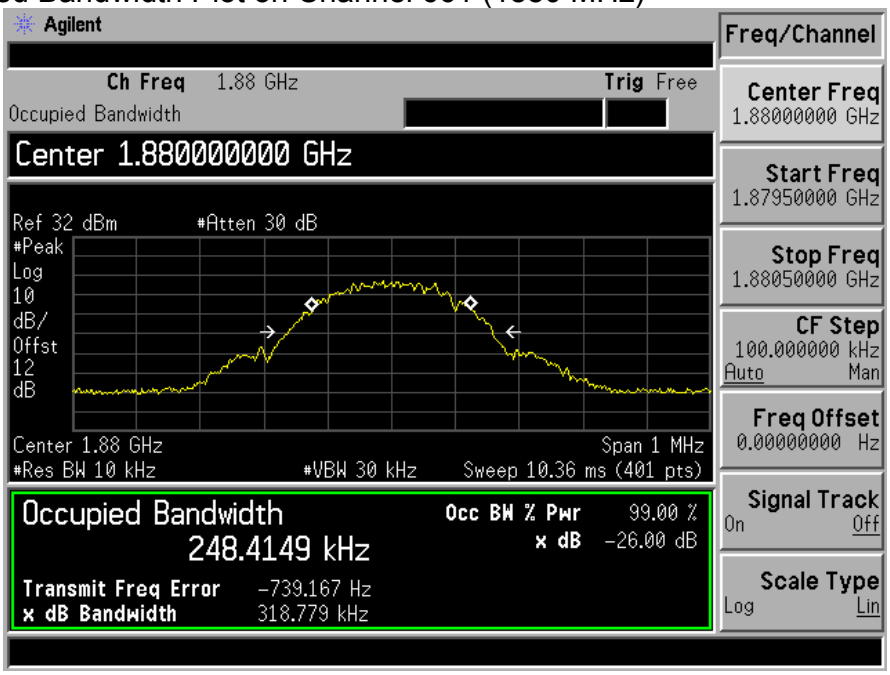
99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



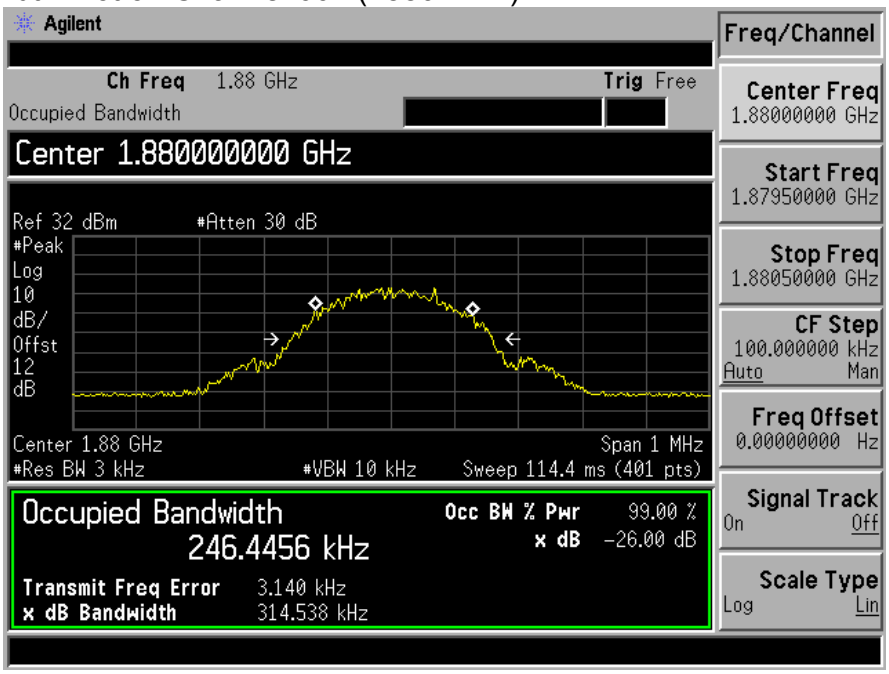
26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



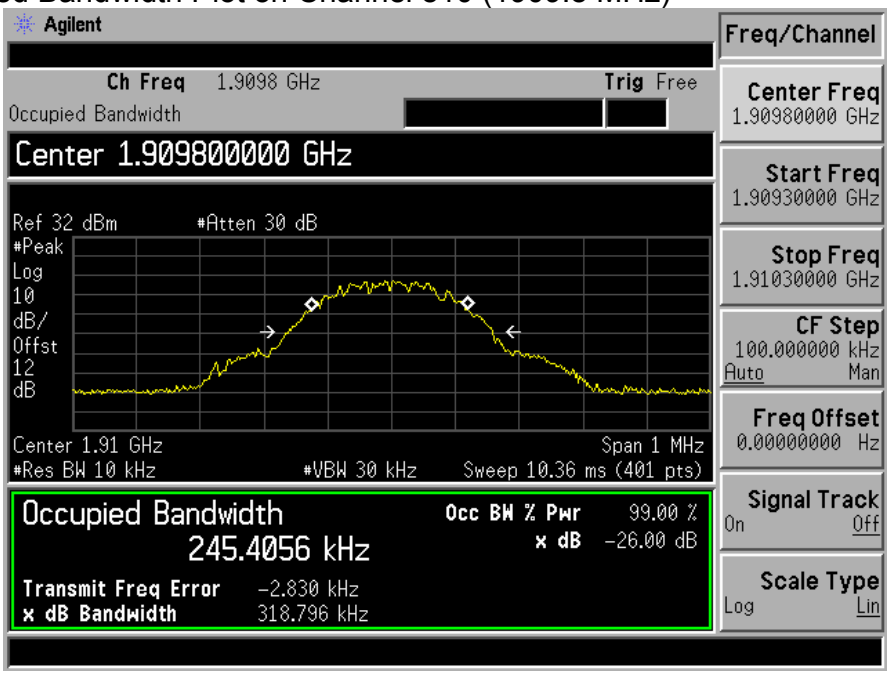
99% Occupied Bandwidth Plot on Channel 661 (1880 MHz)



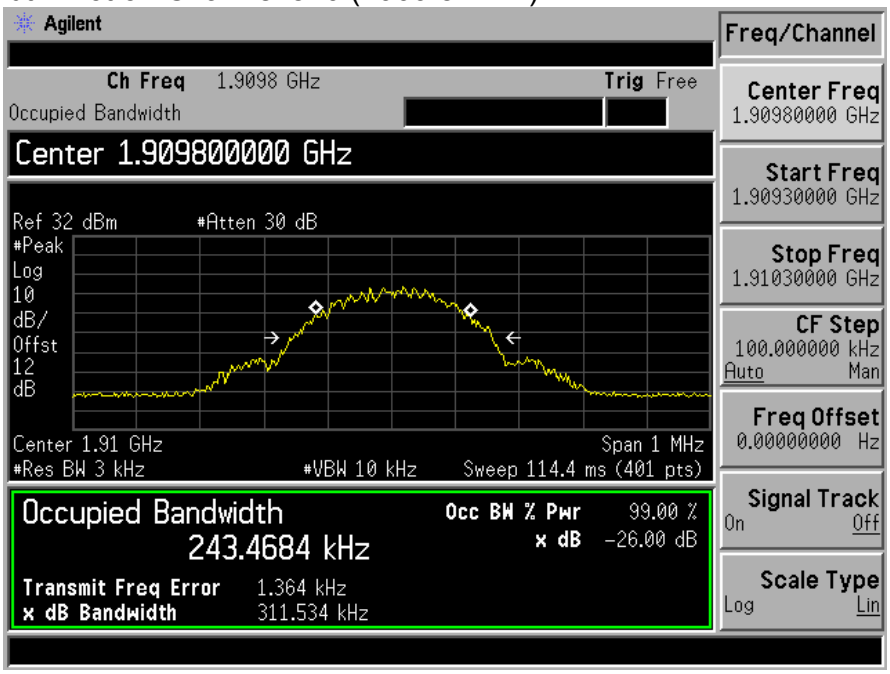
26dB Bandwidth Plot on Channel 661 (1880 MHz)



99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



26dB Bandwidth Plot on Channel 810 (1909.8 MHz)

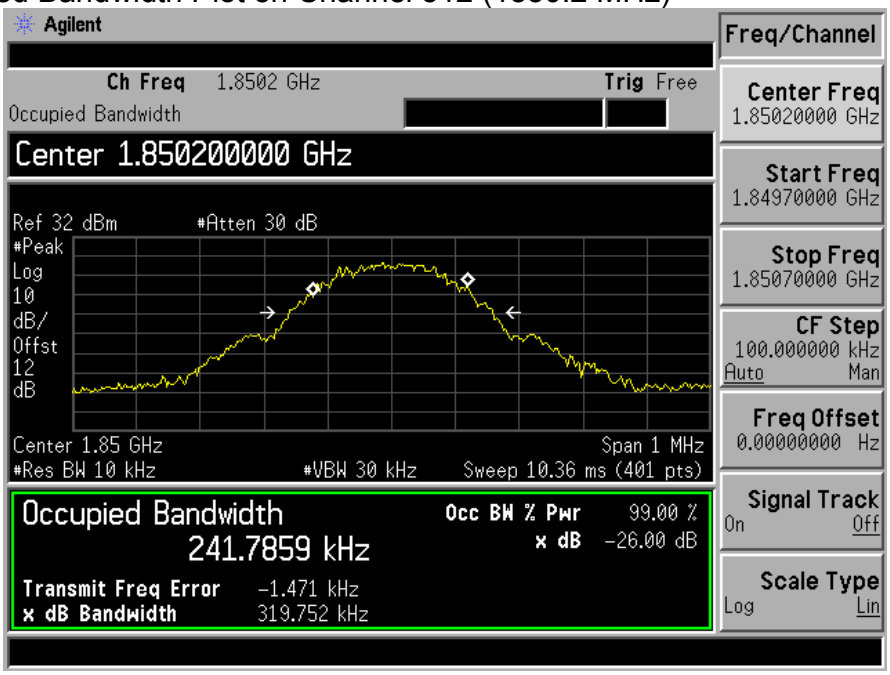


Mode:	PCS Band	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

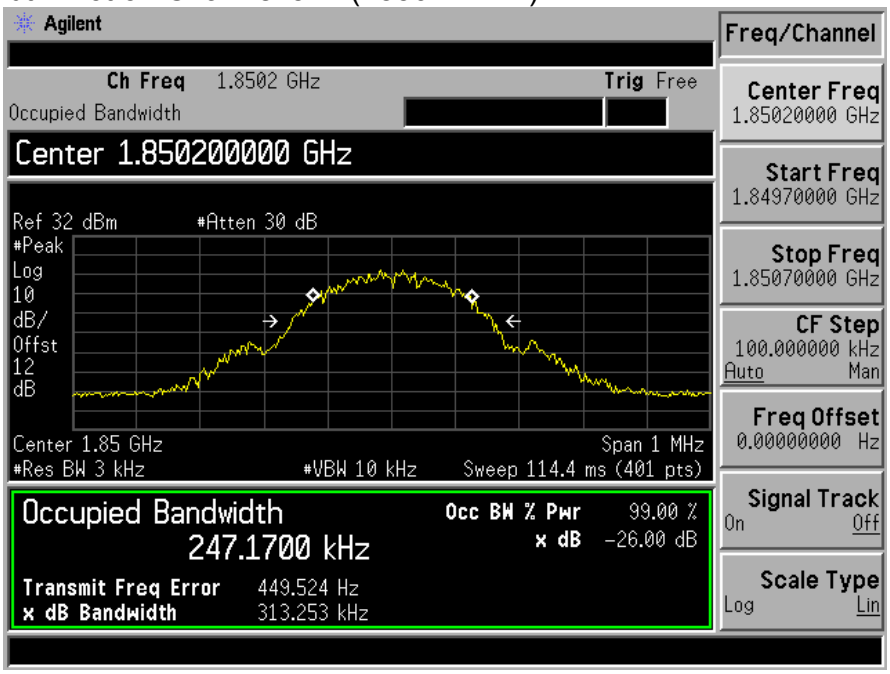
Operation Mode: PCS1900(EDGE class 12)

PCS Band			
Modes	EDGE class 8 Link		
Channel	512(Low)	661(Mid)	810(High)
Frequency (MHz)	1850.2	1880	1909.8
99% OBW (MHz)	0.2417	0.2445	0.2544
26dB BW (MHz)	0.3132	0.3120	**0.3175**

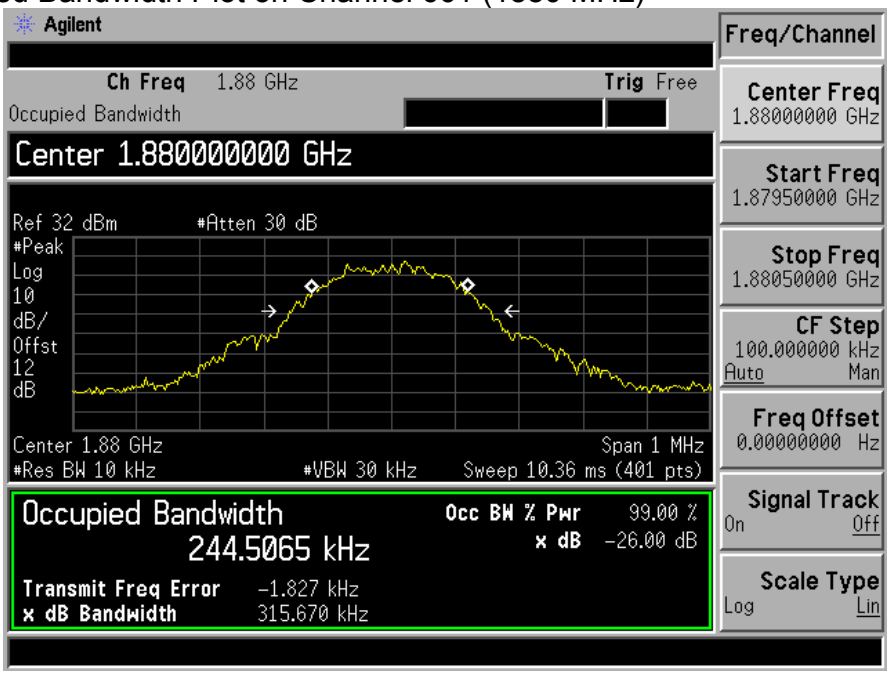
99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



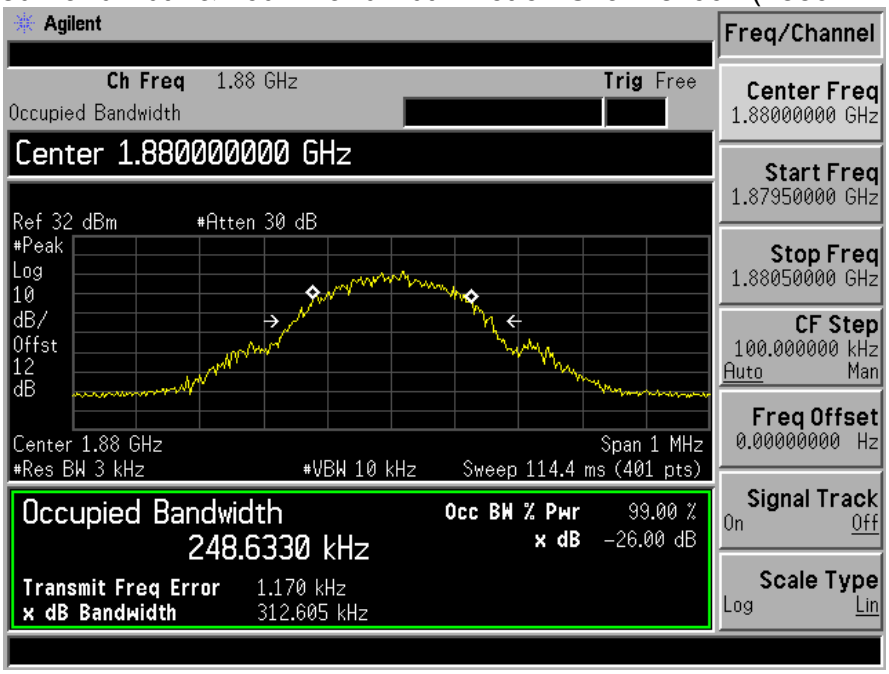
26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



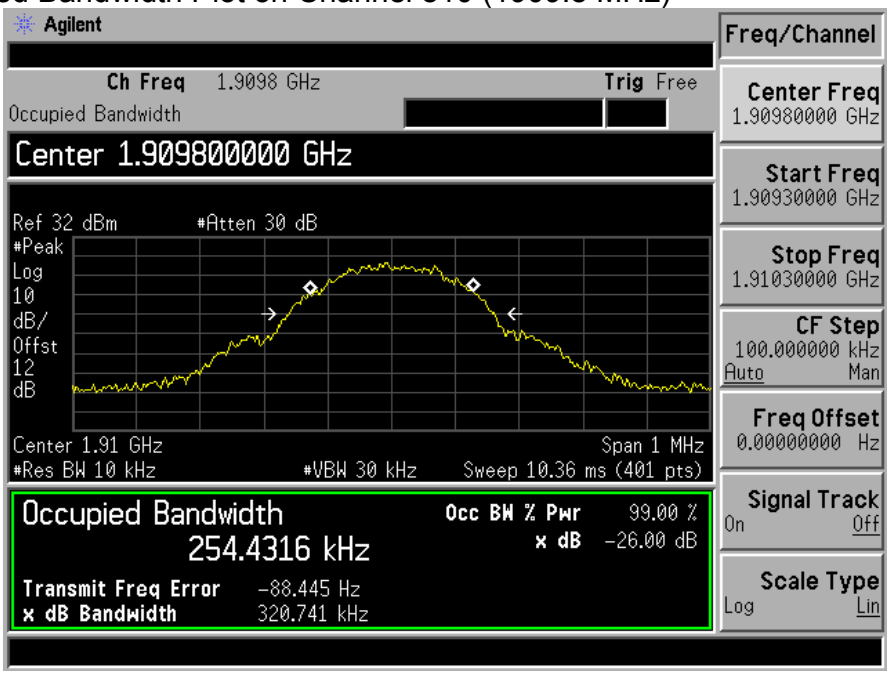
99% Occupied Bandwidth Plot on Channel 661 (1880 MHz)



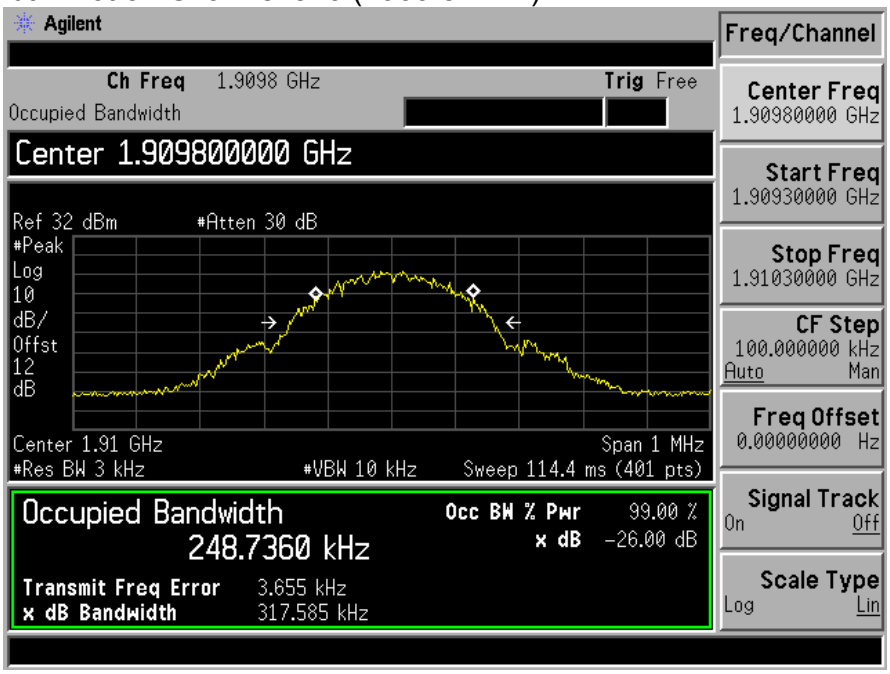
99% Occupied Bandwidth & 26dB Bandwidth Plot on Channel 661 (1880 MHz)



99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



26dB Bandwidth Plot on Channel 810 (1909.8 MHz)

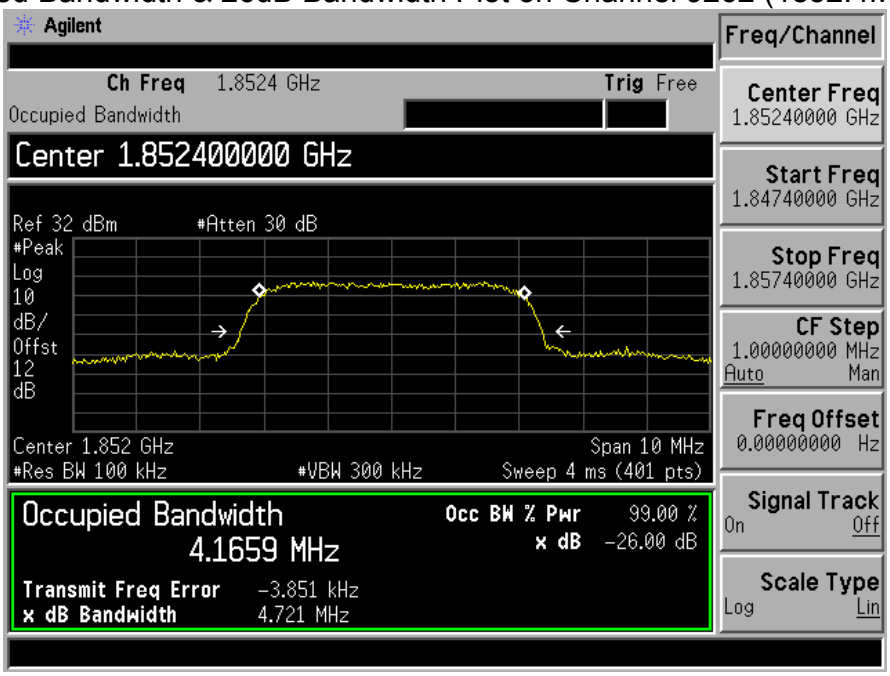


Mode:	WCDMA Band II	Test Date :	September 02, 2014
Test By:	KK	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %

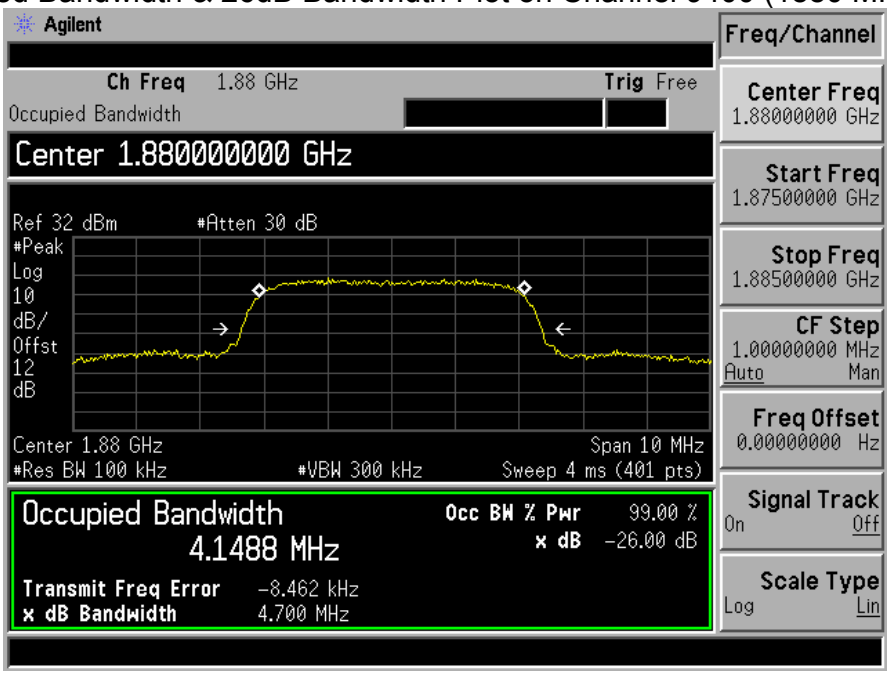
Operation Mode: WCDMA Band II(RMC 12.2Kbps)

PCS Band			
Modes	WCDMA Band II(RMC 12.2Kbps)		
Channel	9262(Low)	9400(Mid)	9538(High)
Frequency (MHz)	1852.4	1880	1907.6
99% OBW (MHz)	4.1659	4.1488	4.1634
26dB BW (MHz)	**4.721**	4.700	4.709

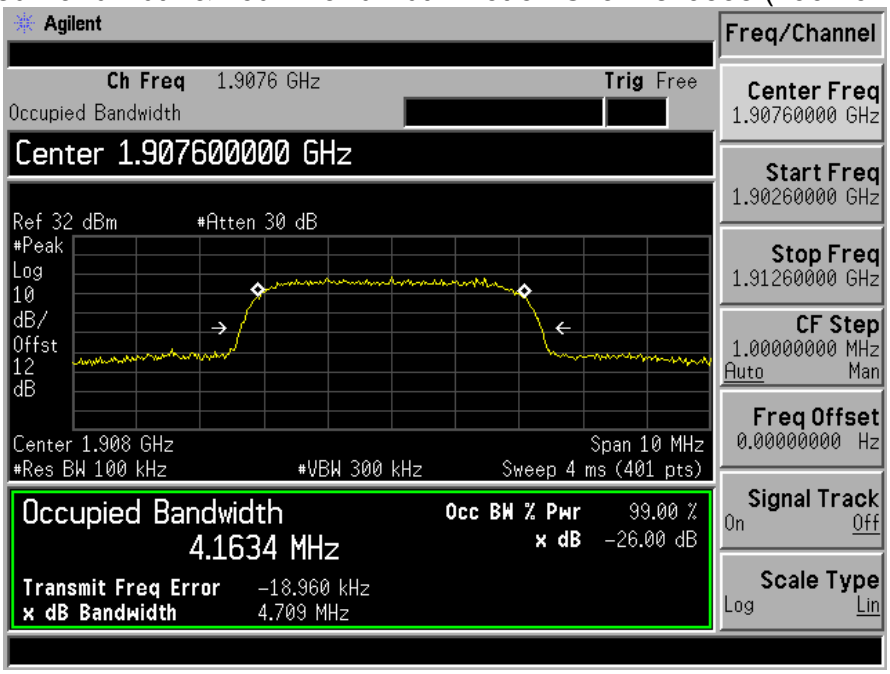
99% Occupied Bandwidth & 26dB Bandwidth Plot on Channel 9262 (1852.4MHz)



99% Occupied Bandwidth & 26dB Bandwidth Plot on Channel 9400 (1880 MHz)



99% Occupied Bandwidth & 26dB Bandwidth Plot on Channel 9538 (1907.6 MHz)



11 Band Edge Measurement

11.1 Test Procedures

11.1.1 The EUT was connected to Spectrum Analyzer and Base Station via power divider.

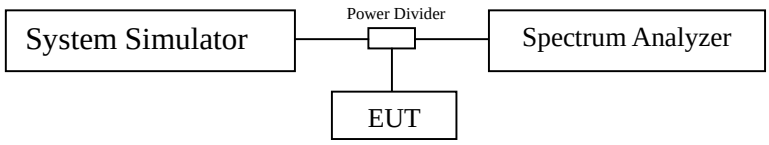
11.1.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

11.1.3 The band edges of low and high channels for the highest RF powers were measured.

11.1.4 The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

11.1.5 The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts) = P(W) - [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

11.2 Test Set-up (Block Diagram of Configuration)



11.3 Test Equipment

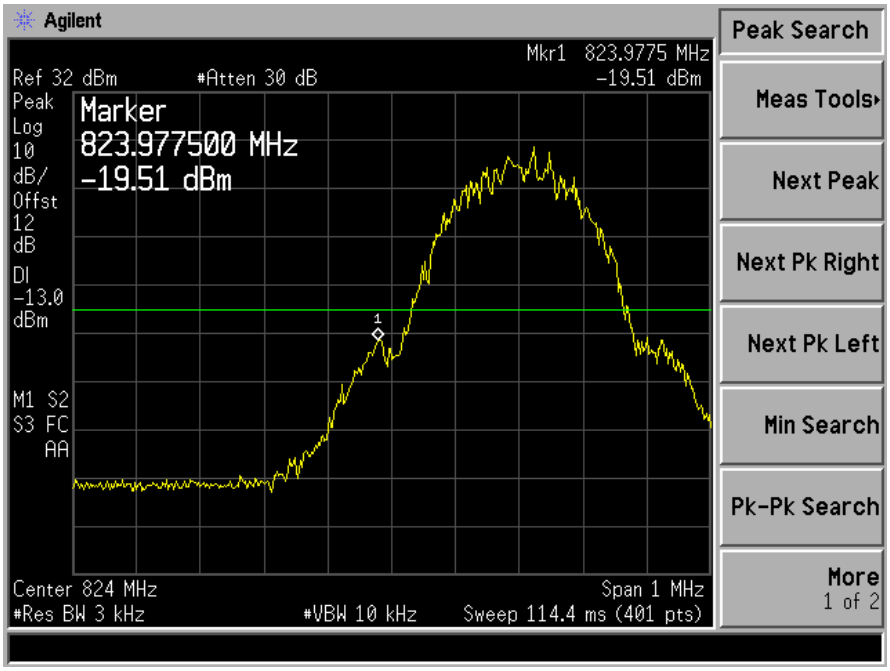
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
Spectrum Analyzer	Agilent	E4407B	88156318	05/17/2014	05/16/2015

11.4 Description of Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

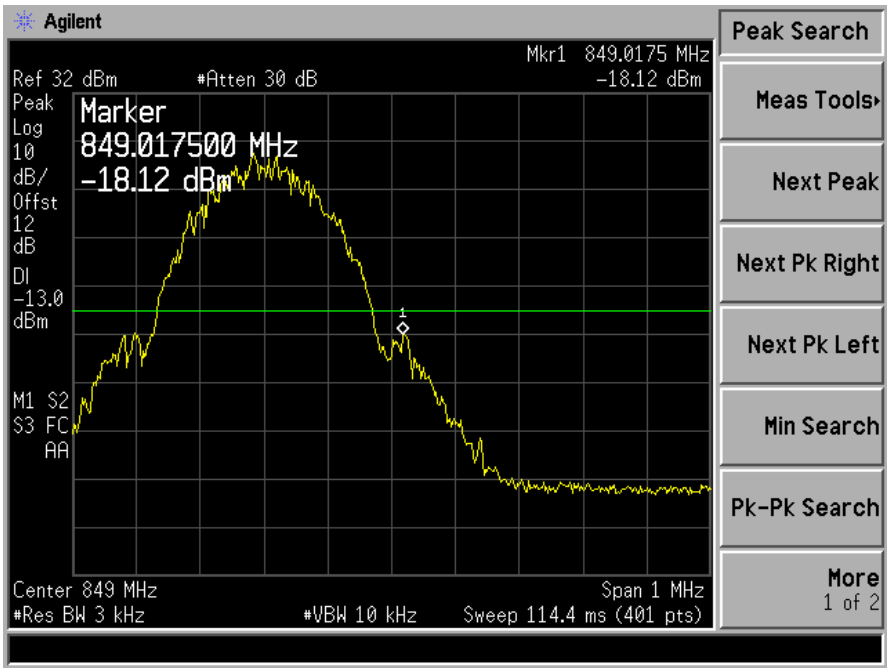
11.5 Measurement Results

Band:	GSM850	Test Mode:	GPRS class 8
Correction Factor:	0.30dB	Maximum 26dB Bandwidth:	0.3212MHz
Band Edge:	-19.21dBm	Measurement Value:	-19.51dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date:	September 02, 2014		



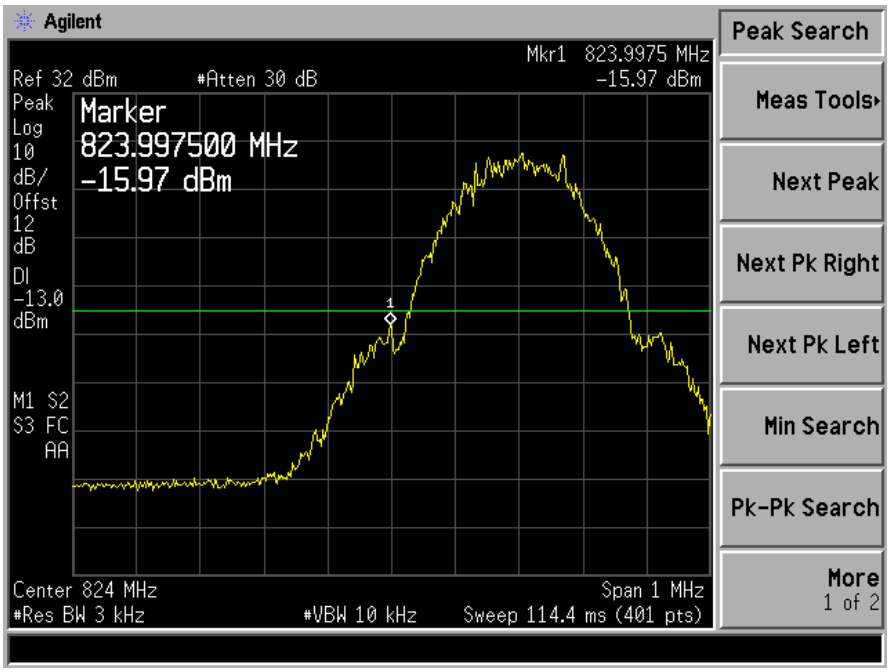
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	GSM850	Test Mode:	GPRS class 8
Correction Factor:	0.30dB	Maximum 26dB Bandwidth:	0.3212MHz
Band Edge :	-17.82dBm	Measurement Value:	-18.12dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date :	September 02, 2014		



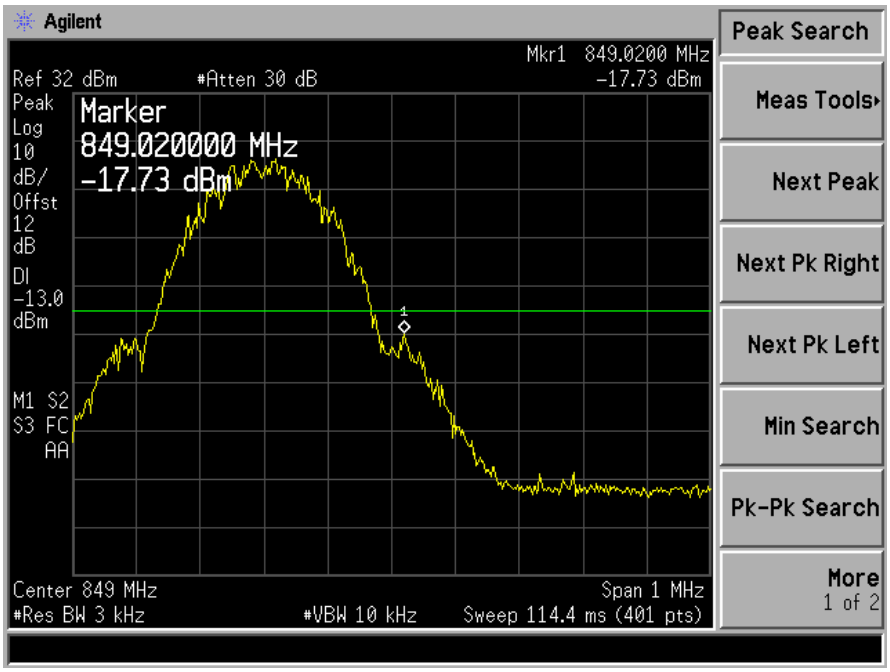
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	GSM850	Test Mode:	EDGE class 12
Correction Factor:	0.29dB	Maximum 26dB Bandwidth:	0.3204MHz
Band Edge:	-15.68dBm	Measurement Value:	-15.97dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date:	September 02, 2014		



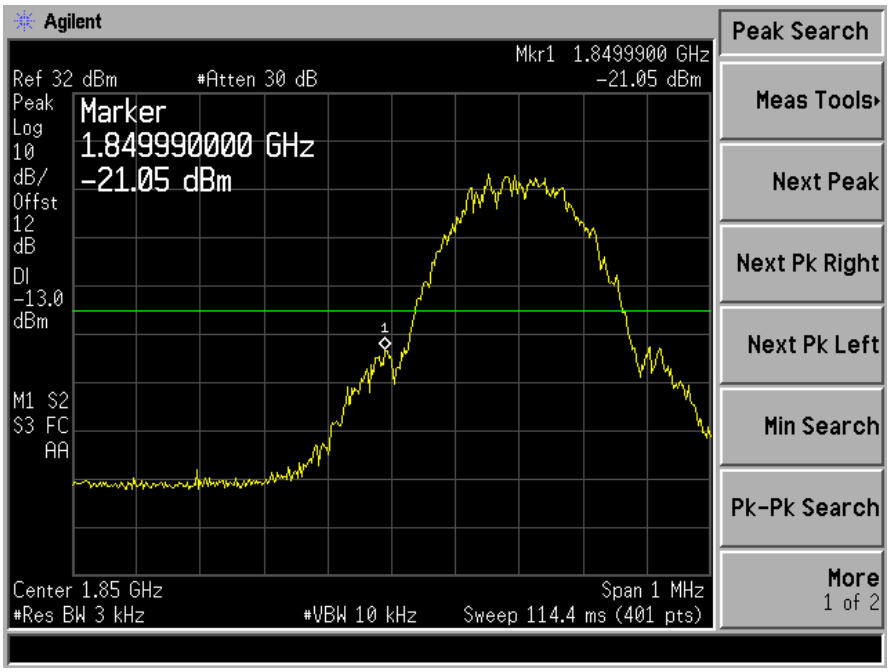
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	GSM850	Test Mode:	EDGE class 12
Correction Factor:	0.29dB	Maximum 26dB Bandwidth:	0.3204MHz
Band Edge :	-17.44dBm	Measurement Value:	-17.73dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date :	September 02, 2014		



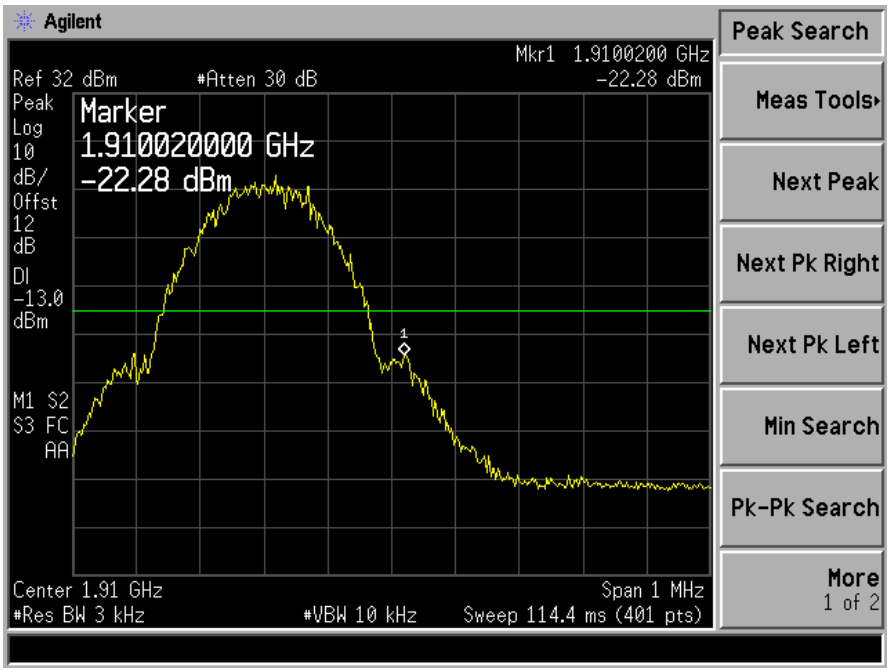
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	PCS1900	Test Mode:	GPRS class 8
Correction Factor:	0.20dB	Maximum 26dB Bandwidth:	0.3145MHz
Band Edge:	-20.85dBm	Measurement Value:	-21.05dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date:	September 02, 2014		



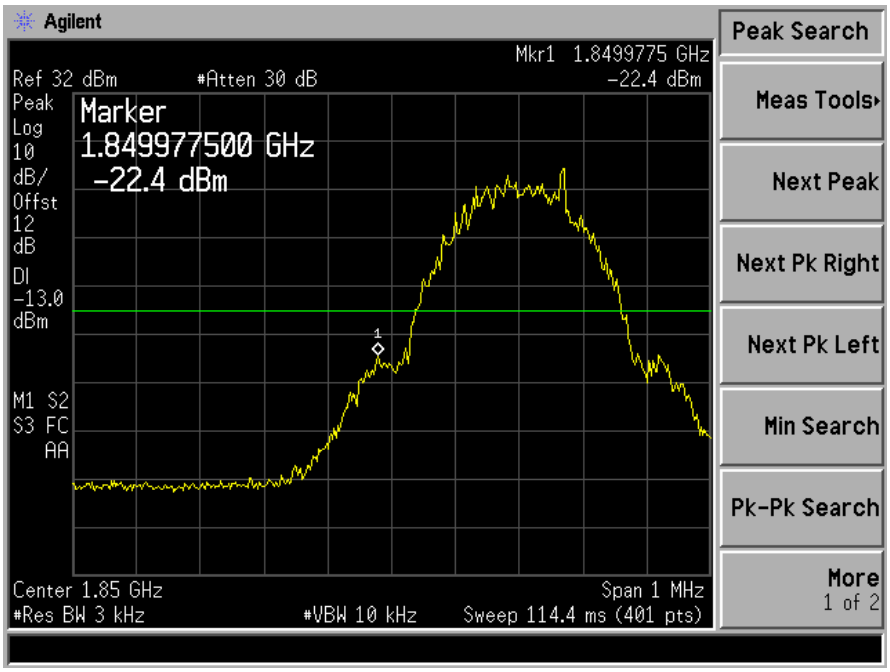
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	PCS1900	Test Mode:	GPRS class 8
Correction Factor:	0.20dB	Maximum 26dB Bandwidth:	0.3145MHz
Band Edge :	-22.08dBm	Measurement Value:	-22.28dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date :	September 02, 2014		



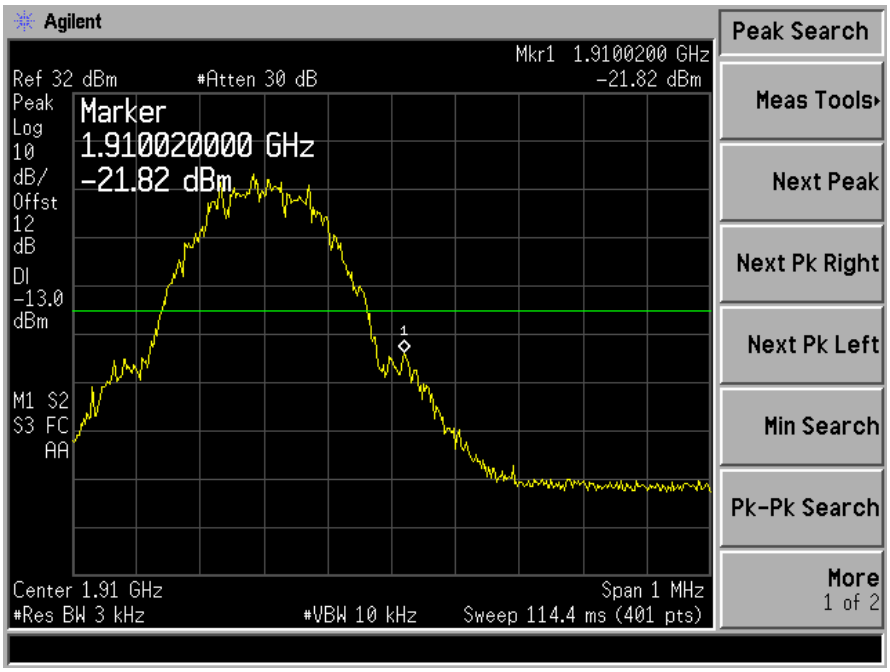
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	PCS1900	Test Mode:	EDGE class 12
Correction Factor:	0.25dB	Maximum 26dB Bandwidth:	0.3175MHz
Band Edge:	-20.15dBm	Measurement Value:	-22.4dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date:	September 02, 2014		



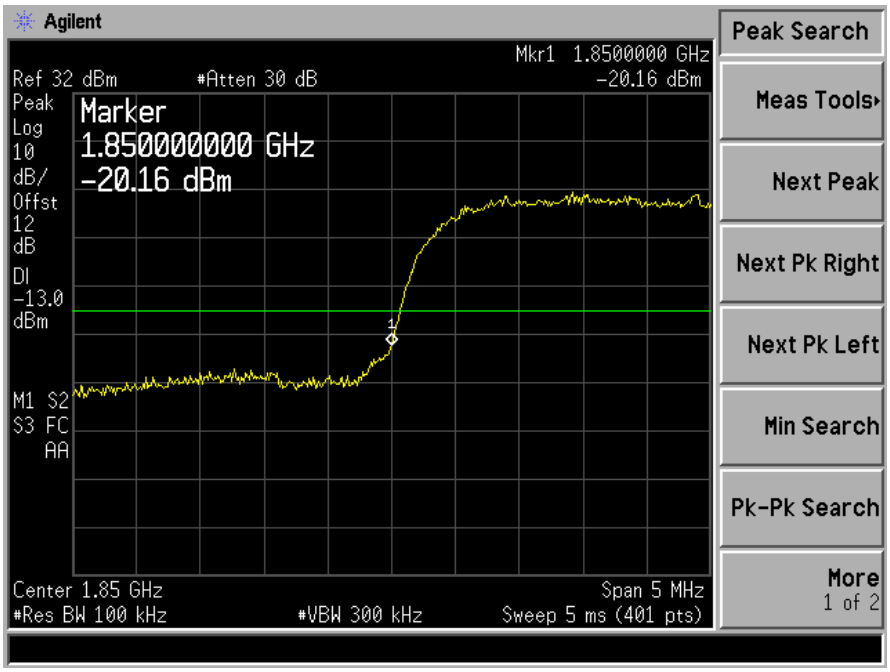
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	PCS1900	Test Mode:	EDGE class 12
Correction Factor:	0.25dB	Maximum 26dB Bandwidth:	0.3175MHz
Band Edge :	-21.57dBm	Measurement Value:	-21.82dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date :	September 02, 2014		



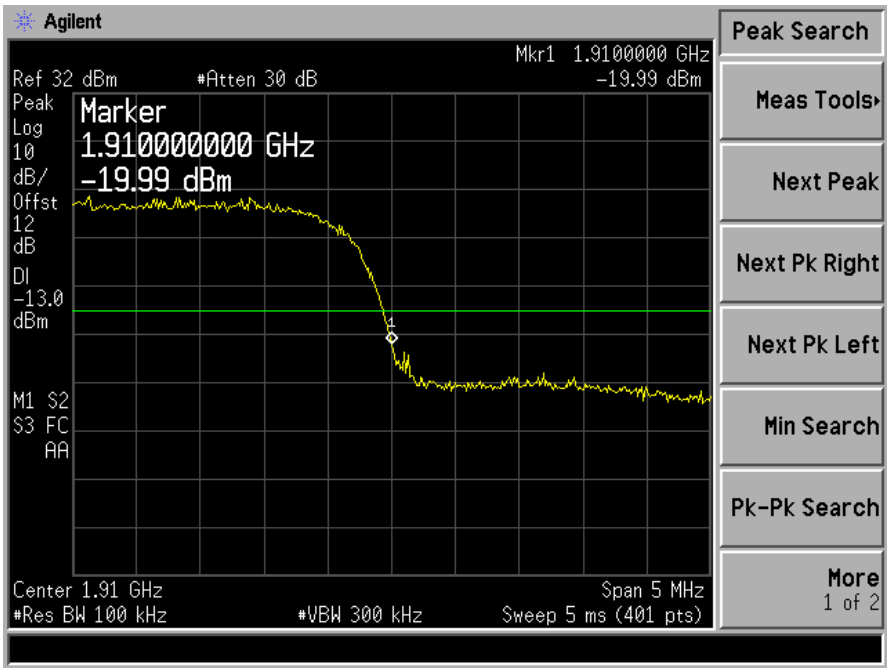
1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	WCDMA Band II	Test Mode:	RMC 12.2Kbps
Correction Factor:	-3.26dB	Maximum 26dB Bandwidth:	4.721MHz
Band Edge:	-23.42dBm	Measurement Value:	-20.16dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date:	September 02, 2014		



1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

Band:	WCDMA Band II	Test Mode:	RMC 12.2Kbps
Correction Factor:	-3.26dB	Maximum 26dB Bandwidth:	4.721MHz
Band Edge :	-23.25dBm	Measurement Value:	-19.99dBm
Test By:	KK	Temperature:	24℃
Test Result:	PASS	Humidity:	53 %
Test Date :	September 02, 2014		



1. Correction Factor(dB)= 10log(1% Emission BW/RBW)
2. Band Edge= Measurement Value + Correction Factor(dB)

12 Conducted Spurious Emission Measurement

12.1 Test Procedures

12.1.1 The EUT was connected to spectrum analyzer and base station via power divider.

12.1.2 The RF output of EUT was connected to the spect rum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

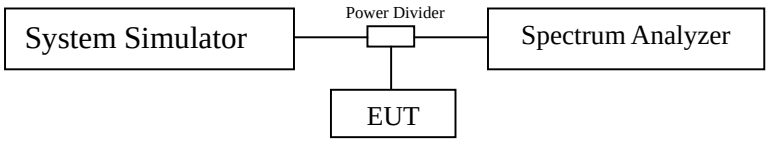
12.1.3 The middle channel for the highest RF power within the transmitting frequency was measured.

12.1.4 The conducted spurious emission for the whole frequency range was taken.

12.1.5 The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

12.1.6 The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)= P(W) - [43 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.

12.2 Block Diagram of Test setup



12.3 Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
Spectrum Analyzer	Agilent	E4407B	88156318	05/17/2014	05/16/2015

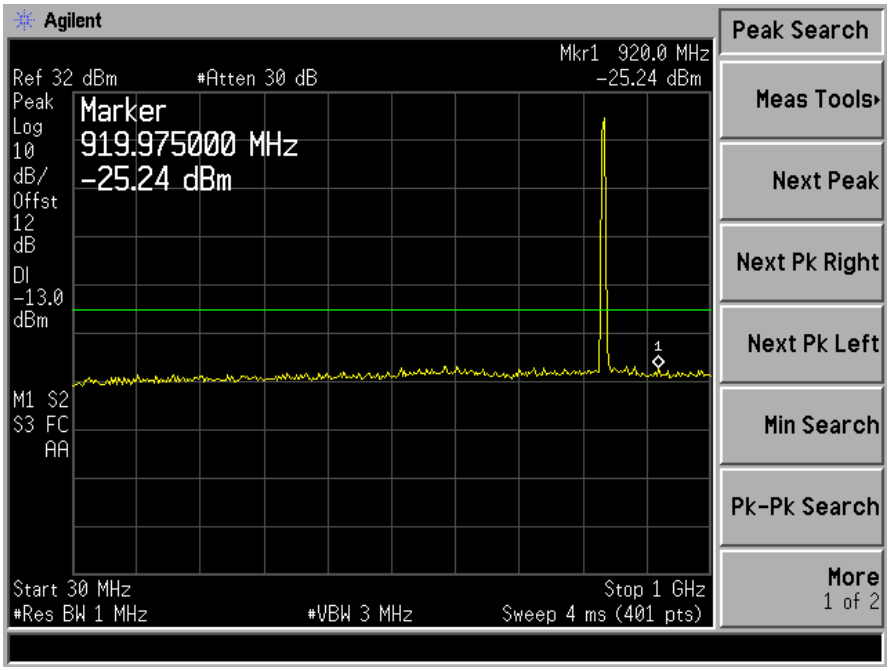
12.4 Description of Conducted Spurious Emission Measurement

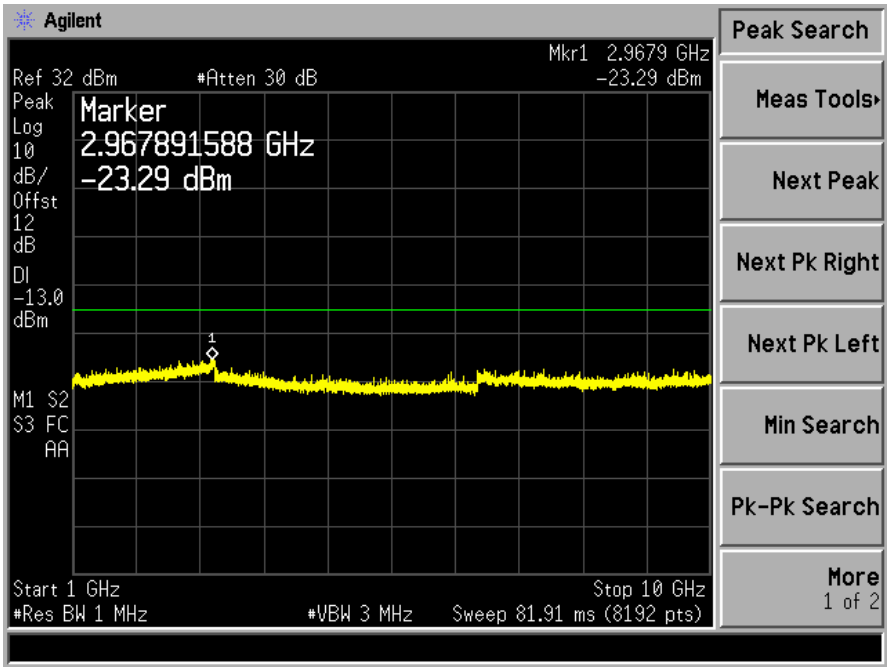
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to afrequency including its 10th harmonic.

12.5 Measurement Results

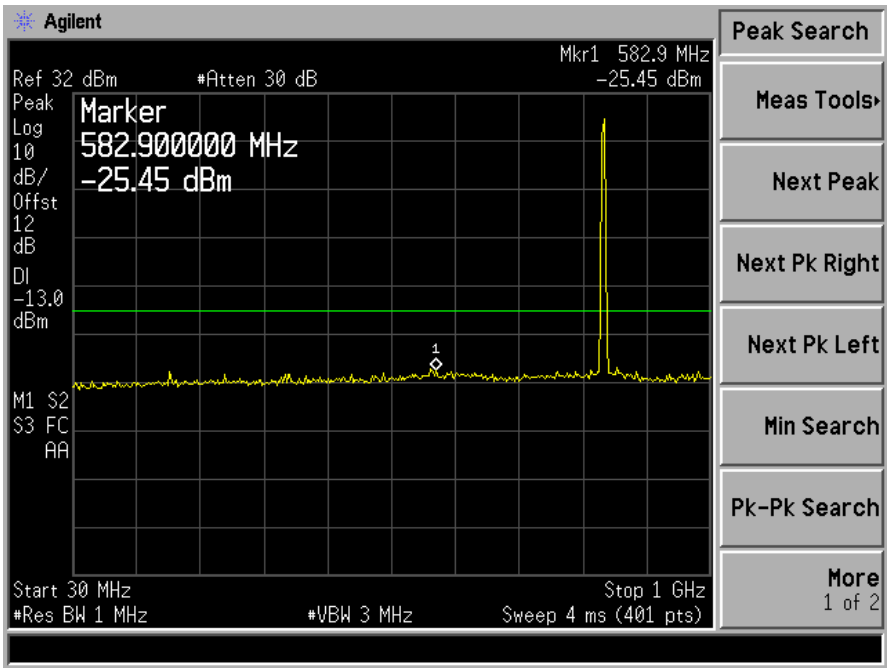
All the channels were tested the data of the worst mode (Middle channel) are recorded in the following pages and the others channel methods do not exceed the limits.

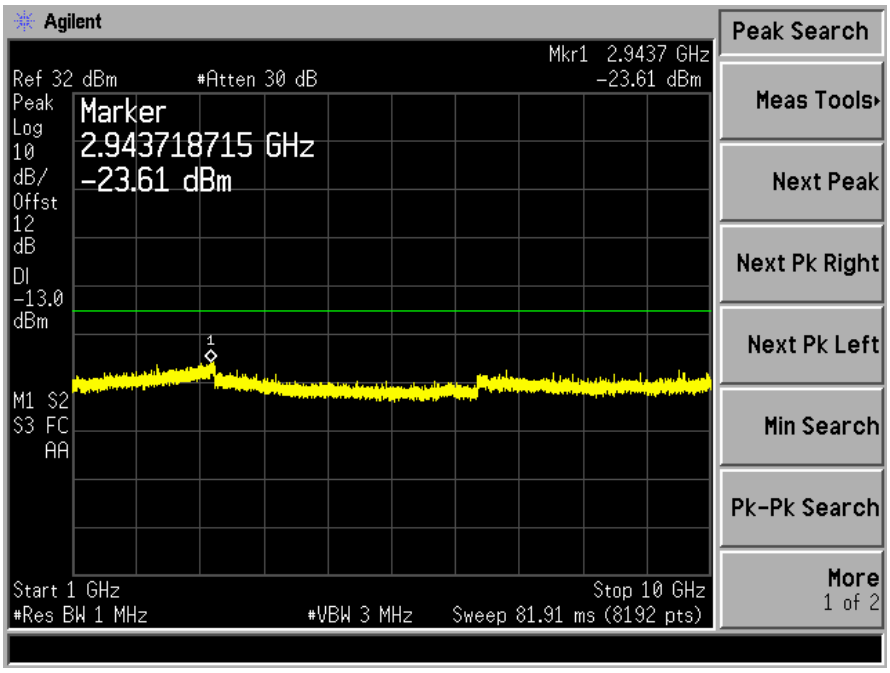
Band:	CGSM850	Test Mode :	GPRS class 8 Link
Channel :	CH189	Frequency :	836.4 MHz



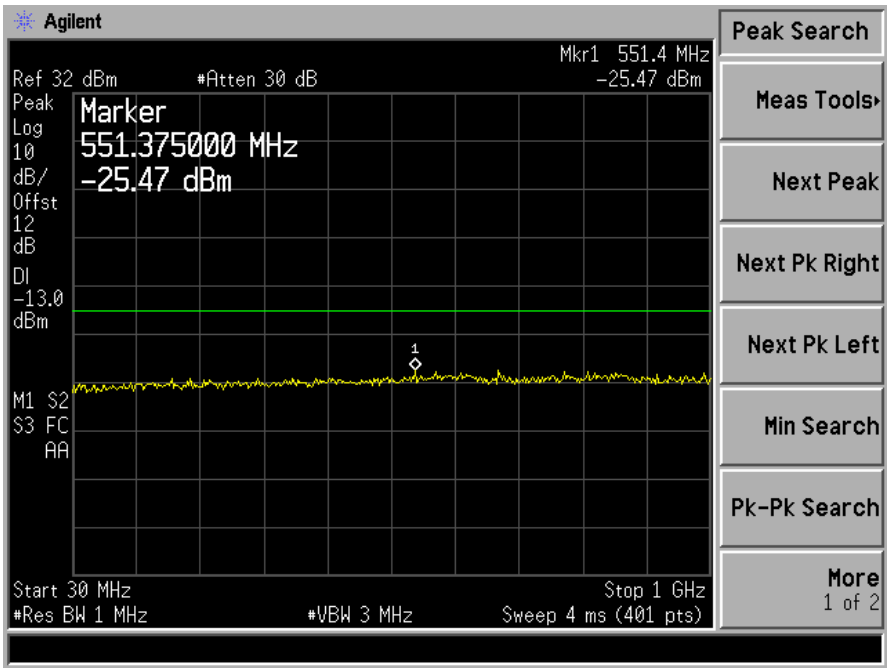


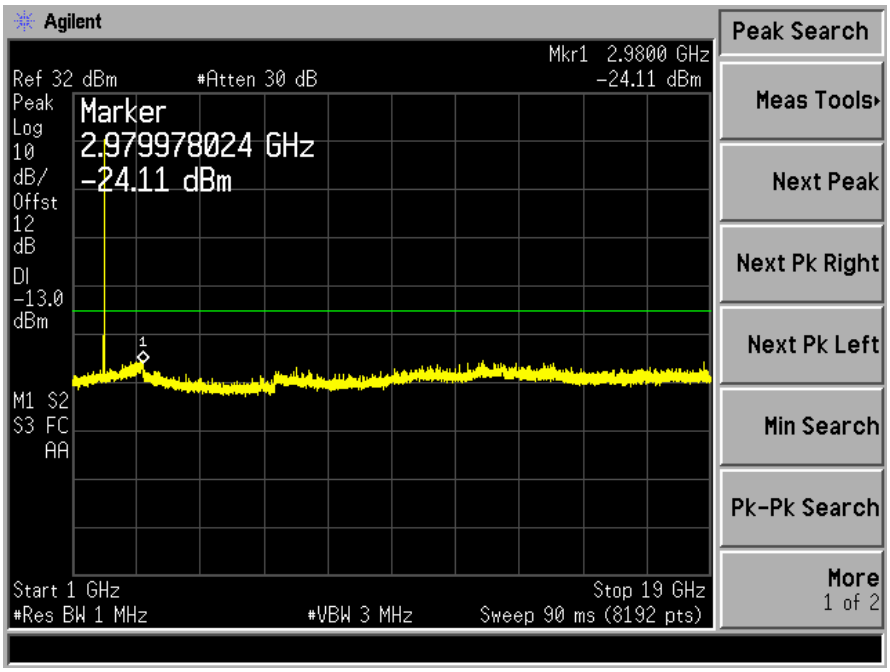
Band:	GSM850	Test Mode :	EDGE class 12
Channel :	CH189	Frequency :	836.4 MHz



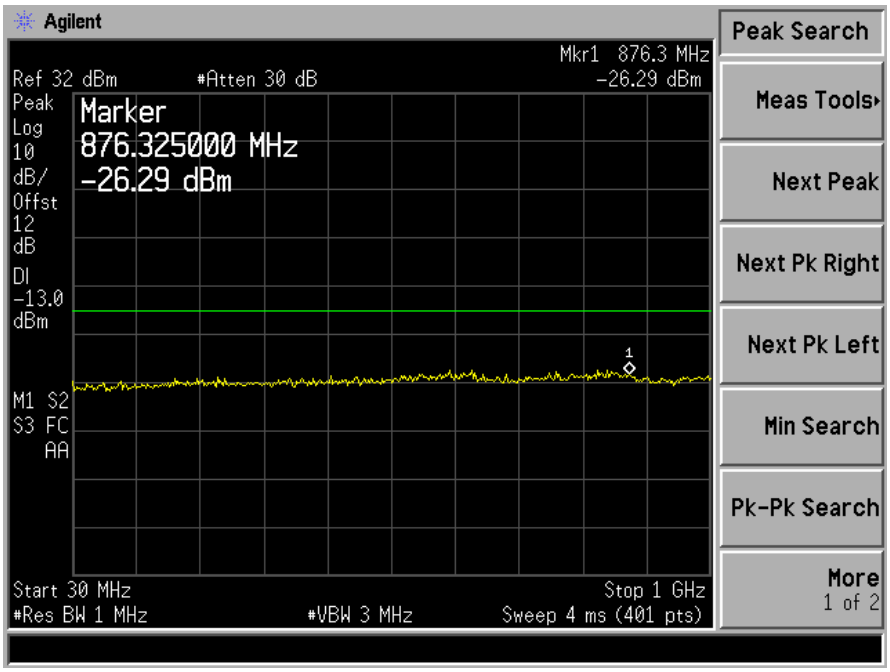


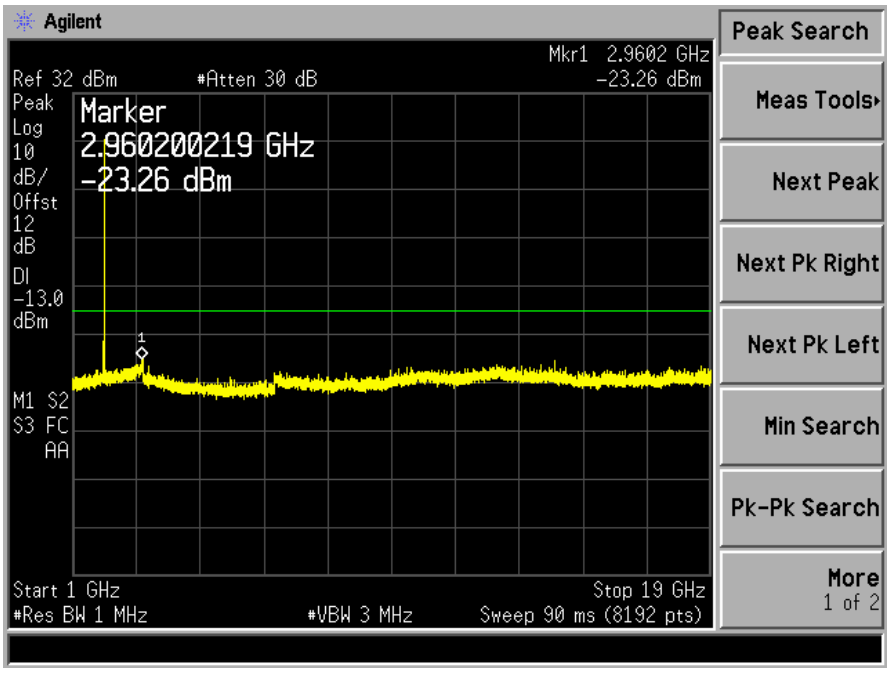
Band:	PCS1900	Test Mode :	GPRS class 8
Channel :	CH661	Frequency :	1880 MHz



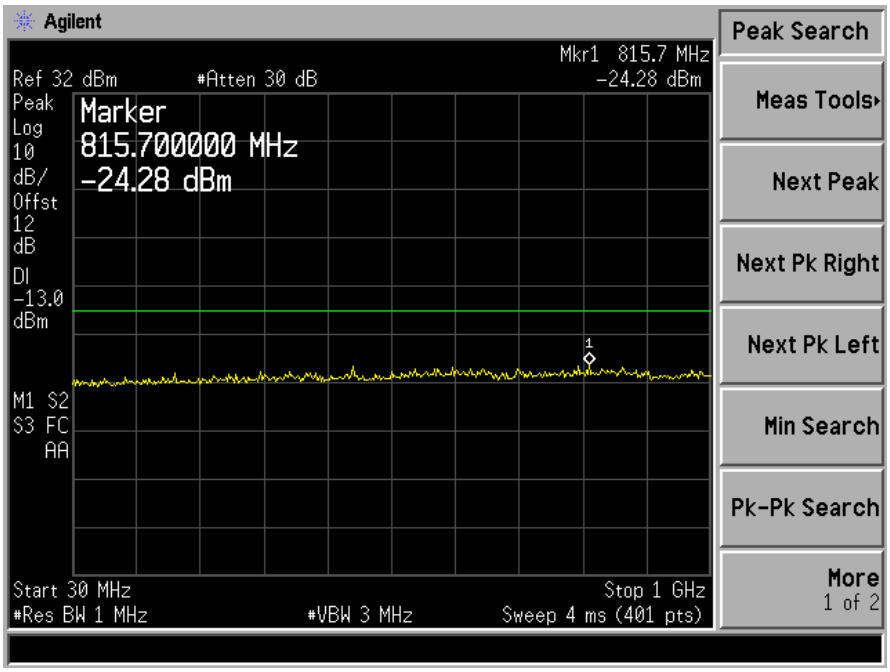


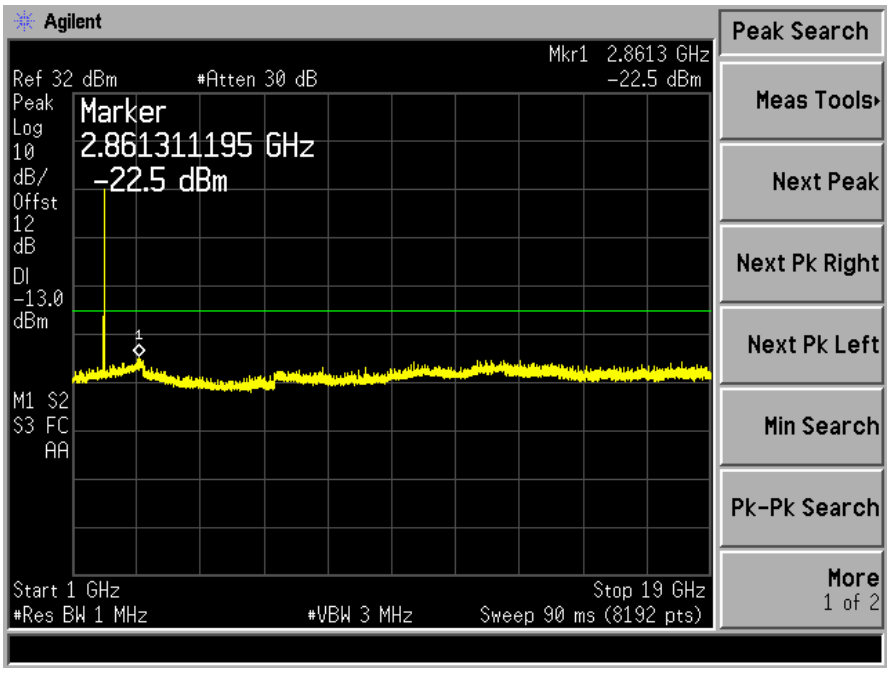
Band:	PCS1900	Test Mode :	EDGE class 12
Channel :	CH661	Frequency :	1880 MHz





Band:	WCDMA Band II	Test Mode :	RMC 12.2Kbps
Channel :	CH4182	Frequency :	836.4 MHz





13 Frequency Stability Measurement

13.1 Test Procedures

For Voltage Variation:

13.1.1 The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.

13.1.2 The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.

13.1.3 The variation in frequency was measured for the worst case.

For Temperature Variation:

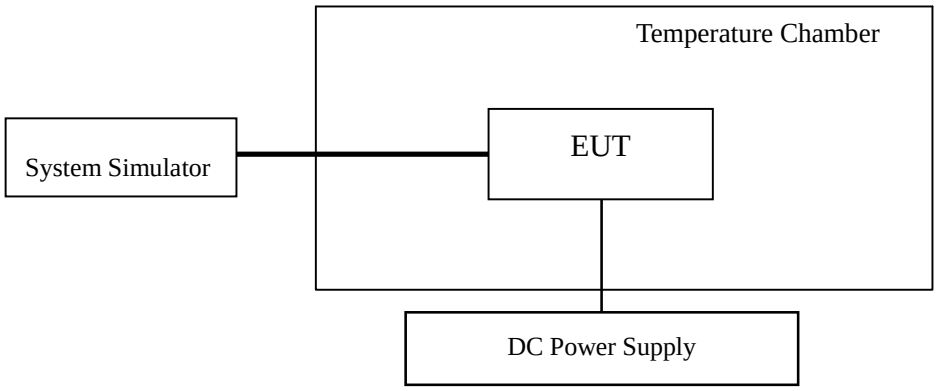
13.1.4 The EUT was set up in the thermal chamber and connected with the base station.

13.1.5 With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.

13.1.6 With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

13.1.7 If the EUT cannot be turned on at -30°C, the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

13.2 Block Diagram of Test setup



13.3 Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
System Simulator	Rohde & Schwarz	CMU200	111226	05/17/2014	05/16/2015
thermal-humidity test chamber	ESPEC	EL-02KA	12107166	N/A	N/A
DC Power Supply	DAZHENG	PS-6050	N/A	N/A	N/A

13.4 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the c enter frequency.

13.5 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH189	GPRS class 8	3.7	-14	-0.017	2.5	PASS
		BEP	-11	-0.013		
		4.2	-13	-0.016		
	EDGE class 12	3.7	-16	-0.019		
		BEP	-10	-0.012		
		4.2	-13	-0.016		
GSM 1900 CH661	GPRS class 8	3.7	-24	-0.029		
		BEP	-21	-0.025		
		4.2	-23	-0.027		
	EDGE class 12	3.7	-24	-0.029		
		BEP	-21	-0.025		
		4.2	-23	-0.027		
WCDMA Band II CH4182	RMC12.2Kbps	3.7	-4	-0.005		
		BEP	1	0.001		
		4.2	-3	-0.004		

Note:

1. Normal Voltage = 3.7V.
2. Battery End Point (BEP) = 3.2 V.

13.6 Test Result of Temperature Variation

All the channels were tested the data of the worst mode (Middle channel) are recorded in the following pages and the others channel methods do not exceed the limits.

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	GPRS class 8	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Limit (ppm) :	2.5	Test By:	KK
Channel:	CH189/836.4 MHz		

temperature (℃)	Frequency error (Hz)	Frequency error(ppm) (dB)
-30	11	0.013
-20	8	0.010
-10	10	0.012
0	4	0.005
10	-2	-0.002
20	-3	-0.004
30	-10	-0.012
40	-12	-0.014
50	-12	-0.014
55	-15	-0.020

Note:

The manufacturer declared that the EUT could work properly at temperature 55°C.

Band:	GSM850	Test Date :	September 02, 2014
Test Mode:	EDGE class 12	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Limit (ppm) :	2.5	Test By:	KK
Channel:	CH189/836.4 MHz		

temperature (℃)	Frequency error (Hz)	Frequency error(ppm) (dB)
-30	-4	-0.005
-20	-4	-0.005
-10	-55	-0.066
0	-1	-0.001
10	-12	-0.014
20	-13	-0.016
30	-10	-0.012
40	-20	-0.024
50	-22	-0.026
55	-25	-0.030

Note:

The manufacturer declared that the EUT could work properly at temperature 55°C

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	GPRS class 8	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Limit (ppm) :	2.5	Test By:	KK
Channel:	CH661/1880 MHz		

temperature (℃)	Frequency error (Hz)	Frequency error(ppm) (dB)
-30	7	0.004
-20	5	0.003
-10	5	0.003
0	11	0.006
10	12	0.006
20	13	0.007
30	20	0.011
40	22	0.012
50	22	0.012
55	25	0.013

Note:

The manufacturer declared that the EUT could work properly at temperature 55°C.

Band:	PCS1900	Test Date :	September 02, 2014
Test Mode:	EDGE class 12	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Limit (ppm) :	2.5	Test By:	KK
Channel:	CH661/1880 MHz		

temperature (℃)	Frequency error (Hz)	Frequency error(ppm) (dB)
-30	14	0.007
-20	14	0.007
-10	15	0.008
0	10	0.005
10	6	0.003
20	6	0.003
30	-4	-0.002
40	-2	-0.001
50	-2	-0.001
55	-5	-0.003

Note:

The manufacturer declared that the EUT could work properly at temperature 55°C

Band:	WCDMA Band II	Test Date :	September 02, 2014
Test Mode:	RMC 12.2Kbps	Temperature :	24℃
Test Result:	PASS	Humidity :	53 %
Limit (ppm) :	2.5	Test By:	KK
Channel:	CH9400/1880 MHz		

temperature (℃)	Frequency error (Hz)	Frequency error(ppm) (dB)
-30	14	0.007
-20	14	0.007
-10	15	0.008
0	10	0.005
10	12	0.006
20	-3	-0.002
30	-10	-0.005
40	-12	-0.006
50	-12	-0.006
55	-15	-0.008

Note:

The manufacturer declared that the EUT could work properly at temperature 55°C