FCC 47 CFR PART 22H and 24E

Test Report

Product Type	:	Mobile Broadband Module
Applicant	:	Ericsson AB
Address	:	Lindholmspiren 11, 417 56 Gothenburg, Sweden
Trade Name	:	Ericsson
Model Number	:	N5321
Type Number	:	KRD 131 30/1
Other identification of the product	:	FCC ID : VV7-MBMN5321 IC : 287AG-MBMN5321
Final HW version	:	R1
Final SW version	:	R3C11
Test Specification	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 CANADA RSS-132 ISSUE 2: Sep., 2005 CANADA RSS-133 ISSUE 5: Feb., 2009 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Receive Date	:	Nov. 29, 2012
Test Period	:	Nov. 30 ~ Dec. 01, 2012
Issue Date	:	Dec. 21, 2012

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

Revision History

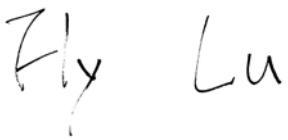
Rev.	Issue Date	Revisions	Revised By
00	Dec. 12, 2012	Initial Issue	
01	Dec. 21, 2012	Add product information.	Joyce Liao

Verification of Compliance

Issued Date: 12/21/2012

Product Type	:	Mobile Broadband Module
Applicant	:	Ericsson AB
Address	:	Lindholmspiren 11, 417 56 Gothenburg, Sweden
Trade Name	:	Ericsson
Model Number	:	N5321
FCC ID	:	VV7-MBMN5321
IC	:	287AG-MBMN5321
EUT Rated Voltage	:	DC 3.3V
Test Voltage	:	AC 120V, 60Hz
Applicable Standard	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 CANADA RSS-132 ISSUE 2: Sep., 2005 CANADA RSS-133 ISSUE 5: Feb., 2009 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City, Taoyuan County 334, Taiwan R.O.C. Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

The above equipment was tested by A Test Lab Techno Corp. 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 tested as described in this report is in compliance with the requirements of FCC Rules Part 22H, Part 24E.
The test results of this report relate only to the tested sample identified in this report.

Approved By	:		Reviewed By	:	
(Manager)		(Murphy Wang)	(Testing Engineer)		(Fly Lu)

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1 General Information

1.1. EUT Description

Applicant		Ericsson AB			
Applicant Address		Lindholmspiren 11, 417 56 Gothenburg, Sweden			
Manufacturer		Ericsson AB			
Manufacturer Address		Lindholmspiren 11, 417 56 Gothenburg, Sweden			
Product Type		Mobile Broadband Module			
Trade Name		Ericsson			
Model Number		N5321			
FCC ID		VV7-MBMN5321			
IC		287AG-MBMN5321			
Mode	GPRS/EGPRS	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		850	824.2 ~ 848.8	869.2 ~ 893.8	GMSK/8PSK
		1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	GMSK/8PSK
	WCDMA/ HSDPA/ HSUPA	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
		V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
Channel Control		Auto			
Test of Antenna Type		Laptop simulator antenna			
Antenna Gain (dBi)		GPRS/EGPRS 850 : 6.07 dBi GPRS/EGPRS 1900 : 2.70 dBi WCDMA/ HSDPA/ HSUPA Band II : 2.94 dBi WCDMA/ HSDPA/ HSUPA Band V : 5.01 dBi			
Max. RF Output power		GPRS 850 : 31.66 dBm / 1.466 W EGPRS 850 : 29.83 dBm / 0.962 W GPRS 1900 : 29.03 dBm / 0.800 W EGPRS 1900 : 29.01 dBm / 0.796 W WCDMA/ HSDPA/ HSUPA Band II : 25.24 dBm / 0.334 W WCDMA/ HSDPA/ HSUPA Band V : 25.72 dBm / 0.373 W			
Max. ERP/EIRP		GPRS 850 : 28.51 dBm / 0.710 W EGPRS 850 : 27.52 dBm / 0.565 W GPRS 1900 : 25.11 dBm / 0.324 W EGPRS 1900 : 22.78 dBm / 0.190 W WCDMA/ HSDPA/ HSUPA Band II : 21.19 dBm / 0.132 W WCDMA/ HSDPA/ HSUPA Band V : 23.17 dBm / 0.207 W			
Emission Designator		GPRS 850 : 247KGXW EGPRS 850 : 253KG7W GPRS 1900 : 248KGXW EGPRS 1900 : 251KG7W WCDMA/ HSDPA/ HSUPA Band II : 4M22F9W WCDMA/ HSDPA/ HSUPA Band V : 4M18F9W			

1.2. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

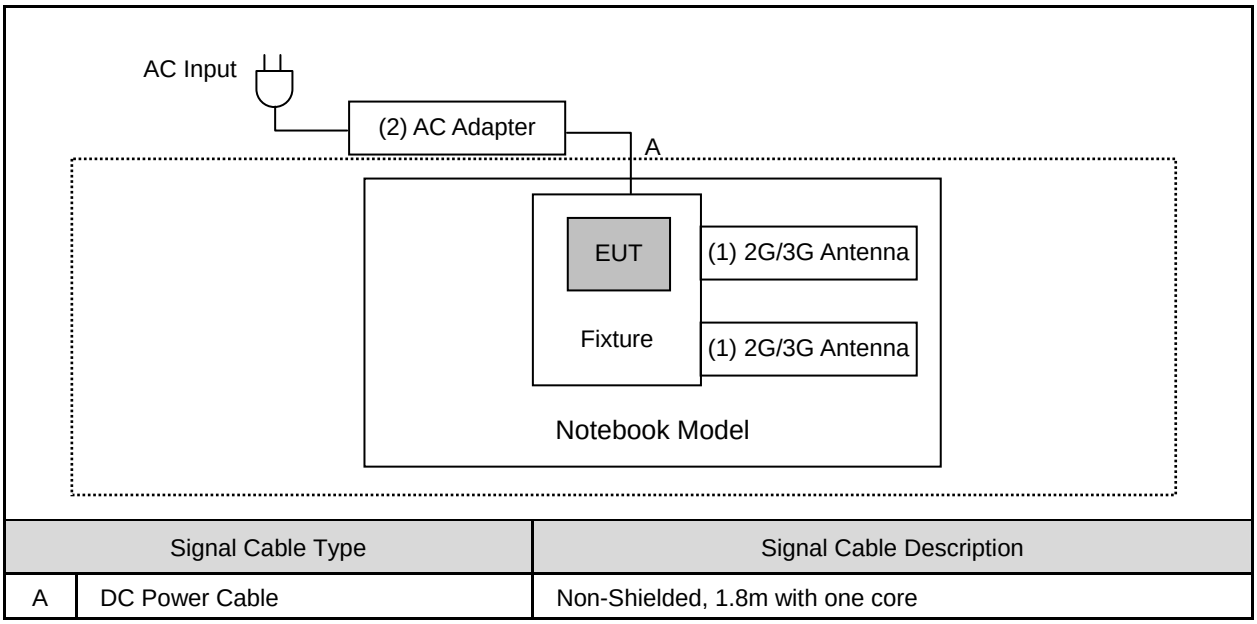
Test Mode
Mode 1: GPRS 850 Link Mode
Mode 2: GPRS 1900 Link Mode
Mode 3: EGPRS 850 Link Mode
Mode 4: EGPRS 1900 Link Mode
Mode 5: WCDMA Band II Link Mode
Mode 6: WCDMA Band V Link Mode
Mode 7: Receive Link Mode

Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

1.3. EUT Exercise Software

1	Setup the EUT and Base Station (CMU200) as shown on 1.4.
2	Turn on the power of all equipment.

1.4. Configuration of Test System Details



Signal Cable Type		Signal Cable Description
A	DC Power Cable	Non-Shielded, 1.8m with one core

Devices Description					
Product		Manufacturer	Model Number	Serial Number	Power Cord
(1)	2G/3G Antenna	Ericsson	Laptop simulator antenna	N/A	N/A
2	AC Adapter	NORDIC	SA115C-05	N/A	Non-Shielded, 1.8m with one core

1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	23
Humidity (%RH)	25-75	55.2
Barometric pressure (mbar)	860-1060	950

1.6. Summary of Test Result

Description	FCC Rule	IC Rule	Limit	Result
Conducted Output Power	§2.1046	N/A	N/A	Pass
Effective Radiated Power	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	< 7 Watts for FCC (<6.3 Watts for IC)	Pass
Equivalent Isotropic Radiated Power	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	< 2 Watts	Pass
Occupied Bandwidth	§2.1049 §22.917(a) §24.238(a)	RSS-Gen (4.6.1)	N/A	Pass
Band Edge Measurement	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1)RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Conducted Spurious Emission	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Field Strength of Spurious Radiation	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-Gen (4.10)	< $43+10\log_{10}$(P[Watts])	Pass
Frequency Stability for Temperature & Voltage	§2.1055 §22.355 §24.235	RSS-132(4.3) RSS-133(6.3)	< 2.5 ppm	Pass

2 RF Output Power Test

2.1. Limit

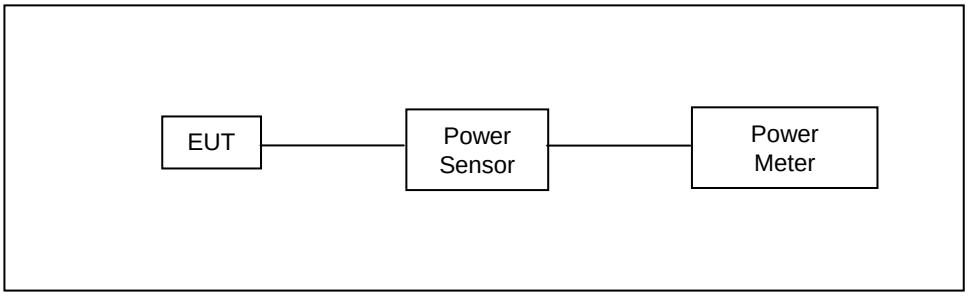
N/A

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2011	(2)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2011	(2)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

2.3. Test Setup



2.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

1. The transmitter output was connected to power meter and base station through Power Divider.
2. Set base station for EUT at GSM 850: PCL=5 and PCS 1900: PCL=0.
3. Set base station for EUT at WCDMA Band V and WCDMA Band II, power level was set to maximum.
4. Select lowest, middle, and highest channels for each band.

2.5. Uncertainty

The measurement uncertainty is defined as for RF output power measurement is 1.2 dB.

2.6. Test Result

Model Number	N5321						
Test Item	RF Output Power						
Date of Test	11/30/2012			Test Site		TE05	
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GRRS 850 Multi Class :10	GMSK	4Down1Up (Duty Factor 1/8)	824.2	31.19	1.315	31.32	1.355
			836.6	31.37	1.371	31.56	1.432
			848.8	31.53	1.422	**31.66**	**1.466**
		3Down2Up (Duty Factor 2/8)	824.2	31.10	1.288	31.21	1.321
			836.6	31.23	1.327	31.42	1.387
			848.8	31.37	1.371	31.55	1.429
EGPRS 850 Multi Class :10	8PSK	4Down1Up (Duty Factor 1/8)	824.2	26.46	0.443	29.55	0.902
			836.6	26.55	0.452	29.71	0.935
			848.8	26.64	0.461	**29.83**	**0.962**
		3Down2Up (Duty Factor 2/8)	824.2	26.36	0.433	29.47	0.885
			836.6	26.48	0.445	29.63	0.918
			848.8	26.51	0.448	29.74	0.942
GRRS 1900 Multi Class :10	GMSK	4Down1Up (Duty Factor 1/8)	1850.20	28.53	0.713	28.69	0.740
			1880.00	28.71	0.743	28.88	0.773
			1909.80	28.87	0.771	**29.03**	**0.800**
		3Down2Up (Duty Factor 2/8)	1850.20	28.44	0.698	28.56	0.718
			1880.00	28.66	0.735	28.74	0.748
			1909.80	28.75	0.750	28.89	0.774
EGPRS 1900 Multi Class :10	8PSK	4Down1Up (Duty Factor 1/8)	1850.20	25.63	0.366	28.81	0.760
			1880.00	25.72	0.373	28.93	0.782
			1909.80	25.91	0.390	**29.01**	**0.796**
		3Down2Up (Duty Factor 2/8)	1850.20	25.52	0.356	28.73	0.746
			1880.00	25.71	0.372	28.88	0.773
			1909.80	25.86	0.385	28.96	0.787

Note: The peak power testing result was used peak detector.

Model Number	N5321						
Test Item	RF Output Power						
Date of Test	11/30/2012			Test Site		TE05	
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band II	QPSK	-----	1852.4	22.32	0.171	25.12	0.325
			1880.0	22.43	0.175	**25.24**	**0.334**
			1907.6	22.24	0.167	25.08	0.322
HSDPA Band II	QPSK	1	1852.4	22.18	0.165	24.99	0.316
			1880.0	22.32	0.171	25.05	0.320
			1907.6	22.11	0.163	24.96	0.313
		2	1852.4	22.16	0.164	24.97	0.314
			1880.0	22.31	0.170	25.04	0.319
			1907.6	22.08	0.161	24.93	0.311
		3	1852.4	21.69	0.148	24.50	0.282
			1880.0	21.80	0.151	24.53	0.284
			1907.6	21.60	0.145	24.45	0.279
		4	1852.4	21.67	0.147	24.48	0.281
			1880.0	21.79	0.151	24.52	0.283
			1907.6	21.59	0.144	24.44	0.278
HSUPA Band II	QPSK	1	1852.4	21.32	0.136	24.15	0.260
			1880.0	21.46	0.140	24.27	0.267
			1907.6	21.28	0.134	24.11	0.258
		2	1852.4	19.34	0.086	22.17	0.165
			1880.0	19.45	0.088	22.26	0.168
			1907.6	19.29	0.085	22.12	0.163
		3	1852.4	20.34	0.108	23.17	0.207
			1880.0	20.44	0.111	23.25	0.211
			1907.6	20.27	0.106	23.10	0.204
		4	1852.4	19.31	0.085	22.14	0.164
			1880.0	19.44	0.088	22.25	0.168
			1907.6	19.27	0.085	22.10	0.162
		5	1852.4	21.30	0.135	24.13	0.259
			1880.0	21.45	0.140	24.26	0.267
			1907.6	21.25	0.133	24.08	0.256

Note: The peak power testing result was used peak detector.

Model Number	N5321						
Test Item	RF Output Power						
Date of Test	11/30/2012			Test Site		TE05	
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
WCDMA Band V	QPSK	-----	826.4	22.34	0.171	25.54	0.358
			836.6	22.40	0.174	**25.72**	**0.373**
			846.6	22.23	0.167	25.46	0.352
HSDPA Band V	QPSK	1	826.4	22.18	0.165	25.19	0.330
			836.6	22.21	0.166	25.23	0.333
			846.6	21.99	0.158	25.06	0.321
		2	826.4	22.16	0.164	25.17	0.329
			836.6	22.20	0.166	25.22	0.333
			846.6	21.97	0.157	25.04	0.319
		3	826.4	21.67	0.147	24.68	0.294
			836.6	21.69	0.148	24.71	0.296
			846.6	21.50	0.141	24.57	0.286
		4	826.4	21.66	0.147	24.67	0.293
			836.6	21.70	0.148	24.72	0.296
			846.6	21.46	0.140	24.53	0.284
HSUPA Band V	QPSK	1	826.4	21.48	0.141	23.56	0.227
			836.6	21.69	0.148	23.71	0.235
			846.6	21.36	0.137	23.49	0.223
		2	826.4	19.49	0.089	21.57	0.144
			836.6	19.68	0.093	21.70	0.148
			846.6	19.33	0.086	21.46	0.140
		3	826.4	20.49	0.112	22.57	0.181
			836.6	20.68	0.117	22.70	0.186
			846.6	20.38	0.109	22.51	0.178
		4	826.4	19.47	0.089	21.55	0.143
			836.6	19.67	0.093	21.69	0.148
			846.6	19.32	0.086	21.45	0.140
		5	826.4	21.46	0.140	23.54	0.226
			836.6	21.68	0.147	23.70	0.234
			846.6	21.33	0.136	23.46	0.222

Note: The peak power testing result was used peak detector.

3 Effective Radiated Power / Equivalent Isotropic Radiated Power Test

3.1. Limit

For FCC Part 22.913(a)(2): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(b): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

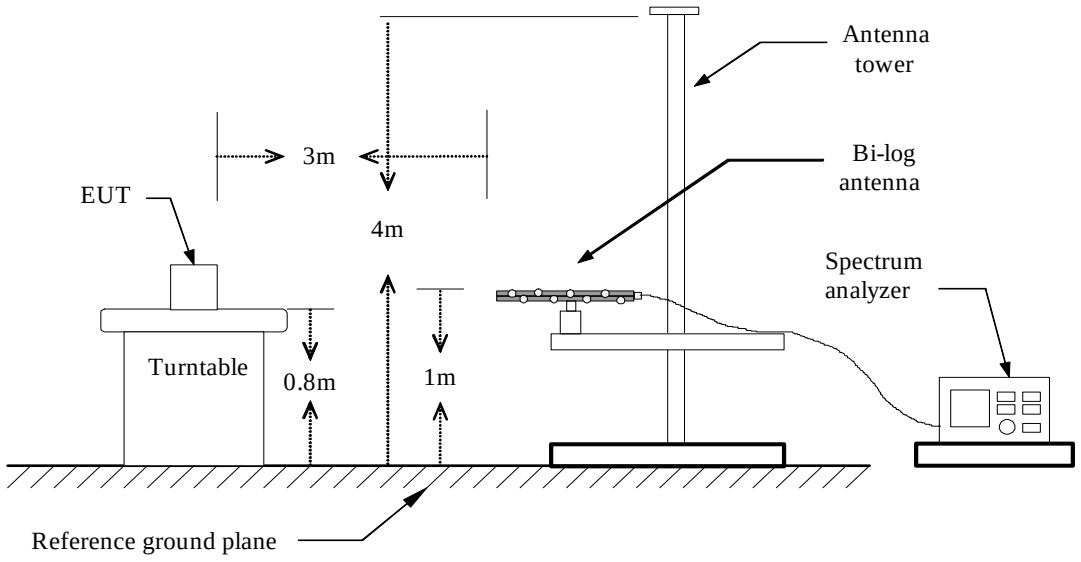
3.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

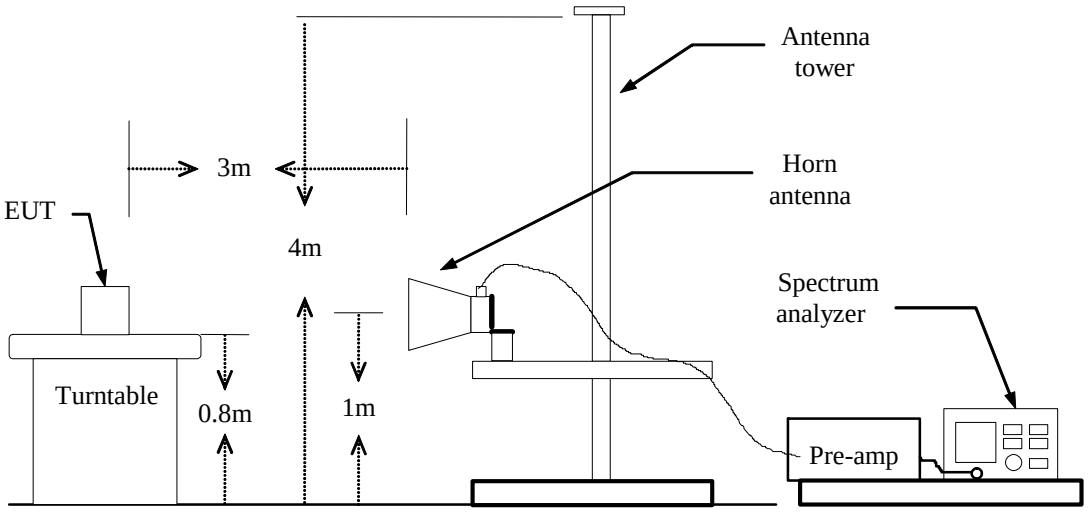
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

3.3. Setup

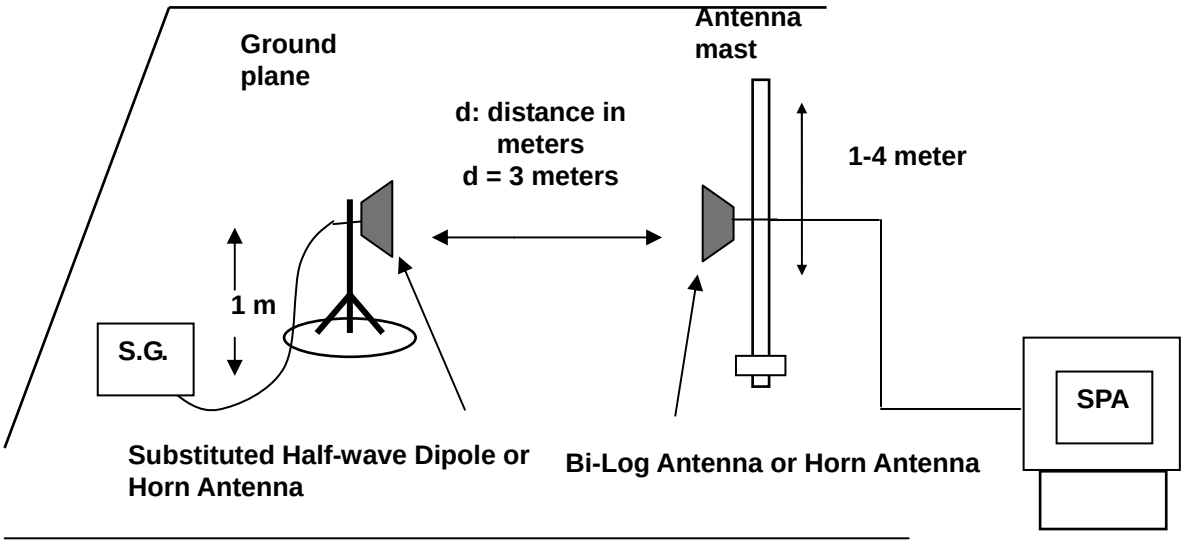
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



3.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

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 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) 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)

3.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

3.6. Test Result

Model Number	N5321							
Test Item	ERP/EIRP							
Date of Test	12/01/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	ERP		Limit
						(dBm)	(W)	
GPRS 850	GMSK	824.2	H	16.90	11.29	28.19	0.659	< 7W
			V	17.22	11.29	**28.51**	**0.710**	< 7W
		836.6	H	16.68	11.34	28.02	0.634	< 7W
			V	17.04	11.34	28.38	0.689	< 7W
		848.8	H	16.03	11.46	27.49	0.561	< 7W
			V	16.44	11.47	27.91	0.618	< 7W
EGPRS 850	8PSK	824.2	H	15.74	11.30	27.04	0.506	< 7W
			V	16.23	11.29	**27.52**	**0.565**	< 7W
		836.6	H	15.68	11.34	27.02	0.504	< 7W
			V	15.86	11.34	27.20	0.525	< 7W
		848.8	H	15.83	11.47	27.30	0.537	< 7W
			V	15.92	11.47	27.39	0.548	< 7W

Model Number	N5321							
Test Item	ERP/EIRP							
Date of Test	12/01/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	EIRP		Limit
						(dBm)	(W)	
GPRS 1900	GMSK	1850.20	H	12.94	11.39	24.33	0.271	< 2W
			V	13.30	11.39	24.69	0.294	< 2W
		1880.00	H	12.68	11.65	24.33	0.271	< 2W
			V	13.46	11.65	**25.11**	**0.324**	< 2W
		1909.80	H	11.27	11.91	23.18	0.208	< 2W
			V	11.89	11.90	23.79	0.239	< 2W
EGPRS 1900	8PSK	1850.20	H	10.77	11.39	22.16	0.164	< 2W
			V	11.18	11.39	22.57	0.181	< 2W
		1880.00	H	10.55	11.65	22.20	0.166	< 2W
			V	10.70	11.65	22.35	0.172	< 2W
		1909.80	H	10.26	11.90	22.16	0.164	< 2W
			V	10.88	11.90	**22.78**	**0.190**	< 2W

Note: 1. ERP/EIRP = Read Level + Correction factor.

2. For WCDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

Model Number	N5321							
Test Item	ERP/EIRP							
Date of Test	12/01/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	EIRP		Limit
						(dBm)	(W)	
WCDMA Band II	QPSK	1852.4	H	8.35	11.40	19.75	0.094	< 2W
			V	9.16	11.40	20.56	0.114	< 2W
		1880.0	H	8.64	11.66	20.30	0.107	< 2W
			V	8.97	11.66	20.63	0.116	< 2W
		1907.6	H	8.73	11.87	20.60	0.115	< 2W
			V	9.32	11.87	**21.19**	**0.132**	< 2W

Model Number	N5321							
Test Item	ERP/EIRP							
Date of Test	12/01/2012					Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	ERP		Limit
						(dBm)	(W)	
WCDMA Band V	QPSK	826.4	H	10.95	11.30	22.25	0.168	< 7W
			V	11.87	11.30	**23.17**	**0.207**	< 7W
		836.6	H	10.36	11.34	21.70	0.148	< 7W
			V	10.46	11.34	21.80	0.151	< 7W
		846.6	H	9.48	11.42	20.90	0.123	< 7W
			V	9.88	11.42	21.30	0.135	< 7W

Note: 1. ERP/EIRP = Read Level + Correction factor.

2. For WCDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

4 Occupied Bandwidth Test

4.1. Limit

The Occupied Bandwidth Limit:

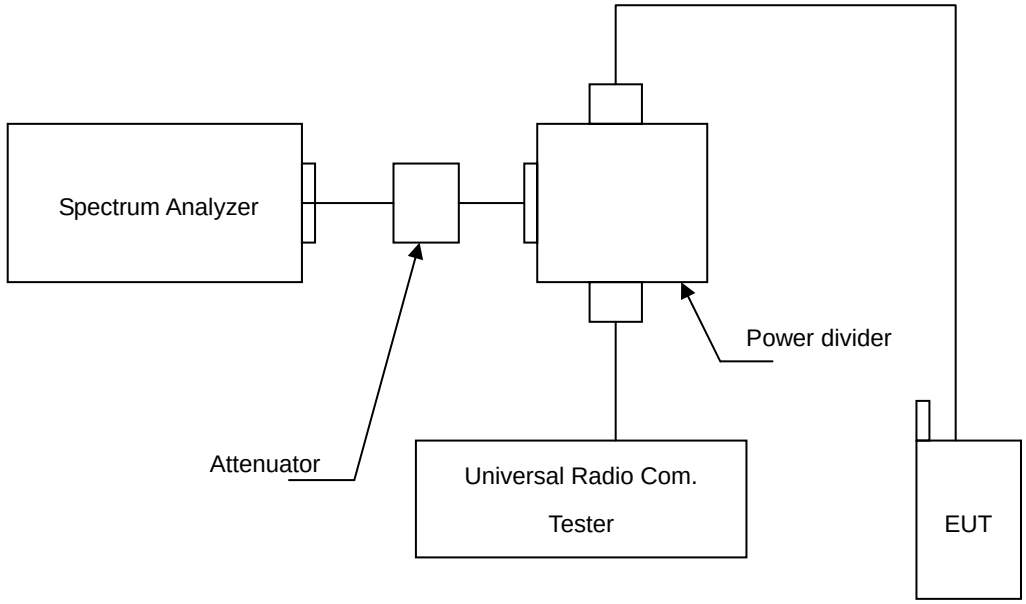
N/A.

4.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

4.3. Setup



4.4. Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The occupied bandwidth of middle channel for the highest and lowest RF powers was measured.

4.5. Uncertainty

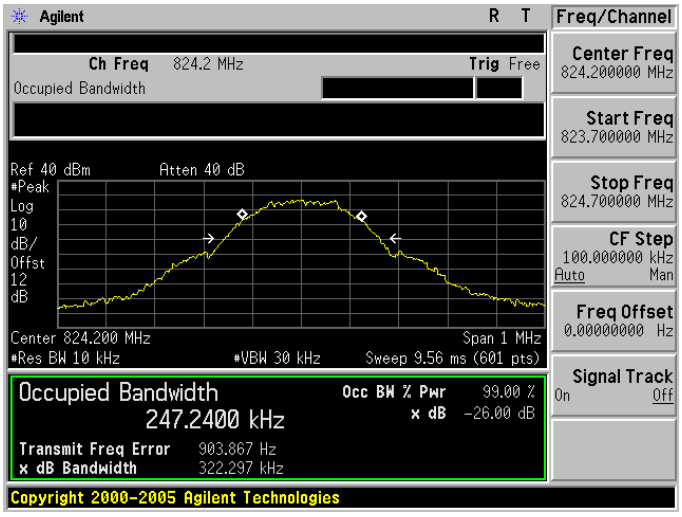
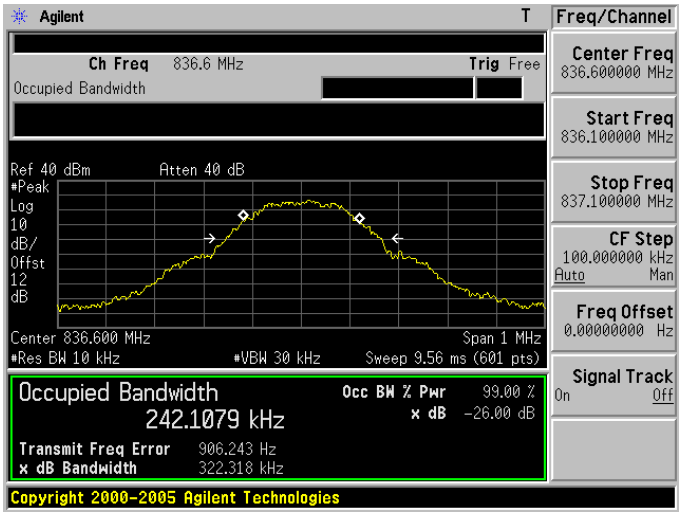
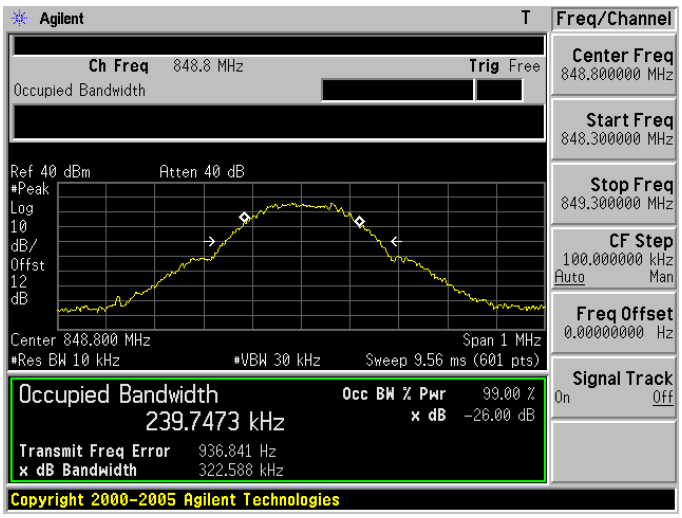
The measurement uncertainty is defined as ± 10Hz

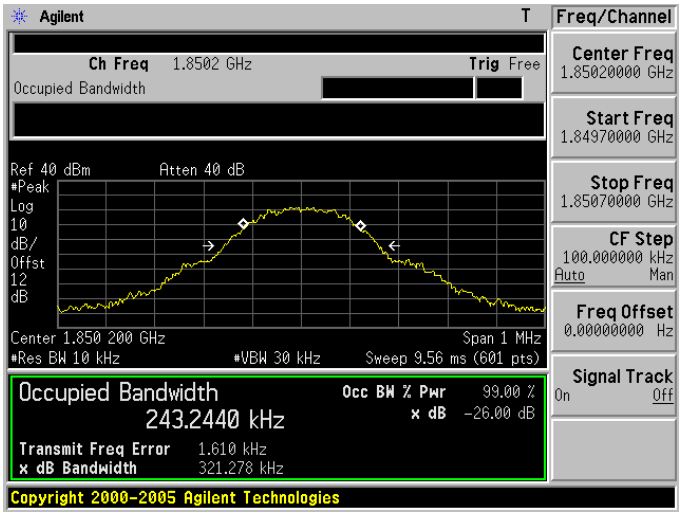
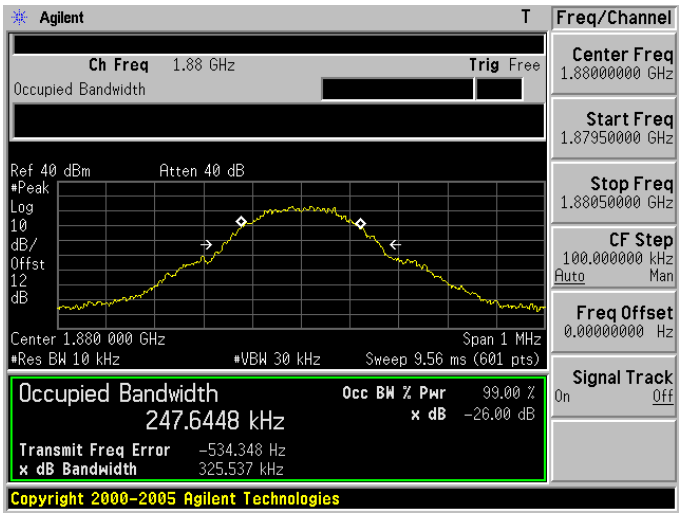
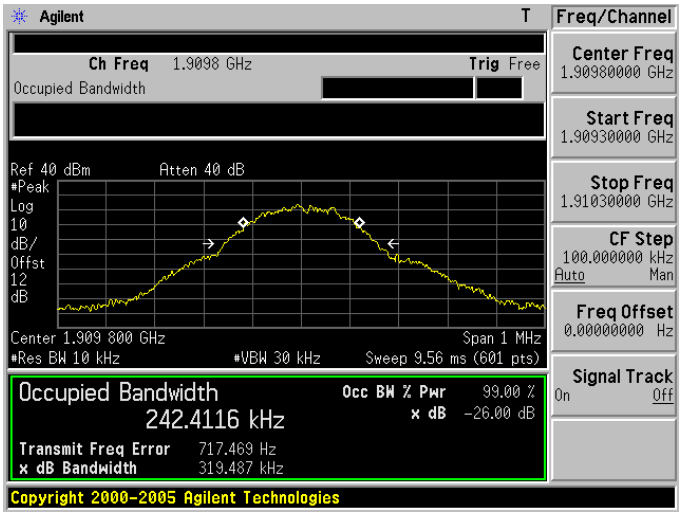
4.6. Test Result

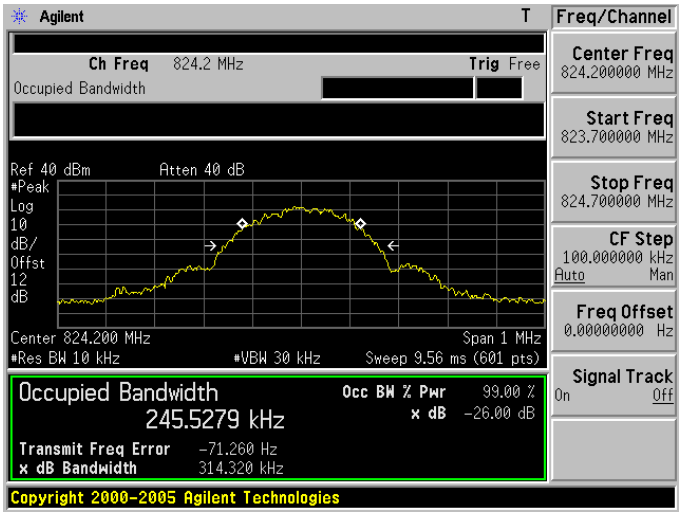
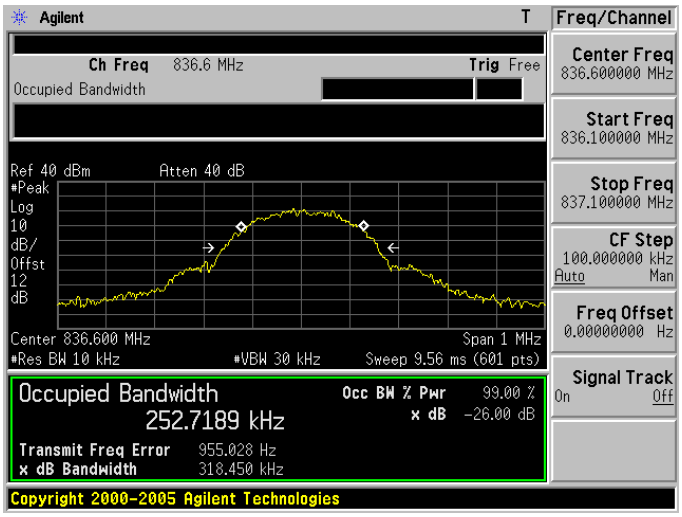
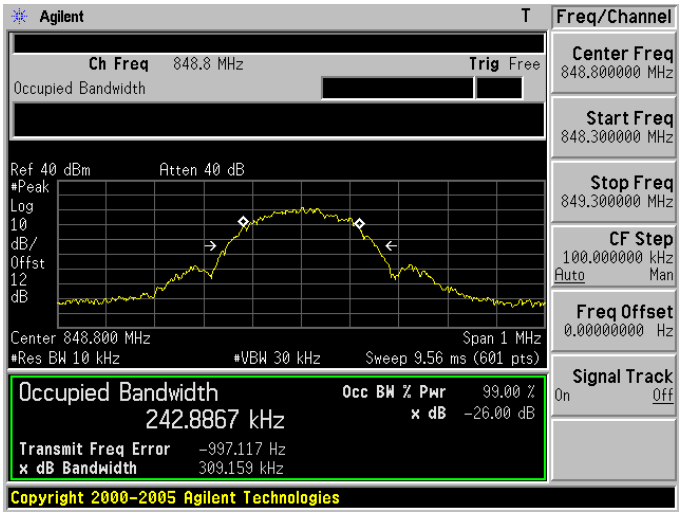
Model Number	N5321				
Test Item	Occupied Bandwidth				
Date of Test	11/30/2012			Test Site	TE05
Bands	Channel	Frequency (MHz)	99% Bandwidth (kHz)	Note	
GSM 850	128	824.2	247.2400	RBW:10KHz , VBW:30KHz	
	190	836.6	242.1079	RBW:10KHz , VBW:30KHz	
	251	848.8	239.7473	RBW:10KHz , VBW:30KHz	
GPRS 850	128	824.2	245.5279	RBW:10KHz , VBW:30KHz	
	190	836.6	252.7189	RBW:10KHz , VBW:30KHz	
	251	848.8	242.8867	RBW:10KHz , VBW:30KHz	
GSM 1900	512	1850.20	243.2440	RBW:10KHz , VBW:30KHz	
	661	1880.00	247.6448	RBW:10KHz , VBW:30KHz	
	810	1909.80	242.4116	RBW:10KHz , VBW:30KHz	
GPRS 1900	512	1850.20	247.9952	RBW:10KHz , VBW:30KHz	
	661	1880.00	250.5493	RBW:10KHz , VBW:30KHz	
	810	1909.80	243.7811	RBW:10KHz , VBW:30KHz	

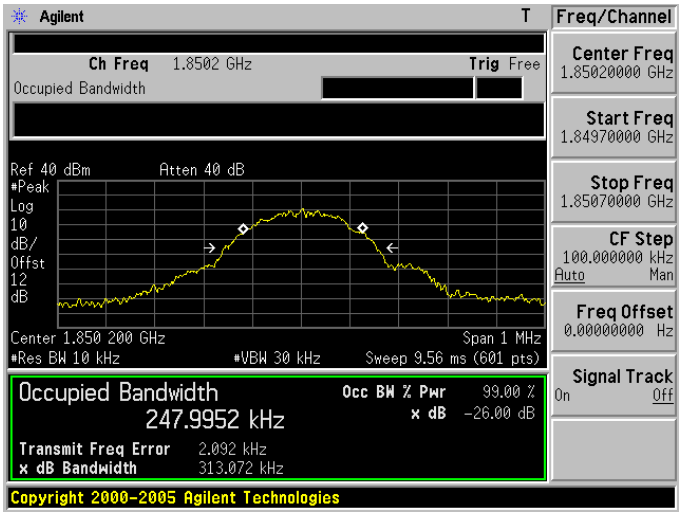
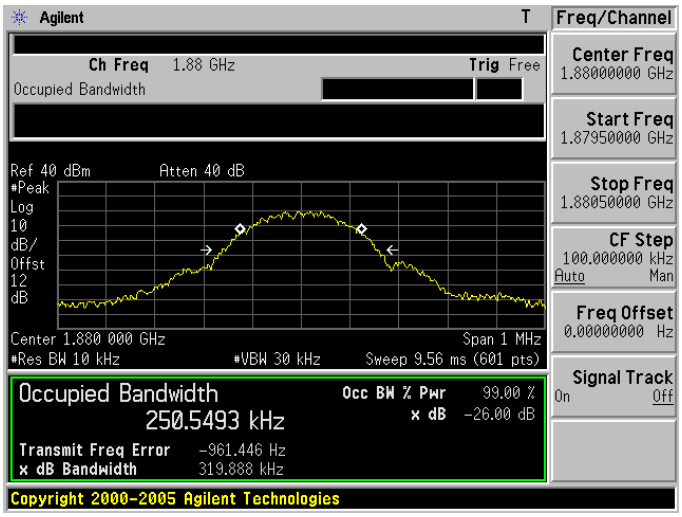
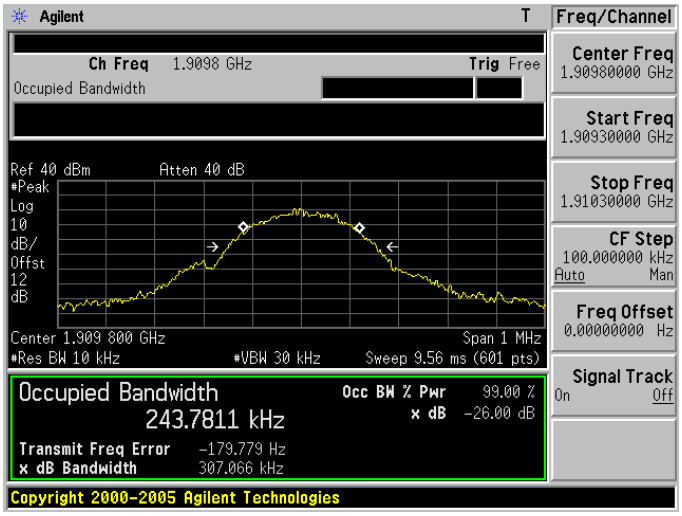
Model Number	N5321				
Test Item	Occupied Bandwidth				
Date of Test	11/30/2012			Test Site	TE05
Bands	Channel	Frequency (MHz)	99% Bandwidth (MHz)	Note	
WCDMA Band II	9262	1852.4	4.2110	RBW:100KHz , VBW:300KHz	
	9400	1880.0	4.1950	RBW:100KHz , VBW:300KHz	
	9538	1907.6	4.2237	RBW:100KHz , VBW:300KHz	
WCDMA Band V	4132	826.4	4.1839	RBW:100KHz , VBW:300KHz	
	4183	836.6	4.1846	RBW:100KHz , VBW:300KHz	
	4233	846.6	4.1808	RBW:100KHz , VBW:300KHz	

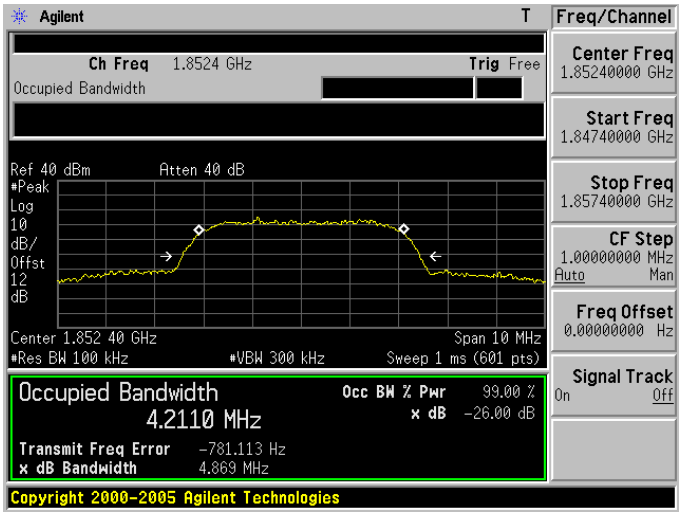
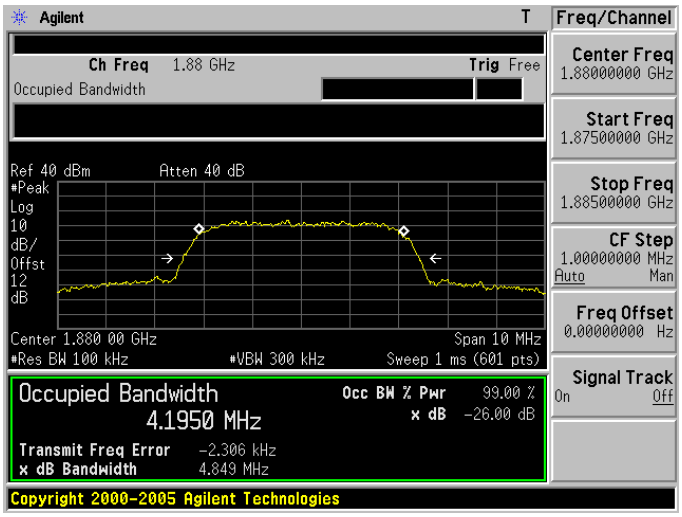
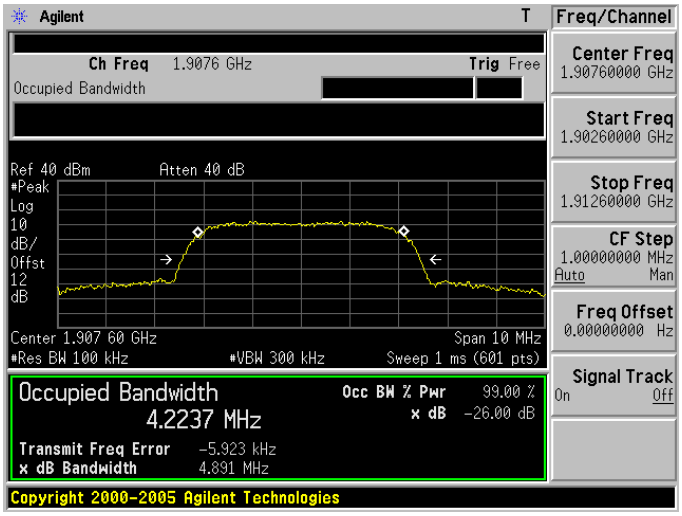
4.7. Test Graphs

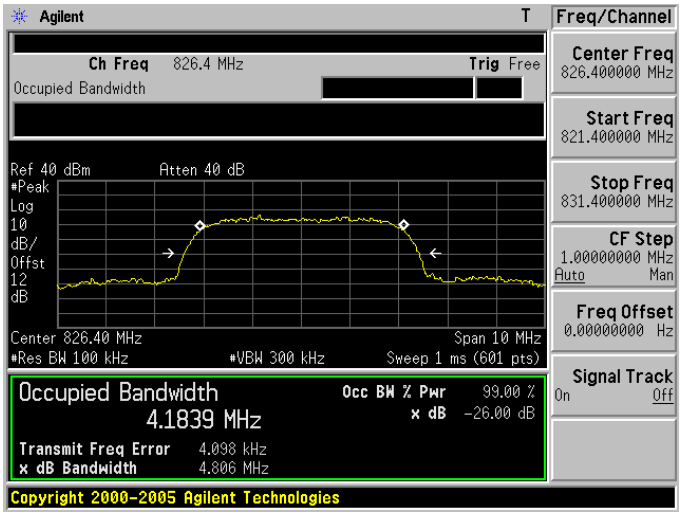
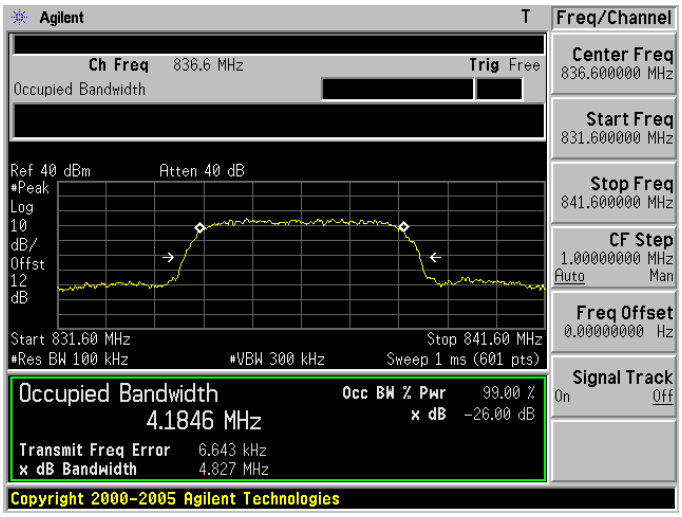
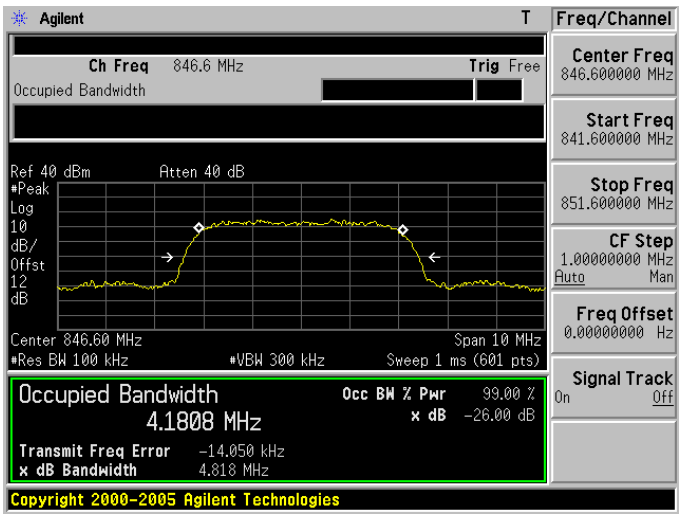
Mode 1: GPRS 850 Link Mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 2: GPRS 1900 Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 3: EGPRS 850 Link Mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 4: EGPRS 1900 Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 5: WCDMA Band II Link Mode	
1850.20 MHz	
1880.00 MHz	
1909.80 MHz	

Mode 6: WCDMA Band V Link Mode	
826.4 MHz	
836.6 MHz	
846.6 MHz	

5 Band Edge Test

5.1. Limit

The Band Edge Limit:

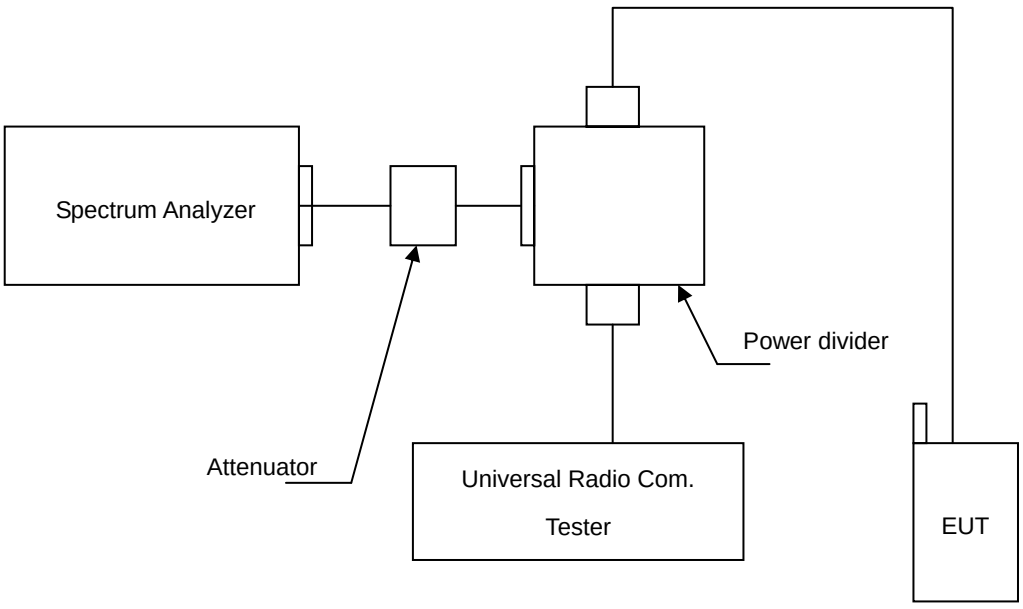
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

5.3. Setup



5.4. Test Procedure

The measurement is made according to FCC rules part 22 and 24:

3. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
4. The band edge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.
5. The band edge setting:
   a. RB=10 kHz; VB=30 kHz for GSM 850 and PCS 1900.
   b. RB=100 kHz; VB=300 kHz for WCDMA Band V and WCDMA Band II.

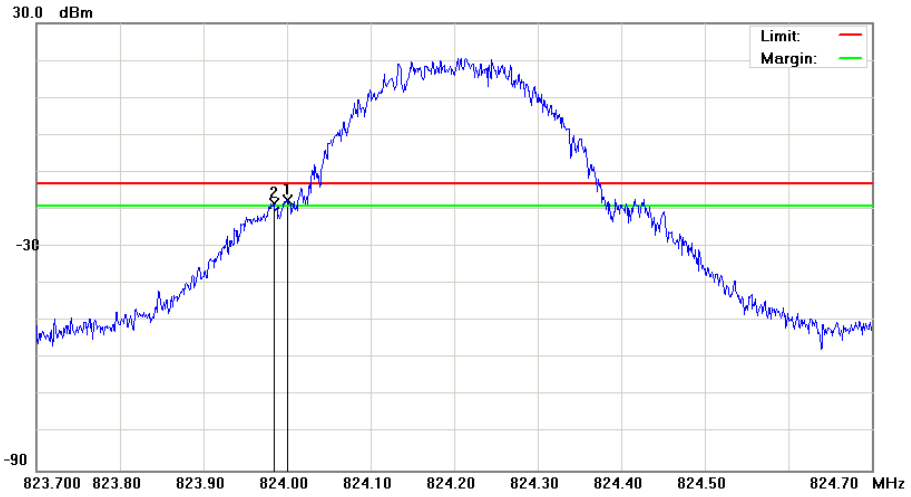
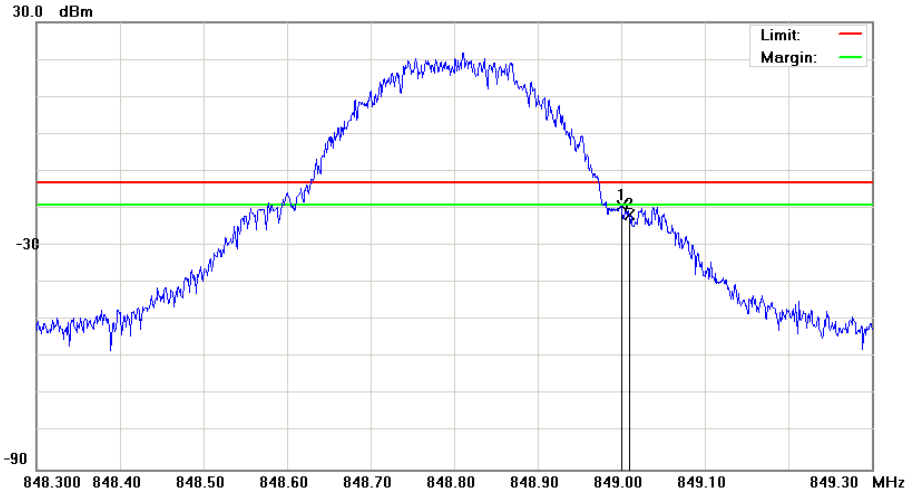
5.5. Uncertainty

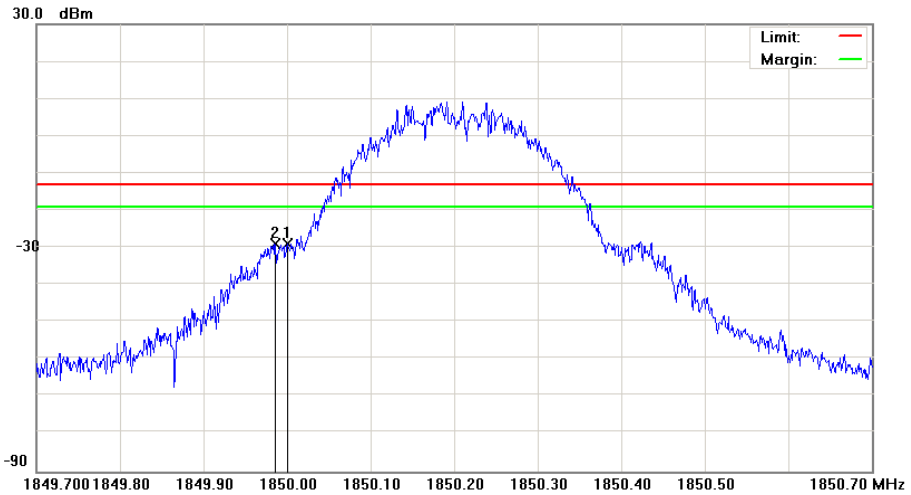
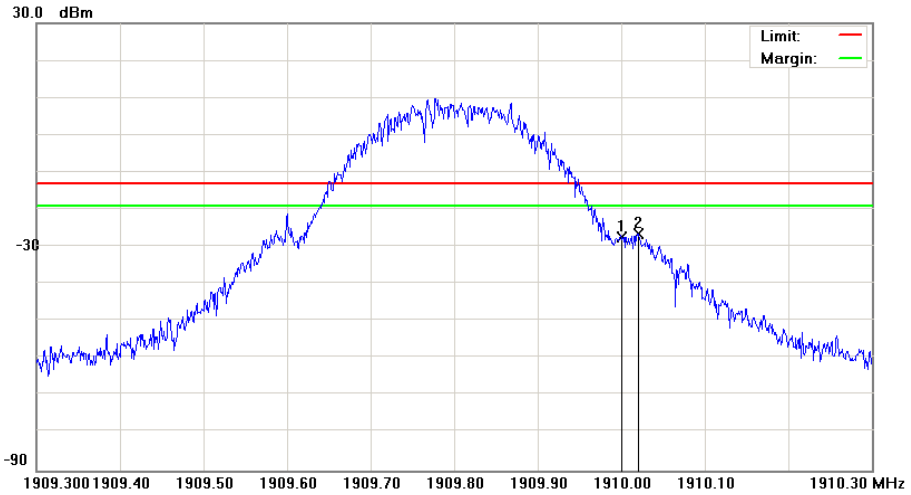
The measurement uncertainty is defined as ± 10Hz

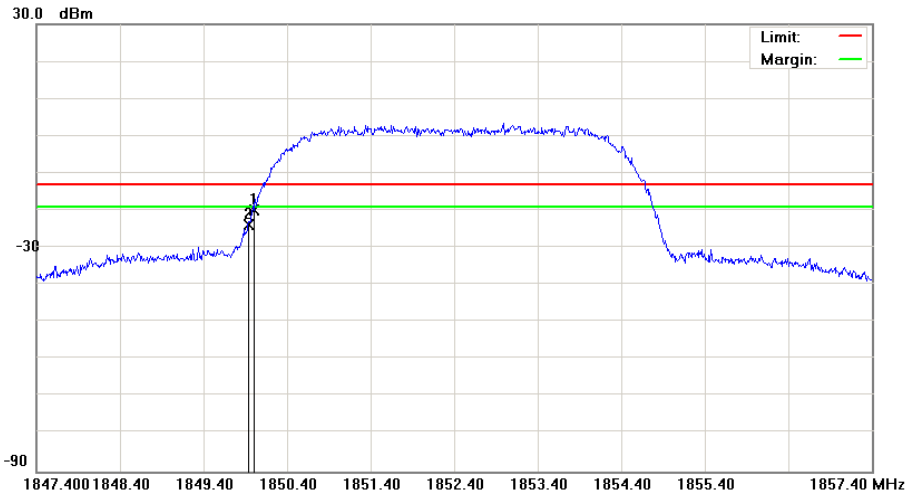
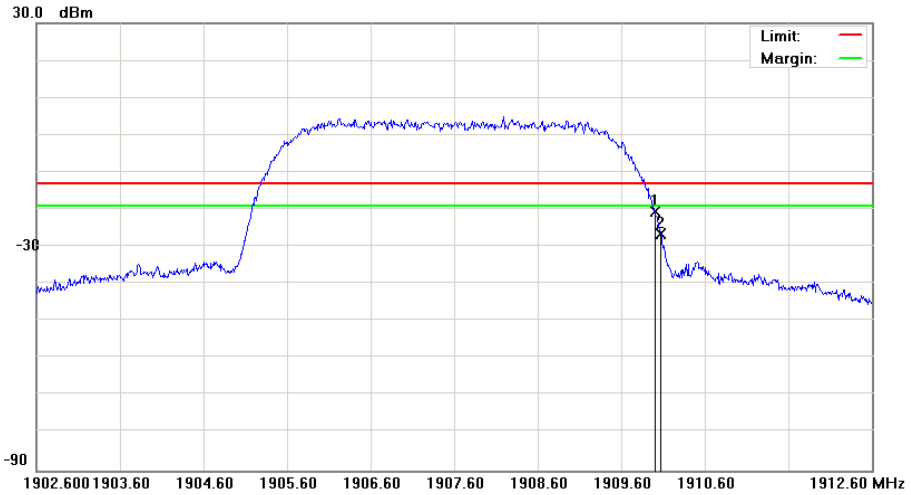
5.6. Test Result

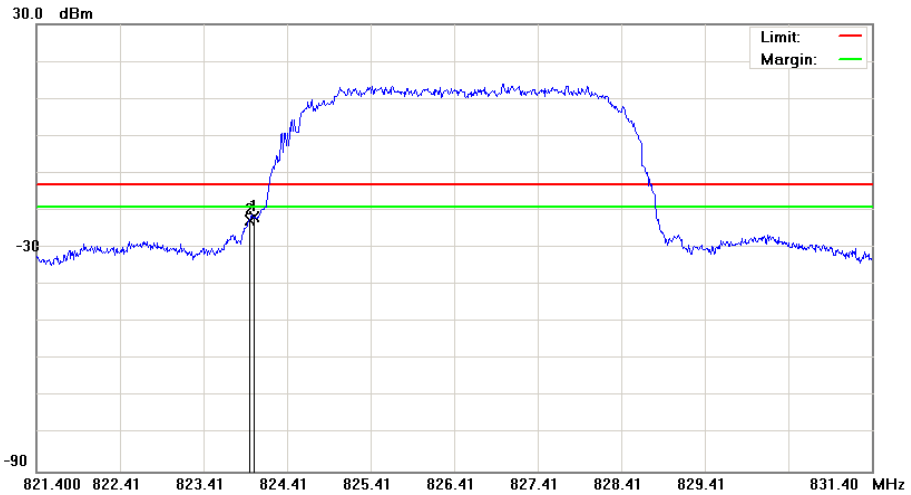
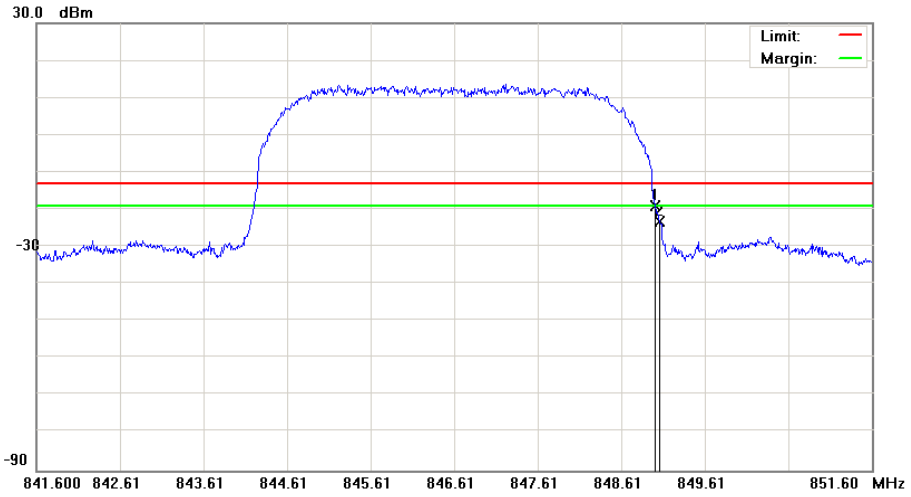
Model Number		N5321				
Test Item		Band Edge				
Date of Test		11/30/2012			Test Site	TE05
Bands		Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
GPRS 850	Lower	128	824.0000	-17.41	-13	Pass
	Higher	251	849.0000	-19.40	-13	Pass
GPRS 1900	Lower	512	1850.000	-28.81	-13	Pass
	Higher	810	1910.000	-26.50	-13	Pass
WCDMA Band II	Lower	9262	1850.000	-19.86	-13	Pass
	Higher	9538	1910.000	-20.46	-13	Pass
WCDMA Band V	Lower	4132	824.0000	-21.63	-13	Pass
	Higher	4233	849.0000	-18.92	-13	Pass

5.7. Test Graphs

Mode 1: GPRS 850 Link Mode	
Lower Band	
Higher Band	

Mode 2: GPRS 1900 Link Mode	
Lower Band	
Higher Band	

Mode 5: WCDMA Band II Link Mode	
Lower Band	
Higher Band	

Mode 6: WCDMA Band V Link Mode	
Lower Band	
Higher Band	

6 Conducted Spurious Emission Test

6.1. 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.

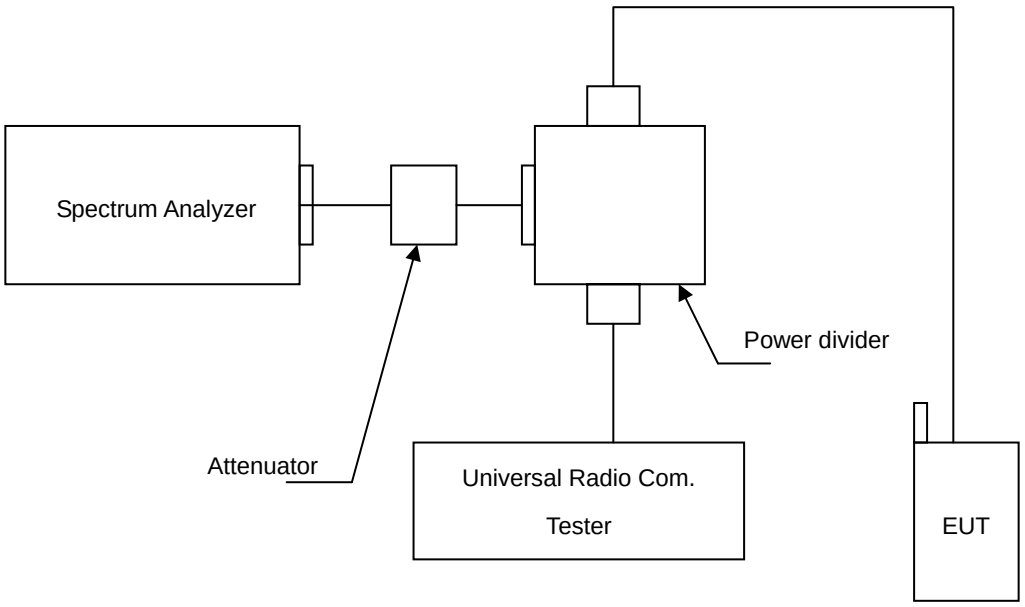
6.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2012	(1)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

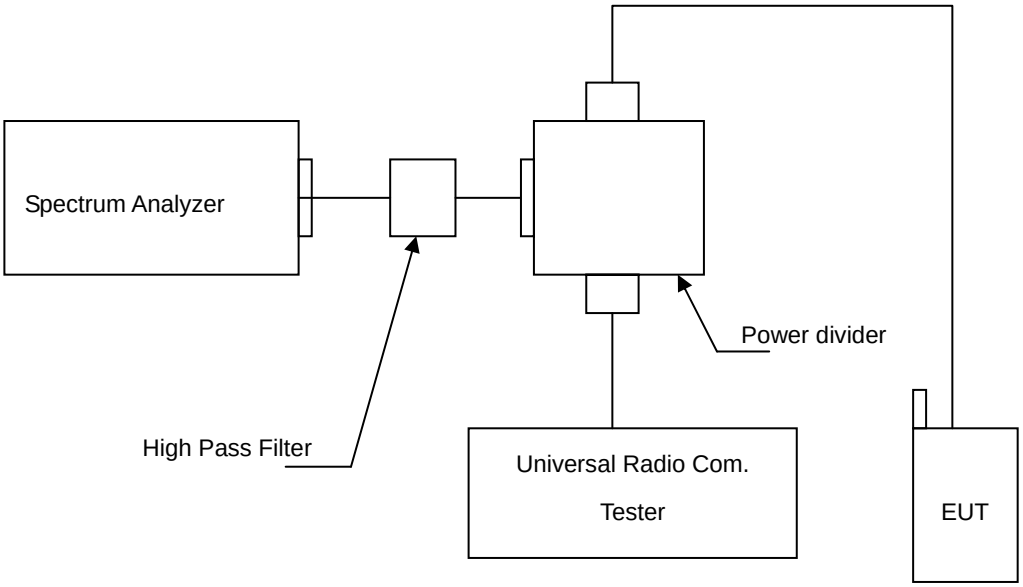
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

6.3. Setup

Below 2.8GHz



Above 2.8GHz



6.4. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via Power Divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.
4. Test setting at GSM 850 RB>100 kHz, VB>100 kHz; PCS 1900 RB>1MHz, VB>1MHz.

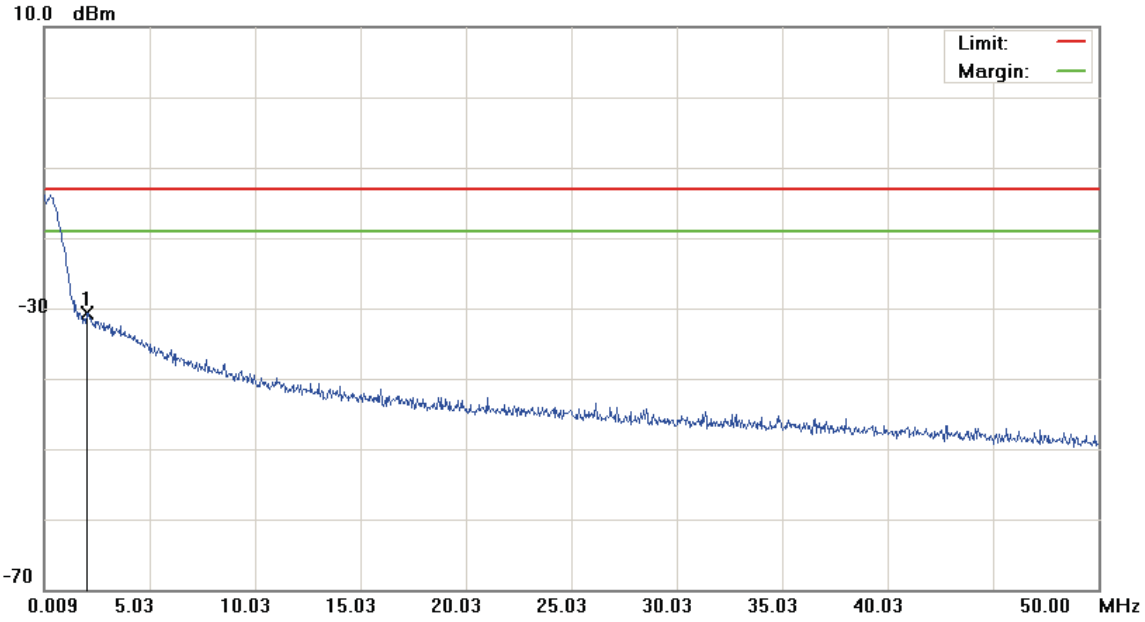
6.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

6.6. Test Result

Model Number	N5321		
Test Item	Conducted Spurious Emission		
Test Mode	Mode 1 / Mode 2 / Mode 5 / Mode 6		
Date of Test	11/30 ~ 12/01/2012	Test Site	TE05

File :Module(CH128) Data :#1 Date: 2012/11/30 Time: 下午 11:43:05



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Low

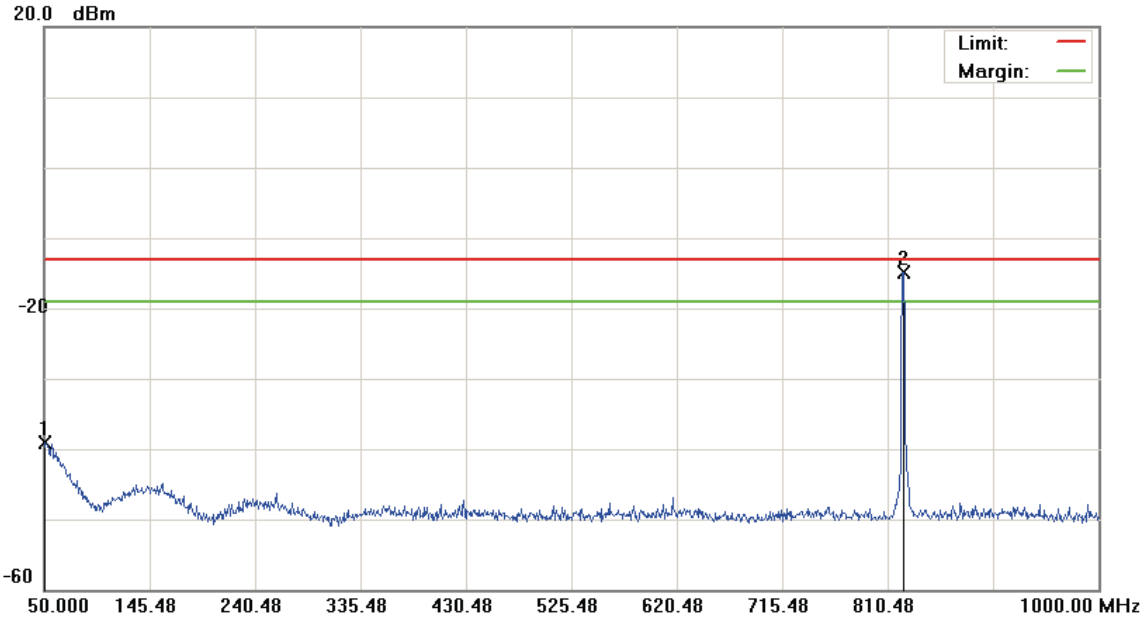
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0335	-62.14	31.41	-30.73	-13.00	-17.73	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH128) Data :#2 Date: 2012/11/30 Time: 下午 11:43:29



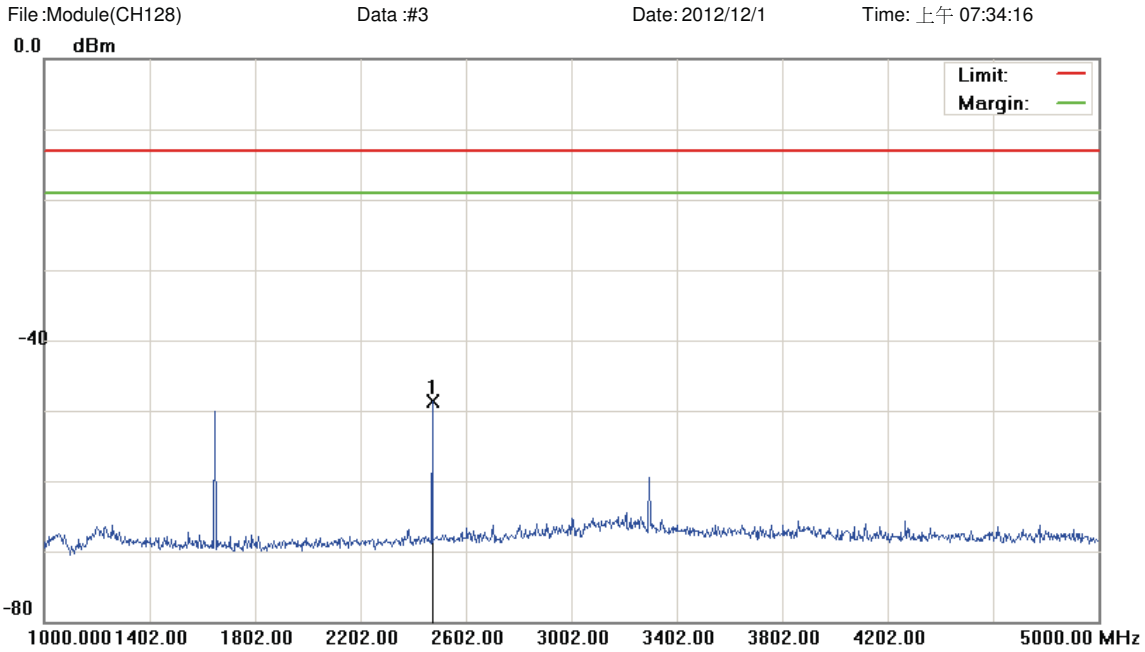
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.9500	-53.60	14.52	-39.08	-13.00	-26.08	peak			
2	*	824.2500	-18.74	3.84	-14.90	-13.00	-1.90	peak			Tx

*:Maximum data x:Over limit !:over margin



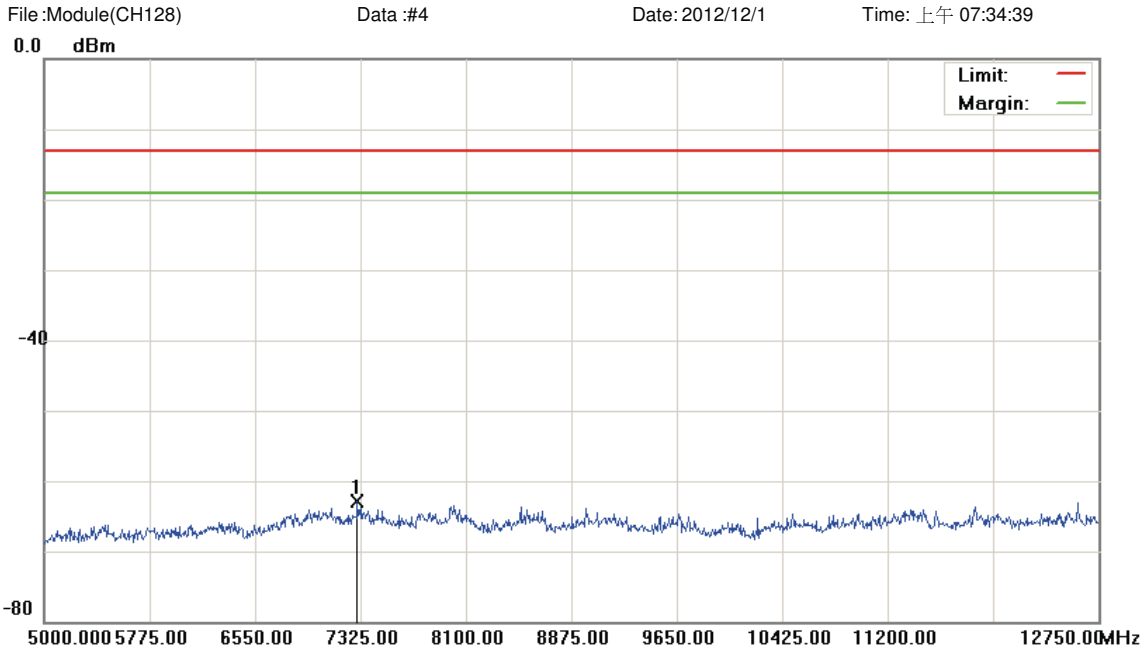
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2472.000	-53.23	4.45	-48.78	-13.00	-35.78	peak			

*:Maximum data x:Over limit !:over margin



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Low

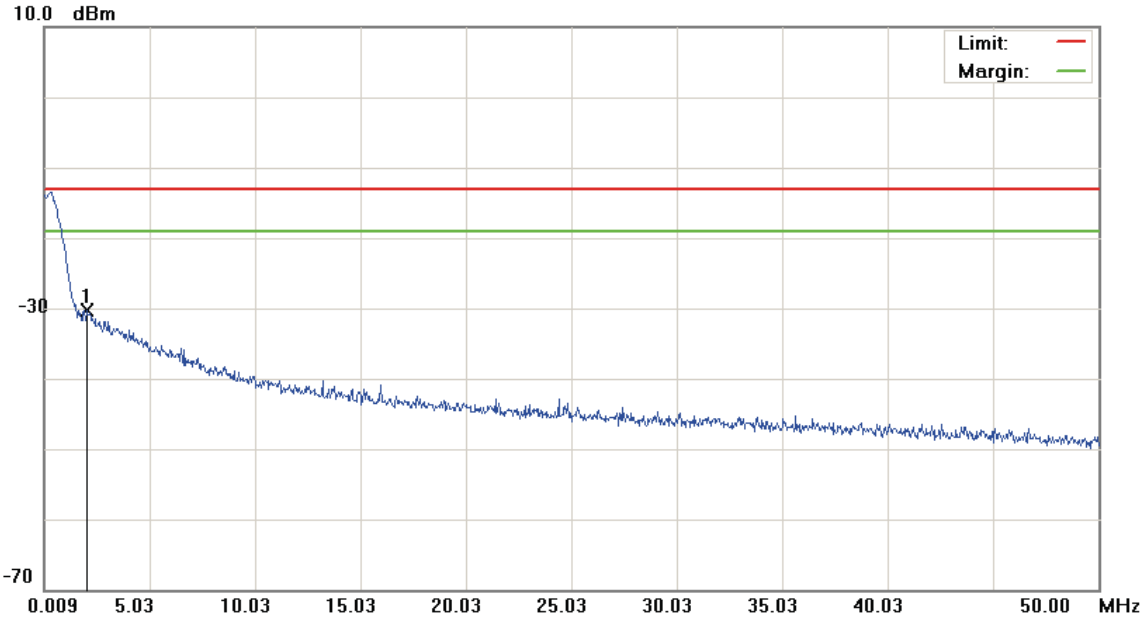
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7301.750	-68.08	5.16	-62.92	-13.00	-49.92	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH190) Data :#1 Date: 2012/11/30 Time: 下午 11:44:43



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Middle

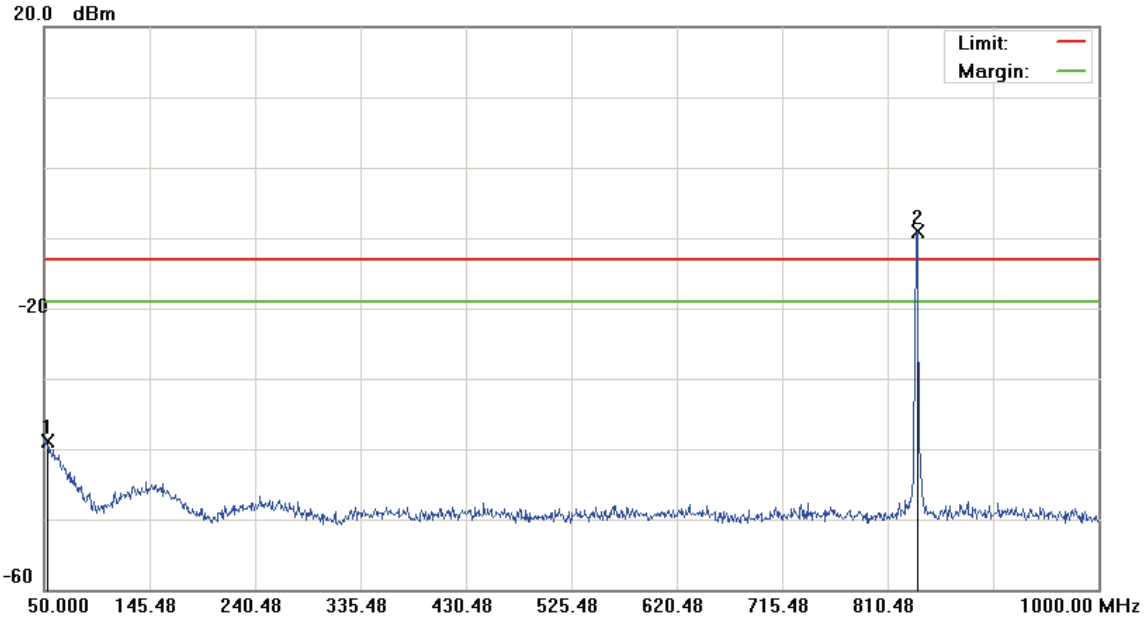
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0085	-61.62	31.37	-30.25	-13.00	-17.25	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH190) Data :#2 Date: 2012/11/30 Time: 下午 11:45:07



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Middle

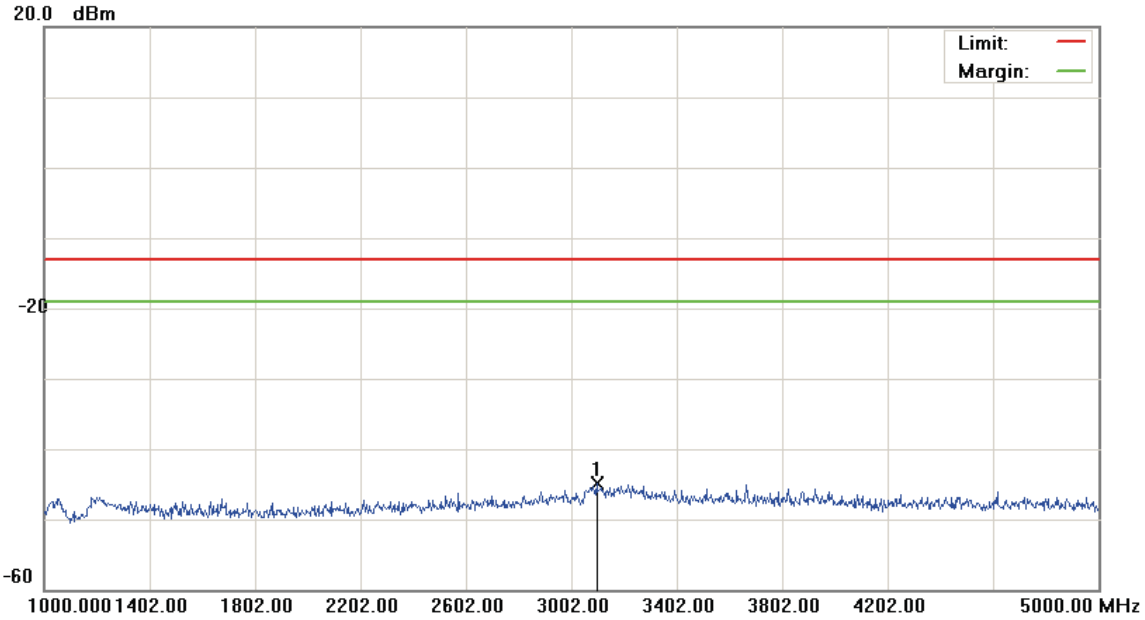
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		52.3750	-53.16	14.27	-38.89	-13.00	-25.89	peak			
2	*	836.6000	-12.97	3.96	-9.01	-13.00	3.99	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Module(CH190) Data :#3 Date: 2012/12/1 Time: 上午 07:35:13



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Middle

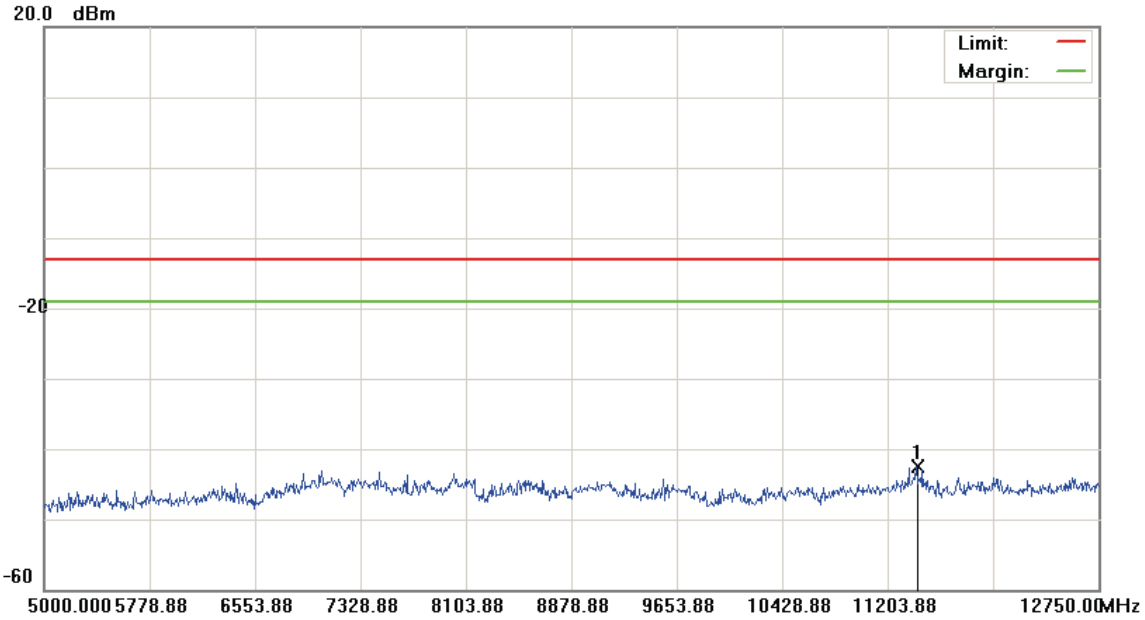
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3098.000	-49.48	4.55	-44.93	-13.00	-31.93	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH190) Data :#4 Date: 2012/12/1 Time: 上午 07:35:36



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH Middle

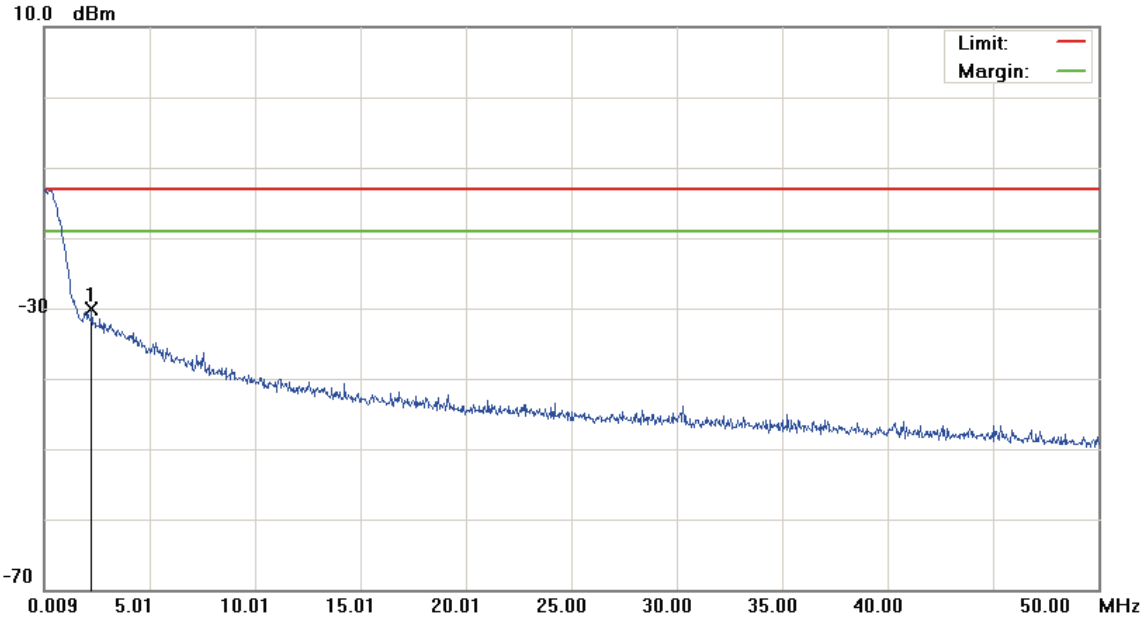
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	11413.125	-48.05	5.57	-42.48	-13.00	-29.48	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH251) Data :#1 Date: 2012/11/30 Time: 下午 11:46:43



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH High

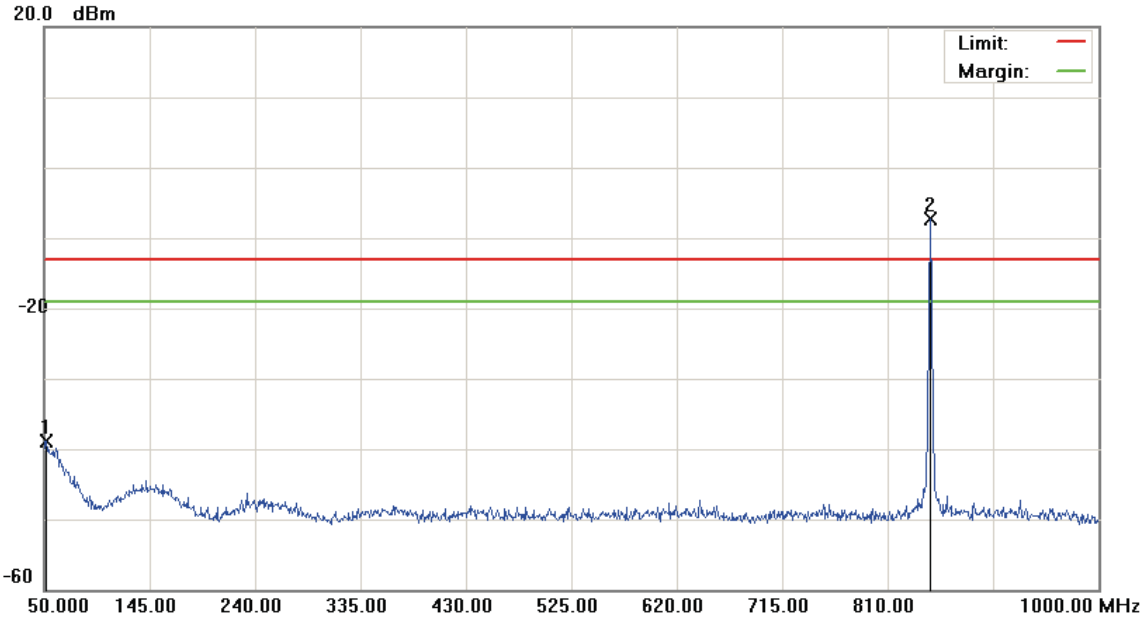
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.2585	-61.33	31.14	-30.19	-13.00	-17.19	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH251) Data :#2 Date: 2012/11/30 Time: 下午 11:47:07



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH High

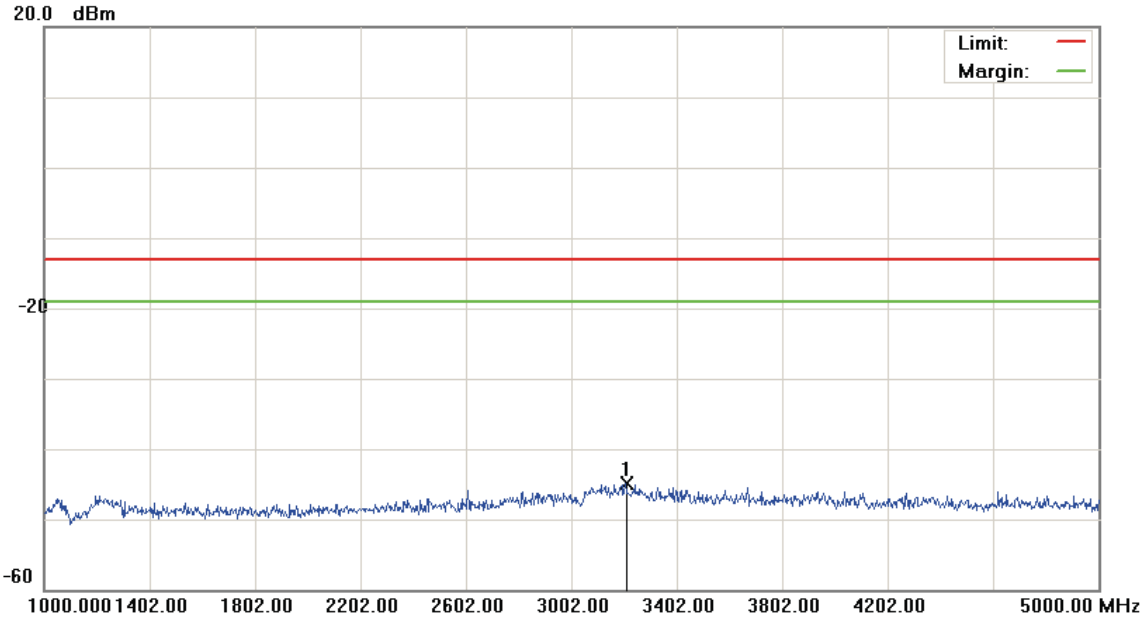
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		51.9000	-53.29	14.36	-38.93	-13.00	-25.93	peak			
2	*	848.9500	-11.34	3.98	-7.36	-13.00	5.64	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Module(CH251) Data :#3 Date: 2012/12/1 Time: 上午 07:37:24



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH High

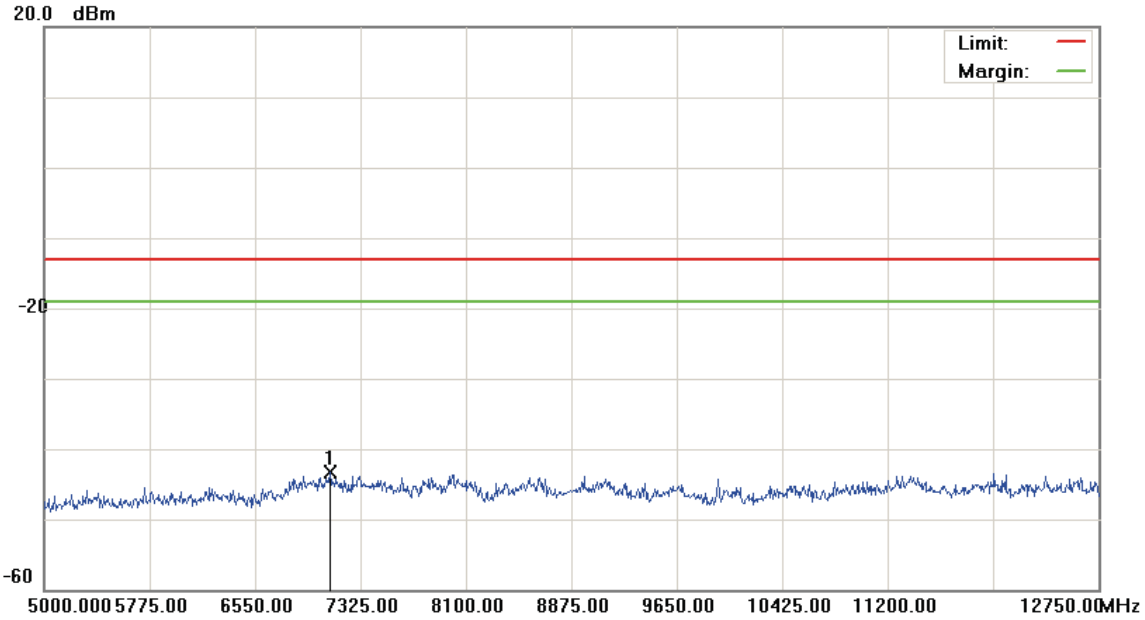
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3206.000	-49.55	4.66	-44.89	-13.00	-31.89	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH251) Data :#4 Date: 2012/12/1 Time: 上午 07:37:47



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 850
Note: CH High

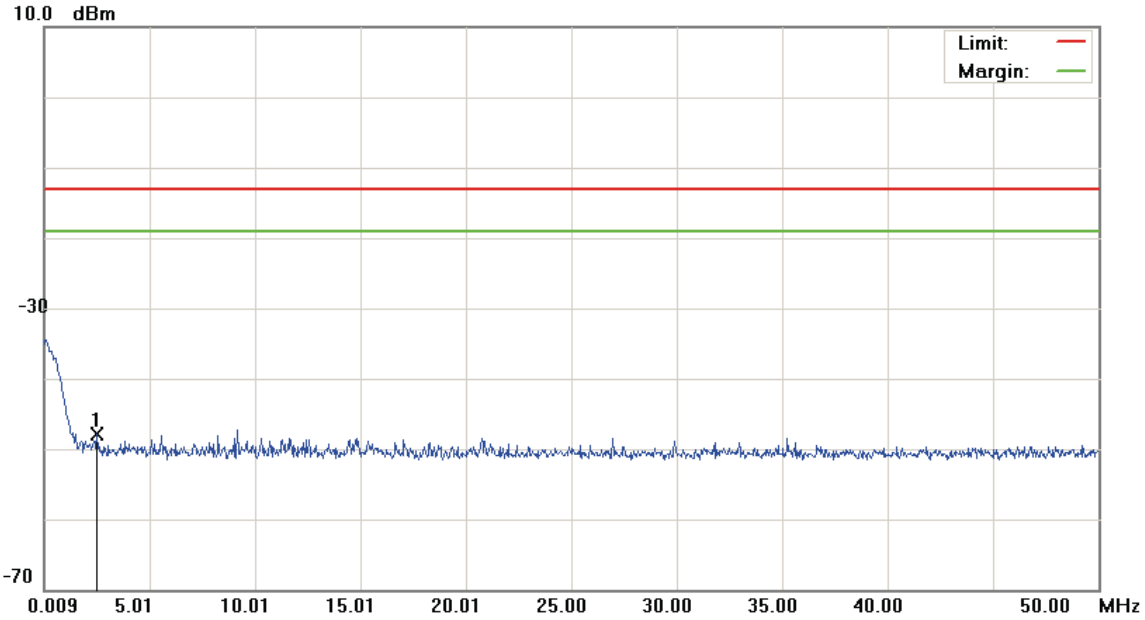
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7100.250	-48.41	5.09	-43.32	-13.00	-30.32	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH512) Data :#1 Date: 2012/11/30 Time: 下午 11:32:50



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Low

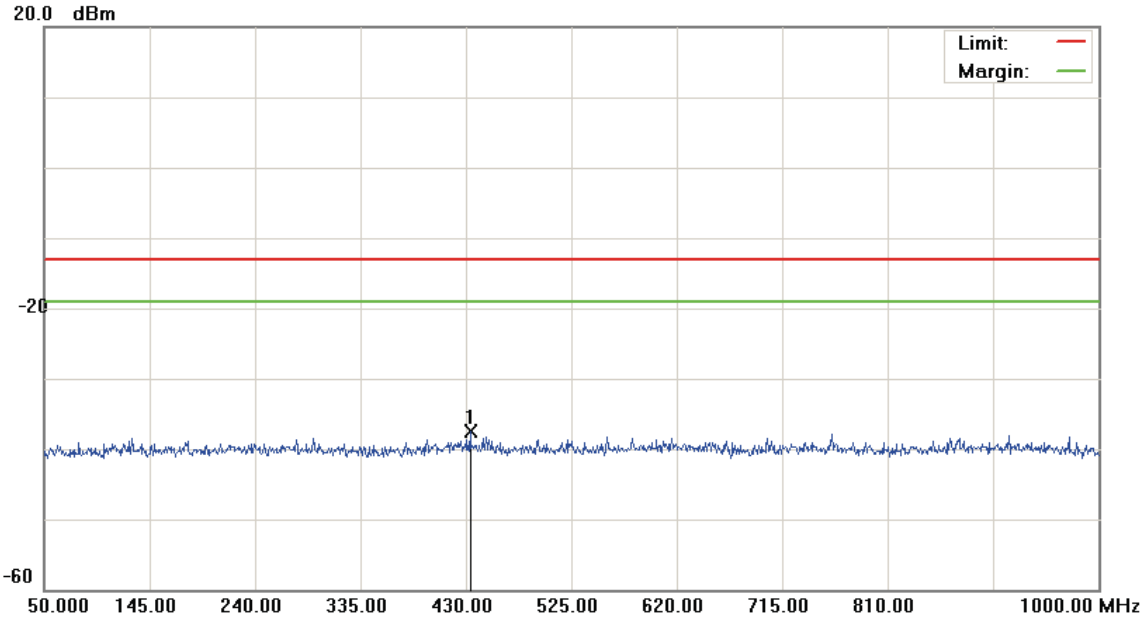
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.5085	-60.86	12.89	-47.97	-13.00	-34.97	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH512) Data :#2 Date: 2012/11/30 Time: 下午 11:33:14



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Low

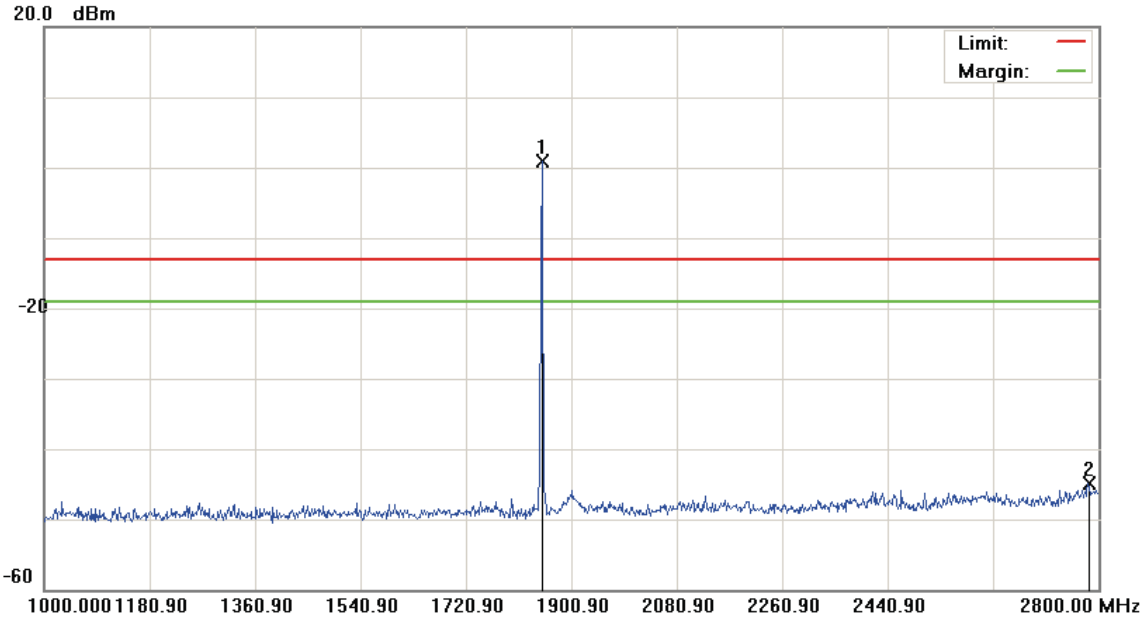
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	434.2750	-50.70	13.25	-37.45	-13.00	-24.45	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH512) Data :#3 Date: 2012/12/1 Time: 上午 07:04:43



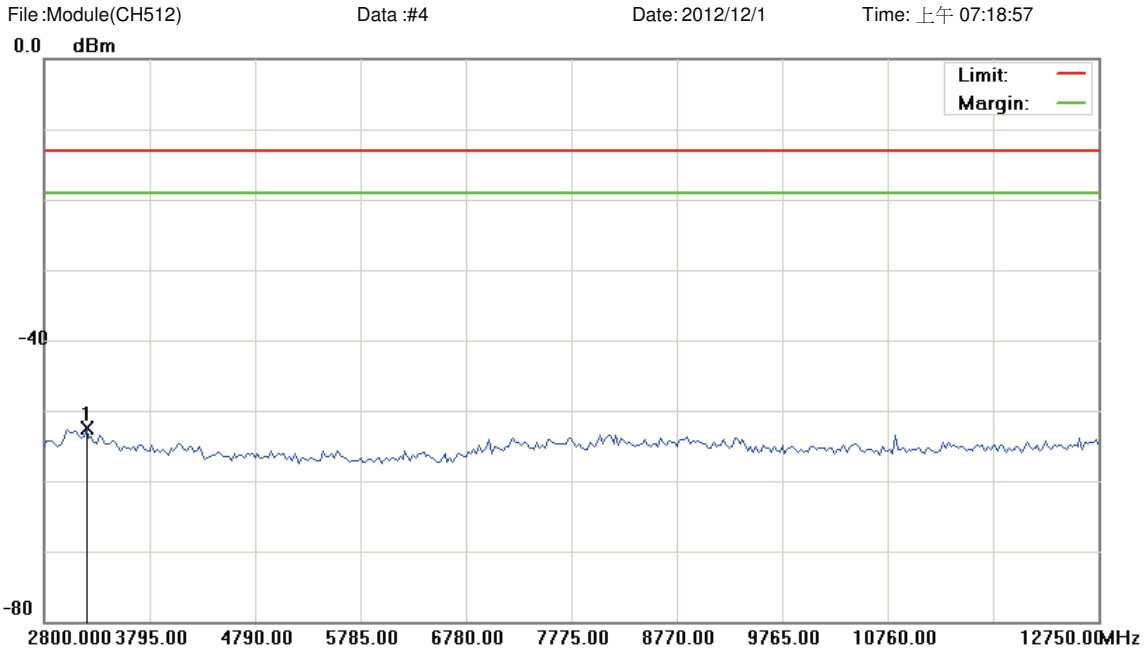
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1850.500	-3.43	4.26	0.83	-13.00	13.83	peak			Tx
2		2782.900	-50.87	5.88	-44.99	-13.00	-31.99	peak			

*:Maximum data x:Over limit !:over margin



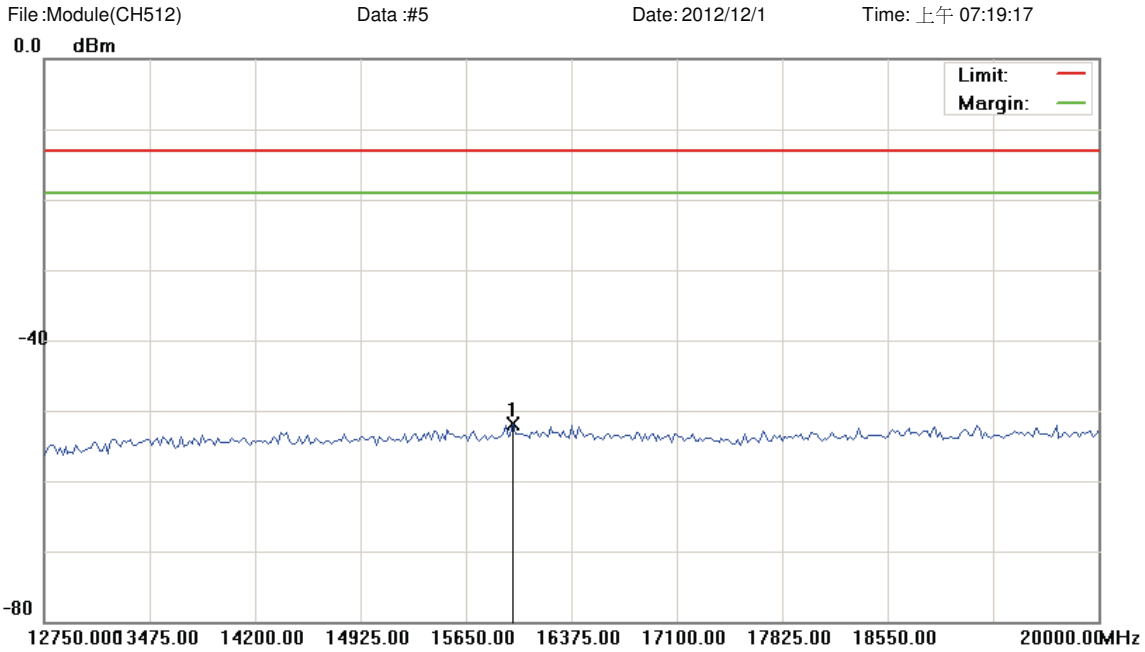
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3198.000	-57.74	5.22	-52.52	-13.00	-39.52	peak			

*:Maximum data x:Over limit !:over margin



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Low

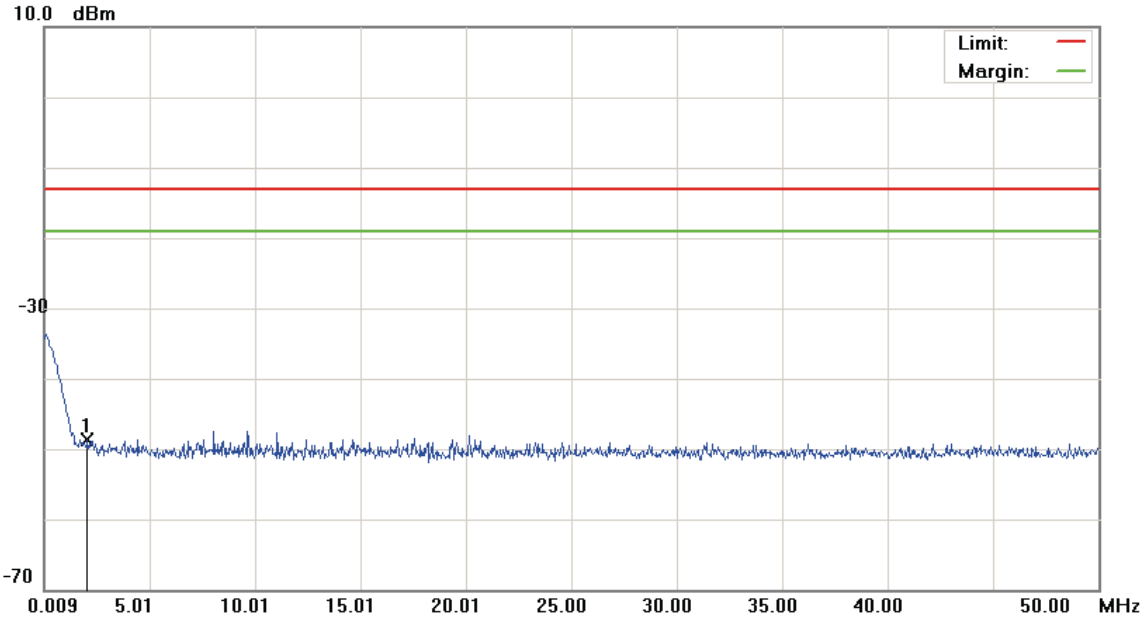
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	15976.250	-58.14	6.29	-51.85	-13.00	-38.85	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH661) Data :#1 Date: 2012/11/30 Time: 下午 11:34:12



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Middle

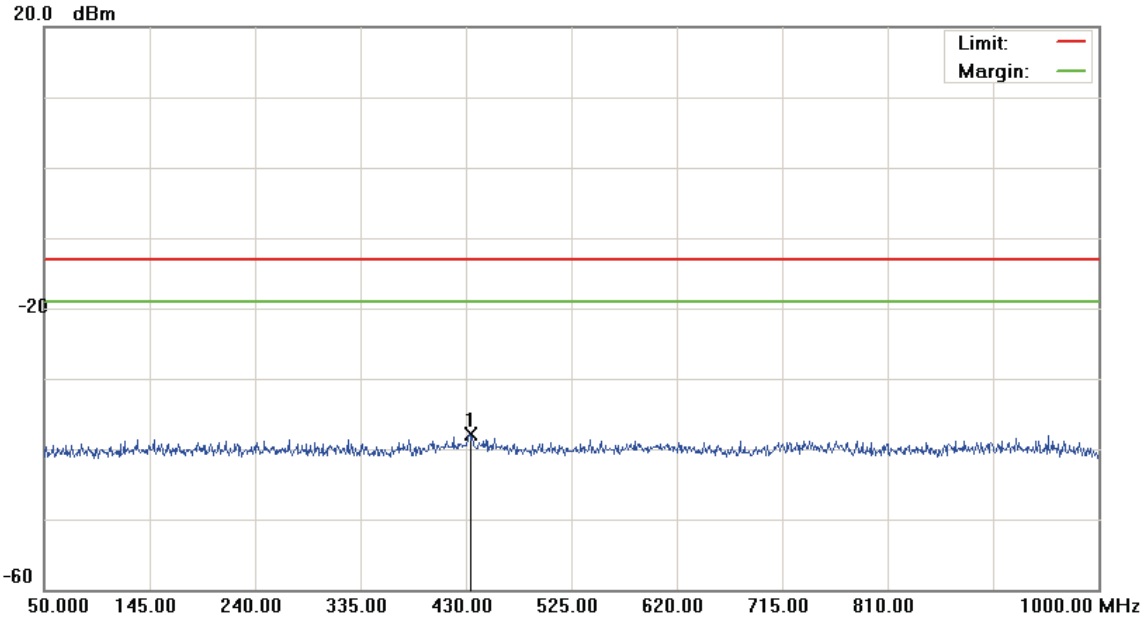
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0586	-61.90	13.18	-48.72	-13.00	-35.72	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH661) Data :#2 Date: 2012/11/30 Time: 下午 11:34:36



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Middle

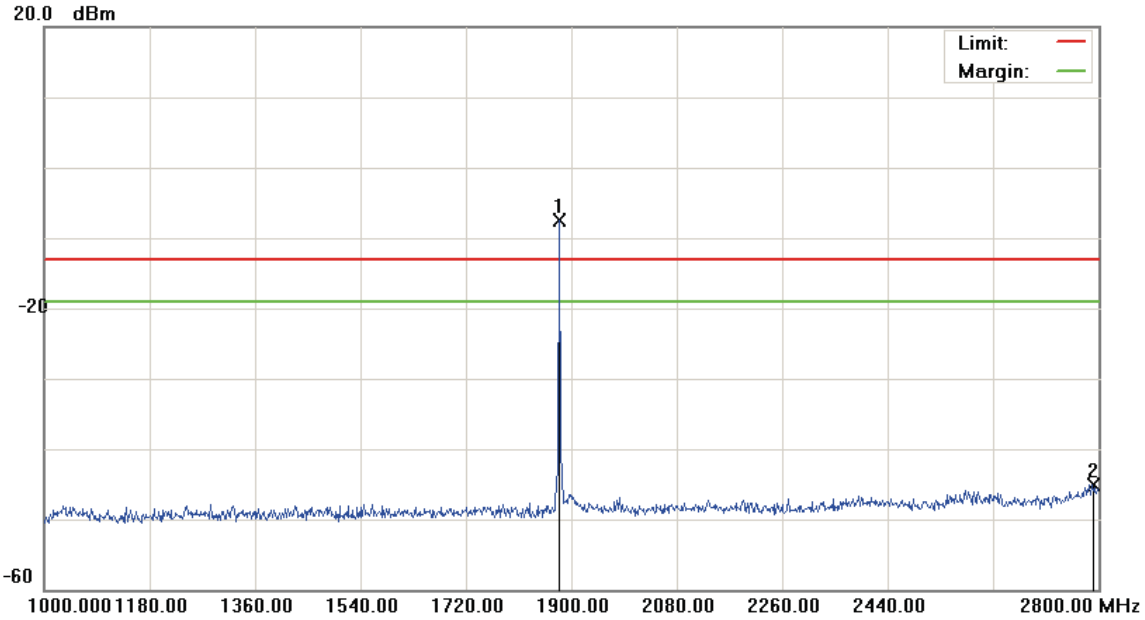
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	433.3250	-51.13	13.25	-37.88	-13.00	-24.88	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH661) Data :#3 Date: 2012/12/1 Time: 上午 07:05:57



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Middle

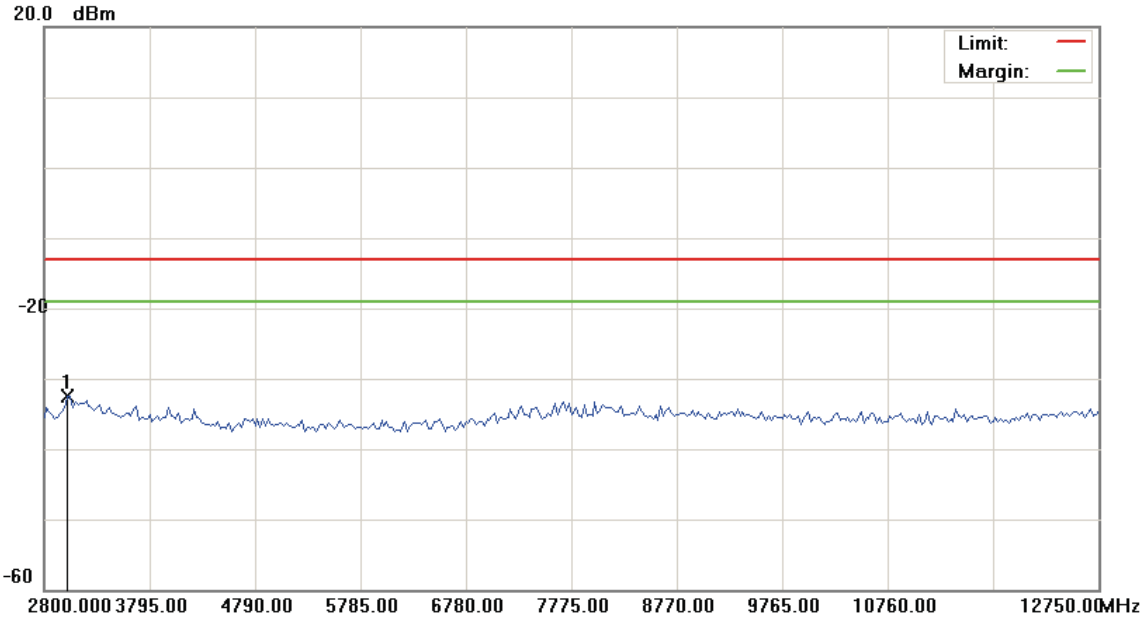
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1880.200	-12.15	4.65	-7.50	-13.00	5.50	peak			Tx
2		2790.100	-50.96	5.90	-45.06	-13.00	-32.06	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH661) Data :#4 Date: 2012/12/1 Time: 上午 07:20:05



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Middle

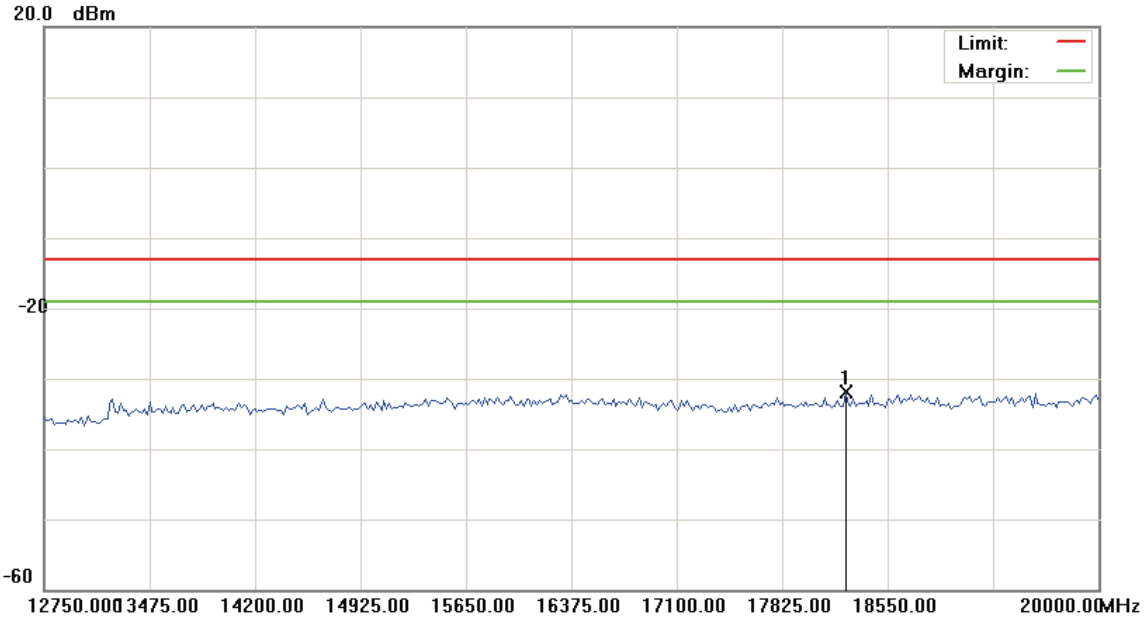
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3023.875	-37.88	5.48	-32.40	-13.00	-19.40	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH661) Data :#5 Date: 2012/12/1 Time: 上午 07:20:25



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH Middle

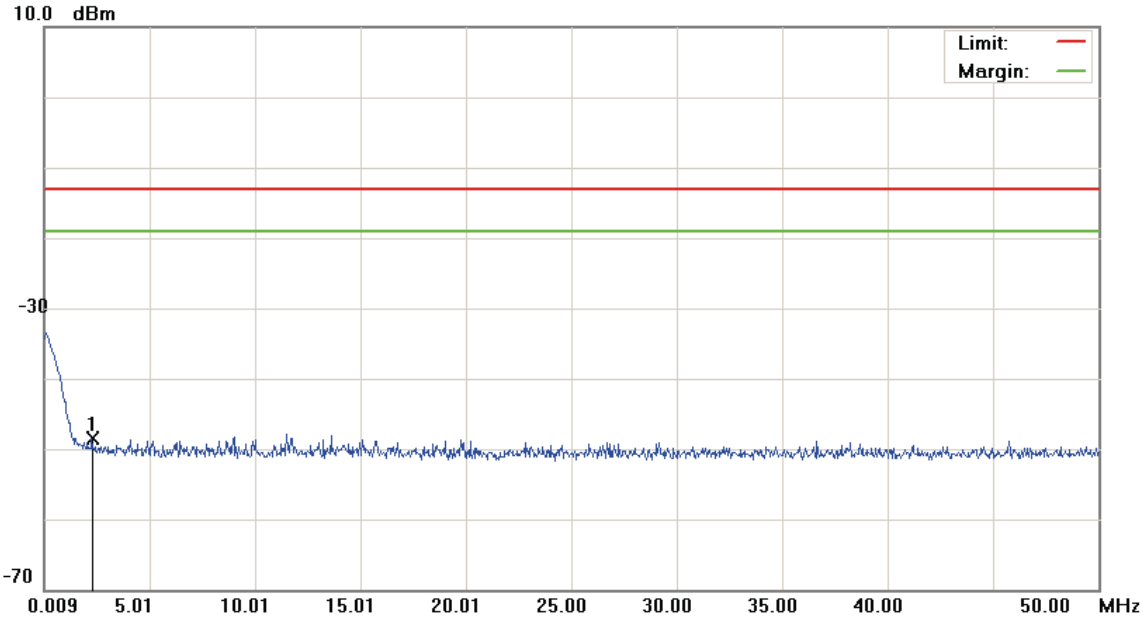
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	18260.000	-38.74	6.94	-31.80	-13.00	-18.80	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH810) Data :#1 Date: 2012/11/30 Time: 下午 11:35:23



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH High

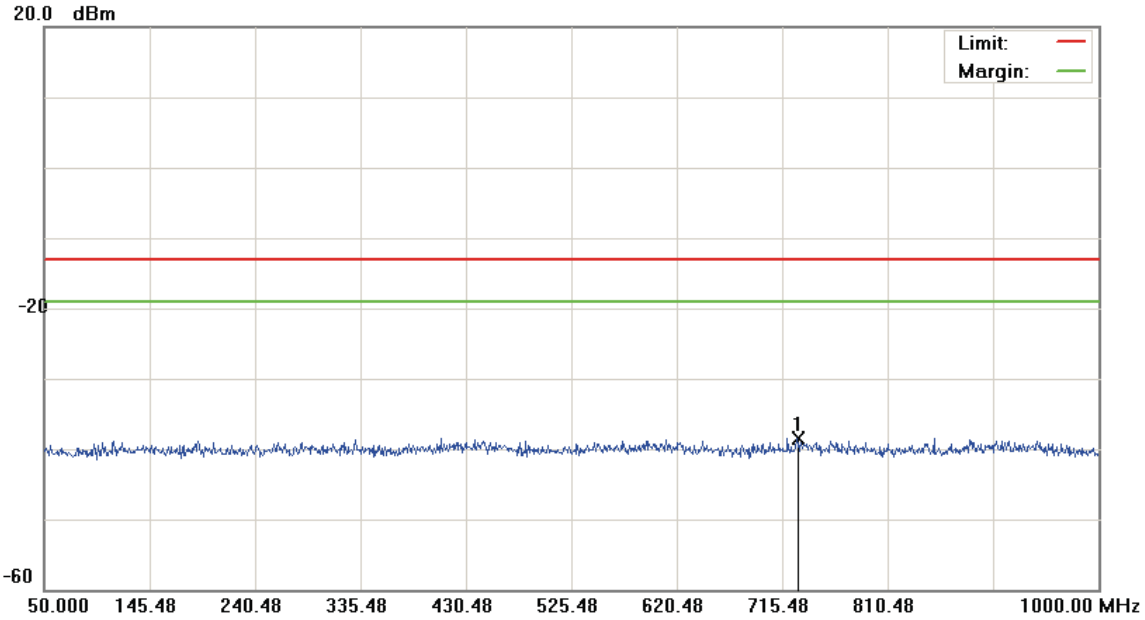
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.2835	-61.63	13.06	-48.57	-13.00	-35.57	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH810) Data :#2 Date: 2012/11/30 Time: 下午 11:35:47



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH High

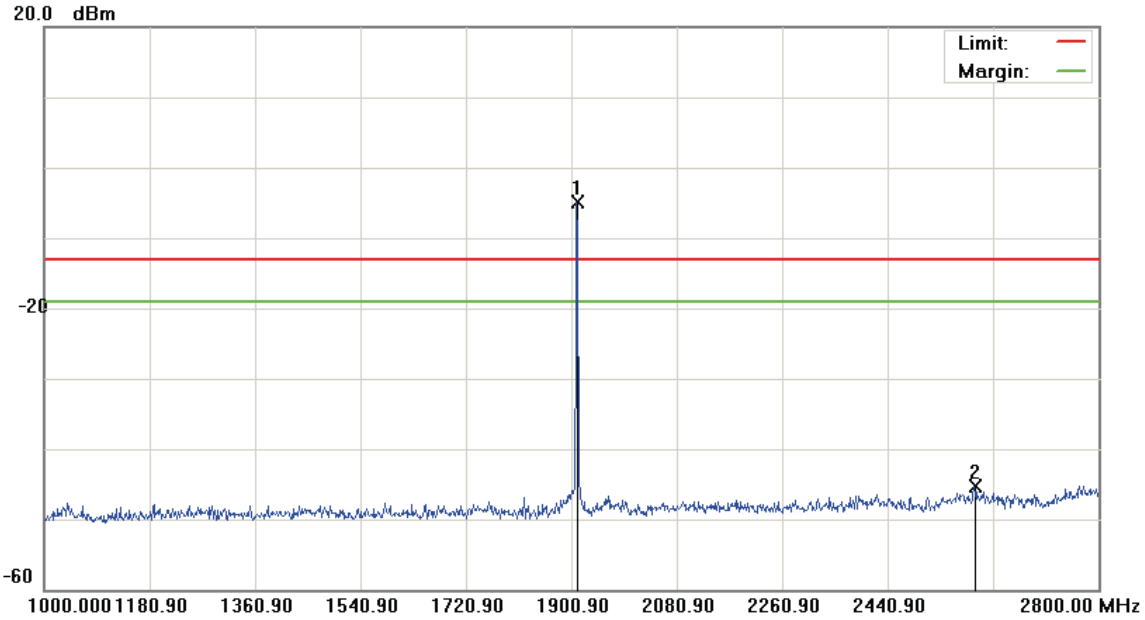
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	728.7750	-51.57	13.15	-38.42	-13.00	-25.42	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH810) Data :#3 Date: 2012/12/1 Time: 上午 07:07:20



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH High

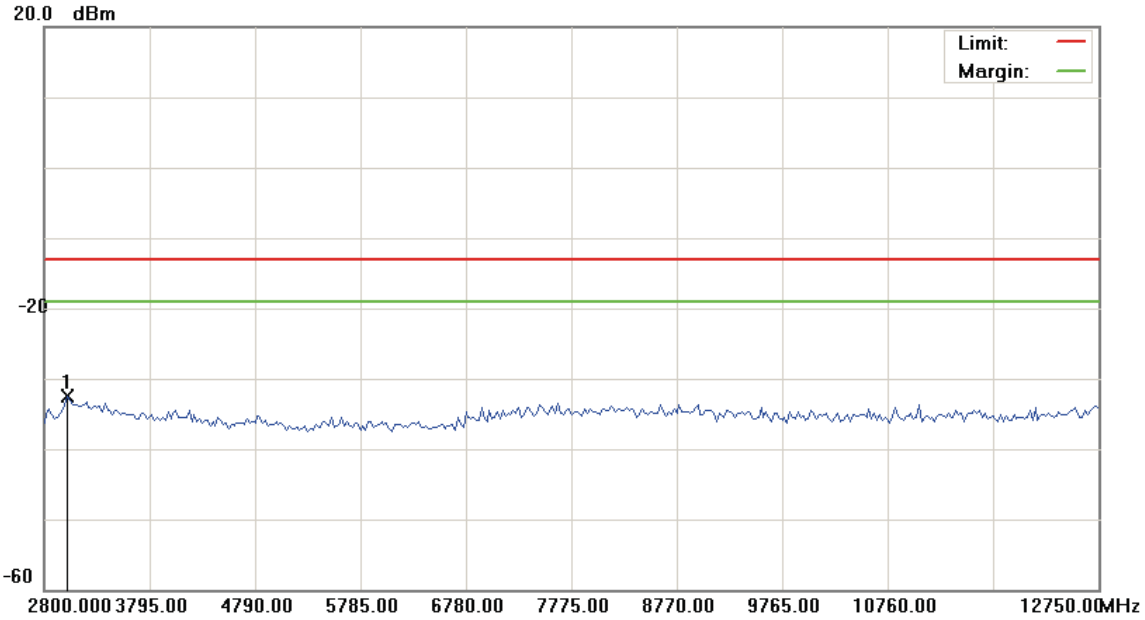
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1909.900	-10.67	5.71	-4.96	-13.00	8.04	peak			Tx
2		2588.500	-50.64	5.39	-45.25	-13.00	-32.25	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH810) Data :#4 Date: 2012/12/1 Time: 上午 07:20:59



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH High

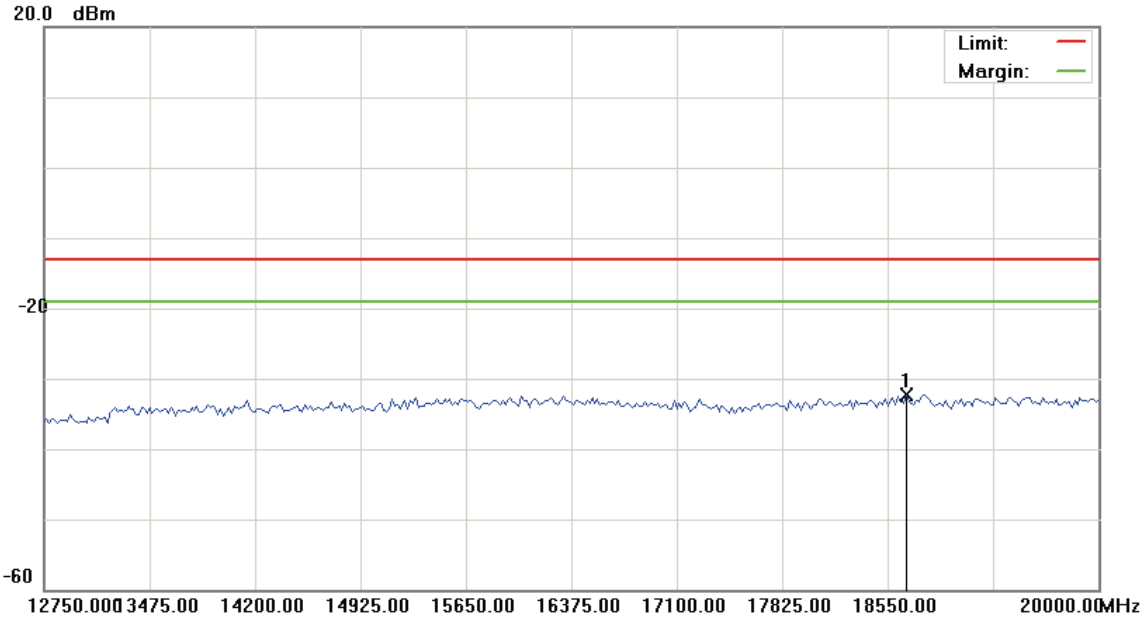
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3023.875	-37.96	5.48	-32.48	-13.00	-19.48	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH810) Data :#5 Date: 2012/12/1 Time: 上午 07:21:19



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: GSM 1900
Note: CH High

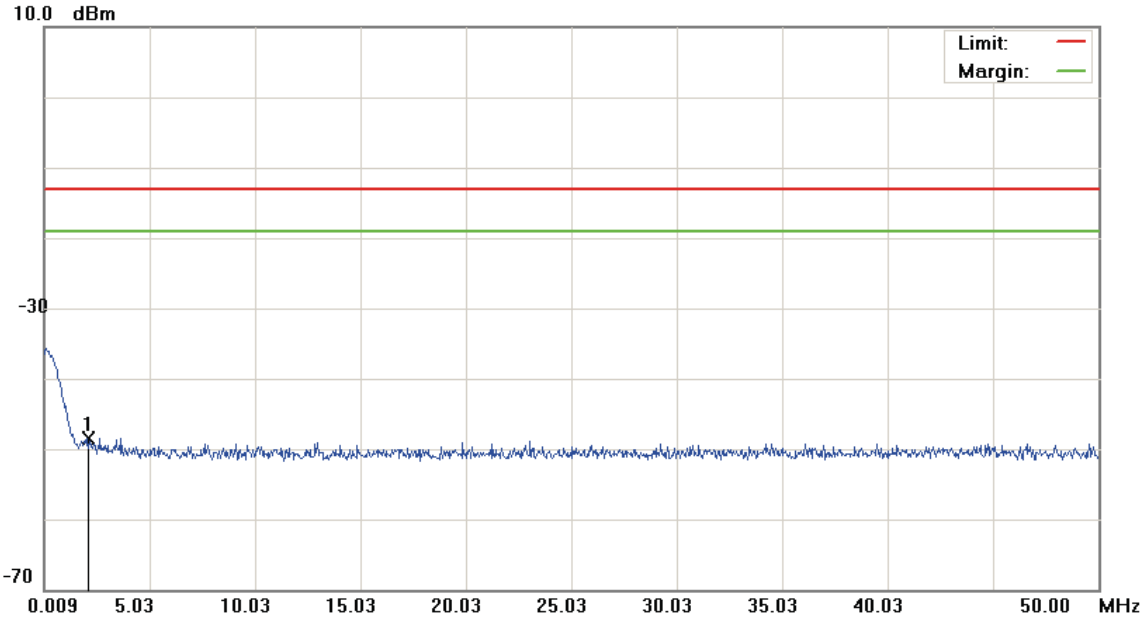
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	18676.875	-39.41	7.06	-32.35	-13.00	-19.35	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9262) Data :#1 Date: 2012/11/30 Time: 下午 11:22:06



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Low

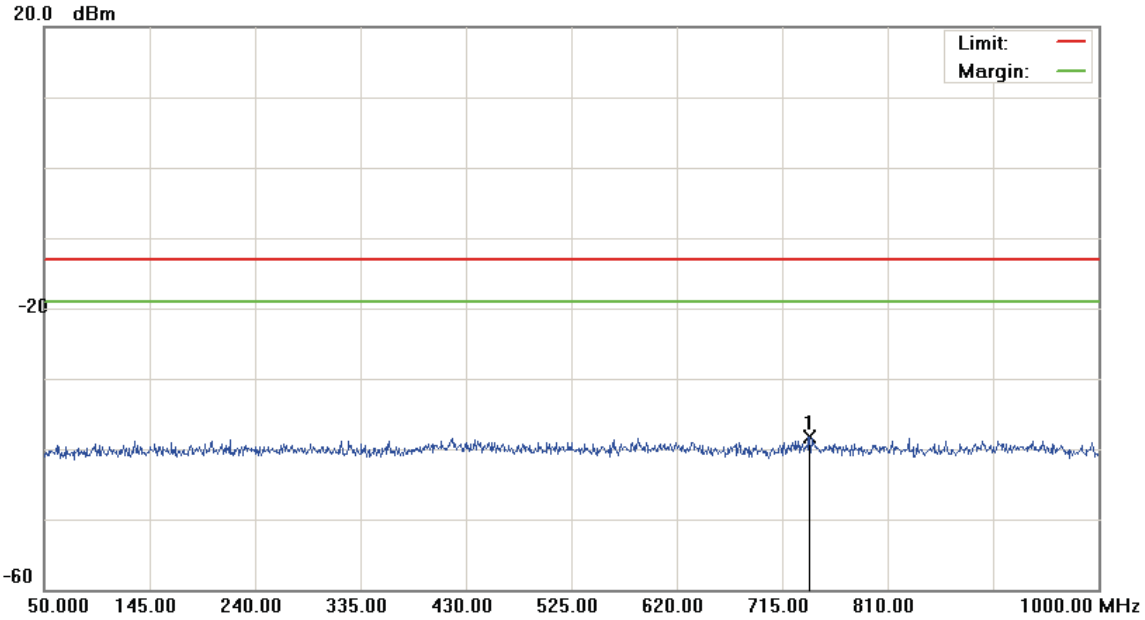
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0836	-61.59	13.17	-48.42	-13.00	-35.42	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9262) Data :#2 Date: 2012/11/30 Time: 下午 11:22:30



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Low

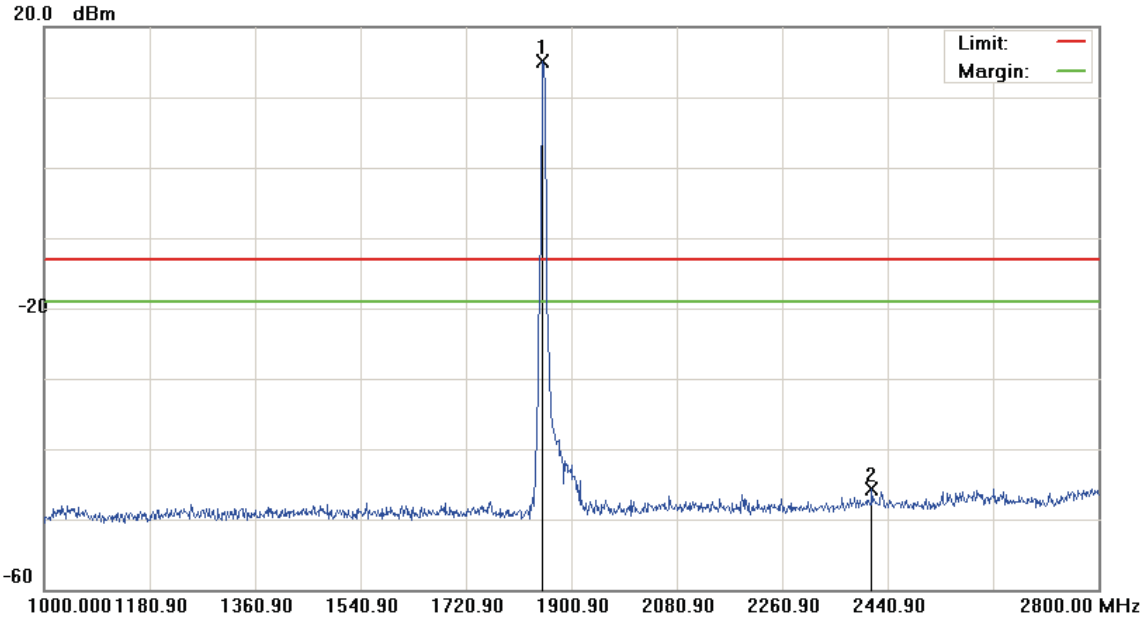
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	739.7000	-51.50	13.16	-38.34	-13.00	-25.34	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9262) Data :#3 Date: 2012/12/1 Time: 上午 07:10:06



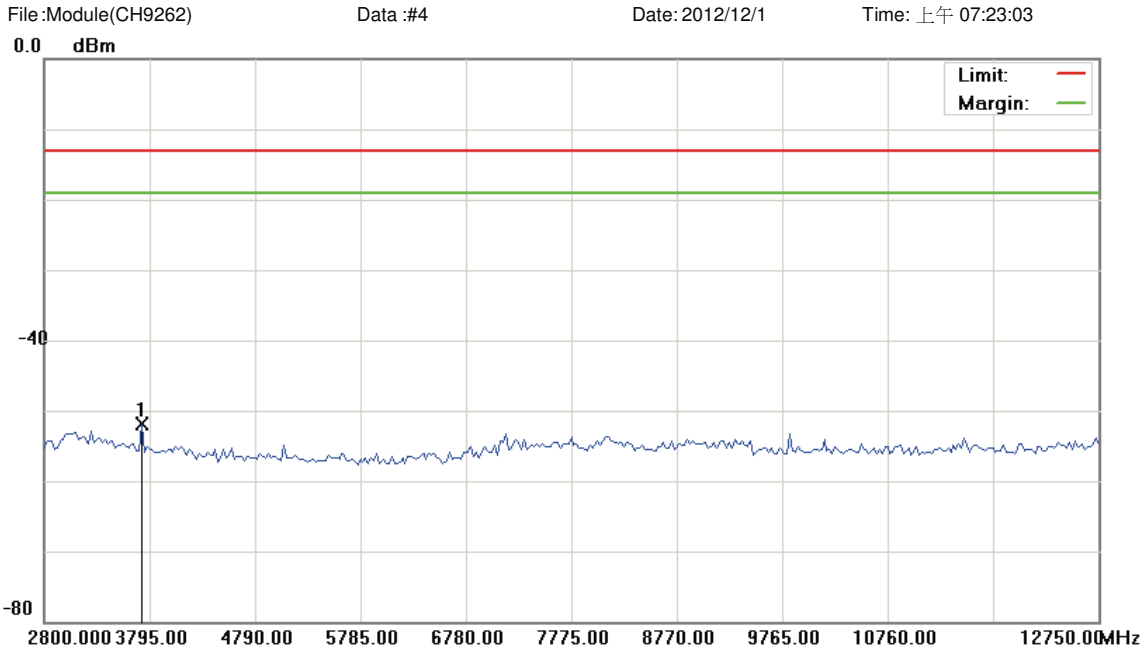
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Low

Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1850.500	10.76	4.26	15.02	-13.00	28.02	peak			Tx
2		2413.000	-50.89	5.16	-45.73	-13.00	-32.73	peak			

*:Maximum data x:Over limit !:over margin



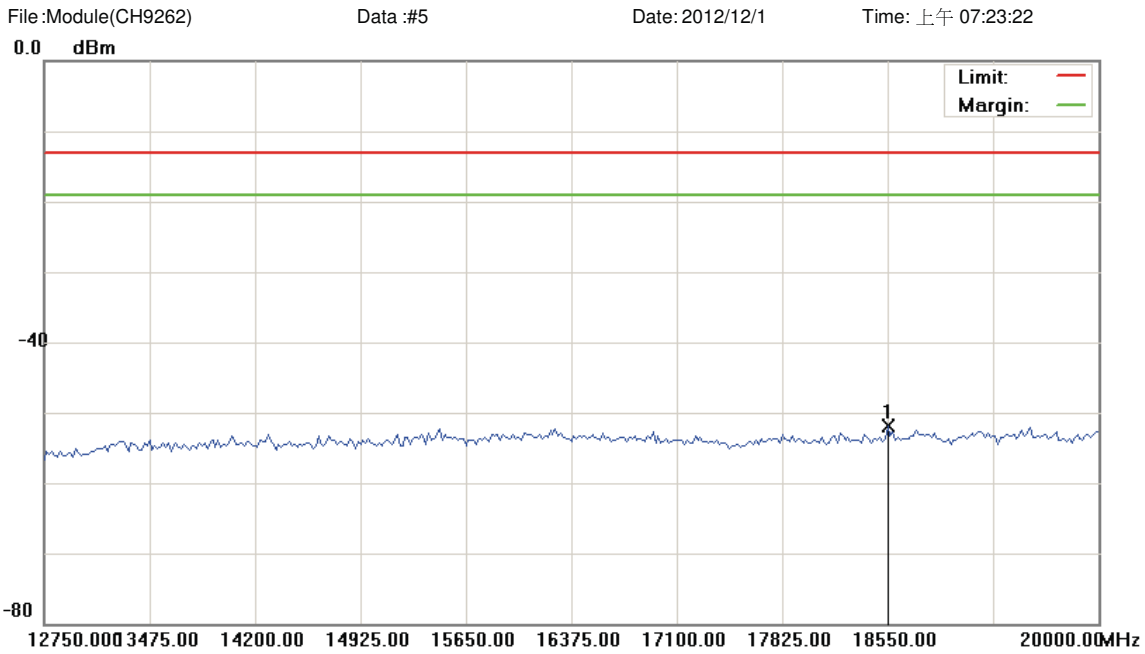
Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3720.375	-56.73	4.88	-51.85	-13.00	-38.85	peak			

*:Maximum data x:Over limit !:over margin



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Low

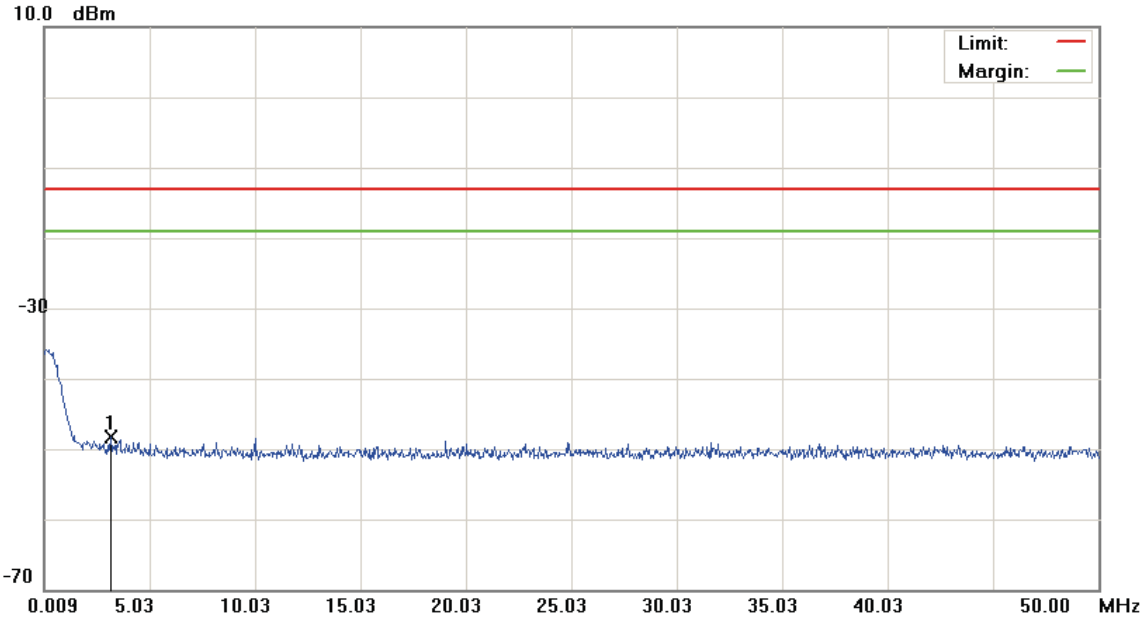
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	18550.000	-58.94	7.03	-51.91	-13.00	-38.91	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9400) Data :#1 Date: 2012/11/30 Time: 下午 11:23:17



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Middle

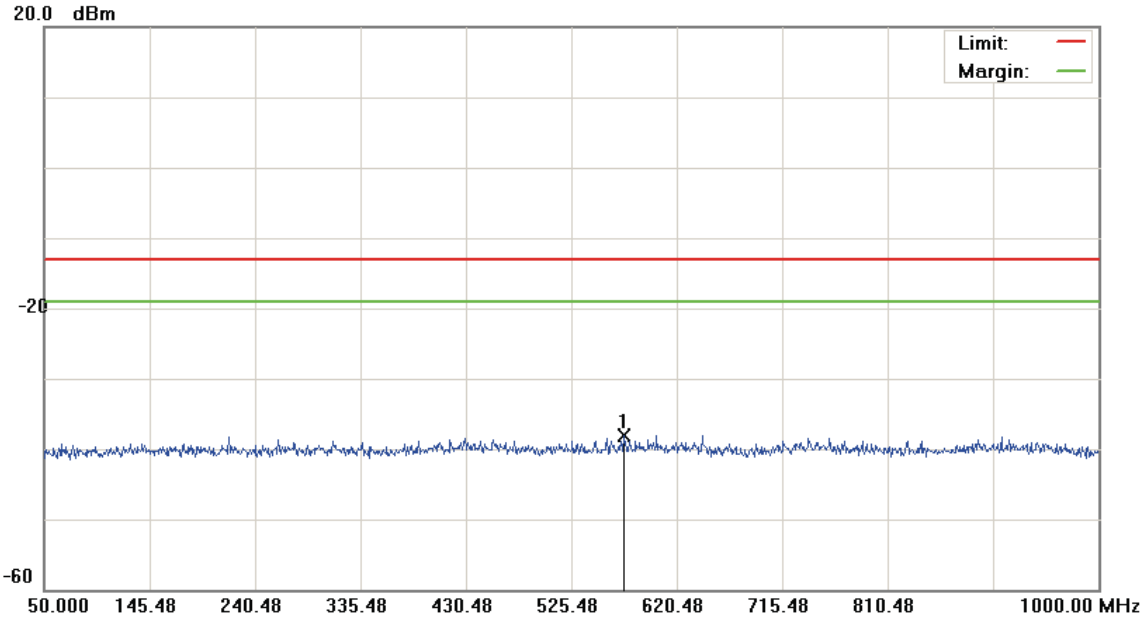
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3.1583	-61.30	13.05	-48.25	-13.00	-35.25	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9400) Data :#2 Date: 2012/11/30 Time: 下午 11:23:41



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Middle

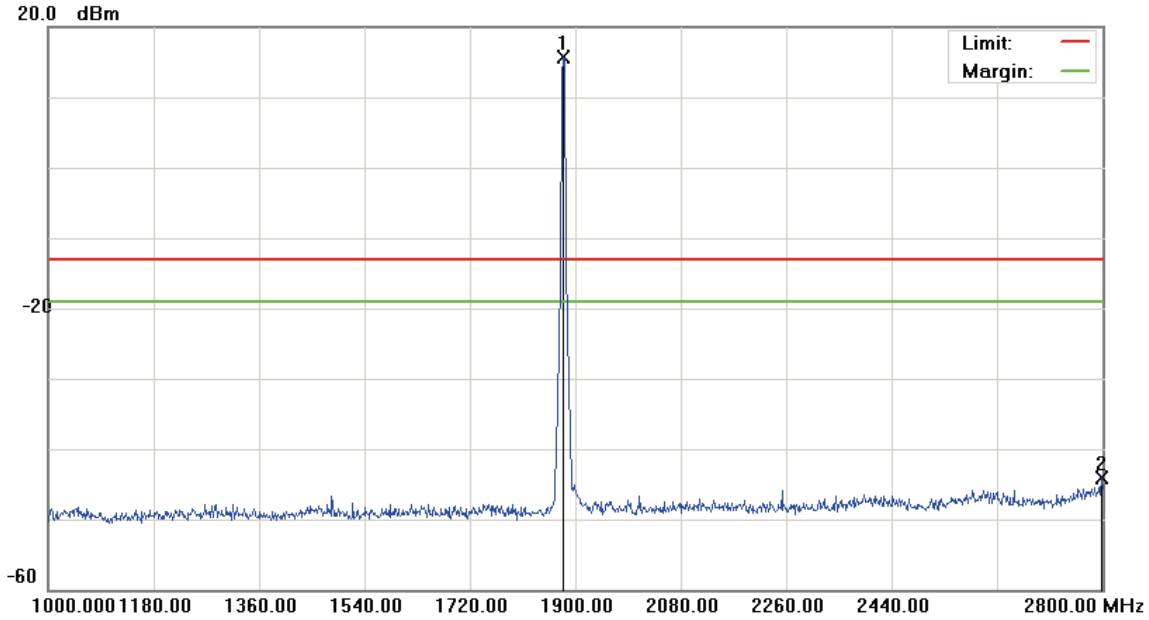
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	572.5000	-51.20	13.16	-38.04	-13.00	-25.04	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9400) Data :#3 Date: 2012/12/1 Time: 上午 07:11:26



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Middle

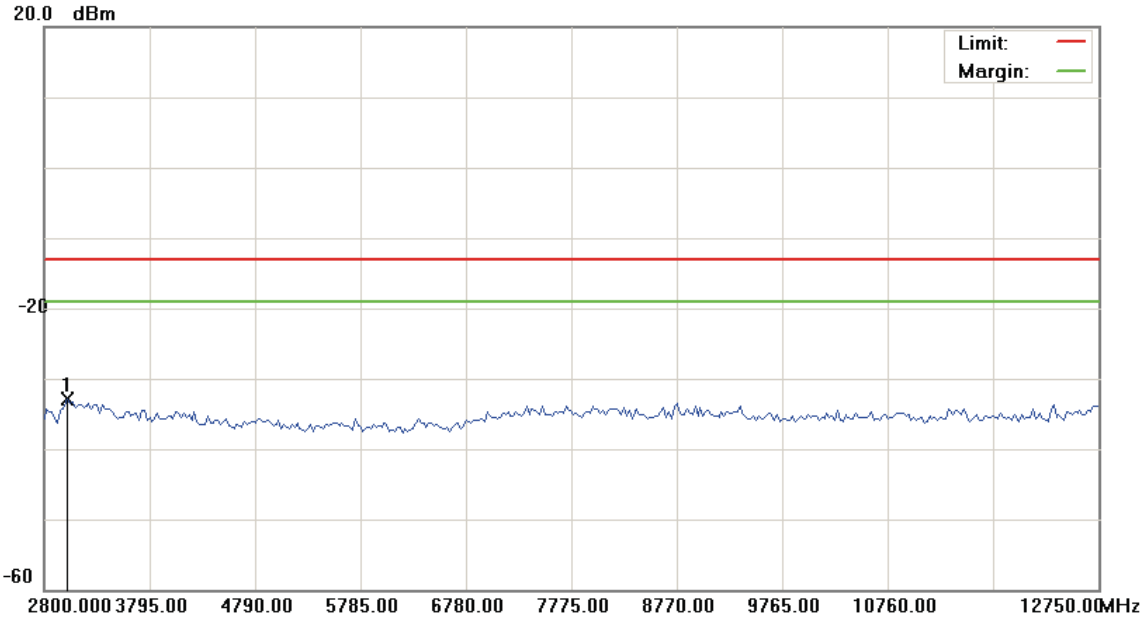
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1878.400	11.02	4.61	15.63	-13.00	28.63	peak			Tx
2		2798.200	-50.01	5.91	-44.10	-13.00	-31.10	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9400) Data :#4 Date: 2012/12/1 Time: 上午 07:23:54



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Middle

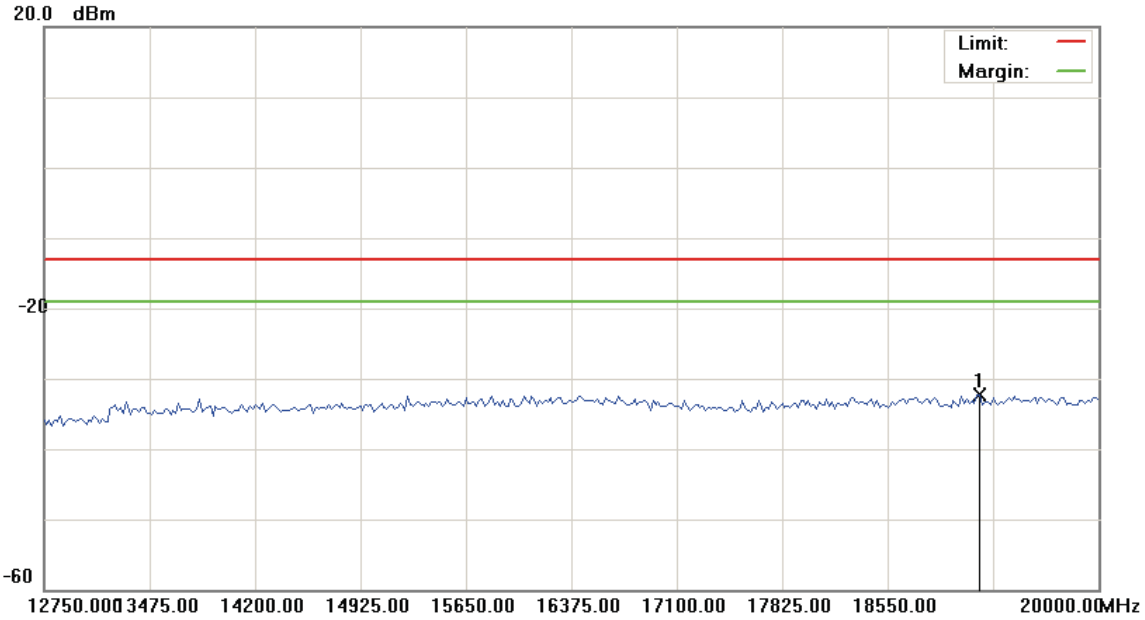
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3023.875	-38.30	5.48	-32.82	-13.00	-19.82	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9400) Data :#5 Date: 2012/12/1 Time: 上午 07:24:14



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH Middle

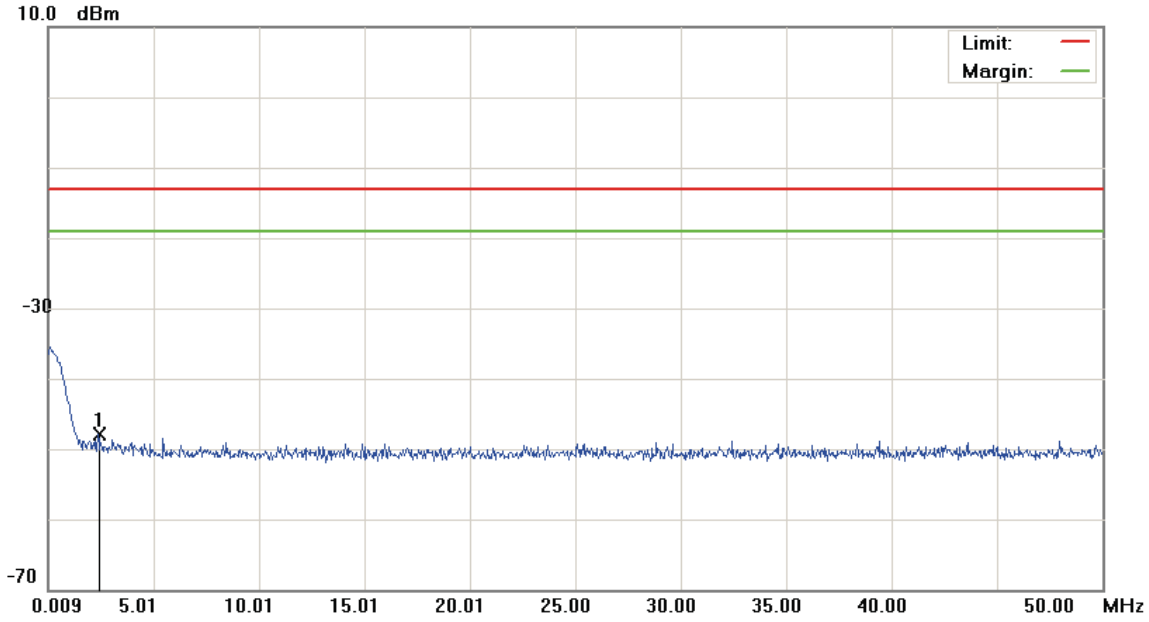
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19184.375	-39.52	7.21	-32.31	-13.00	-19.31	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9538) Data :#1 Date: 2012/11/30 Time: 下午 11:24:33



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH High

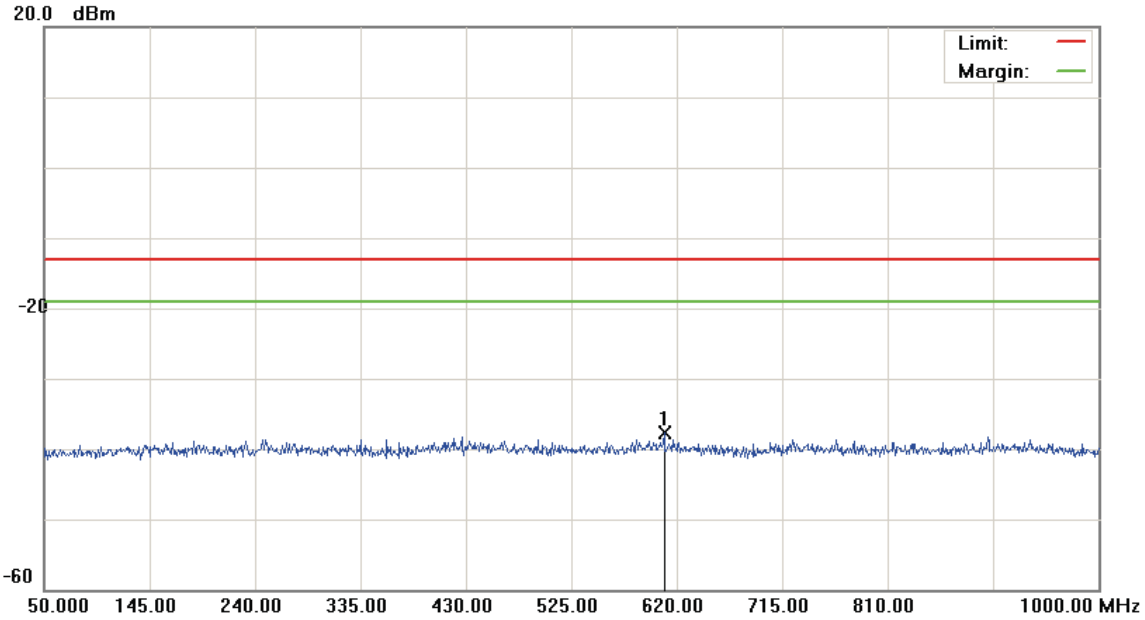
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.3835	-60.99	13.01	-47.98	-13.00	-34.98	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9538) Data :#2 Date: 2012/11/30 Time: 下午 11:24:57



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH High

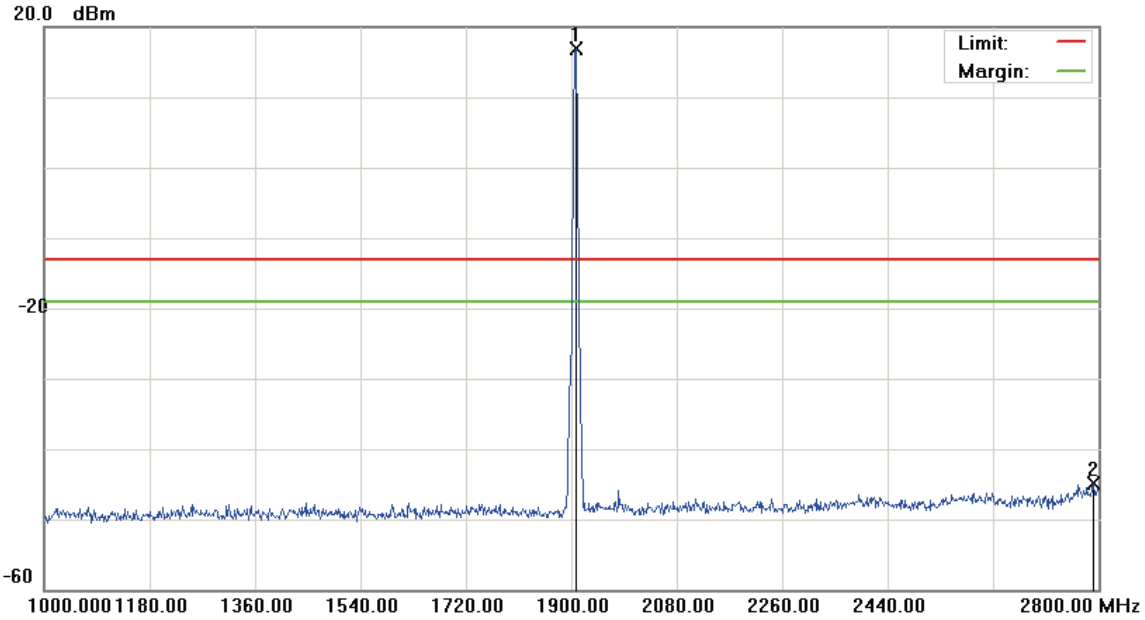
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	608.6000	-50.83	13.17	-37.66	-13.00	-24.66	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9538) Data :#3 Date: 2012/12/1 Time: 上午 07:12:39



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH High

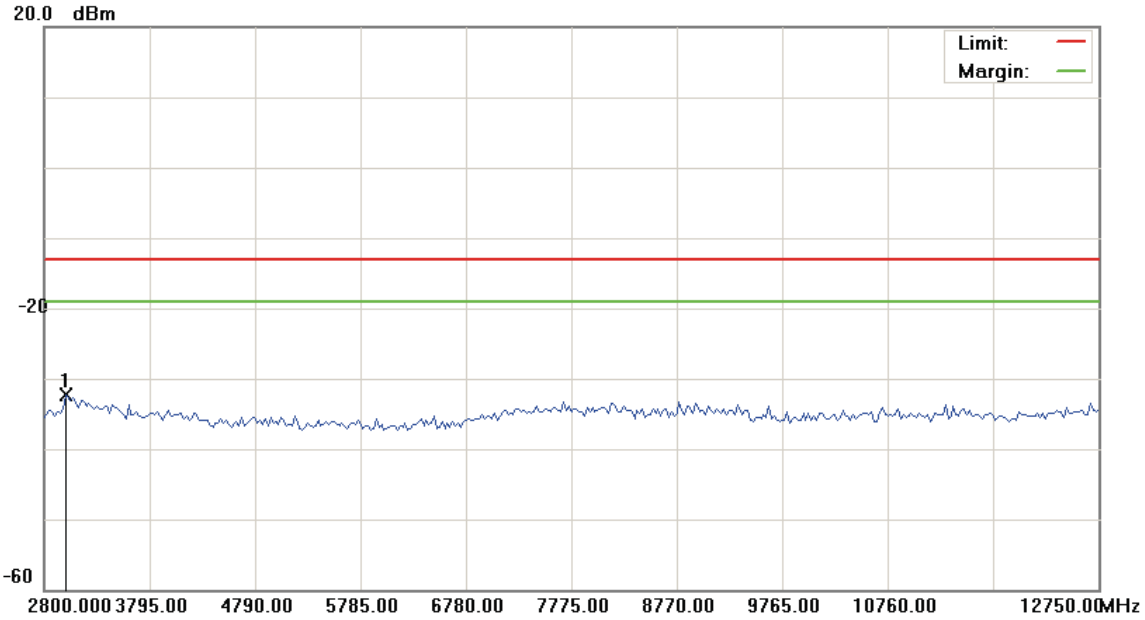
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1909.000	11.19	5.80	16.99	-13.00	29.99	peak			Tx
2		2791.000	-50.76	5.90	-44.86	-13.00	-31.86	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9538) Data :#4 Date: 2012/12/1 Time: 上午 07:24:48



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH High

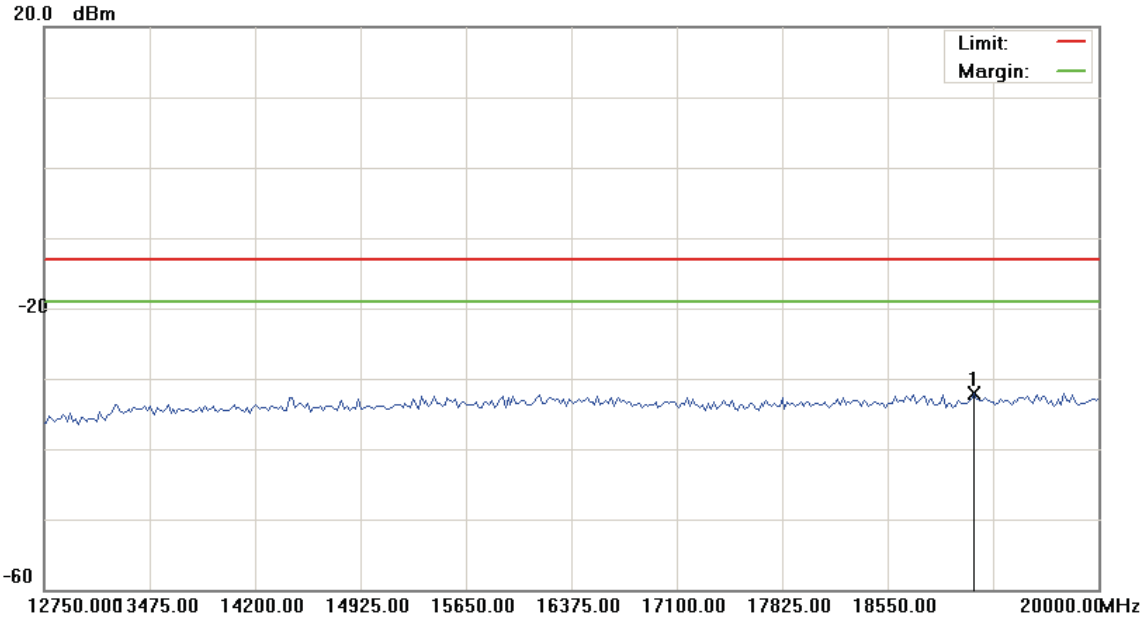
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2999.000	-37.73	5.48	-32.25	-13.00	-19.25	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH9538) Data :#5 Date: 2012/12/1 Time: 上午 07:25:08



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band II
Note: CH High

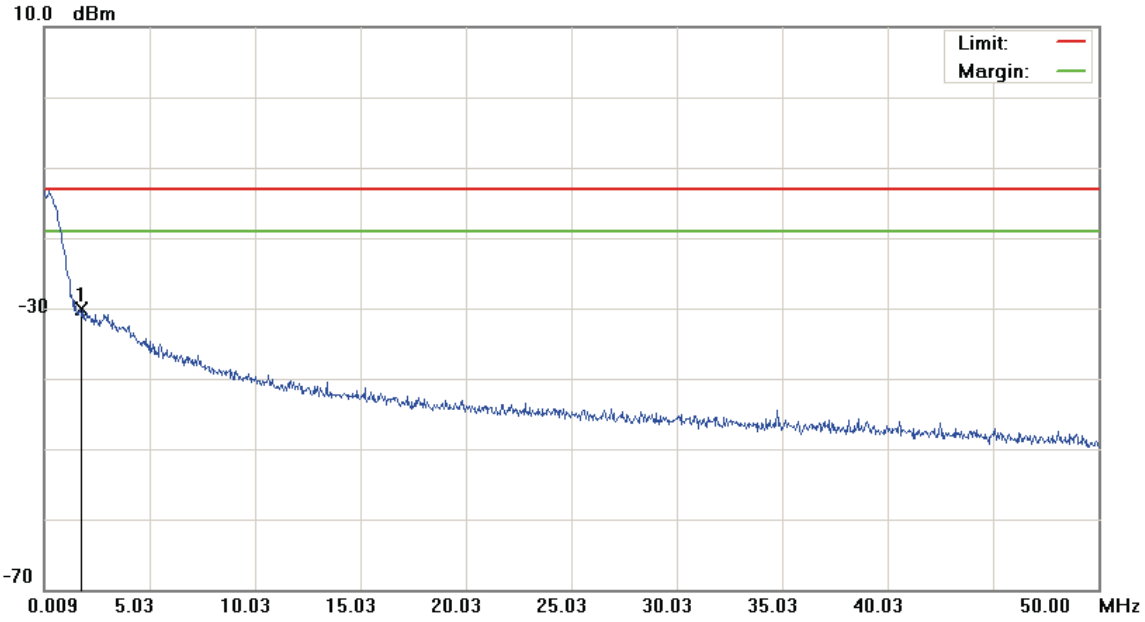
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19148.125	-39.35	7.20	-32.15	-13.00	-19.15	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4132) Data :#1 Date: 2012/11/30 Time: 下午 11:49:52



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Low

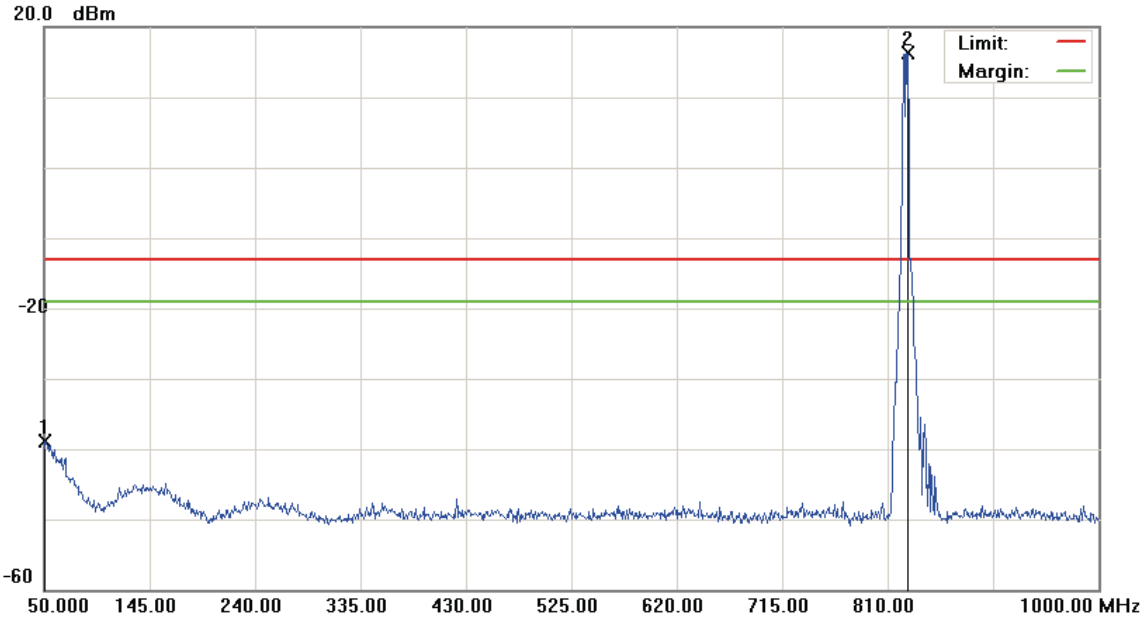
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.7337	-61.15	31.02	-30.13	-13.00	-17.13	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4132) Data :#2 Date: 2012/11/30 Time: 下午 11:50:16



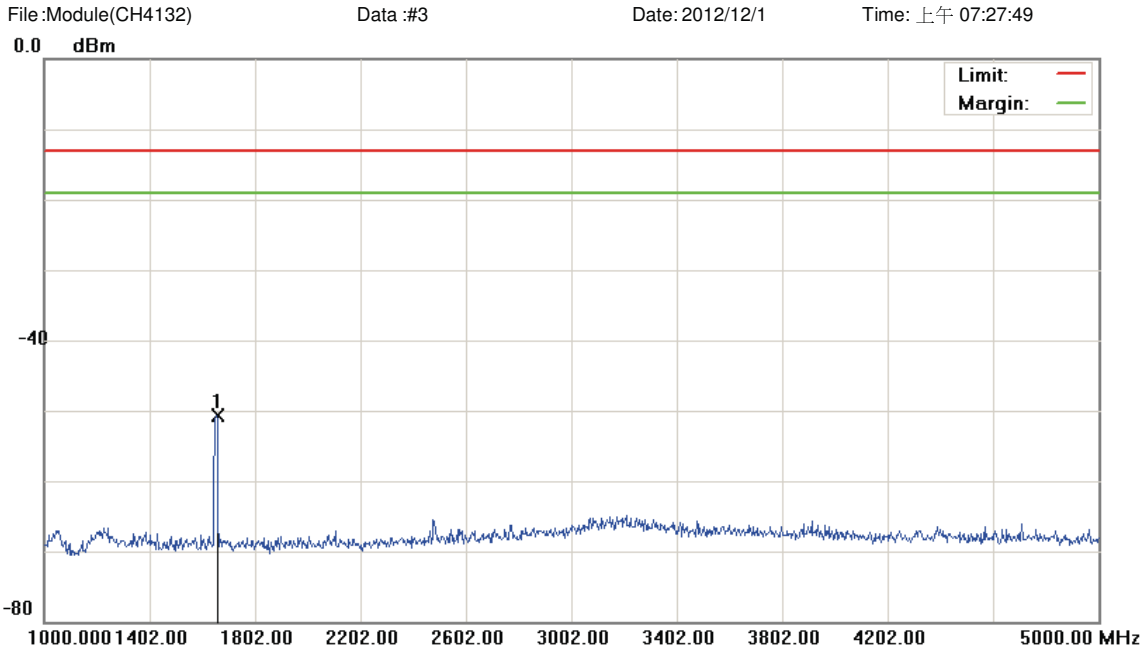
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.67	14.69	-38.98	-13.00	-25.98	peak			
2	*	827.5750	12.38	3.87	16.25	-13.00	29.25	peak			Tx

*:Maximum data x:Over limit !:over margin



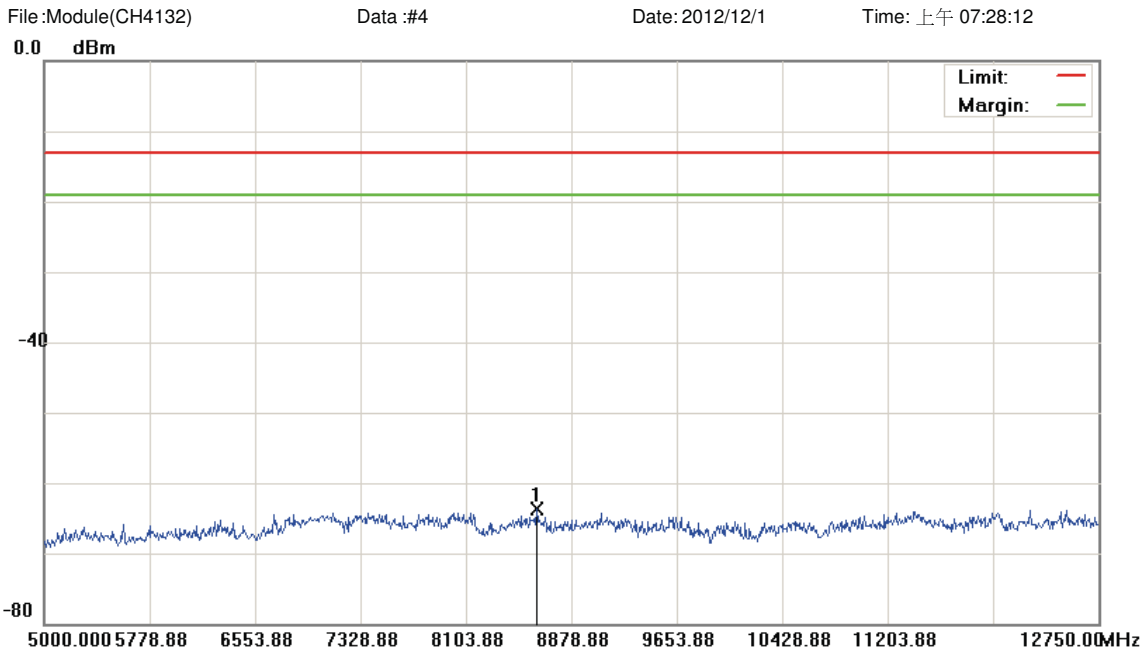
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Low

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1654.000	-55.07	4.45	-50.62	-13.00	-37.62	peak			

*:Maximum data x:Over limit !:over margin



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Low

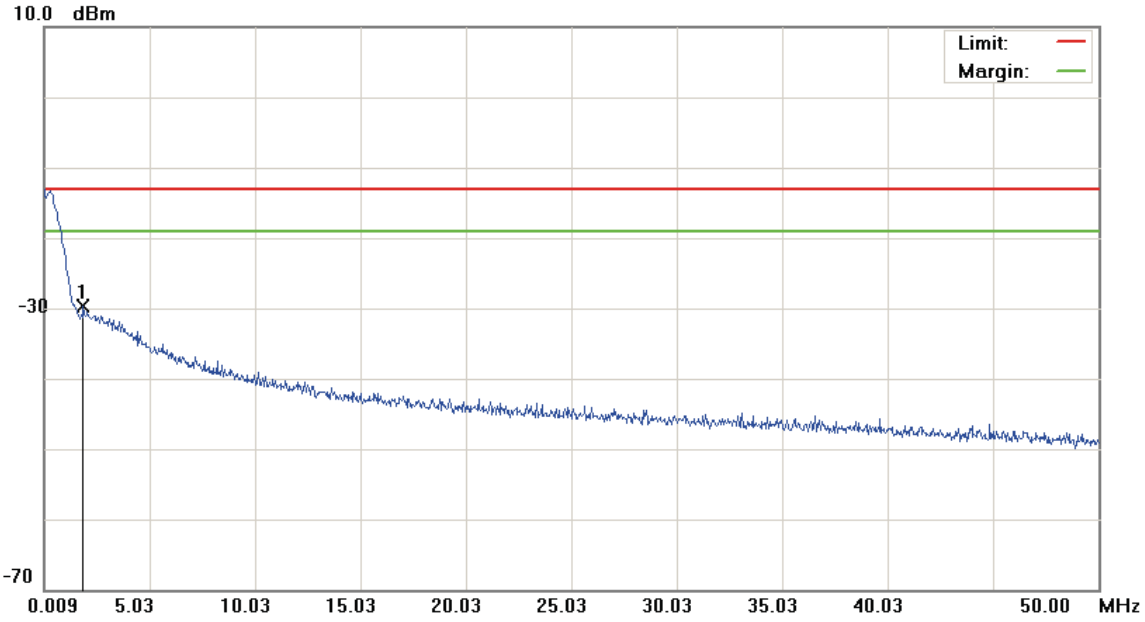
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	8619.250	-69.47	5.81	-63.66	-13.00	-50.66	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4183) Data :#1 Date: 2012/11/30 Time: 下午 11:53:30



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Middle

Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.8587	-60.94	31.15	-29.79	-13.00	-16.79	peak			

*:Maximum data x:Over limit !:over margin

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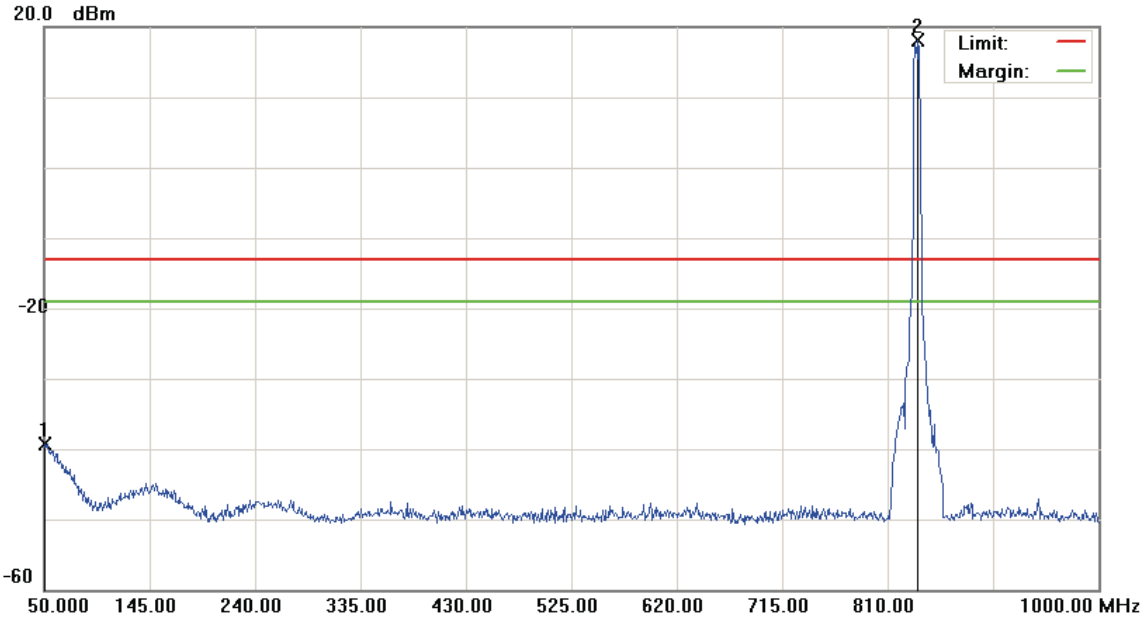


Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Middle

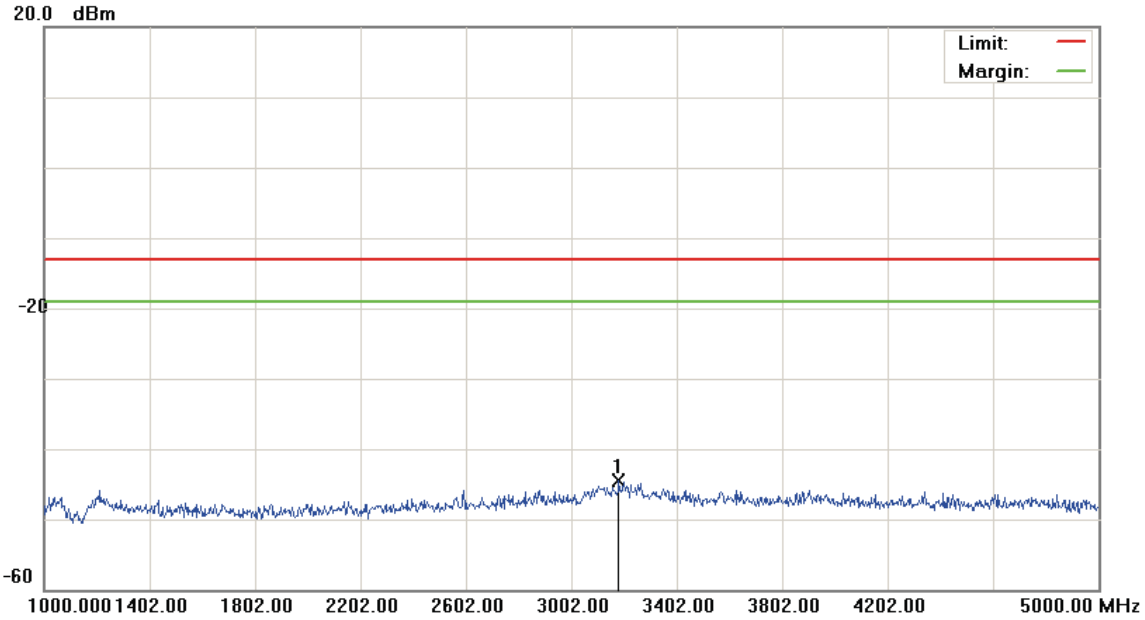
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.98	14.69	-39.29	-13.00	-26.29	peak			
2	*	837.5500	14.15	3.97	18.12	-13.00	31.12	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Module(CH4183) Data :#3 Date: 2012/12/1 Time: 上午 07:28:55



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Middle

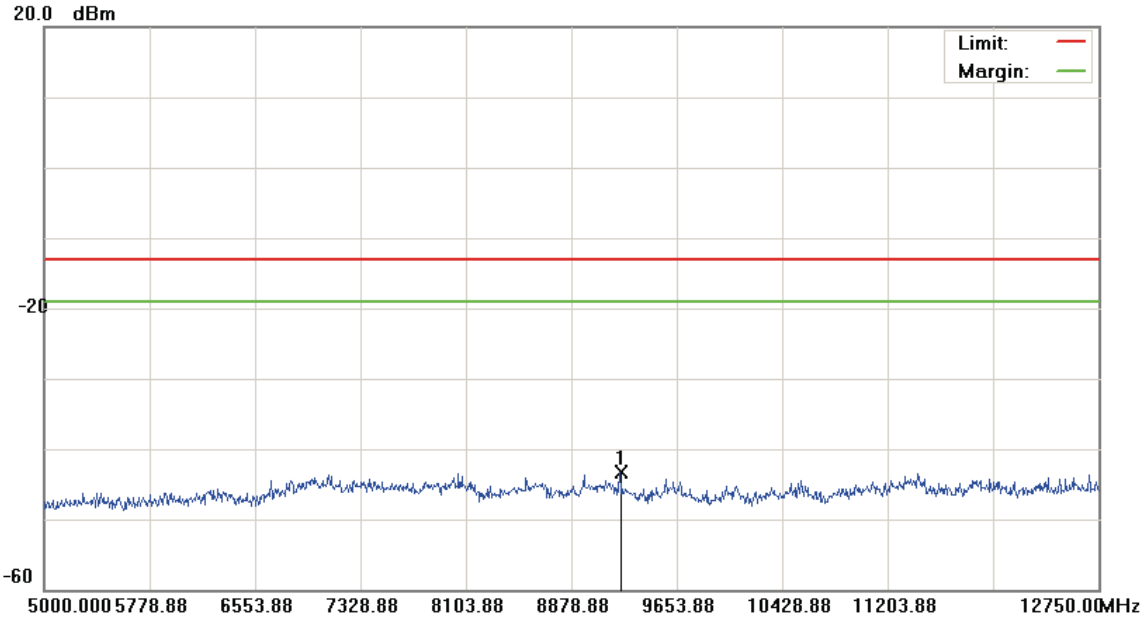
Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3180.000	-49.18	4.62	-44.56	-13.00	-31.56	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4183) Data :#4 Date: 2012/12/1 Time: 上午 07:29:18



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH Middle

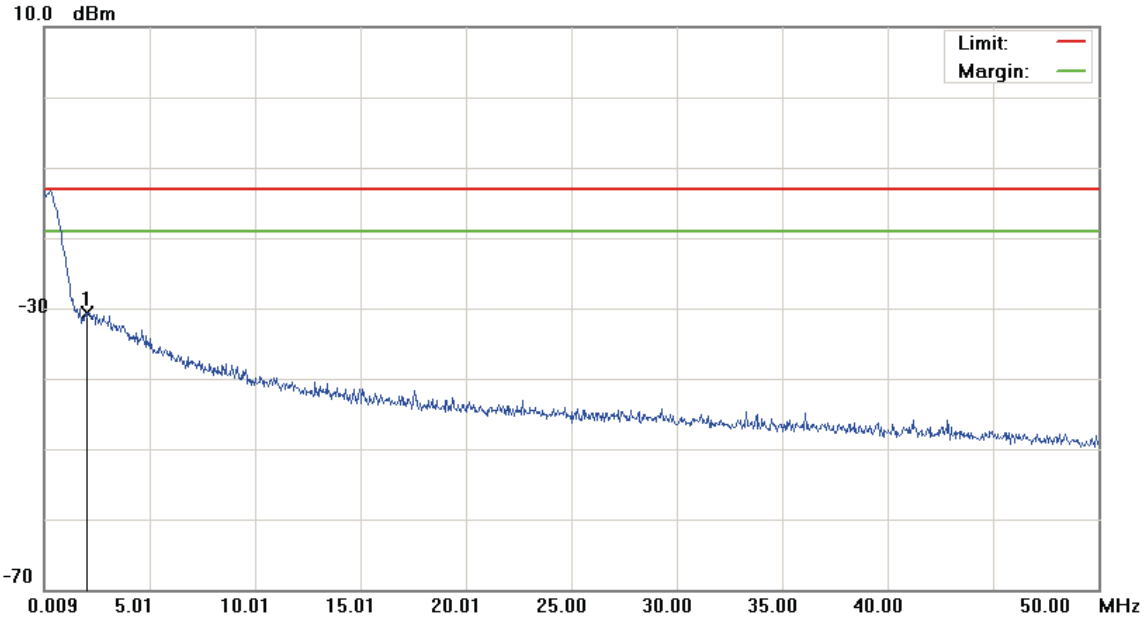
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	9235.375	-48.81	5.47	-43.34	-13.00	-30.34	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4233) Data :#1 Date: 2012/11/30 Time: 下午 11:56:18



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH High

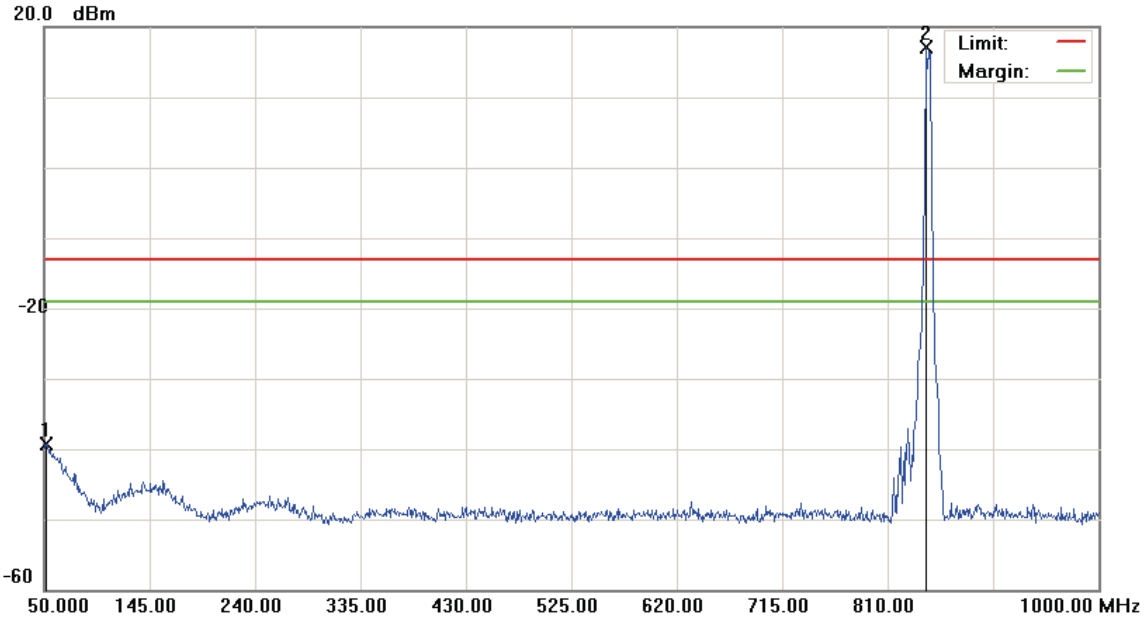
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0586	-62.11	31.45	-30.66	-13.00	-17.66	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4233) Data :#2 Date: 2012/11/30 Time: 下午 11:56:42



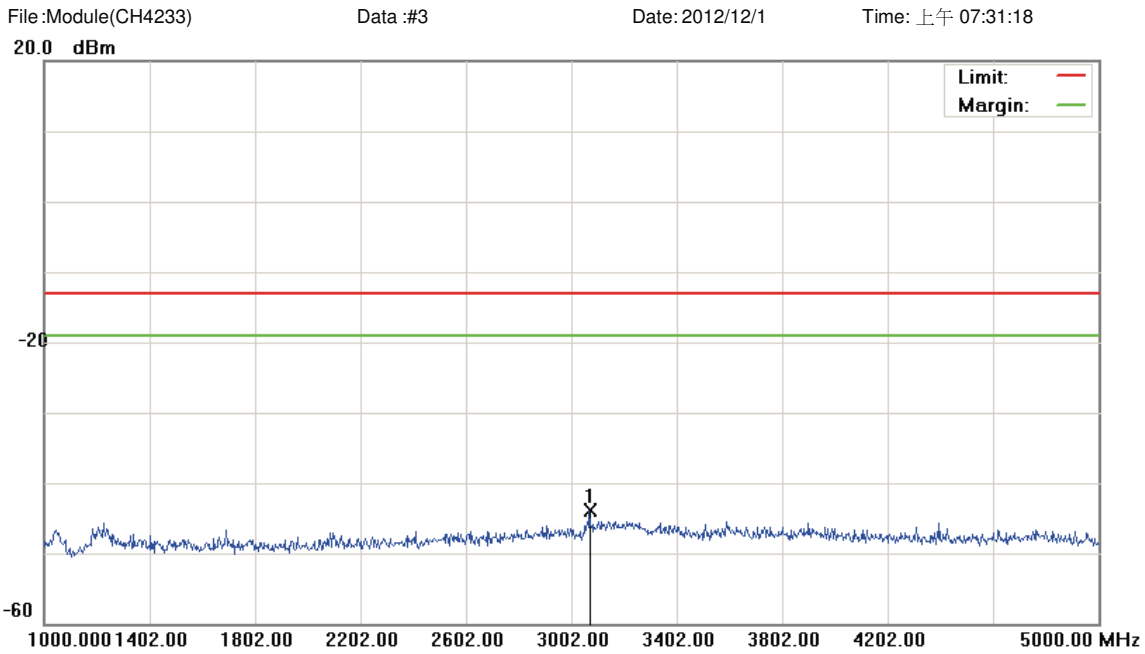
Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH High

Polarization: *Conducted po*
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		51.9000	-53.74	14.36	-39.38	-13.00	-26.38	peak			
2	*	845.1500	13.05	3.99	17.04	-13.00	30.04	peak			Tx

*:Maximum data x:Over limit !:over margin



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH High

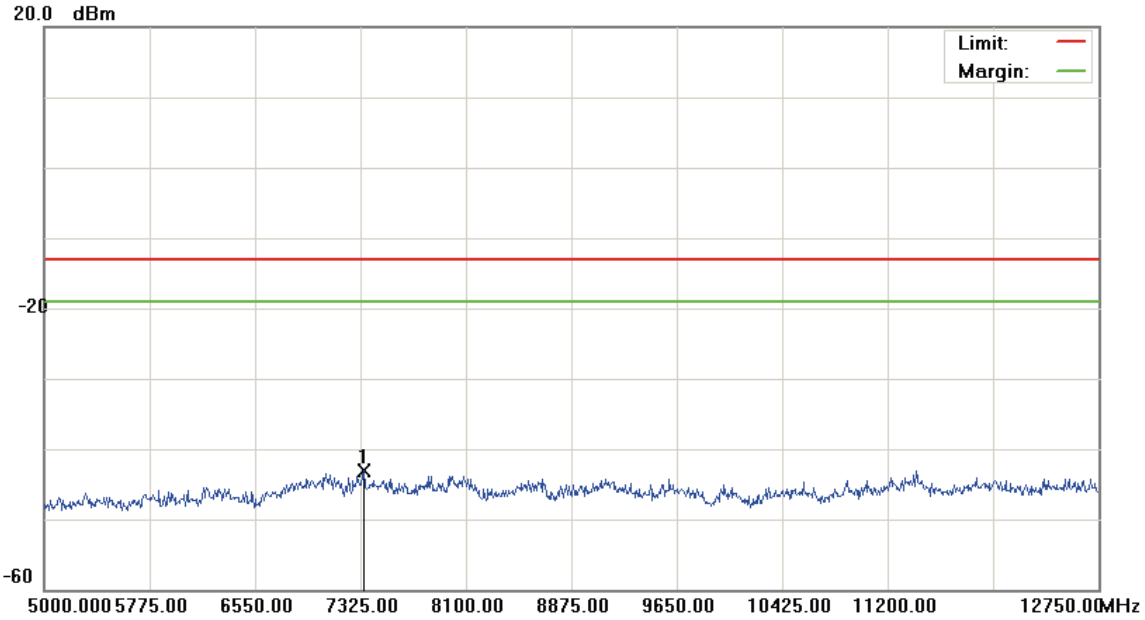
Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3070.000	-48.30	4.41	-43.89	-13.00	-30.89	peak			

*:Maximum data x:Over limit !:over margin

File :Module(CH4233) Data :#4 Date: 2012/12/1 Time: 上午 07:31:41



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Mobile Broadband Module
M/N: N5321
Mode: WCDMA Band V
Note: CH High

Polarization: Conducted po
Power: AC 120V/60Hz
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000 KHz VBW: 1000 KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7348.250	-48.09	5.03	-43.06	-13.00	-30.06	peak			

*:Maximum data x:Over limit !:over margin

7 Field Strength of Spurious Radiation Test

7.1. 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.

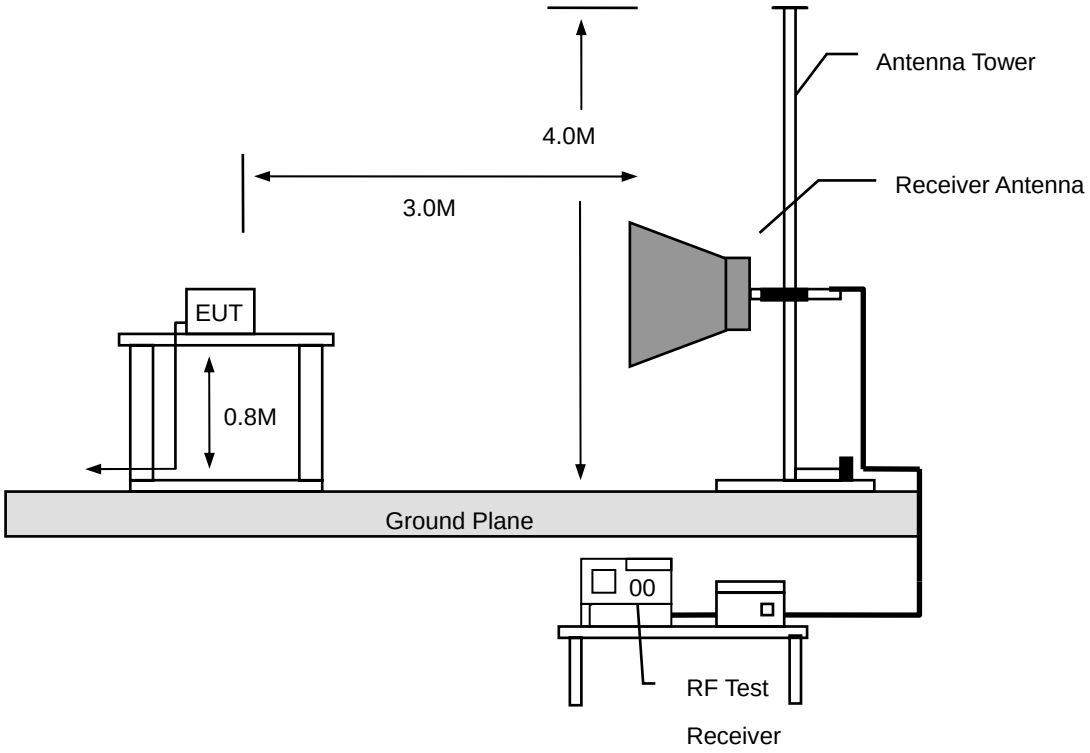
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

7.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

7.3. Setup



7.4. Test Procedure

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 unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is 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.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

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

7.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

7.6. Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	12/01/2012
Frequency:	824.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
159.0000	-55.22	1.13	-54.09	-13.00	-41.09	peak	H
260.0000	-57.23	-4.34	-61.57	-13.00	-48.57	peak	H
390.0000	-76.78	1.66	-75.12	-13.00	-62.12	peak	H
564.5000	-71.57	7.77	-63.80	-13.00	-50.80	peak	H
748.5000	-74.50	8.58	-65.92	-13.00	-52.92	peak	H
928.5000	-81.36	14.79	-66.57	-13.00	-53.57	peak	H
2572.000	-67.81	16.65	-51.16	-13.00	-38.16	peak	H
5068.000	-70.73	24.07	-46.66	-13.00	-33.66	peak	H
7624.000	-71.76	33.75	-38.01	-13.00	-25.01	peak	H
137.5000	-59.85	10.31	-49.54	-13.00	-36.54	peak	V
260.0000	-63.99	-1.56	-65.55	-13.00	-52.55	peak	V
390.0000	-69.84	1.49	-68.35	-13.00	-55.35	peak	V
540.0000	-80.33	4.26	-76.07	-13.00	-63.07	peak	V
665.5000	-76.60	9.44	-67.16	-13.00	-54.16	peak	V
780.0000	-77.14	11.28	-65.86	-13.00	-52.86	peak	V
2728.000	-68.31	18.27	-50.04	-13.00	-37.04	peak	V
5356.000	-72.51	27.63	-44.88	-13.00	-31.88	peak	V
7624.000	-71.24	30.91	-40.33	-13.00	-27.33	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	12/01/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
111.5000	-57.97	-4.95	-62.92	-13.00	-49.92	peak	H
260.0000	-57.75	-4.34	-62.09	-13.00	-49.09	peak	H
390.0000	-75.77	1.66	-74.11	-13.00	-61.11	peak	H
520.0000	-78.65	7.65	-71.00	-13.00	-58.00	peak	H
649.0000	-74.25	6.97	-67.28	-13.00	-54.28	peak	H
761.0000	-75.26	9.13	-66.13	-13.00	-53.13	peak	H
2524.000	-67.26	16.54	-50.72	-13.00	-37.72	peak	H
5248.000	-71.46	24.89	-46.57	-13.00	-33.57	peak	H
7684.000	-70.53	33.73	-36.80	-13.00	-23.80	peak	H
138.0000	-61.23	10.02	-51.21	-13.00	-38.21	peak	V
260.0000	-64.07	-1.56	-65.63	-13.00	-52.63	peak	V
390.0000	-69.54	1.49	-68.05	-13.00	-55.05	peak	V
501.0000	-79.18	2.75	-76.43	-13.00	-63.43	peak	V
686.5000	-78.42	9.76	-68.66	-13.00	-55.66	peak	V
791.5000	-76.52	11.61	-64.91	-13.00	-51.91	peak	V
2584.000	-69.53	17.22	-52.31	-13.00	-39.31	peak	V
5176.000	-71.75	27.37	-44.38	-13.00	-31.38	peak	V
7432.000	-72.63	31.01	-41.62	-13.00	-28.62	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	1	Date:	12/01/2012
Frequency:	848.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
111.0000	-57.10	-4.92	-62.02	-13.00	-49.02	peak	H
260.0000	-57.59	-4.34	-61.93	-13.00	-48.93	peak	H
390.0000	-75.14	1.66	-73.48	-13.00	-60.48	peak	H
576.5000	-68.85	7.63	-61.22	-13.00	-48.22	peak	H
761.0000	-73.15	9.13	-64.02	-13.00	-51.02	peak	H
948.0000	-78.69	14.84	-63.85	-13.00	-50.85	peak	H
3040.000	-67.74	17.85	-49.89	-13.00	-36.89	peak	H
5224.000	-71.70	24.79	-46.91	-13.00	-33.91	peak	H
7432.000	-72.26	33.62	-38.64	-13.00	-25.64	peak	H
106.0000	-59.18	-0.68	-59.86	-13.00	-46.86	peak	V
260.0000	-64.74	-1.56	-66.30	-13.00	-53.30	peak	V
390.0000	-69.94	1.49	-68.45	-13.00	-55.45	peak	V
542.0000	-79.17	4.28	-74.89	-13.00	-61.89	peak	V
684.0000	-79.90	9.68	-70.22	-13.00	-57.22	peak	V
945.5000	-81.28	12.64	-68.64	-13.00	-55.64	peak	V
2800.000	-67.51	18.79	-48.72	-13.00	-35.72	peak	V
5392.000	-71.23	27.69	-43.54	-13.00	-30.54	peak	V
7480.000	-71.19	31.07	-40.12	-13.00	-27.12	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	12/01/2012
Frequency:	1850.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
75.5000	-58.82	-2.83	-61.65	-13.00	-48.65	peak	H
246.0000	-64.83	-3.36	-68.19	-13.00	-55.19	peak	H
420.0000	-81.14	3.43	-77.71	-13.00	-64.71	peak	H
565.0000	-79.89	7.76	-72.13	-13.00	-59.13	peak	H
720.0000	-79.79	7.49	-72.30	-13.00	-59.30	peak	H
860.0000	-79.55	13.02	-66.53	-13.00	-53.53	peak	H
3172.000	-67.39	18.20	-49.19	-13.00	-36.19	peak	H
5272.000	-70.68	25.01	-45.67	-13.00	-32.67	peak	H
7456.000	-70.74	33.69	-37.05	-13.00	-24.05	peak	H
136.5000	-59.65	10.85	-48.80	-13.00	-35.80	peak	V
266.0000	-67.64	-0.82	-68.46	-13.00	-55.46	peak	V
390.0000	-71.31	1.49	-69.82	-13.00	-56.82	peak	V
526.0000	-80.17	3.45	-76.72	-13.00	-63.72	peak	V
720.0000	-78.07	10.86	-67.21	-13.00	-54.21	peak	V
862.5000	-81.11	11.52	-69.59	-13.00	-56.59	peak	V
2692.000	-67.48	18.01	-49.47	-13.00	-36.47	peak	V
4576.000	-70.11	26.34	-43.77	-13.00	-30.77	peak	V
7204.000	-70.94	30.77	-40.17	-13.00	-27.17	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	12/01/2012
Frequency:	1880.0 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
75.5000	-59.45	-2.83	-62.28	-13.00	-49.28	peak	H
246.0000	-64.22	-3.36	-67.58	-13.00	-54.58	peak	H
432.5000	-80.28	3.72	-76.56	-13.00	-63.56	peak	H
611.0000	-80.49	7.80	-72.69	-13.00	-59.69	peak	H
779.5000	-80.28	10.17	-70.11	-13.00	-57.11	peak	H
903.5000	-81.69	14.18	-67.51	-13.00	-54.51	peak	H
3316.000	-68.14	18.59	-49.55	-13.00	-36.55	peak	H
5800.000	-70.21	27.26	-42.95	-13.00	-29.95	peak	H
7936.000	-71.07	33.68	-37.39	-13.00	-24.39	peak	H
159.0000	-57.29	12.19	-45.10	-13.00	-32.10	peak	V
266.0000	-67.39	-0.82	-68.21	-13.00	-55.21	peak	V
390.0000	-71.69	1.49	-70.20	-13.00	-57.20	peak	V
564.0000	-79.69	4.69	-75.00	-13.00	-62.00	peak	V
720.0000	-76.93	10.86	-66.07	-13.00	-53.07	peak	V
871.5000	-81.71	11.20	-70.51	-13.00	-57.51	peak	V
3028.000	-68.46	20.39	-48.07	-13.00	-35.07	peak	V
5308.000	-71.18	27.56	-43.62	-13.00	-30.62	peak	V
7420.000	-71.13	31.00	-40.13	-13.00	-27.13	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	2	Date:	12/01/2012
Frequency:	1909.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
84.0000	-59.54	-2.07	-61.61	-13.00	-48.61	peak	H
245.5000	-64.21	-3.25	-67.46	-13.00	-54.46	peak	H
400.0000	-79.60	2.55	-77.05	-13.00	-64.05	peak	H
563.5000	-79.81	7.78	-72.03	-13.00	-59.03	peak	H
720.0000	-78.80	7.49	-71.31	-13.00	-58.31	peak	H
860.0000	-78.66	13.02	-65.64	-13.00	-52.64	peak	H
3148.000	-68.18	18.14	-50.04	-13.00	-37.04	peak	H
5296.000	-71.89	25.11	-46.78	-13.00	-33.78	peak	H
7504.000	-71.21	33.78	-37.43	-13.00	-24.43	peak	H
138.5000	-58.62	9.75	-48.87	-13.00	-35.87	peak	V
266.0000	-66.46	-0.82	-67.28	-13.00	-54.28	peak	V
390.0000	-71.30	1.49	-69.81	-13.00	-56.81	peak	V
570.0000	-79.46	5.14	-74.32	-13.00	-61.32	peak	V
720.0000	-77.26	10.86	-66.40	-13.00	-53.40	peak	V
850.0000	-80.35	11.49	-68.86	-13.00	-55.86	peak	V
2968.000	-68.67	20.00	-48.67	-13.00	-35.67	peak	V
5128.000	-70.76	27.30	-43.46	-13.00	-30.46	peak	V
7480.000	-71.73	31.07	-40.66	-13.00	-27.66	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	12/01/2012
Frequency:	1852.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
75.5000	-59.07	-2.83	-61.90	-13.00	-48.90	peak	H
200.5000	-67.93	2.83	-65.10	-13.00	-52.10	peak	H
370.0000	-80.07	0.41	-79.66	-13.00	-66.66	peak	H
521.0000	-78.72	7.67	-71.05	-13.00	-58.05	peak	H
680.0000	-80.11	7.02	-73.09	-13.00	-60.09	peak	H
840.0000	-77.82	12.10	-65.72	-13.00	-52.72	peak	H
3088.000	-68.31	17.99	-50.32	-13.00	-37.32	peak	H
5392.000	-71.78	25.55	-46.23	-13.00	-33.23	peak	H
7636.000	-70.74	33.75	-36.99	-13.00	-23.99	peak	H
136.5000	-58.71	10.85	-47.86	-13.00	-34.86	peak	V
266.5000	-66.36	-0.77	-67.13	-13.00	-54.13	peak	V
390.0000	-71.44	1.49	-69.95	-13.00	-56.95	peak	V
532.0000	-77.90	3.80	-74.10	-13.00	-61.10	peak	V
720.0000	-76.39	10.86	-65.53	-13.00	-52.53	peak	V
872.5000	-80.53	11.15	-69.38	-13.00	-56.38	peak	V
3088.000	-67.93	20.74	-47.19	-13.00	-34.19	peak	V
5248.000	-70.89	27.47	-43.42	-13.00	-30.42	peak	V
7636.000	-71.15	30.90	-40.25	-13.00	-27.25	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	12/01/2012
Frequency:	1880.0 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
84.0000	-58.77	-2.07	-60.84	-13.00	-47.84	peak	H
246.0000	-64.71	-3.36	-68.07	-13.00	-55.07	peak	H
435.0000	-80.29	3.79	-76.50	-13.00	-63.50	peak	H
598.5000	-79.98	7.91	-72.07	-13.00	-59.07	peak	H
755.5000	-80.46	8.88	-71.58	-13.00	-58.58	peak	H
911.0000	-82.02	14.43	-67.59	-13.00	-54.59	peak	H
3220.000	-68.19	18.33	-49.86	-13.00	-36.86	peak	H
5392.000	-71.99	25.55	-46.44	-13.00	-33.44	peak	H
7576.000	-71.09	33.76	-37.33	-13.00	-24.33	peak	H
158.5000	-56.89	11.96	-44.93	-13.00	-31.93	peak	V
266.0000	-67.40	-0.82	-68.22	-13.00	-55.22	peak	V
390.0000	-71.48	1.49	-69.99	-13.00	-56.99	peak	V
525.5000	-79.72	3.42	-76.30	-13.00	-63.30	peak	V
680.0000	-79.84	9.56	-70.28	-13.00	-57.28	peak	V
830.0000	-79.89	11.31	-68.58	-13.00	-55.58	peak	V
2992.000	-68.34	20.17	-48.17	-13.00	-35.17	peak	V
5152.000	-70.59	27.33	-43.26	-13.00	-30.26	peak	V
7384.000	-71.48	30.95	-40.53	-13.00	-27.53	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	5	Date:	12/01/2012
Frequency:	1907.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
75.5000	-59.18	-2.83	-62.01	-13.00	-49.01	peak	H
246.0000	-64.67	-3.36	-68.03	-13.00	-55.03	peak	H
433.0000	-80.78	3.74	-77.04	-13.00	-64.04	peak	H
557.5000	-79.59	7.86	-71.73	-13.00	-58.73	peak	H
697.0000	-80.69	6.96	-73.73	-13.00	-60.73	peak	H
840.0000	-79.88	12.10	-67.78	-13.00	-54.78	peak	H
2980.000	-69.62	17.68	-51.94	-13.00	-38.94	peak	H
5536.000	-71.88	26.21	-45.67	-13.00	-32.67	peak	H
7612.000	-70.80	33.77	-37.03	-13.00	-24.03	peak	H
159.5000	-57.26	12.45	-44.81	-13.00	-31.81	peak	V
266.5000	-67.34	-0.77	-68.11	-13.00	-55.11	peak	V
444.0000	-77.51	1.50	-76.01	-13.00	-63.01	peak	V
582.0000	-80.35	6.08	-74.27	-13.00	-61.27	peak	V
760.0000	-79.14	10.96	-68.18	-13.00	-55.18	peak	V
900.5000	-81.68	10.62	-71.06	-13.00	-58.06	peak	V
3004.000	-69.33	20.25	-49.08	-13.00	-36.08	peak	V
5380.000	-71.90	27.67	-44.23	-13.00	-31.23	peak	V
7444.000	-71.31	31.02	-40.29	-13.00	-27.29	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	12/01/2012
Frequency:	826.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
84.0000	-63.32	-2.07	-65.39	-13.00	-52.39	peak	H
246.0000	-63.45	-3.36	-66.81	-13.00	-53.81	peak	H
416.5000	-80.05	3.27	-76.78	-13.00	-63.78	peak	H
532.5000	-78.56	8.03	-70.53	-13.00	-57.53	peak	H
674.5000	-78.73	7.06	-71.67	-13.00	-58.67	peak	H
944.0000	-81.95	14.85	-67.10	-13.00	-54.10	peak	H
3100.000	-68.47	18.01	-50.46	-13.00	-37.46	peak	H
5464.000	-71.31	25.89	-45.42	-13.00	-32.42	peak	H
7492.000	-70.50	33.76	-36.74	-13.00	-23.74	peak	H
137.5000	-70.82	10.31	-60.51	-13.00	-47.51	peak	V
266.0000	-68.59	-0.82	-69.41	-13.00	-56.41	peak	V
390.0000	-72.14	1.49	-70.65	-13.00	-57.65	peak	V
532.5000	-80.17	3.83	-76.34	-13.00	-63.34	peak	V
668.5000	-77.87	9.46	-68.41	-13.00	-55.41	peak	V
742.0000	-74.57	10.53	-64.04	-13.00	-51.04	peak	V
2704.000	-66.95	18.10	-48.85	-13.00	-35.85	peak	V
5140.000	-70.48	27.32	-43.16	-13.00	-30.16	peak	V
7516.000	-70.95	31.07	-39.88	-13.00	-26.88	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	12/01/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
85.0000	-63.48	-1.73	-65.21	-13.00	-52.21	peak	H
245.5000	-63.75	-3.25	-67.00	-13.00	-54.00	peak	H
431.0000	-78.14	3.69	-74.45	-13.00	-61.45	peak	H
578.0000	-79.05	7.62	-71.43	-13.00	-58.43	peak	H
737.5000	-77.69	8.10	-69.59	-13.00	-56.59	peak	H
962.0000	-82.69	14.79	-67.90	-13.00	-54.90	peak	H
2920.000	-67.86	17.54	-50.32	-13.00	-37.32	peak	H
5128.000	-71.56	24.35	-47.21	-13.00	-34.21	peak	H
7480.000	-71.26	33.74	-37.52	-13.00	-24.52	peak	H
136.5000	-71.83	10.85	-60.98	-13.00	-47.98	peak	V
266.0000	-68.59	-0.82	-69.41	-13.00	-56.41	peak	V
390.0000	-73.21	1.49	-71.72	-13.00	-58.72	peak	V
536.5000	-80.83	4.07	-76.76	-13.00	-63.76	peak	V
634.0000	-80.49	8.70	-71.79	-13.00	-58.79	peak	V
755.0000	-76.11	10.84	-65.27	-13.00	-52.27	peak	V
2884.000	-68.81	19.39	-49.42	-13.00	-36.42	peak	V
5260.000	-71.58	27.49	-44.09	-13.00	-31.09	peak	V
7624.000	-72.00	30.91	-41.09	-13.00	-28.09	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	6	Date:	12/01/2012
Frequency:	846.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
84.5000	-64.31	-1.89	-66.20	-13.00	-53.20	peak	H
200.0000	-73.30	2.95	-70.35	-13.00	-57.35	peak	H
350.0000	-79.33	-0.26	-79.59	-13.00	-66.59	peak	H
491.5000	-77.98	6.45	-71.53	-13.00	-58.53	peak	H
616.5000	-79.75	7.74	-72.01	-13.00	-59.01	peak	H
785.0000	-81.14	10.44	-70.70	-13.00	-57.70	peak	H
3124.000	-69.68	18.08	-51.60	-13.00	-38.60	peak	H
5392.000	-71.66	25.55	-46.11	-13.00	-33.11	peak	H
7504.000	-71.22	33.78	-37.44	-13.00	-24.44	peak	H
137.5000	-71.44	10.31	-61.13	-13.00	-48.13	peak	V
266.5000	-68.13	-0.77	-68.90	-13.00	-55.90	peak	V
390.0000	-73.84	1.49	-72.35	-13.00	-59.35	peak	V
533.5000	-80.85	3.88	-76.97	-13.00	-63.97	peak	V
652.5000	-81.21	9.11	-72.10	-13.00	-59.10	peak	V
760.0000	-75.52	10.96	-64.56	-13.00	-51.56	peak	V
2704.000	-67.76	18.10	-49.66	-13.00	-36.66	peak	V
4852.000	-71.32	26.84	-44.48	-13.00	-31.48	peak	V
7456.000	-71.88	31.04	-40.84	-13.00	-27.84	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V / 60HZ
Model Number:	N5321	Temp.(℃)/Hum.(%RH):	23(℃)/55.2%RH
Mode:	7	Date:	12/01/2012
		Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2708.500	35.38	5.16	40.54	74.00	-33.46	peak	H
4850.500	34.29	11.78	46.07	74.00	-27.93	peak	H
6559.000	33.47	17.70	51.17	74.00	-22.83	peak	H
2836.000	37.74	5.48	43.22	74.00	-30.78	peak	V
5233.000	35.91	13.18	49.09	74.00	-24.91	peak	V
6278.500	35.26	16.73	51.99	74.00	-22.01	peak	V

8 Frequency Stability (Temperature & Voltage Variation) Test

8.1. Limit

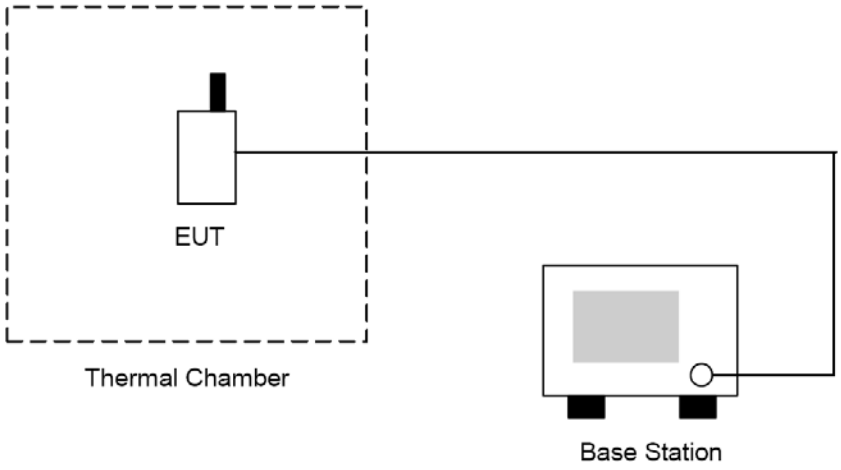
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

8.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	R & S	CMU200	109369	08/07/2012	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/07/2012	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

8.3. Setup



8.4. Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30℃ and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.
3. With power OFF, the temperature was raised in 10℃ steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The EUT was placed in a temperature chamber at 25±5 ℃ and connected as the following section.
5. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
6. The temperature tests were performed for the worst case.
7. Test data was recorded.

8.5. Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Temperature Variation) measurement is ± 10Hz.

8.6. Test Result

Model Number	N5321					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 1					
Date of Test	12/01/2012				Test Site	TE05
Level	Voltage [Vac]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	120	-30	-11	-0.013	±2.5	Pass
Normal	120	-20	-40	-0.048	±2.5	Pass
Normal	120	-10	22	0.026	±2.5	Pass
Normal	120	0	20	0.024	±2.5	Pass
Normal	120	10	25	0.030	±2.5	Pass
Battery full point	138	20	19	0.023	±2.5	Pass
Normal	120	20	28	0.033	±2.5	Pass
Battery cut-off point	102	20	24	0.029	±2.5	Pass
Normal	120	30	26	0.031	±2.5	Pass
Normal	120	40	-23	-0.027	±2.5	Pass
Normal	120	50	-21	-0.025	±2.5	Pass

Model Number	N5321					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 2					
Date of Test	12/01/2012				Test Site	TE05
Level	Voltage [Vac]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	120	-30	-55	-0.029	±2.5	Pass
Normal	120	-20	-64	-0.034	±2.5	Pass
Normal	120	-10	-77	-0.041	±2.5	Pass
Normal	120	0	-42	-0.022	±2.5	Pass
Normal	120	10	33	0.018	±2.5	Pass
Battery full point	138	20	-53	-0.028	±2.5	Pass
Normal	120	20	-21	-0.011	±2.5	Pass
Battery cut-off point	102	20	22	0.012	±2.5	Pass
Normal	120	30	-71	-0.038	±2.5	Pass
Normal	120	40	-60	-0.032	±2.5	Pass
Normal	120	50	-48	-0.026	±2.5	Pass

Model Number	N5321					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 5					
Date of Test	12/01/2012				Test Site	TE05
Level	Voltage [Vac]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	120	-30	-9	-0.005	±2.5	Pass
Normal	120	-20	11	0.006	±2.5	Pass
Normal	120	-10	15	0.008	±2.5	Pass
Normal	120	0	-4	-0.002	±2.5	Pass
Normal	120	10	6	0.003	±2.5	Pass
Battery full point	138	20	15	0.008	±2.5	Pass
Normal	120	20	-12	-0.006	±2.5	Pass
Battery cut-off point	102	20	18	0.010	±2.5	Pass
Normal	120	30	8	0.004	±2.5	Pass
Normal	120	40	10	0.005	±2.5	Pass
Normal	120	50	13	0.007	±2.5	Pass

Model Number	N5321					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 6					
Date of Test	12/01/2012				Test Site	TE05
Level	Voltage [Vac]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	120	-30	-10	-0.012	±2.5	Pass
Normal	120	-20	8	0.010	±2.5	Pass
Normal	120	-10	-4	-0.005	±2.5	Pass
Normal	120	0	-7	-0.008	±2.5	Pass
Normal	120	10	5	0.006	±2.5	Pass
Battery full point	138	20	2	0.002	±2.5	Pass
Normal	120	20	6	0.007	±2.5	Pass
Battery cut-off point	102	20	9	0.011	±2.5	Pass
Normal	120	30	-11	-0.013	±2.5	Pass
Normal	120	40	-8	-0.010	±2.5	Pass
Normal	120	50	-5	-0.006	±2.5	Pass