FCC 47 CFR PART 22H and 24E

Test Report

Product Type	:	Wireless module
Applicant	:	Telit Communications S.p.A.
Address	:	Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy
Trade Name	:	Telit
Model Number	:	HE920-NA
Test Specification	:	FCC 47 CFR PART 22H: Oct, 2012 FCC 47 CFR PART 24E: Oct, 2012 CANADA RSS-132 ISSUE 3: Jan. 2013 CANADA RSS-133 ISSUE 6: Jan. 2013 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI/TIA-603-C-2004
Application Purpose	:	Class II Permissive Change
Receive Date	:	Nov. 20, 2013
Test Period	:	Nov. 25 ~Dec. 04, 2013
Issue Date	:	Feb. 26, 2014

Issue by

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

Revision History

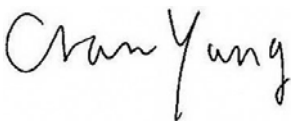
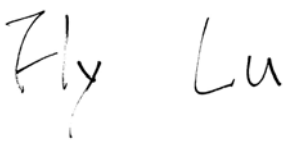
Rev.	Issue Date	Revisions	Revised By
00	Jan. 27, 2014	Initial Issue	
01	Feb. 26, 2014	Revised class II permissive change description and chapter 5 data.	Peggy Chang

Verification of Compliance

Issued Date: 02/26/2014

Product Type	:	Wireless module
Applicant	:	Telit Communications S.p.A.
Address	:	Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy
Trade Name	:	Telit
Model Number	:	HE920-NA
FCC ID	:	RI7HE920NA
IC	:	5131B-HE920NA
EUT Rated Voltage	:	DC 3.8V
Test Voltage	:	DC 3.8V
Applicable Standard	:	FCC 47 CFR PART 22H: Oct, 2012 FCC 47 CFR PART 24E: Oct, 2012 CANADA RSS-132 ISSUE 3: Jan. 2013 CANADA RSS-133 ISSUE 6: Jan. 2013 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI/TIA-603-C-2004
Application Purpose	:	Class II Permissive Change
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)		(Cran Yang)	(Testing Engineer)		(Fly Lu)

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1 General Information

1.1. EUT Description

Applicant		Telit Communications S.p.A.			
Applicant Address		Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy			
Manufacturer		Telit Communications S.p.A.			
Manufacturer Address		Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy			
Product Type		Wireless module			
Trade Name		Telit			
Model Number		HE920-NA			
Class II Permissive Change Description		[Hardware changes] From version 1.00 to 1.10 For HE920-NA, three duplexers respectively for WCDMA FDD II, IV, V have been replaced with smaller ones and several related matching values have been changed. For both HE920-NA, WCDMA Rx diversity antenna switch has been replaced with smaller one from same vendor. For both HE920-NA, PCB has been modified just to reflect the changes described above. GSM and all other parts are 100% same as before. [Software changes] From version 14.10.001 to 14.12.000-B028 For HE920-NA, Qualcomm MDM6200 baseline upgraded to 3.5. Captured differences below have nothing to do with protocols. For HE920-NA, GPRS and EGPRS multi slot class changed from 33 to 10 For HE920-NA, DTM mode class changed from 11 to 9 For HE920-NA, GPS disabled All other changes are related to AT command interfaces and have no influences on previous certifications.			
FCC ID		RI7HE920NA			
IC		5131B-HE920NA			
Mode	GSM/GPRS/EGPRS/DTM	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 (RMC12.2K)/ HSDPA/ HSUPA/ HSPA+	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			
Type of Antenna		Dipole Antenna			
Antenna Gain (dBi)		GSM/GPRS/EGPRS/DTM 850 : 6.79 dBi GSM/GPRS/EGPRS/DTM 1900 : 3.01 dBi WCDMA/ HSDPA/ HSUPA/HSPA+ Band II : 3.01 dBi WCDMA/ HSDPA/ HSUPA/HSPA+ Band V : 6.79 dBi			

Max. RF Output power	GSM/GPRS 850	:	32.98 dBm	/	1.986 W
	EGPRS 850	:	29.86 dBm	/	0.968 W
	DTM 850	:	32.95 dBm	/	1.972 W
	GSM/GPRS 1900	:	29.12 dBm	/	0.817 W
	EGPRS 1900	:	28.34 dBm	/	0.682 W
	DTM 1900	:	28.77 dBm	/	0.753 W
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band II	:	26.68 dBm	/	0.466 W
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band V	:	27.23 dBm	/	0.528 W
Max. ERP/EIRP	GSM 850	:	37.62 dBm	/	5.781 W
	EGPRS 850	:	34.50 dBm	/	2.818 W
	GSM 1900	:	32.13 dBm	/	1.633 W
	EGPRS 1900	:	31.35 dBm	/	1.365 W
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band II	:	29.69 dBm	/	0.931 W
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band V	:	31.96 dBm	/	1.570 W
Emission Designator	GSM/GPRS 850	:	249KGXW		
	EGPRS 850	:	250KG7W		
	GSM/GPRS 1900	:	249KGXW		
	EGPRS 1900	:	248KG7W		
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band II	:	4M17F9W		
	WCDMA/ HSDPA/ HSUPA/HSPA+ Band V	:	4M17F9W		

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:

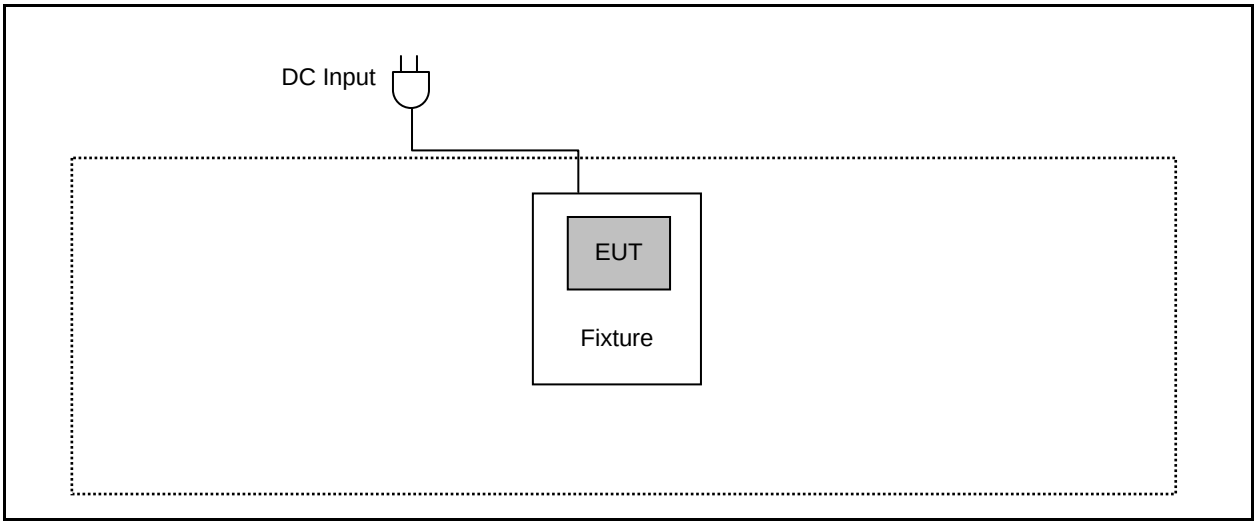
Test Mode
Mode 1: GSM 850 Link Mode
Mode 2: GSM 1900 Link Mode
Mode 3: EGPRS 850 Link Mode
Mode 4: EGPRS 1900 Link Mode
Mode 5: WCDMA Band II Link Mode
Mode 6: WCDMA Band V Link Mode
Mode 7: Receive Link Mode

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



1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
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
Peak to average ratio	§24.232(d)	RSS-133 (6.4)	< 13 dB	Pass
Emission Bandwidth & 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

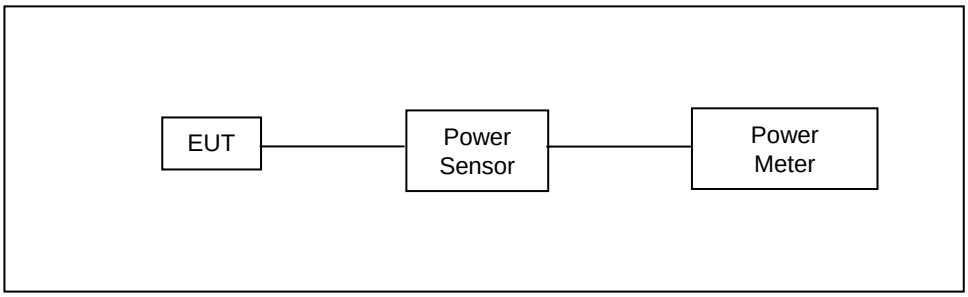
N/A

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	HE920-NA						
Test Item	RF Output Power						
Date of Test	11/25/2013			Test Site		TE05	
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GSM 850	GMSK	-----	824.2	32.38	1.730	32.68	1.854
			836.6	32.52	1.786	32.87	1.936
			848.8	32.63	1.832	**32.98**	**1.986**
GRRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	824.2	32.21	1.663	32.49	1.774
			836.6	32.38	1.730	32.71	1.866
			848.8	32.45	1.758	32.79	1.901
		3Down2Up (Duty Factor 2/8)	824.2	32.09	1.618	32.40	1.738
			836.6	32.19	1.656	32.50	1.778
			848.8	32.28	1.690	32.59	1.816
EGPRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5	8PSK	4Down1Up (Duty Factor 1/8)	824.2	26.55	0.452	29.62	0.916
			836.6	26.66	0.463	29.66	0.925
			848.8	26.73	0.471	**29.86**	**0.968**
		3Down2Up (Duty Factor 2/8)	824.2	26.03	0.401	29.28	0.847
			836.6	26.08	0.406	29.32	0.855
			848.8	26.12	0.409	29.38	0.867
DTM 850 (GSM+ GPRS) Multi Class :9 Max Up:2 Max Down:4 Sum:5	GMSK	3Down2Up (Duty Factor 2/8)	824.2	31.90	1.549	32.13	1.633
			836.6	31.96	1.570	32.20	1.660
			848.8	32.00	1.585	32.28	1.690
DTM 850 (GSM+ EGPRS) Multi Class :9 Max Up:2 Max Down:4 Sum:5	GMSK+ 8PSK	3Down2Up (Duty Factor 2/8)	824.2	25.02	0.318	32.66	1.845
			836.6	25.11	0.324	32.85	1.928
			848.8	25.14	0.327	**32.95**	**1.972**

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

Model Number	HE920-NA						
Test Item	RF Output Power						
Date of Test	11/25/2013			Test Site		TE05	
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
				(dBm)	(W)	(dBm)	(W)
GSM 1900	GMSK	-----	1850.2	28.69	0.740	28.87	0.771
			1880.0	28.72	0.745	28.96	0.787
			1909.8	28.82	0.762	**29.12**	**0.817**
GRRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	1850.2	28.54	0.714	28.73	0.746
			1909.8	28.59	0.723	28.82	0.762
			1909.8	28.66	0.735	28.95	0.785
		3Down2Up (Duty Factor 2/8)	1850.2	28.49	0.706	28.66	0.735
			1909.8	28.51	0.710	28.74	0.748
			1909.8	28.56	0.718	28.81	0.760
EGPRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:5	8PSK	4Down1Up (Duty Factor 1/8)	1850.2	25.02	0.318	**28.34**	**0.682**
			1880.0	24.89	0.308	28.22	0.664
			1909.8	24.81	0.303	28.21	0.662
		3Down2Up (Duty Factor 2/8)	1850.2	24.93	0.311	28.21	0.662
			1909.8	24.76	0.299	28.17	0.656
			1909.8	24.67	0.293	28.02	0.634
DTM 1900 (GSM+ GPRS) Multi Class :9 Max Up:2 Max Down:4 Sum:5	GMSK	3Down2Up (Duty Factor 3/8)	1850.2	27.80	0.603	27.87	0.612
			1909.8	27.89	0.615	28.05	0.638
			1909.8	28.00	0.631	28.18	0.658
DTM 1900 (GSM+ EGPRS) Multi Class :9 Max Up:2 Max Down:4 Sum:5	GMSK+ 8PSK	3Down2Up (Duty Factor 3/8)	1850.2	24.50	0.282	**28.77**	**0.753**
			1909.8	24.21	0.264	28.72	0.745
			1909.8	24.14	0.259	28.58	0.721

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

Model Number	HE920-NA						
Test Item	RF Output Power						
Date of Test	11/25/2013			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	23.28	0.213	**26.68**	**0.466**
			1880.0	23.09	0.204	26.59	0.456
			1907.6	23.02	0.200	26.51	0.448
HSDPA Band II	QPSK	1	1852.4	22.40	0.174	25.80	0.380
			1880.0	22.27	0.169	25.71	0.372
			1907.6	22.03	0.160	25.51	0.356
		2	1852.4	22.41	0.174	25.81	0.381
			1880.0	22.29	0.169	25.73	0.374
			1907.6	22.01	0.159	25.46	0.352
		3	1852.4	21.88	0.154	25.28	0.337
			1880.0	21.76	0.150	25.20	0.331
			1907.6	21.53	0.142	25.01	0.317
		4	1852.4	21.88	0.154	25.28	0.337
			1880.0	21.74	0.149	25.18	0.330
			1907.6	21.50	0.141	24.98	0.315
HSUPA/HSPA Band II	QPSK	1	1852.4	21.93	0.156	25.33	0.341
			1880.0	21.80	0.151	25.24	0.334
			1907.6	21.50	0.141	24.99	0.316
		2	1852.4	19.93	0.098	23.33	0.215
			1880.0	19.79	0.095	23.23	0.210
			1907.6	19.52	0.090	23.01	0.200
		3	1852.4	20.95	0.124	24.35	0.272
			1880.0	20.81	0.121	24.25	0.266
			1907.6	20.53	0.113	24.02	0.252
		4	1852.4	19.92	0.098	23.32	0.215
			1880.0	19.78	0.095	23.22	0.210
			1907.6	19.53	0.090	23.02	0.200
		5	1852.4	21.91	0.155	25.31	0.340
			1880.0	21.83	0.152	25.28	0.337
			1907.6	21.52	0.142	25.01	0.317

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

Model Number	HE920-NA						
Test Item	RF Output Power						
Date of Test	11/25/2013			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	23.69	0.234	**27.23**	**0.528**
			836.6	23.60	0.229	27.14	0.518
			846.6	24.00	0.251	27.32	0.540
HSDPA Band V	QPSK	1	826.4	22.38	0.173	25.88	0.387
			836.6	22.26	0.168	25.79	0.379
			846.6	22.71	0.187	26.03	0.401
		2	826.4	22.35	0.172	25.85	0.385
			836.6	22.24	0.167	25.77	0.378
			846.6	22.68	0.185	26.00	0.398
		3	826.4	21.88	0.154	25.38	0.345
			836.6	21.77	0.150	25.30	0.339
			846.6	22.21	0.166	25.53	0.357
		4	826.4	21.86	0.153	25.36	0.344
			836.6	21.75	0.150	25.28	0.337
			846.6	22.22	0.167	25.54	0.358
HSUPA/HAPA Band V	QPSK	1	826.4	21.88	0.154	25.34	0.342
			836.6	21.74	0.149	25.28	0.337
			846.6	22.22	0.167	25.53	0.357
		2	826.4	19.90	0.098	23.36	0.217
			836.6	19.75	0.094	23.29	0.213
			846.6	20.22	0.105	23.53	0.225
		3	826.4	20.90	0.123	24.36	0.273
			836.6	20.75	0.119	24.29	0.269
			846.6	21.22	0.132	24.53	0.284
		4	826.4	19.88	0.097	23.34	0.216
			836.6	19.73	0.094	23.27	0.212
			846.6	20.20	0.105	23.51	0.224
		5	826.4	21.84	0.153	25.30	0.339
			836.6	21.72	0.149	25.26	0.336
			846.6	22.20	0.166	25.51	0.356

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.

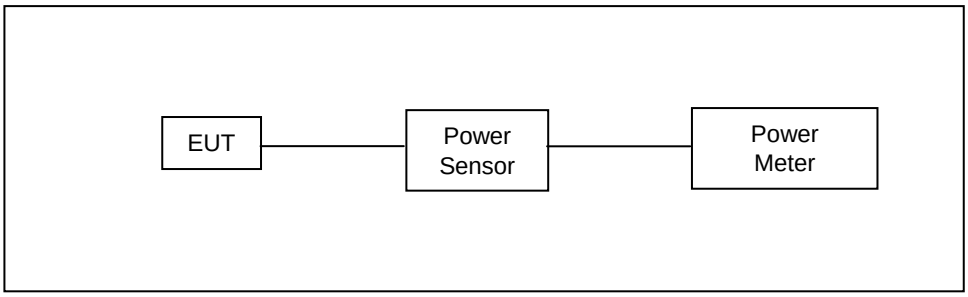
For FCC Part 24.232(b): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

3.2. Test Instruments

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.

3.3. Test Setup



3.4. 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.

3.5. Uncertainty

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

3.6. Test Result

Model Number	HE920-NA						
Test Item	ERP/EIRP						
Date of Test	11/25/2013				Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Peak Conducted power (dBm)	Antenna Gain (dBi)	ERP		Limit
					(dBm)	(W)	
GSM 850	GMSK	824.2	32.68	6.79	37.32	5.395	< 7W
		836.6	32.87	6.79	37.51	5.636	< 7W
		848.8	32.98	6.79	**37.62**	**5.781**	< 7W
EGPRS 850	8PSK	824.2	29.62	6.79	34.26	2.667	< 7W
		836.6	29.66	6.79	34.30	2.692	< 7W
		848.8	29.86	6.79	**34.50**	**2.818**	< 7W

Model Number	HE920-NA						
Test Item	ERP/EIRP						
Date of Test	11/25/2013				Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Peak Conducted power (dBm)	Antenna Gain (dBi)	EIRP		Limit
					(dBm)	(W)	
GSM 1900	GMSK	1850.20	28.87	3.01	31.88	1.542	< 2W
		1880.00	28.96	3.01	31.97	1.574	< 2W
		1909.80	29.12	3.01	**32.13**	**1.633**	< 2W
EGPRS 1900	8PSK	1850.20	28.34	3.01	**31.35**	**1.365**	< 2W
		1880.00	28.22	3.01	31.23	1.327	< 2W
		1909.80	28.21	3.01	31.22	1.324	< 2W

Model Number	HE920-NA						
Test Item	ERP/EIRP						
Date of Test	11/25/2013				Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Peak Conducted power (dBm)	Antenna Gain (dBi)	EIRP		Limit
					(dBm)	(W)	
WCDMA Band II	QPSK	1852.4	26.68	3.01	**29.69**	**0.931**	< 2W
		1880.0	26.59	3.01	29.60	0.912	< 2W
		1907.6	26.51	3.01	29.52	0.895	< 2W

Note: ERP = Peak Conducted power + Antenna Gain - 2.15, EIRP = Peak Conducted power + Antenna Gain

Model Number	HE920-NA						
Test Item	ERP/EIRP						
Date of Test	11/25/2013				Test Site	TE01	
Bands	Modulation Type	Frequency (MHz)	Peak Conducted power (dBm)	Antenna Gain (dBi)	ERP		Limit
					(dBm)	(W)	
WCDMA Band V	QPSK	826.4	27.23	6.79	31.87	1.538	< 7W
		836.6	27.14	6.79	31.78	1.507	< 7W
		846.6	27.32	6.79	**31.96**	**1.570**	< 7W

Note: ERP = Peak Conducted power + Antenna Gain - 2.15, EIRP = Peak Conducted power + Antenna Gain

4 Peak to Average Ratio Test

4.1. Limit

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

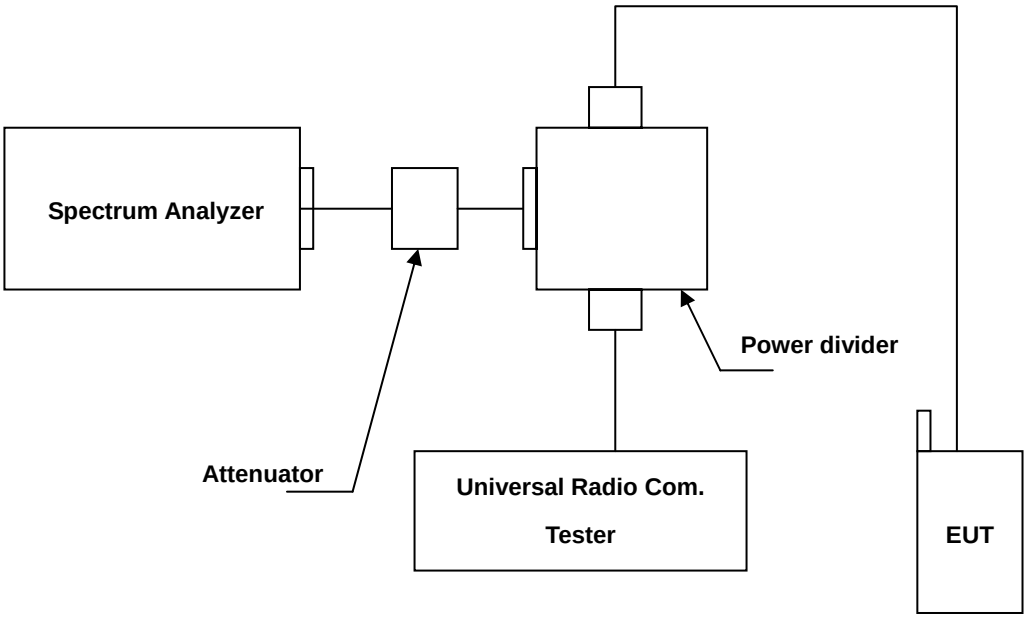
4.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2013	(1)
Wideband Radio Communication Test	R & S	CMW500	103168	11/05/2013	(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 24:

a. Set resolution/measurement bandwidth signal's occupied bandwidth;

b. Set the number of counts to a value that stabilizes the measured CCDF curve;

c. Record the maximum PAPR level associated with a probability of 0.1%.

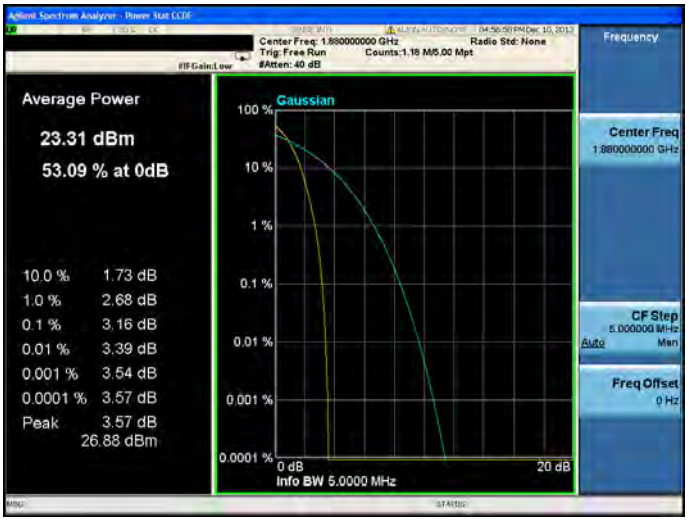
4.5. Uncertainty

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

4.6. Test Result

Model Number	HE920-NA				
Test Item	Peak to Average Ratio				
Date of Test	12/11/2013			Test Site	TE05
Bands	Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)	
WCDMA Band II	9262	1852.4	3.17	< 13	
	9400	1880.0	3.16	< 13	
	9538	1907.6	3.27	< 13	

4.7. Test Graphs

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

5 Emission Bandwidth & Occupied Bandwidth Test

5.1. Limit

The Occupied Bandwidth Limit:

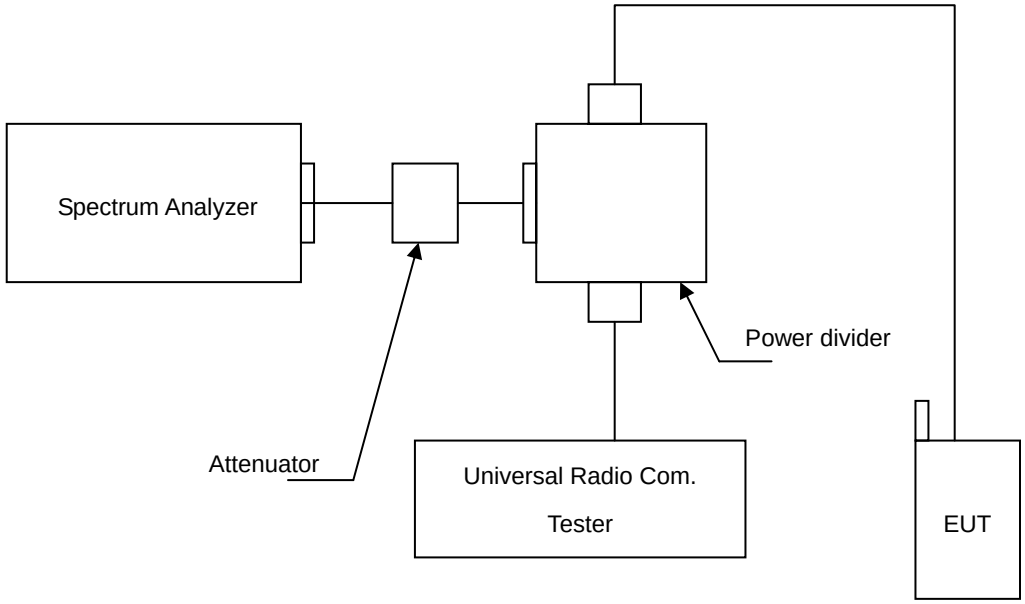
N/A.

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	05/16/2013	(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:

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.

5.5. Uncertainty

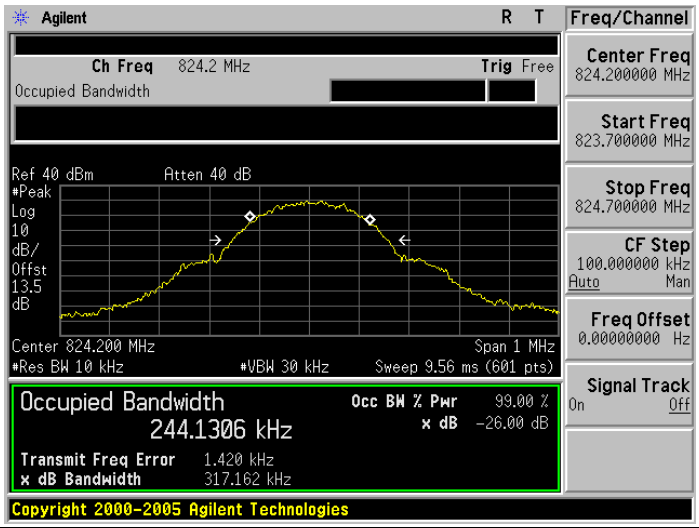
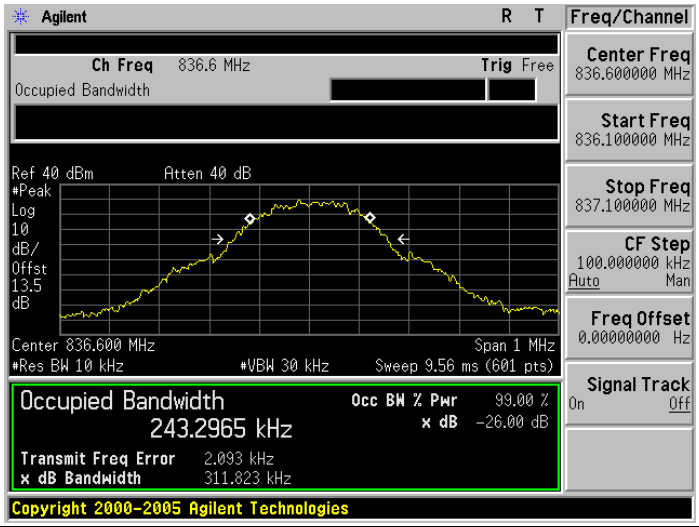
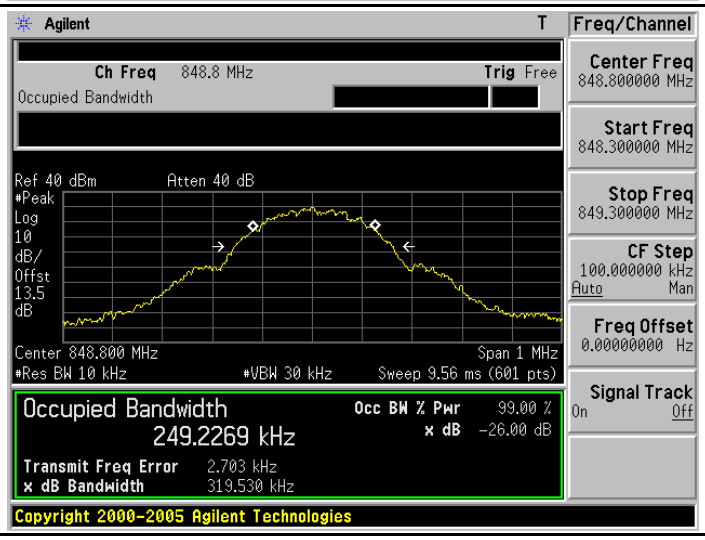
The measurement uncertainty is defined as ± 10Hz

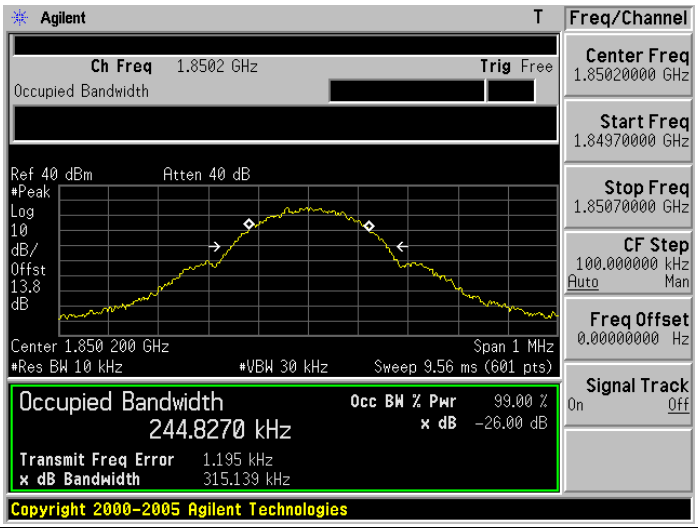
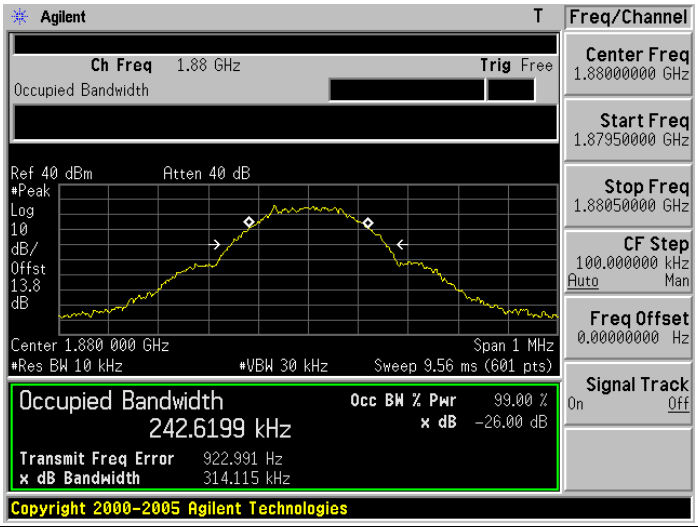
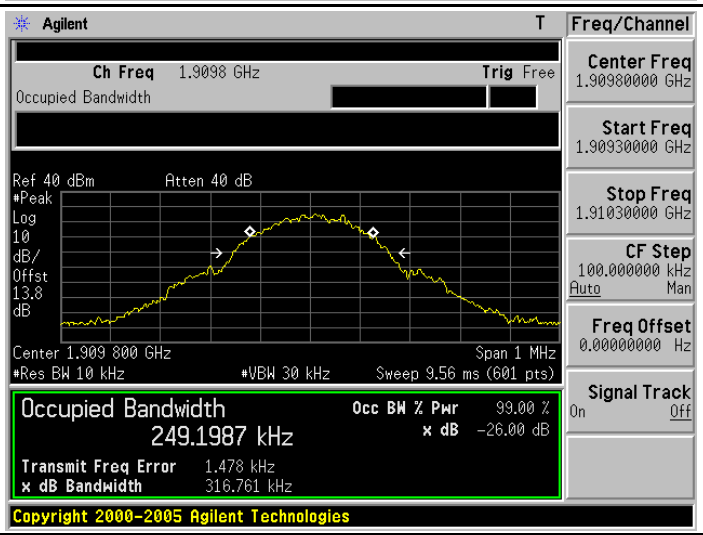
5.6. Test Result

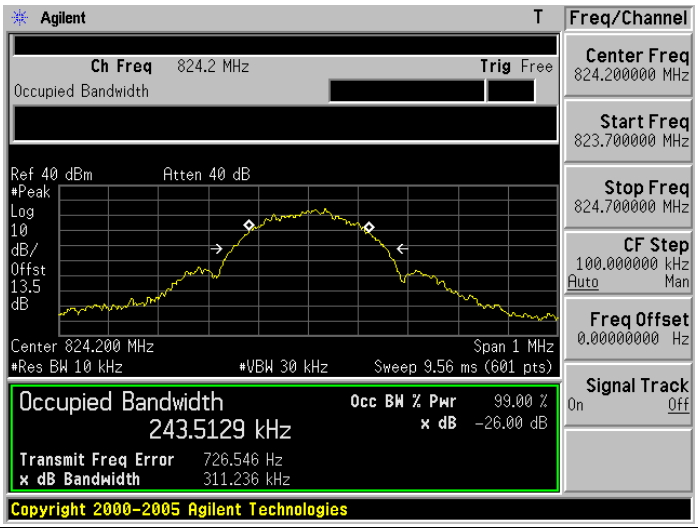
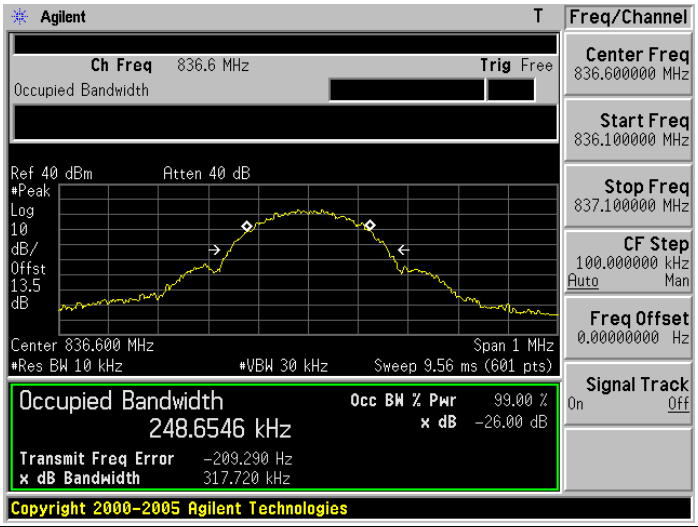
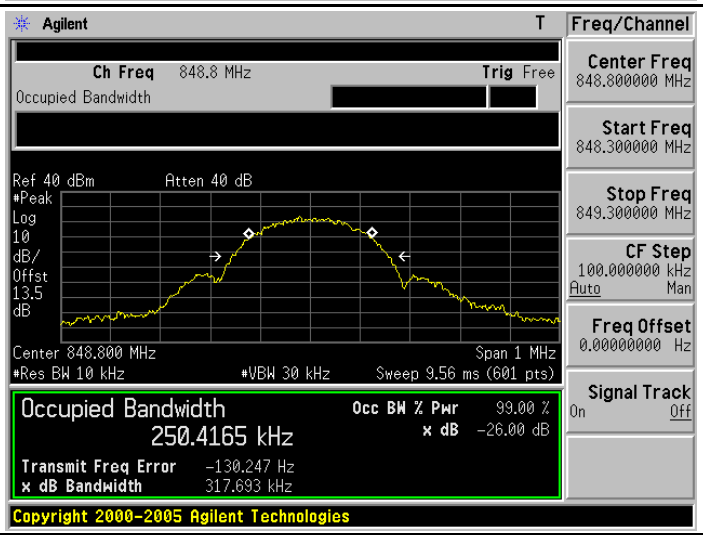
Model Number	HE920-NA				
Test Item	Emission Bandwidth & Occupied Bandwidth				
Date of Test	12/04/2013			Test Site	TE05
Bands	Channel	Frequency (MHz)	-26dB Bandwidth (kHz)	99% Bandwidth (kHz)	Note
GSM 850	128	824.2	317.162	244.1306	RBW:10KHz , VBW:30KHz
	190	836.6	311.823	243.2965	RBW:10KHz , VBW:30KHz
	251	848.8	319.530	249.2269	RBW:10KHz , VBW:30KHz
GSM 1900	512	1850.20	315.139	244.8270	RBW:10KHz , VBW:30KHz
	661	1880.00	314.115	242.6199	RBW:10KHz , VBW:30KHz
	810	1909.80	316.761	249.1987	RBW:10KHz , VBW:30KHz
EGPRS 850	128	824.2	311.236	243.5129	RBW:10KHz , VBW:30KHz
	190	836.6	317.720	248.6546	RBW:10KHz , VBW:30KHz
	251	848.8	317.693	250.4165	RBW:10KHz , VBW:30KHz
EGPRS 1900	512	1850.20	314.945	240.6707	RBW:10KHz , VBW:30KHz
	661	1880.00	313.015	247.1433	RBW:10KHz , VBW:30KHz
	810	1909.80	314.560	247.9683	RBW:10KHz , VBW:30KHz

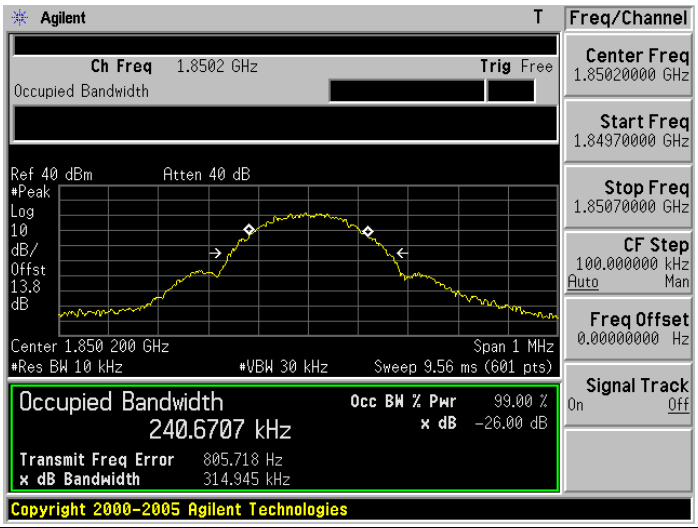
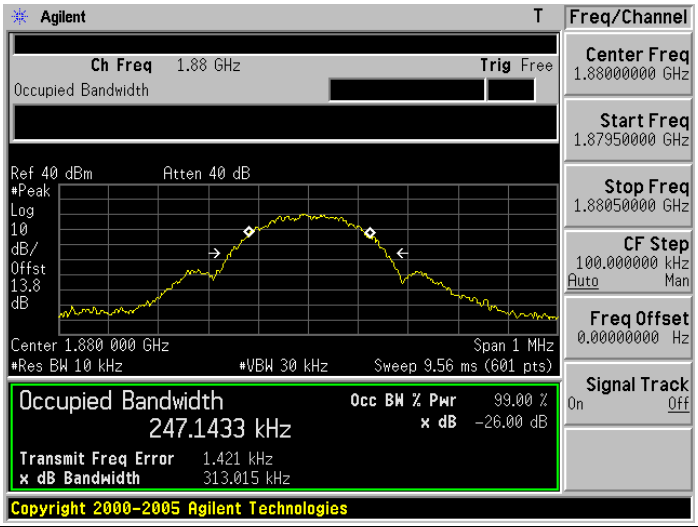
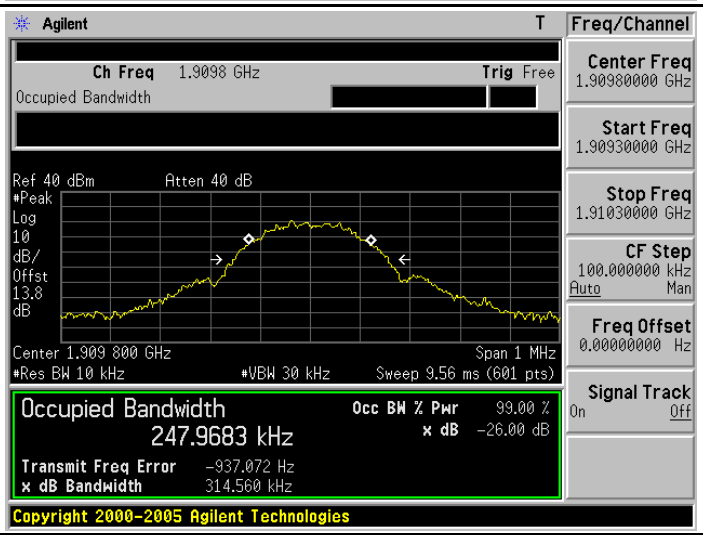
Model Number	HE920-NA				
Test Item	Emission Bandwidth & Occupied Bandwidth				
Date of Test	11/25/2013			Test Site	TE05
Bands	Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Note
WCDMA Band II	9262	1852.4	4.677	4.1558	RBW:100KHz , VBW:300KHz
	9400	1880.0	4.675	4.1714	RBW:100KHz , VBW:300KHz
	9538	1907.6	4.655	4.1282	RBW:100KHz , VBW:300KHz
WCDMA Band V	4132	826.4	4.673	4.1441	RBW:100KHz , VBW:300KHz
	4183	836.6	4.664	4.1486	RBW:100KHz , VBW:300KHz
	4233	846.6	4.663	4.1650	RBW:100KHz , VBW:300KHz

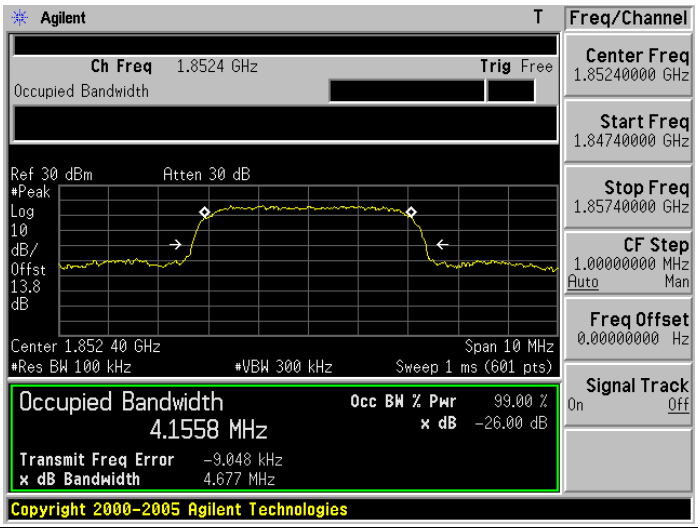
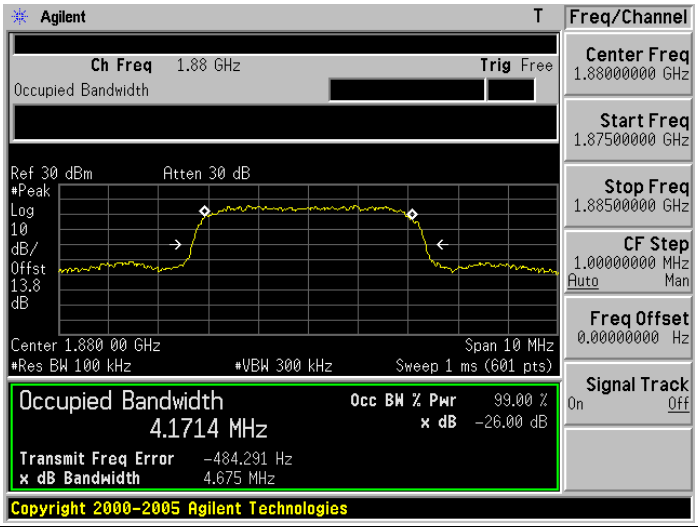
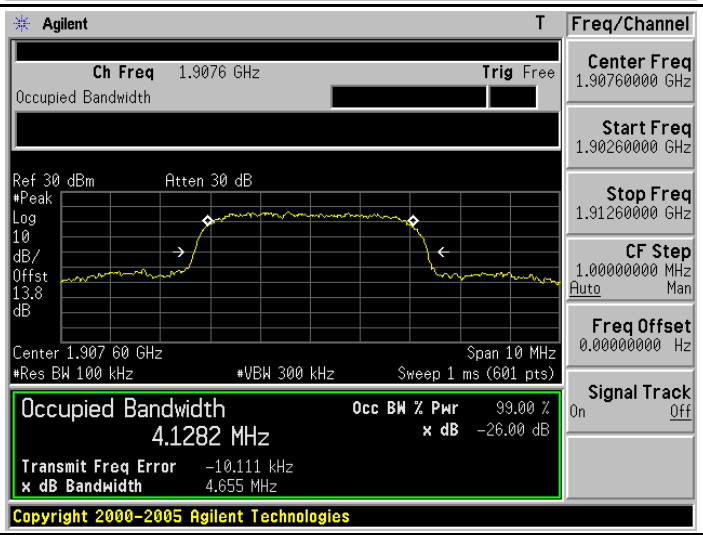
5.7. Test Graphs

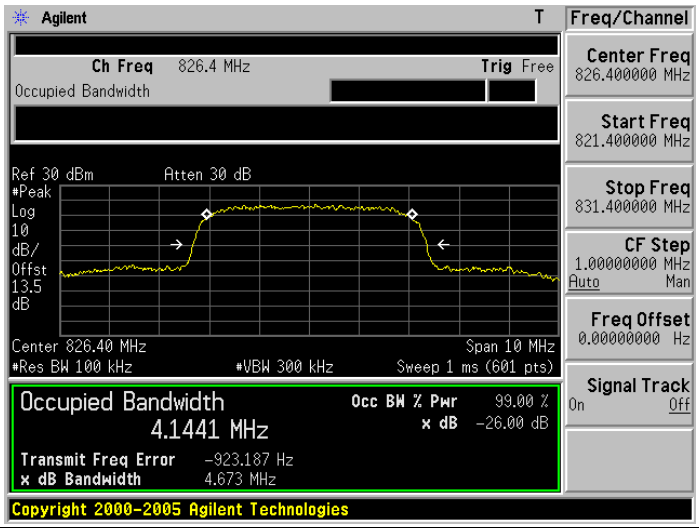
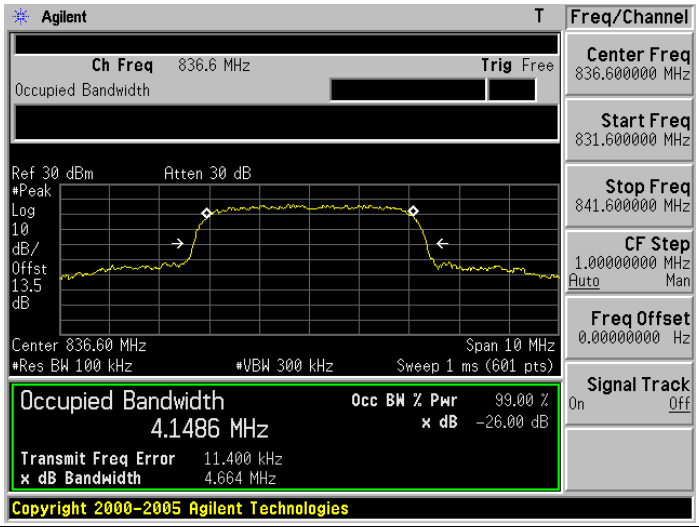
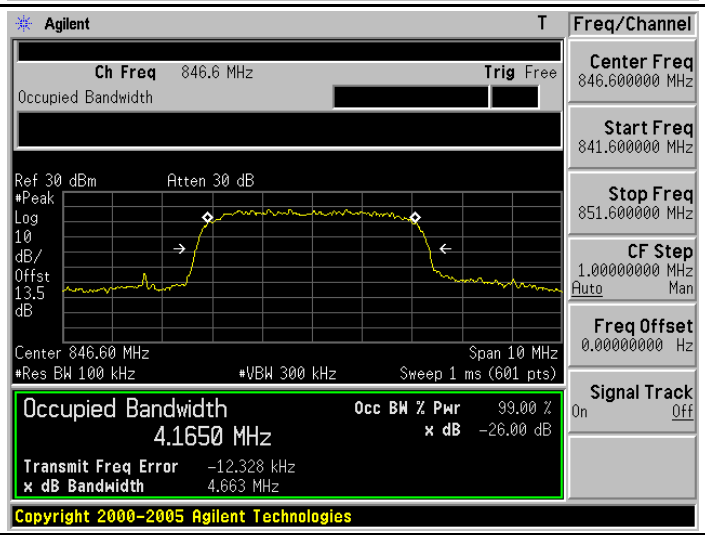
Mode 1: GSM 850 Link Mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 2: GSM 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	

6 Band Edge Test

6.1. Limit

The Band Edge Limit:

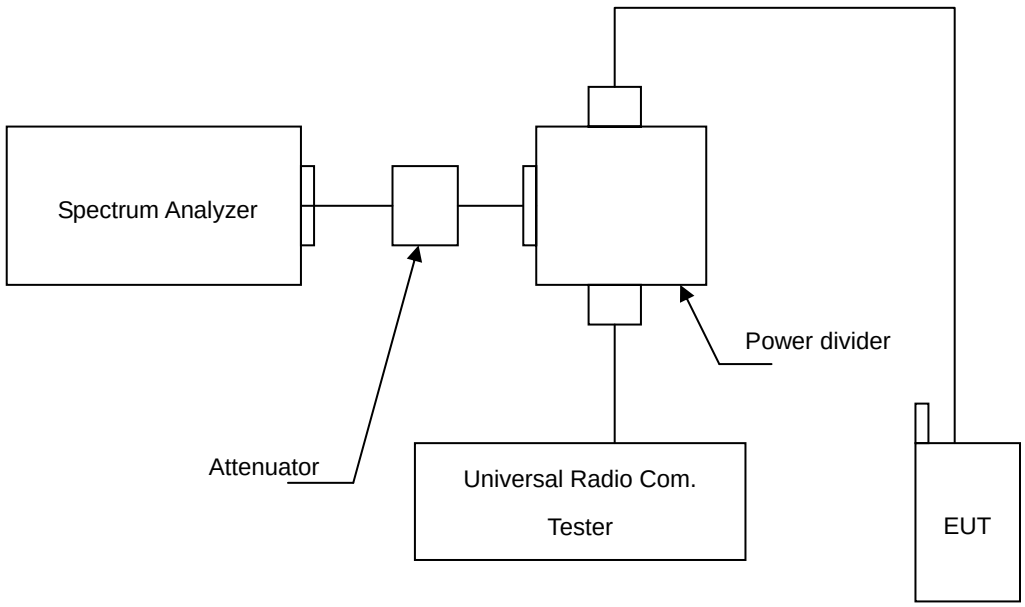
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

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	05/16/2013	(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



6.4. 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 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.
3. 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.

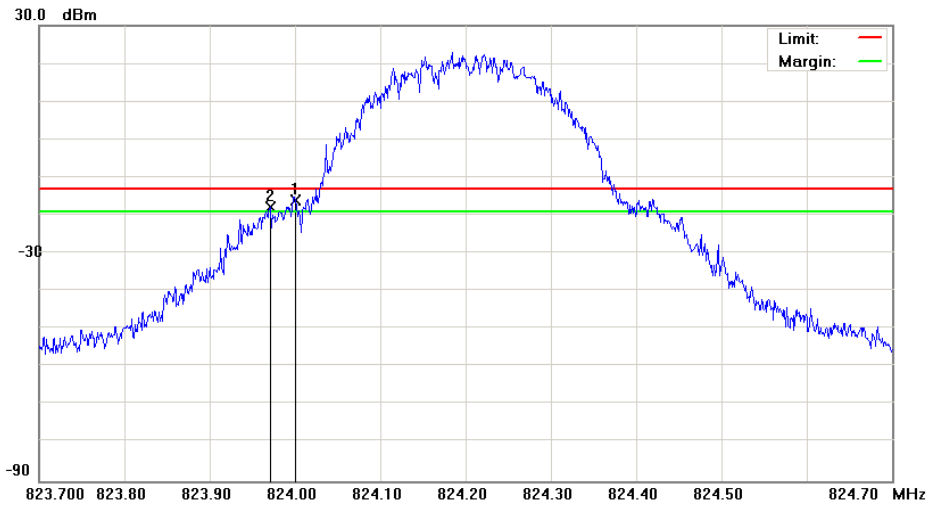
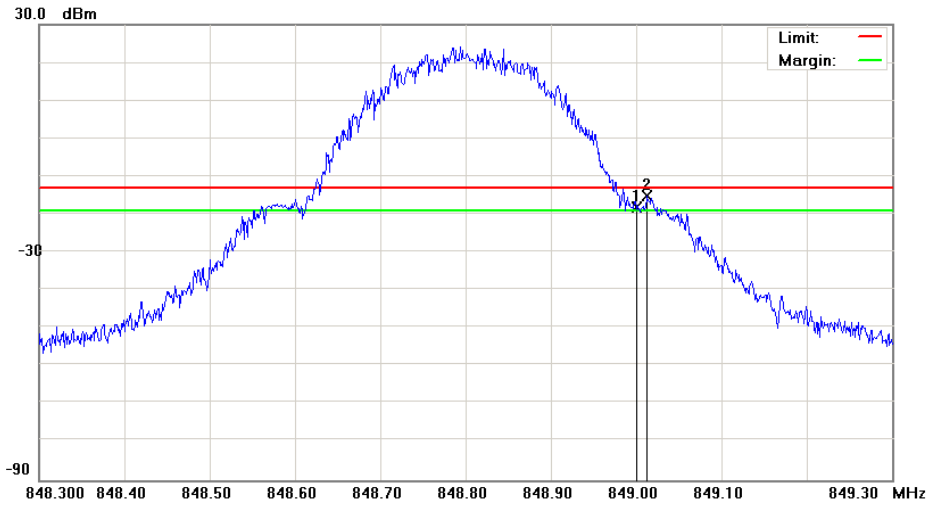
6.5. Uncertainty

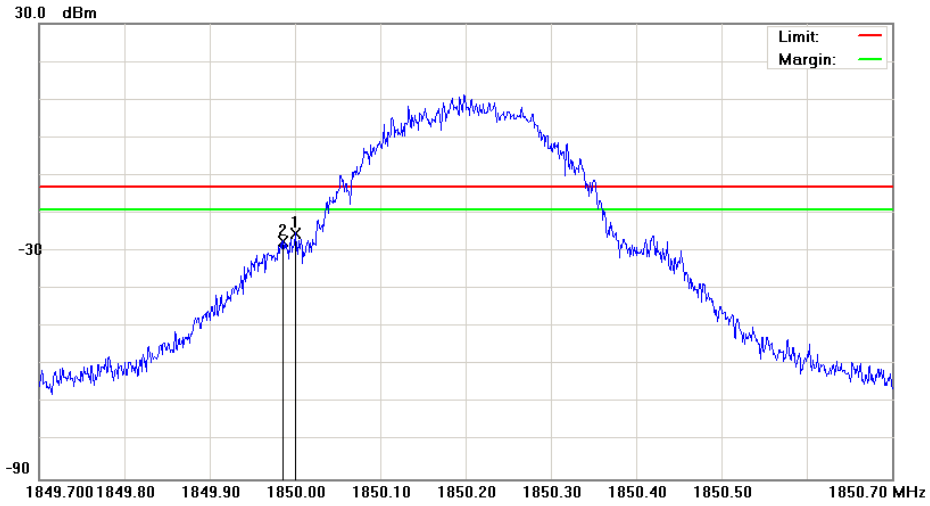
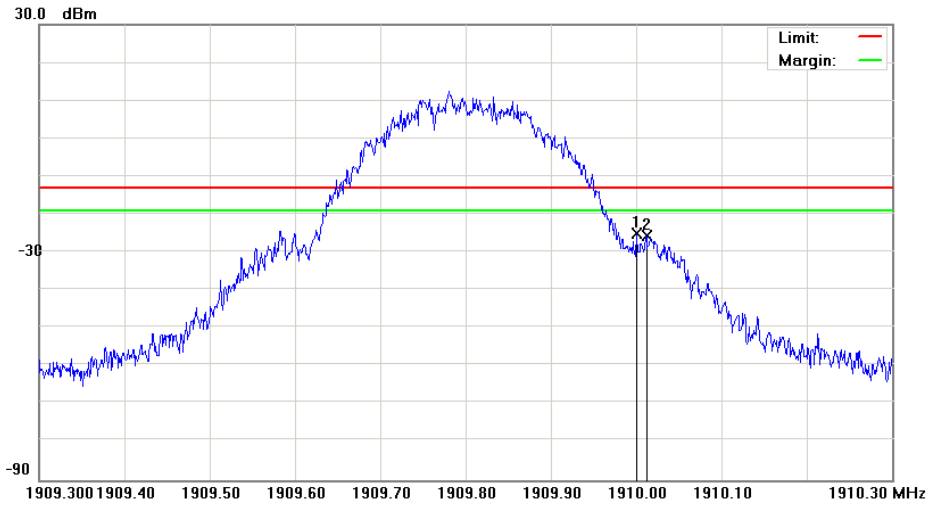
The measurement uncertainty is defined as ± 10Hz

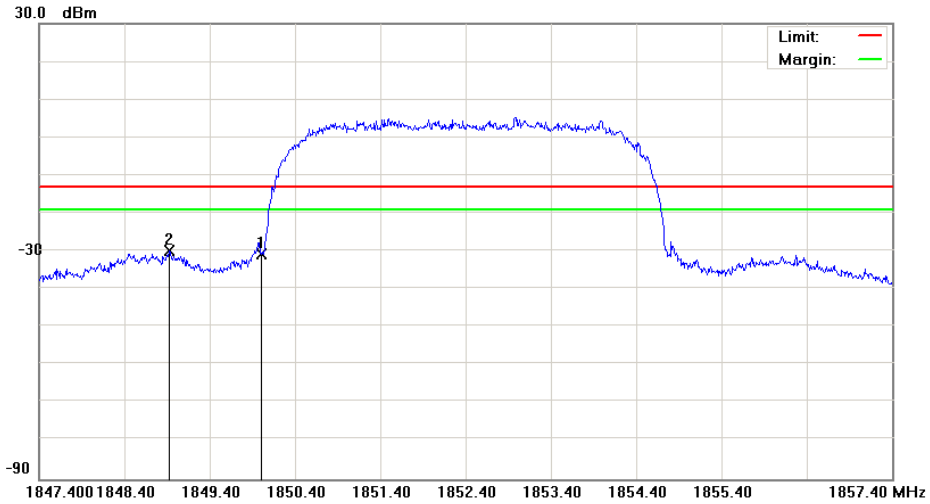
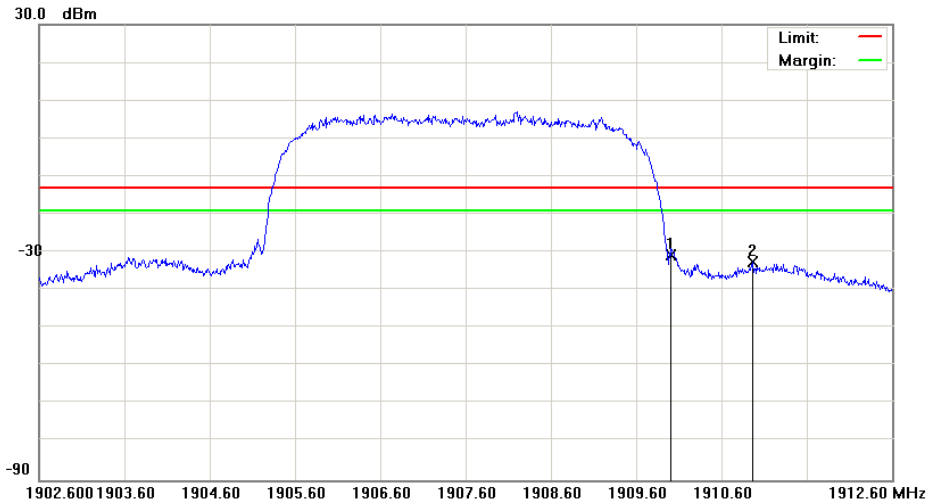
6.6. Test Result

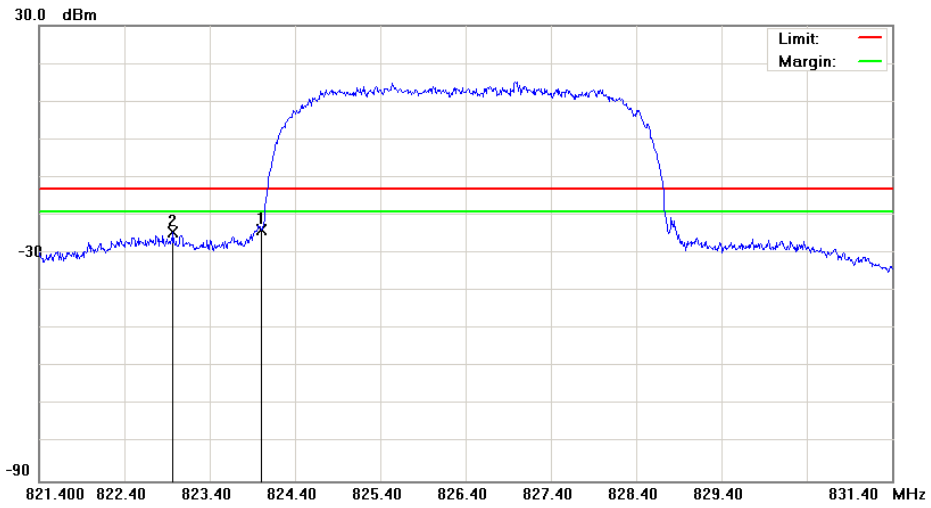
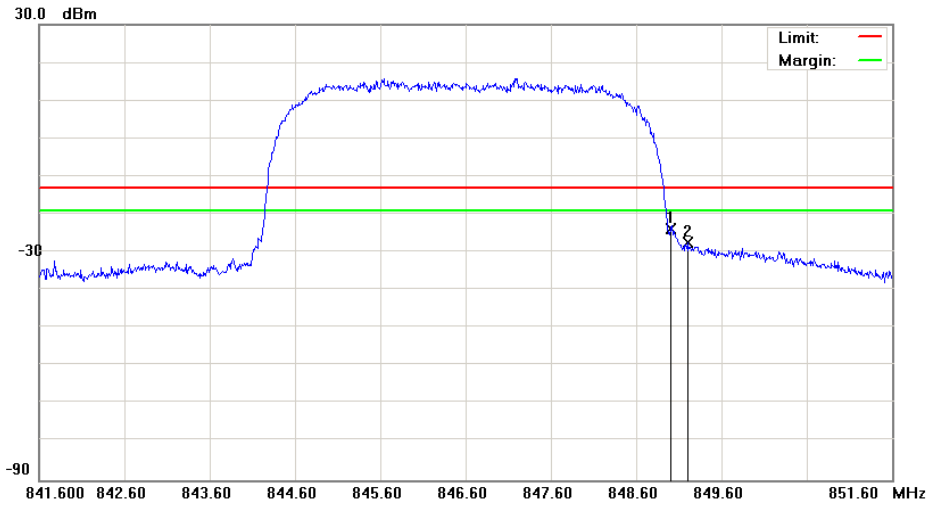
Model Number		HE920-NA				
Test Item		Band Edge				
Date of Test		11/25/2013			Test Site	TE05
Bands		Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
GSM 850	Lower	128	824.0000	-16.05	-13	Pass
	Higher	251	849.0000	-15.29	-13	Pass
GSM 1900	Lower	512	1850.000	-25.43	-13	Pass
	Higher	810	1910.000	-25.14	-13	Pass
WCDMA Band II	Lower	9262	1850.000	-29.98	-13	Pass
	Higher	9538	1910.000	-30.88	-13	Pass
WCDMA Band V	Lower	4132	824.0000	-23.80	-13	Pass
	Higher	4233	849.0000	-23.83	-13	Pass

6.7. Test Graphs

Mode 1: GSM 850 Link Mode	
Lower Band	
Higher Band	

Mode 2: GSM 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	

7 Conducted Spurious Emission 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.

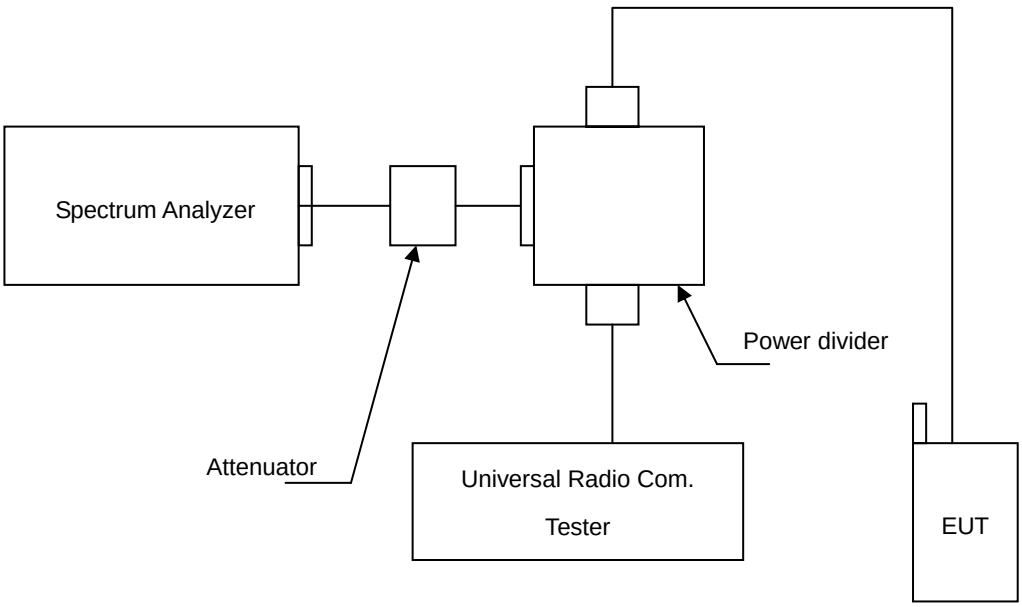
7.2. Test Instruments

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	05/16/2013	(1)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

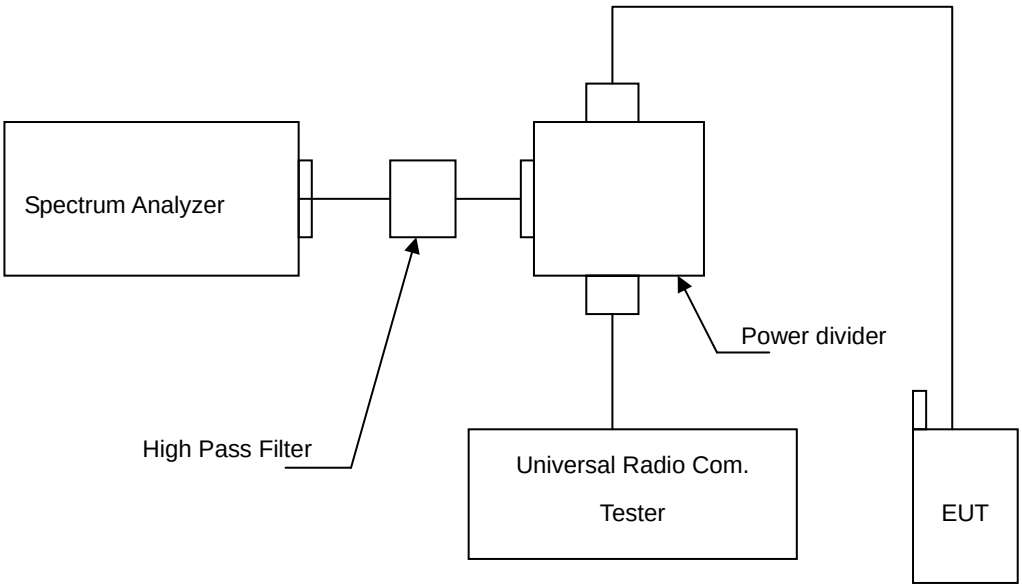
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

7.3. Setup

Below 2.8GHz



Above 2.8GHz



7.4. 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.

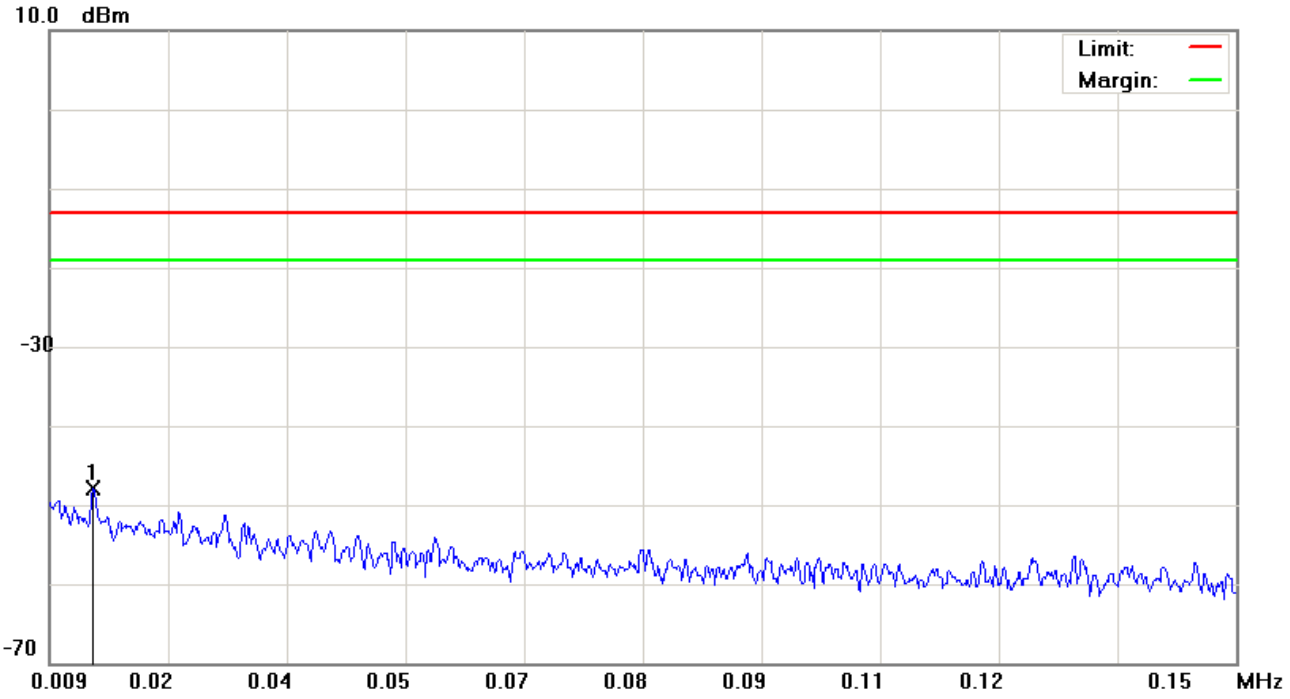
7.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

7.6. Test Result

Model Number	HE920-NA		
Test Item	Conducted Spurious Emission		
Test Mode	Mode 1 / Mode 2 / Mode 4 / Mode 5		
Date of Test	11/25/2013, 12/04/2013	Test Site	TE05

File :HE920-NA(CH128) Data :#1 Date: 2013/12/4 Time: 下午 02:34:06



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

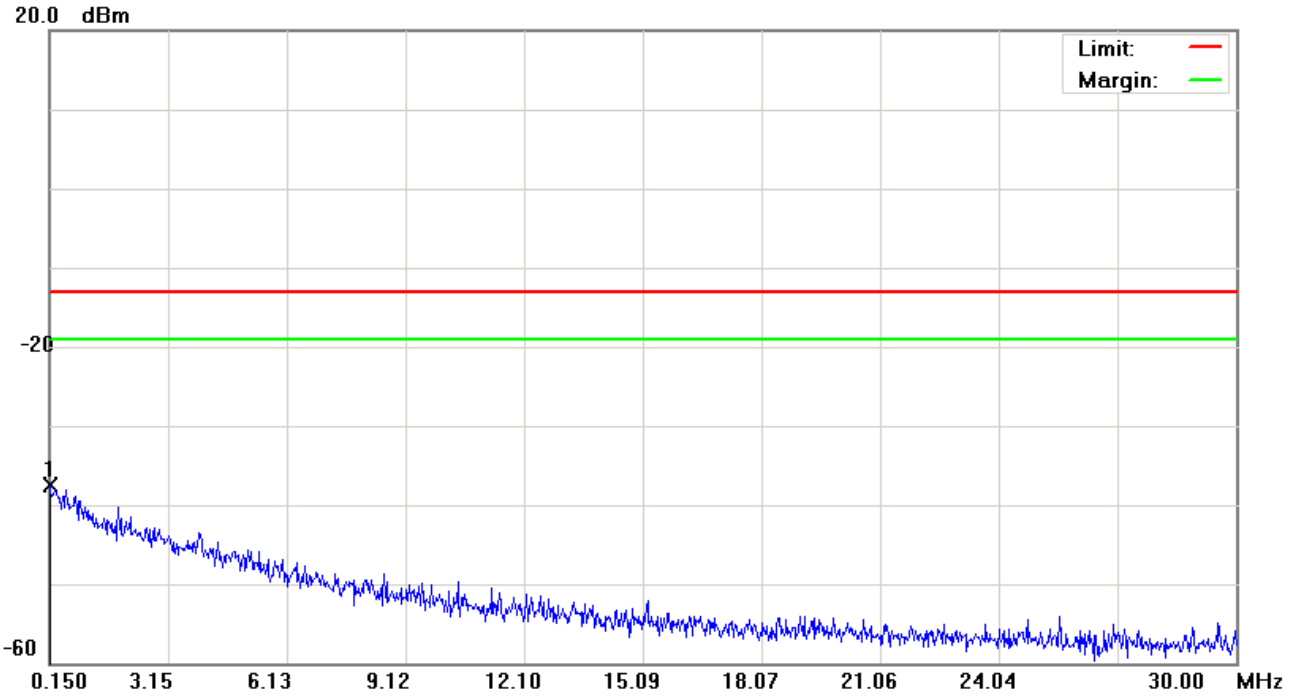
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0142	-78.40	30.56	-47.84	-13.00	-34.84	peak			

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

File :HE920-NA(CH128) Data :#2 Date: 2013/12/4 Time: 下午 02:34:30



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

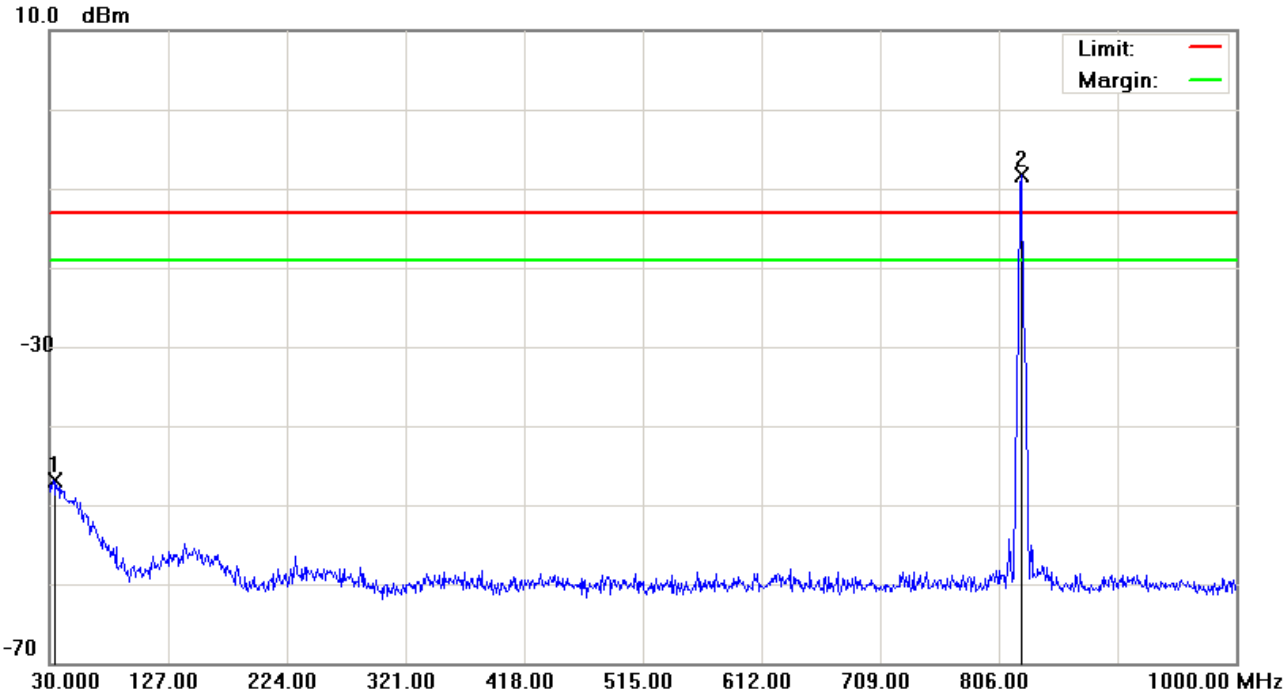
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1650	-68.05	30.63	-37.42	-13.00	-24.42	peak			

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

File :HE920-NA(CH128) Data :#3 Date: 2013/12/4 Time: 下午 02:34:54



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

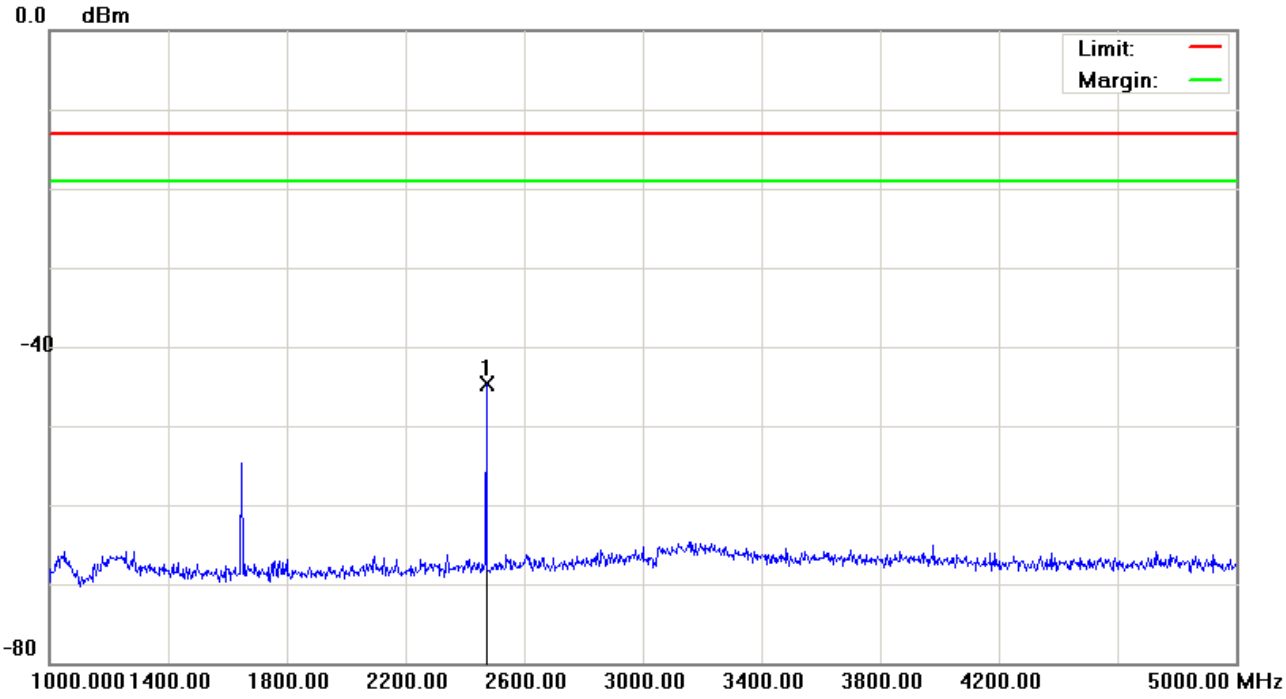
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		33.3950	-63.77	16.83	-46.94	-13.00	-33.94	peak			
2	*	824.4300	-12.12	3.84	-8.28	-13.00	4.72	peak			Tx

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

File :HE920-NA(CH128) Data :#4 Date: 2013/12/4 Time: 下午 03:11:40



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

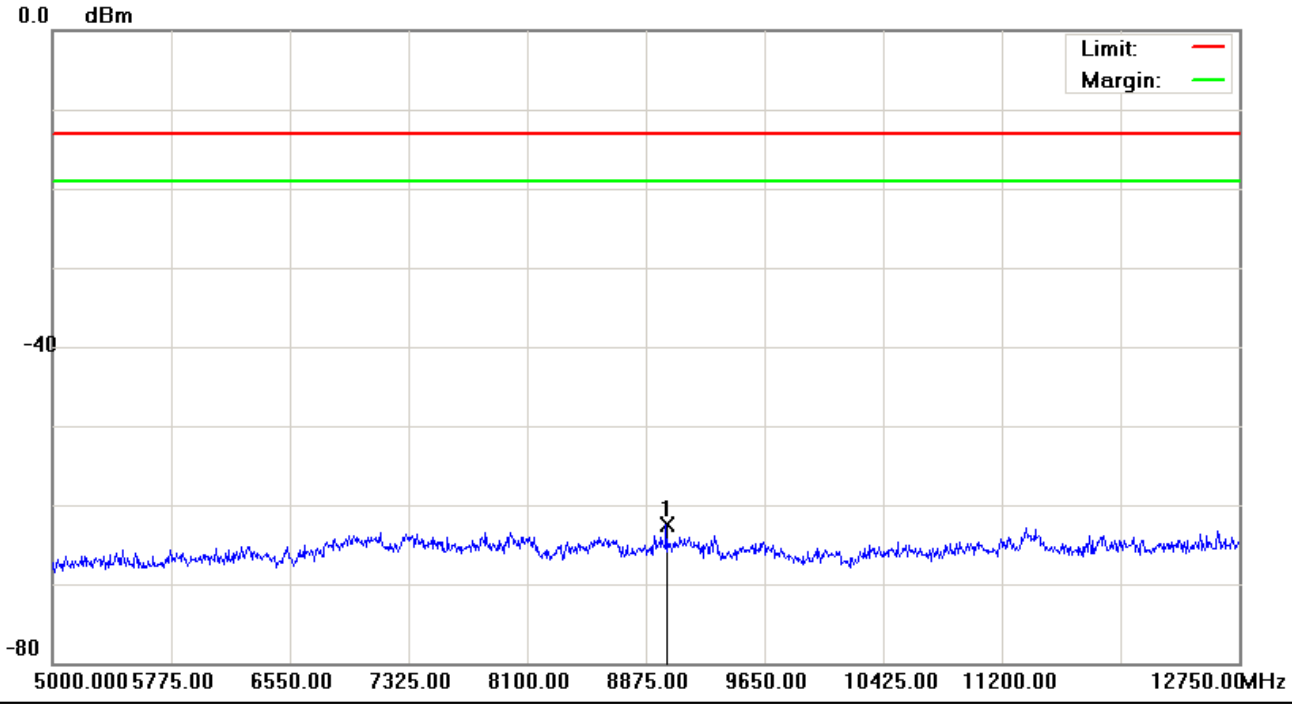
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-49.14	4.45	-44.69	-13.00	-31.69	peak			

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

File :HE920-NA(CH128) Data :#5 Date: 2013/12/4 Time: 下午 03:12:03



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

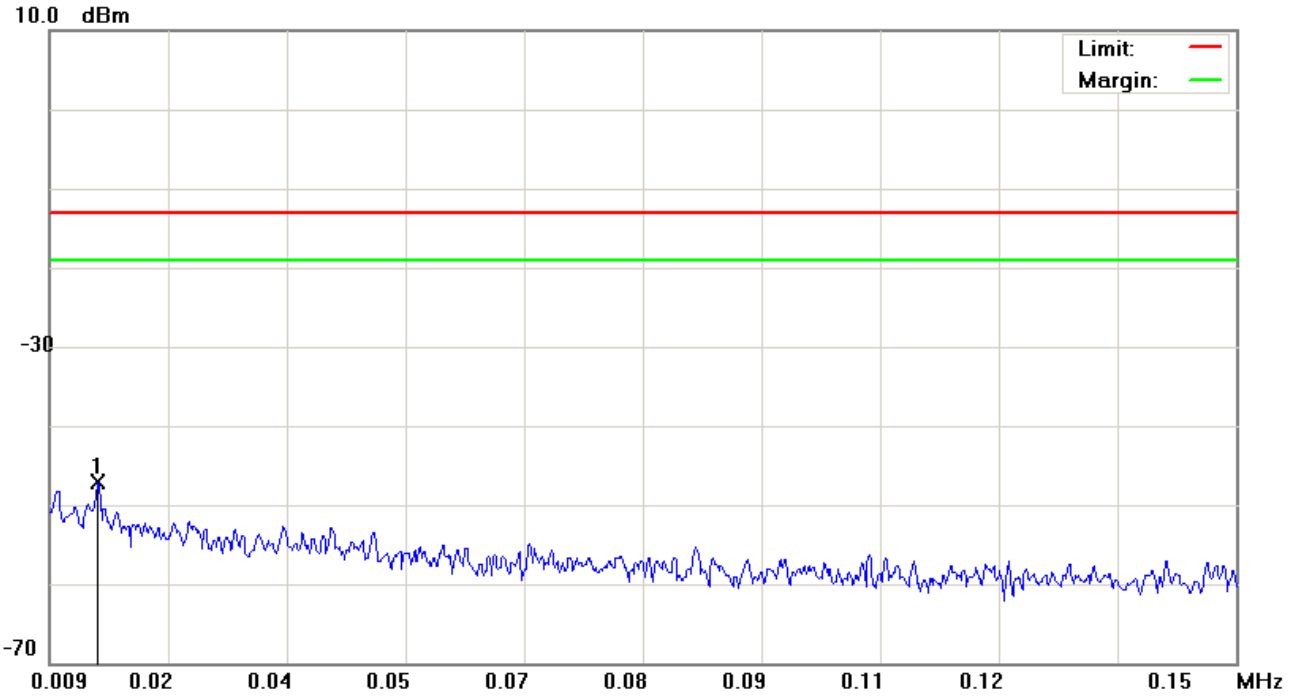
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	9010.625	-67.95	5.52	-62.43	-13.00	-49.43	peak			

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

File :HE920-NA(CH190) Data :#1 Date: 2013/12/4 Time: 下午 02:38:07



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

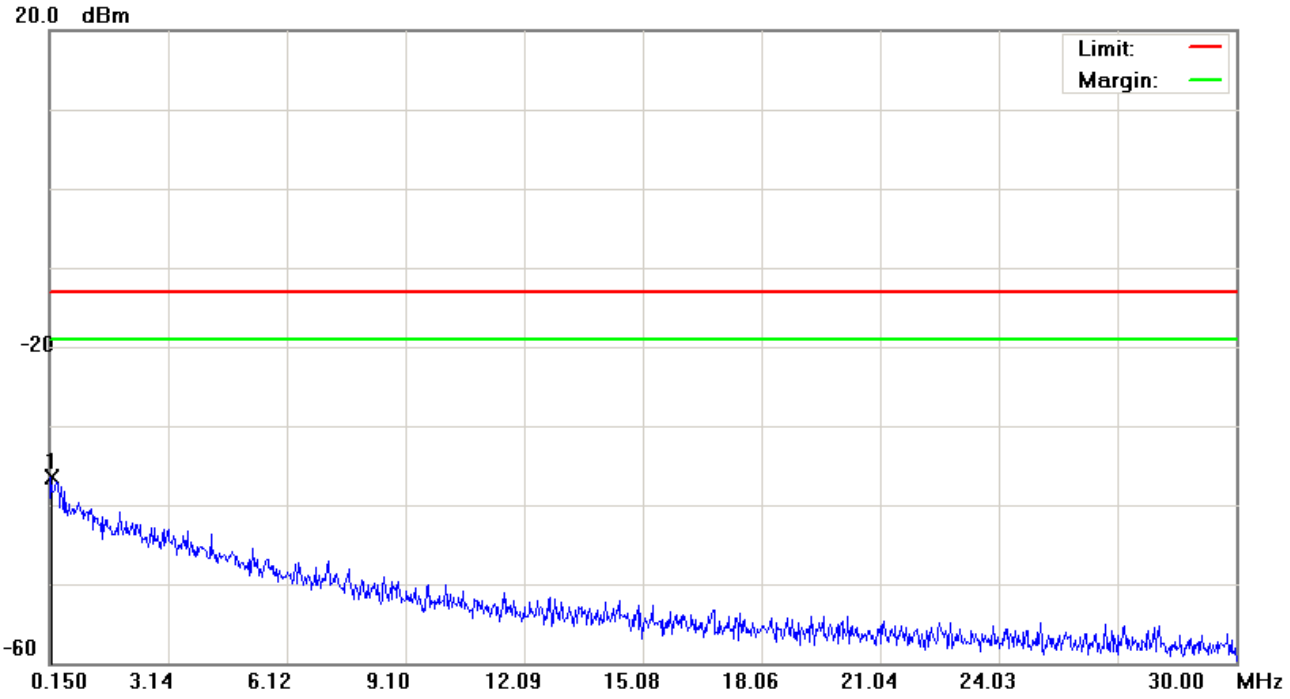
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0148	-77.67	30.56	-47.11	-13.00	-34.11	peak			

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

File :HE920-NA(CH190) Data :#2 Date: 2013/12/4 Time: 下午 02:38:31



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

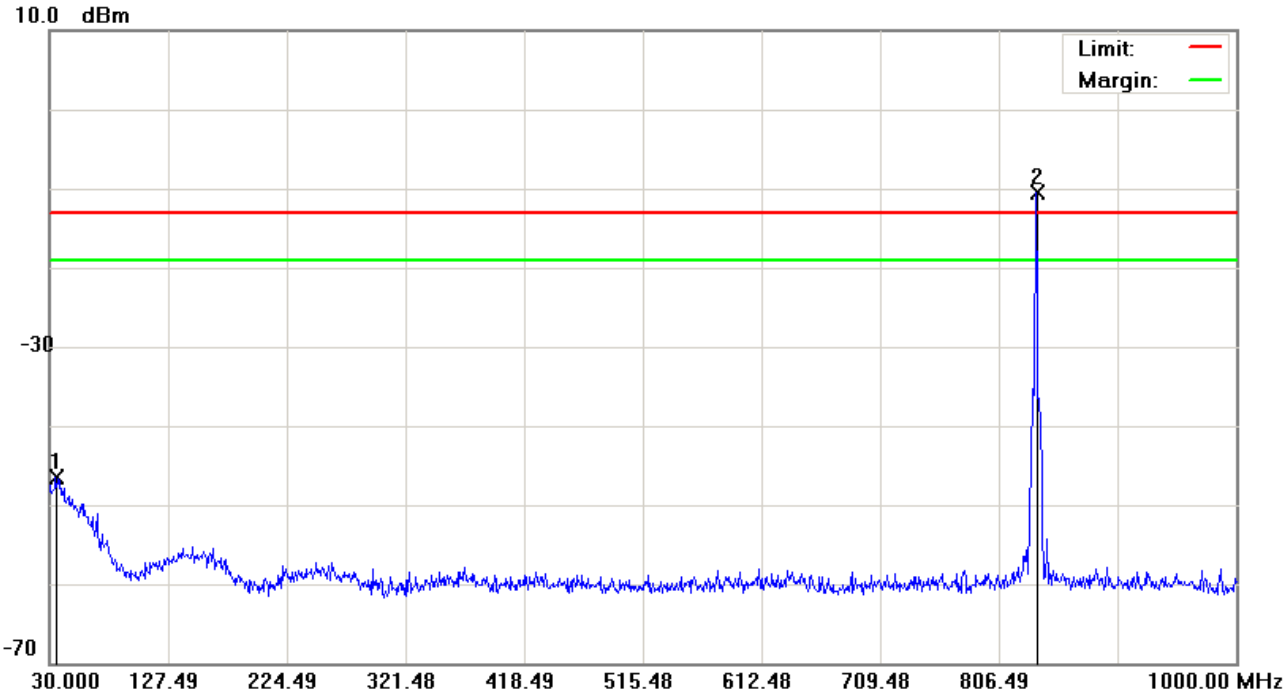
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1948	-67.47	30.88	-36.59	-13.00	-23.59	peak			

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

File :HE920-NA(CH190) Data :#3 Date: 2013/12/4 Time: 下午 02:38:55



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

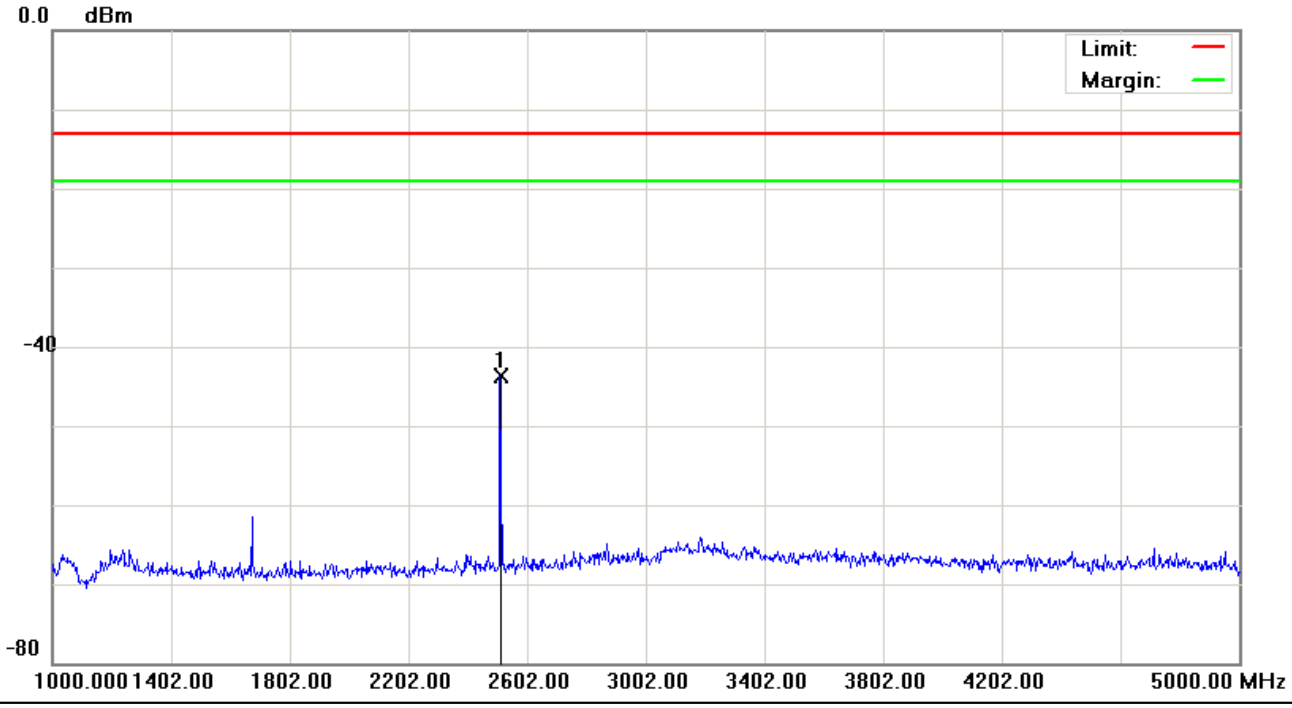
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		35.3350	-63.15	16.61	-46.54	-13.00	-33.54	peak			
2	*	836.5550	-14.36	3.96	-10.40	-13.00	2.60	peak			Tx

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

File :HE920-NA(CH190) Data :#4 Date: 2013/12/4 Time: 下午 03:12:35



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

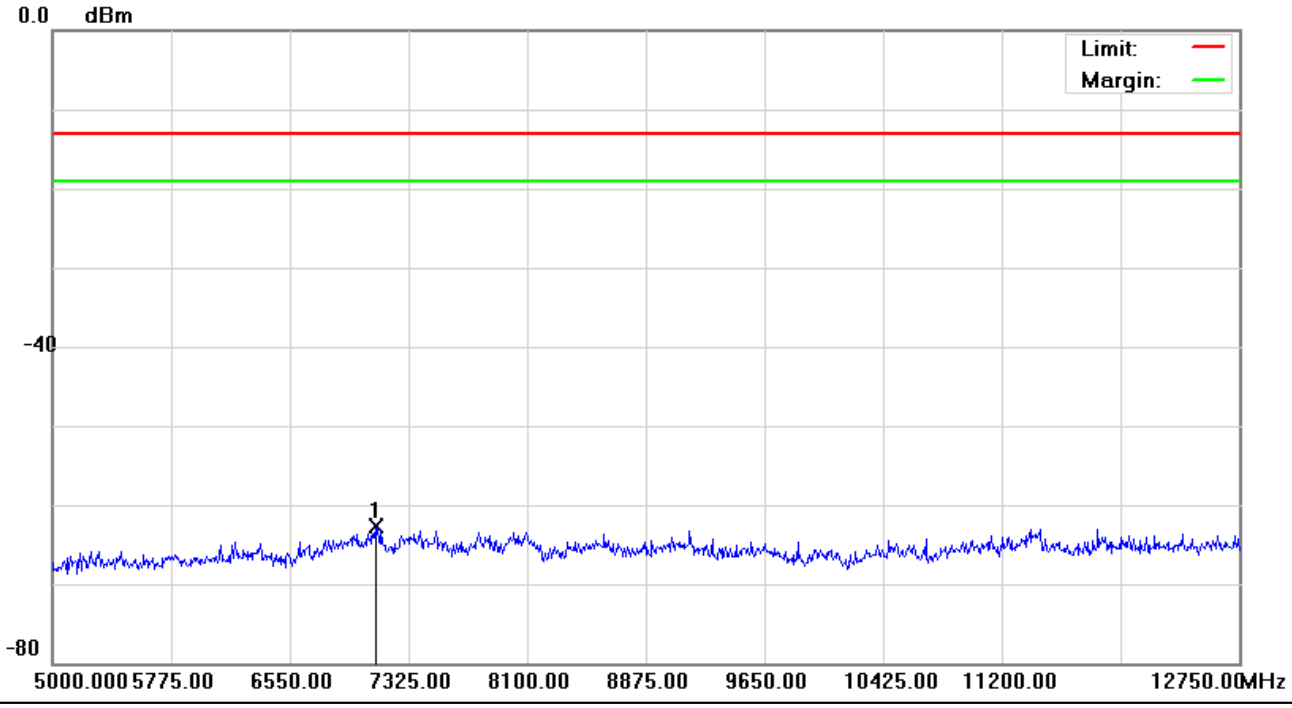
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	2510.000	-48.08	4.36	-43.72	-13.00	-30.72	peak			

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

File :HE920-NA(CH190) Data :#5 Date: 2013/12/4 Time: 下午 03:12:58



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

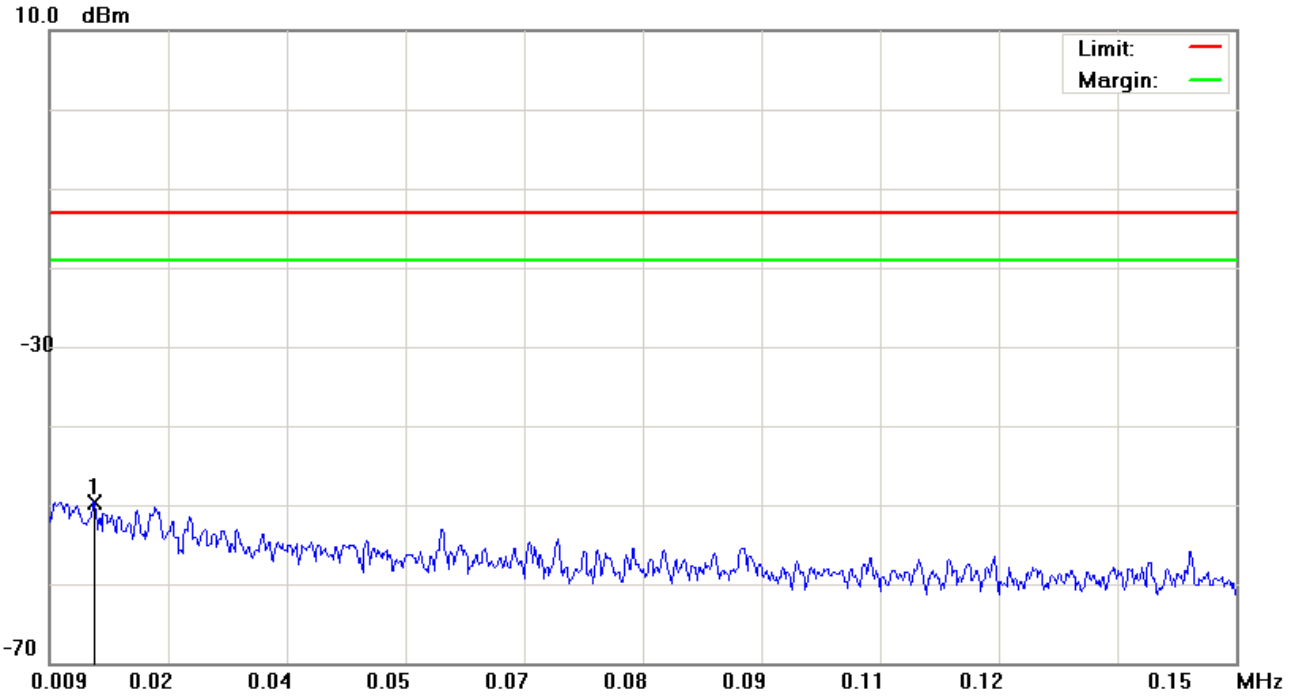
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	7111.875	-67.82	5.14	-62.68	-13.00	-49.68	peak			

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

File :HE920-NA(CH251) Data :#1 Date: 2013/12/4 Time: 下午 02:40:52



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

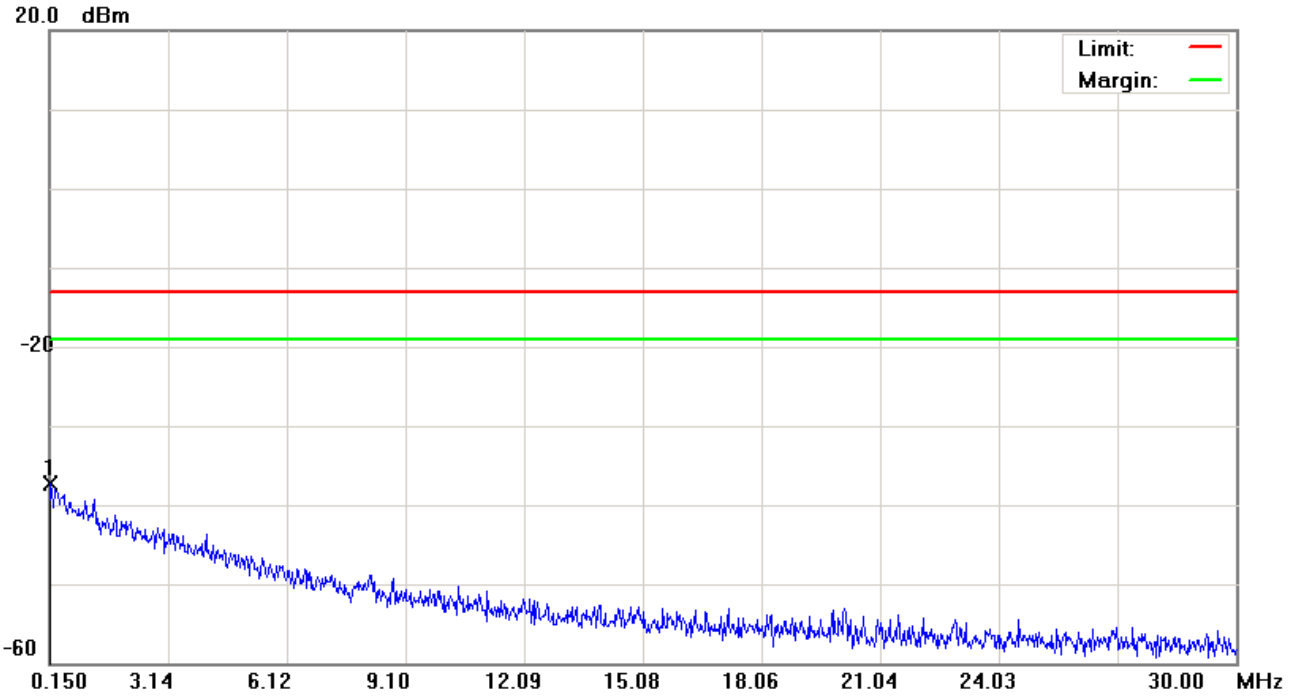
Polarization: **Conducted Power**
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0143	-80.16	30.56	-49.60	-13.00	-36.60	peak			

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

File :HE920-NA(CH251) Data :#2 Date: 2013/12/4 Time: 下午 02:41:16



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

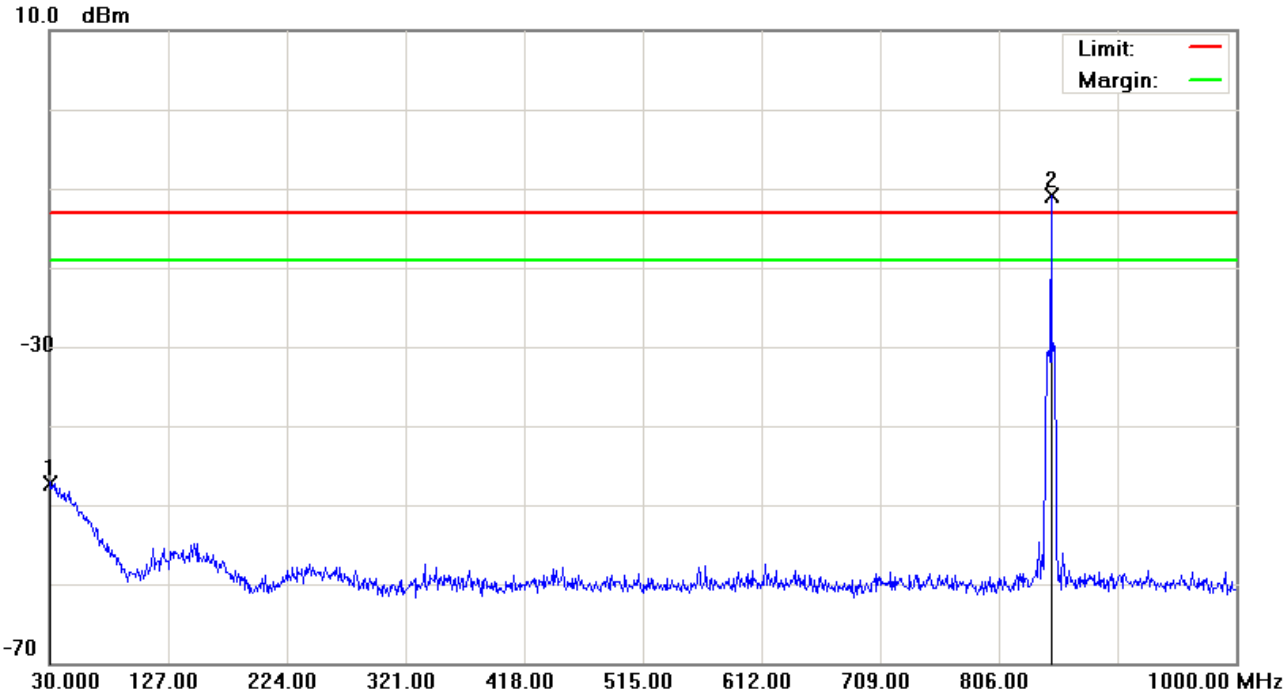
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1500	-67.84	30.51	-37.33	-13.00	-24.33	peak			

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

File :HE920-NA(CH251) Data :#3 Date: 2013/12/4 Time: 下午 02:41:40



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

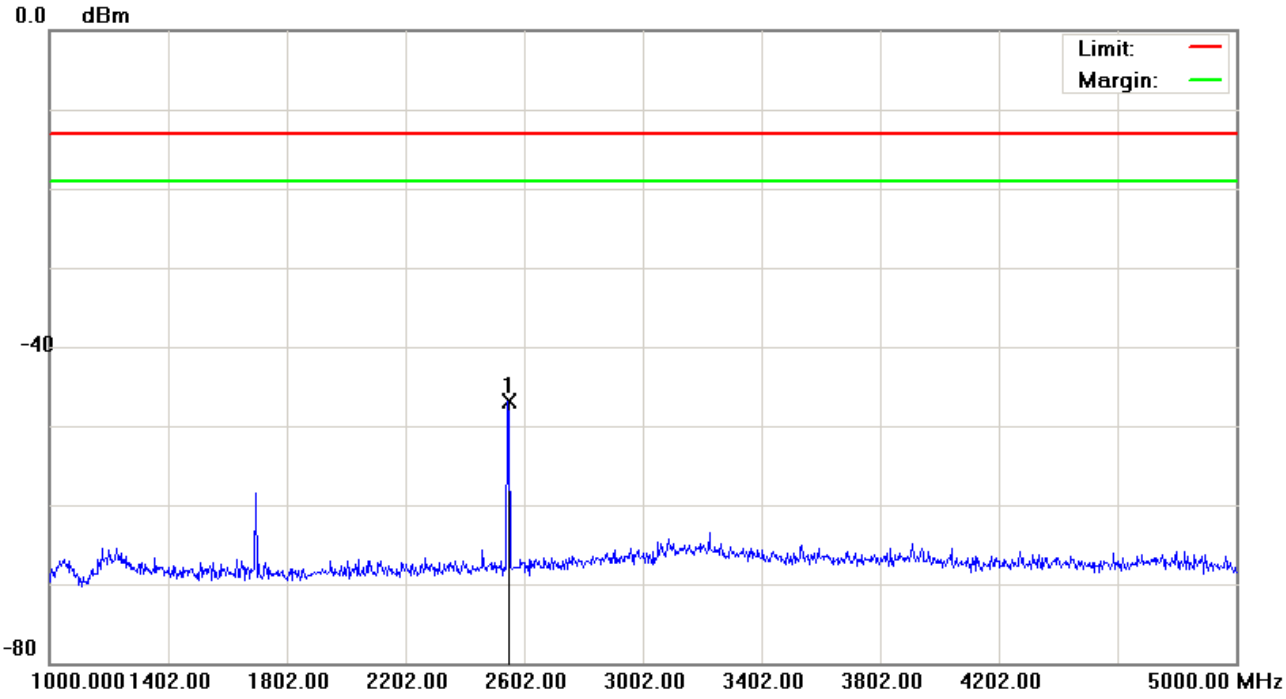
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		30.0000	-64.41	17.21	-47.20	-13.00	-34.20	peak			
2	*	848.6800	-14.85	3.98	-10.87	-13.00	2.13	peak			Tx

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

File :HE920-NA(CH251) Data :#4 Date: 2013/12/4 Time: 下午 03:13:49



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

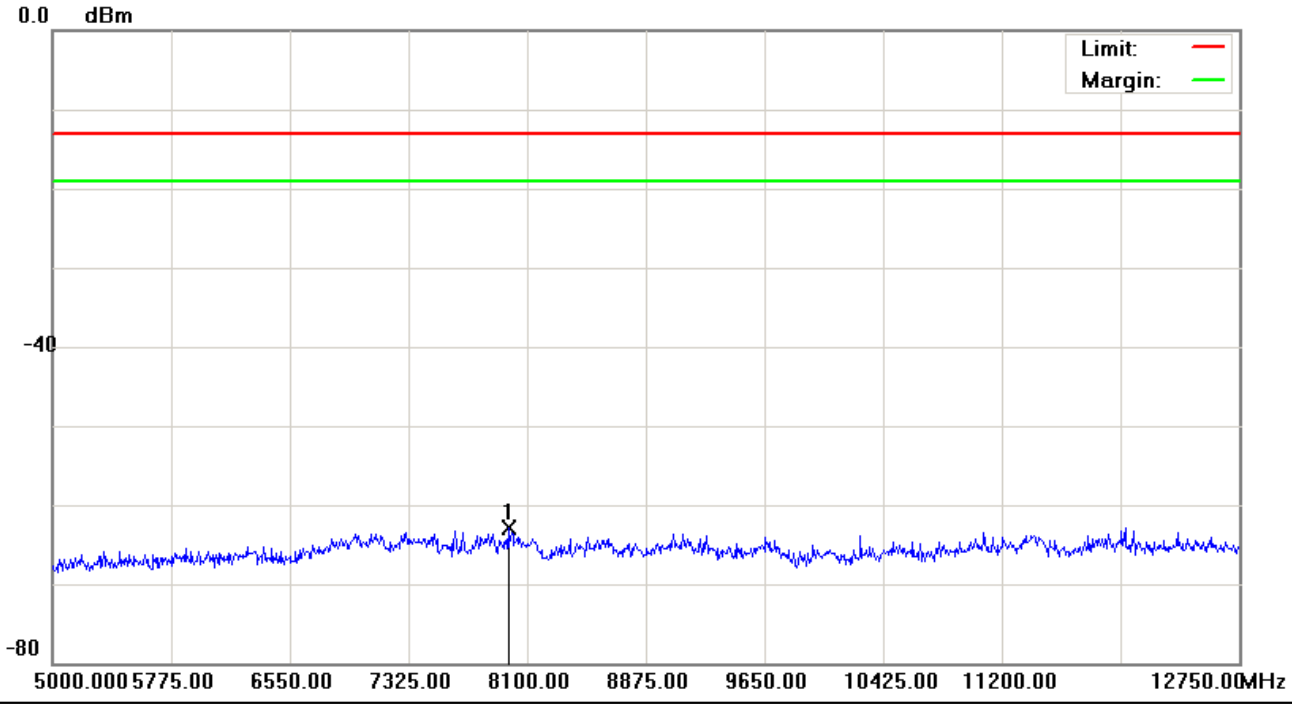
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	2546.000	-51.26	4.45	-46.81	-13.00	-33.81	peak			

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

File :HE920-NA(CH251) Data :#5 Date: 2013/12/4 Time: 下午 03:14:12



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 850
Note:

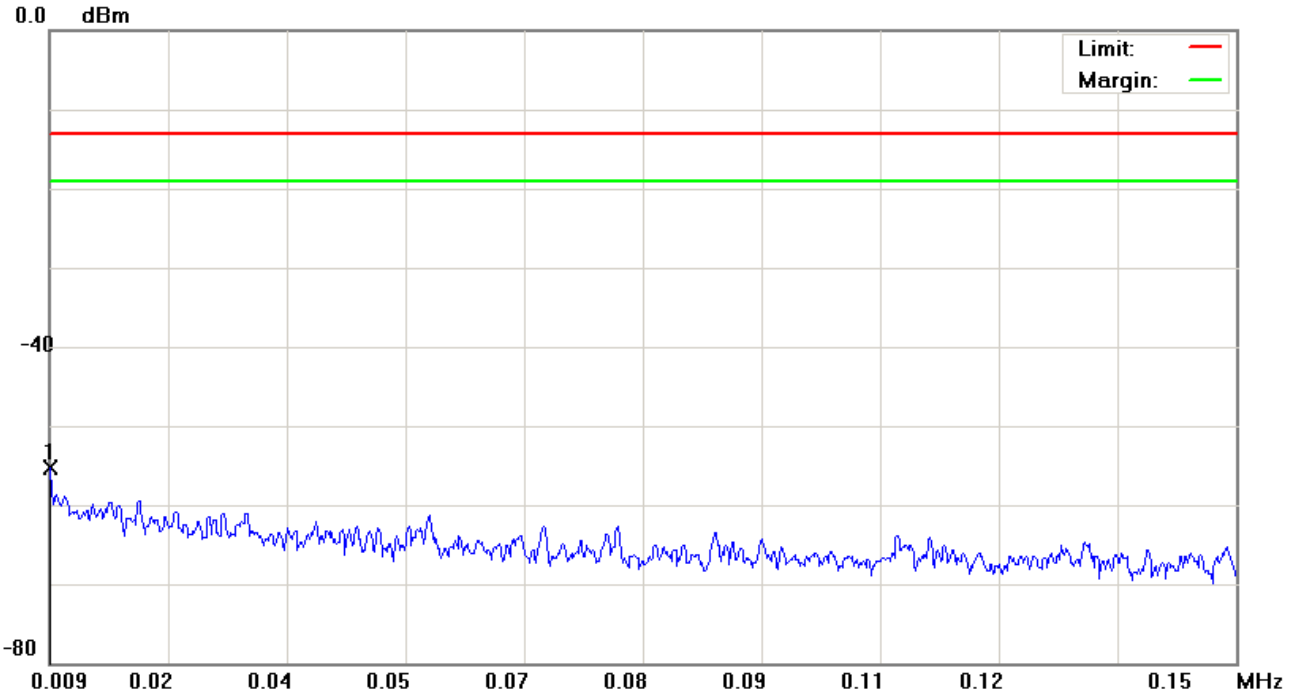
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	7976.000	-68.16	5.30	-62.86	-13.00	-49.86	peak			

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

File :HE920-NA(CH512) Data :#1 Date: 2013/12/4 Time: 下午 02:07:47



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

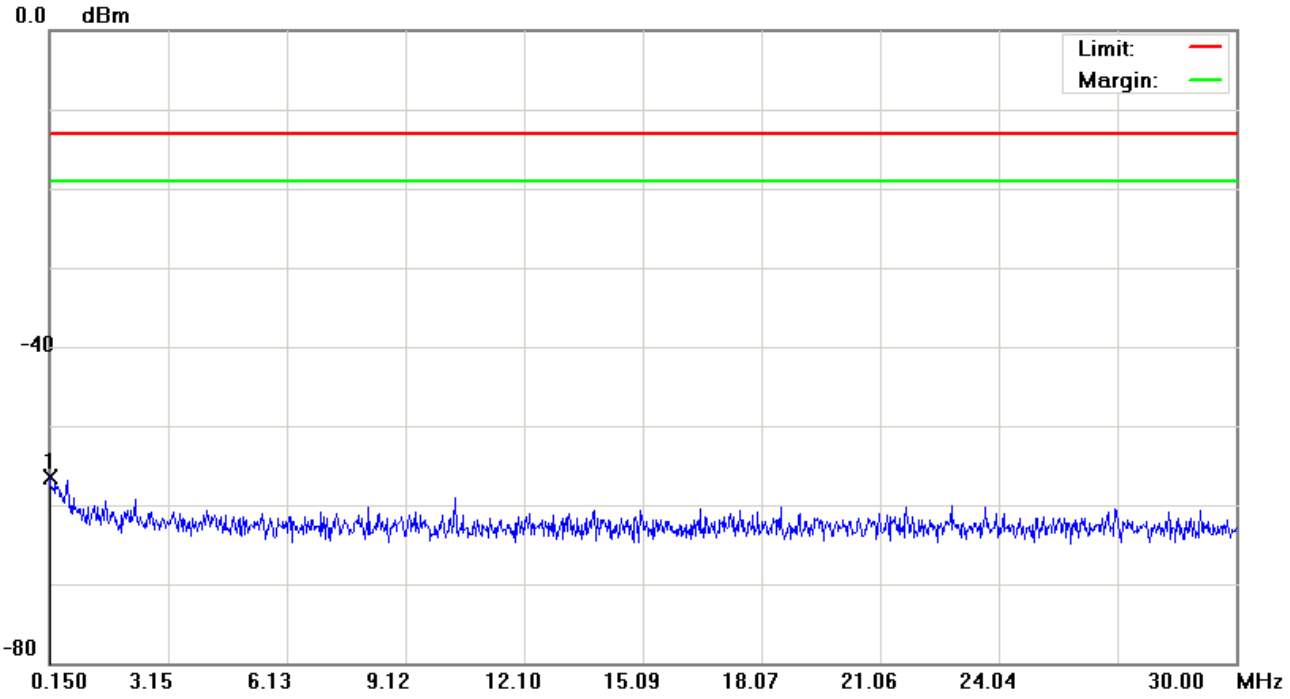
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0090	-66.56	11.32	-55.24	-13.00	-42.24	peak			

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

File :HE920-NA(CH512) Data :#2 Date: 2013/12/4 Time: 下午 02:08:11



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

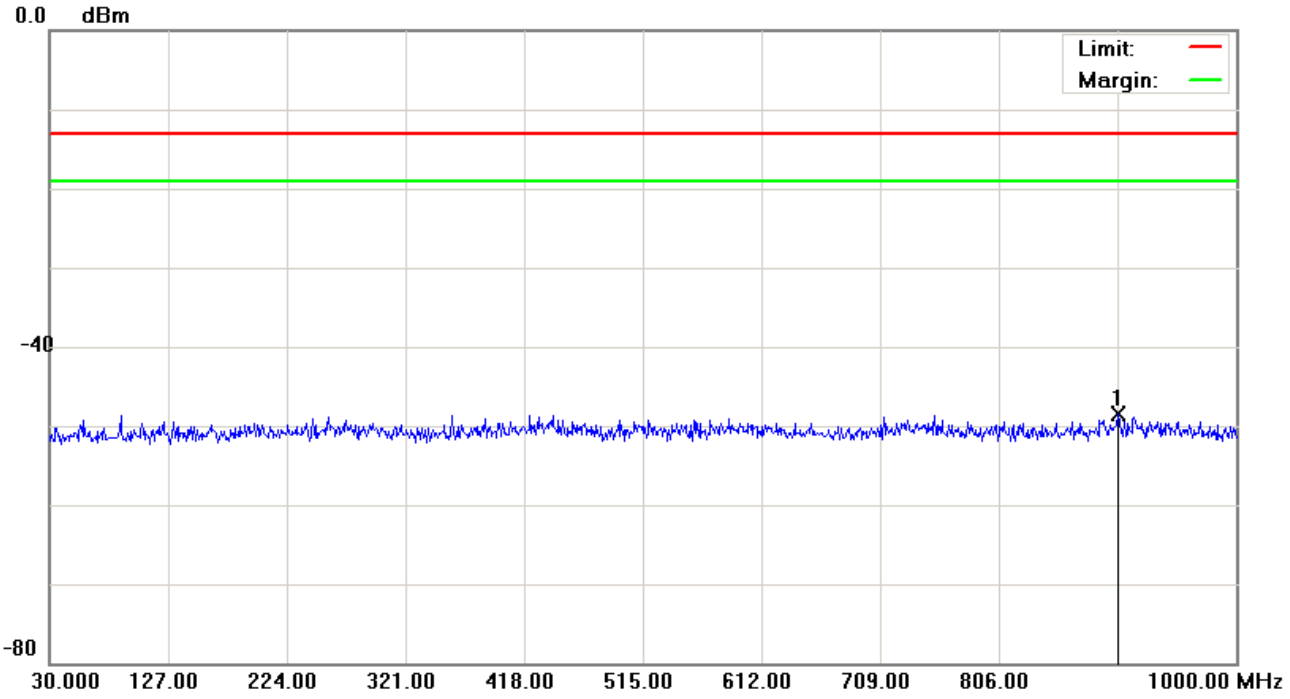
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1650	-68.99	12.46	-56.53	-13.00	-43.53	peak			

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

File :HE920-NA(CH512) Data :#3 Date: 2013/12/4 Time: 下午 02:08:35



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

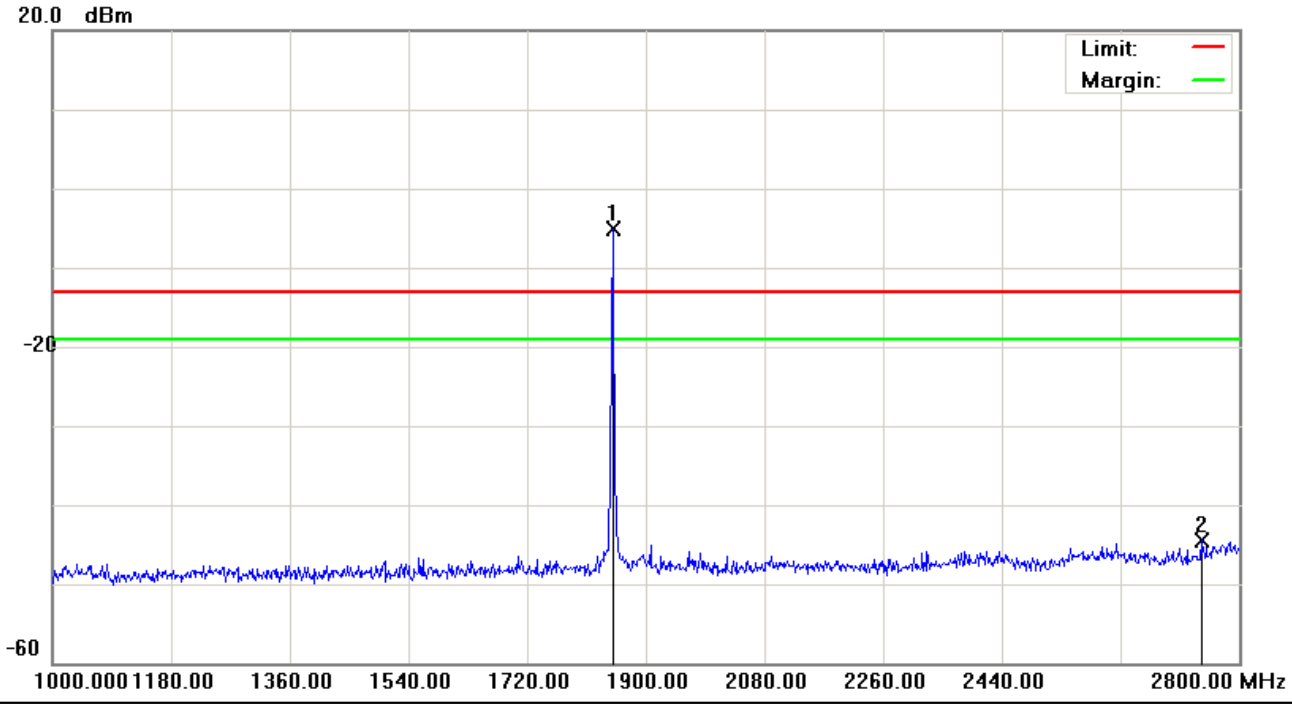
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	903.9700	-61.74	13.24	-48.50	-13.00	-35.50	peak			

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

File :HE920-NA(CH512) Data :#4 Date: 2013/12/4 Time: 下午 02:26:37



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

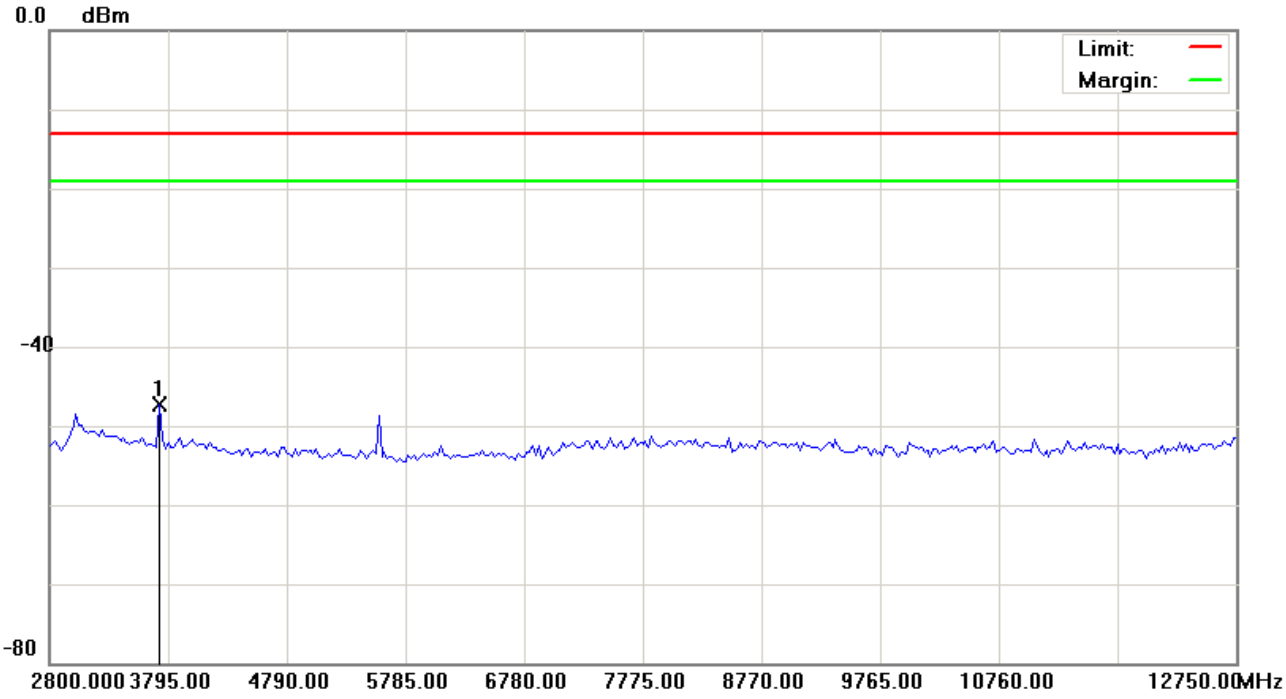
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-9.40	4.26	-5.14	-13.00	7.86	peak			Tx
2		2742.400	-49.60	5.20	-44.40	-13.00	-31.40	peak			

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

File :HE920-NA(CH512) Data :#5 Date: 2013/12/4 Time: 下午 01:37:01



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

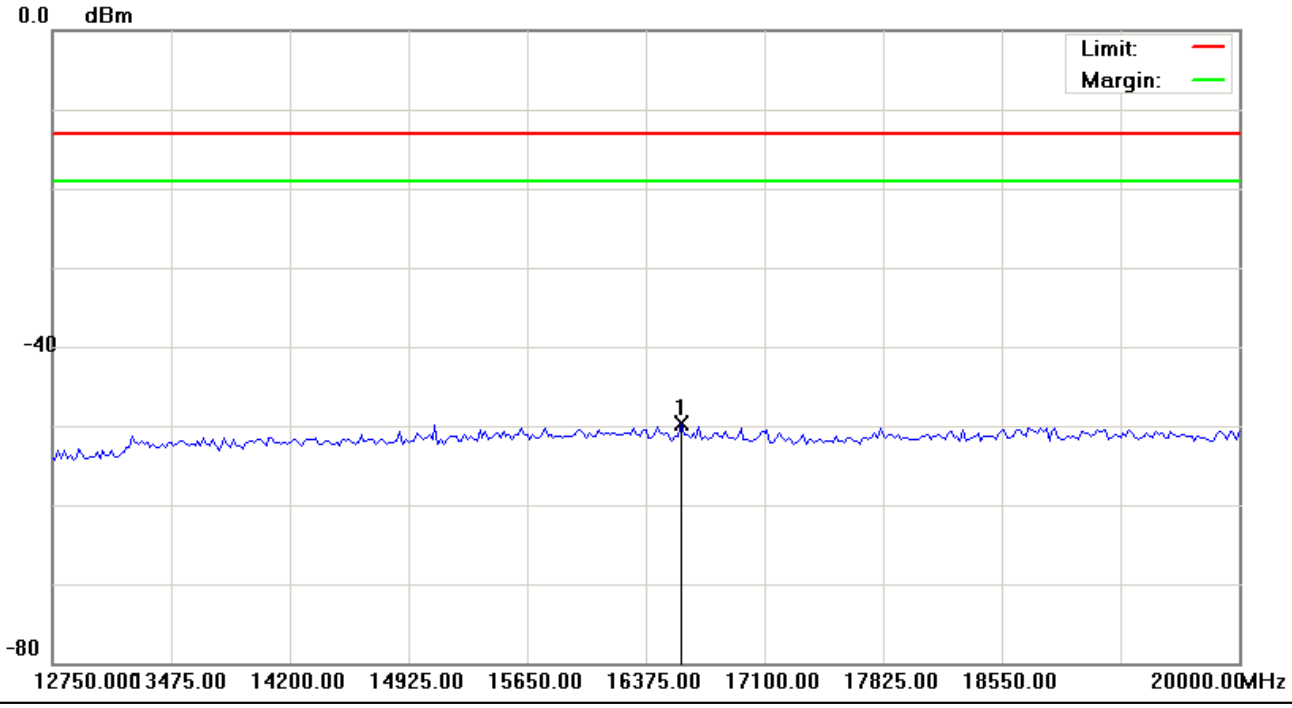
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-52.20	4.88	-47.32	-13.00	-34.32	peak			

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

File :HE920-NA(CH512) Data :#6 Date: 2013/12/4 Time: 下午 01:37:20



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

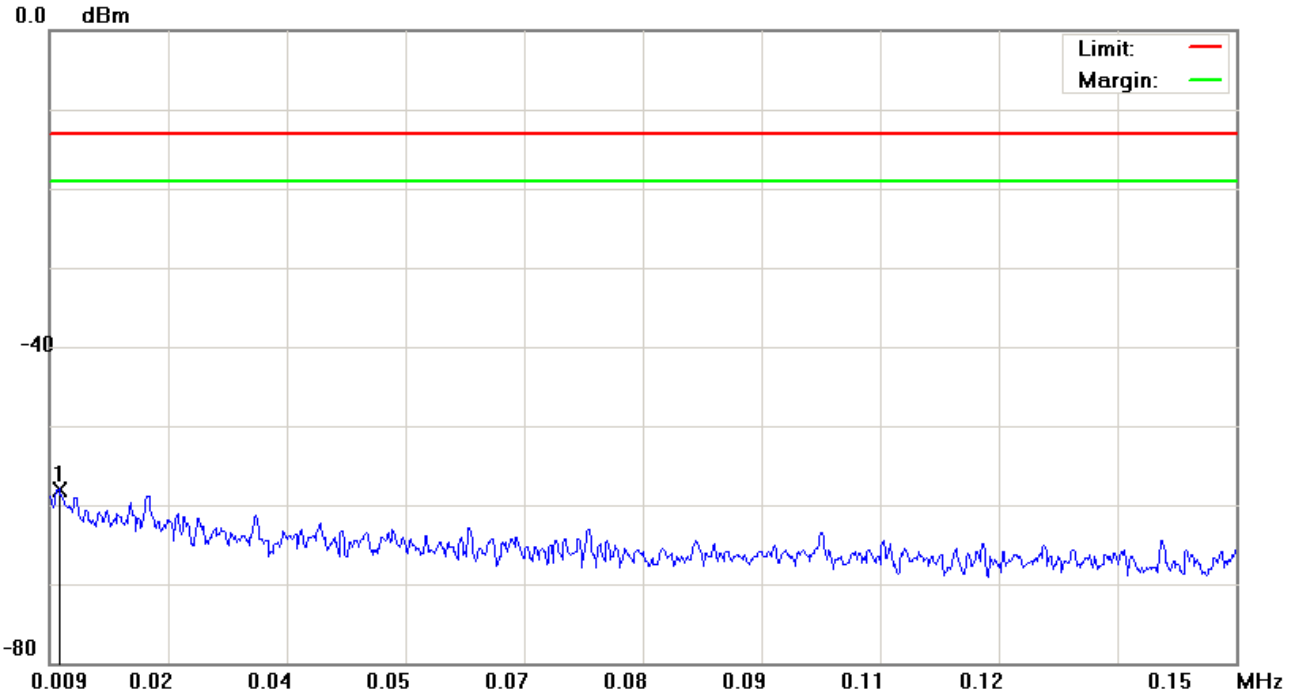
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	16592.500	-56.08	6.47	-49.61	-13.00	-36.61	peak			

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

File :HE920-NA(CH661) Data :#1 Date: 2013/12/4 Time: 下午 02:09:36



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

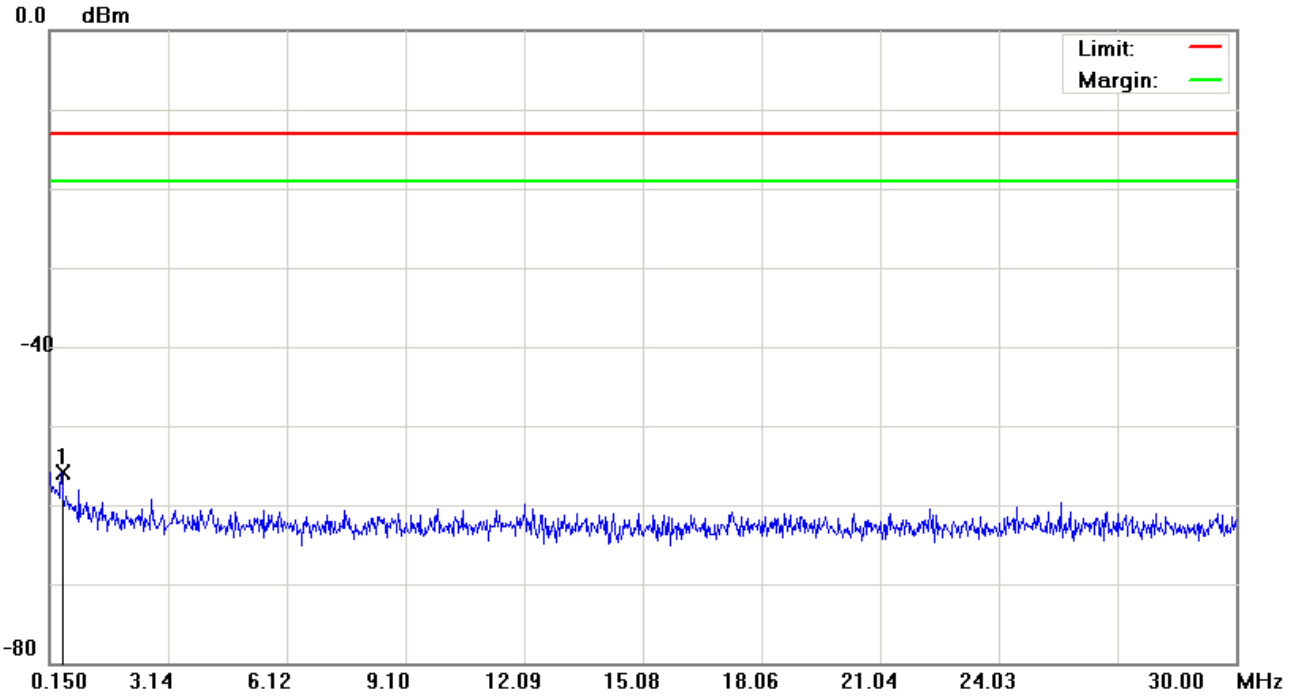
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0101	-69.34	11.34	-58.00	-13.00	-45.00	peak			

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

File :HE920-NA(CH661) Data :#2 Date: 2013/12/4 Time: 下午 02:10:01



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

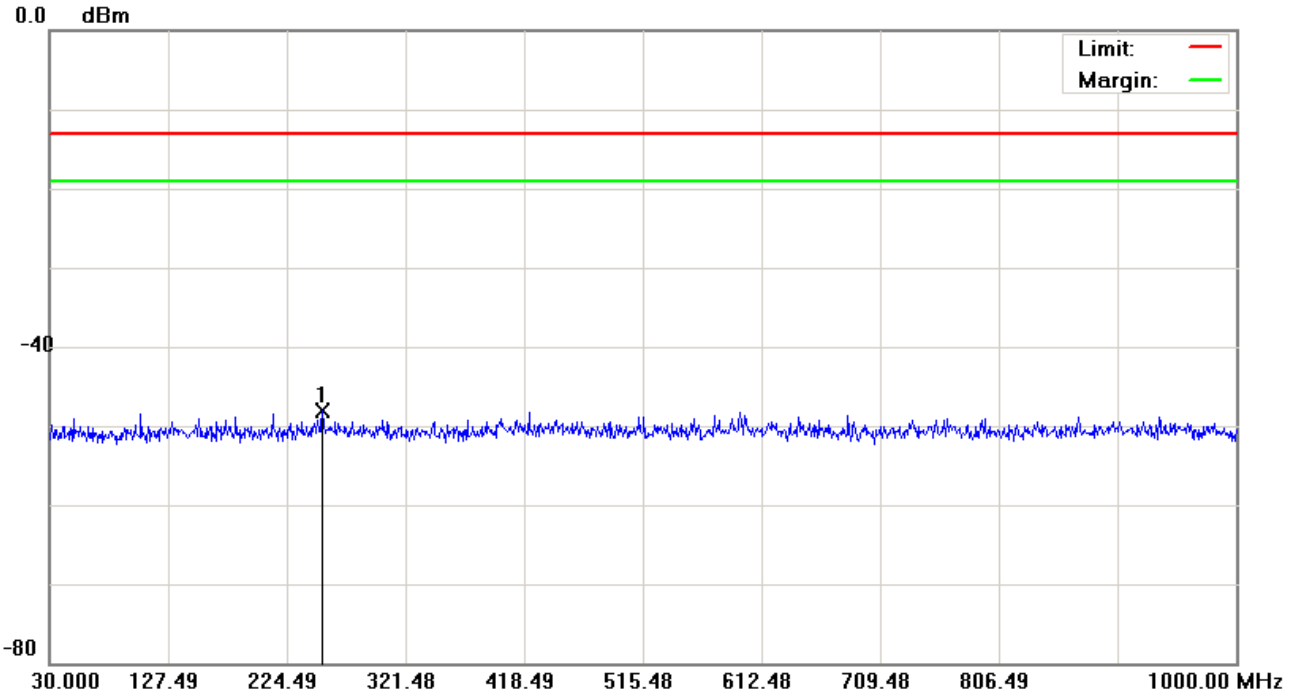
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.4634	-68.63	12.81	-55.82	-13.00	-42.82	peak			

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

File :HE920-NA(CH661) Data :#3 Date: 2013/12/4 Time: 下午 02:10:25



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

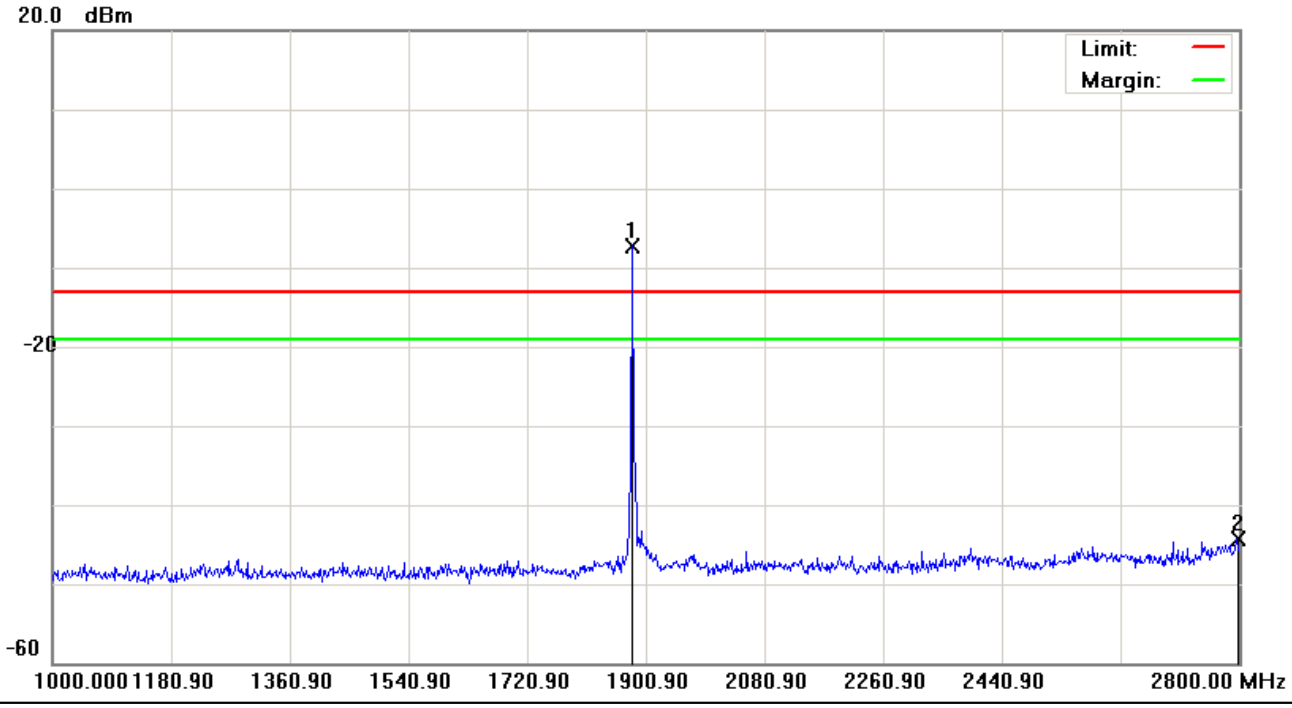
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	253.1000	-61.45	13.28	-48.17	-13.00	-35.17	peak			

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

File :HE920-NA(CH661) Data :#4 Date: 2013/12/4 Time: 下午 02:28:00



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

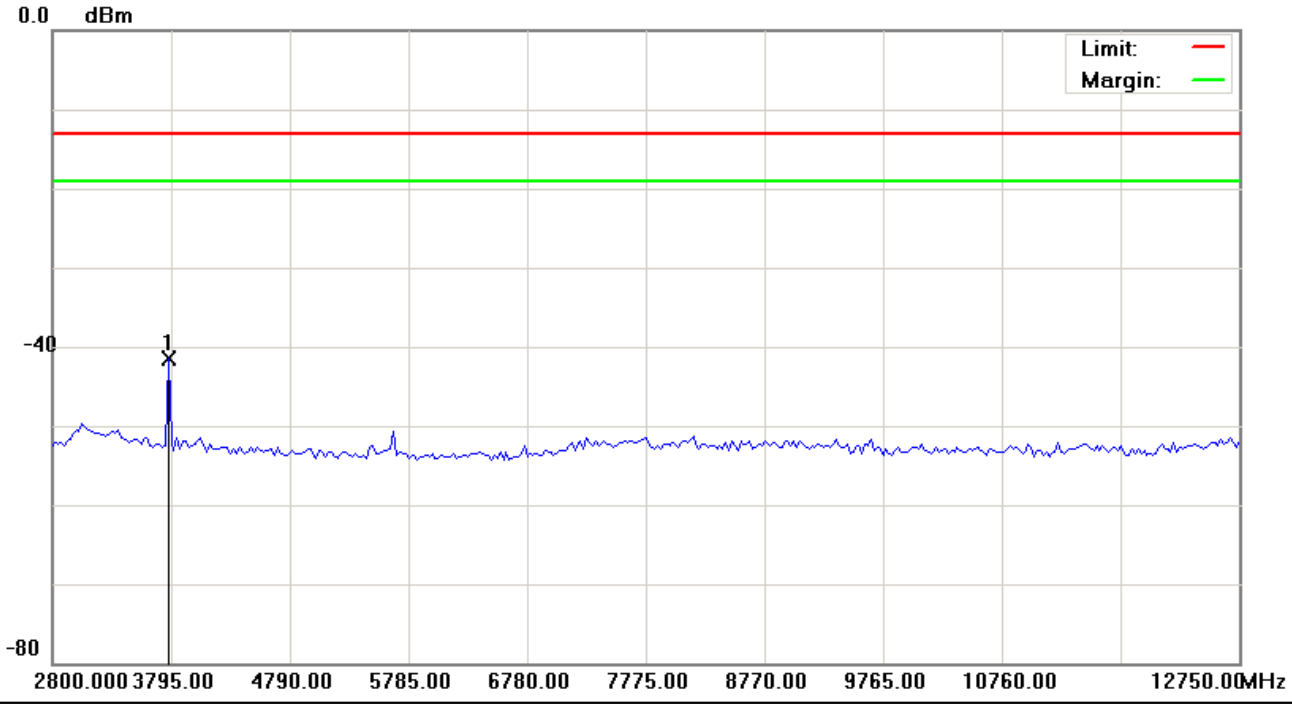
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-11.91	4.65	-7.26	-13.00	5.74	peak			Tx
2		2797.300	-50.13	5.91	-44.22	-13.00	-31.22	peak			

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

File :HE920-NA(CH661) Data :#5 Date: 2013/12/4 Time: 下午 01:40:31



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

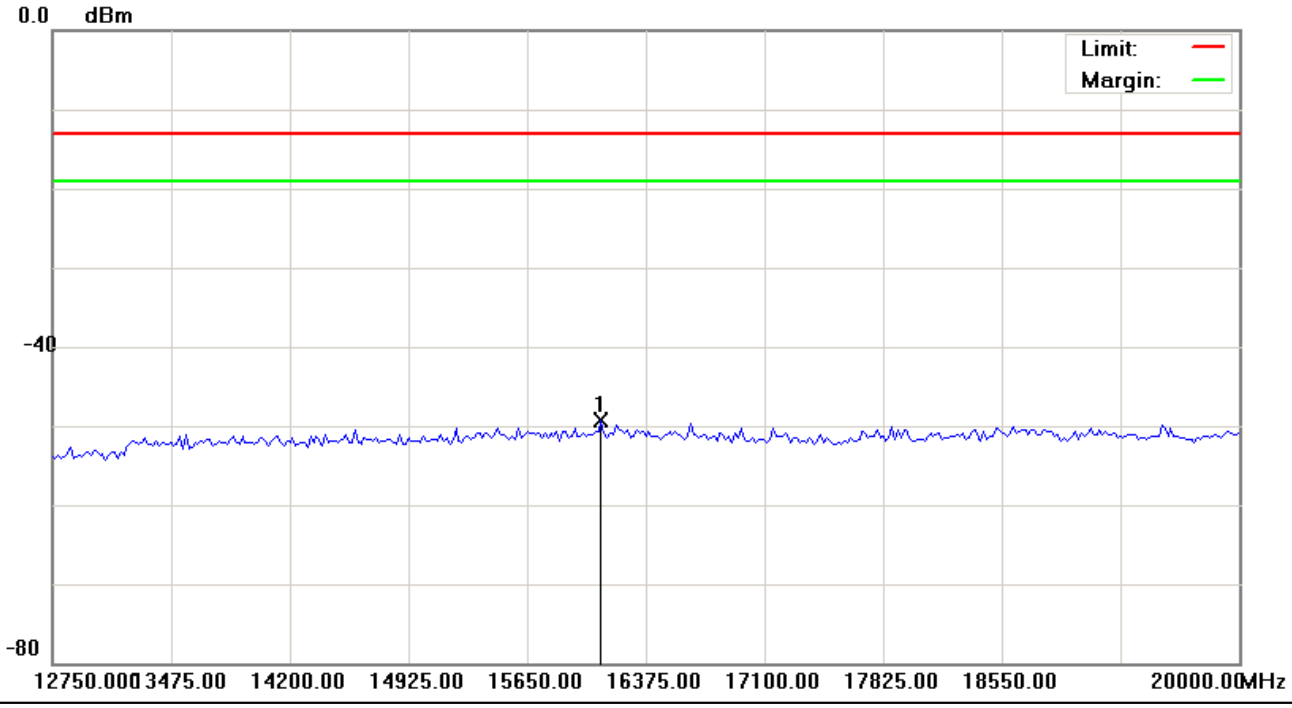
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	3770.125	-46.52	4.93	-41.59	-13.00	-28.59	peak			

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

File :HE920-NA(CH661) Data :#6 Date: 2013/12/4 Time: 下午 01:40:51



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

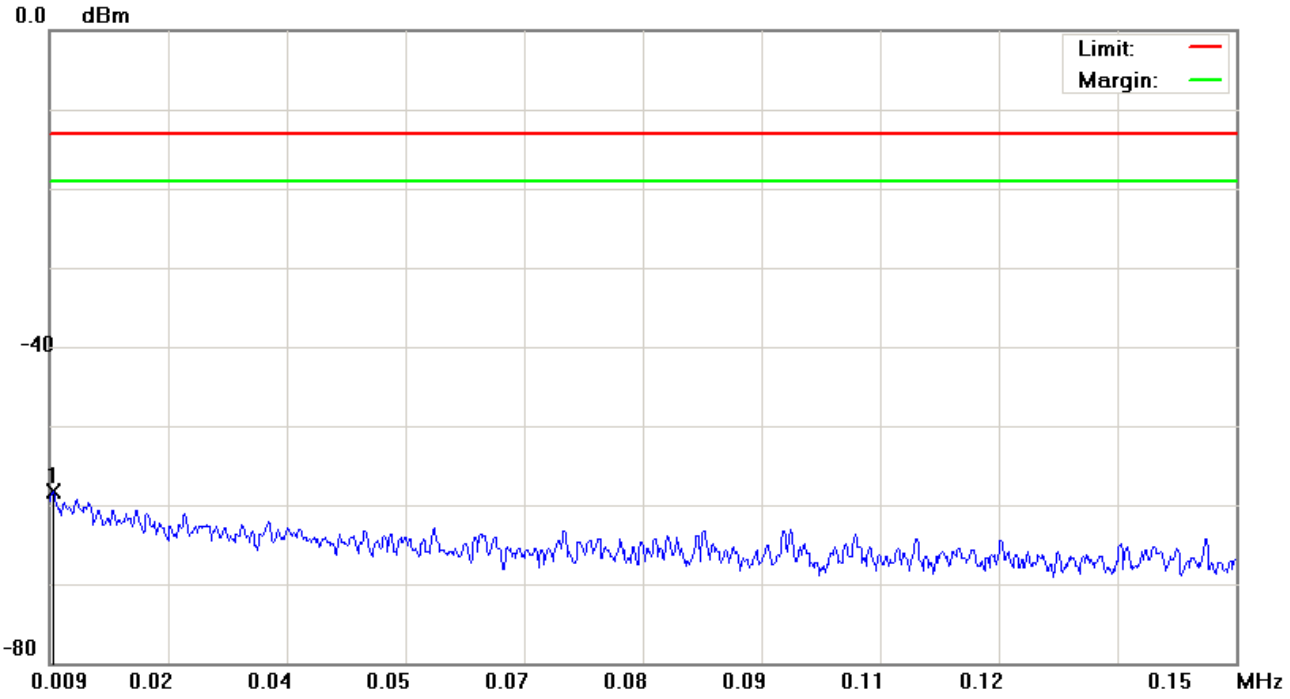
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	16103.125	-55.66	6.33	-49.33	-13.00	-36.33	peak			

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

File :HE920-NA(CH810) Data :#1 Date: 2013/12/4 Time: 下午 02:11:49



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

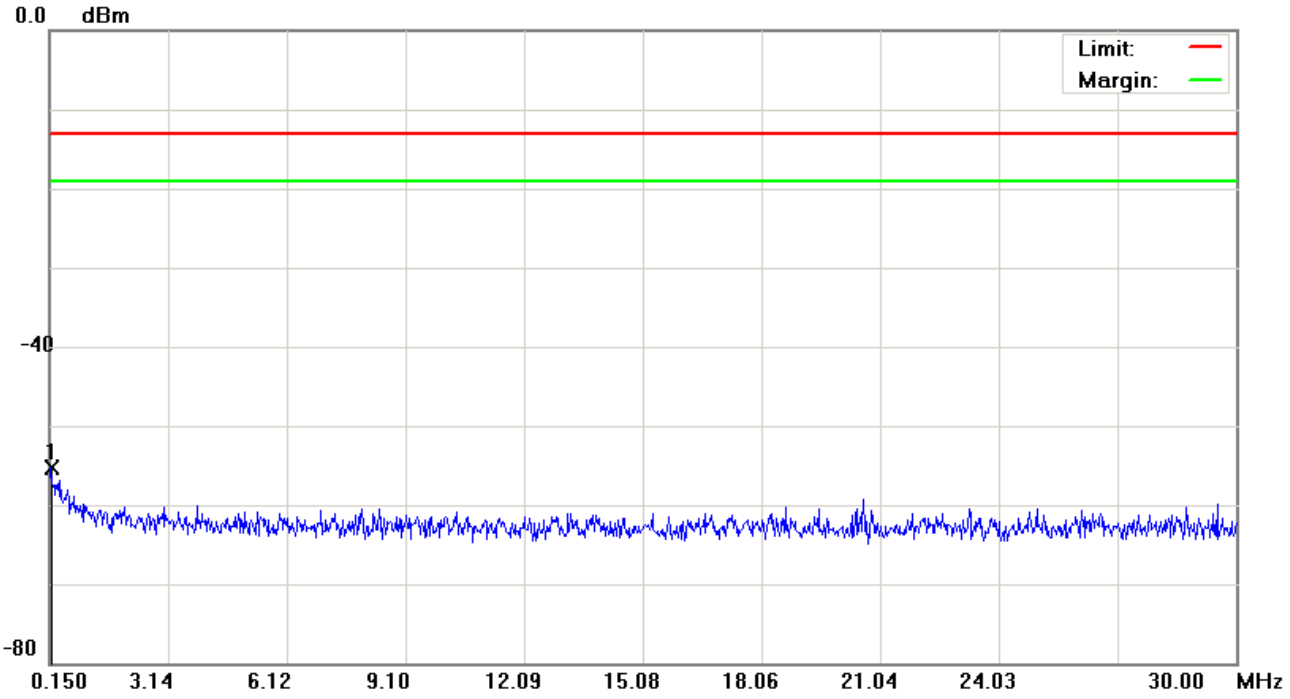
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0094	-69.55	11.33	-58.22	-13.00	-45.22	peak			

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

File :HE920-NA(CH810) Data :#2 Date: 2013/12/4 Time: 下午 02:12:13



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

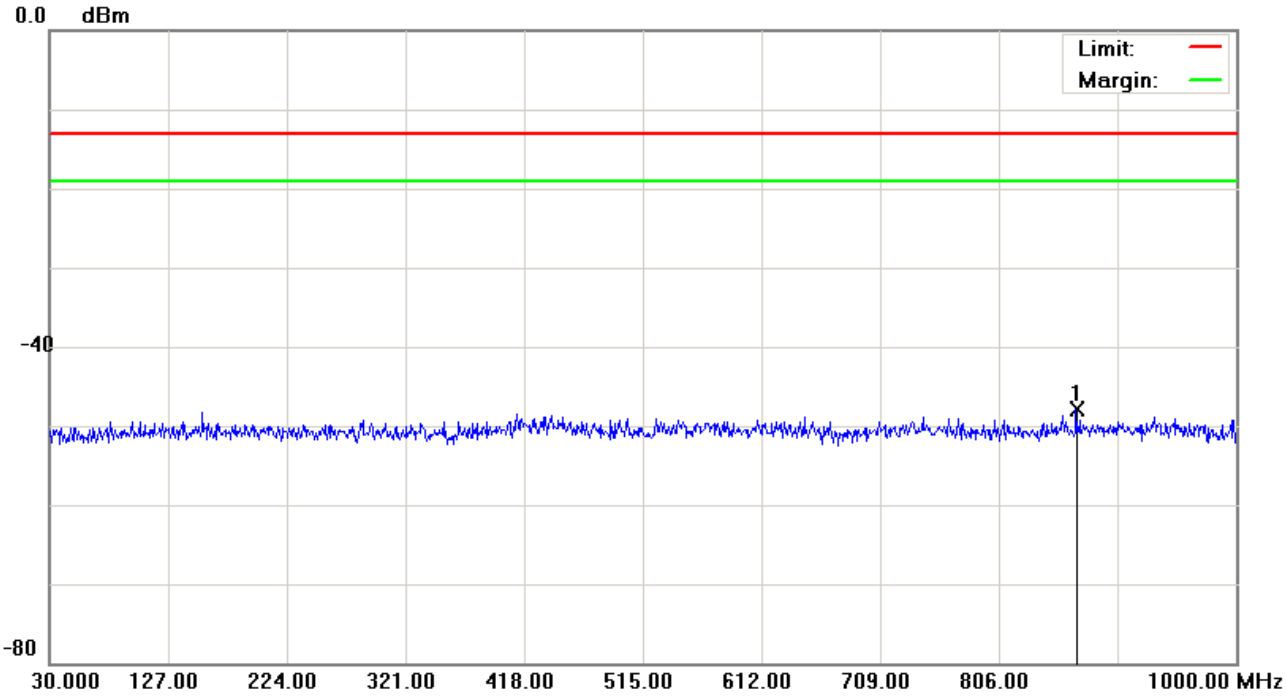
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1948	-67.74	12.45	-55.29	-13.00	-42.29	peak			

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

File :HE920-NA(CH810) Data :#3 Date: 2013/12/4 Time: 下午 02:12:37



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

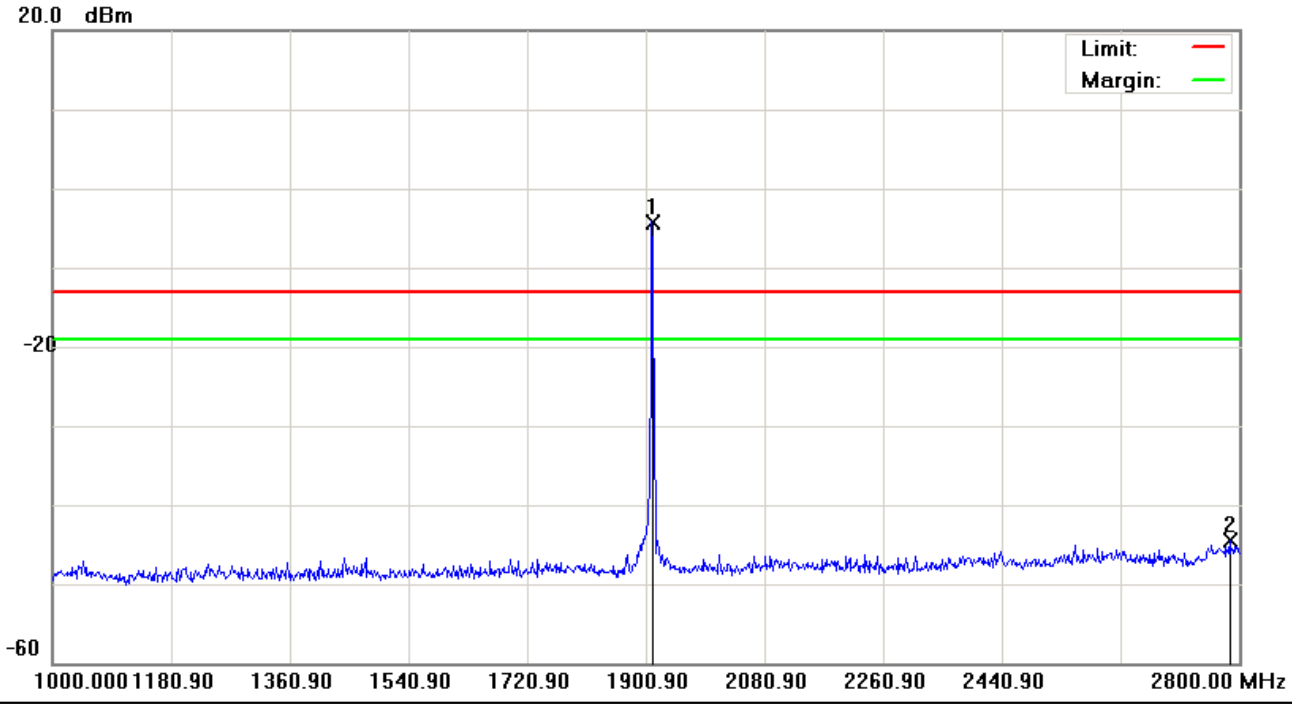
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	869.5350	-61.15	13.27	-47.88	-13.00	-34.88	peak			

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

File :HE920-NA(CH810) Data :#4 Date: 2013/12/4 Time: 下午 02:30:02



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

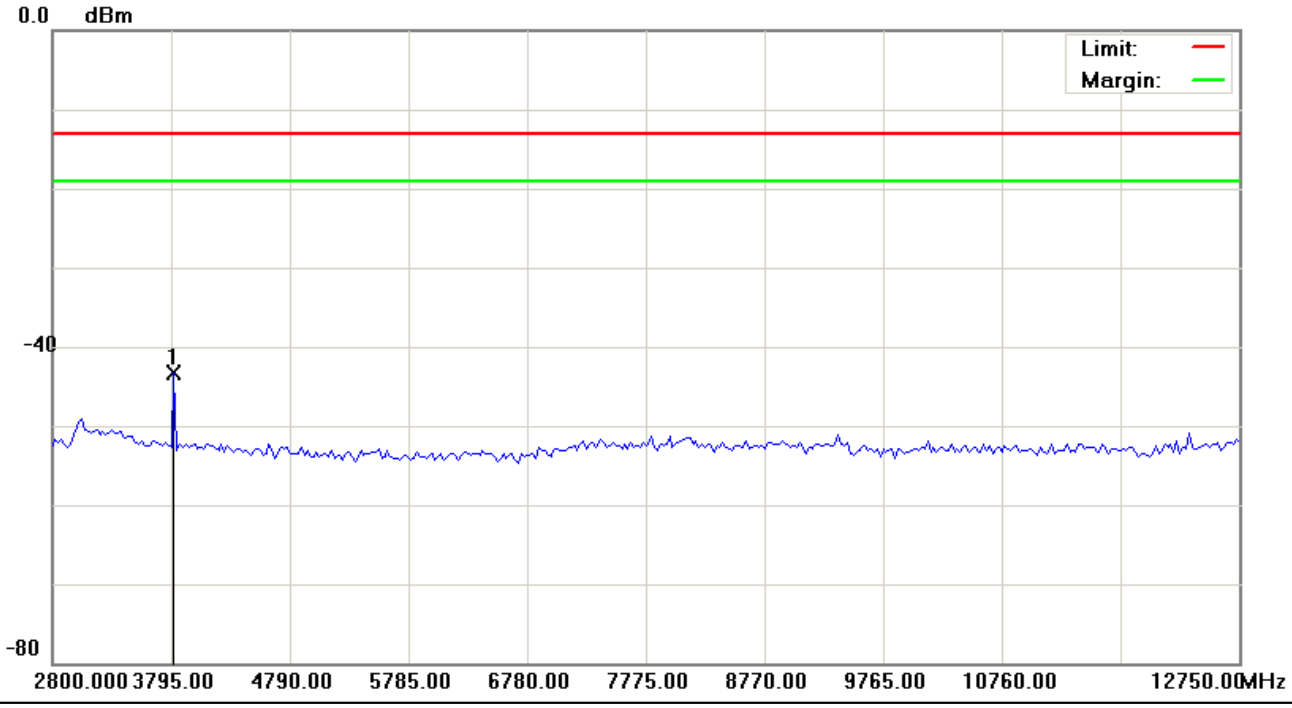
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-9.91	5.71	-4.20	-13.00	8.80	peak			Tx
2		2786.500	-50.32	5.89	-44.43	-13.00	-31.43	peak			

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

File :HE920-NA(CH810) Data :#5 Date: 2013/12/4 Time: 下午 01:41:49



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

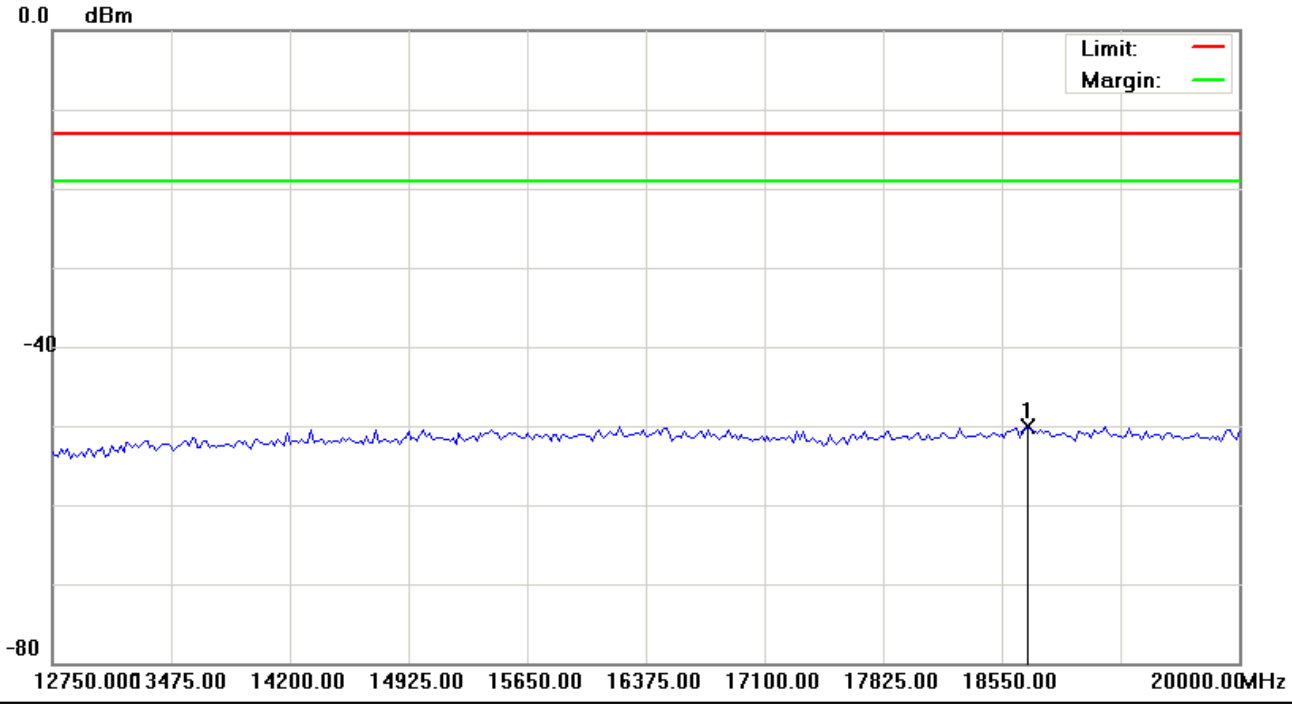
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	3819.875	-48.18	4.91	-43.27	-13.00	-30.27	peak			

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

File :HE920-NA(CH810) Data :#6 Date: 2013/12/4 Time: 下午 01:42:09



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: GSM 1900
Note:

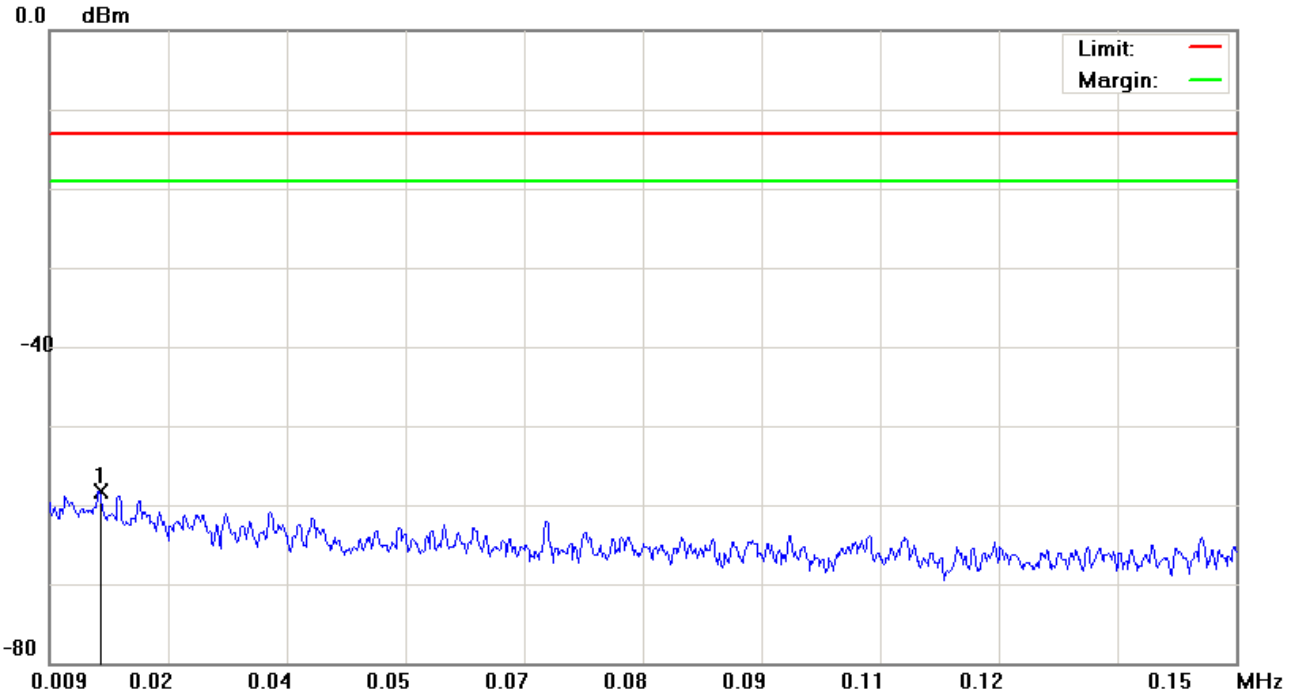
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	18713.125	-57.07	7.07	-50.00	-13.00	-37.00	peak			

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

File :HE920-NA(CH9262) Data :#1 Date: 2013/11/25 Time: 上午 11:51:16



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

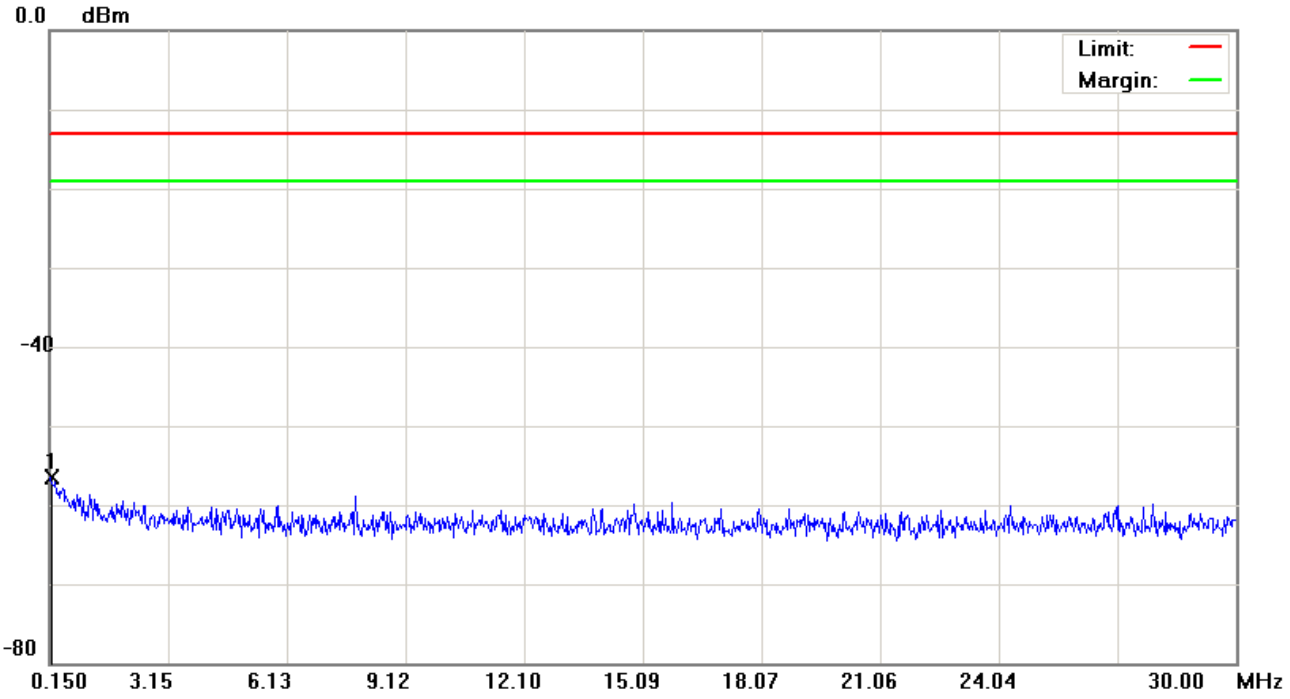
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0150	-69.64	11.39	-58.25	-13.00	-45.25	peak			

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

File :HE920-NA(CH9262) Data :#2 Date: 2013/11/25 Time: 上午 11:51:40



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

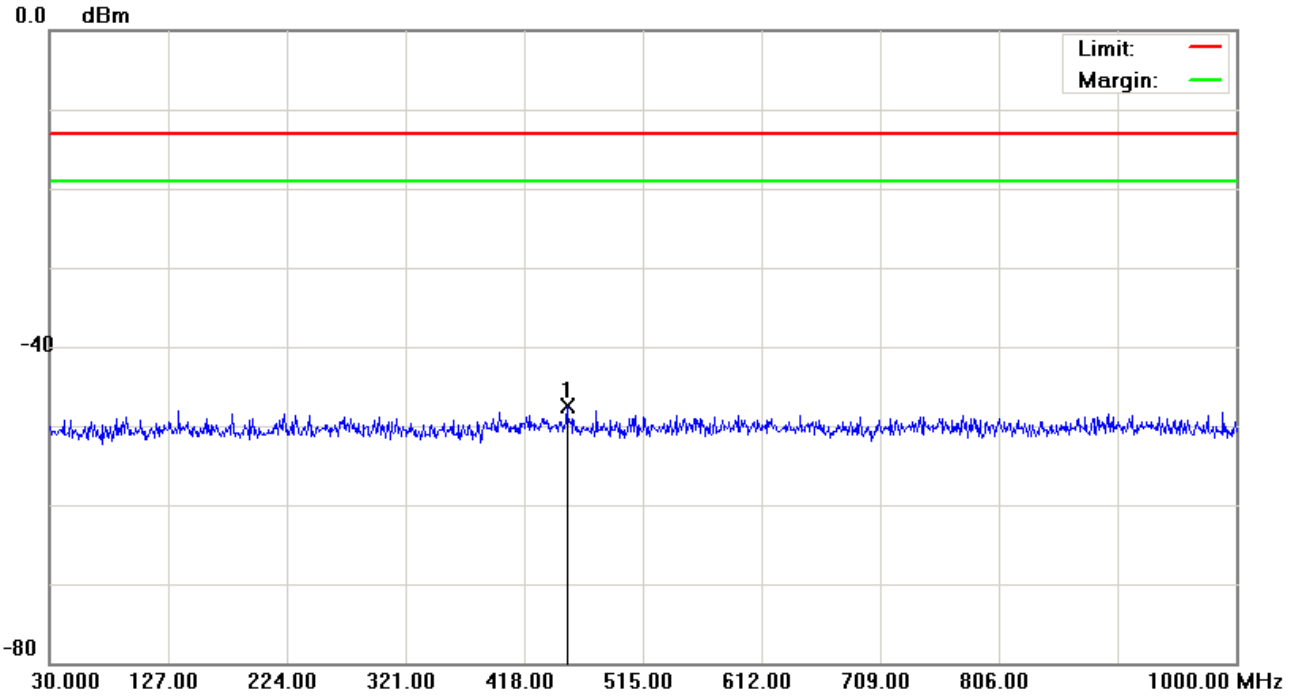
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1948	-68.85	12.45	-56.40	-13.00	-43.40	peak			

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

File :HE920-NA(CH9262) Data :#3 Date: 2013/11/25 Time: 上午 11:52:04



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

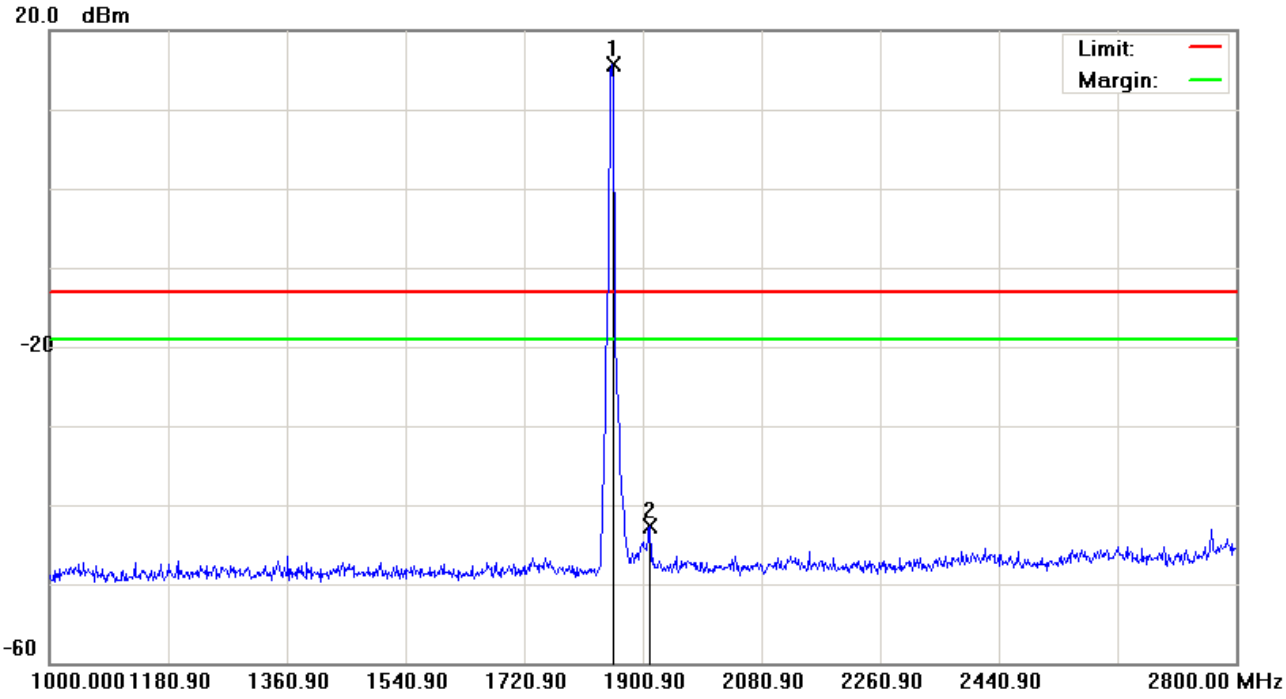
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	453.4050	-60.70	13.22	-47.48	-13.00	-34.48	peak			

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

File :HE920-NA(CH9262) Data :#4 Date: 2013/11/25 Time: 下午 01:24:27



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

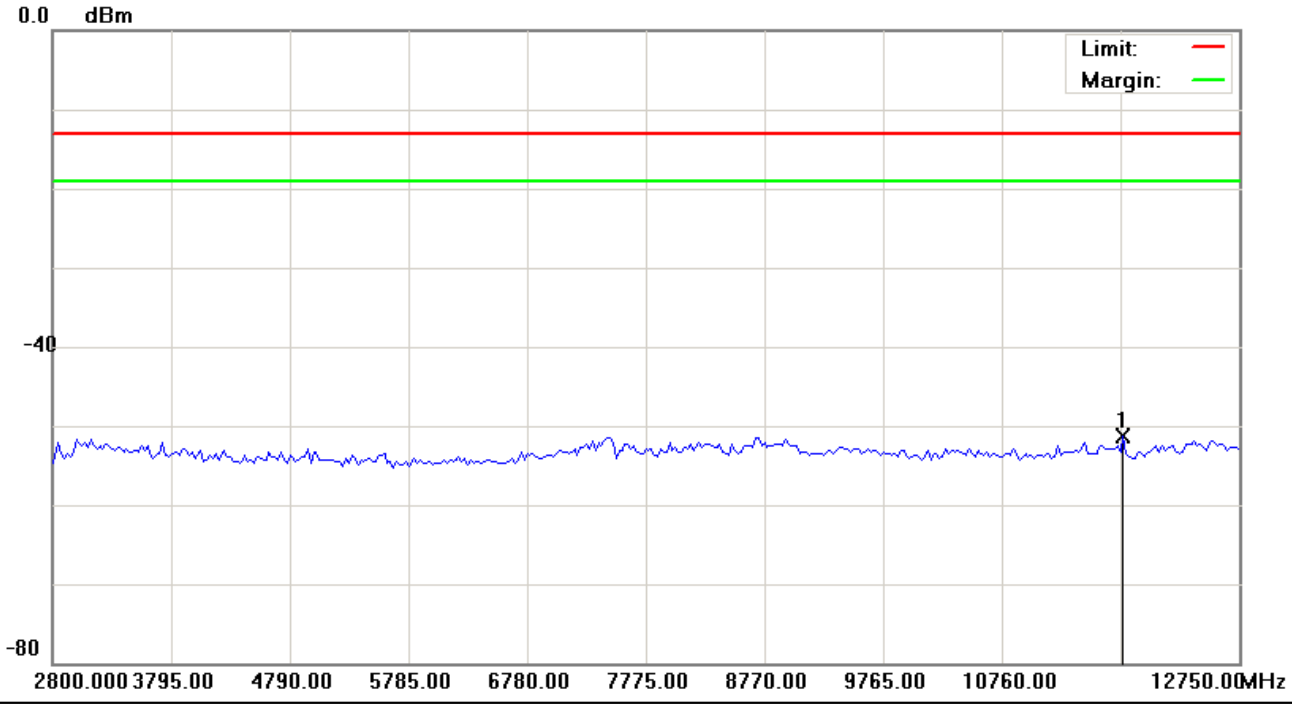
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1854.100	11.36	4.28	15.64	-13.00	28.64	peak			Tx
2		1910.800	-48.34	5.63	-42.71	-13.00	-29.71	peak			

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

File :HE920-NA(CH9262) Data :#5 Date: 2013/11/25 Time: 上午 09:14:29



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

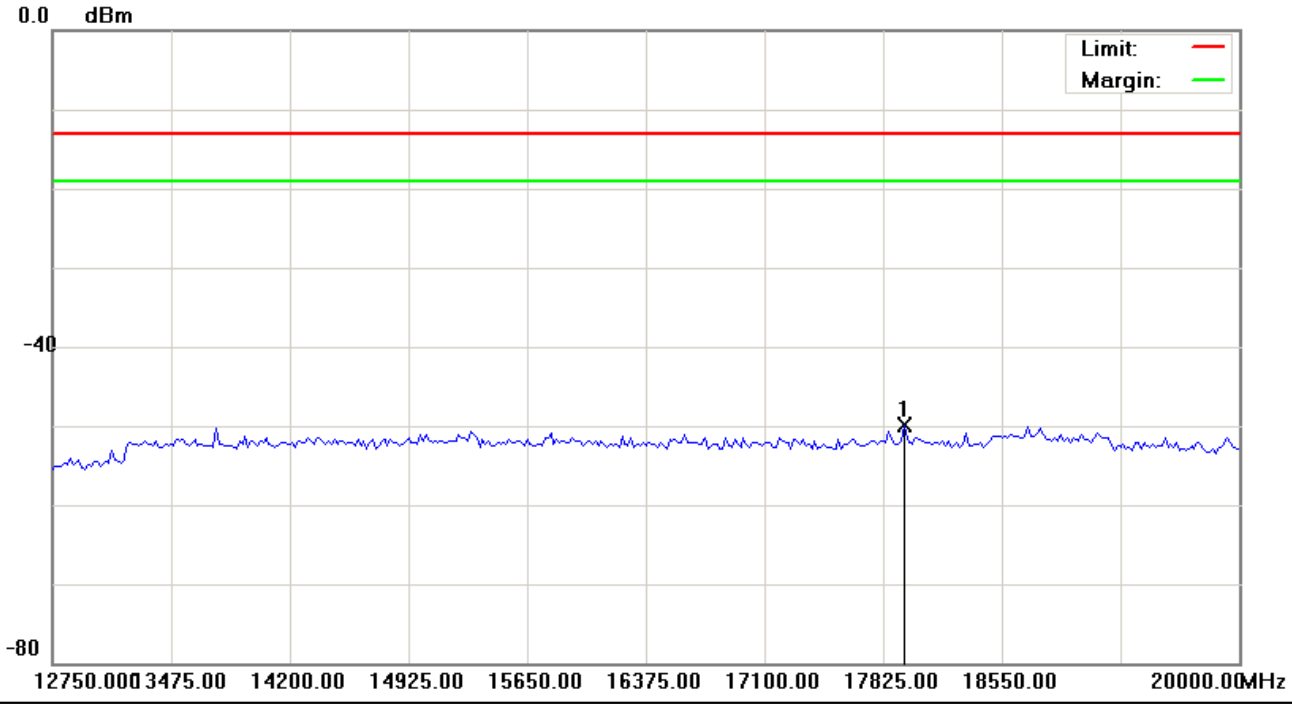
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	11779.875	-56.50	5.19	-51.31	-13.00	-38.31	peak			

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

File :HE920-NA(CH9262) Data :#6 Date: 2013/11/25 Time: 上午 09:14:52



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

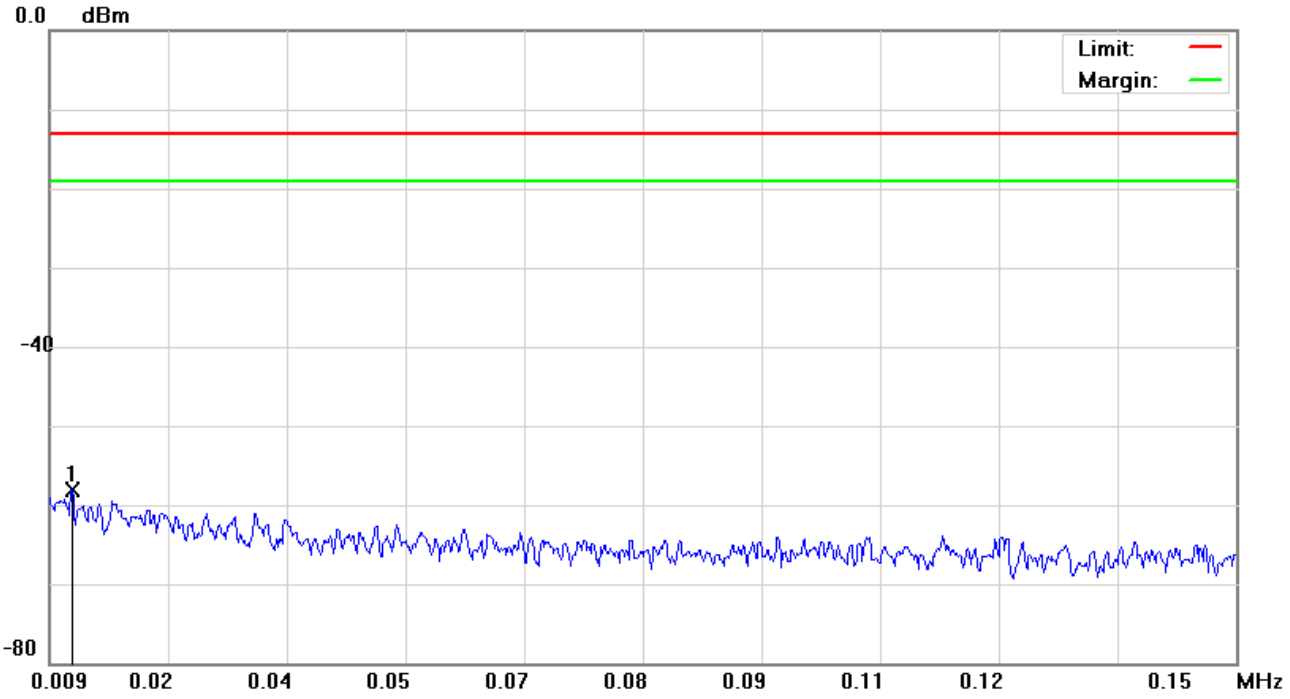
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	17951.875	-56.82	6.86	-49.96	-13.00	-36.96	peak			

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

File :HE920-NA(CH9400) Data :#1 Date: 2013/11/25 Time: 上午 11:52:50



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

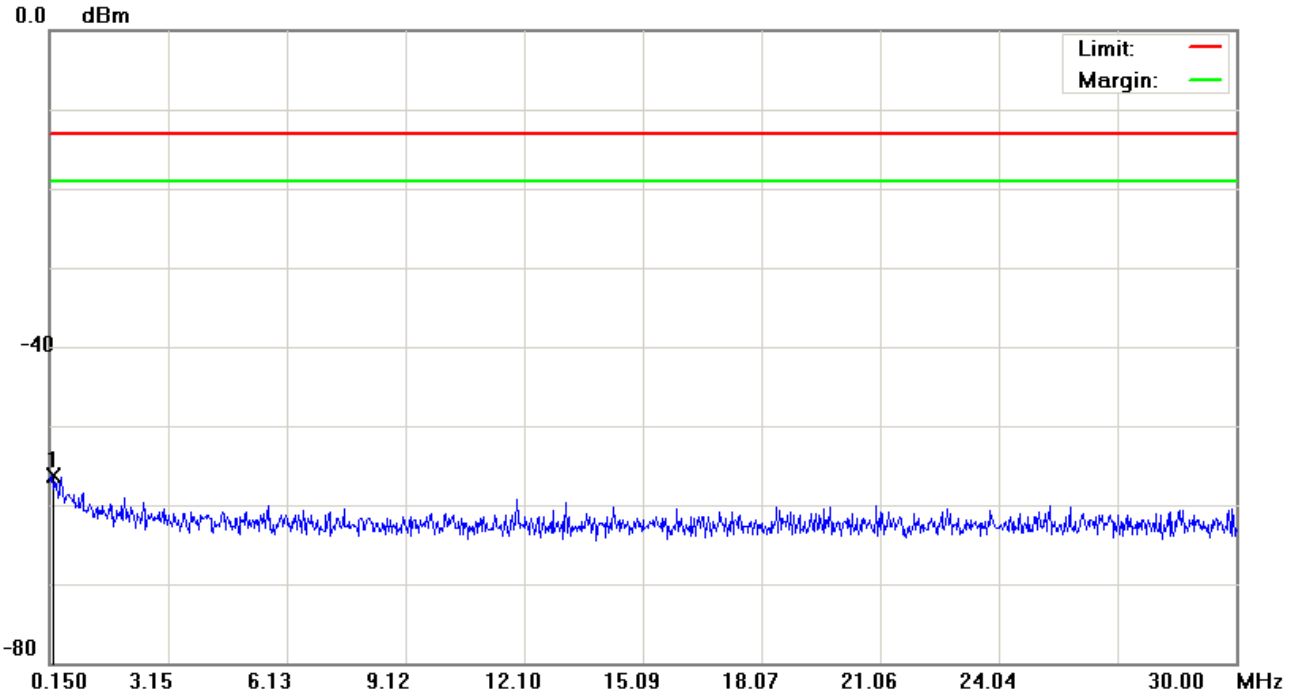
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0117	-69.52	11.35	-58.17	-13.00	-45.17	peak			

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

File :HE920-NA(CH9400) Data :#2 Date: 2013/11/25 Time: 上午 11:53:14



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

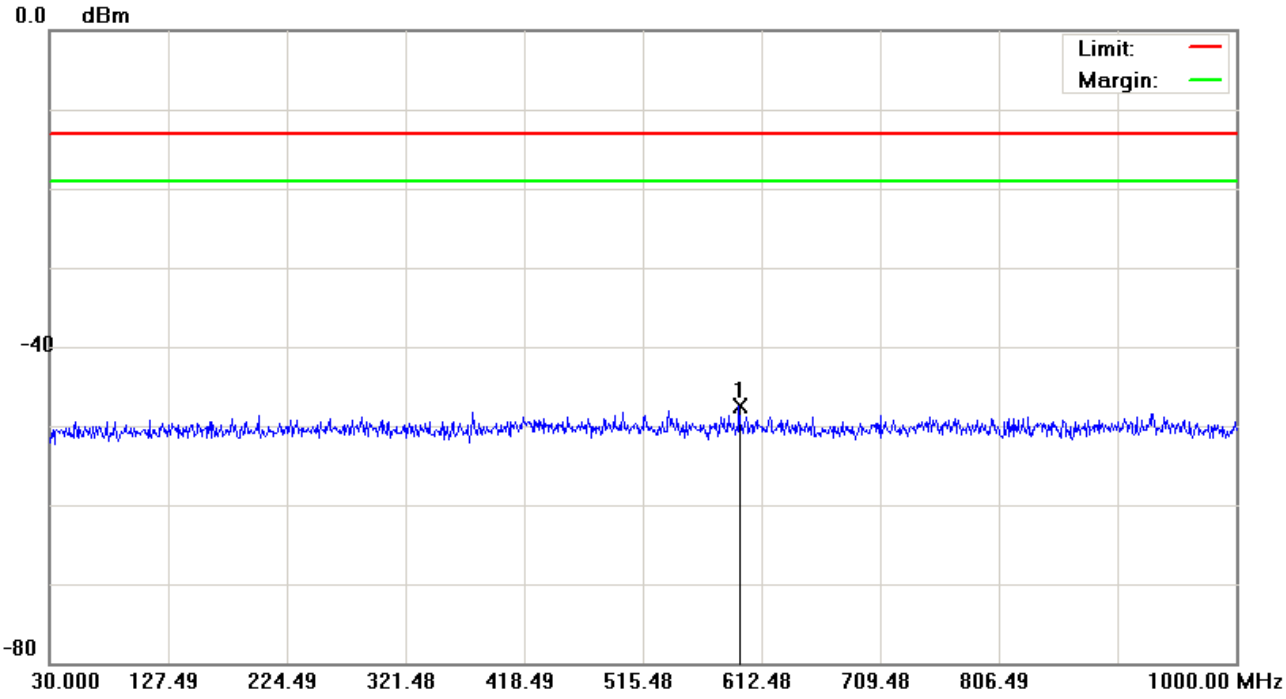
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.2246	-68.77	12.47	-56.30	-13.00	-43.30	peak			

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

File :HE920-NA(CH9400) Data :#3 Date: 2013/11/25 Time: 上午 11:53:37



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

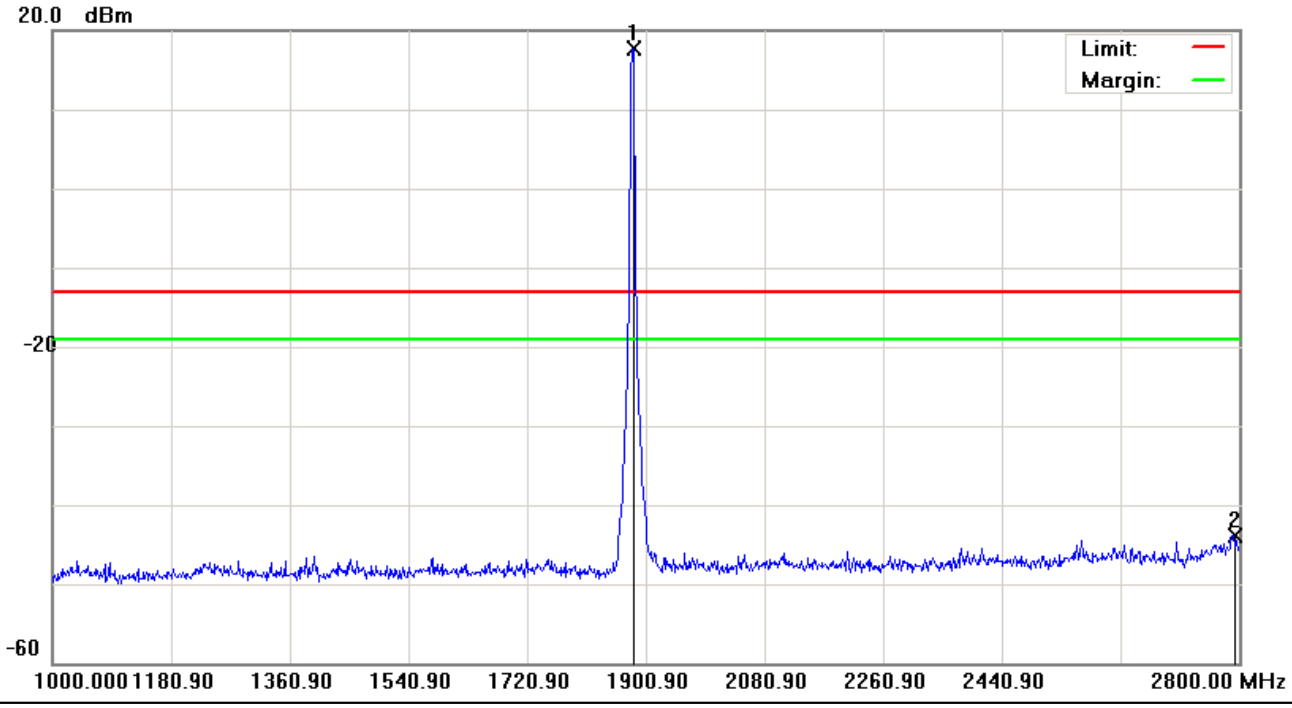
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	594.0550	-60.74	13.19	-47.55	-13.00	-34.55	peak			

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

File :HE920-NA(CH9400) Data :#4 Date: 2013/11/25 Time: 下午 01:32:26



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

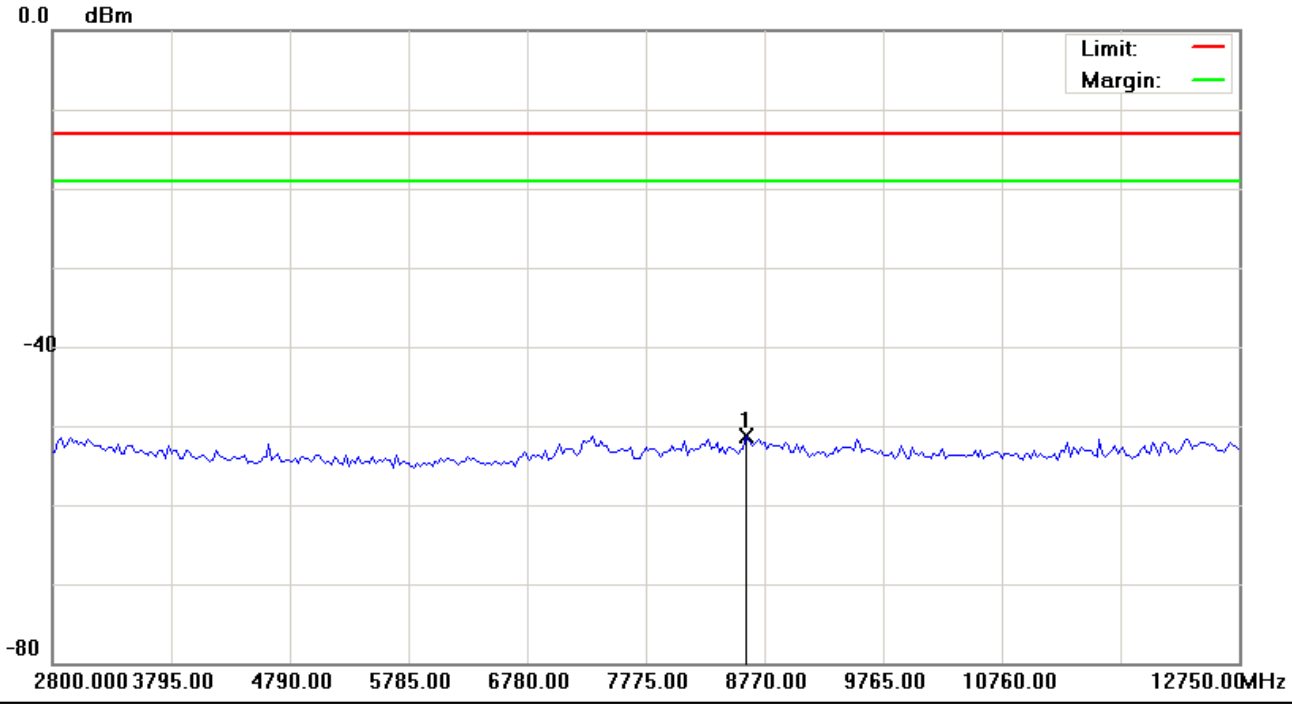
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1881.100	12.97	4.74	17.71	-13.00	30.71	peak			Tx
2		2791.900	-49.85	5.90	-43.95	-13.00	-30.95	peak			

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

File :HE920-NA(CH9400) Data :#5 Date: 2013/11/25 Time: 上午 09:15:40



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

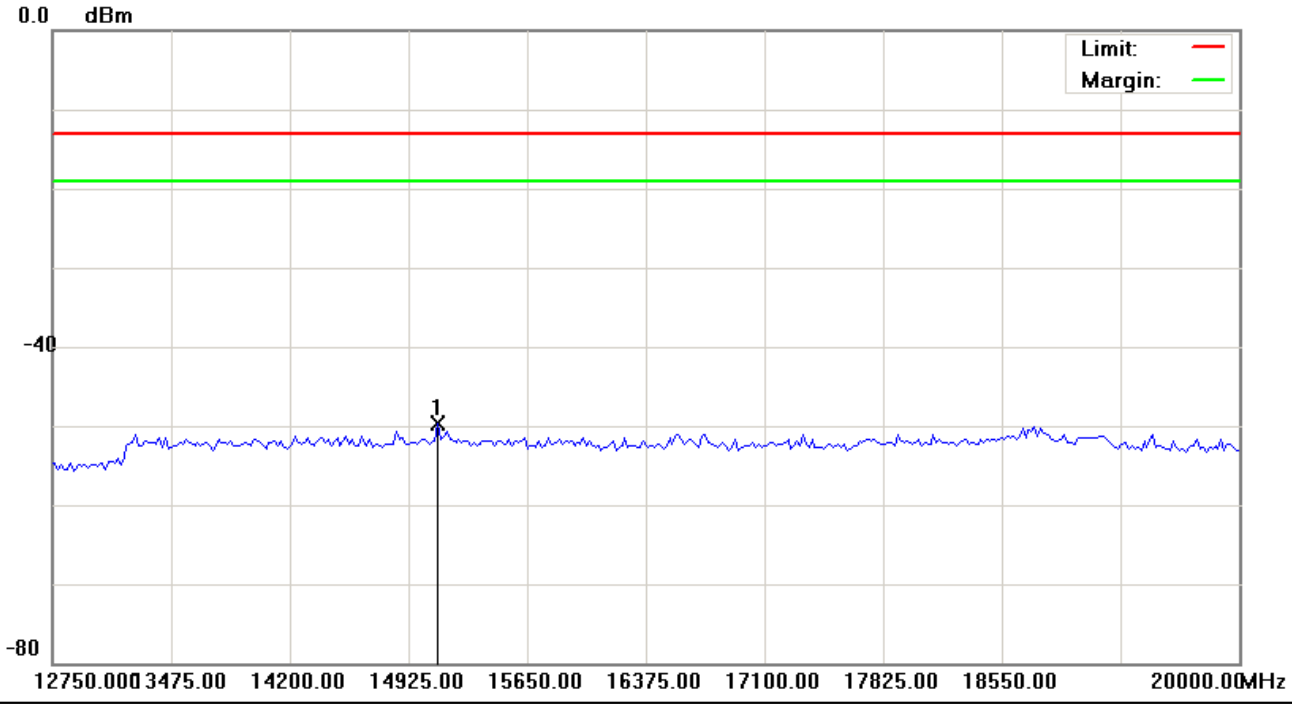
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	8620.750	-56.93	5.63	-51.30	-13.00	-38.30	peak			

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

File :HE920-NA(CH9400) Data :#6 Date: 2013/11/25 Time: 上午 09:16:01



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

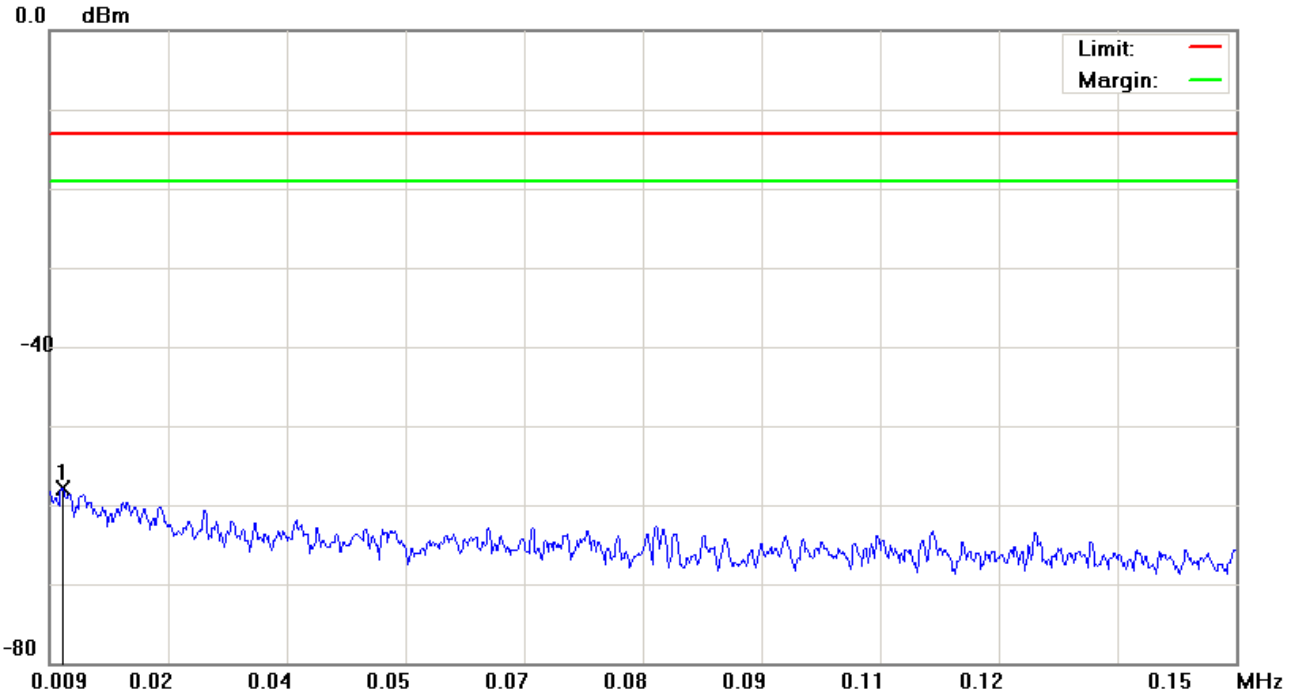
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	15106.250	-55.82	6.04	-49.78	-13.00	-36.78	peak			

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

File :HE920-NA(CH9538) Data :#1 Date: 2013/11/25 Time: 上午 11:55:05



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

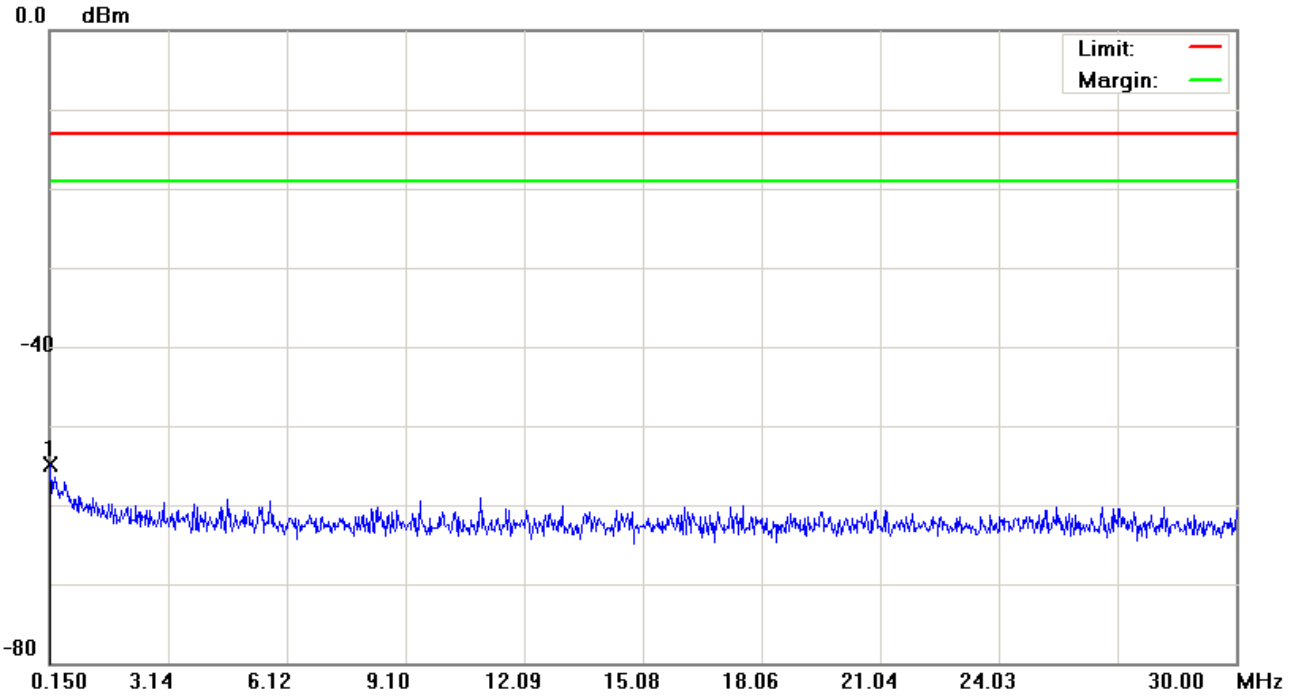
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0106	-69.28	11.34	-57.94	-13.00	-44.94	peak			

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

File :HE920-NA(CH9538) Data :#2 Date: 2013/11/25 Time: 上午 11:55:28



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

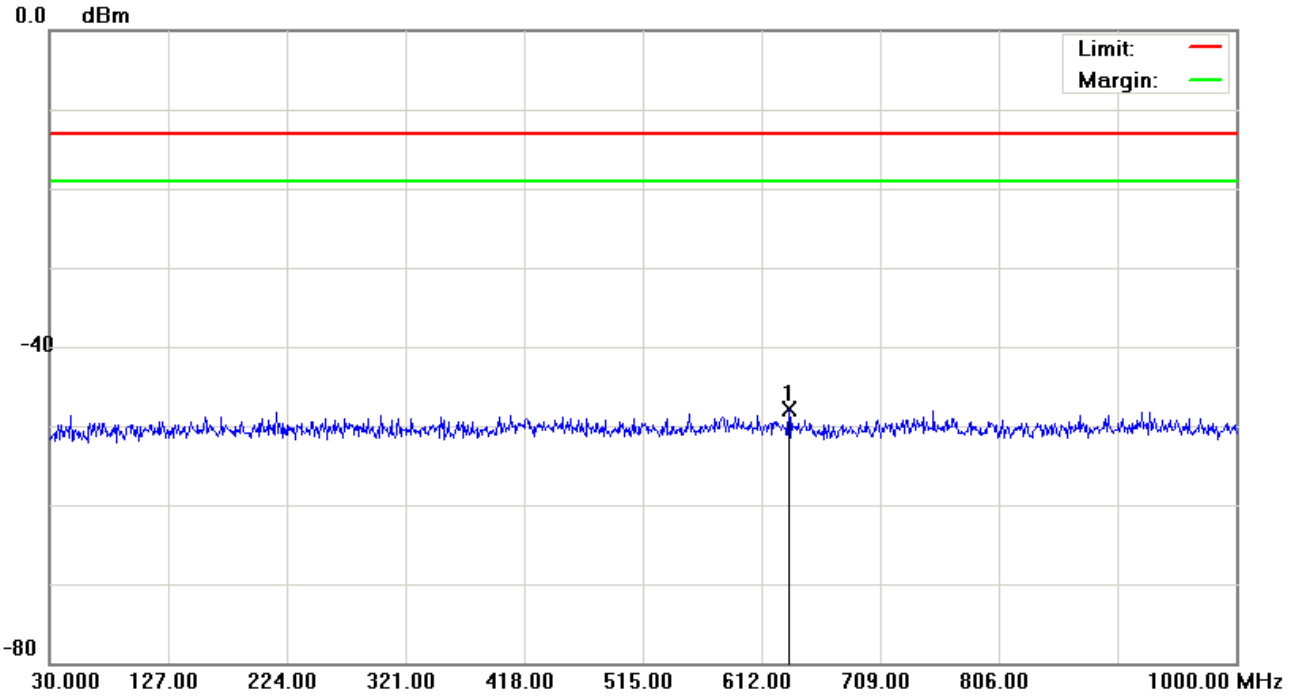
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1798	-67.29	12.45	-54.84	-13.00	-41.84	peak			

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

File :HE920-NA(CH9538) Data :#3 Date: 2013/11/25 Time: 上午 11:55:52



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

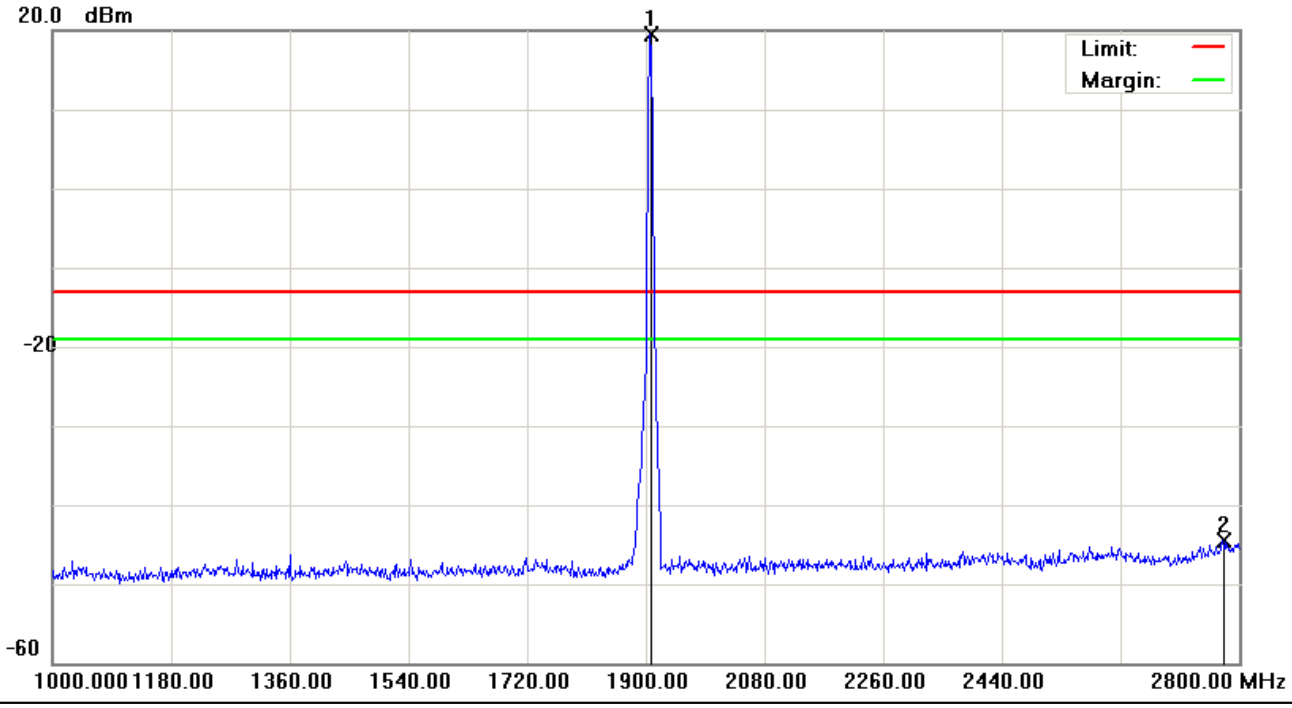
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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	*	634.3100	-61.09	13.14	-47.95	-13.00	-34.95	peak			

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

File :HE920-NA(CH9538) Data :#4 Date: 2013/11/25 Time: 下午 01:27:14



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

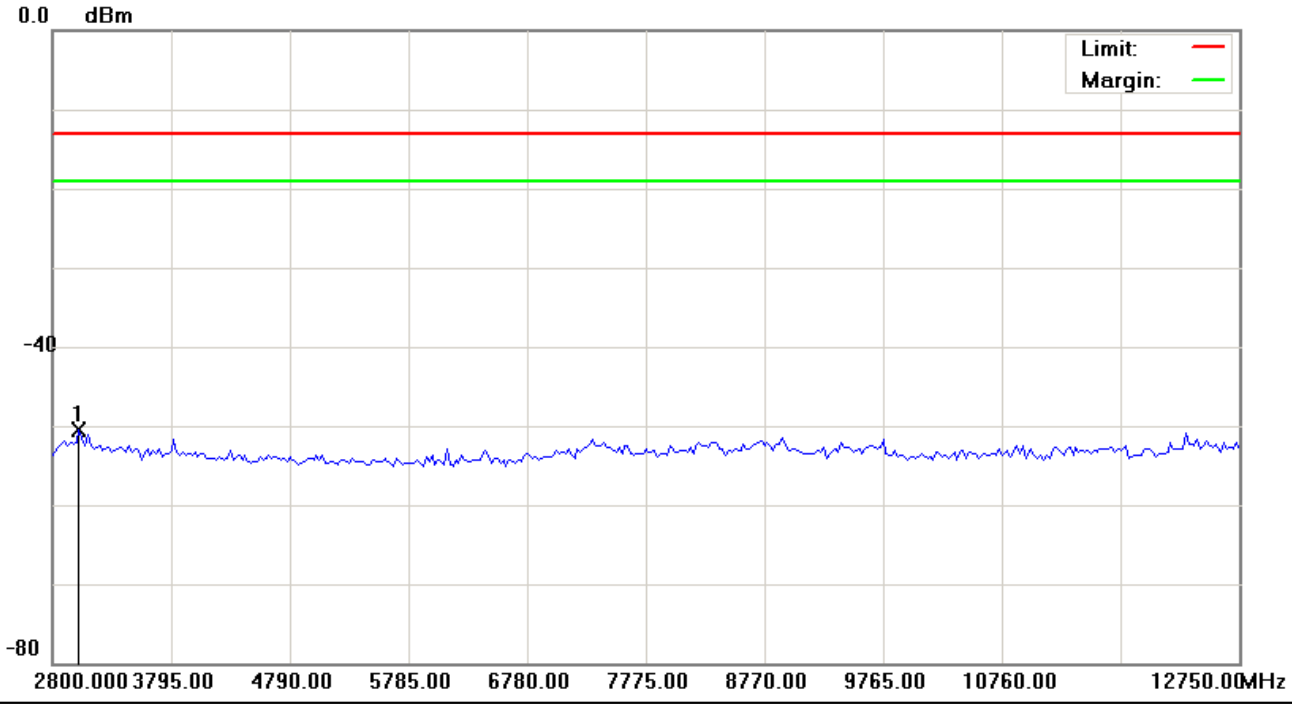
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1906.300	13.41	6.05	19.46	-13.00	32.46	peak			Tx
2		2775.700	-50.33	5.82	-44.51	-13.00	-31.51	peak			

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

File :HE920-NA(CH9538) Data :#5 Date: 2013/11/25 Time: 上午 09:16:41



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

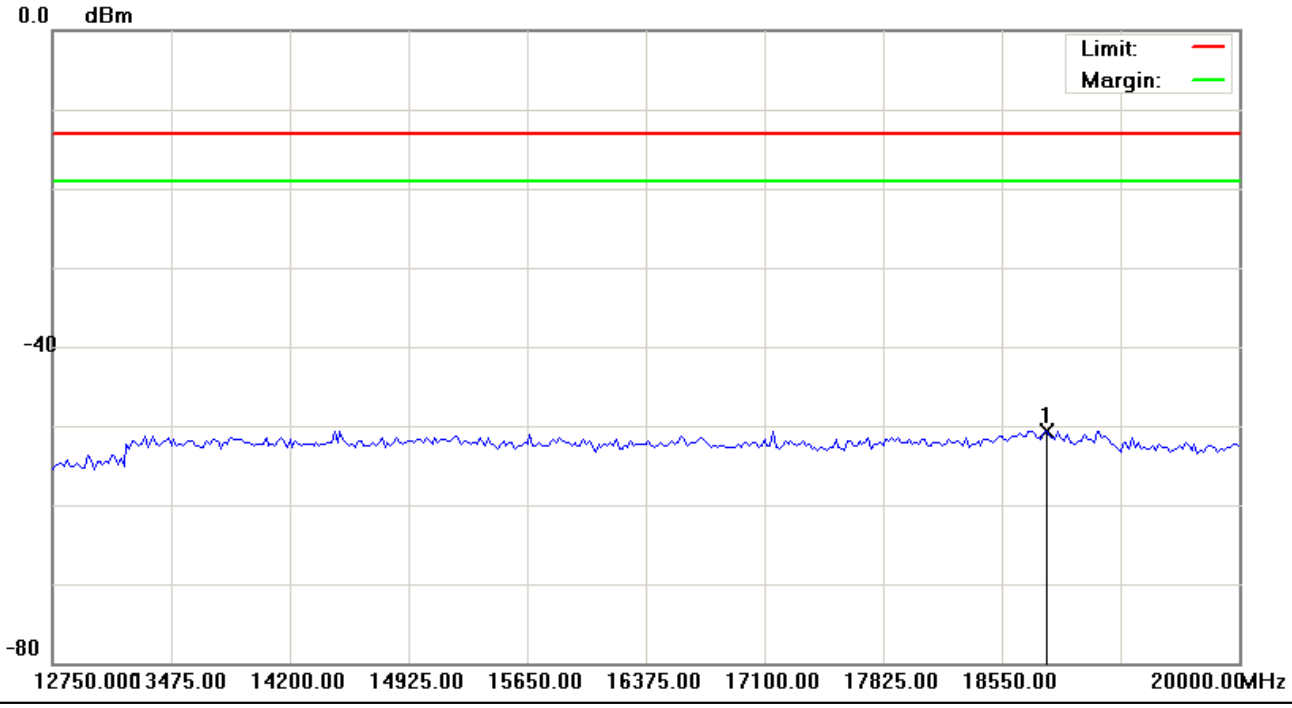
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	-55.98	5.48	-50.50	-13.00	-37.50	peak			

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

File :HE920-NA(CH9538) Data :#6 Date: 2013/11/25 Time: 上午 09:17:02



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band II
Note:

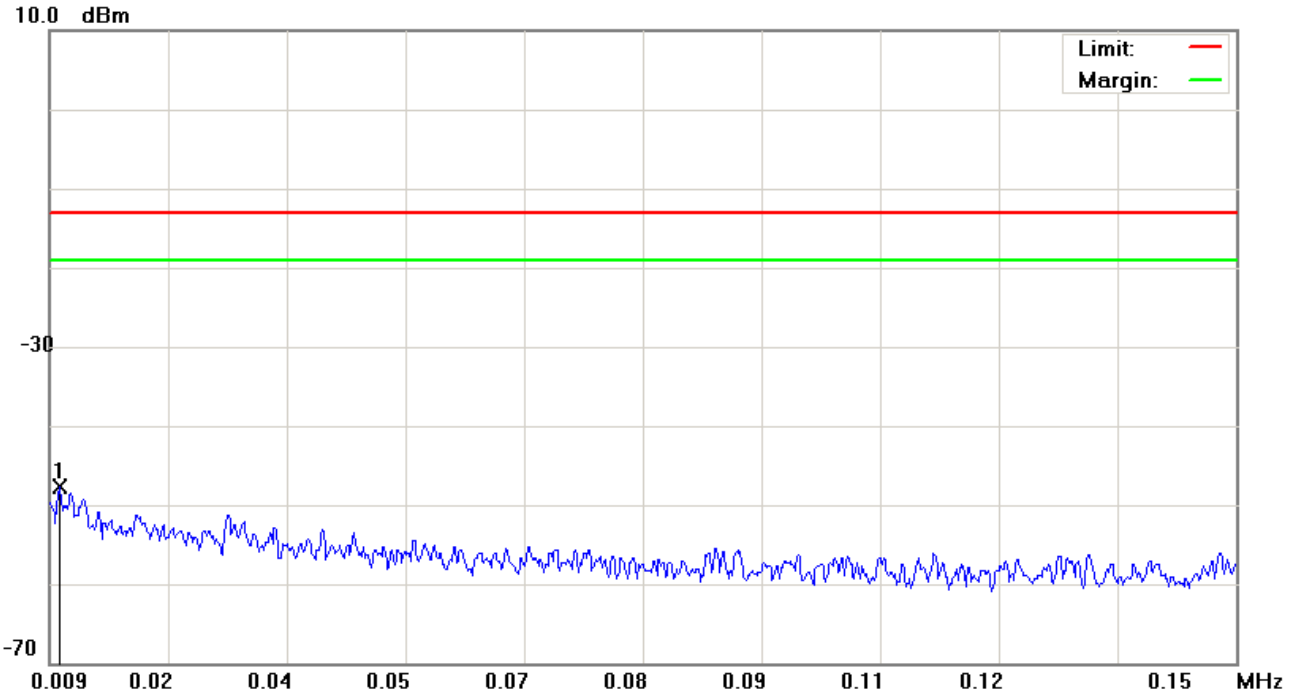
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	18821.875	-57.74	7.10	-50.64	-13.00	-37.64	peak			

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

File :HE920-NA(CH4132) Data :#1 Date: 2013/11/25 Time: 下午 01:39:54



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

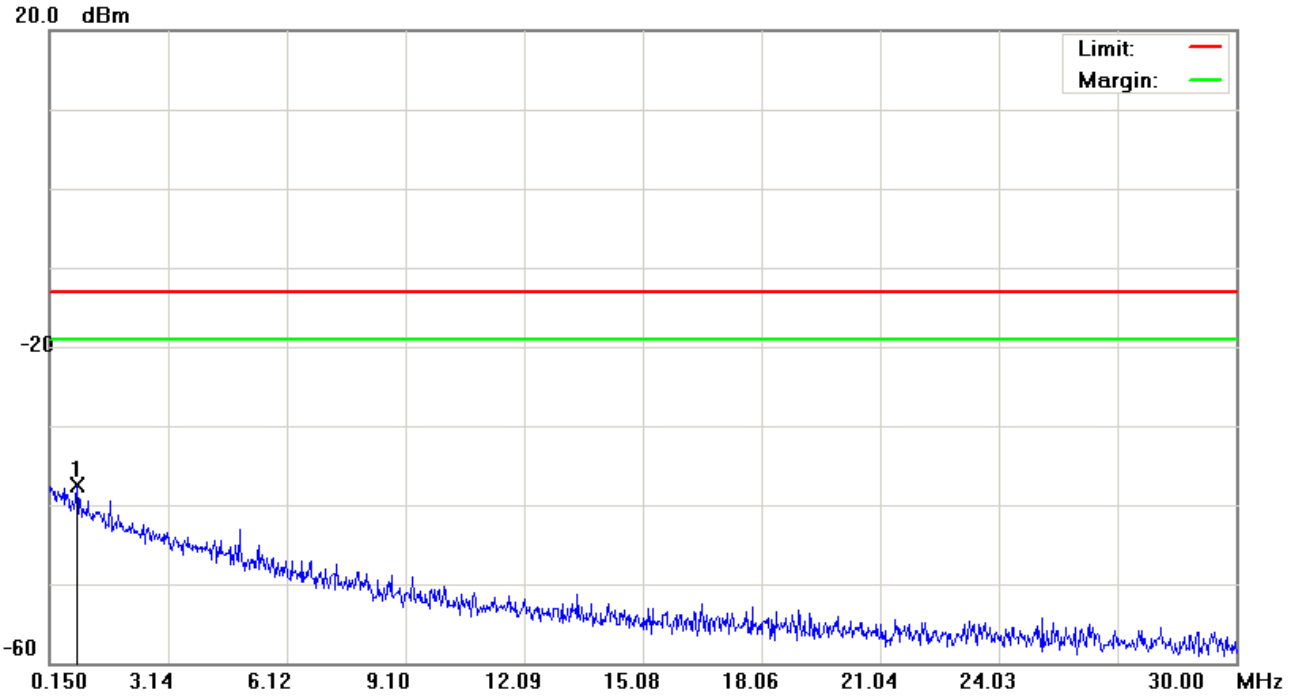
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0102	-78.34	30.57	-47.77	-13.00	-34.77	peak			

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

File :HE920-NA(CH4132) Data :#2 Date: 2013/11/25 Time: 下午 01:40:18



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

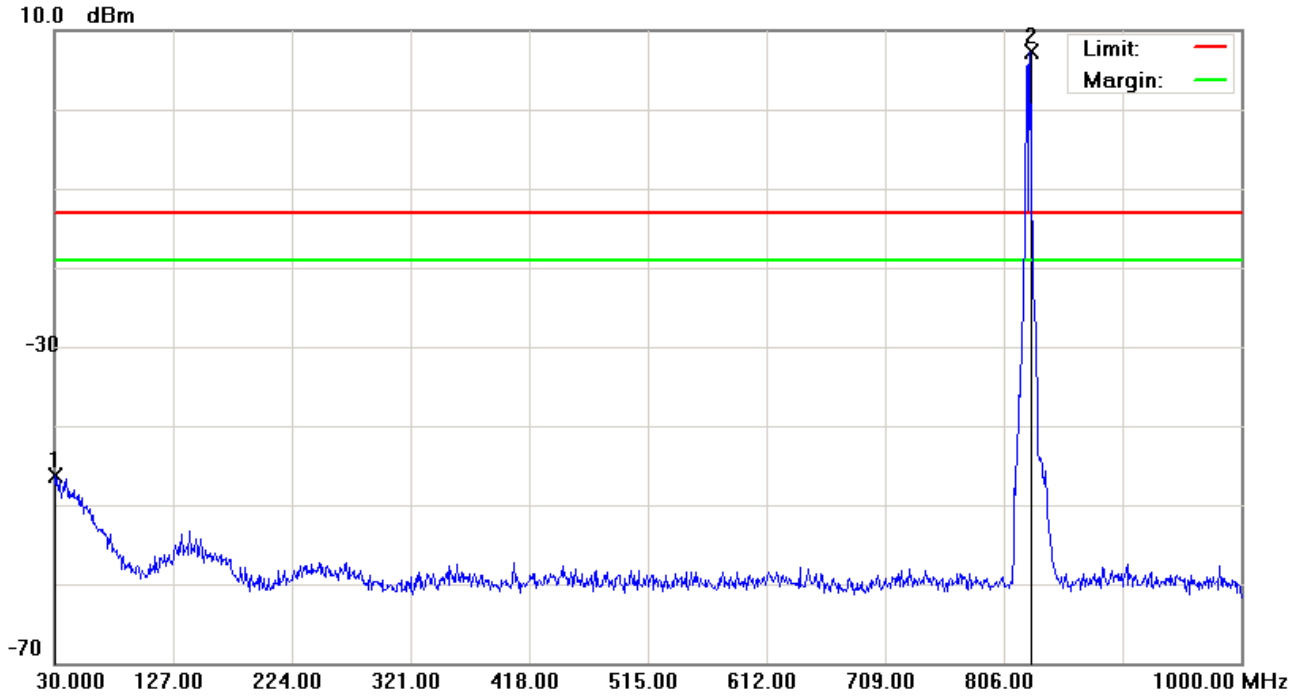
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.8366	-69.39	31.95	-37.44	-13.00	-24.44	peak			

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

File :HE920-NA(CH4132) Data :#3 Date: 2013/11/25 Time: 下午 01:40:42



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

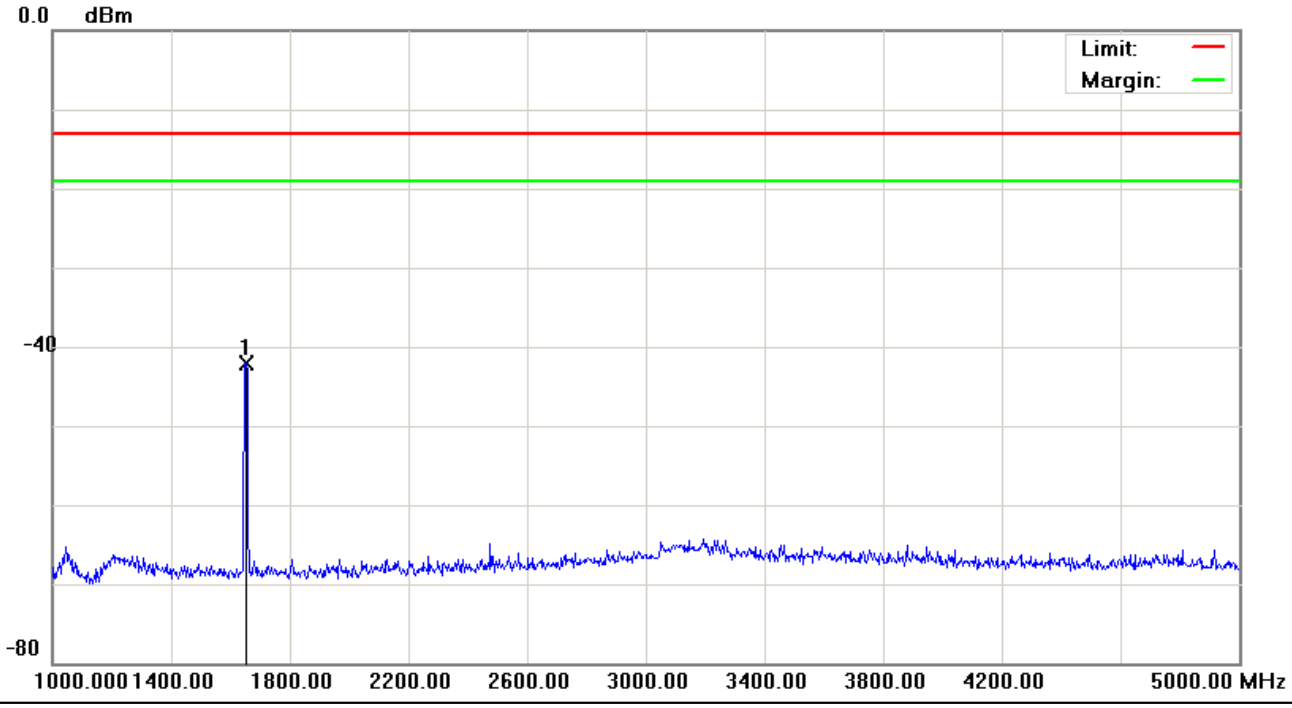
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		30.9700	-63.38	17.10	-46.28	-13.00	-33.28	peak			
2	*	827.8250	3.38	3.87	7.25	-13.00	20.25	peak			Tx

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

File :HE920-NA(CH4132) Data :#4 Date: 2013/11/25 Time: 下午 01:51:09



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

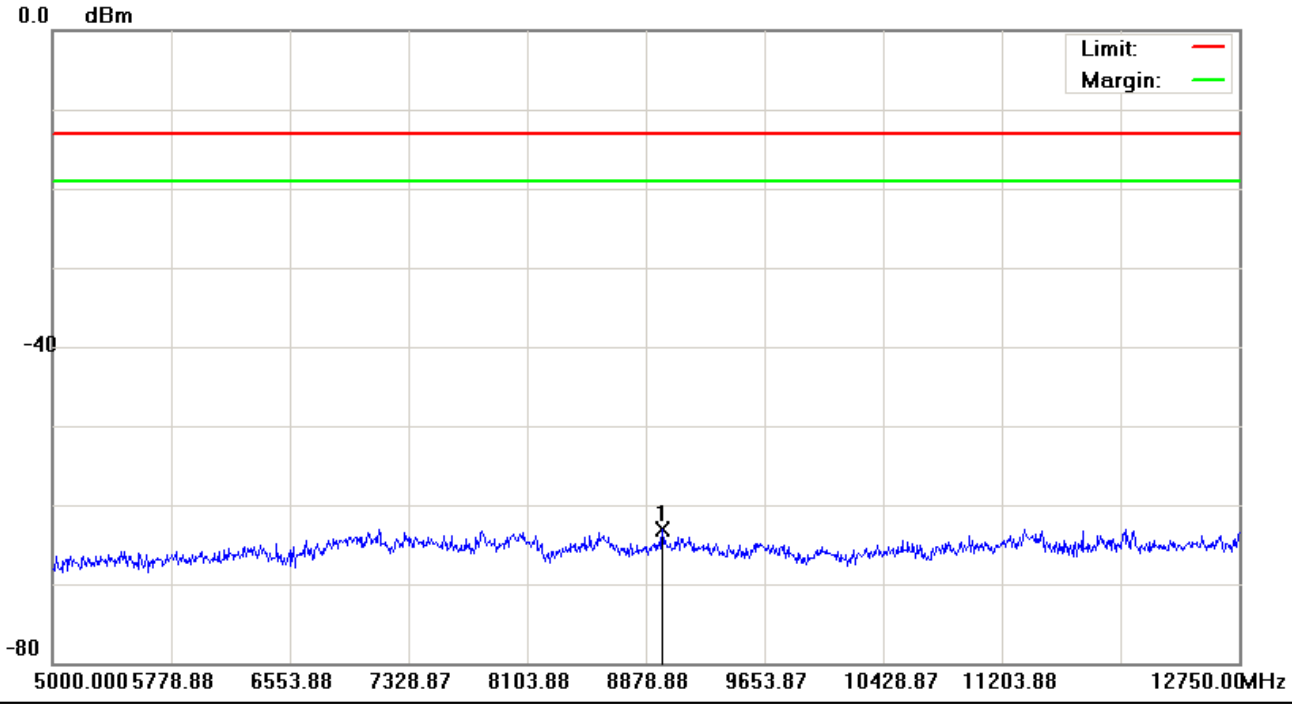
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1650.000	-46.55	4.45	-42.10	-13.00	-29.10	peak			

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

File :HE920-NA(CH4132) Data :#5 Date: 2013/11/25 Time: 下午 01:51:32



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

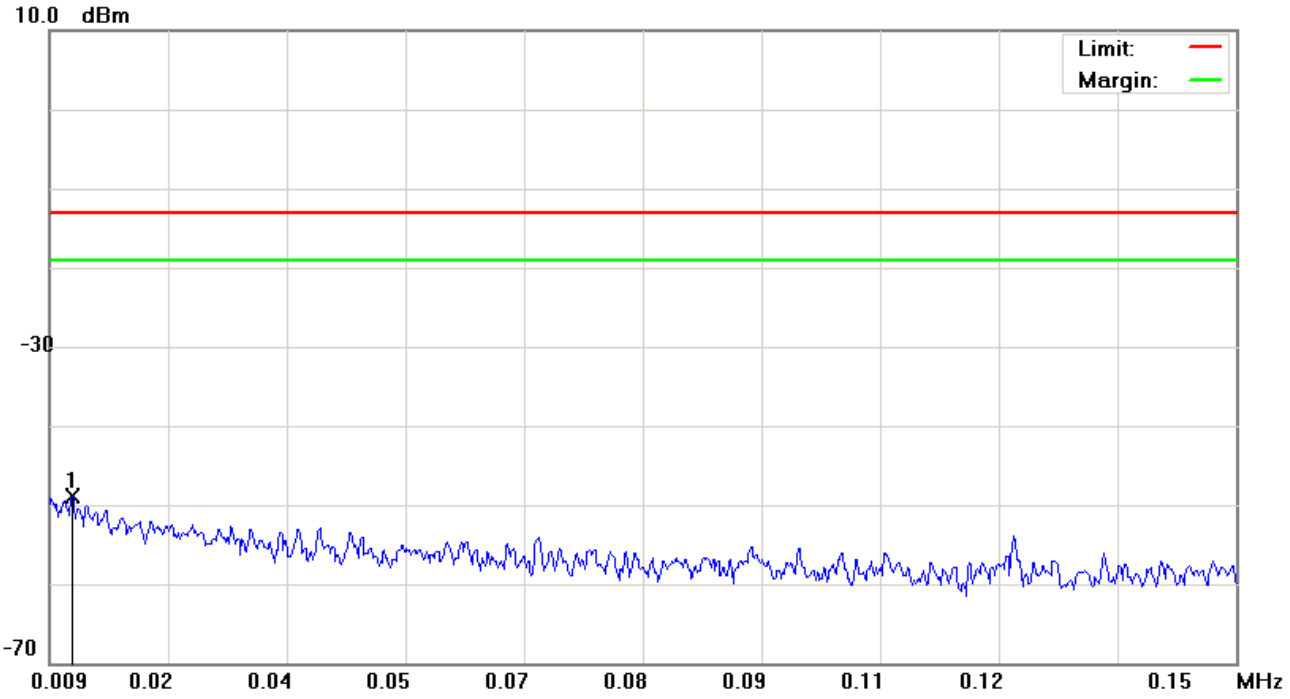
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	8983.500	-68.57	5.53	-63.04	-13.00	-50.04	peak			

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

File :HE920-NA(CH4183) Data :#1 Date: 2013/11/25 Time: 下午 01:43:00



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

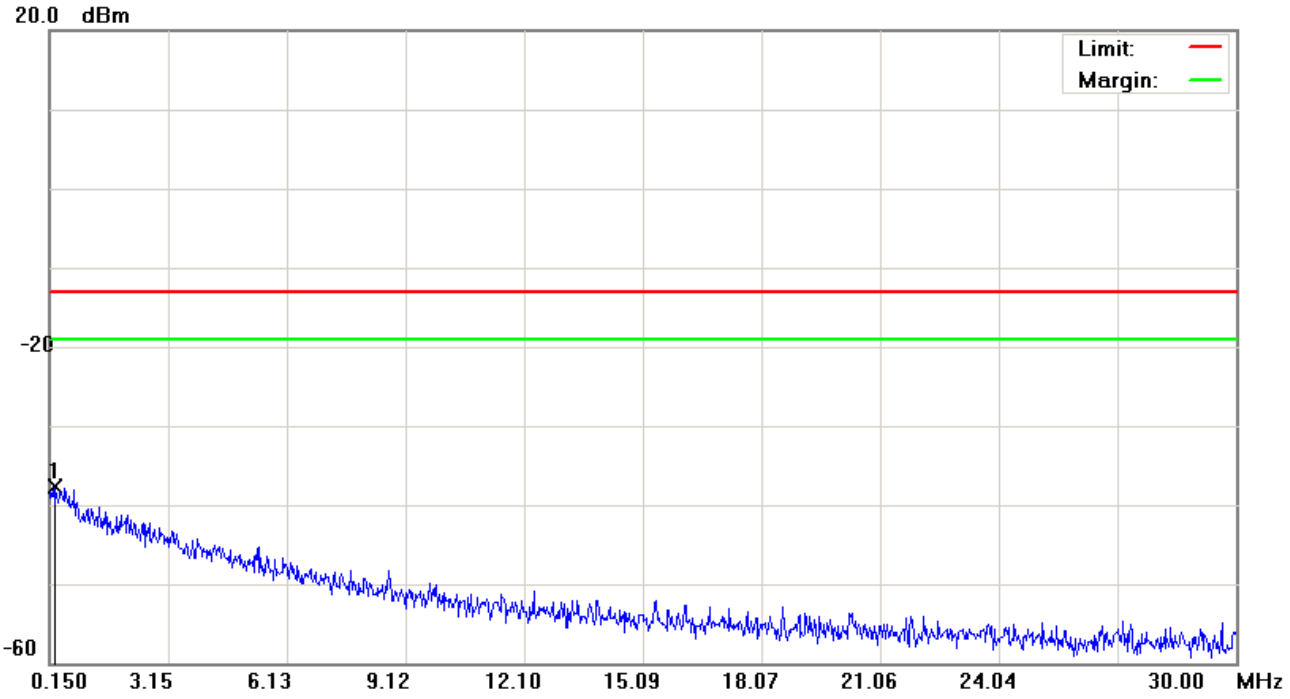
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0117	-79.54	30.57	-48.97	-13.00	-35.97	peak			

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

File :HE920-NA(CH4183) Data :#2 Date: 2013/11/25 Time: 下午 01:43:24



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

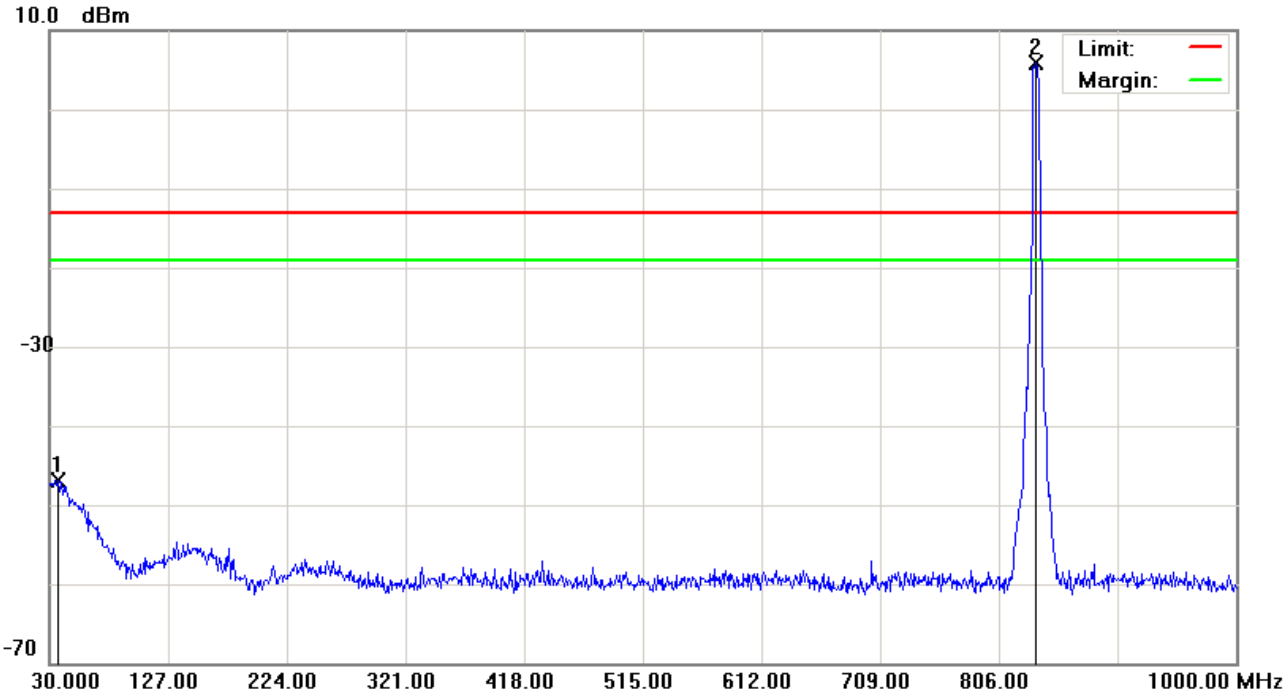
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.2993	-69.53	31.73	-37.80	-13.00	-24.80	peak			

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

File :HE920-NA(CH4183) Data :#3 Date: 2013/11/25 Time: 下午 01:43:48



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

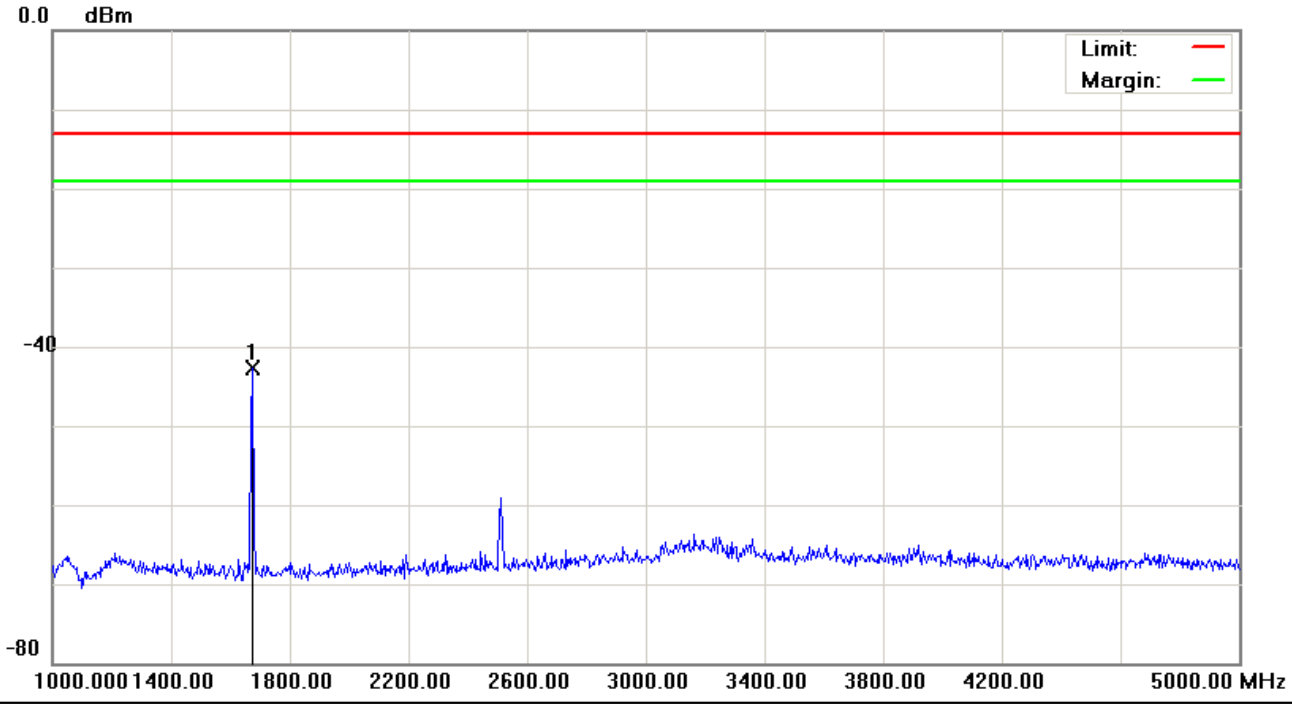
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		36.7900	-63.31	16.44	-46.87	-13.00	-33.87	peak			
2	*	836.0700	1.87	3.96	5.83	-13.00	18.83	peak			Tx

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

File :HE920-NA(CH4183) Data :#4 Date: 2013/11/25 Time: 下午 01:52:49



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

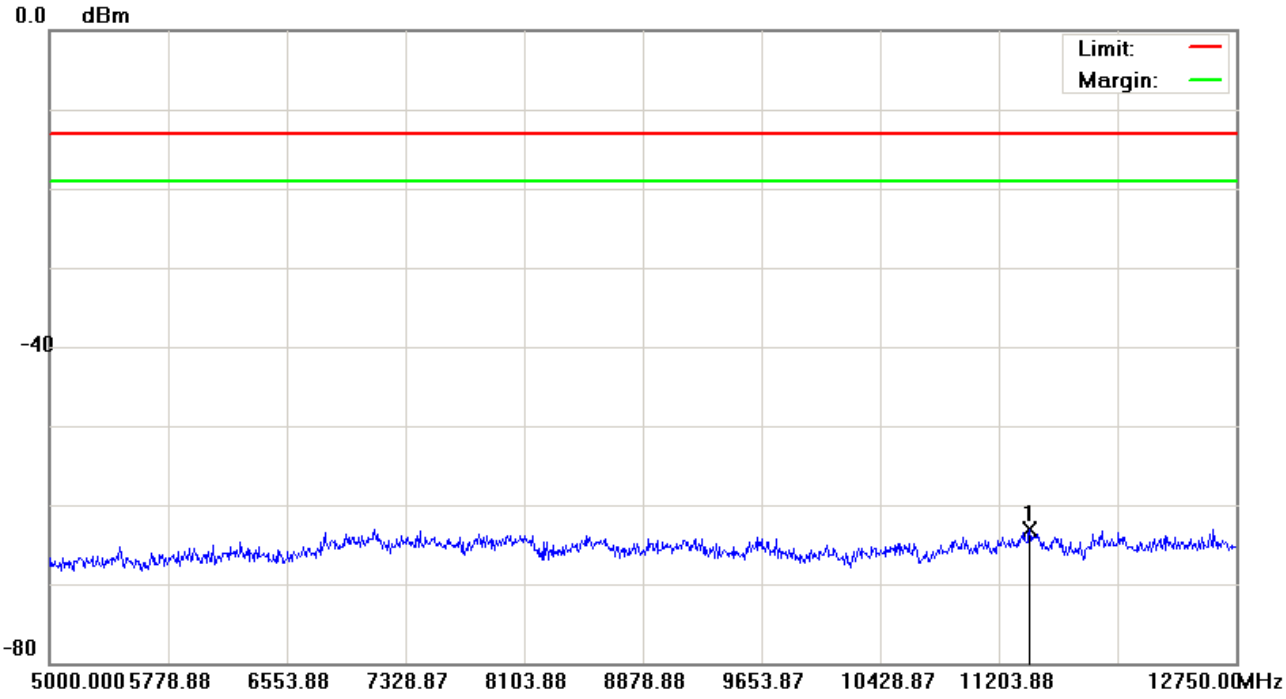
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1676.000	-47.24	4.47	-42.77	-13.00	-29.77	peak			

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

File :HE920-NA(CH4183) Data :#5 Date: 2013/11/25 Time: 下午 01:53:12



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

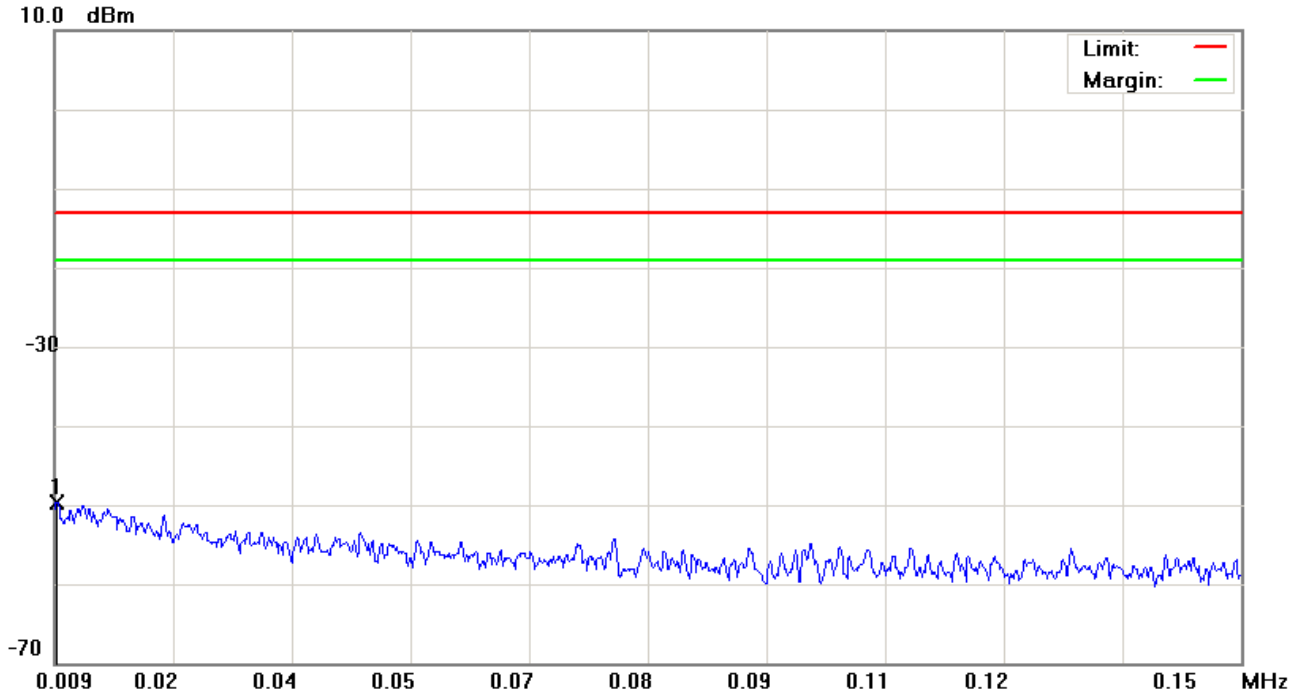
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	11401.500	-68.67	5.56	-63.11	-13.00	-50.11	peak			

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

File :HE920-NA(CH4233) Data :#1 Date: 2013/11/25 Time: 下午 01:45:31



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

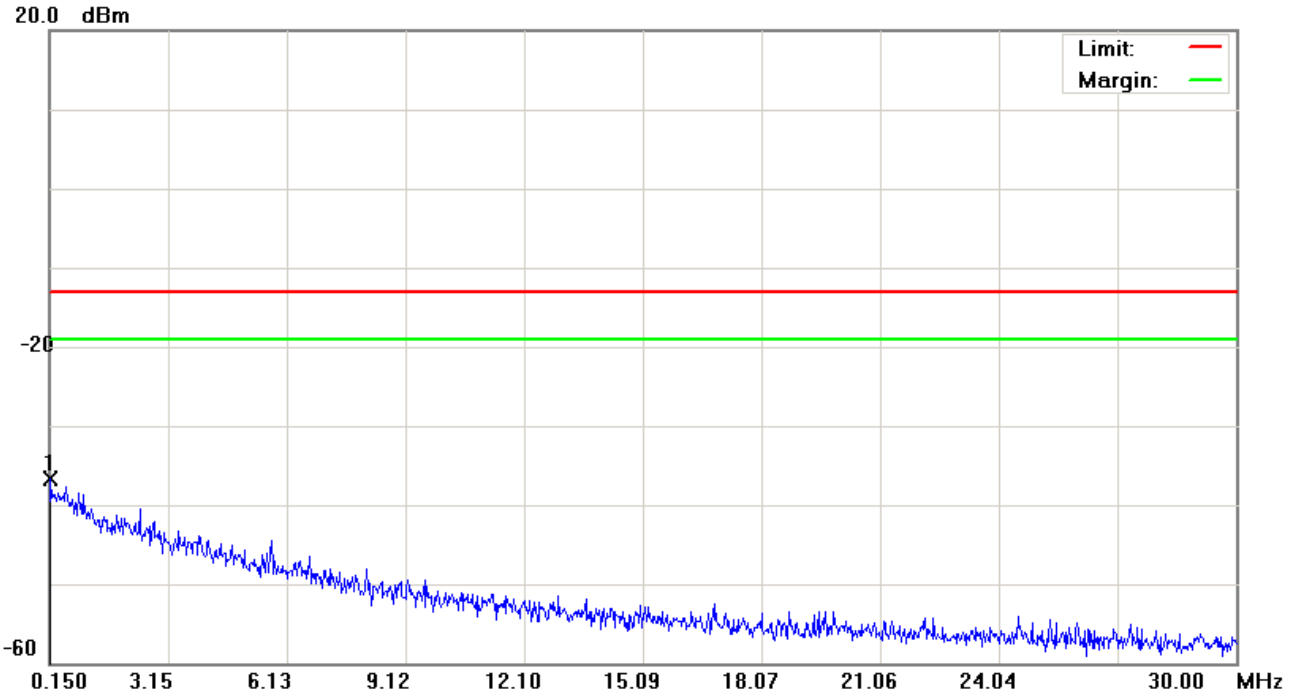
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1 KHz VBW: 3 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	*	0.0093	-80.26	30.58	-49.68	-13.00	-36.68	peak			

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

File :HE920-NA(CH4233) Data :#2 Date: 2013/11/25 Time: 下午 01:45:55



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

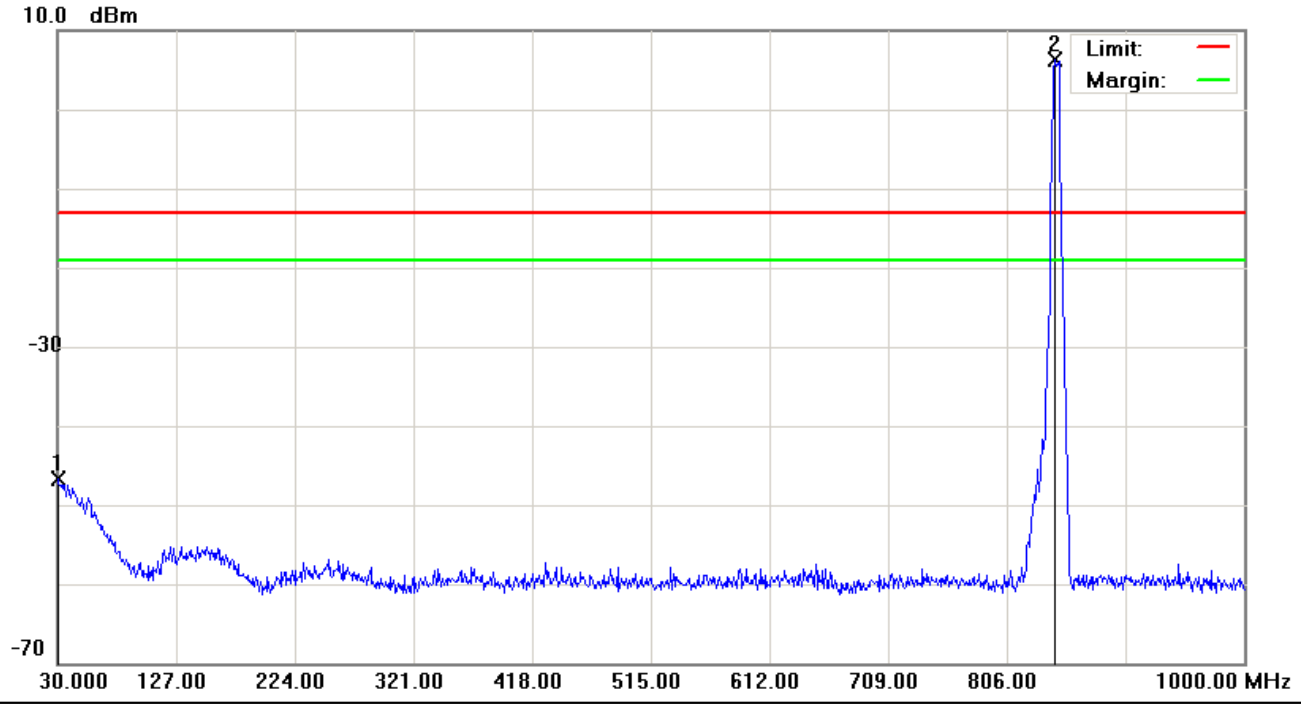
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 10 KHz VBW: 30 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	*	0.1798	-67.55	30.75	-36.80	-13.00	-23.80	peak			

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

File :HE920-NA(CH4233) Data :#3 Date: 2013/11/25 Time: 下午 01:46:19



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

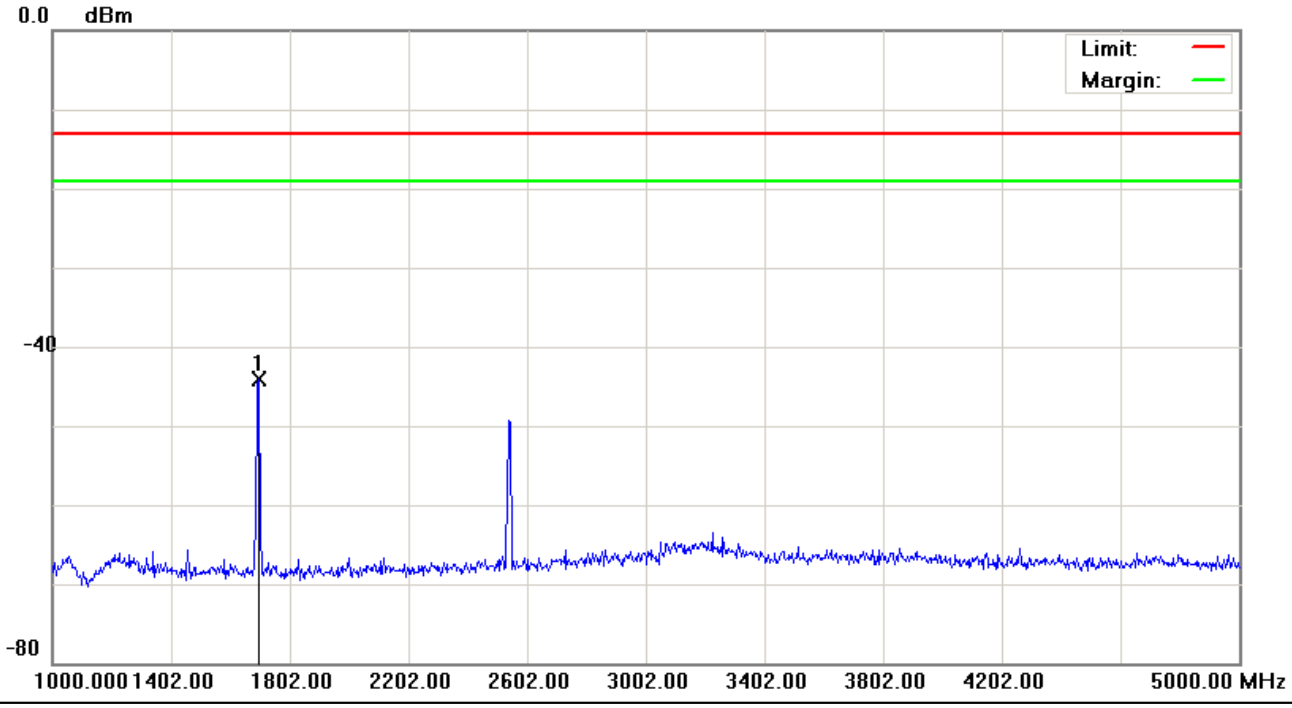
Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 100 KHz VBW: 300 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		30.0000	-63.91	17.21	-46.70	-13.00	-33.70	peak			
2	*	845.7700	2.26	3.99	6.25	-13.00	19.25	peak			Tx

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

File :HE920-NA(CH4233) Data :#4 Date: 2013/11/25 Time: 下午 01:53:55



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	1696.000	-48.63	4.48	-44.15	-13.00	-31.15	peak			

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

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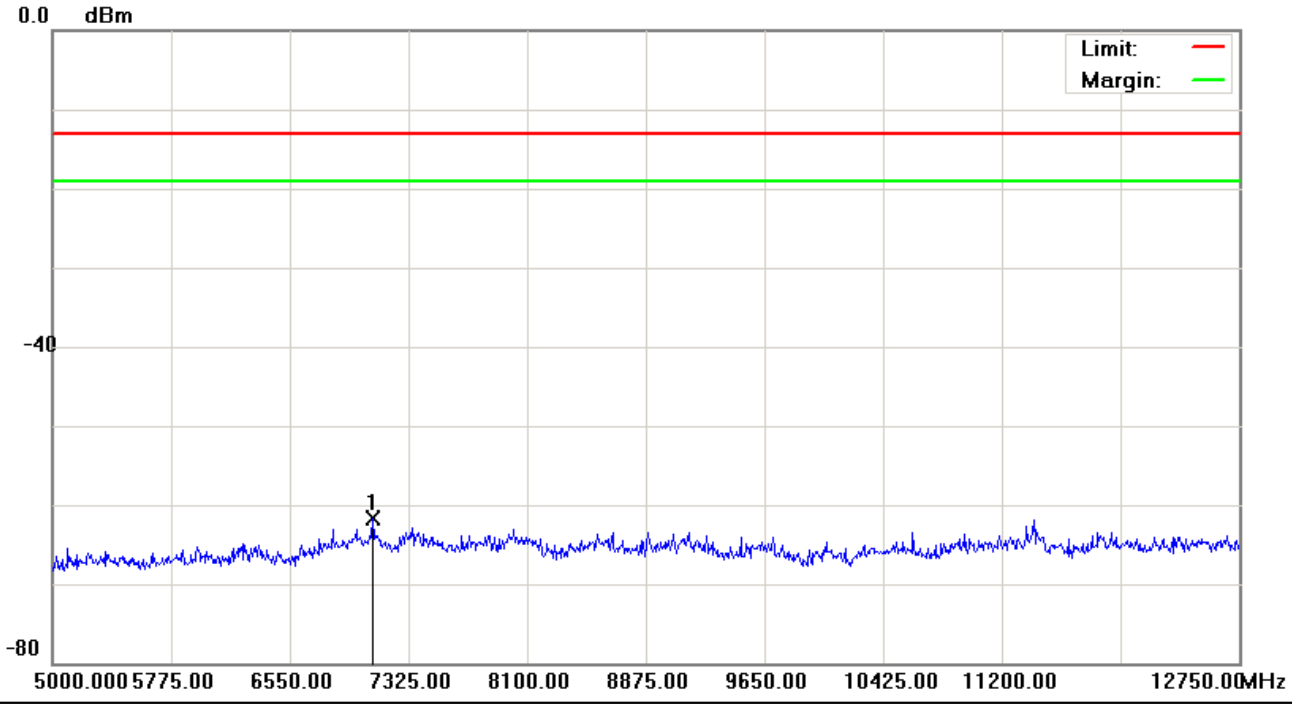


Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: Wireless module
M/N: HE920-NA
Mode: WCDMA Band V
Note:

Polarization: Conducted Power
Power: DC 3.8V
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 1000 KHz VBW: 3000 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	*	7092.500	-66.79	5.05	-61.74	-13.00	-48.74	peak			

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

Band	CH	Frequency (MHz)	Measurement (dBm)	Antanna Gain (dBi)	EIRP (dBm)	ERP (dBm)	Limit (dBm)	Over (dB)
GSM850	128	0.0142	-47.84	6.79	-41.05	-43.20	-13.00	-30.20
		0.1650	-37.42	6.79	-30.63	-32.78	-13.00	-19.78
		33.3950	-46.94	6.79	-40.15	-42.30	-13.00	-29.30
		2472.0000	-44.69	6.79	-37.90		-13.00	-24.90
		9010.6250	-62.43	6.79	-55.64		-13.00	-42.64
	190	0.0148	-47.11	6.79	-40.32	-42.47	-13.00	-29.47
		0.1948	-36.59	6.79	-29.80	-31.95	-13.00	-18.95
		35.3350	-46.54	6.79	-39.75	-41.90	-13.00	-28.90
		2510.0000	-43.72	6.79	-36.93		-13.00	-23.93
		7111.8750	-62.68	6.79	-55.89		-13.00	-42.89
	251	0.0143	-49.60	6.79	-42.81	-44.96	-13.00	-31.96
		0.1500	-37.33	6.79	-30.54	-32.69	-13.00	-19.69
		30.0000	-47.20	6.79	-40.41	-42.56	-13.00	-29.56
		2546.0000	-46.81	6.79	-40.02		-13.00	-27.02
		7976.0000	-62.86	6.79	-56.07		-13.00	-43.07

Band	CH	Frequency (MHz)	Measurement (dBm)	Antanna Gain (dBi)	EIRP (dBm)	ERP (dBm)	Limit (dBm)	Over (dB)
GSM1900	512	0.0090	-55.24	3.01	-52.23	-54.38	-13.00	-41.38
		0.1650	-56.53	3.01	-53.52	-55.67	-13.00	-42.67
		903.9700	-48.50	3.01	-45.49	-47.64	-13.00	-34.64
		2742.4000	-44.40	3.01	-41.39		-13.00	-28.39
		3720.3750	-47.32	3.01	-44.31		-13.00	-31.31
		16592.5000	-49.61	3.01	-46.60		-13.00	-33.60
	661	0.0101	-58.00	3.01	-54.99	-57.14	-13.00	-44.14
		0.4634	-55.82	3.01	-52.81	-54.96	-13.00	-41.96
		253.1000	-48.17	3.01	-45.16	-47.31	-13.00	-34.31
		2797.3000	-44.22	3.01	-41.21		-13.00	-28.21
		3770.1250	-41.59	3.01	-38.58		-13.00	-25.58
		16103.1250	-49.33	3.01	-46.32		-13.00	-33.32
	810	0.0094	-58.22	3.01	-55.21	-57.36	-13.00	-44.36
		0.1948	-55.29	3.01	-52.28	-54.43	-13.00	-41.43
		869.5350	-47.88	3.01	-44.87	-47.02	-13.00	-34.02
		2786.5000	-44.43	3.01	-41.42		-13.00	-28.42
		3819.8750	-43.27	3.01	-40.26		-13.00	-27.26
		18713.1250	-50.00	3.01	-46.99		-13.00	-33.99

Band	CH	Frequency (MHz)	Measurement (dBm)	Antanna Gain (dBi)	EIRP (dBm)	ERP (dBm)	Limit (dBm)	Over (dB)
WCDMA Band II	9262	0.0150	-58.25	3.01	-55.24	-57.39	-13.00	-44.39
		0.1948	-56.40	3.01	-53.39	-55.54	-13.00	-42.54
		453.4050	-47.48	3.01	-44.47	-46.62	-13.00	-33.62
		1910.8000	-42.71	3.01	-39.70		-13.00	-26.70
		11779.8750	-51.31	3.01	-48.30		-13.00	-35.30
		17951.8750	-49.96	3.01	-46.95		-13.00	-33.95
	9400	0.0117	-58.17	3.01	-55.16	-57.31	-13.00	-44.31
		0.2246	-56.30	3.01	-53.29	-55.44	-13.00	-42.44
		594.0550	-47.55	3.01	-44.54	-46.69	-13.00	-33.69
		2791.9000	-43.95	3.01	-40.94		-13.00	-27.94
		8620.7500	-51.30	3.01	-48.29		-13.00	-35.29
		15106.2500	-49.78	3.01	-46.77		-13.00	-33.77
	9538	0.0106	-57.94	3.01	-54.93	-57.08	-13.00	-44.08
		0.1798	-54.84	3.01	-51.83	-53.98	-13.00	-40.98
		634.3100	-47.95	3.01	-44.94	-47.09	-13.00	-34.09
		2775.7000	-44.51	3.01	-41.50		-13.00	-28.50
		3023.8750	-50.50	3.01	-47.49		-13.00	-34.49
		18821.8750	-50.64	3.01	-47.63		-13.00	-34.63

Band	CH	Frequency (MHz)	Measurement (dBm)	Antanna Gain (dBi)	EIRP (dBm)	ERP (dBm)	Limit (dBm)	Over (dB)
WCDMA Band V	4132	0.0102	-47.77	6.79	-40.98	-43.13	-13.00	-30.13
		0.8366	-37.44	6.79	-30.65	-32.80	-13.00	-19.80
		30.9700	-46.28	6.79	-39.49	-41.64	-13.00	-28.64
		1650.0000	-42.10	6.79	-35.31		-13.00	-22.31
		8983.5000	-63.04	6.79	-56.25		-13.00	-43.25
	4183	0.0117	-48.97	6.79	-42.18	-44.33	-13.00	-31.33
		0.2993	-37.80	6.79	-31.01	-33.16	-13.00	-20.16
		36.7900	-46.87	6.79	-40.08	-42.23	-13.00	-29.23
		1676.0000	-42.77	6.79	-35.98		-13.00	-22.98
		11401.5000	-63.11	6.79	-56.32		-13.00	-43.32
	4233	0.0093	-49.68	6.79	-42.89	-45.04	-13.00	-32.04
		0.1798	-36.80	6.79	-30.01	-32.16	-13.00	-19.16
		30.0000	-46.70	6.79	-39.91	-42.06	-13.00	-29.06
		1696.0000	-44.15	6.79	-37.36		-13.00	-24.36
		7092.5000	-61.74	6.79	-54.95		-13.00	-41.95

8 Field Strength of Spurious Radiation Test

8.1. Limit

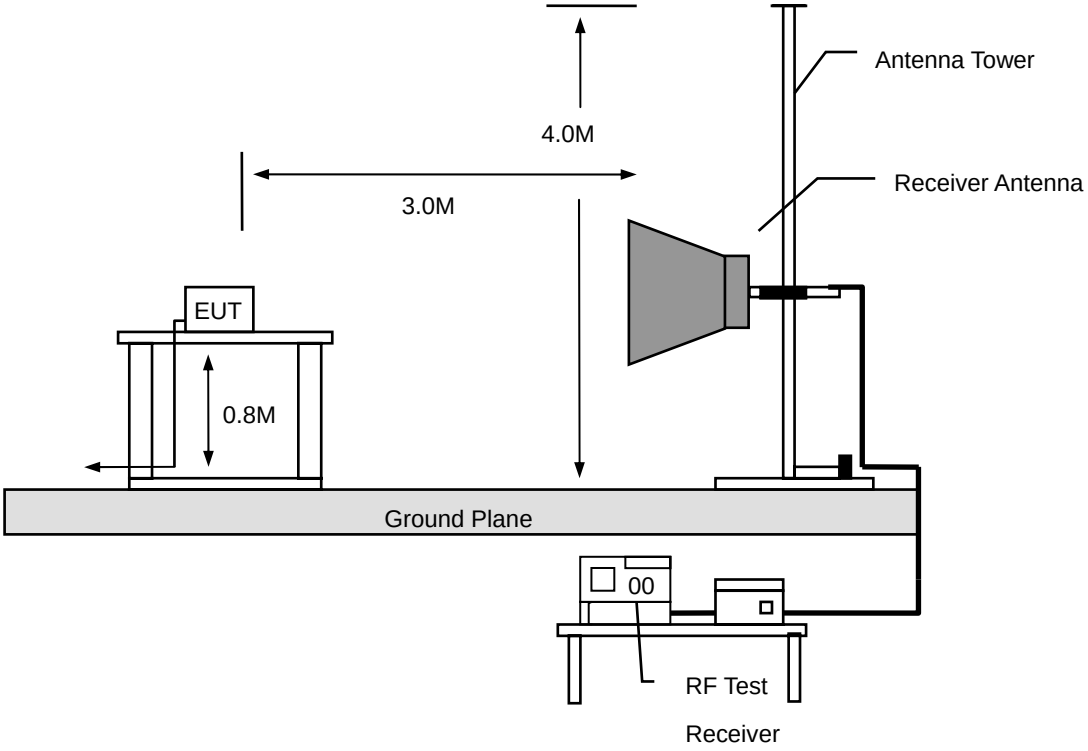
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

8.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/21/2013	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/21/2013	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2013	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/21/2013	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/01/2013	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/10/2013	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/13/2013	(1)
Test Site	ATL	TE01	888001	08/28/2013	(1)

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

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

8.5. Uncertainty

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

8.6. Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	12/04/2013
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
126.0000	-69.23	-5.04	-74.27	-13.00	-61.27	peak	H
260.0000	-63.36	-4.34	-67.70	-13.00	-54.70	peak	H
423.5000	-80.25	3.52	-76.73	-13.00	-63.73	peak	H
564.0000	-70.06	7.78	-62.28	-13.00	-49.28	peak	H
666.0000	-80.04	7.12	-72.92	-13.00	-59.92	peak	H
946.0000	-81.07	14.85	-66.22	-13.00	-53.22	peak	H
3184.000	-70.04	18.23	-51.81	-13.00	-38.81	peak	H
4768.000	-74.45	22.52	-51.93	-13.00	-38.93	peak	H
6832.000	-73.11	31.93	-41.18	-13.00	-28.18	peak	H
129.0000	-69.82	13.37	-56.45	-13.00	-43.45	peak	V
160.0000	-81.64	12.68	-68.96	-13.00	-55.96	peak	V
260.0000	-69.25	-1.56	-70.81	-13.00	-57.81	peak	V
390.0000	-74.53	1.48	-73.05	-13.00	-60.05	peak	V
450.0000	-75.31	1.57	-73.74	-13.00	-60.74	peak	V
709.0000	-75.52	10.49	-65.03	-13.00	-52.03	peak	V
2860.000	-71.24	19.22	-52.02	-13.00	-39.02	peak	V
4768.000	-72.14	26.69	-45.45	-13.00	-32.45	peak	V
6796.000	-73.50	30.02	-43.48	-13.00	-30.48	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	12/04/2013
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
126.0000	-67.54	-5.04	-72.58	-13.00	-59.58	peak	H
260.0000	-61.25	-4.34	-65.59	-13.00	-52.59	peak	H
395.5000	-80.80	2.15	-78.65	-13.00	-65.65	peak	H
507.0000	-77.55	7.21	-70.34	-13.00	-57.34	peak	H
564.0000	-70.34	7.78	-62.56	-13.00	-49.56	peak	H
695.5000	-75.38	6.96	-68.42	-13.00	-55.42	peak	H
2884.000	-71.00	17.45	-53.55	-13.00	-40.55	peak	H
4720.000	-73.98	22.27	-51.71	-13.00	-38.71	peak	H
6880.000	-74.41	32.12	-42.29	-13.00	-29.29	peak	H
129.0000	-70.27	13.37	-56.90	-13.00	-43.90	peak	V
201.5000	-81.81	9.97	-71.84	-13.00	-58.84	peak	V
260.0000	-69.61	-1.56	-71.17	-13.00	-58.17	peak	V
390.0000	-74.68	1.48	-73.20	-13.00	-60.20	peak	V
450.0000	-74.90	1.57	-73.33	-13.00	-60.33	peak	V
685.5000	-80.36	9.74	-70.62	-13.00	-57.62	peak	V
2800.000	-71.85	18.79	-53.06	-13.00	-40.06	peak	V
4684.000	-72.75	26.53	-46.22	-13.00	-33.22	peak	V
6844.000	-71.96	30.16	-41.80	-13.00	-28.80	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	12/04/2013
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
126.0000	-67.71	-5.04	-72.75	-13.00	-59.75	peak	H
156.0000	-73.71	0.18	-73.53	-13.00	-60.53	peak	H
260.0000	-61.83	-4.34	-66.17	-13.00	-53.17	peak	H
393.5000	-80.54	1.97	-78.57	-13.00	-65.57	peak	H
564.5000	-71.47	7.77	-63.70	-13.00	-50.70	peak	H
648.0000	-77.02	6.95	-70.07	-13.00	-57.07	peak	H
2848.000	-72.09	17.35	-54.74	-13.00	-41.74	peak	H
4768.000	-73.92	22.52	-51.40	-13.00	-38.40	peak	H
6784.000	-72.36	31.71	-40.65	-13.00	-27.65	peak	H
129.0000	-71.07	13.37	-57.70	-13.00	-44.70	peak	V
200.0000	-81.99	10.15	-71.84	-13.00	-58.84	peak	V
260.0000	-69.40	-1.56	-70.96	-13.00	-57.96	peak	V
390.0000	-74.82	1.48	-73.34	-13.00	-60.34	peak	V
520.0000	-76.60	3.11	-73.49	-13.00	-60.49	peak	V
731.5000	-78.32	10.65	-67.67	-13.00	-54.67	peak	V
2896.000	-71.24	19.48	-51.76	-13.00	-38.76	peak	V
4732.000	-73.95	26.62	-47.33	-13.00	-34.33	peak	V
6796.000	-73.73	30.02	-43.71	-13.00	-30.71	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	12/04/2013
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
126.0000	-68.84	-5.04	-73.88	-13.00	-60.88	peak	H
200.0000	-77.70	2.95	-74.75	-13.00	-61.75	peak	H
260.0000	-62.83	-4.34	-67.17	-13.00	-54.17	peak	H
507.0000	-78.85	7.21	-71.64	-13.00	-58.64	peak	H
669.0000	-79.81	7.09	-72.72	-13.00	-59.72	peak	H
936.0000	-81.28	14.84	-66.44	-13.00	-53.44	peak	H
3268.000	-69.02	18.46	-50.56	-13.00	-37.56	peak	H
4876.000	-72.22	23.09	-49.13	-13.00	-36.13	peak	H
6832.000	-72.27	31.93	-40.34	-13.00	-27.34	peak	H
129.0000	-71.63	13.37	-58.26	-13.00	-45.26	peak	V
202.0000	-81.98	9.91	-72.07	-13.00	-59.07	peak	V
260.0000	-73.41	-1.56	-74.97	-13.00	-61.97	peak	V
390.0000	-74.40	1.48	-72.92	-13.00	-59.92	peak	V
520.0000	-76.54	3.11	-73.43	-13.00	-60.43	peak	V
767.0000	-79.28	11.07	-68.21	-13.00	-55.21	peak	V
2908.000	-72.44	19.57	-52.87	-13.00	-39.87	peak	V
4768.000	-72.12	26.69	-45.43	-13.00	-32.43	peak	V
7036.000	-73.12	30.62	-42.50	-13.00	-29.50	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	12/04/2013
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
126.0000	-69.15	-5.04	-74.19	-13.00	-61.19	peak	H
159.5000	-75.66	1.30	-74.36	-13.00	-61.36	peak	H
260.0000	-62.51	-4.34	-66.85	-13.00	-53.85	peak	H
417.5000	-81.06	3.32	-77.74	-13.00	-64.74	peak	H
546.0000	-79.78	8.12	-71.66	-13.00	-58.66	peak	H
896.0000	-80.16	13.89	-66.27	-13.00	-53.27	peak	H
2752.000	-68.97	17.12	-51.85	-13.00	-38.85	peak	H
4732.000	-73.16	22.32	-50.84	-13.00	-37.84	peak	H
6844.000	-73.53	31.98	-41.55	-13.00	-28.55	peak	H
129.0000	-70.84	13.37	-57.47	-13.00	-44.47	peak	V
204.0000	-81.40	9.66	-71.74	-13.00	-58.74	peak	V
312.0000	-77.87	1.71	-76.16	-13.00	-63.16	peak	V
520.0000	-77.30	3.11	-74.19	-13.00	-61.19	peak	H
630.5000	-80.53	8.76	-71.77	-13.00	-58.77	peak	V
932.5000	-80.95	12.40	-68.55	-13.00	-55.55	peak	V
3040.000	-71.53	20.46	-51.07	-13.00	-38.07	peak	V
4816.000	-72.57	26.78	-45.79	-13.00	-32.79	peak	V
6892.000	-74.27	30.27	-44.00	-13.00	-31.00	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	12/04/2013
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
126.0000	-69.29	-5.04	-74.33	-13.00	-61.33	peak	H
160.0000	-75.44	1.45	-73.99	-13.00	-60.99	peak	H
260.0000	-62.25	-4.34	-66.59	-13.00	-53.59	peak	H
520.0000	-79.08	7.65	-71.43	-13.00	-58.43	peak	H
663.5000	-80.56	7.14	-73.42	-13.00	-60.42	peak	H
915.0000	-81.33	14.58	-66.75	-13.00	-53.75	peak	H
2800.000	-70.40	17.24	-53.16	-13.00	-40.16	peak	H
4756.000	-71.95	22.45	-49.50	-13.00	-36.50	peak	H
6724.000	-72.79	31.45	-41.34	-13.00	-28.34	peak	H
129.0000	-71.46	13.37	-58.09	-13.00	-45.09	peak	V
200.5000	-82.25	10.08	-72.17	-13.00	-59.17	peak	V
260.0000	-69.86	-1.56	-71.42	-13.00	-58.42	peak	V
400.0000	-78.69	1.33	-77.36	-13.00	-64.36	peak	V
663.5000	-80.32	9.42	-70.90	-13.00	-57.90	peak	V
812.0000	-80.58	11.51	-69.07	-13.00	-56.07	peak	V
2956.000	-71.81	19.90	-51.91	-13.00	-38.91	peak	V
4804.000	-73.18	26.75	-46.43	-13.00	-33.43	peak	V
6892.000	-75.01	30.27	-44.74	-13.00	-31.74	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	12/03/2013
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
126.0000	-73.05	-5.04	-78.09	-13.00	-65.09	peak	H
260.0000	-72.06	-4.34	-76.40	-13.00	-63.40	peak	H
400.0000	-79.40	2.55	-76.85	-13.00	-63.85	peak	H
534.0000	-80.49	8.09	-72.40	-13.00	-59.40	peak	H
658.5000	-80.07	7.13	-72.94	-13.00	-59.94	peak	H
873.5000	-81.09	13.15	-67.94	-13.00	-54.94	peak	H
2884.000	-72.80	17.45	-55.35	-13.00	-42.35	peak	H
4864.000	-73.14	23.04	-50.10	-13.00	-37.10	peak	H
6700.000	-73.79	31.34	-42.45	-13.00	-29.45	peak	H
126.0000	-70.14	10.40	-59.74	-13.00	-46.74	peak	V
160.0000	-76.73	12.68	-64.05	-13.00	-51.05	peak	V
200.5000	-80.58	10.08	-70.50	-13.00	-57.50	peak	V
400.0000	-72.47	1.33	-71.14	-13.00	-58.14	peak	V
490.0000	-74.32	2.56	-71.76	-13.00	-58.76	peak	V
632.5000	-79.34	8.72	-70.62	-13.00	-57.62	peak	V
2992.000	-70.17	20.17	-50.00	-13.00	-37.00	peak	V
4804.000	-72.79	26.75	-46.04	-13.00	-33.04	peak	V
6784.000	-74.10	29.99	-44.11	-13.00	-31.11	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	12/03/2013
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
126.0000	-72.63	-5.04	-77.67	-13.00	-64.67	peak	H
227.0000	-76.35	-0.80	-77.15	-13.00	-64.15	peak	H
260.0000	-70.89	-4.34	-75.23	-13.00	-62.23	peak	H
400.0000	-76.80	2.55	-74.25	-13.00	-61.25	peak	H
547.0000	-80.63	8.10	-72.53	-13.00	-59.53	peak	H
868.5000	-80.56	13.10	-67.46	-13.00	-54.46	peak	H
3004.000	-71.91	17.74	-54.17	-13.00	-41.17	peak	H
4852.000	-73.02	22.97	-50.05	-13.00	-37.05	peak	H
6796.000	-74.56	31.76	-42.80	-13.00	-29.80	peak	H
126.0000	-68.99	10.40	-58.59	-13.00	-45.59	peak	V
161.5000	-76.49	11.27	-65.22	-13.00	-52.22	peak	V
200.5000	-81.54	10.08	-71.46	-13.00	-58.46	peak	V
400.0000	-72.59	1.33	-71.26	-13.00	-58.26	peak	V
490.0000	-73.32	2.56	-70.76	-13.00	-57.76	peak	V
760.0000	-78.73	10.96	-67.77	-13.00	-54.77	peak	V
2956.000	-72.05	19.90	-52.15	-13.00	-39.15	peak	V
4684.000	-73.24	26.53	-46.71	-13.00	-33.71	peak	V
6784.000	-72.61	29.99	-42.62	-13.00	-29.62	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	12/03/2013
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
126.0000	-72.85	-5.04	-77.89	-13.00	-64.89	peak	H
260.0000	-71.04	-4.34	-75.38	-13.00	-62.38	peak	H
400.0000	-77.10	2.55	-74.55	-13.00	-61.55	peak	H
490.0000	-79.01	6.35	-72.66	-13.00	-59.66	peak	H
780.0000	-79.11	10.19	-68.92	-13.00	-55.92	peak	H
932.0000	-80.57	14.81	-65.76	-13.00	-52.76	peak	H
3004.000	-70.34	17.74	-52.60	-13.00	-39.60	peak	H
4768.000	-73.82	22.52	-51.30	-13.00	-38.30	peak	H
6700.000	-74.39	31.34	-43.05	-13.00	-30.05	peak	H
126.0000	-69.91	10.40	-59.51	-13.00	-46.51	peak	V
163.5000	-74.01	9.37	-64.64	-13.00	-51.64	peak	V
200.0000	-80.46	10.15	-70.31	-13.00	-57.31	peak	V
400.0000	-71.83	1.33	-70.50	-13.00	-57.50	peak	V
490.0000	-73.75	2.56	-71.19	-13.00	-58.19	peak	V
731.5000	-78.34	10.65	-67.69	-13.00	-54.69	peak	V
2764.000	-72.51	18.53	-53.98	-13.00	-40.98	peak	V
4228.000	-72.65	25.19	-47.46	-13.00	-34.46	peak	V
6364.000	-75.05	28.83	-46.22	-13.00	-33.22	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	12/03/2013
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
126.0000	-71.03	-5.04	-76.07	-13.00	-63.07	peak	H
234.0000	-75.87	-1.38	-77.25	-13.00	-64.25	peak	H
260.0000	-70.62	-4.34	-74.96	-13.00	-61.96	peak	H
400.0000	-76.96	2.55	-74.41	-13.00	-61.41	peak	H
490.0000	-79.17	6.35	-72.82	-13.00	-59.82	peak	H
729.5000	-80.70	7.82	-72.88	-13.00	-59.88	peak	H
3004.000	-72.59	17.74	-54.85	-13.00	-41.85	peak	H
4384.000	-72.54	20.87	-51.67	-13.00	-38.67	peak	H
6688.000	-73.47	31.29	-42.18	-13.00	-29.18	peak	H
126.0000	-69.14	10.40	-58.74	-13.00	-45.74	peak	V
160.0000	-78.24	12.68	-65.56	-13.00	-52.56	peak	V
200.0000	-81.94	10.15	-71.79	-13.00	-58.79	peak	V
400.0000	-72.15	1.33	-70.82	-13.00	-57.82	peak	V
490.0000	-75.04	2.56	-72.48	-13.00	-59.48	peak	V
650.0000	-79.80	9.00	-70.80	-13.00	-57.80	peak	V
3124.000	-69.96	20.95	-49.01	-13.00	-36.01	peak	V
4756.000	-72.36	26.66	-45.70	-13.00	-32.70	peak	V
6820.000	-73.39	30.10	-43.29	-13.00	-30.29	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	12/03/2013
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
126.0000	-71.93	-5.04	-76.97	-13.00	-63.97	peak	H
200.0000	-81.04	2.95	-78.09	-13.00	-65.09	peak	H
260.0000	-70.99	-4.34	-75.33	-13.00	-62.33	peak	H
400.0000	-75.42	2.55	-72.87	-13.00	-59.87	peak	H
520.0000	-79.79	7.65	-72.14	-13.00	-59.14	peak	H
676.0000	-79.53	7.05	-72.48	-13.00	-59.48	peak	H
2896.000	-71.72	17.47	-54.25	-13.00	-41.25	peak	H
4780.000	-73.54	22.57	-50.97	-13.00	-37.97	peak	H
6700.000	-73.26	31.34	-41.92	-13.00	-28.92	peak	H
126.0000	-68.85	10.40	-58.45	-13.00	-45.45	peak	V
165.5000	-73.26	7.48	-65.78	-13.00	-52.78	peak	V
200.0000	-81.68	10.15	-71.53	-13.00	-58.53	peak	V
260.0000	-73.99	-1.56	-75.55	-13.00	-62.55	peak	V
400.0000	-71.98	1.33	-70.65	-13.00	-57.65	peak	V
490.0000	-73.38	2.56	-70.82	-13.00	-57.82	peak	V
2908.000	-72.85	19.57	-53.28	-13.00	-40.28	peak	V
4468.000	-74.33	26.09	-48.24	-13.00	-35.24	peak	V
6748.000	-73.50	29.89	-43.61	-13.00	-30.61	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	12/03/2013
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
126.0000	-73.00	-5.04	-78.04	-13.00	-65.04	peak	H
227.0000	-77.42	-0.80	-78.22	-13.00	-65.22	peak	H
260.0000	-71.25	-4.34	-75.59	-13.00	-62.59	peak	H
400.0000	-78.43	2.55	-75.88	-13.00	-62.88	peak	H
522.0000	-80.39	7.72	-72.67	-13.00	-59.67	peak	H
737.0000	-80.70	8.09	-72.61	-13.00	-59.61	peak	H
3436.000	-71.27	18.90	-52.37	-13.00	-39.37	peak	H
5380.000	-73.99	25.50	-48.49	-13.00	-35.49	peak	H
6640.000	-71.91	31.07	-40.84	-13.00	-27.84	peak	H
126.0000	-68.15	10.40	-57.75	-13.00	-44.75	peak	V
160.0000	-77.31	12.68	-64.63	-13.00	-51.63	peak	V
200.0000	-79.99	10.15	-69.84	-13.00	-56.84	peak	V
400.0000	-70.98	1.33	-69.65	-13.00	-56.65	peak	V
490.0000	-73.75	2.56	-71.19	-13.00	-58.19	peak	V
624.0000	-79.67	8.83	-70.84	-13.00	-57.84	peak	V
2908.000	-73.25	19.57	-53.68	-13.00	-40.68	peak	V
4768.000	-72.62	26.69	-45.93	-13.00	-32.93	peak	V
6820.000	-73.38	30.10	-43.28	-13.00	-30.28	peak	V

Standard:	RSS-Gen	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	HE920-NA	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	7	Date:	12/03/2013
		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
2799.000	34.37	5.40	39.77	74.00	-34.23	peak	H
4619.000	33.29	11.19	44.48	74.00	-29.52	peak	H
6663.000	32.14	18.21	50.35	74.00	-23.65	peak	H
2778.000	36.90	5.34	42.24	74.00	-31.76	peak	V
4612.000	34.52	11.16	45.68	74.00	-28.32	peak	V
6761.000	32.22	18.70	50.92	74.00	-23.08	peak	V

9 Frequency Stability (Temperature & Voltage Variation) Test

9.1. Limit

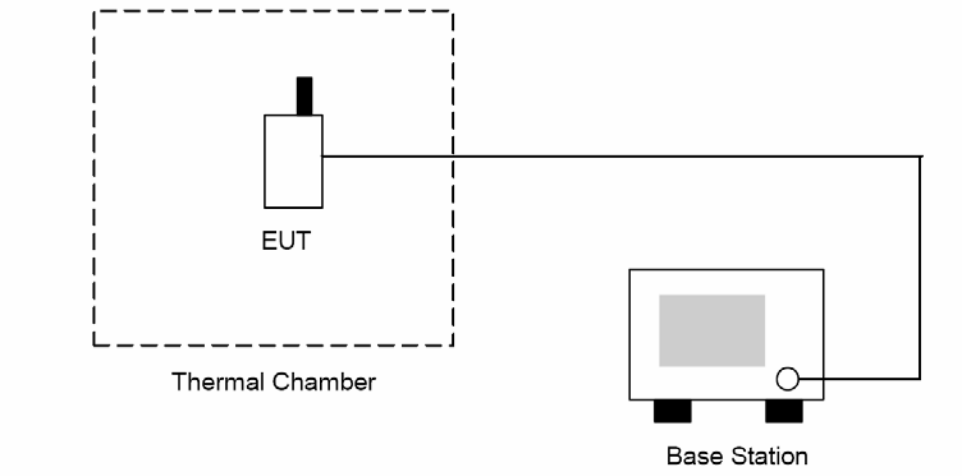
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

9.2. 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	08/07/2013	(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.

9.3. Setup



9.4. 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.

9.5. Uncertainty

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

9.6. Test Result

Model Number	HE920-NA					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 1					
Date of Test	12/04/2013				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	-14	-0.017	±2.5	Pass
Normal	3.80	-10	-6	-0.007	±2.5	Pass
Normal	3.80	0	-4	-0.005	±2.5	Pass
Normal	3.80	10	9	0.011	±2.5	Pass
High Voltage	4.20	20	14	0.017	±2.5	Pass
Normal	3.80	20	19	0.023	±2.5	Pass
Low Voltage	3.40	20	-5	-0.006	±2.5	Pass
Normal	3.80	30	21	0.025	±2.5	Pass
Normal	3.80	40	14	0.017	±2.5	Pass
Normal	3.80	50	-7	-0.008	±2.5	Pass
Normal	3.80	55	5	0.006	±2.5	Pass

Model Number	HE920-NA					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 2					
Date of Test	12/04/2013				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	41	0.022	±2.5	Pass
Normal	3.80	-10	45	0.024	±2.5	Pass
Normal	3.80	0	49	0.026	±2.5	Pass
Normal	3.80	10	53	0.028	±2.5	Pass
High Voltage	4.20	20	50	0.027	±2.5	Pass
Normal	3.80	20	49	0.026	±2.5	Pass
Low Voltage	3.40	20	26	0.014	±2.5	Pass
Normal	3.80	30	33	0.018	±2.5	Pass
Normal	3.80	40	21	0.011	±2.5	Pass
Normal	3.80	50	43	0.023	±2.5	Pass
Normal	3.80	55	55	0.029	±2.5	Pass

Model Number	HE920-NA					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 5					
Date of Test	11/27/2013				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	-24	-0.013	±2.5	Pass
Normal	3.80	-10	-7	-0.004	±2.5	Pass
Normal	3.80	0	-17	-0.009	±2.5	Pass
Normal	3.80	10	-5	-0.003	±2.5	Pass
High Voltage	4.20	20	45	0.024	±2.5	Pass
Normal	3.80	20	37	0.020	±2.5	Pass
Low Voltage	3.40	20	-22	-0.012	±2.5	Pass
Normal	3.80	30	29	0.015	±2.5	Pass
Normal	3.80	40	19	0.010	±2.5	Pass
Normal	3.80	50	23	0.012	±2.5	Pass
Normal	3.80	55	46	0.024	±2.5	Pass

Model Number	HE920-NA					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 6					
Date of Test	11/27/2013				Test Site	TE05
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-20	-13	-0.016	±2.5	Pass
Normal	3.80	-10	-8	-0.010	±2.5	Pass
Normal	3.80	0	-5	-0.006	±2.5	Pass
Normal	3.80	10	-15	-0.018	±2.5	Pass
High Voltage	4.20	20	-19	-0.023	±2.5	Pass
Normal	3.80	20	-6	-0.007	±2.5	Pass
Low Voltage	3.40	20	5	0.006	±2.5	Pass
Normal	3.80	30	6	0.007	±2.5	Pass
Normal	3.80	40	3	0.004	±2.5	Pass
Normal	3.80	50	-19	-0.023	±2.5	Pass
Normal	3.80	55	9	0.011	±2.5	Pass