FCC

RF Test Report

Applicant	:	Netgear Incorporated
Address	:	350 East Plumeria Drive,San Jose, California, United States 95134
Product Type	:	AirCard 815S Mobile Hotspot
Trade Name	:	NETGEAR
Model Number	:	AC815S
Applicable Standard	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E ANSI/TIA-603-D 2010
Application Purpose	:	Original
Receive Date	:	Sep. 22, 2015
Test Period	:	Oct. 14 ~ Nov. 12, 2015
Issue Date	:	Nov. 25, 2015

Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Nov. 25, 2015	Initial Issue	

Verification of Compliance

Issued Date: 11/25/2015

Applicant	:	Netgear Incorporated
Address	:	350 East Plumeria Drive,San Jose, California, United States 95134
Product Type	:	AirCard 815S Mobile Hotspot
Trade Name	:	NETGEAR
Model Number	:	AC815S
FCC ID	:	PY3AC815S
EUT Rated Voltage	:	DC 5V, 1A
Test Voltage	:	120 Vac / 60 Hz, DC 3.50V / 3.80V / 4.35V
Applicable Standard	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E ANSI/TIA-603-D 2010
Application Purpose	:	Original
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, 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

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By :	Fly Lu	Reviewed By :	Eric Ou Yang
(Manager)	(Fly Lu)	(Testing Engineer)	(Eric Ou Yang)

TABLE OF CONTENTS

1 General Information 6
1.1. EUT Description 6
1.2. Mode of Operation 7
1.3. EUT Exercise Software 7
1.4. Configuration of Test System Details 7
1.5. Test Site Environment 8
1.6. Summary of Test Result 8
2 RF Output Power Test 9
2.1. Limit 9
2.2. Test Instruments 9
2.3. Test Setup 9
2.4. Test Procedure 9
2.5. Uncertainty 9
2.6. Test Result 10
3 Effective Radiated Power / Equivalent Isotropic Radiated Power Test 13
3.1. Limit 13
3.2. Test Instruments 13
3.3. Test Setup 13
3.4. Test Procedure 15
3.5. Uncertainty 15
3.6. Test Result 16
4 Peak to Average Ratio Test 18
4.1. Limit 18
4.2. Test Instruments 18
4.3. Setup 18
4.4. Test Procedure 18
4.5. Uncertainty 19
4.6. Test Result 19
4.7. Test Graphs 20
5 Emission Bandwidth & Occupied Bandwidth Test 21
5.1. Limit 21
5.2. Test Instruments 21
5.3. Setup 21
5.4. Test Procedure 22
5.5. Uncertainty 22
5.6. Test Result 22
5.7. Test Graphs 23

6 Band Edge Test 29
6.1. Limit 29
6.2. Test Instruments 29
6.3. Setup 29
6.4. Test Procedure 30
6.5. Uncertainty 30
6.6. Test Result 30
6.7. Test Graphs 31
7 Conducted Spurious Emission Test 35
7.1. Limit 35
7.2. Test Instruments 35
7.3. Setup 35
7.4. Test Procedure 36
7.5. Uncertainty 36
7.6. Test Result 36
8 Field Strength of Spurious Radiation Test 103
8.1. Limit 103
8.2. Test Instruments 103
8.3. Setup 104
8.4. Test Procedure 105
8.5. Uncertainty 105
8.6. Test Result 106
9 Frequency Stability (Temperature & Voltage Variation) Test 110
9.1. Limit 110
9.2. Test Instruments 110
9.3. Setup 110
9.4. Test Procedure 111
9.5. Uncertainty 111
9.6. Test Result 112

1 General Information

1.1. EUT Description

Applicant		Netgear Incorporated 350 East Plumeria Drive,San Jose, California, United States 95134			
Manufacturer		Netgear Inc. Suite 168 – 10760 Shellbridge Way, Richmond, BC Canada V6X 3H1			
Product Type		AirCard 815S Mobile Hotspot			
Trade Name		NETGEAR			
Model Number		AC815S			
Hardware Version		DV3.2			
Software Version		NTG9X40C_11.06.04.00			
FCC ID		PY3AC815S			
IMEI No.		014475000001006			
Mode	2G	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
		Operate mode support GPRS/EGPRS. *GPRS/EGPRS Multi Class 10.			
	3G	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		WCDMA Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
		WCDMA Band V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
		Operate mode support WCDMA(RMC12.2K)/HSDPA/HSUPA			
Channel Control		Auto			
Antenna Gain (dBi)		GPRS/EGPRS 850 : 1.30 dBi GPRS/EGPRS 1900 : 1.58 dBi WCDMA/ HSDPA/ HSUPA Band II : 1.58 dBi WCDMA/ HSDPA/ HSUPA Band V : 1.30 dBi			

Operate Band	Max. Conducted Output Power (W)	Max. E.R.P. / E.I.R.P. (W)	Emission Designator
GPRS 850	1.841	1.517	247KG7W
EGPRS 850	0.489	0.381	246KG7W
GPRS 1900	1.114	0.685	243KG7W
EGPRS 1900	0.348	0.217	252KG7W
WCDMA/ HSDPA/ HSUPA Band II	0.154	0.190	4M16F9W
WCDMA/ HSDPA/ HSUPA Band V	0.195	0.195	4M16F9W

1.2. Mode of Operation

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

Test Mode
Mode 1: GPRS 850 link mode
Mode 2: GPRS 1900 link mode
Mode 3: EGPRS 850 link mode
Mode 4: EGPRS 1900 link mode
Mode 5: WCDMA Band II link mode
Mode 6: WCDMA Band V link mode

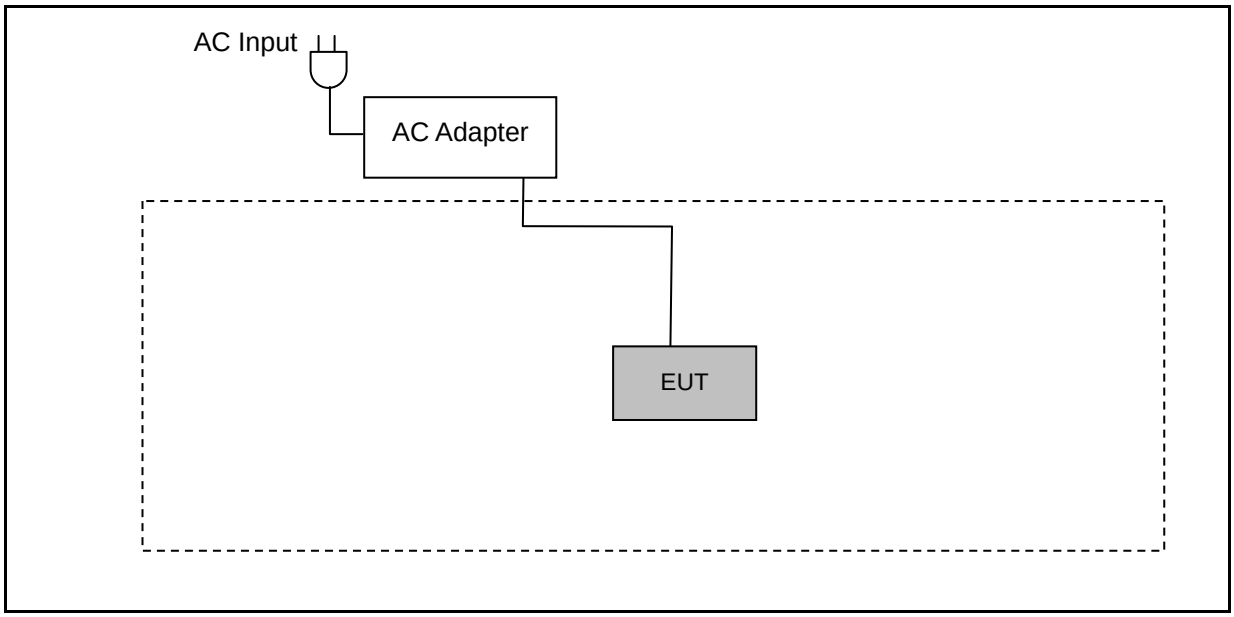
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

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.

Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1

1.4. Configuration of Test System Details



1.5. Test Site Environment

Items	Required (IEC 60068-1)	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	Limit	Result
Conducted Output Power	§2.1046	N/A	Pass
Effective Radiated Power	§22.913(a)(2)	< 7 Watts	Pass
Equivalent Isotropic Radiated Power	§24.232(c)	< 2 Watts	Pass
Peak to average ratio	§24.232(d)	< 13 dB	Pass
Emission Bandwidth & Occupied Bandwidth	§2.1049 §22.917(a) §24.238(a)	N/A	Pass
Band Edge Measurement	§2.1051 §22.917(a) §24.238(a)	< $43+10\log_{10}$(P[Watts])	Pass
Conducted Spurious Emission	§2.1051 §22.917(a) §24.238(a)	< $43+10\log_{10}$(P[Watts])	Pass
Field Strength of Spurious Radiation	§2.1053 §22.917(a) §24.238(a)	< $43+10\log_{10}$(P[Watts])	Pass
Frequency Stability for Temperature & Voltage	§2.1055 §22.355 §24.235	< 2.5 ppm	Pass

2 RF Output Power Test

2.1. Limit

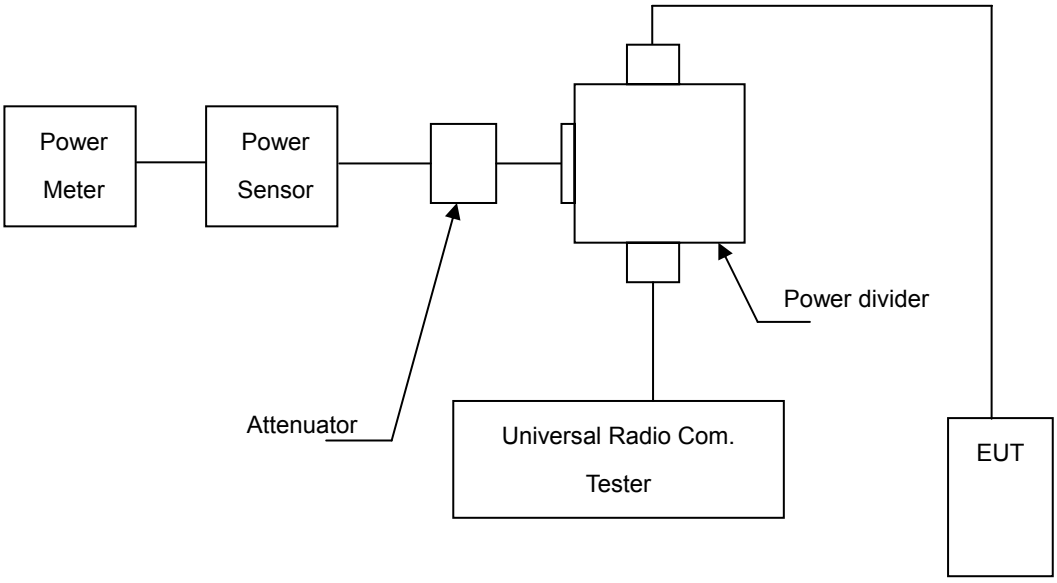
N/A

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2014	1 year
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2014	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

2.3. Test Setup



2.4. Test Procedure

The measurement is made according to 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	AC815S				
Test Item	RF Output Power				
Date of Test	10/14/2015				
Bands	Modulation Type	Data Rate	Frequency (MHz)	Burst Average Power	
				(dBm)	(W)
GPRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	824.2	32.64	1.837
			836.6	**32.65**	**1.841**
			848.8	32.59	1.816
		3Down2Up (Duty Factor 2/8)	824.2	32.13	1.633
			836.6	32.10	1.622
			848.8	31.98	1.578
EGPRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5	8PSK	4Down1Up (Duty Factor 1/8)	824.2	26.87	0.486
			836.6	**26.89**	**0.489**
			848.8	26.86	0.485
		3Down2Up (Duty Factor 2/8)	824.2	25.73	0.374
			836.6	25.76	0.377
			848.8	25.73	0.374
GPRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:5	GMSK	4Down1Up (Duty Factor 1/8)	1850.20	30.46	1.112
			1880.00	**30.47**	**1.114**
			1909.80	30.45	1.109
		3Down2Up (Duty Factor 2/8)	1850.20	28.97	0.789
			1880.00	28.78	0.755
			1909.80	28.62	0.728
EGPRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:6	8PSK	4Down1Up (Duty Factor 1/8)	1850.20	**25.42**	**0.348**
			1880.00	25.39	0.346
			1909.80	25.27	0.337
		3Down2Up (Duty Factor 2/8)	1850.20	24.40	0.275
			1880.00	24.33	0.271
			1909.80	24.19	0.262

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

Model Number	AC815S				
Test Item	RF Output Power				
Date of Test	10/14/2015				
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power	
				(dBm)	(W)
WCDMA Band II	QPSK	-----	1852.4	21.75	0.150
			1880.0	**21.87**	**0.154**
			1907.6	21.69	0.148
HSDPA Band II	QPSK	1	1852.4	21.15	0.130
			1880.0	21.20	0.132
			1907.6	21.04	0.127
		2	1852.4	20.89	0.123
			1880.0	21.16	0.131
			1907.6	21.02	0.126
		3	1852.4	20.57	0.114
			1880.0	20.72	0.118
			1907.6	20.51	0.112
		4	1852.4	20.54	0.113
			1880.0	20.67	0.117
			1907.6	20.56	0.114
HSUPA Band II	QPSK	1	1852.4	17.69	0.059
			1880.0	17.77	0.060
			1907.6	17.64	0.058
		2	1852.4	16.91	0.049
			1880.0	17.01	0.050
			1907.6	16.98	0.050
		3	1852.4	17.88	0.061
			1880.0	17.97	0.063
			1907.6	17.82	0.061
		4	1852.4	16.82	0.048
			1880.0	16.99	0.050
			1907.6	16.86	0.049
		5	1852.4	20.47	0.111
			1880.0	20.59	0.115
			1907.6	20.45	0.111

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

Model Number	AC815S				
Test Item	RF Output Power				
Date of Test	10/14/2015				
Bands	Modulation Type	Sub-Test	Frequency (MHz)	Burst Average Power	
				(dBm)	(W)
WCDMA Band V	QPSK	-----	826.4	22.85	0.193
			836.6	**22.91**	**0.195**
			846.6	22.78	0.190
HSDPA Band V	QPSK	1	826.4	21.97	0.157
			836.6	22.01	0.159
			846.6	21.93	0.156
		2	826.4	21.82	0.152
			836.6	21.97	0.157
			846.6	21.82	0.152
		3	826.4	21.36	0.137
			836.6	21.48	0.141
			846.6	21.38	0.137
		4	826.4	21.34	0.136
			836.6	21.46	0.140
			846.6	21.37	0.137
HSUPA Band V	QPSK	1	826.4	19.11	0.081
			836.6	19.01	0.080
			846.6	18.97	0.079
		2	826.4	16.87	0.049
			836.6	17.05	0.051
			846.6	16.84	0.048
		3	826.4	18.23	0.067
			836.6	18.35	0.068
			846.6	18.16	0.065
		4	826.4	16.92	0.049
			836.6	17.01	0.050
			846.6	16.88	0.049
		5	826.4	20.65	0.116
			836.6	20.74	0.119
			846.6	20.61	0.115

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(c): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

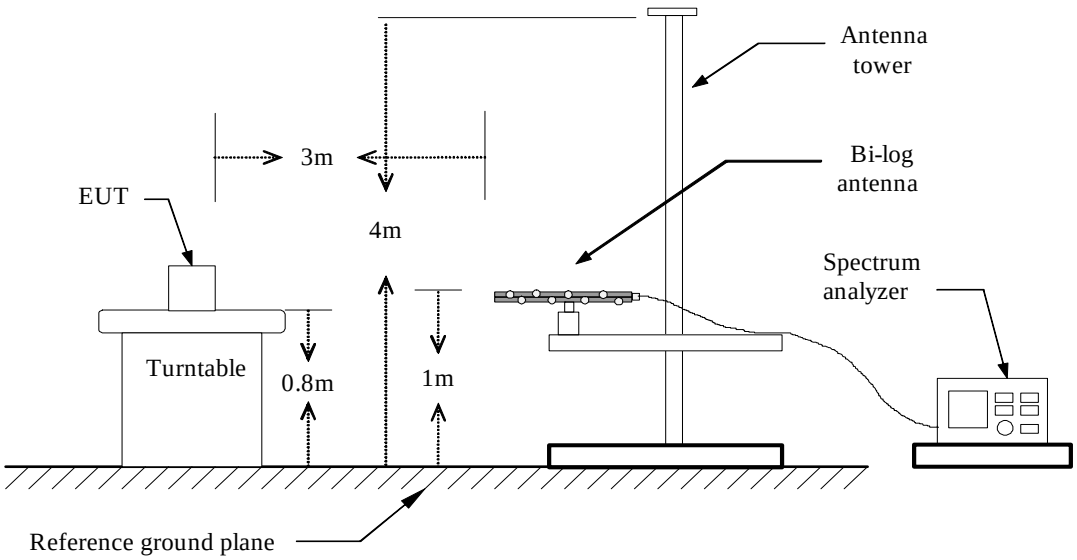
3.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	1 year
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	1 year
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	1 year
Test Site	ATL	TE01	888001	08/27/2015	1 year

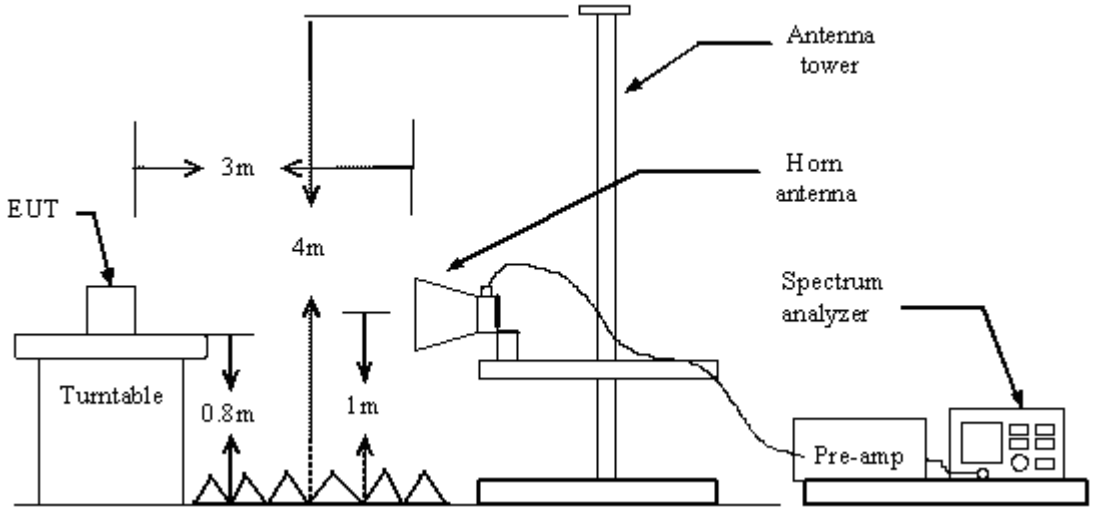
Note: N.C.R. = No Calibration Request.

3.3. Test Setup

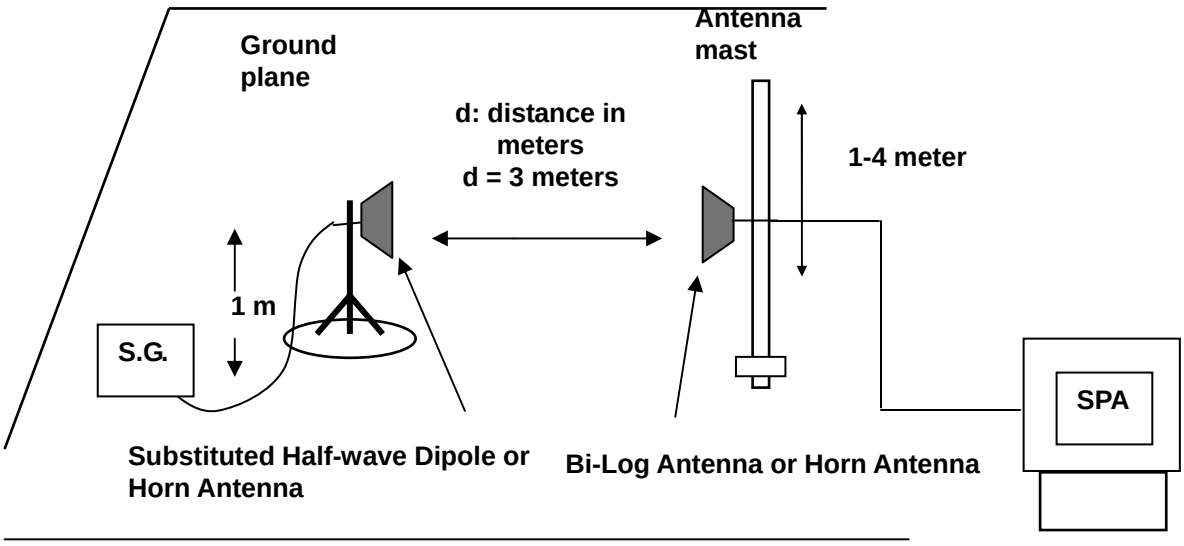
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



3.4. Test Procedure

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range).

b. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G.

d. E.I.R.P. = Output power level of S.G - TX cable loss + Antenna gain of substitution horn

e. E.R.P. = E.I.R.P- 2.15 dB

Note: 1. For WCDMA and CDMA signals, a peak detector is used with RBW = VBW = 5MHz.
2. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

3.5. Uncertainty

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

3.6. Test Result

Model Number	AC815S						
Test Item	ERP/EIRP						
Date of Test	10/26/2015						
Band	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	ERP		Limit
					(dBm)	(W)	
GPRS 850	824.2	H	14.15	12.84	26.99	0.500	< 7W
		V	19.63	12.18	**31.81**	**1.517**	< 7W
	836.6	H	13.57	12.97	26.54	0.451	< 7W
		V	19.31	12.24	31.55	1.429	< 7W
	848.8	H	14.12	13.42	27.54	0.568	< 7W
		V	18.81	12.38	31.19	1.315	< 7W
EGPRS 850	824.2	H	10.33	12.84	23.17	0.207	< 7W
		V	13.55	12.18	25.73	0.374	< 7W
	836.6	H	10.88	12.24	23.12	0.205	< 7W
		V	13.29	12.24	25.53	0.357	< 7W
	848.8	H	9.84	13.42	23.26	0.212	< 7W
		V	13.43	12.38	**25.81**	**0.381**	< 7W

Model Number	AC815S						
Test Item	ERP/EIRP						
Date of Test	10/26/2015						
Band	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	EIRP		Limit
					(dBm)	(W)	
GPRS 1900	1850.20	H	14.08	11.90	25.98	0.396	< 2W
		V	16.39	11.90	28.29	0.675	< 2W
	1880.00	H	13.87	11.94	25.81	0.381	< 2W
		V	16.21	11.94	28.15	0.653	< 2W
	1909.80	H	13.93	11.95	25.88	0.387	< 2W
		V	16.41	11.95	**28.36**	**0.685**	< 2W
EGPRS 1900	1850.20	H	9.23	11.90	21.13	0.130	< 2W
		V	11.13	11.90	23.03	0.201	< 2W
	1880.00	H	9.63	11.94	21.57	0.144	< 2W
		V	11.42	11.94	**23.36**	**0.217**	< 2W
	1909.80	H	9.14	11.96	21.10	0.129	< 2W
		V	11.38	11.96	23.34	0.216	< 2W

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

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

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

Model Number	AC815S						
Test Item	ERP/EIRP						
Date of Test	10/26/2015						
Band	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	EIRP		Limit
					(dBm)	(W)	
WCDMA Band II	1852.4	H	8.26	11.91	20.17	0.104	< 2W
		V	10.32	11.91	22.23	0.167	< 2W
	1880.0	H	8.59	11.92	20.51	0.112	< 2W
		V	10.47	11.93	22.40	0.174	< 2W
	1907.6	H	8.37	11.96	20.33	0.108	< 2W
		V	10.84	11.95	**22.79**	**0.190**	< 2W

Model Number	AC815S						
Test Item	ERP/EIRP						
Date of Test	10/26/2015						
Band	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	ERP		Limit
					(dBm)	(W)	
WCDMA Band V	826.4	H	7.86	12.88	20.74	0.119	< 7W
		V	10.71	12.19	**22.90**	**0.195**	< 7W
	836.6	H	7.18	12.97	20.15	0.104	< 7W
		V	10.33	12.24	22.57	0.181	< 7W
	846.6	H	7.19	13.28	20.47	0.111	< 7W
		V	10.37	12.34	22.71	0.187	< 7W

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

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

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

4 Peak to Average Ratio Test

4.1. Limit

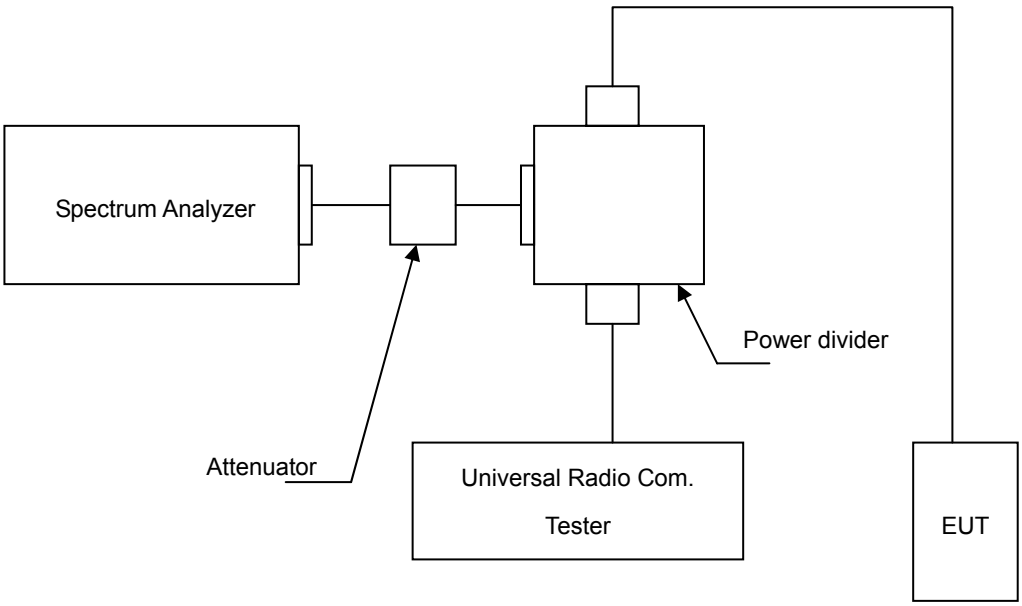
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

4.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/14/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

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%.

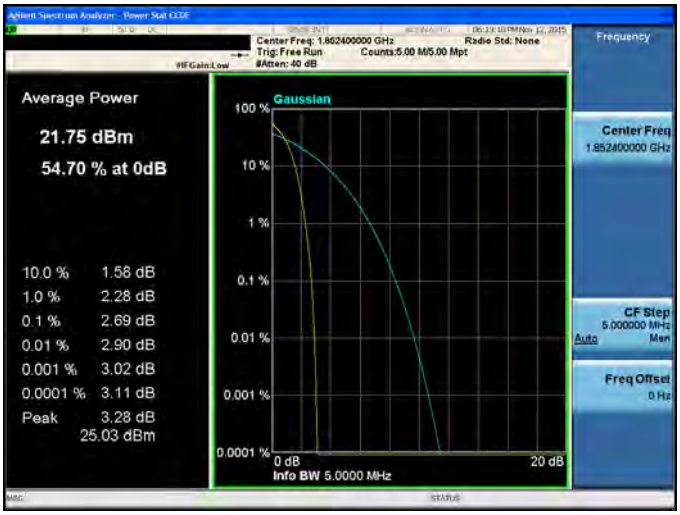
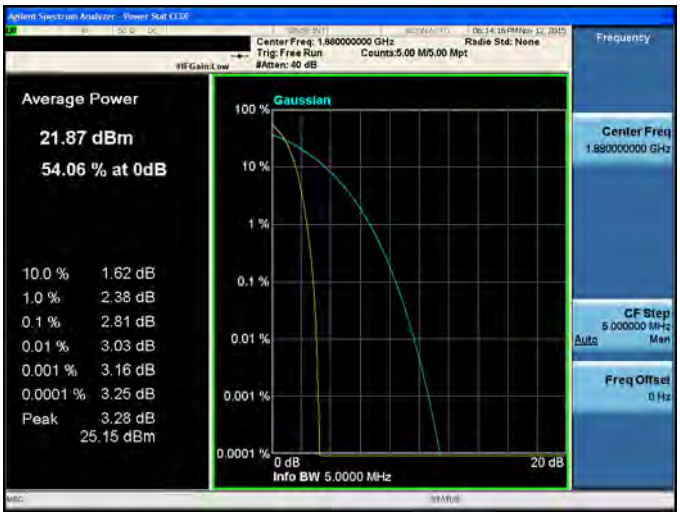
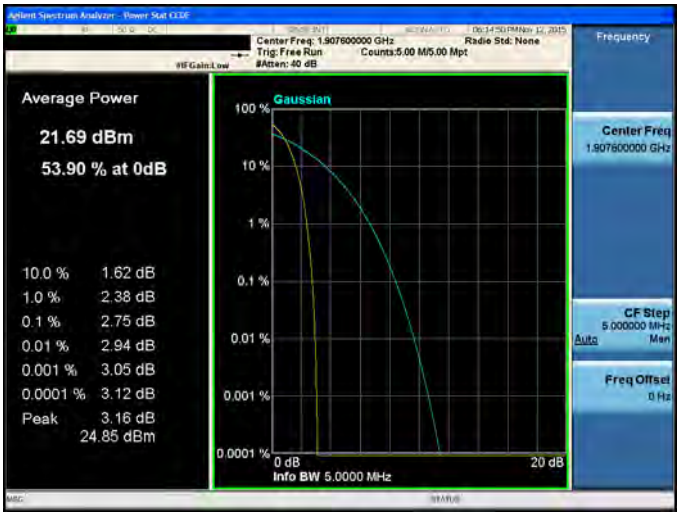
4.5. Uncertainty

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

4.6. Test Result

Model Number	AC815S			
Test Item	Peak to Average Ratio			
Date of Test	11/12/2015			
Bands	Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
WCDMA Band II	9262	1852.4	2.69	< 13
	9400	1880.0	2.81	< 13
	9538	1907.6	2.75	< 13

4.7. Test Graphs

Mode 5: WCDMA Band II link mode	
1852.40 MHz	
1880.00 MHz	
1907.60 MHz	

5 Emission Bandwidth & Occupied Bandwidth Test

5.1. Limit

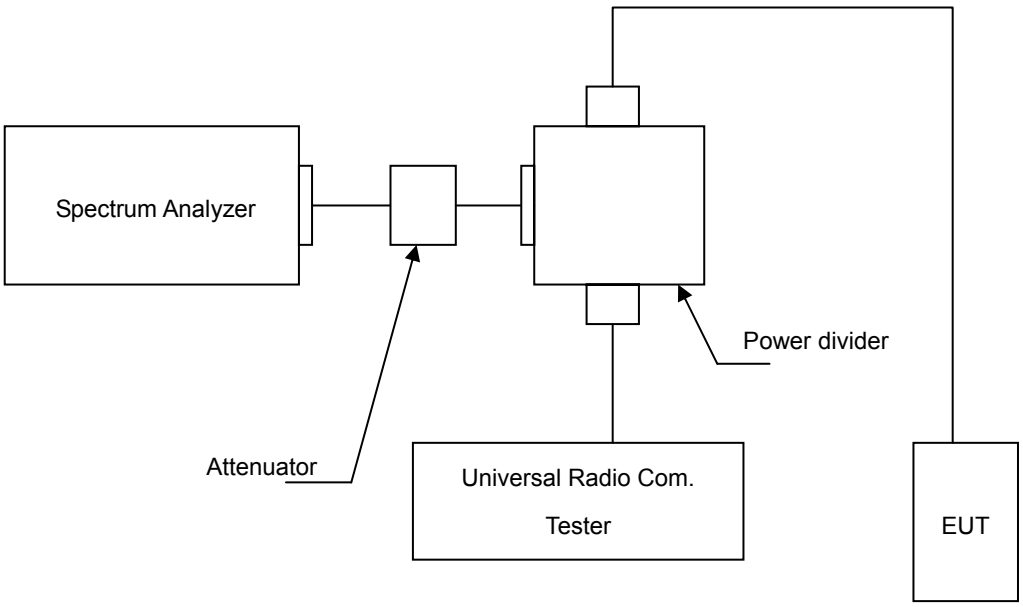
The Occupied Bandwidth Limit: N/A.

5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/14/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

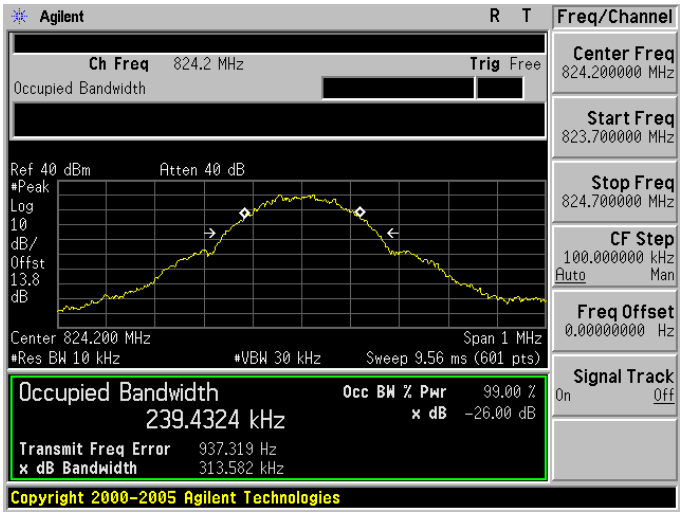
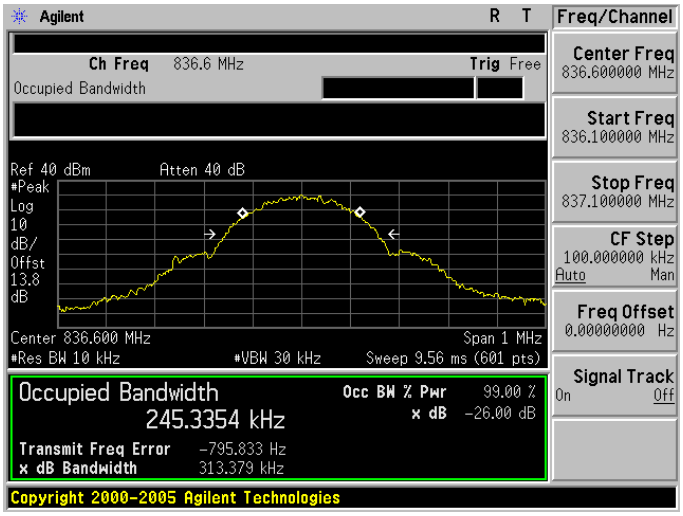
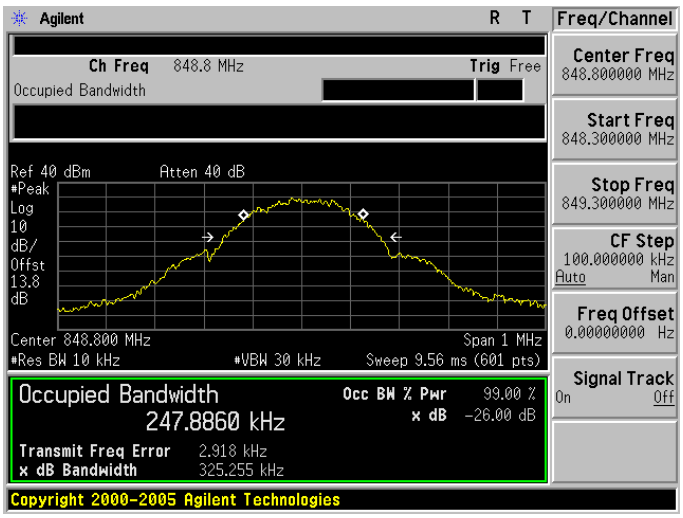
The measurement uncertainty is defined as ± 10Hz

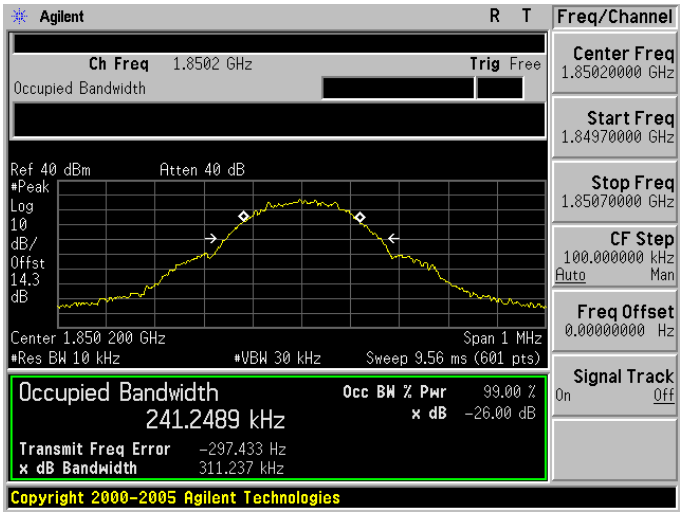
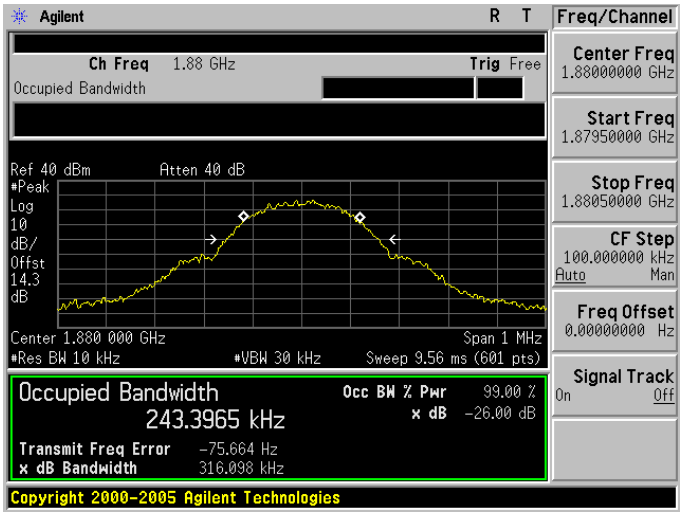
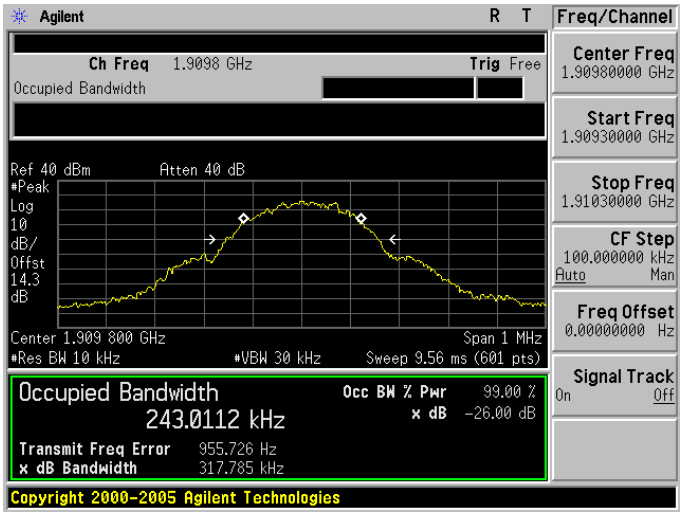
5.6. Test Result

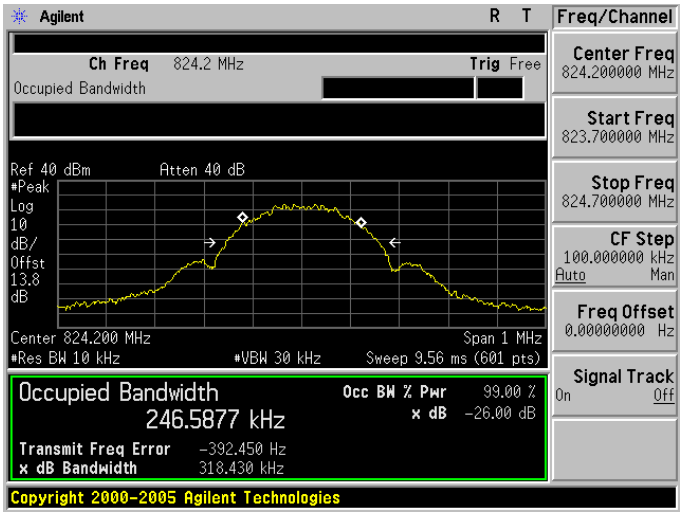
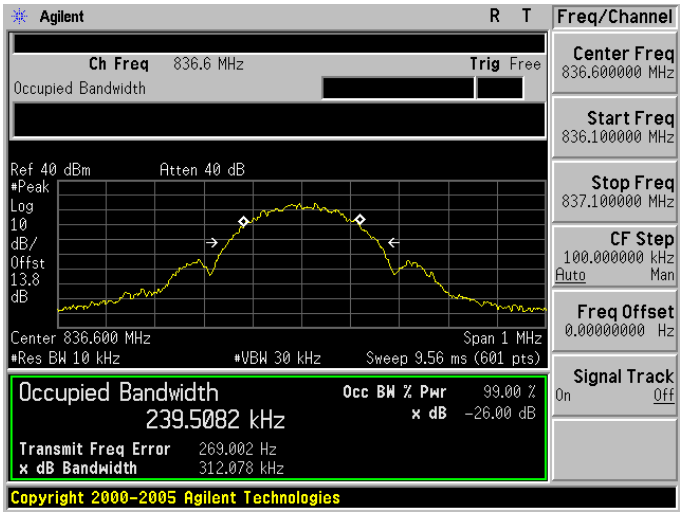
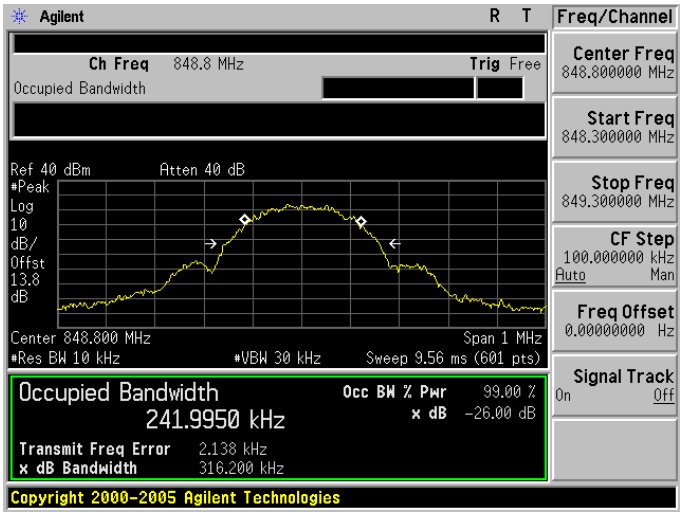
Model Number	AC815S				
Test Item	Emission Bandwidth & Occupied Bandwidth				
Date of Test	10/14/2015				
Bands	Channel	Frequency (MHz)	-26dB Bandwidth (kHz)	99% Bandwidth (kHz)	Note
GPRS 850	128	824.2	313.582	239.4324	RBW:10KHz , VBW:30KHz
	190	836.6	313.379	245.3354	RBW:10KHz , VBW:30KHz
	251	848.8	325.255	247.8860	RBW:10KHz , VBW:30KHz
GPRS 1900	512	1850.20	311.237	241.2489	RBW:10KHz , VBW:30KHz
	661	1880.00	316.098	243.3965	RBW:10KHz , VBW:30KHz
	810	1909.80	317.785	243.0112	RBW:10KHz , VBW:30KHz
EGPRS 850	128	824.2	318.430	246.5877	RBW:10KHz , VBW:30KHz
	190	836.6	312.078	239.5082	RBW:10KHz , VBW:30KHz
	251	848.8	316.200	241.9950	RBW:10KHz , VBW:30KHz
EGPRS 1900	512	1850.20	318.794	249.2509	RBW:10KHz , VBW:30KHz
	661	1880.00	318.739	247.2321	RBW:10KHz , VBW:30KHz
	810	1909.80	328.440	252.2975	RBW:10KHz , VBW:30KHz

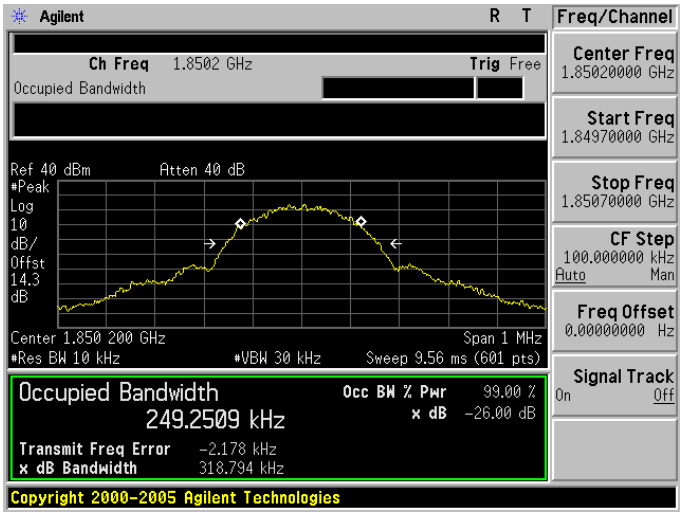
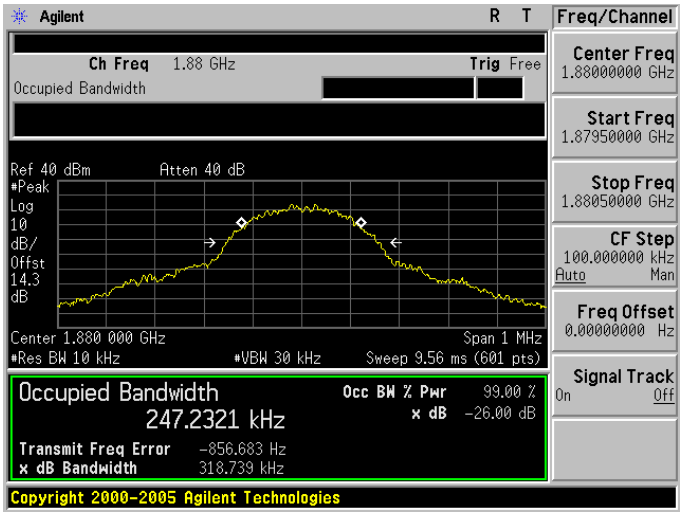
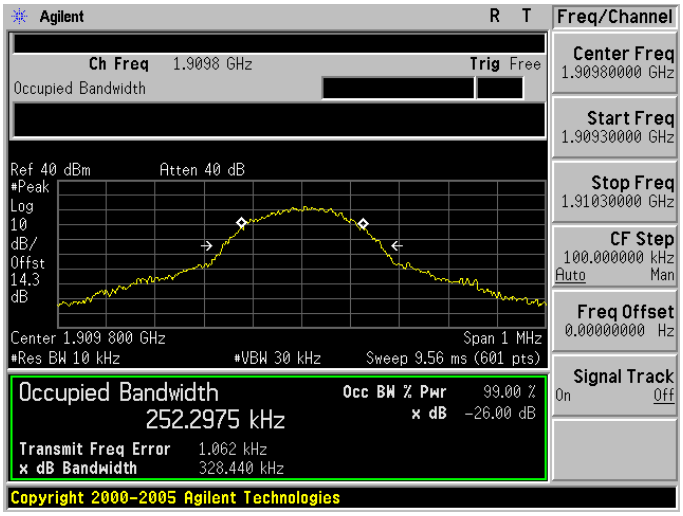
Bands	Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Note
WCDMA Band II	9262	1852.4	4.735	4.1439	RBW:100KHz , VBW:300KHz
	9400	1880.0	4.741	4.1512	RBW:100KHz , VBW:300KHz
	9538	1907.6	4.727	4.1638	RBW:100KHz , VBW:300KHz
WCDMA Band V	4132	826.4	4.736	4.1392	RBW:100KHz , VBW:300KHz
	4183	836.6	4.727	4.1619	RBW:100KHz , VBW:300KHz
	4233	846.6	4.703	4.1169	RBW:100KHz , VBW:300KHz

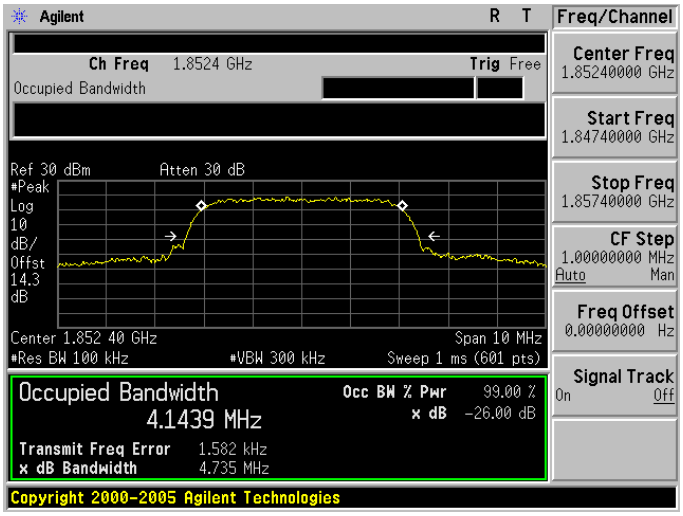
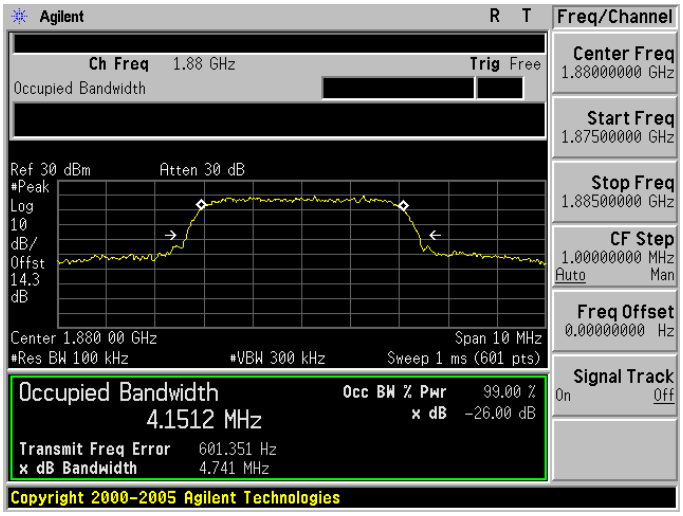
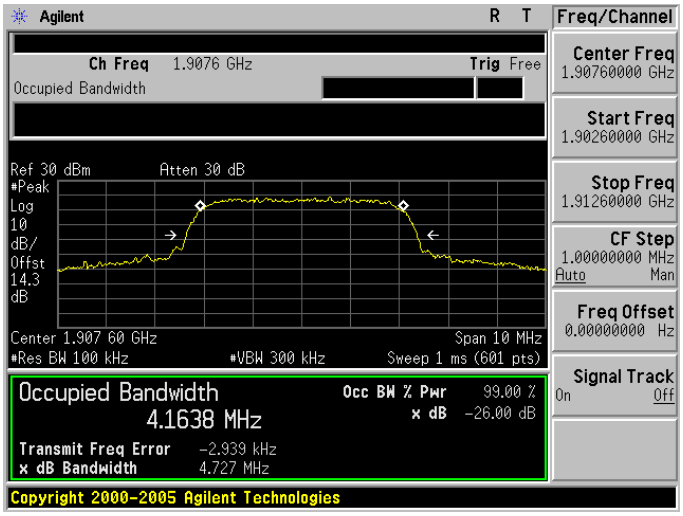
5.7. Test Graphs

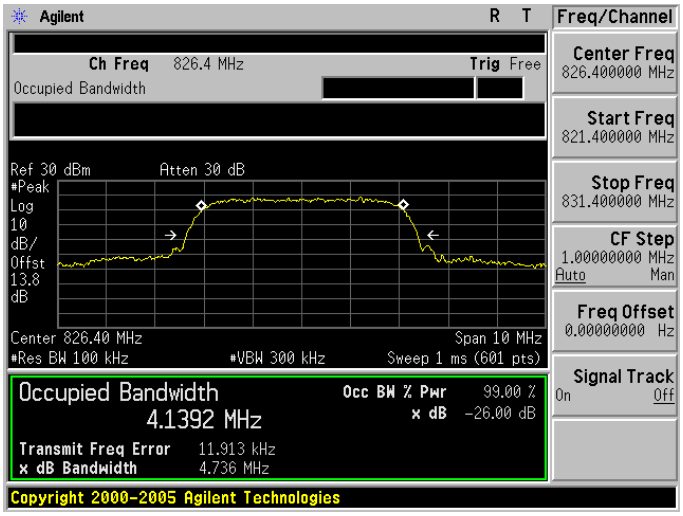
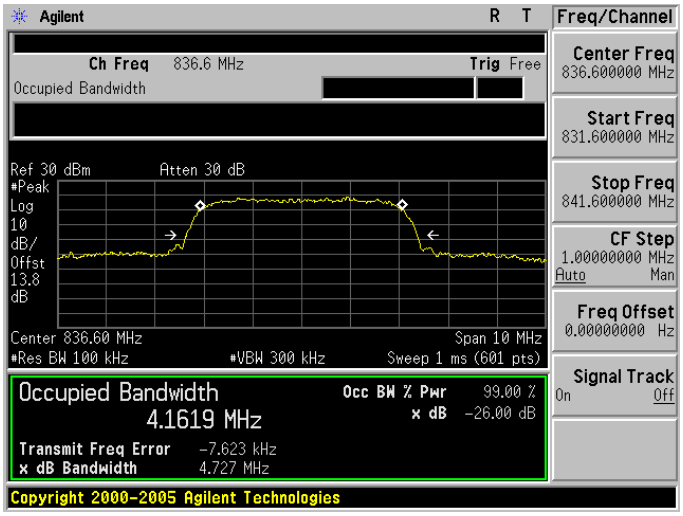
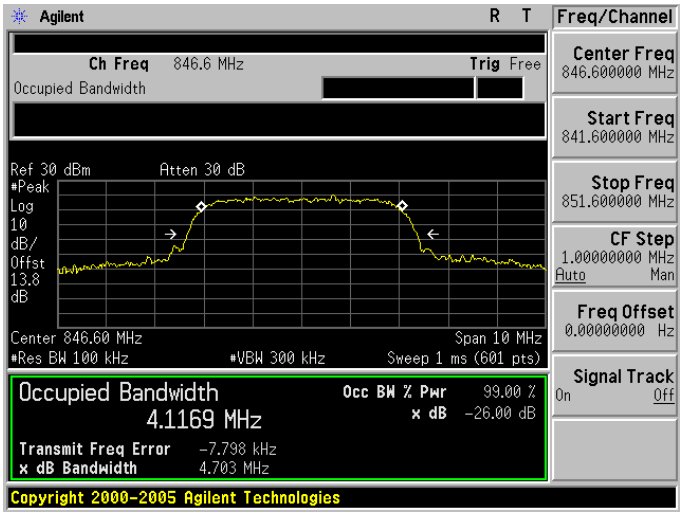
Mode 1: GPRS 850 link mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 2: GPRS 1900 link mode	
1852.40 MHz	
1880.00 MHz	
1907.60 MHz	

Mode 3: EGPRS 850 link mode	
824.2 MHz	
836.6 MHz	
848.8 MHz	

Mode 4: EGPRS 1900 link mode	
1852.40 MHz	
1880.00 MHz	
1907.60 MHz	

Mode 5: WCDMA Band II link mode	
1852.40 MHz	
1880.00 MHz	
1907.60 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:

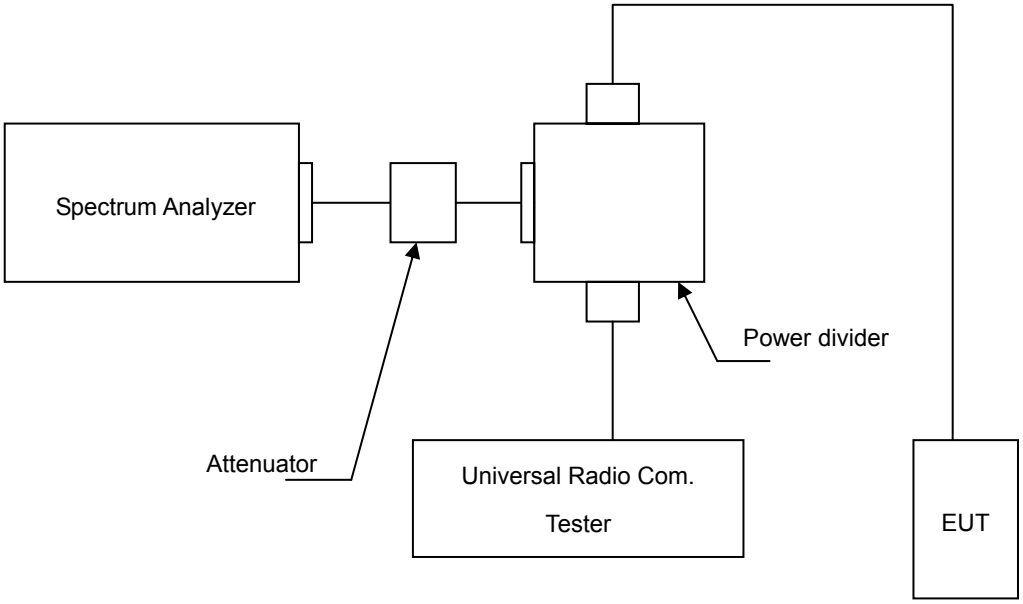
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

6.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/14/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

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=51 kHz; VB=160 kHz for WCDMA Band V and WCDMA Band II.

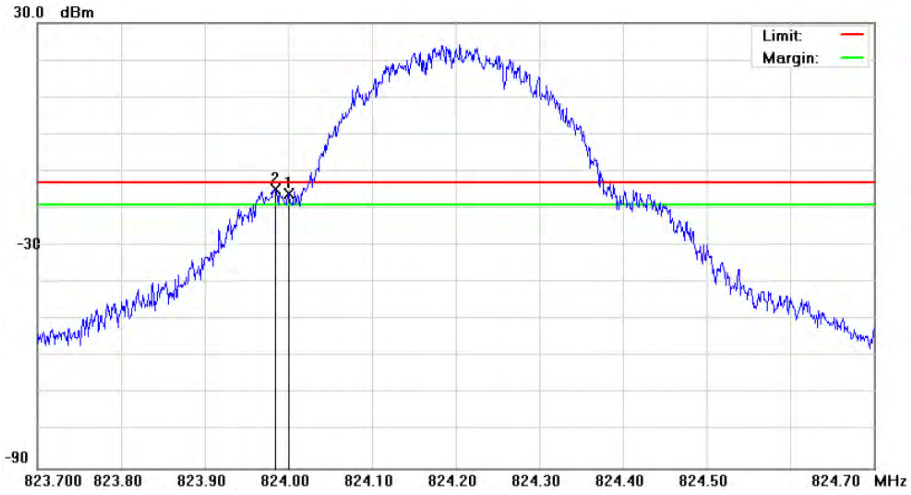
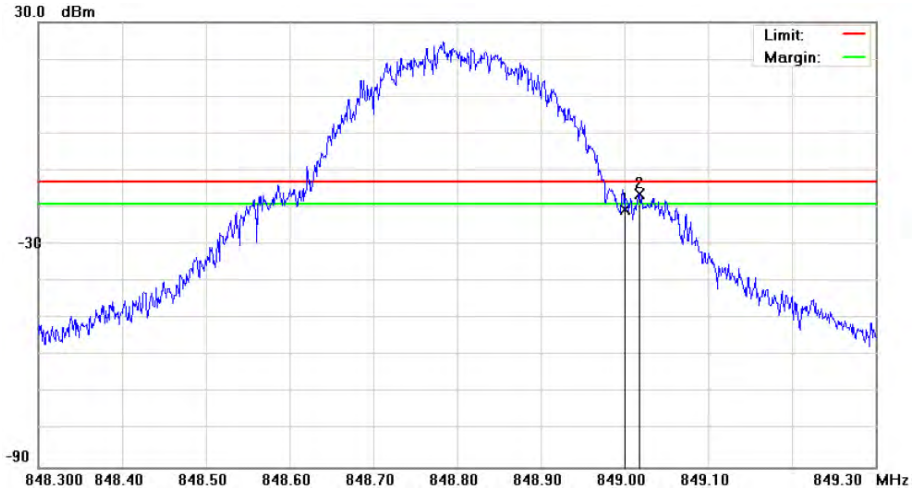
6.5. Uncertainty

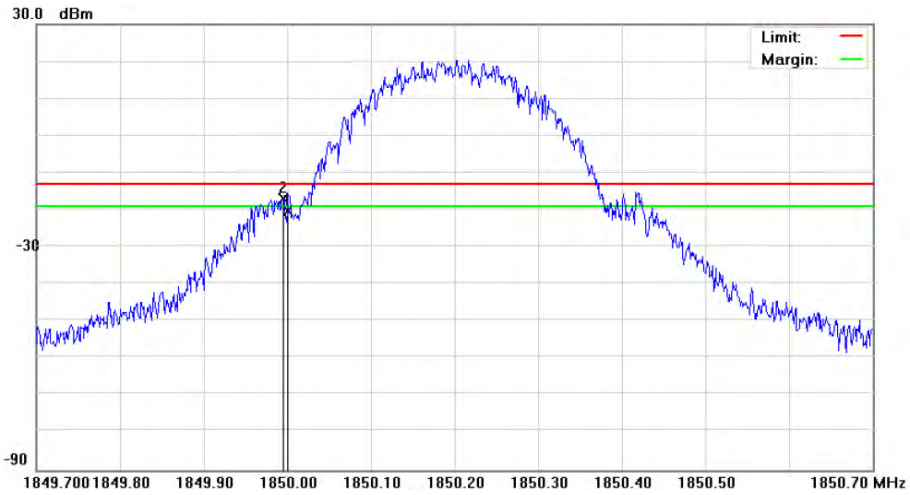
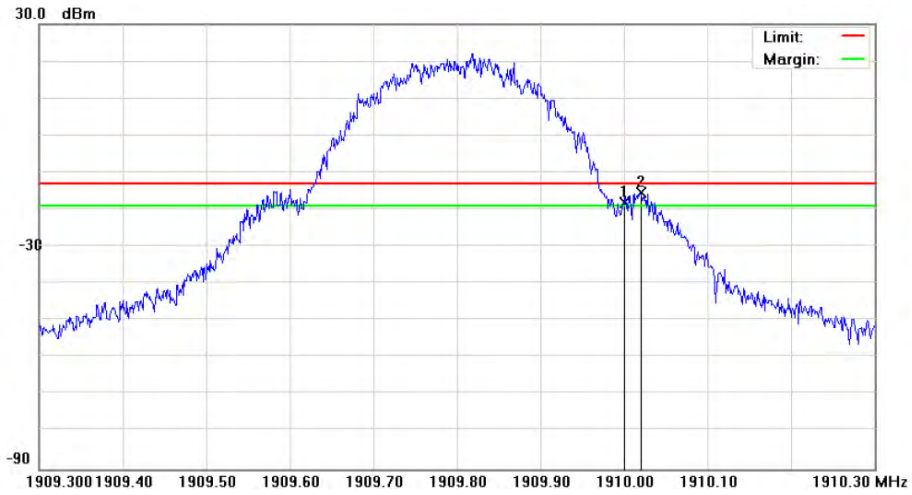
The measurement uncertainty is defined as ± 10Hz

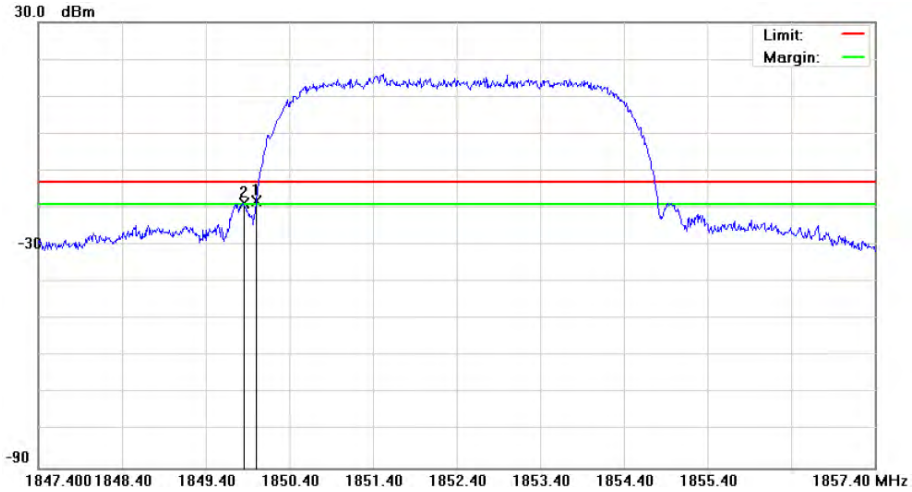
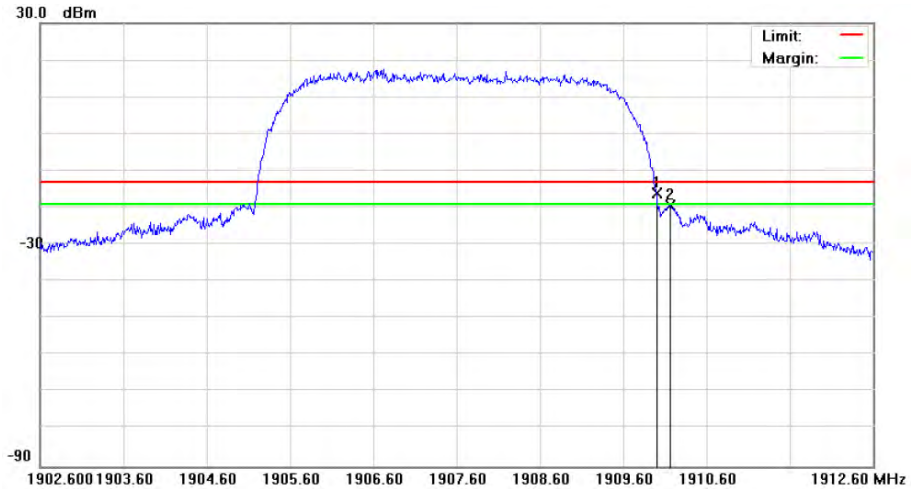
6.6. Test Result

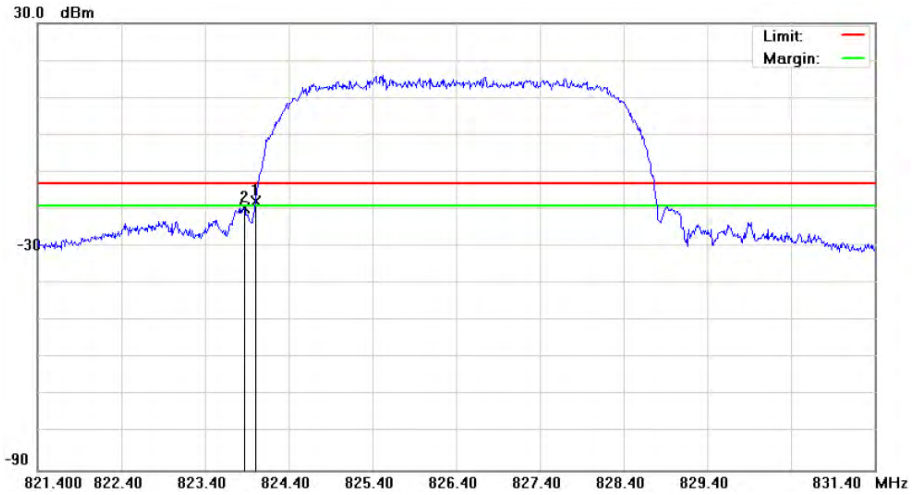
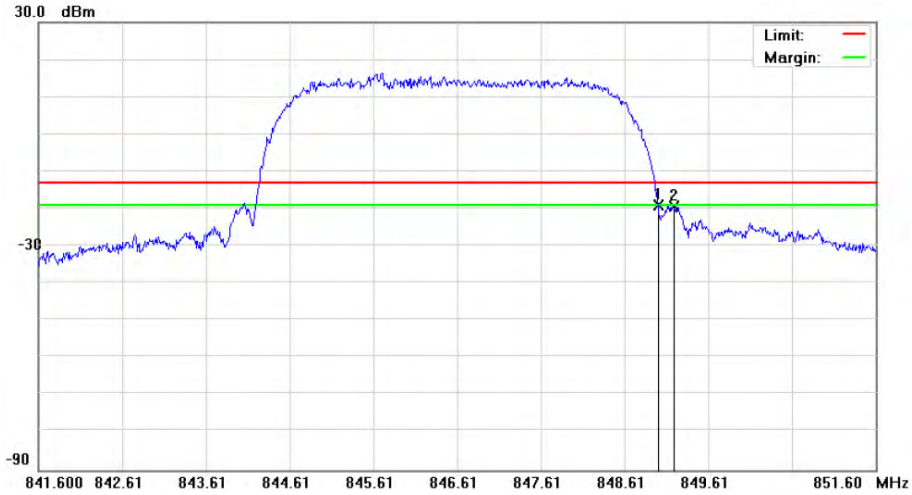
Model Number		AC815S				
Test Item		Band Edge				
Date of Test		10/14/2015				
Bands		Channel	Frequency (MHz)	Measurement (dBm)	Limit (dBm)	Result
GPRS 850	Lower	128	824.0000	-14.93	-13	Pass
	Higher	251	849.0000	-16.44	-13	Pass
GPRS 1900	Lower	512	1850.000	-16.97	-13	Pass
	Higher	810	1910.000	-15.58	-13	Pass
WCDMA Band II	Lower	9262	1850.000	-18.06	-13	Pass
	Higher	9538	1910.000	-16.12	-13	Pass
WCDMA Band V	Lower	4132	824.0000	-17.86	-13	Pass
	Higher	4233	849.0000	-18.93	-13	Pass

6.7. Test Graphs

Mode 1: GPRS 850 link mode	
Lower Band	
Higher Band	

Mode 2: GPRS 1900 link mode	
Lower Band	
Higher Band	

Mode 5: WCDMA Band II link mode	
Lower Band	
Higher Band	

Mode 6: WCDMA Band V link mode	
Lower Band	
Higher Band	

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.

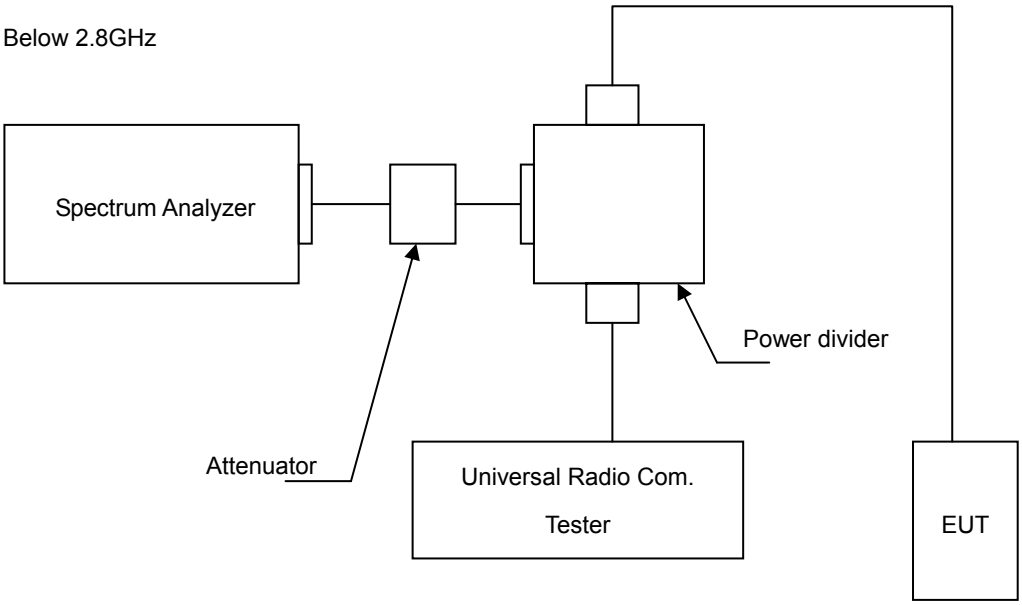
7.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/14/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power Divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

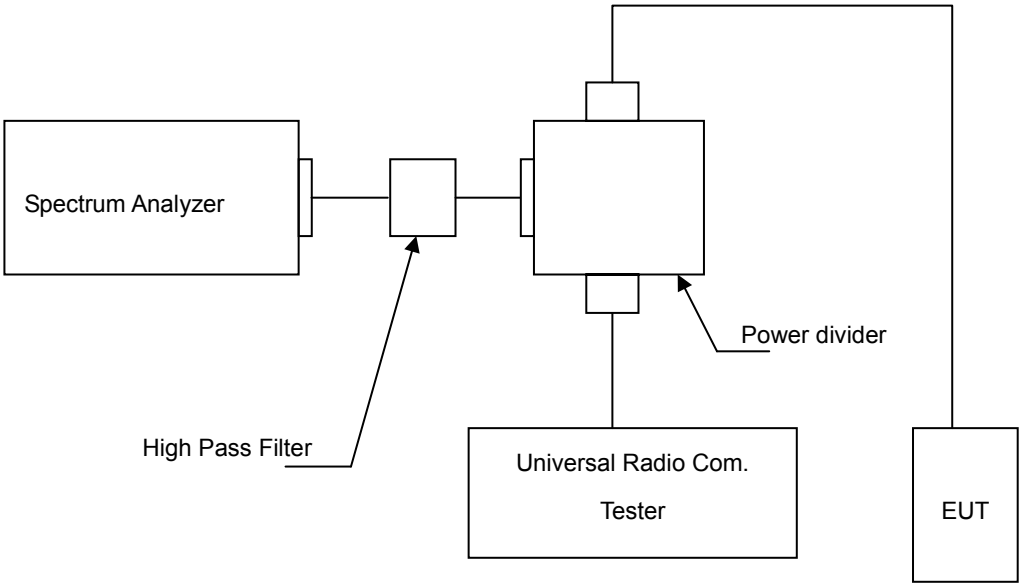
Note: N.C.R. = No Calibration Request.

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.

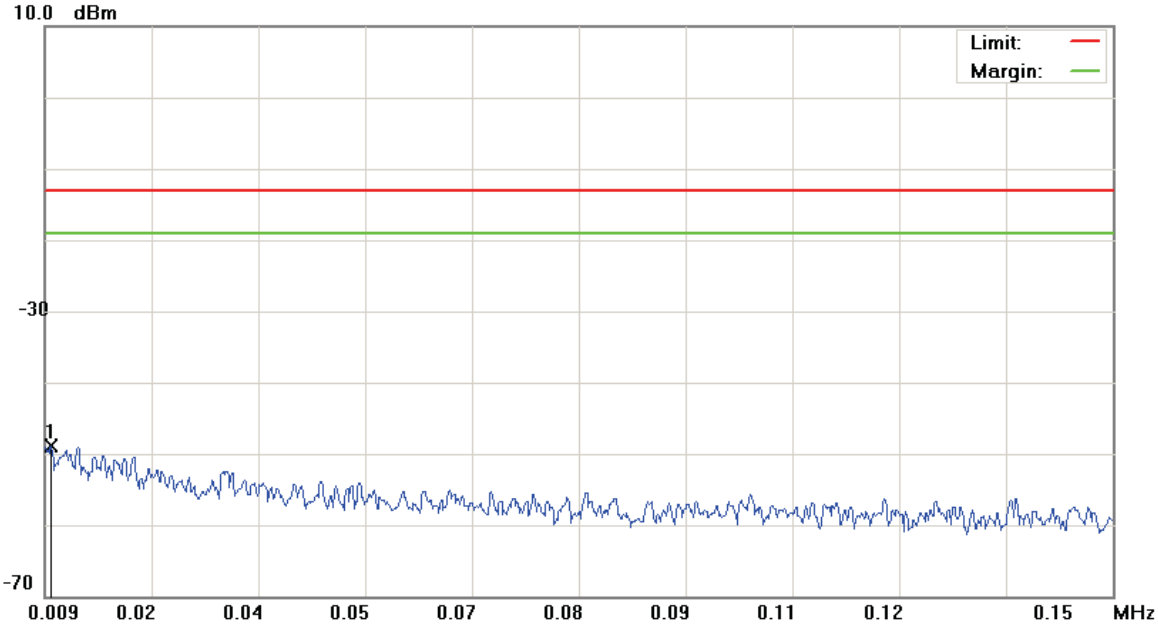
7.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

7.6. Test Result

Model Number	AC815S
Test Item	Conducted Spurious Emission
Test Mode	Mode 1 / Mode 2 / Mode 5 / Mode 6
Date of Test	10/14/2015

File :AC815S(CH128) Data :#1 Date: 2015/10/14 Time: 上午 11:29:50



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

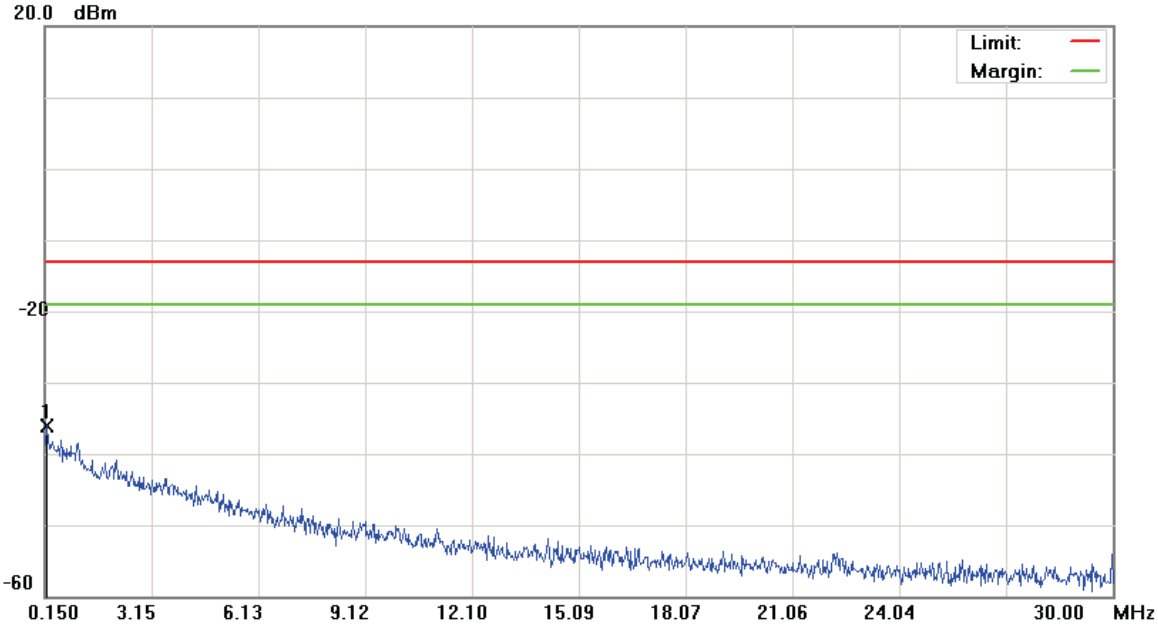
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0098	-79.55	30.58	-48.97	-13.00	-35.97	peak			

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

File :AC815S(CH128) Data :#2 Date: 2015/10/14 Time: 上午 11:30:14



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

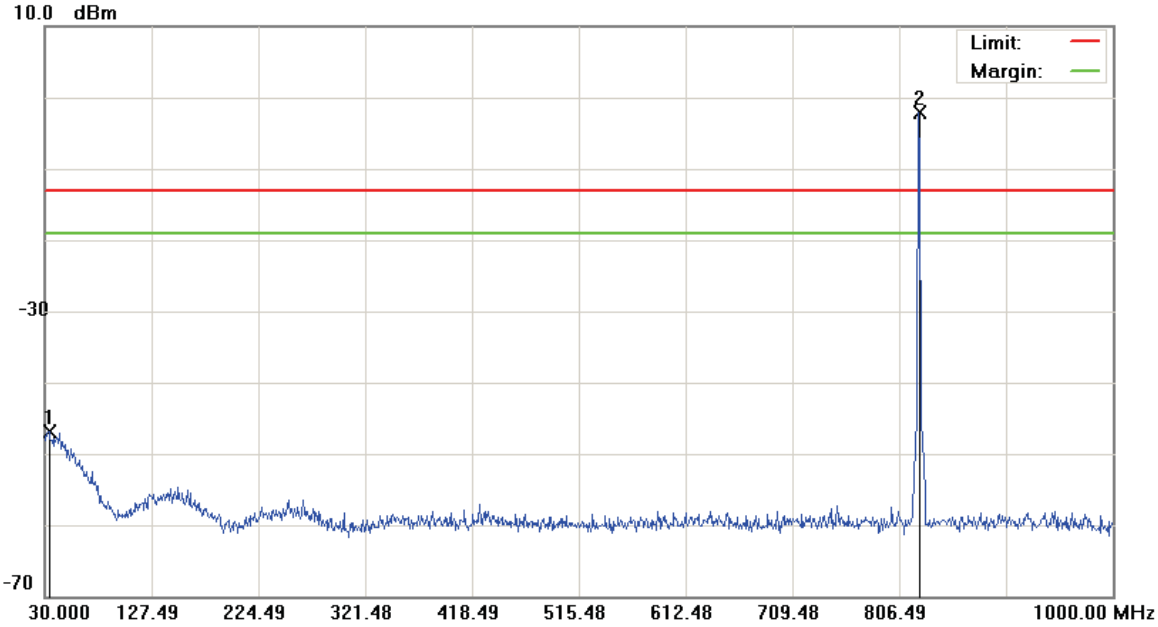
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.2097	-67.11	31.00	-36.11	-13.00	-23.11	peak			

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

File :AC815S(CH128) Data :#3 Date: 2015/10/14 Time: 上午 11:30:38

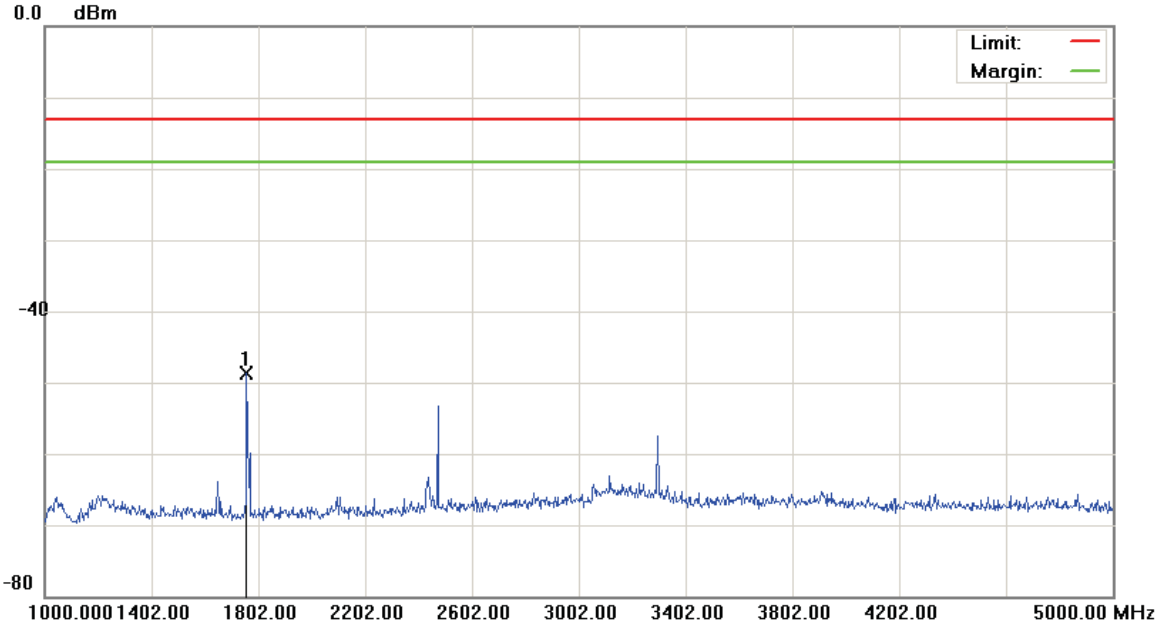


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	-63.64	16.83	-46.81	-13.00	-33.81	peak			
2	*	823.9450	-5.93	3.83	-2.10	-13.00	10.90	peak			Tx

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

File :AC815S(CH128) Data :#4 Date: 2015/10/14 Time: 上午 11:00:22

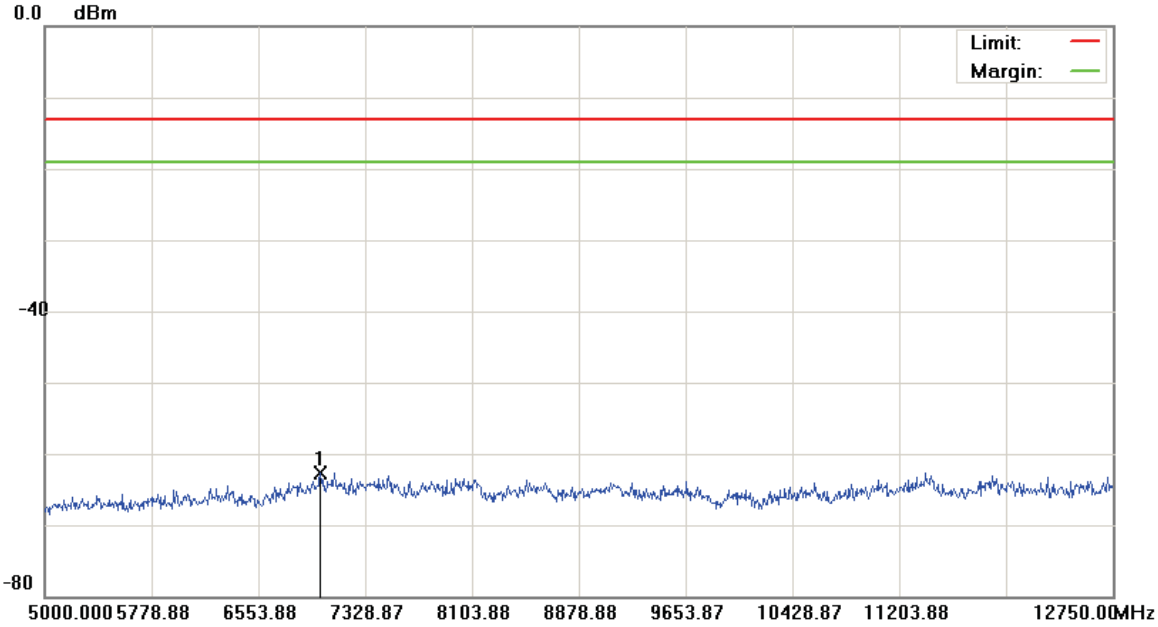


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	*	1756.000	-53.07	4.36	-48.71	-13.00	-35.71	peak			

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

File :AC815S(CH128) Data :#5 Date: 2015/10/14 Time: 上午 11:00:45

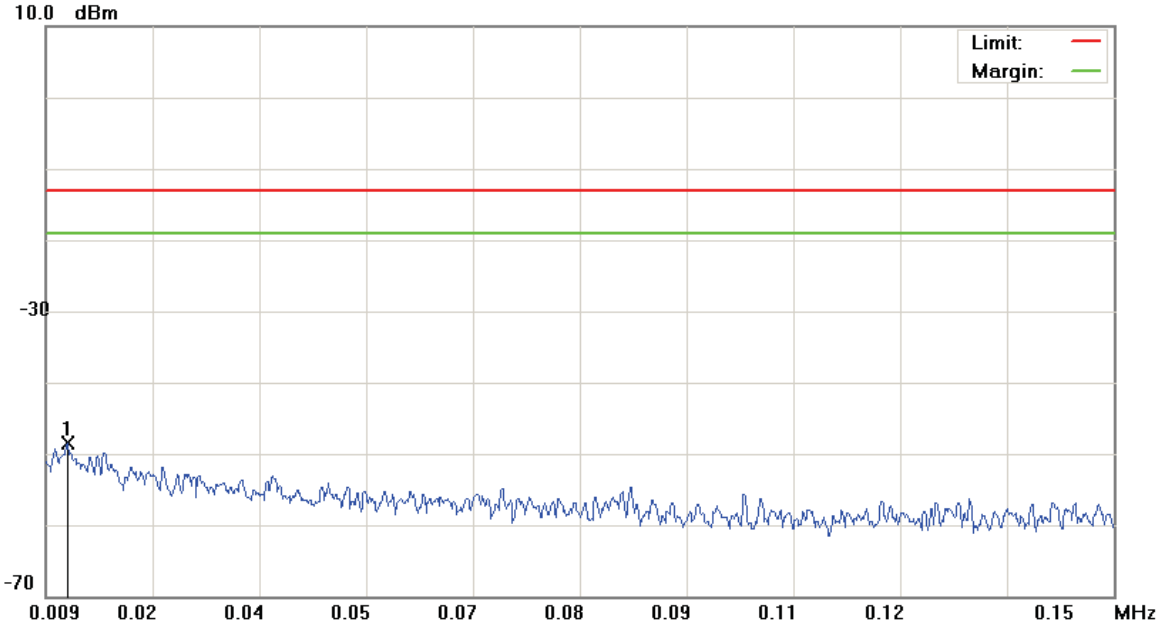


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	*	6999.500	-67.67	4.92	-62.75	-13.00	-49.75	peak			

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

File :AC815S(CH190) Data :#1 Date: 2015/10/14 Time: 上午 11:34:51



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

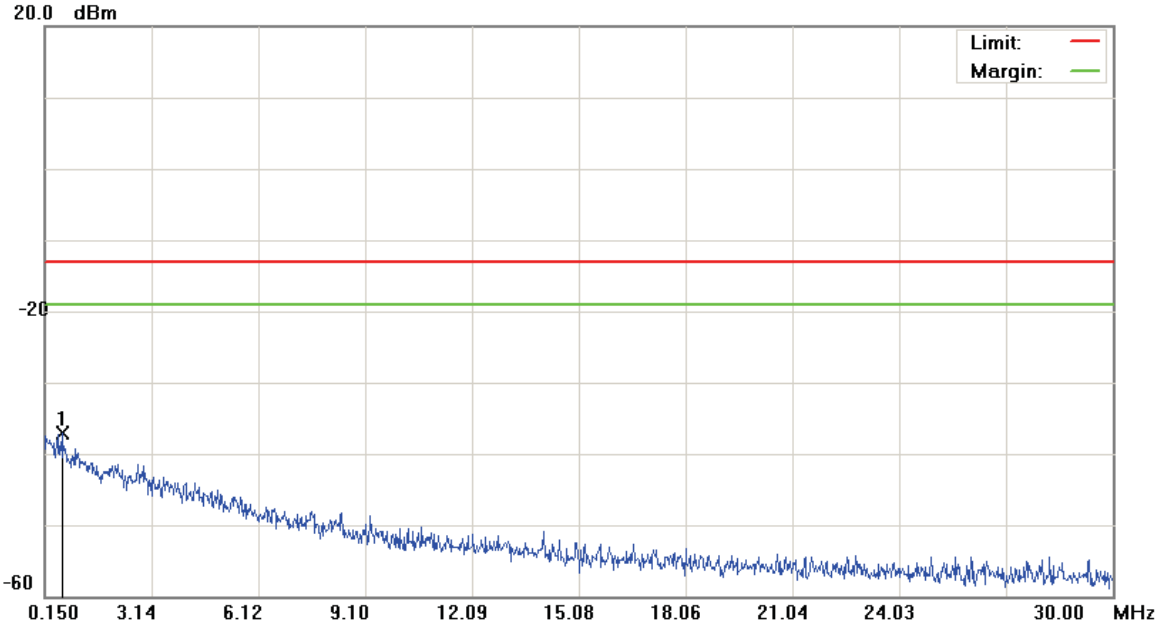
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0120	-79.06	30.57	-48.49	-13.00	-35.49	peak			

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

File :AC815S(CH190) Data :#2 Date: 2015/10/14 Time: 上午 11:35:15

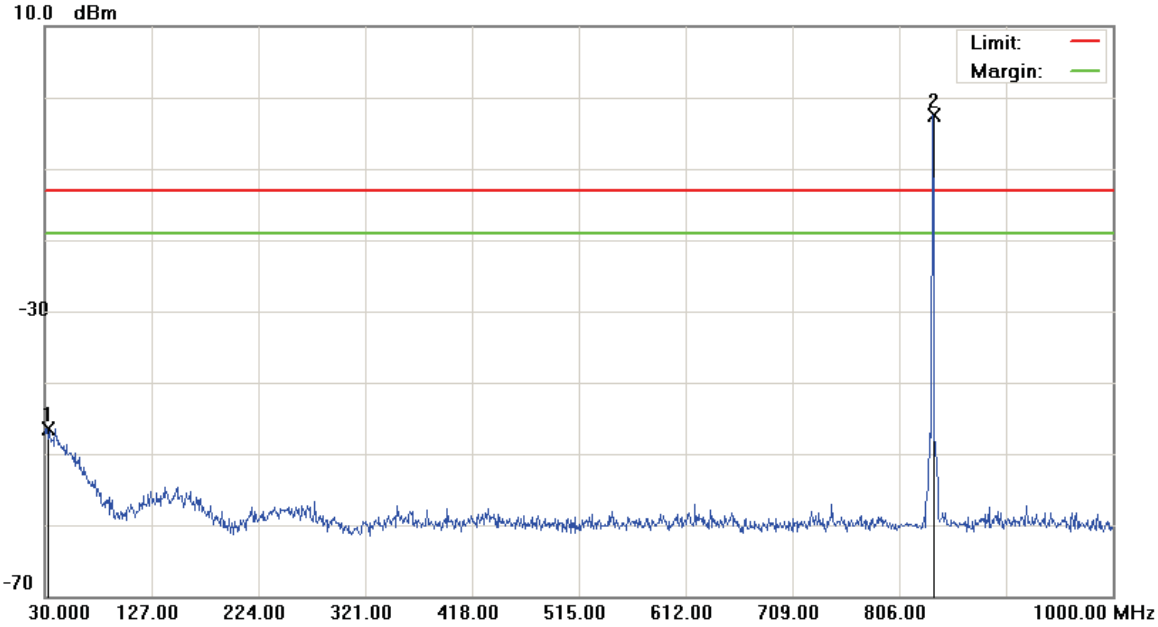


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	*	0.6425	-69.10	31.91	-37.19	-13.00	-24.19	peak			

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

File :AC815S(CH190) Data :#3 Date: 2015/10/14 Time: 上午 11:35:39

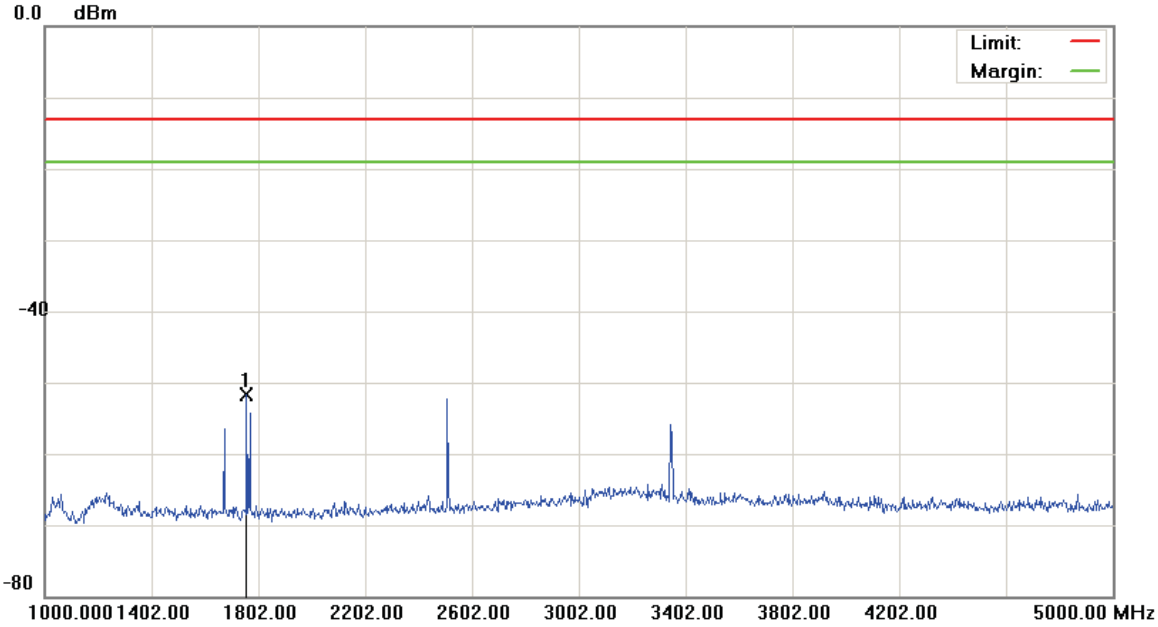


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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		32.4250	-63.36	16.94	-46.42	-13.00	-33.42	peak			
2	*	836.5550	-6.45	3.96	-2.49	-13.00	10.51	peak			Tx

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

File :AC815S(CH190) Data :#4 Date: 2015/10/14 Time: 上午 11:02:18



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

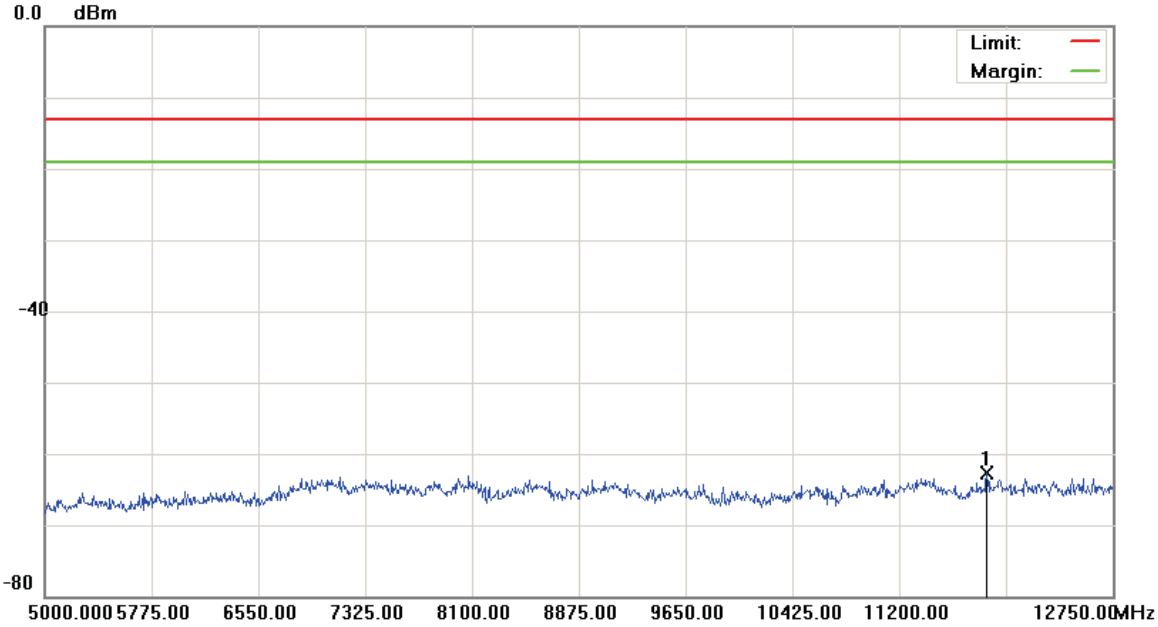
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	1756.000	-56.15	4.36	-51.79	-13.00	-38.79	peak			

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

File :AC815S(CH190) Data :#5 Date: 2015/10/14 Time: 上午 11:02:41

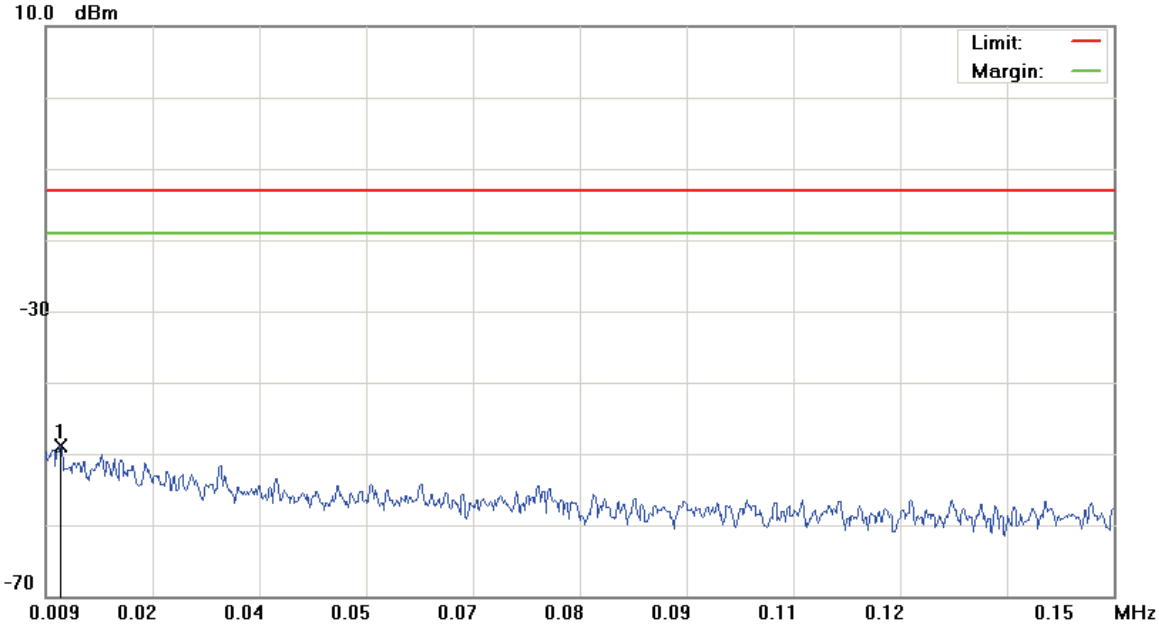


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	*	11835.500	-68.22	5.57	-62.65	-13.00	-49.65	peak			

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

File :AC815S(CH251) Data :#1 Date: 2015/10/14 Time: 上午 11:37:37



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

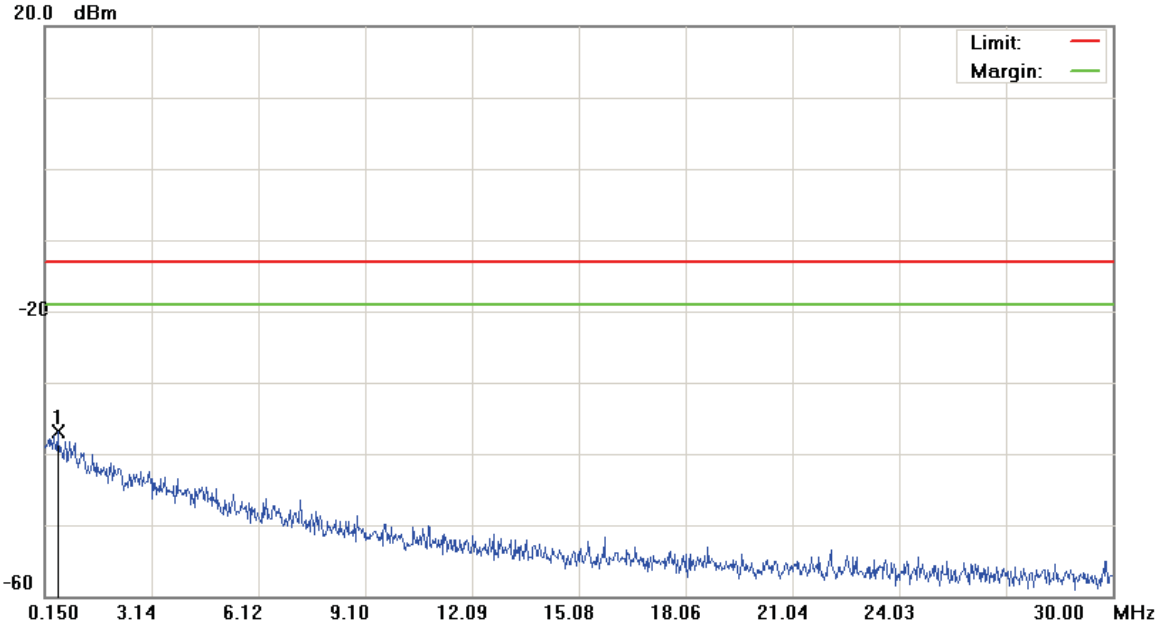
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0110	-79.52	30.57	-48.95	-13.00	-35.95	peak			

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

File :AC815S(CH251) Data :#2 Date: 2015/10/14 Time: 上午 11:38:01



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 850
Note:

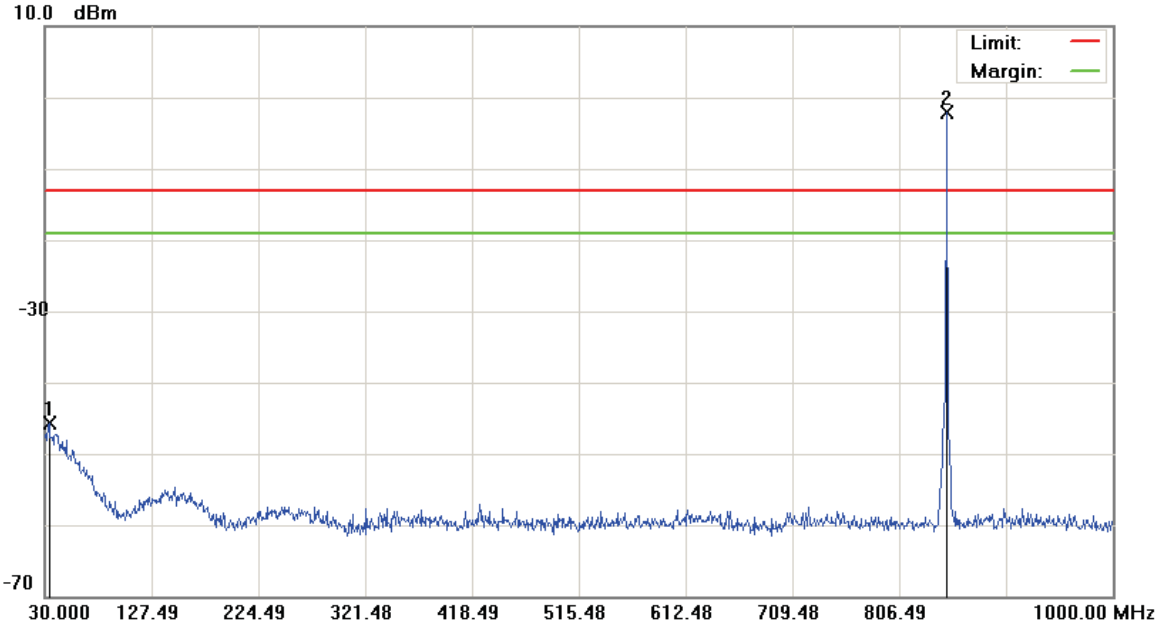
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.5231	-68.97	32.01	-36.96	-13.00	-23.96	peak			

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

File :AC815S(CH251) Data :#3 Date: 2015/10/14 Time: 上午 11:38:25

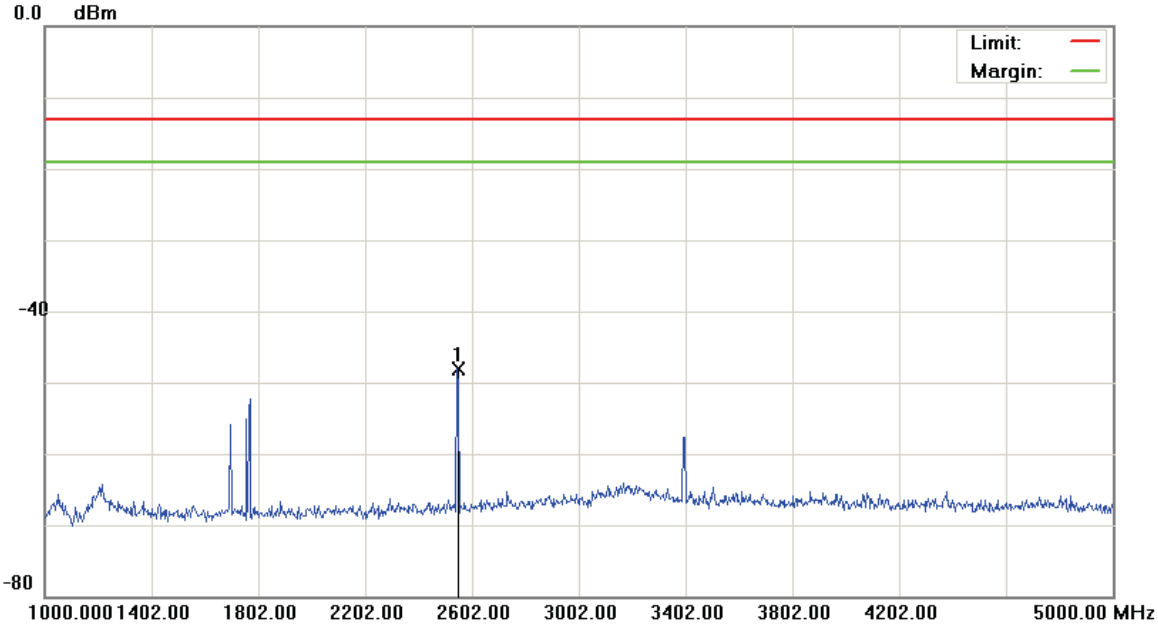


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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		34.3650	-62.52	16.72	-45.80	-13.00	-32.80	peak			
2	*	849.6500	-6.01	3.98	-2.03	-13.00	10.97	peak			Tx

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

File :AC815S(CH251) Data :#4 Date: 2015/10/14 Time: 上午 11:06:21

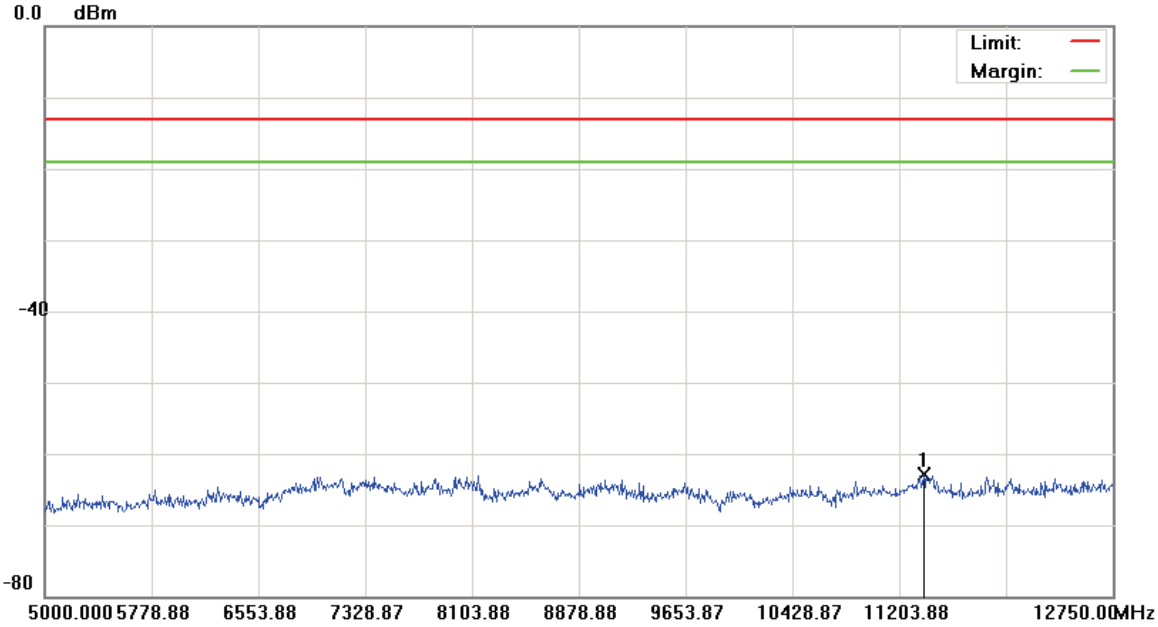


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	-52.60	4.45	-48.15	-13.00	-35.15	peak			

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

File :AC815S(CH251) Data :#5 Date: 2015/10/14 Time: 上午 11:06:44

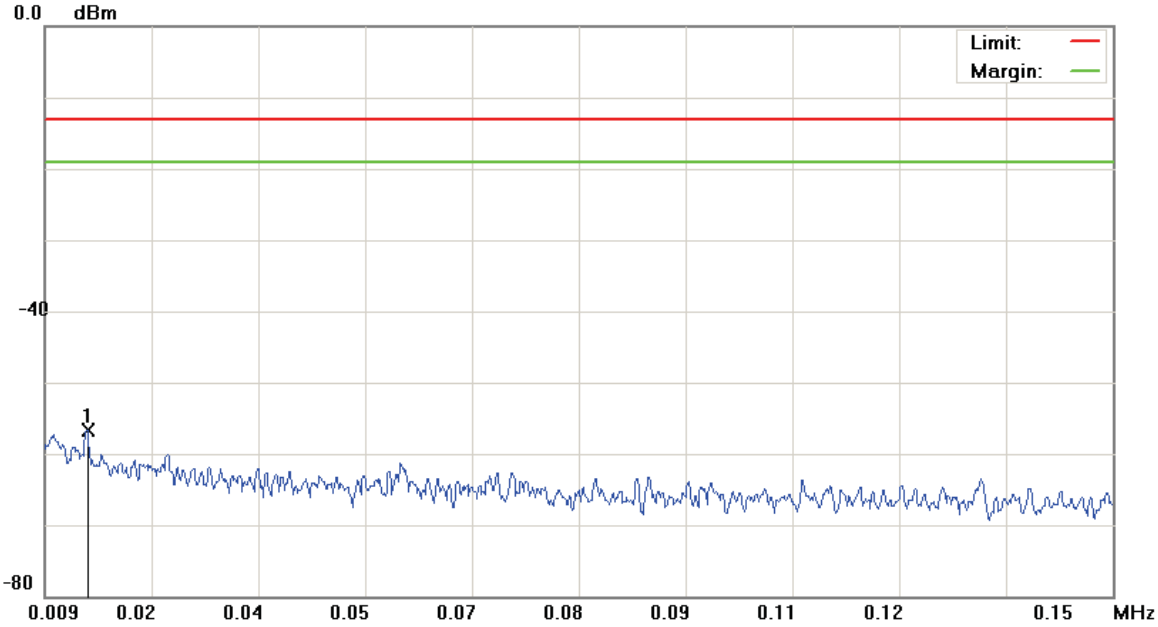


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 850				
Note:					

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	*	11378.250	-68.30	5.45	-62.85	-13.00	-49.85	peak			

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

File :AC815S(CH512) Data :#1 Date: 2015/10/14 Time: 上午 11:14:10

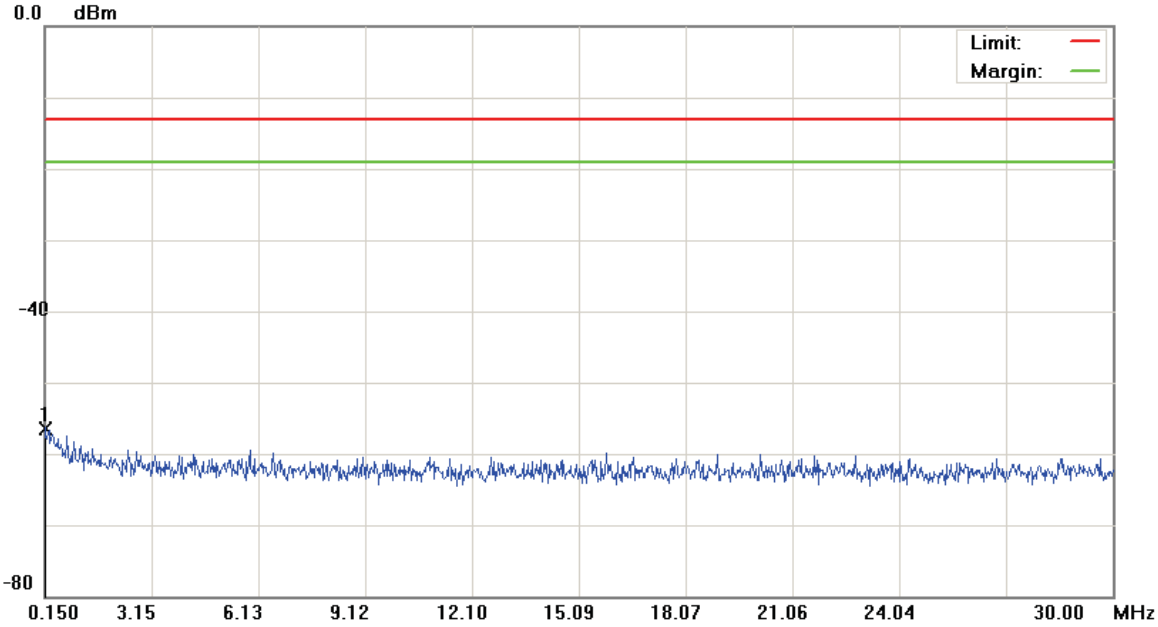


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1 KHz	VBW: 3 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	*	0.0146	-68.12	11.39	-56.73	-13.00	-43.73	peak			

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

File :AC815S(CH512) Data :#2 Date: 2015/10/14 Time: 上午 11:14:34



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 1900
Note:

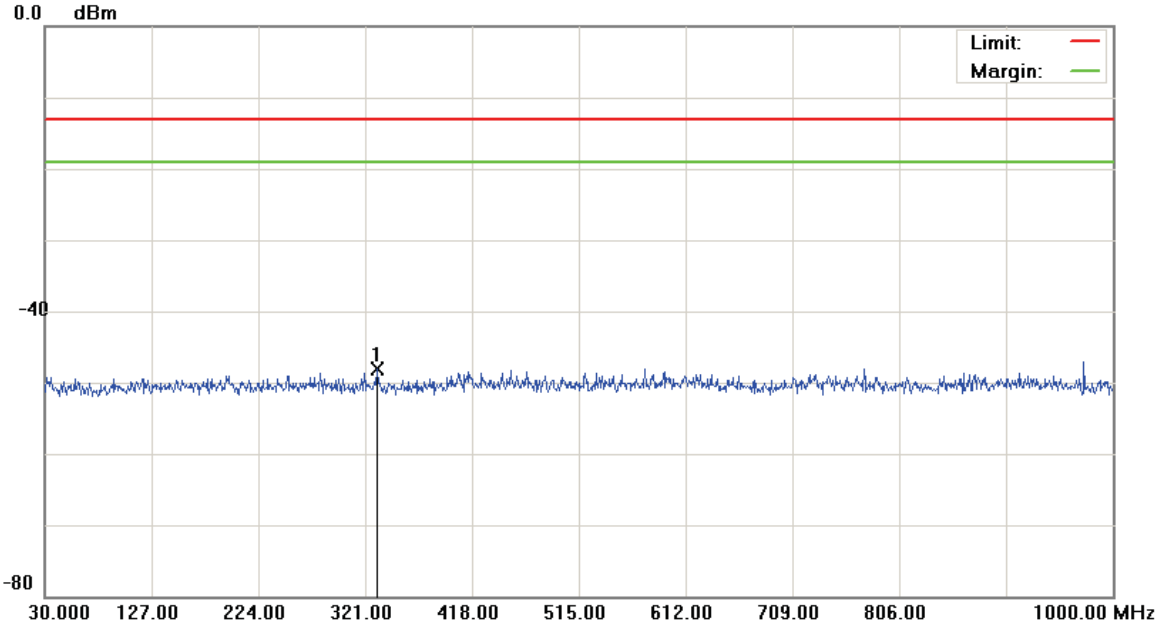
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	-68.86	12.46	-56.40	-13.00	-43.40	peak			

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

File :AC815S(CH512) Data :#3 Date: 2015/10/14 Time: 上午 11:14:58



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 1900
Note:

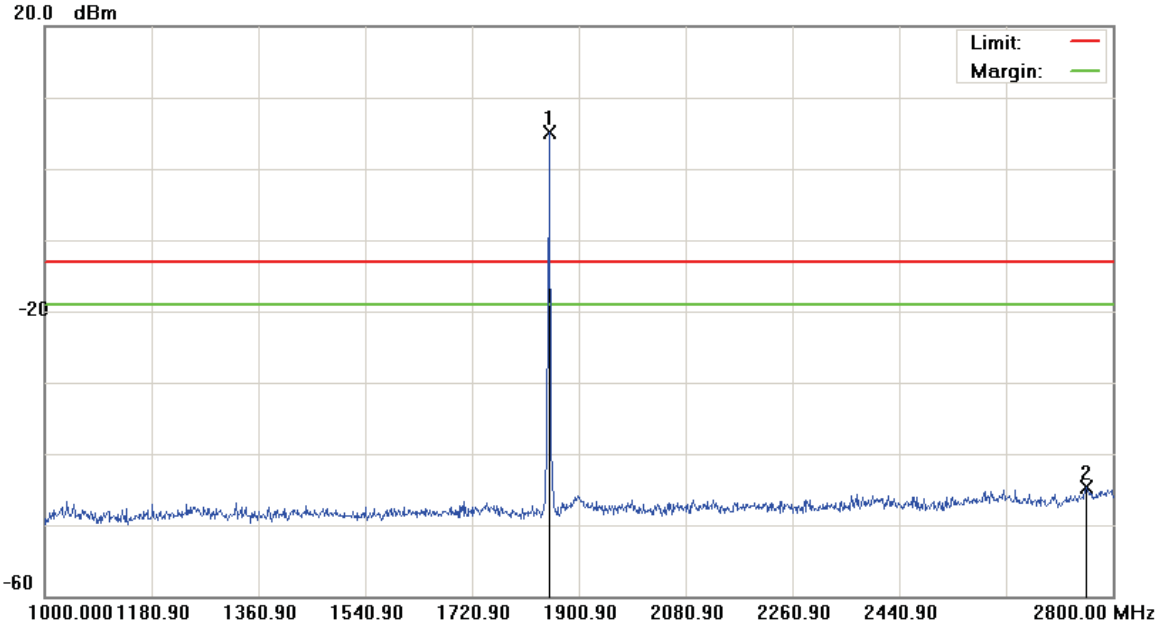
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	331.6700	-61.19	13.15	-48.04	-13.00	-35.04	peak			

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

File :AC815S(CH512) Data :#4 Date: 2015/10/14 Time: 上午 11:21:52

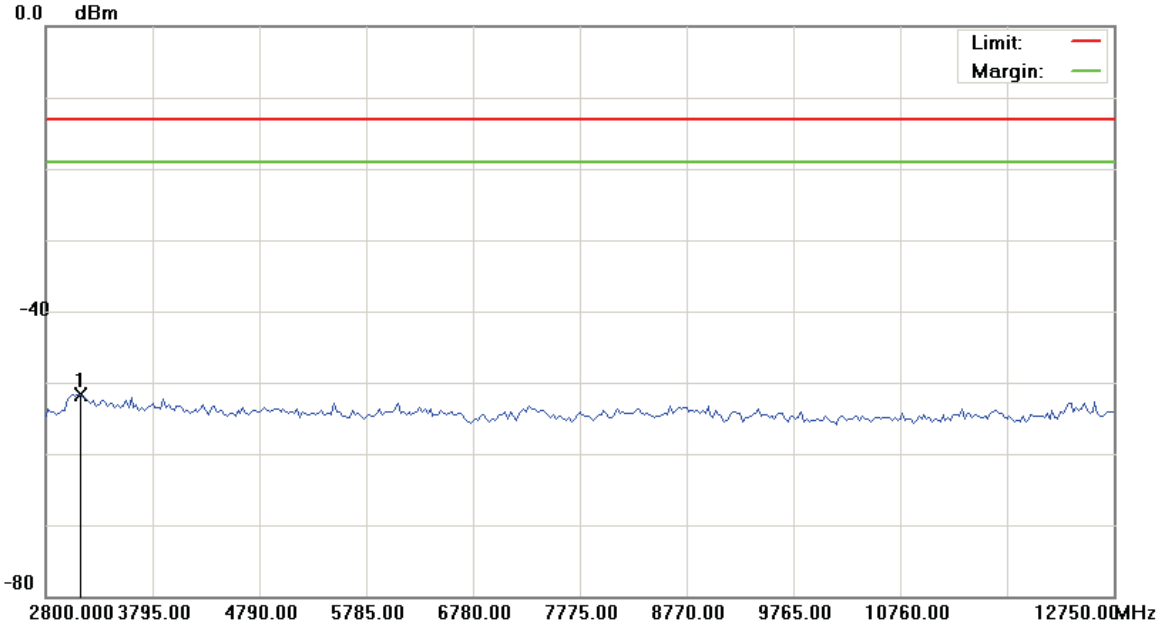


Site: site #1	Polarization: ***Conducted***	Temperature: 26 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55 %
EUT: AirCard 815S Mobile Hotspot	Distance:	RBW: 1000 KHz VBW: 3000 KHz
M/N: AC815S		
Mode: GPRS 1900		
Note:		

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	*	1851.400	0.88	4.26	5.14	-13.00	18.14	peak			Tx
2		2755.000	-50.22	5.48	-44.74	-13.00	-31.74	peak			

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

File :AC815S(CH512) Data :#5 Date: 2015/10/14 Time: 上午 10:20:57

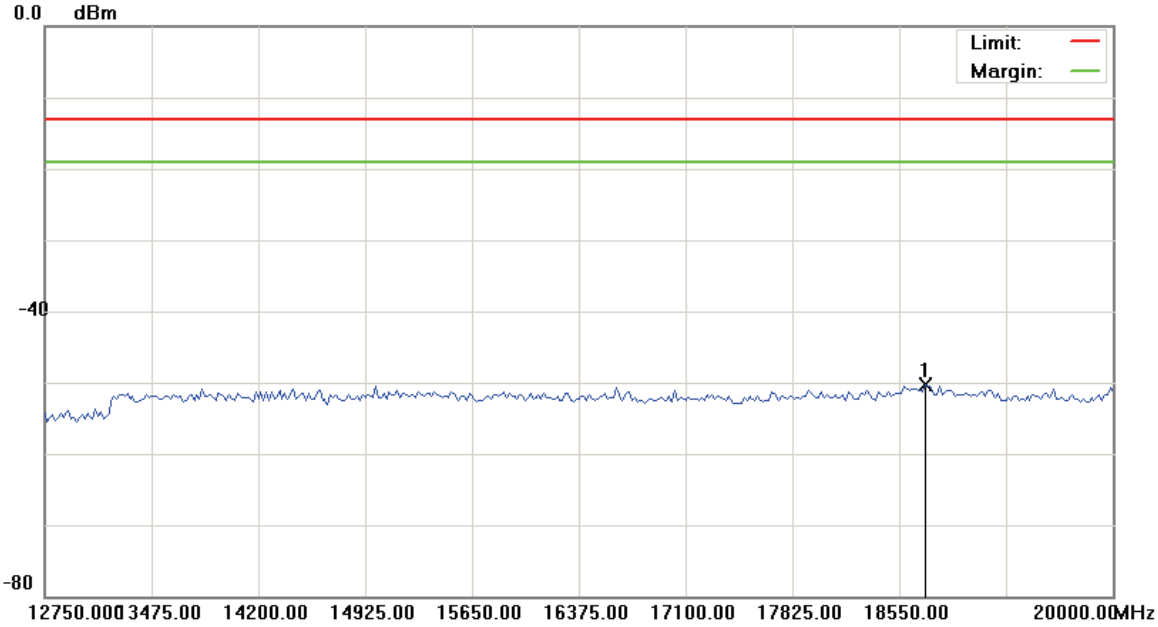


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	*	3123.375	-56.91	5.30	-51.61	-13.00	-38.61	peak			

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

File :AC815S(CH512) Data :#6 Date: 2015/10/14 Time: 上午 10:21:17

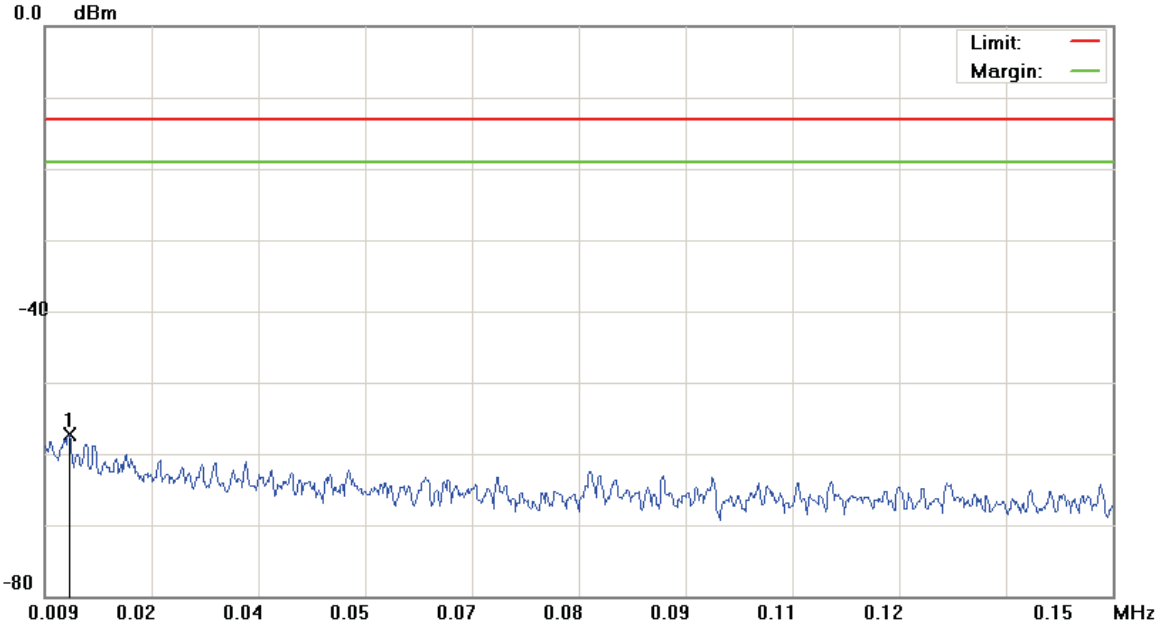


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	*	18731.250	-57.31	7.08	-50.23	-13.00	-37.23	peak			

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

File :AC815S(CH661) Data :#1 Date: 2015/10/14 Time: 上午 11:16:13



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 1900
Note:

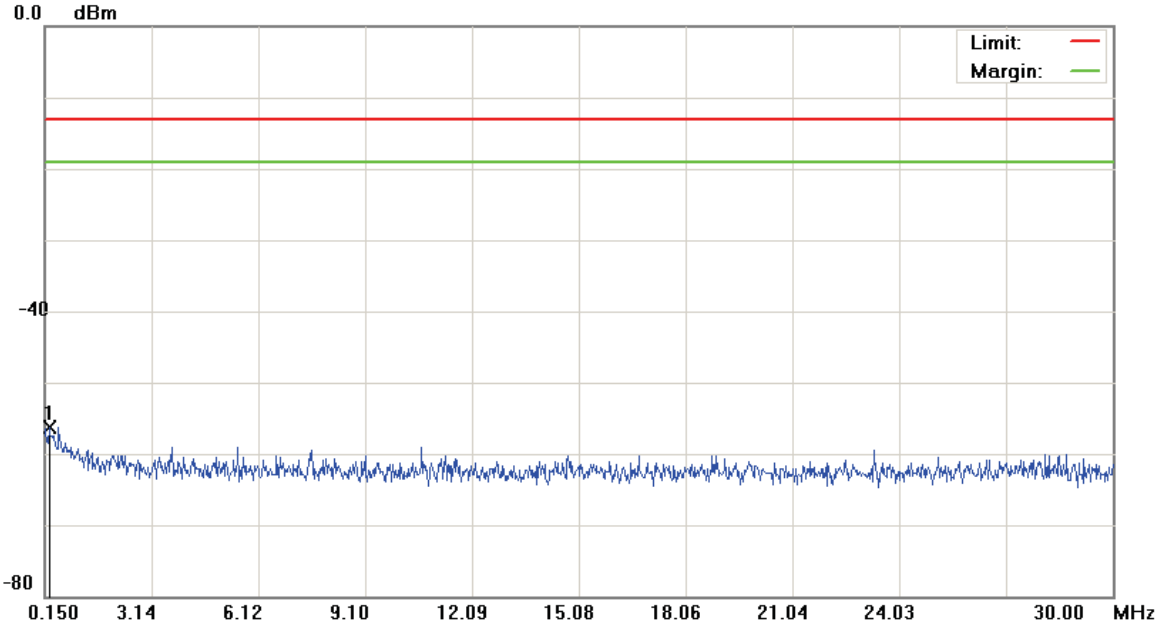
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0122	-68.75	11.36	-57.39	-13.00	-44.39	peak			

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

File :AC815S(CH661) Data :#2 Date: 2015/10/14 Time: 上午 11:16:37



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: GPRS 1900
Note:

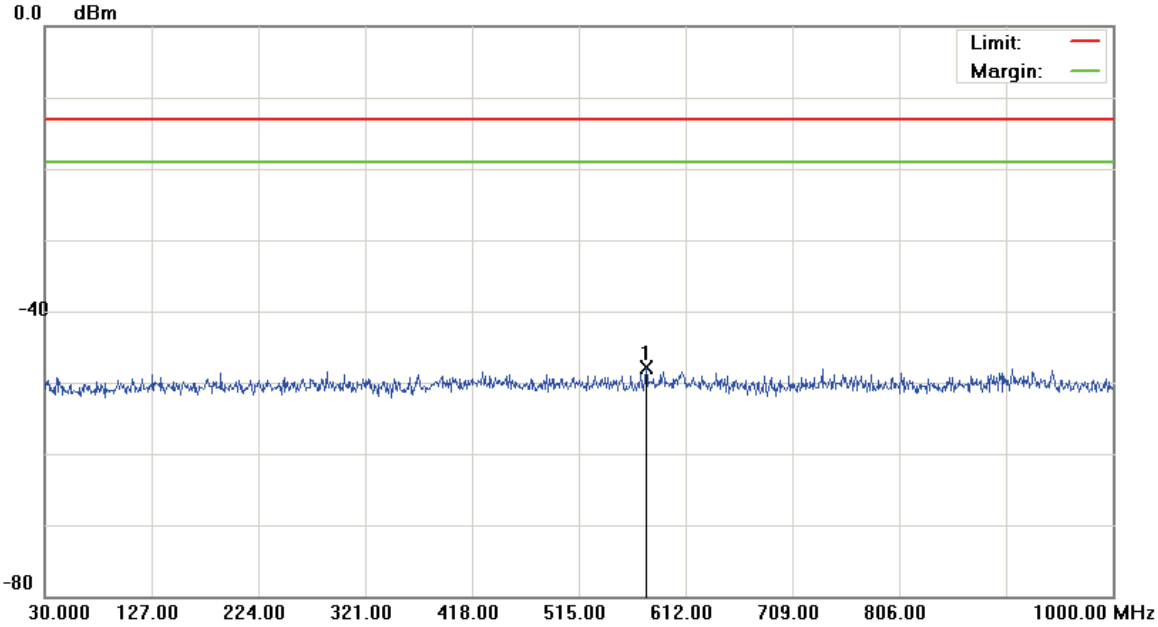
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.2843	-68.84	12.59	-56.25	-13.00	-43.25	peak			

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

File :AC815S(CH661) Data :#3 Date: 2015/10/14 Time: 上午 11:17:01

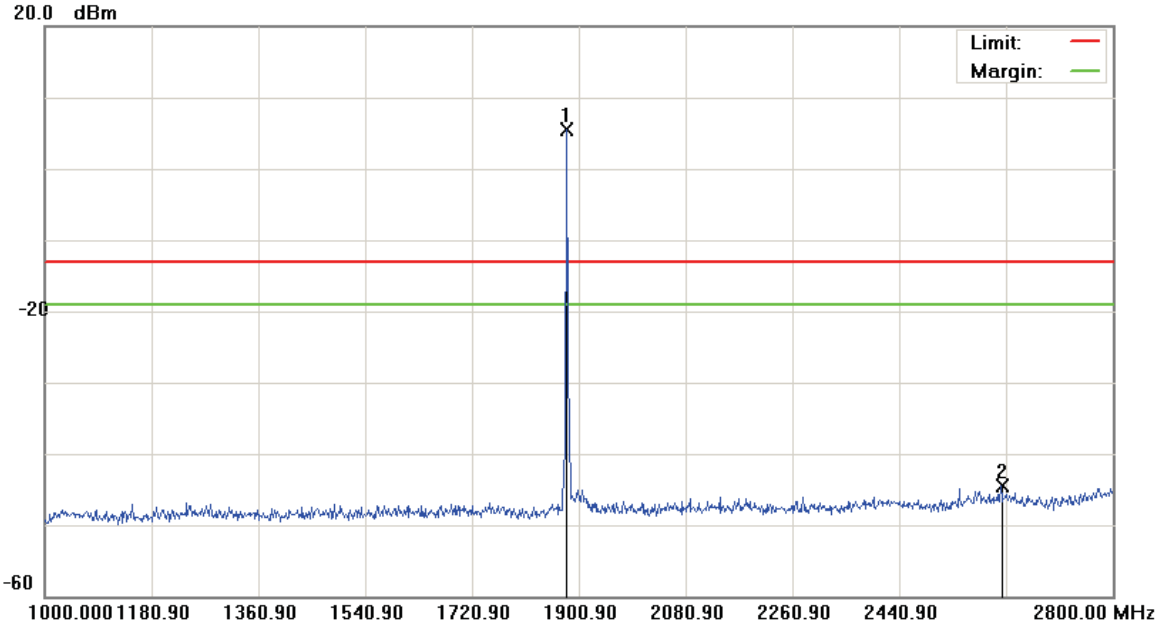


Site:	site #1	Polarization:	*Conducted*	Temperature: 26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity: 55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz VBW: 300 KHz
M/N:	AC815S			
Mode:	GPRS 1900			
Note:				

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	*	576.1100	-61.03	13.18	-47.85	-13.00	-34.85	peak			

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

File :AC815S(CH661) Data :#4 Date: 2015/10/14 Time: 上午 11:23:51

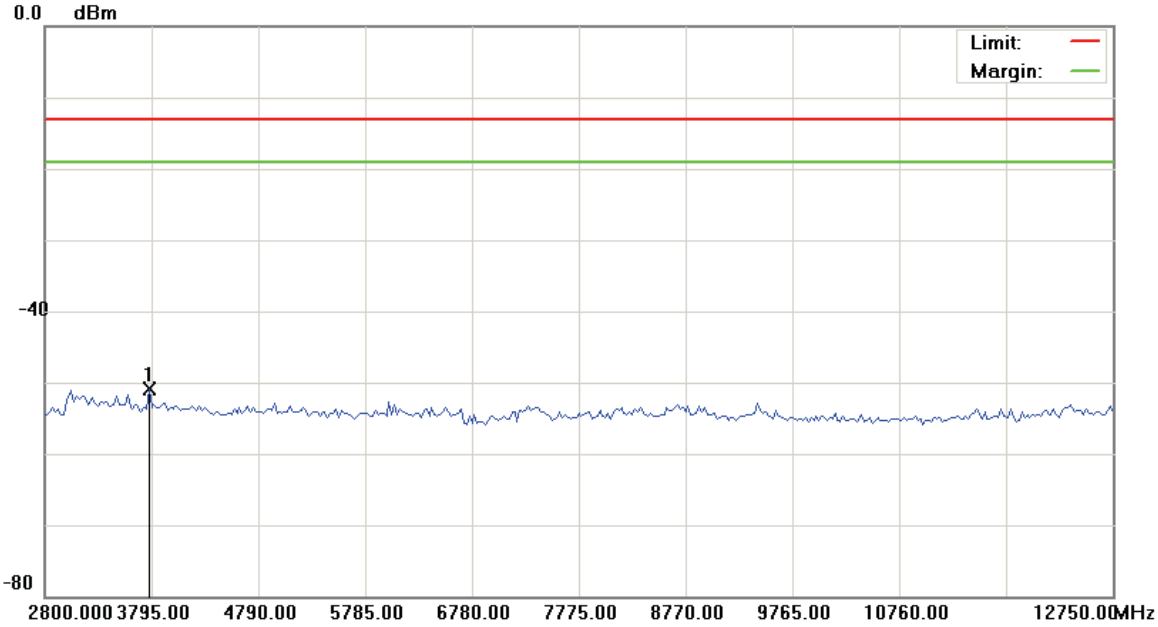


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	0.87	4.65	5.52	-13.00	18.52	peak			Tx
2		2611.900	-50.03	5.44	-44.59	-13.00	-31.59	peak			

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

File :AC815S(CH661) Data :#5 Date: 2015/10/14 Time: 上午 10:21:47

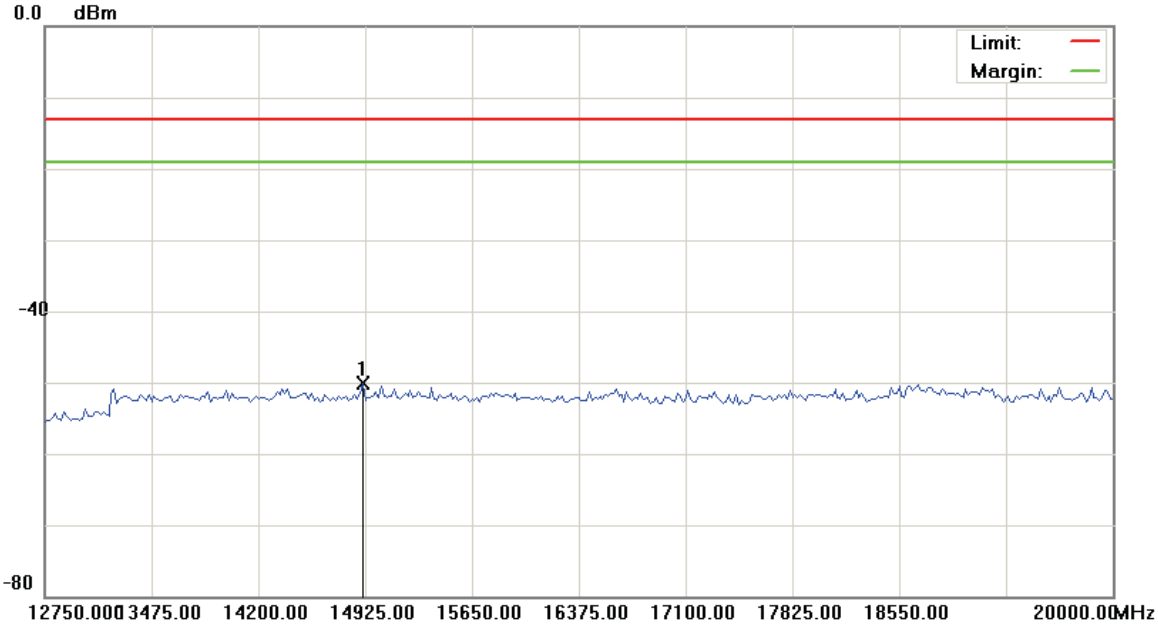


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	-55.90	4.93	-50.97	-13.00	-37.97	peak			

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

File :AC815S(CH661) Data :#6 Date: 2015/10/14 Time: 上午 10:22:07

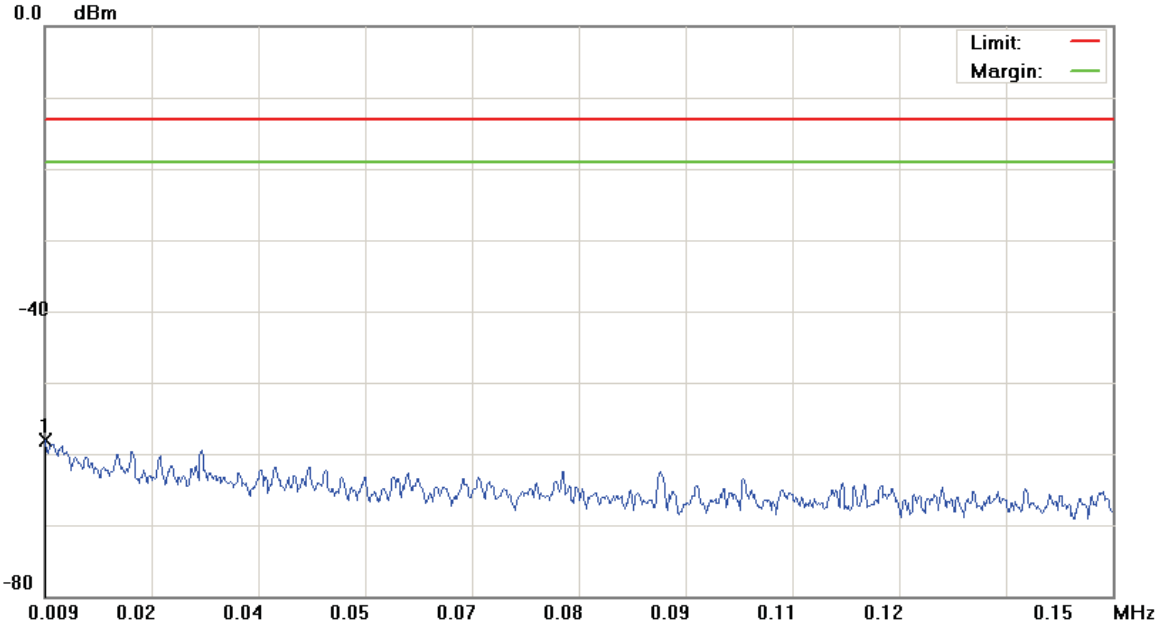


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	*	14906.875	-56.12	5.99	-50.13	-13.00	-37.13	peak			

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

File :AC815S(CH810) Data :#1 Date: 2015/10/14 Time: 上午 11:17:59

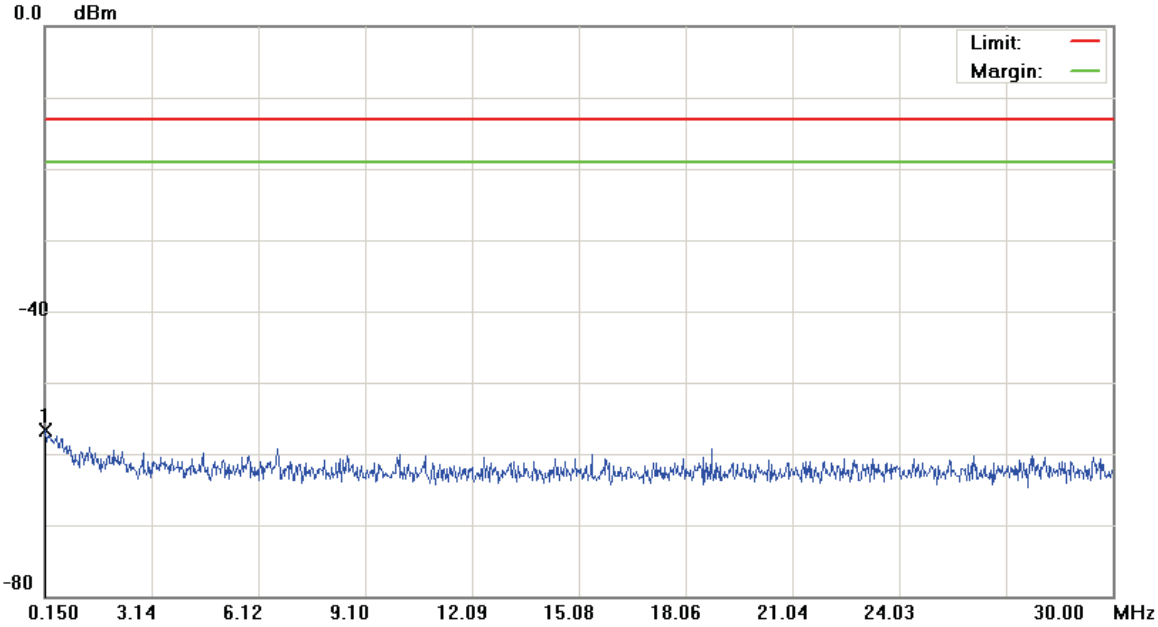


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1 KHz	VBW: 3 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	-69.50	11.32	-58.18	-13.00	-45.18	peak			

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

File :AC815S(CH810) Data :#2 Date: 2015/10/14 Time: 上午 11:18:23

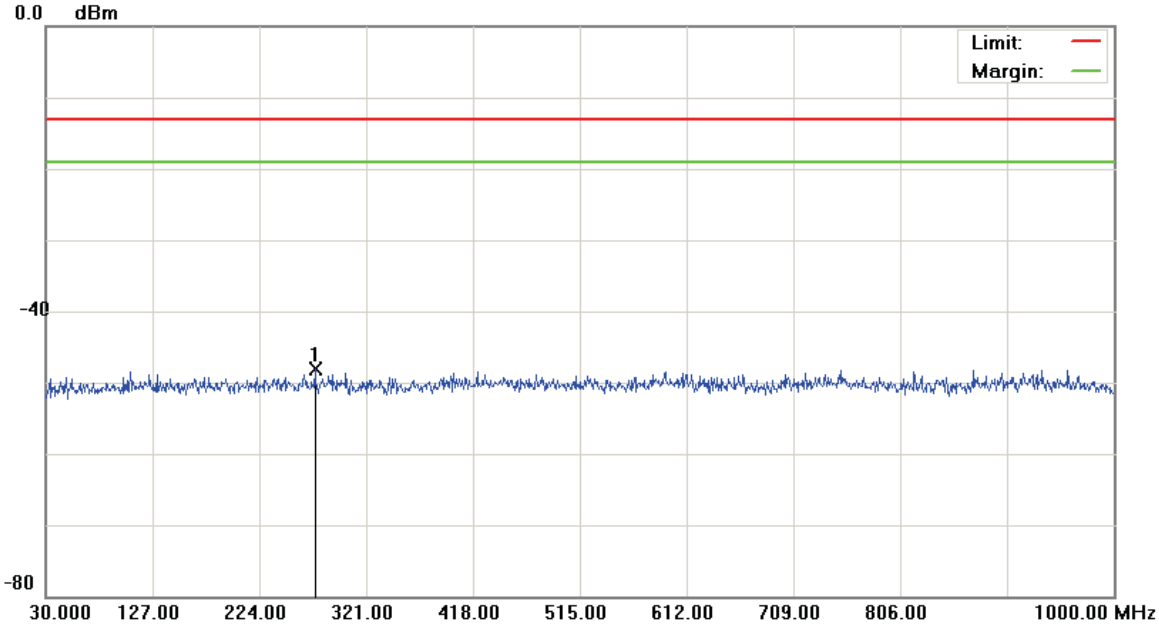


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	-69.25	12.45	-56.80	-13.00	-43.80	peak			

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

File :AC815S(CH810) Data :#3 Date: 2015/10/14 Time: 上午 11:18:48

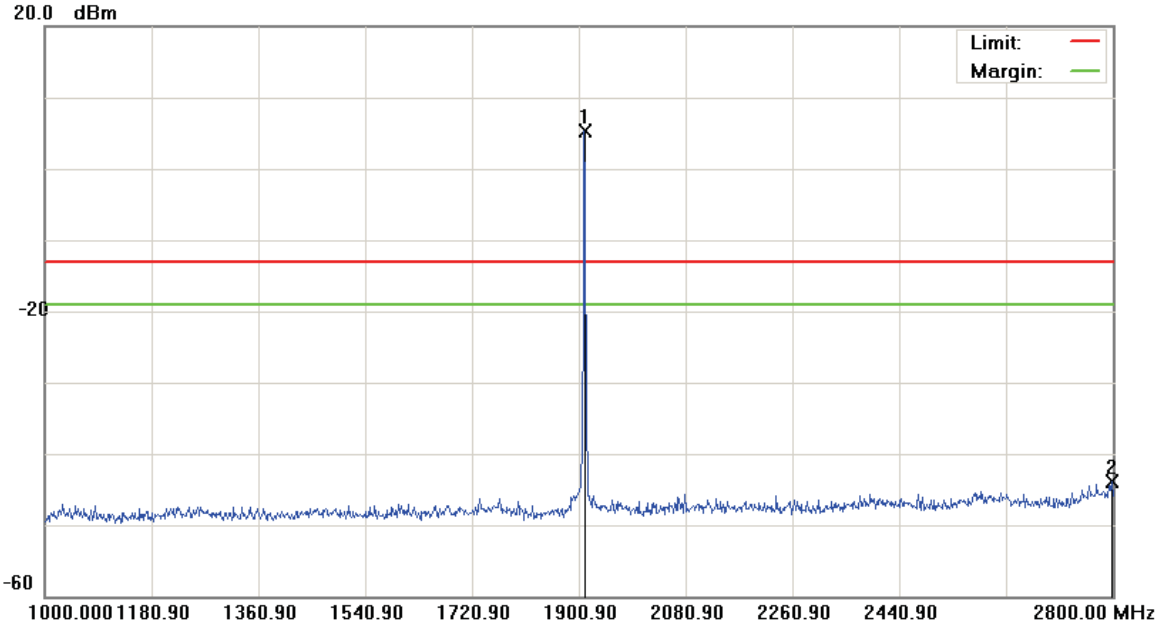


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	*	274.9250	-61.36	13.32	-48.04	-13.00	-35.04	peak			

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

File :AC815S(CH810) Data :#4 Date: 2015/10/14 Time: 上午 11:25:29

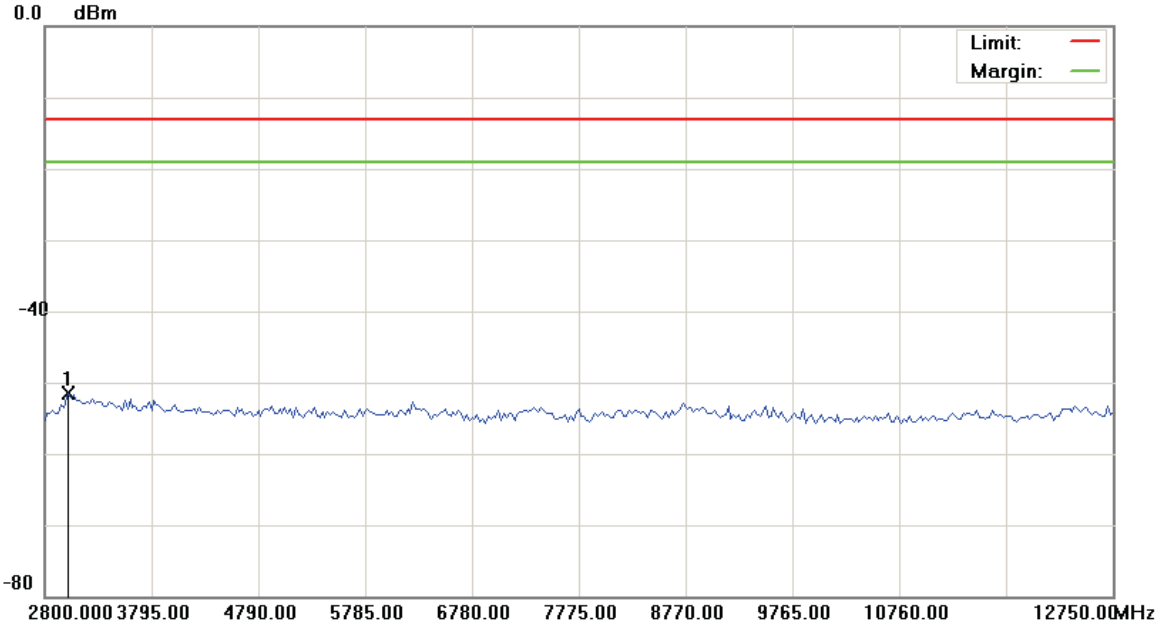


Site: site #1	Polarization: ***Conducted***	Temperature: 26 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55 %
EUT: AirCard 815S Mobile Hotspot	Distance:	RBW: 1000 KHz VBW: 3000 KHz
M/N: AC815S		
Mode: GPRS 1900		
Note:		

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	-0.47	5.71	5.24	-13.00	18.24	peak			Tx
2		2798.200	-49.80	5.91	-43.89	-13.00	-30.89	peak			

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

File :AC815S(CH810) Data :#5 Date: 2015/10/14 Time: 上午 10:23:24

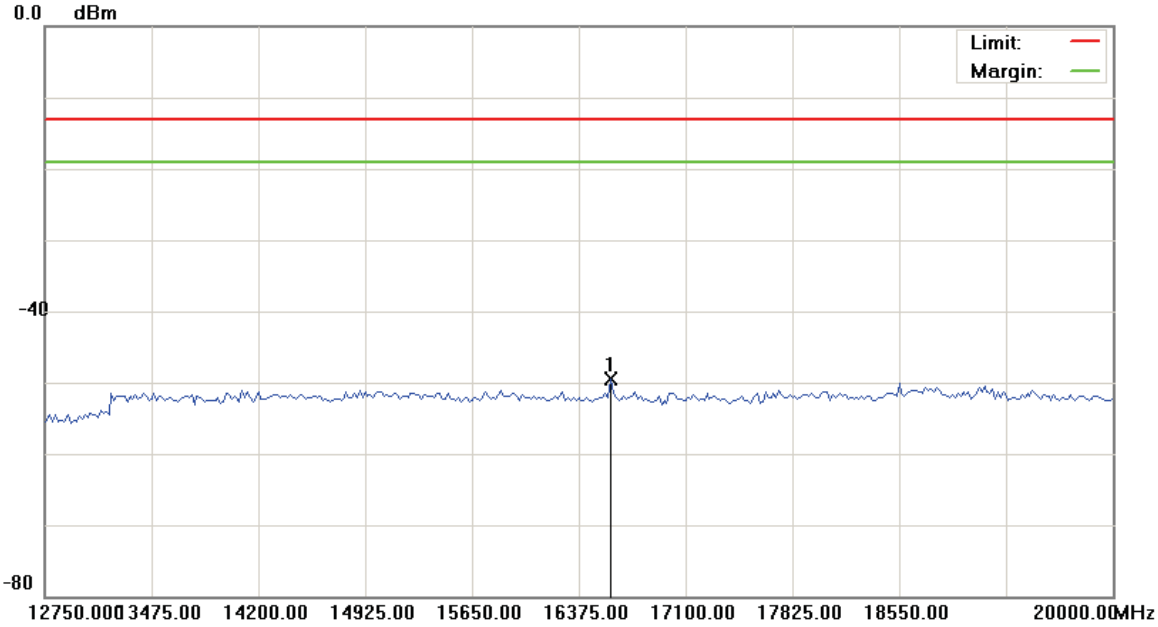


Site: site #1	Polarization: ***Conducted***	Temperature: 26 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55 %
EUT: AirCard 815S Mobile Hotspot	Distance:	RBW: 1000 KHz VBW: 3000 KHz
M/N: AC815S		
Mode: GPRS 1900		
Note:		

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	-56.97	5.48	-51.49	-13.00	-38.49	peak			

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

File :AC815S(CH810) Data :#6 Date: 2015/10/14 Time: 上午 10:23:44

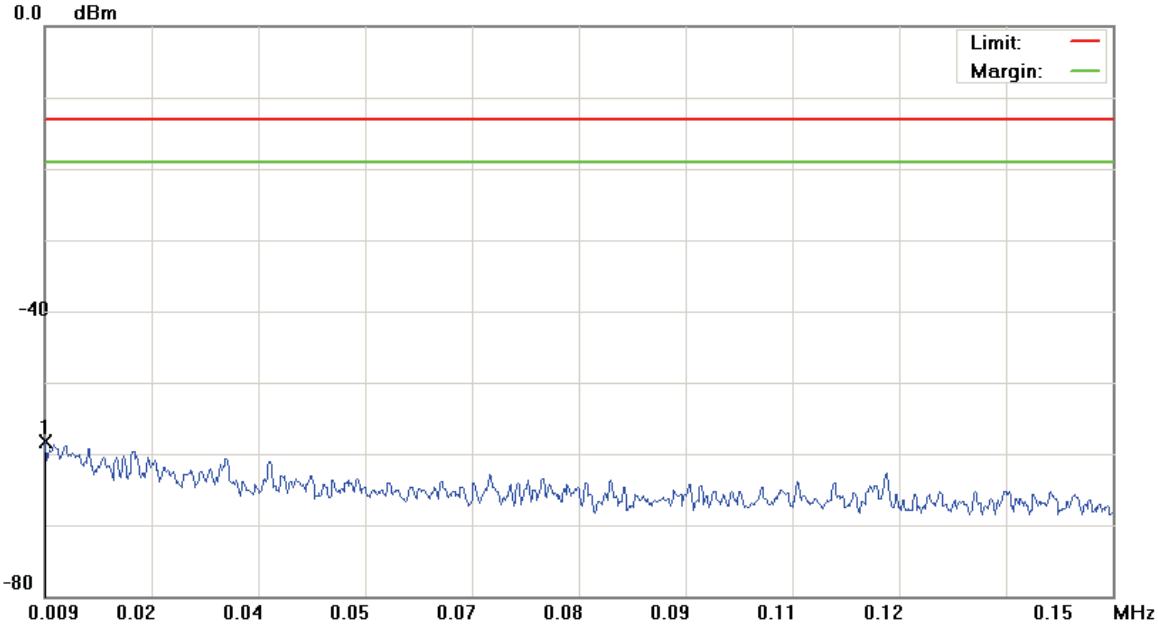


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	GPRS 1900				
Note:					

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	-55.93	6.47	-49.46	-13.00	-36.46	peak			

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

File :AC815S(CH9262) Data :#1 Date: 2015/10/14 Time: 上午 11:55:59



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band II
Note:

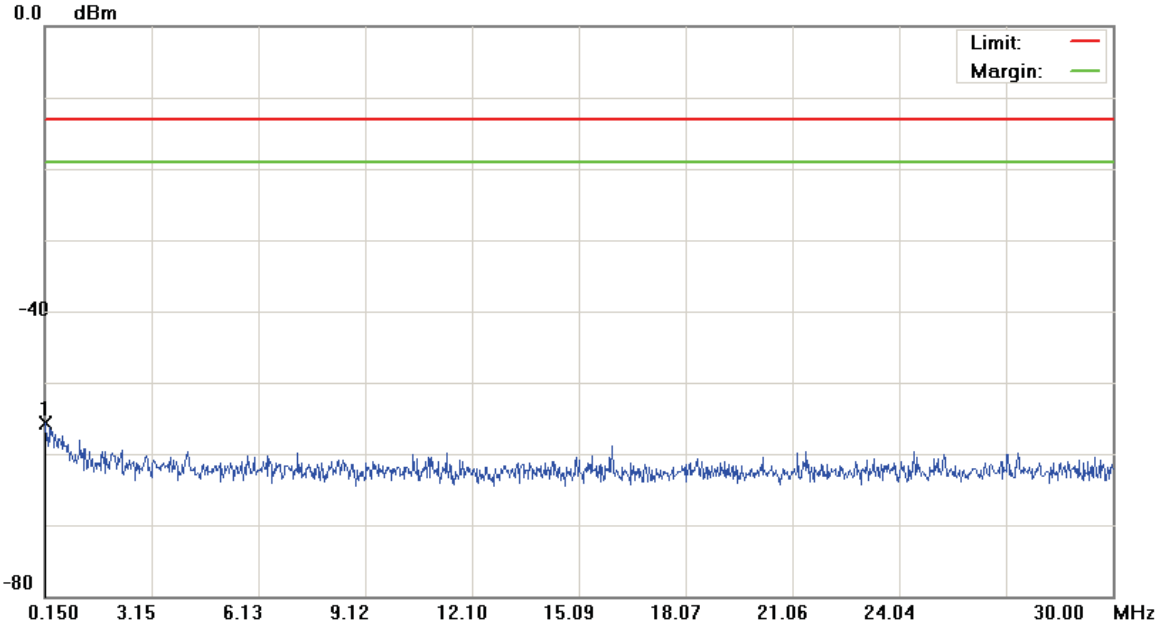
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	-69.57	11.32	-58.25	-13.00	-45.25	peak			

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

File :AC815S(CH9262) Data :#2 Date: 2015/10/14 Time: 上午 11:56:23

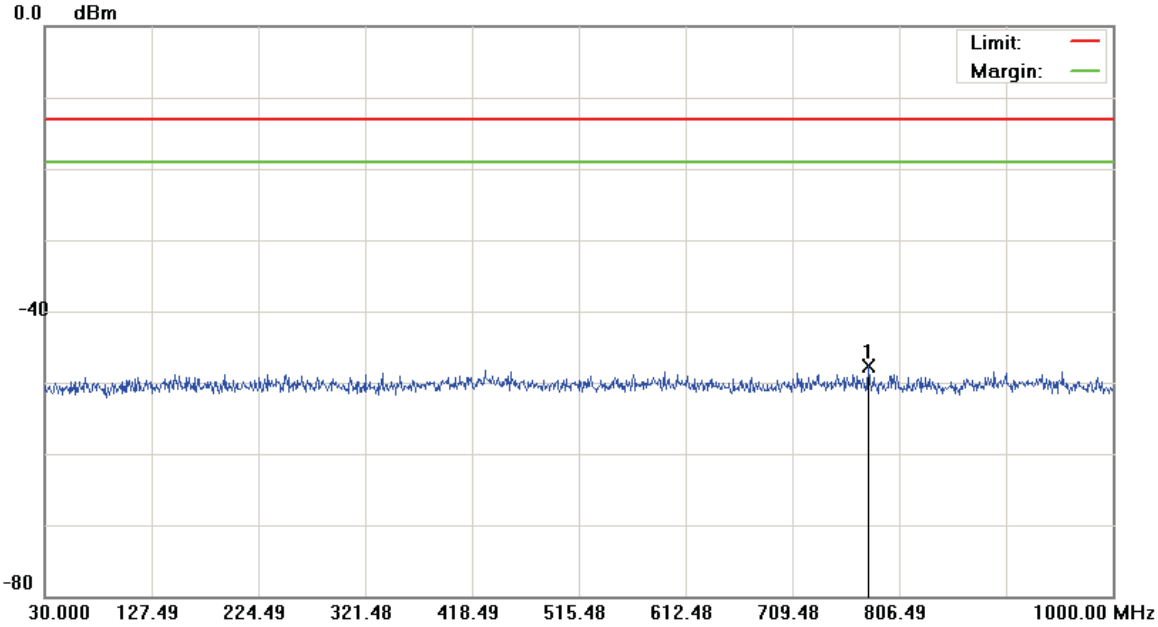


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	-68.14	12.46	-55.68	-13.00	-42.68	peak			

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

File :AC815S(CH9262) Data :#3 Date: 2015/10/14 Time: 上午 11:56:47

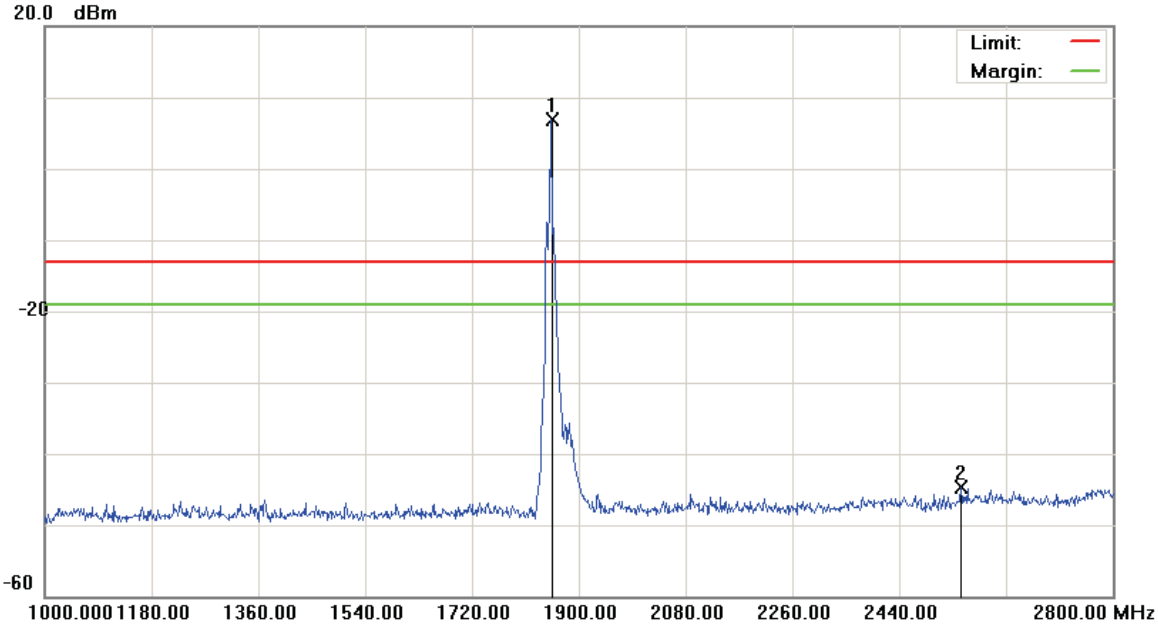


Site: site #1	Polarization: ***Conducted***	Temperature: 26 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55 %
EUT: AirCard 815S Mobile Hotspot	Distance:	RBW: 100 KHz VBW: 300 KHz
M/N: AC815S		
Mode: WCDMA Band II		
Note:		

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	*	777.8700	-60.84	13.15	-47.69	-13.00	-34.69	peak			

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

File :AC815S(CH9262) Data :#4 Date: 2015/10/14 Time: 下午 01:05:09



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band II
Note:

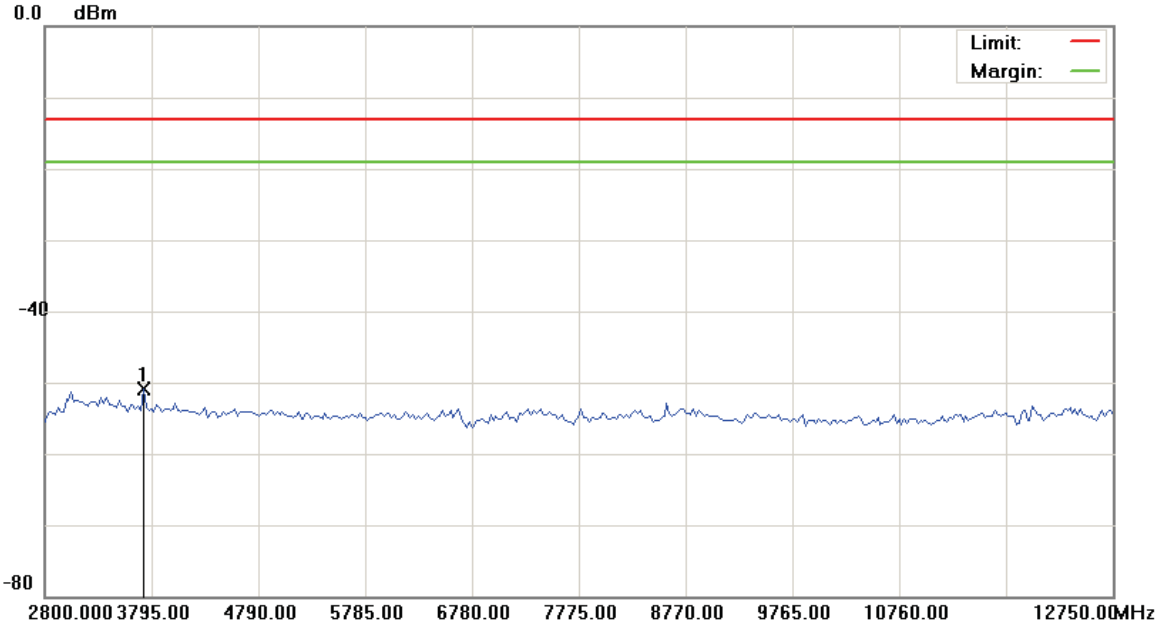
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	2.72	4.28	7.00	-13.00	20.00	peak			Tx
2		2544.400	-49.82	5.09	-44.73	-13.00	-31.73	peak			

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

File :AC815S(CH9262) Data :#5 Date: 2015/10/14 Time: 上午 10:13:08

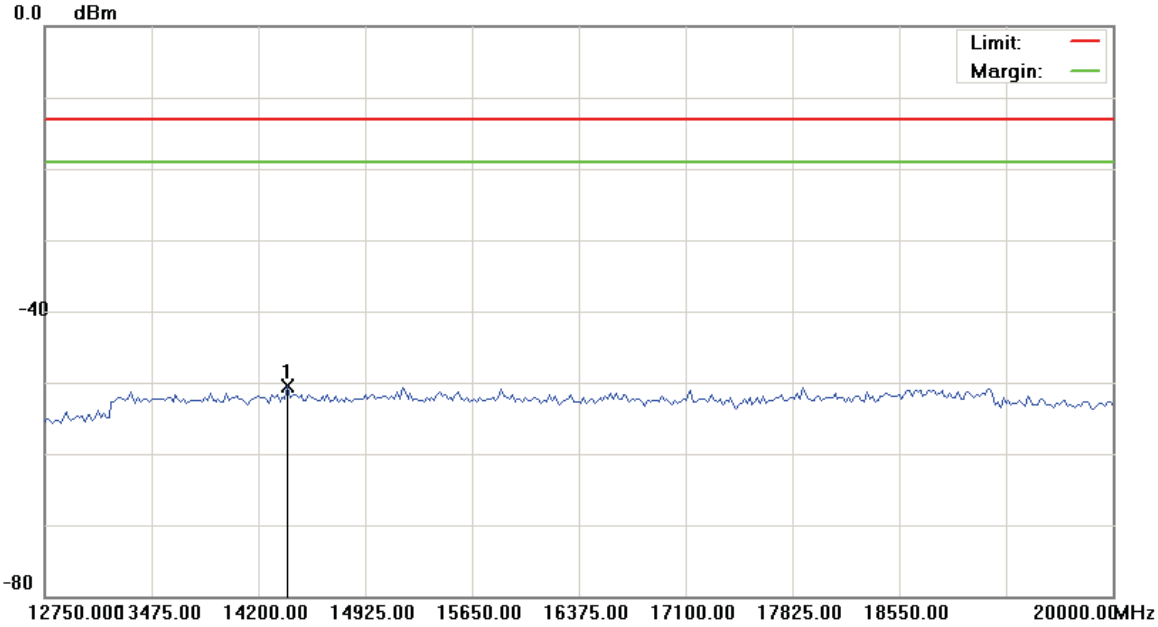


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	-55.70	4.88	-50.82	-13.00	-37.82	peak			

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

File :AC815S(CH9262) Data :#6 Date: 2015/10/14 Time: 上午 10:13:28

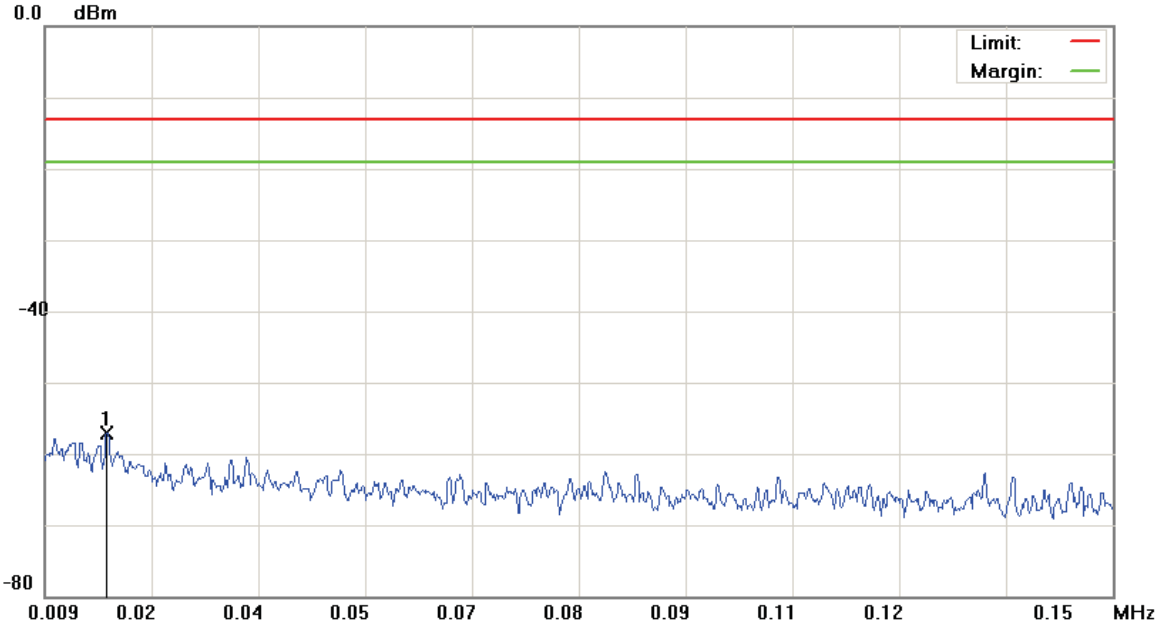


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	14399.375	-56.43	5.84	-50.59	-13.00	-37.59	peak			

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

File :AC815S(CH9400) Data :#1 Date: 2015/10/14 Time: 上午 11:57:57



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band II
Note:

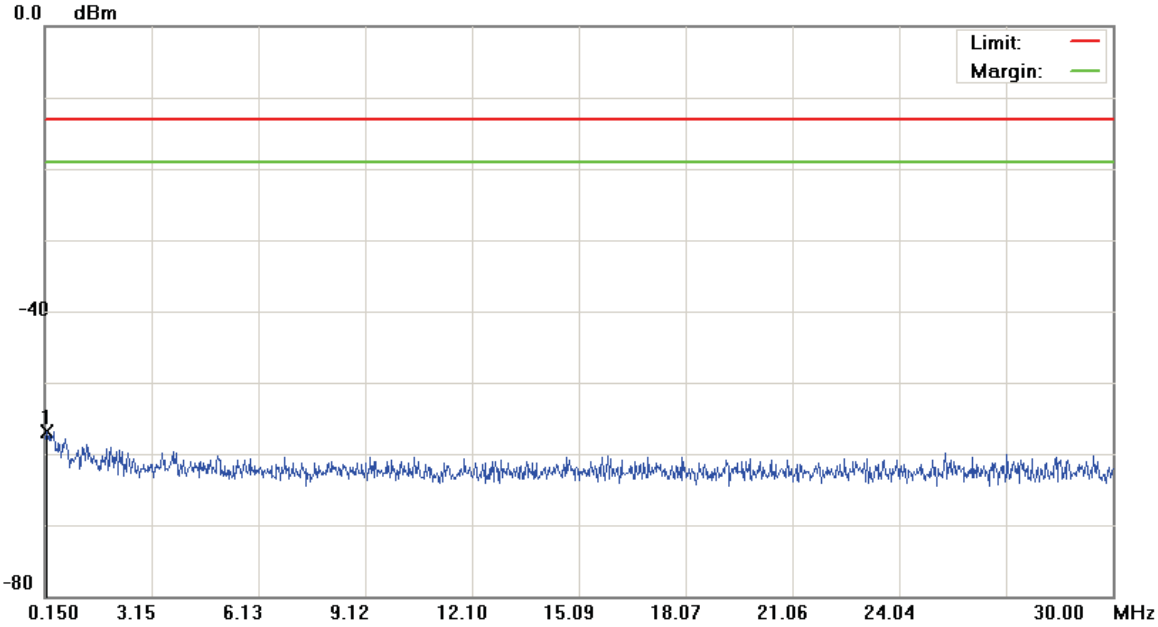
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0171	-68.45	11.42	-57.03	-13.00	-44.03	peak			

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

File :AC815S(CH9400) Data :#2 Date: 2015/10/14 Time: 上午 11:58:21

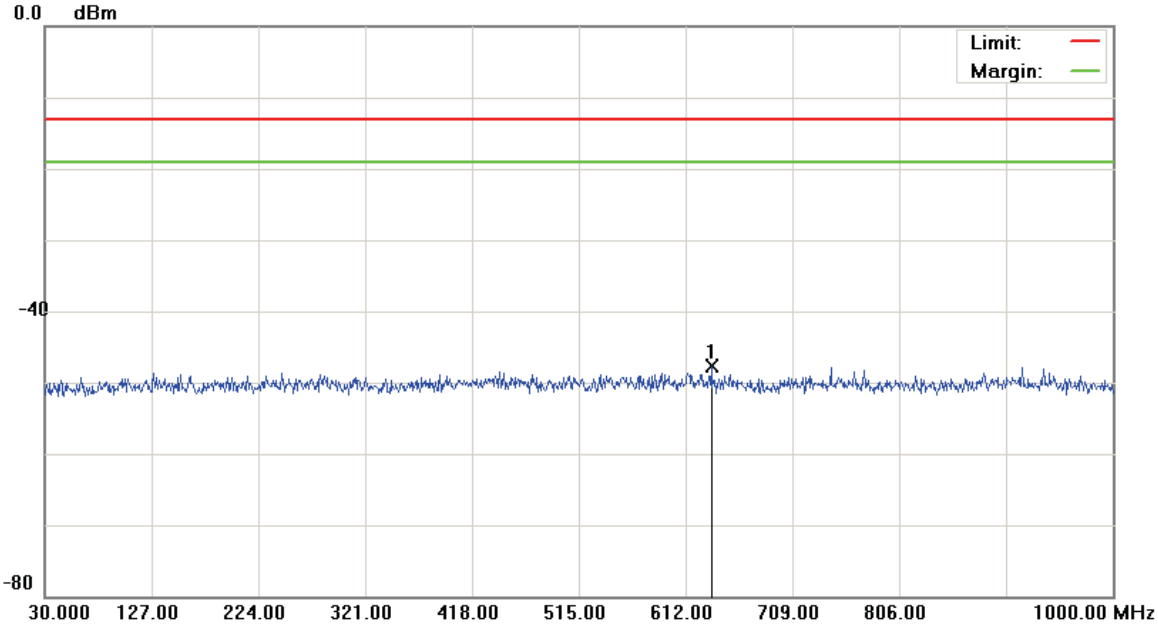


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	0.2097	-69.43	12.44	-56.99	-13.00	-43.99	peak			

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

File :AC815S(CH9400) Data :#3 Date: 2015/10/14 Time: 上午 11:58:45

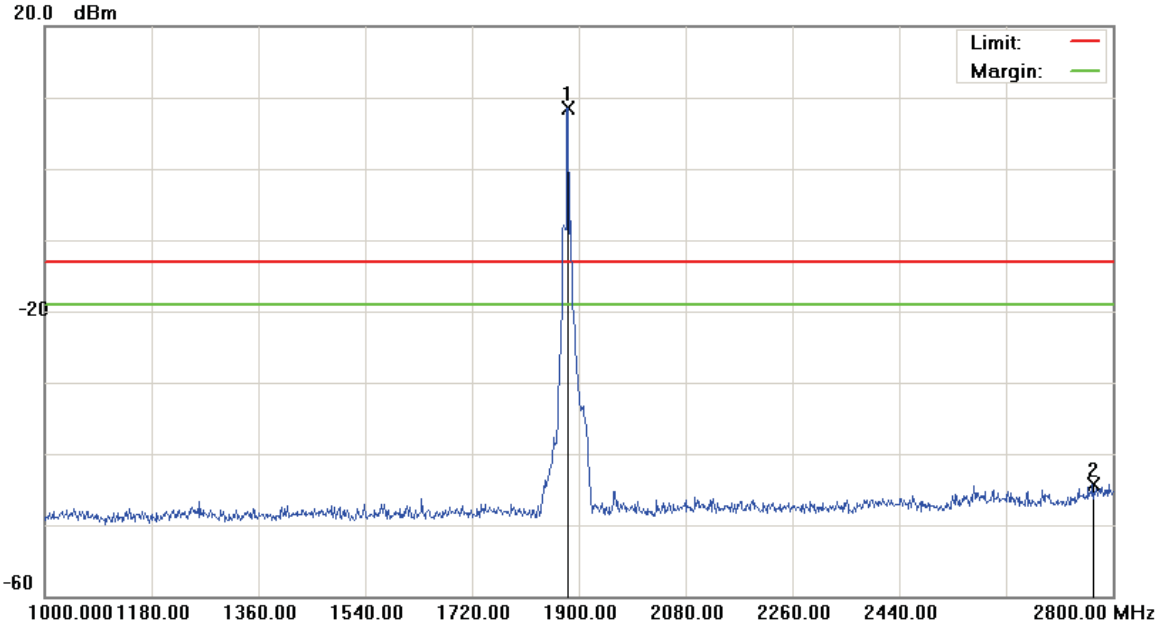


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	635.7650	-60.90	13.14	-47.76	-13.00	-34.76	peak			

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

File :AC815S(CH9400) Data :#4 Date: 2015/10/14 Time: 下午 01:07:00

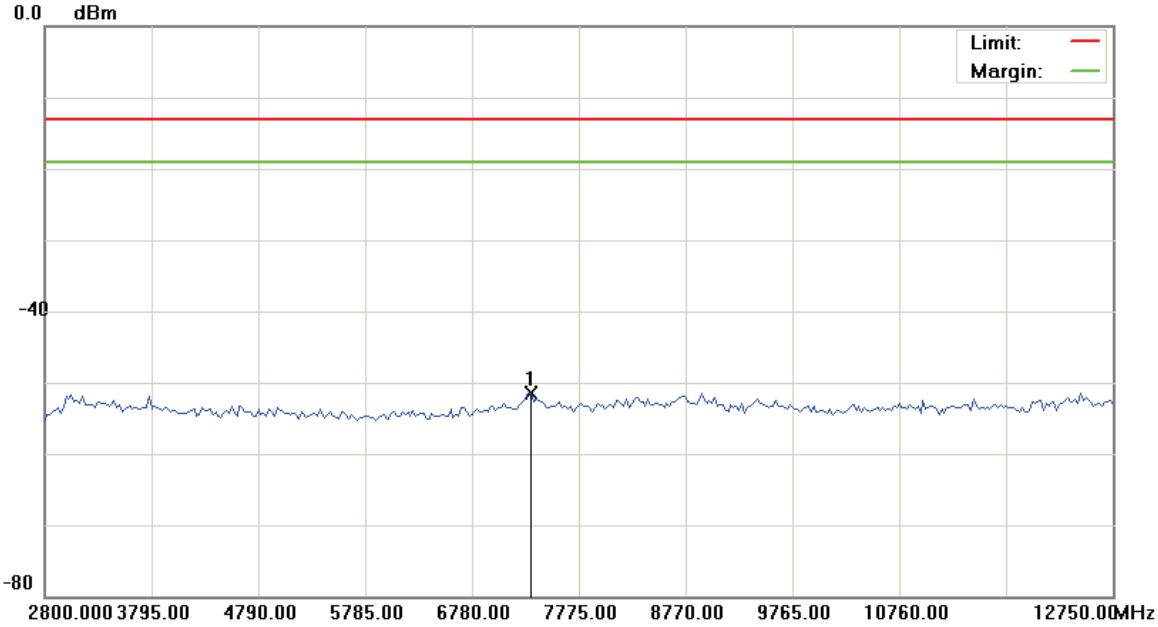


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	1882.000	3.71	4.83	8.54	-13.00	21.54	peak			Tx
2		2766.700	-49.92	5.69	-44.23	-13.00	-31.23	peak			

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

File :AC815S(CH9400) Data :#5 Date: 2015/10/14 Time: 上午 10:14:38

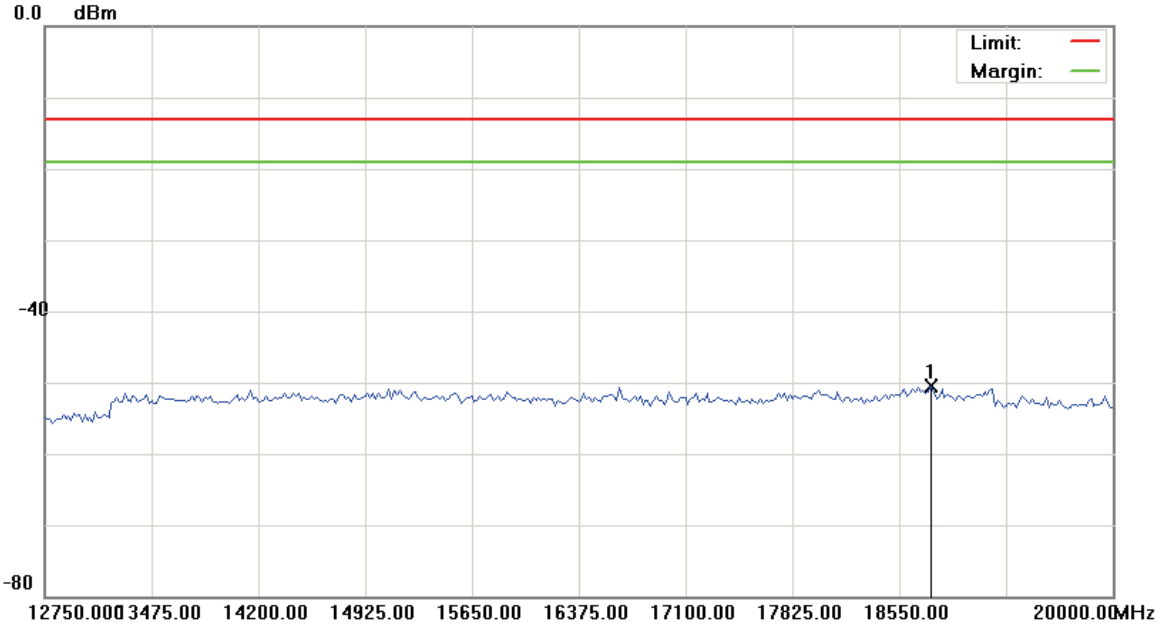


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	7327.250	-56.63	5.18	-51.45	-13.00	-38.45	peak			

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

File :AC815S(CH9400) Data :#6 Date: 2015/10/14 Time: 上午 10:14:57

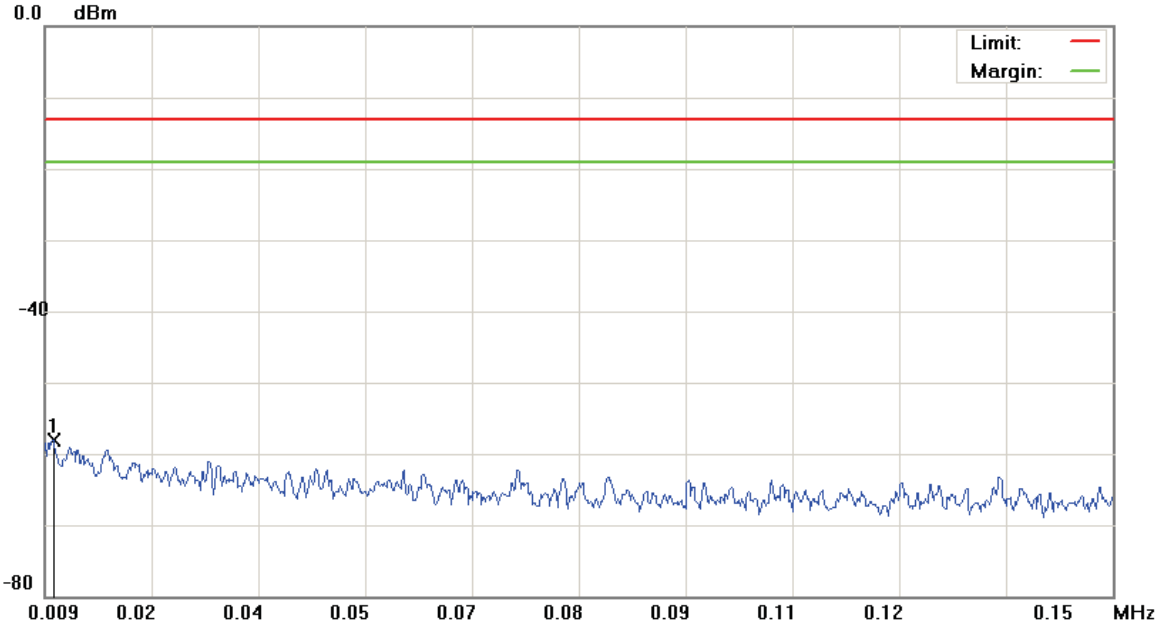


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	18767.500	-57.58	7.09	-50.49	-13.00	-37.49	peak			

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

File :AC815S(CH9538) Data :#1 Date: 2015/10/14 Time: 下午 12:00:09

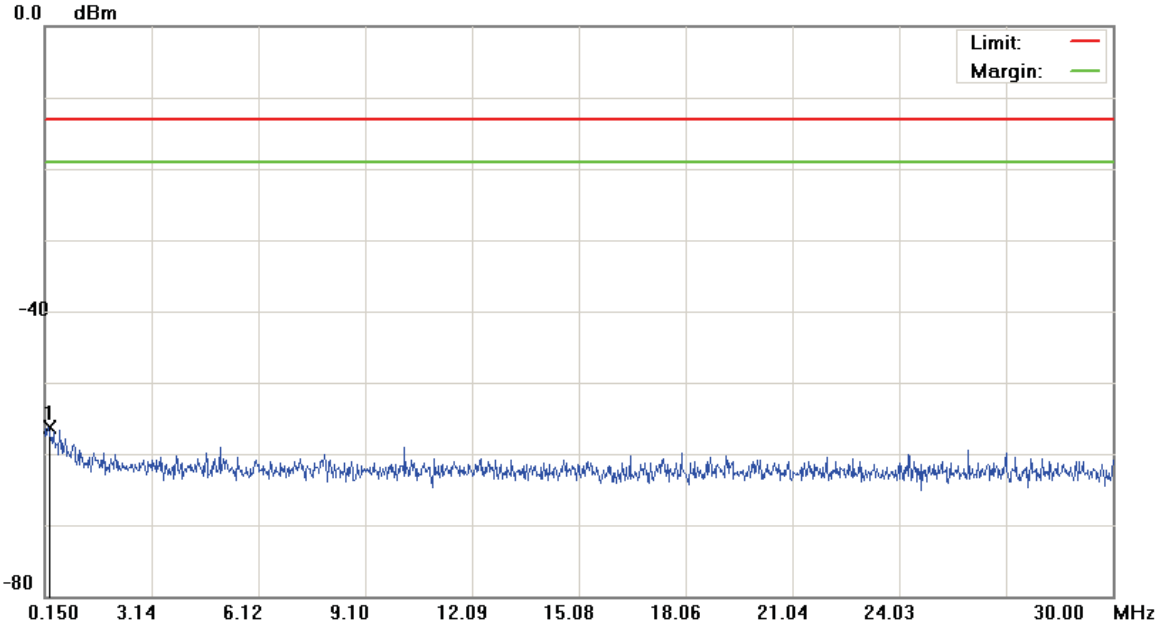


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1 KHz	VBW: 3 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	-69.47	11.34	-58.13	-13.00	-45.13	peak			

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

File :AC815S(CH9538) Data :#2 Date: 2015/10/14 Time: 下午 12:00:33



Site: site #1
Limit: FCC Part 24 conducted(9k-26.5G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band II
Note:

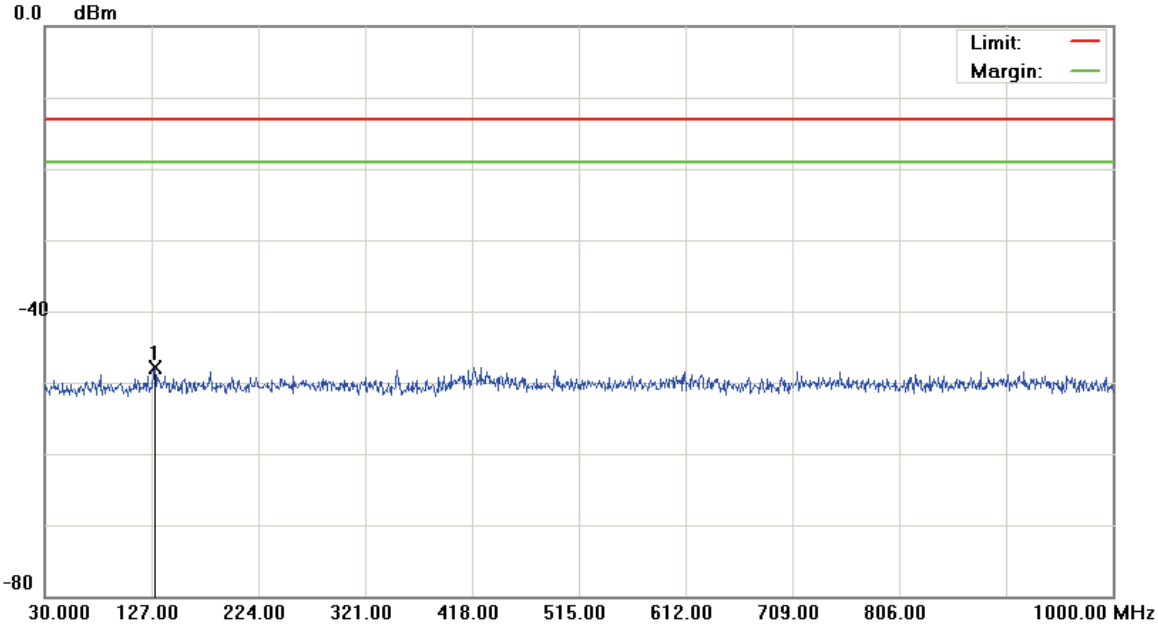
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.2545	-68.75	12.53	-56.22	-13.00	-43.22	peak			

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

File :AC815S(CH9538) Data :#3 Date: 2015/10/14 Time: 下午 12:00:57

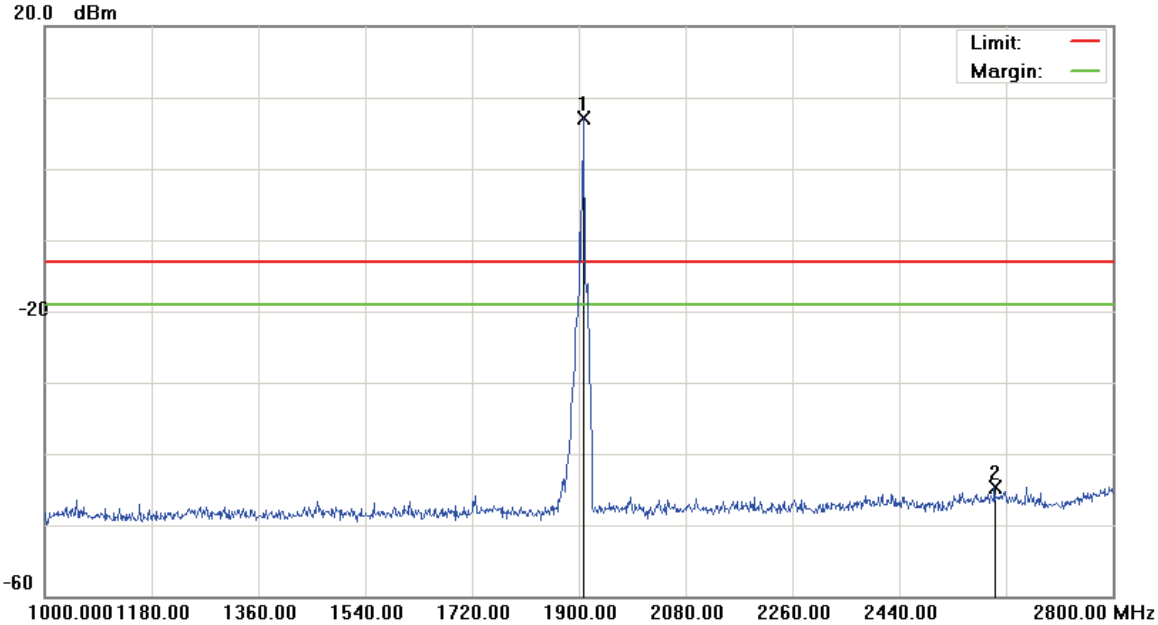


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	129.9100	-61.23	13.32	-47.91	-13.00	-34.91	peak			

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

File :AC815S(CH9538) Data :#4 Date: 2015/10/14 Time: 下午 01:08:37

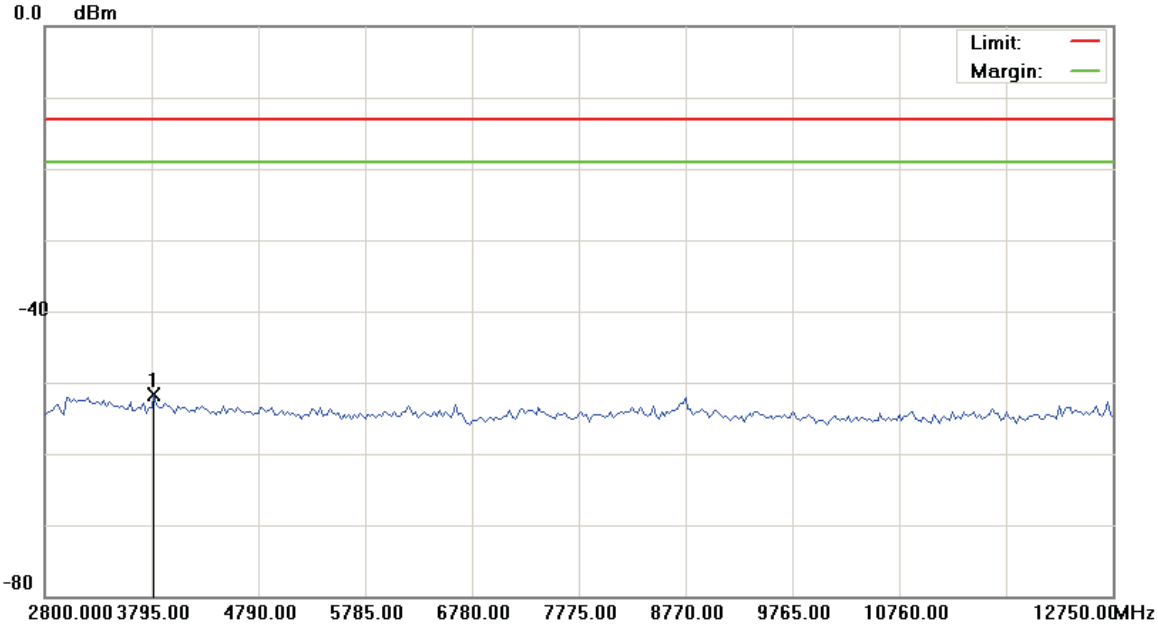


Site: site #1	Polarization: ***Conducted***	Temperature: 26 ℃
Limit: FCC Part 24 conducted(9k-26.5G)	Power: DC 3.8V	Humidity: 55 %
EUT: AirCard 815S Mobile Hotspot	Distance:	RBW: 1000 KHz VBW: 3000 KHz
M/N: AC815S		
Mode: WCDMA Band II		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1909.000	1.28	5.80	7.08	-13.00	20.08	peak			Tx
2		2601.100	-50.08	5.45	-44.63	-13.00	-31.63	peak			

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

File :AC815S(CH9538) Data :#5 Date: 2015/10/14 Time: 上午 10:16:14

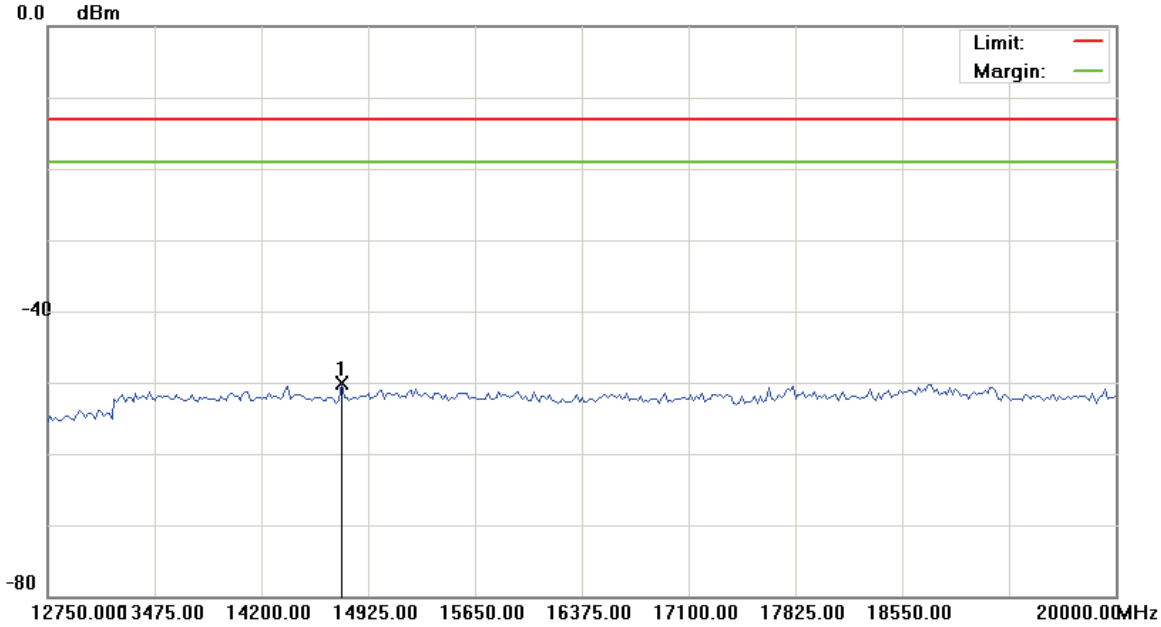


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	-56.53	4.91	-51.62	-13.00	-38.62	peak			

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

File :AC815S(CH9538) Data :#6 Date: 2015/10/14 Time: 上午 10:16:33

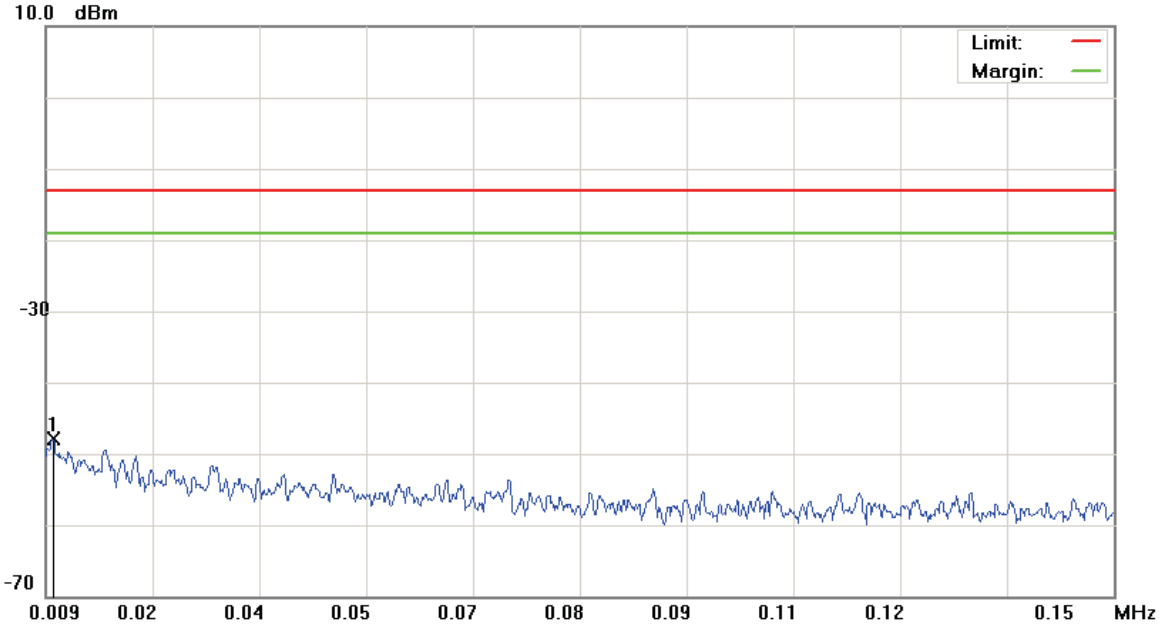


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 24 conducted(9k-26.5G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band II				
Note:					

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	*	14743.750	-56.12	5.94	-50.18	-13.00	-37.18	peak			

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

File :AC815S(CH4132) Data :#1 Date: 2015/10/14 Time: 上午 11:44:21



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band V
Note:

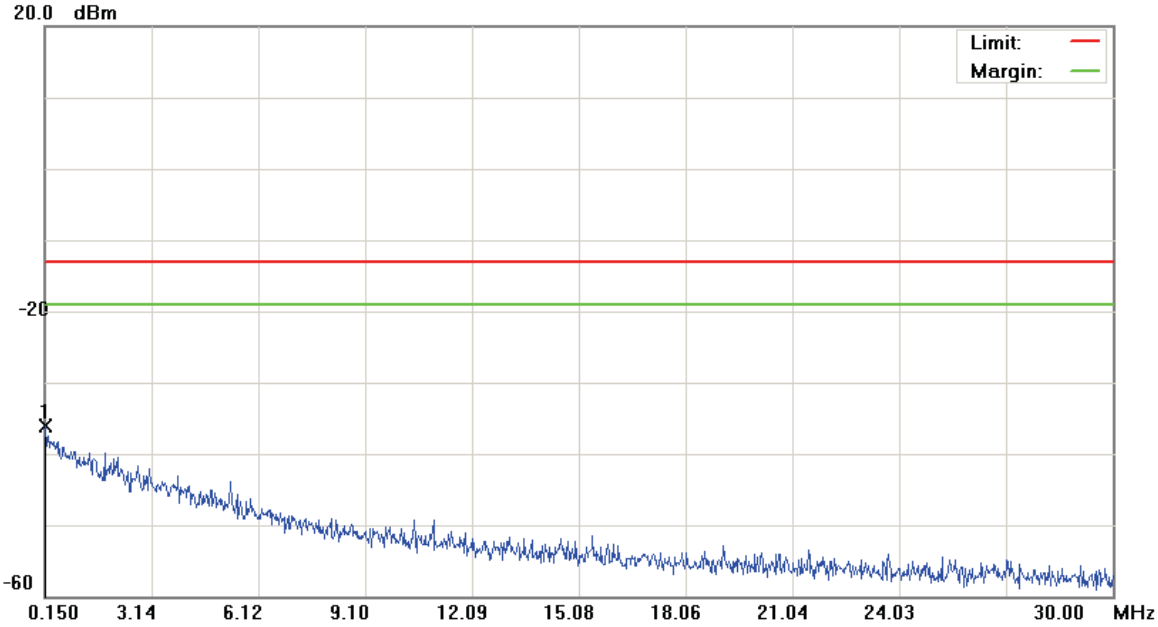
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.0100	-78.55	30.58	-47.97	-13.00	-34.97	peak			

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

File :AC815S(CH4132) Data :#2 Date: 2015/10/14 Time: 上午 11:44:45

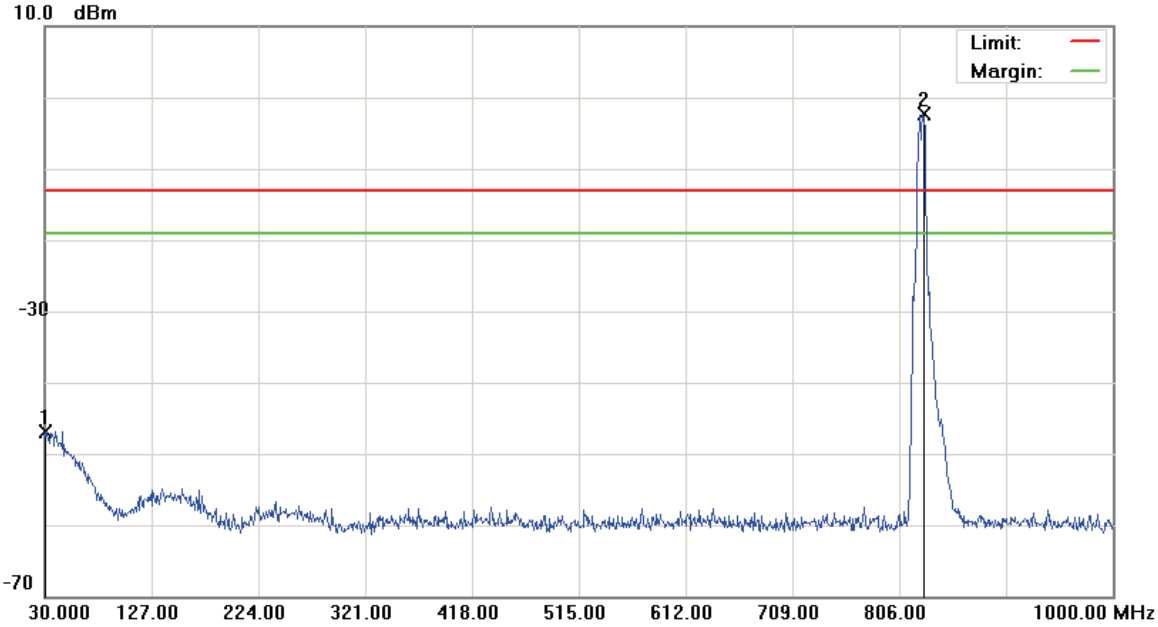


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	-66.87	30.75	-36.12	-13.00	-23.12	peak			

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

File :AC815S(CH4132) Data :#3 Date: 2015/10/14 Time: 上午 11:45:11

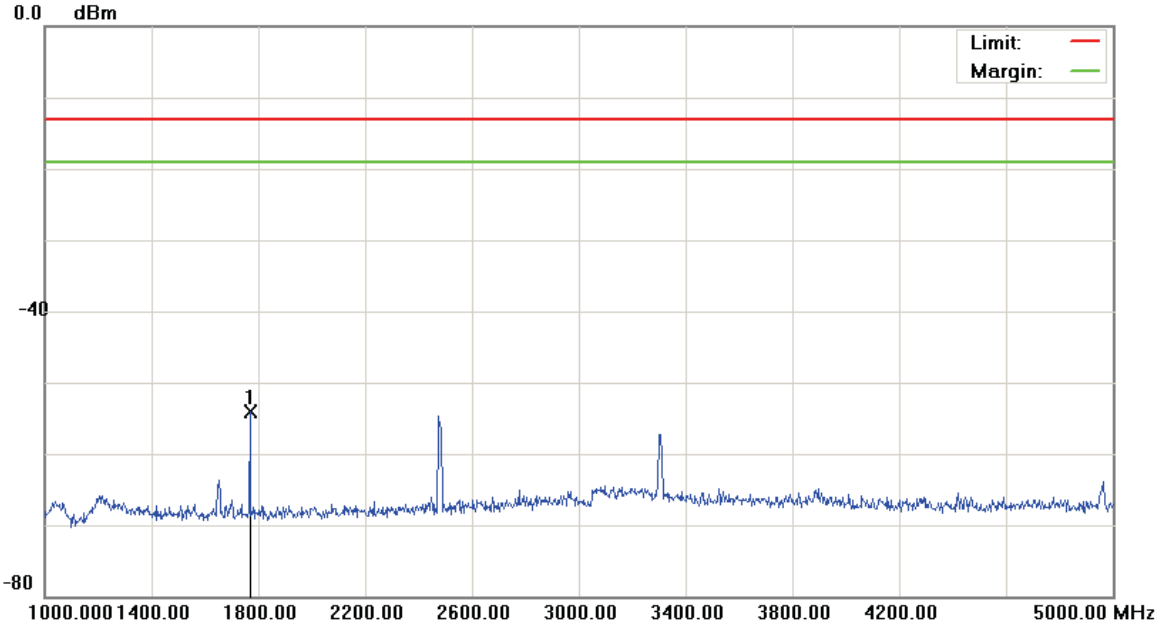


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	-64.06	17.21	-46.85	-13.00	-33.85	peak			
2	*	827.8250	-6.21	3.87	-2.34	-13.00	10.66	peak			Tx

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

File :AC815S(CH4132) Data :#4 Date: 2015/10/14 Time: 上午 10:32:40

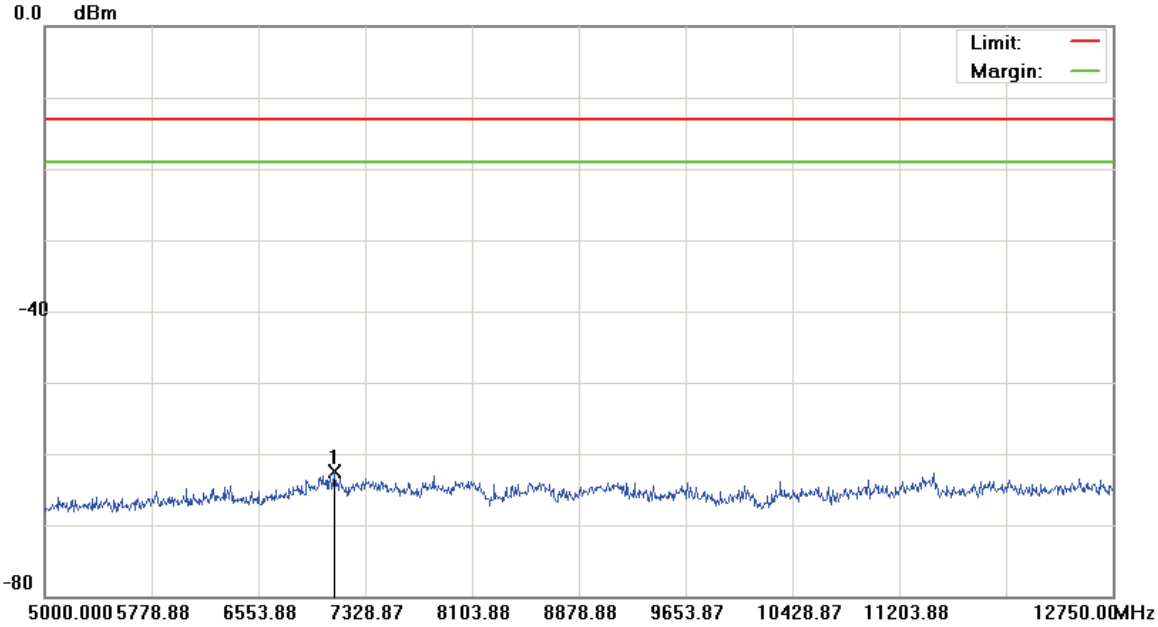


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	1768.000	-58.44	4.38	-54.06	-13.00	-41.06	peak			

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

File :AC815S(CH4132) Data :#5 Date: 2015/10/14 Time: 上午 10:33:04

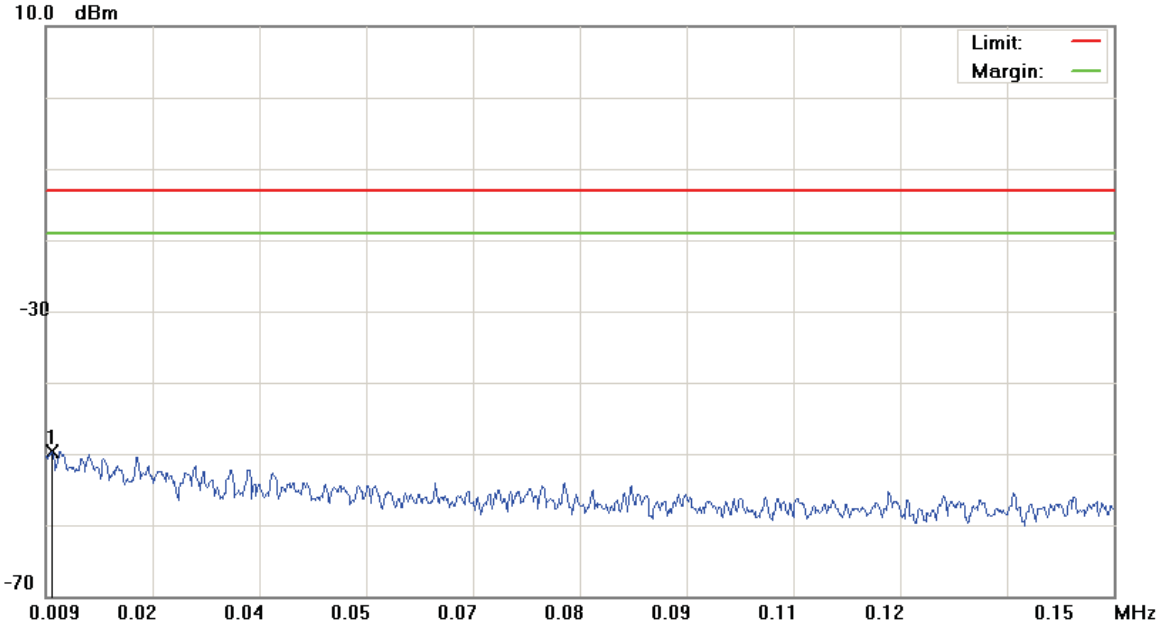


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7100.250	-67.63	5.09	-62.54	-13.00	-49.54	peak			

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

File :AC815S(CH4183) Data :#1 Date: 2015/10/14 Time: 上午 11:47:42

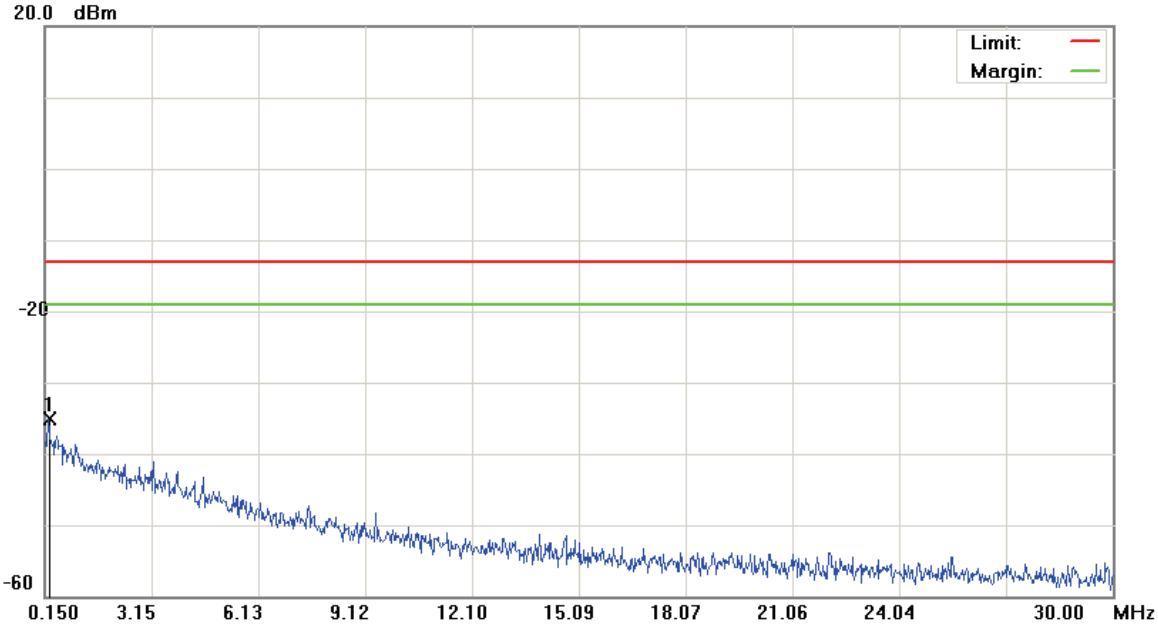


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1 KHz	VBW: 3 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	0.0098	-80.21	30.58	-49.63	-13.00	-36.63	peak			

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

File :AC815S(CH4183) Data :#2 Date: 2015/10/14 Time: 上午 11:48:06



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band V
Note:

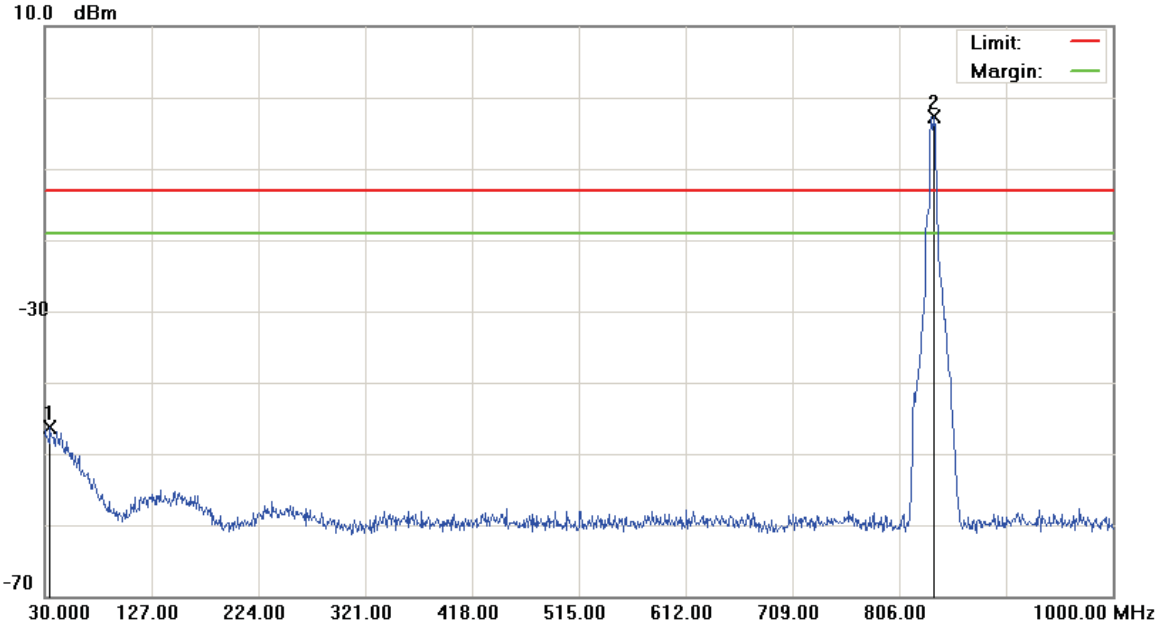
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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	*	0.2545	-66.51	31.36	-35.15	-13.00	-22.15	peak			

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

File :AC815S(CH4183) Data :#3 Date: 2015/10/14 Time: 上午 11:48:30

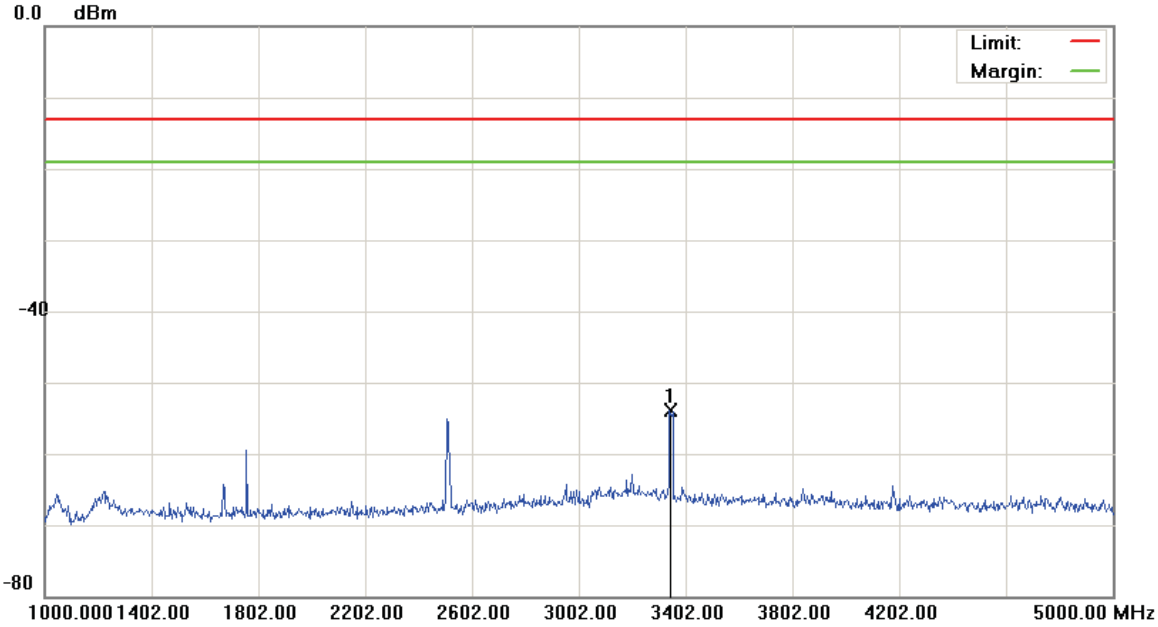


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 100 KHz	VBW: 300 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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		34.8500	-62.98	16.66	-46.32	-13.00	-33.32	peak			
2	*	838.0100	-6.60	3.97	-2.63	-13.00	10.37	peak			Tx

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

File :AC815S(CH4183) Data :#4 Date: 2015/10/14 Time: 上午 10:34:06

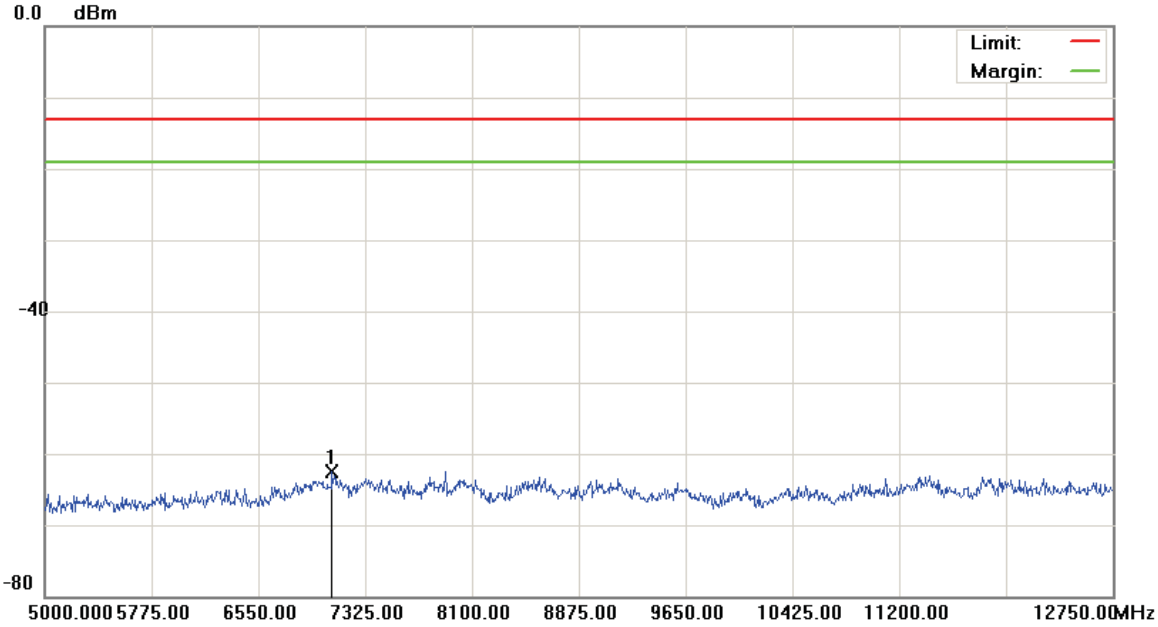


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	3342.000	-58.48	4.50	-53.98	-13.00	-40.98	peak			

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

File :AC815S(CH4183) Data :#5 Date: 2015/10/14 Time: 上午 10:34:29

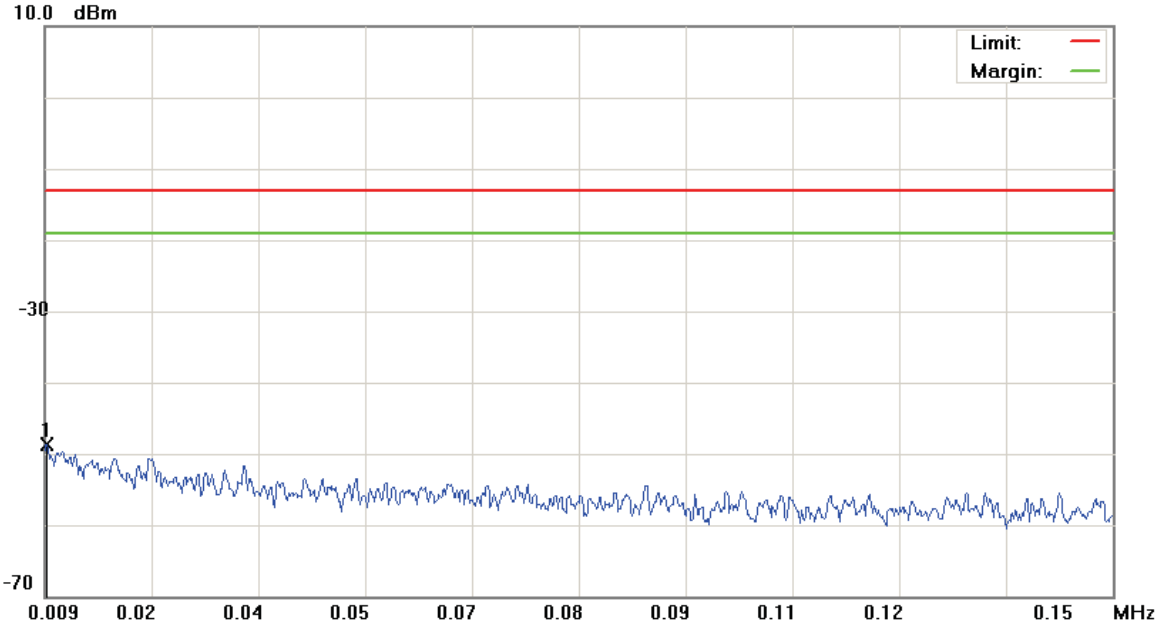


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	7084.750	-67.52	5.00	-62.52	-13.00	-49.52	peak			

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

File :AC815S(CH4233) Data :#1 Date: 2015/10/14 Time: 上午 11:50:31

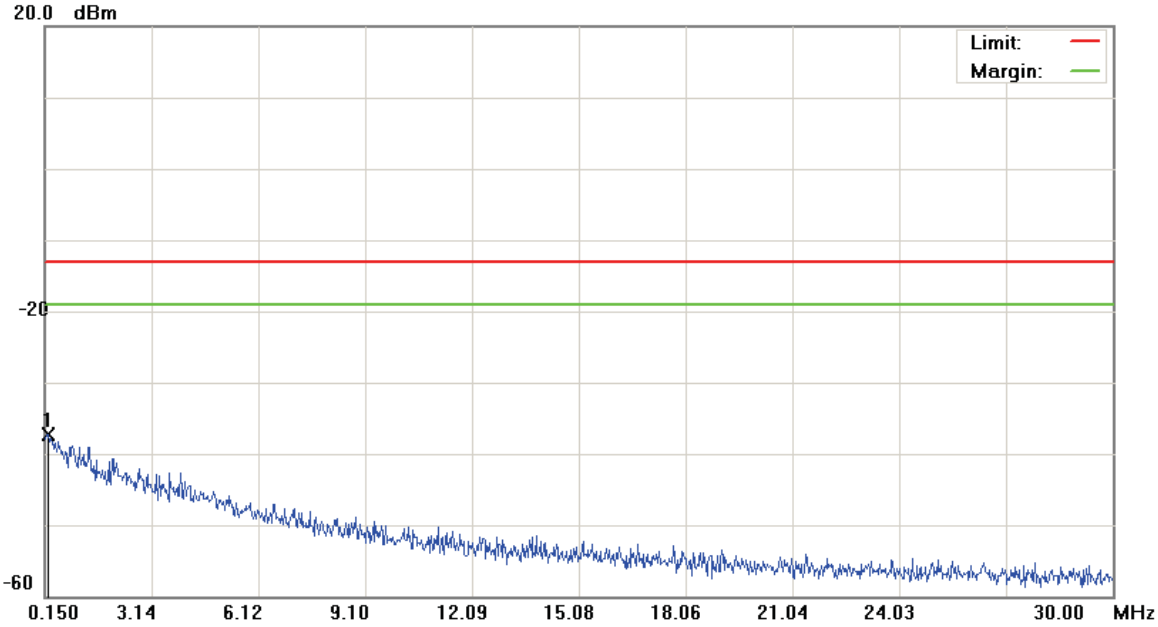


Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1 KHz	VBW: 3 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	0.0092	-79.22	30.58	-48.64	-13.00	-35.64	peak			

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

File :AC815S(CH4233) Data :#2 Date: 2015/10/14 Time: 上午 11:50:55

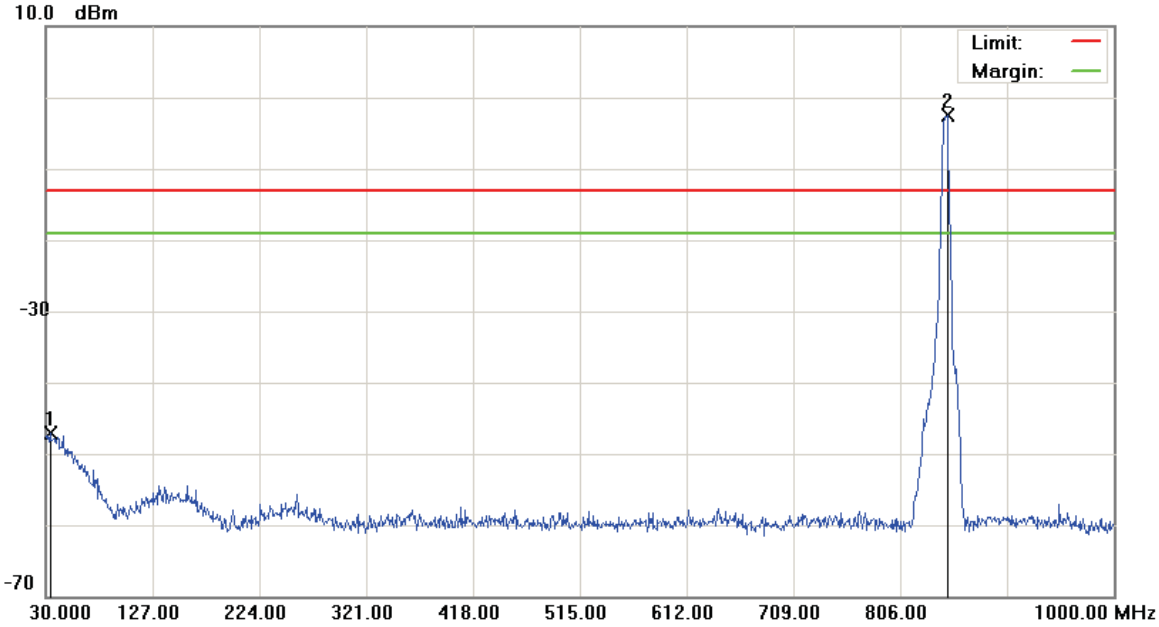


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 10 KHz	VBW: 30 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	0.2395	-68.60	31.24	-37.36	-13.00	-24.36	peak			

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

File :AC815S(CH4233) Data :#3 Date: 2015/10/14 Time: 上午 11:51:19



Site: site #1
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: AirCard 815S Mobile Hotspot
M/N: AC815S
Mode: WCDMA Band V
Note:

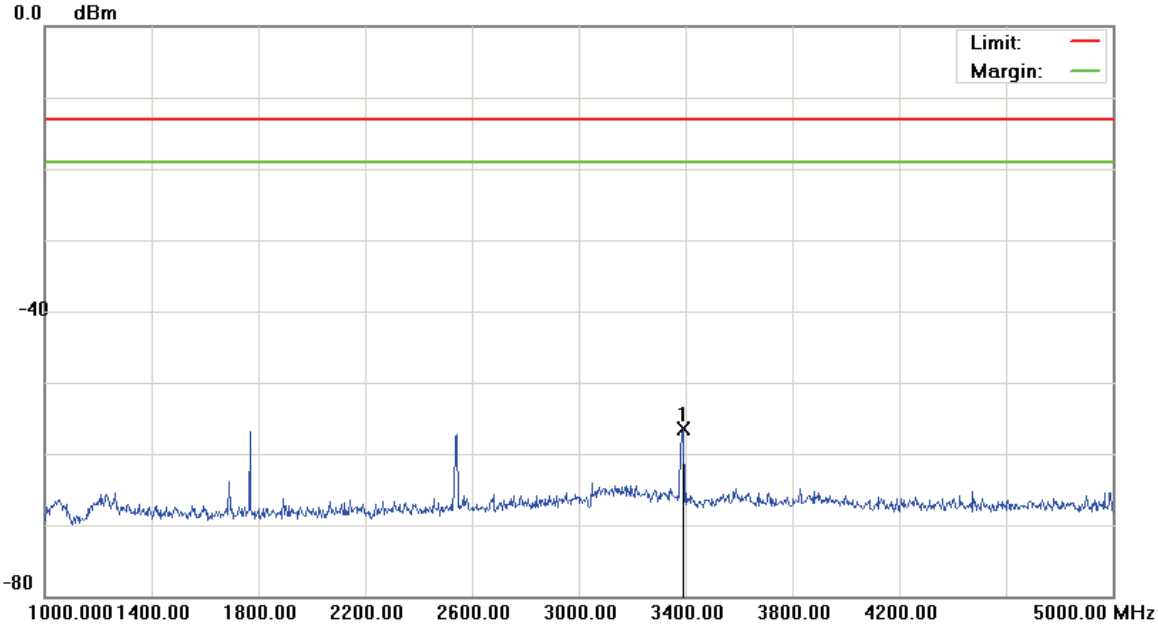
Polarization: ***Conducted***
Power: DC 3.8V
Distance:

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		33.8800	-63.82	16.77	-47.05	-13.00	-34.05	peak			
2	*	848.6800	-6.52	3.98	-2.54	-13.00	10.46	peak			Tx

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

File :AC815S(CH4233) Data :#4 Date: 2015/10/14 Time: 上午 10:35:02

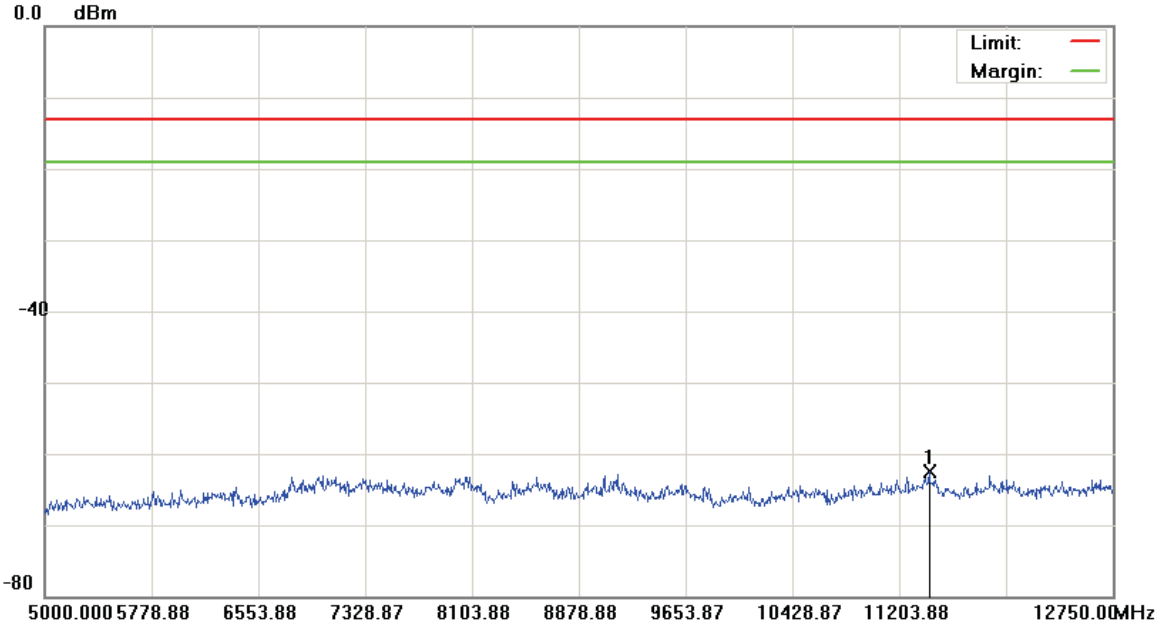


Site:	site #1	Polarization:	*Conducted*	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	3392.000	-61.06	4.47	-56.59	-13.00	-43.59	peak			

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

File :AC815S(CH4233) Data :#5 Date: 2015/10/14 Time: 上午 10:35:25



Site:	site #1	Polarization:	***Conducted***	Temperature:	26 ℃
Limit:	FCC Part 22 conducted(9k-12.75G)	Power:	DC 3.8V	Humidity:	55 %
EUT:	AirCard 815S Mobile Hotspot	Distance:		RBW: 1000 KHz	VBW: 3000 KHz
M/N:	AC815S				
Mode:	WCDMA Band V				
Note:					

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	*	11420.875	-67.99	5.57	-62.42	-13.00	-49.42	peak			

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

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.

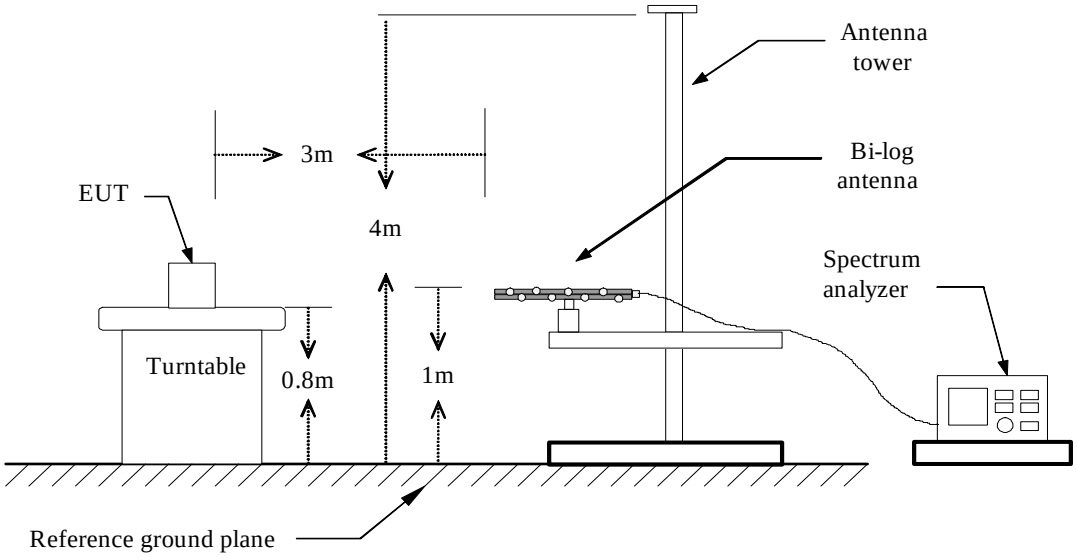
8.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	1 year
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	1 year
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	1 year
Test Site	ATL	TE01	888001	08/27/2015	1 year

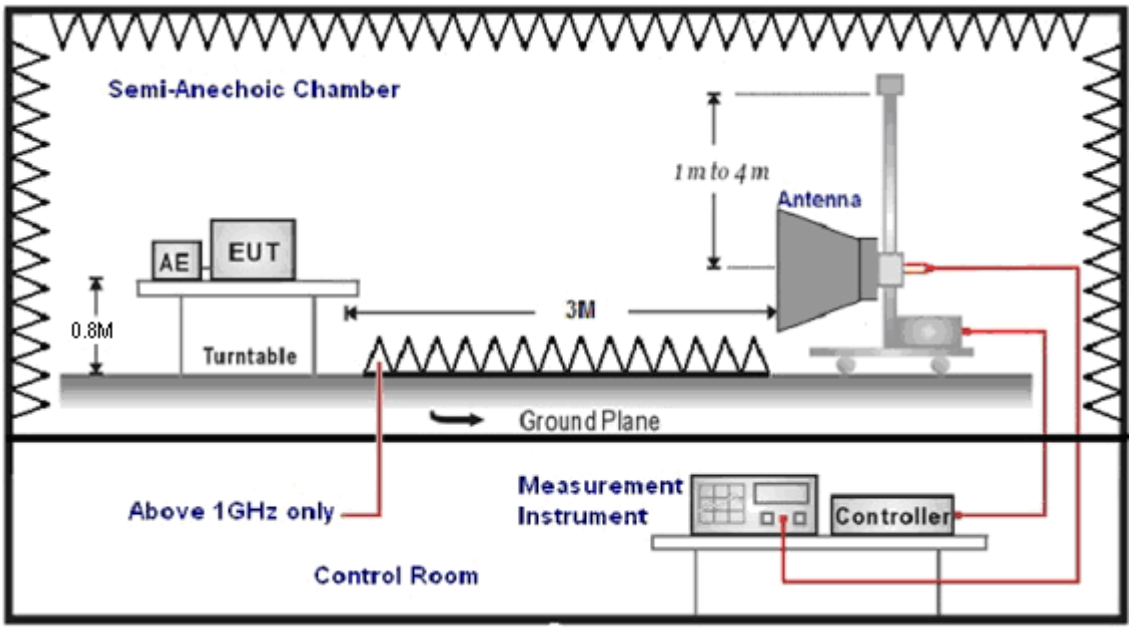
Note: N.C.R. = No Calibration Request.

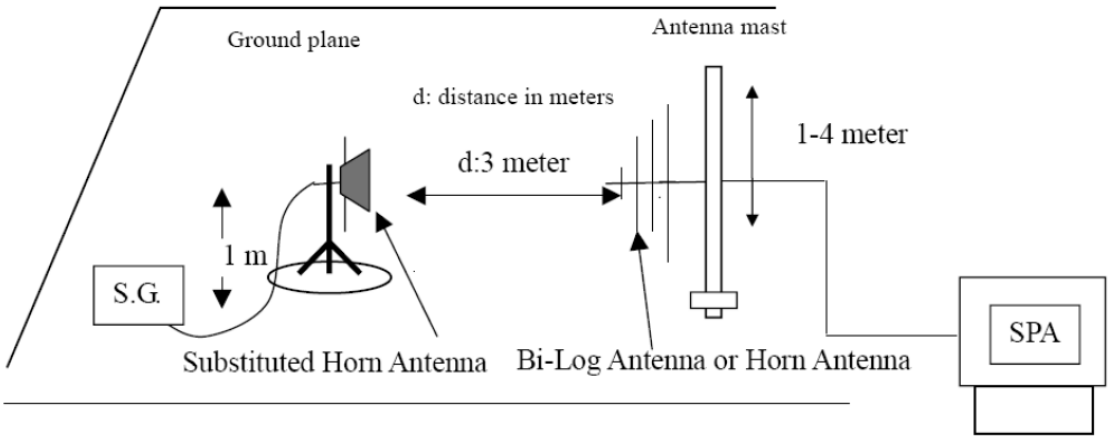
8.3. Setup

Below 1GHz



Above 1GHz





8.4. Test Procedure

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 1MHz.

b. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G.

d. E.I.R.P. = Output power level of S.G - TX cable loss + Antenna gain of substitution horn

e. E.R.P. = E.I.R.P- 2.15 dB

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:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	10/27/2015
Frequency:	824.2 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
4864.000	-78.12	21.64	-56.48	-13.00	-43.48	peak	H
5488.000	-79.61	23.68	-55.93	-13.00	-42.93	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	10/27/2015
Frequency:	836.6 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6616.000	-78.17	28.99	-49.18	-13.00	-36.18	peak	H
6652.000	-76.95	29.09	-47.86	-13.00	-34.86	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	10/27/2015
Frequency:	848.8 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
7120.000	-76.67	30.49	-46.18	-13.00	-33.18	peak	H
6448.000	-79.07	28.37	-50.70	-13.00	-37.70	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	10/27/2015
Frequency:	1850.2 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5356.000	-78.46	23.36	-55.10	-13.00	-42.10	peak	H
6004.000	-78.11	25.70	-52.41	-13.00	-39.41	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	10/27/2015
Frequency:	1880.0 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
5632.000	-79.17	24.23	-54.94	-13.00	-41.94	peak	H
6160.000	-78.91	26.64	-52.27	-13.00	-39.27	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	10/27/2015
Frequency:	1909.8 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6148.000	-77.56	26.56	-51.00	-13.00	-38.00	peak	H
6328.000	-79.13	27.64	-51.49	-13.00	-38.49	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	10/27/2015
Frequency:	1852.4 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6448.000	-78.99	28.37	-50.62	-13.00	-37.62	peak	H
6340.000	-79.48	27.71	-51.77	-13.00	-38.77	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	10/27/2015
Frequency:	1880.0 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6208.000	-79.19	26.92	-52.27	-13.00	-39.27	peak	H
5428.000	-78.99	23.54	-55.45	-13.00	-42.45	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	5	Date:	10/27/2015
Frequency:	1907.6 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
7372.000	-77.13	31.35	-45.78	-13.00	-32.78	peak	H
6628.000	-78.14	29.02	-49.12	-13.00	-36.12	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	10/27/2015
Frequency:	826.4 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6496.000	-79.32	28.65	-50.67	-13.00	-37.67	peak	H
5212.000	-79.85	23.02	-56.83	-13.00	-43.83	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	10/27/2015
Frequency:	836.6 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6388.000	-80.19	28.00	-52.19	-13.00	-39.19	peak	H
5260.000	-79.38	23.13	-56.25	-13.00	-43.25	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	AC815S	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	6	Date:	10/27/2015
Frequency:	846.6 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
6256.000	-79.88	27.21	-52.67	-13.00	-39.67	peak	H
5416.000	-78.88	23.51	-55.37	-13.00	-42.37	peak	V

9 Frequency Stability (Temperature & Voltage Variation) Test

9.1. Limit

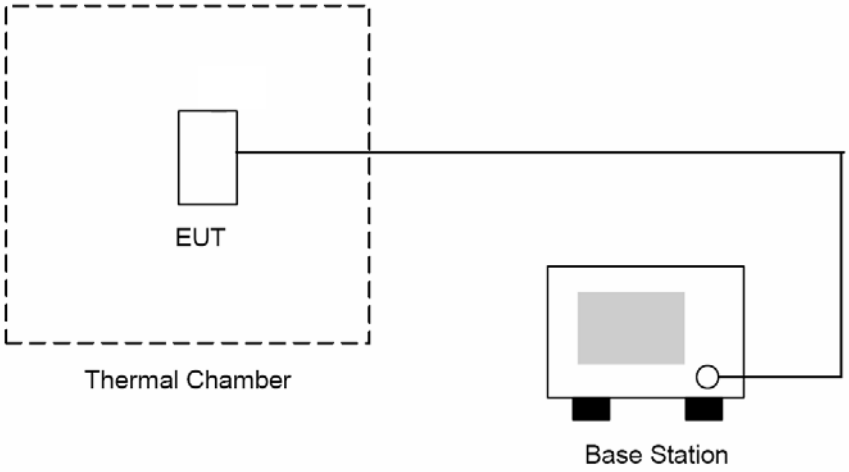
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center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

9.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Universal Radio Communication Tester	R & S	CMU200	109369	10/21/2014	2 years
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/27/2015	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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	AC815S					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 1					
Date of Test	10/24/2015					
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-30	-15.12	-0.018	±2.5	Pass
Normal	3.80	-20	-17.00	-0.020	±2.5	Pass
Normal	3.80	-10	-22.96	-0.027	±2.5	Pass
Normal	3.80	0	-8.86	-0.011	±2.5	Pass
Normal	3.80	10	2.15	0.003	±2.5	Pass
Battery full point	4.35	20	-14.45	-0.017	±2.5	Pass
Normal	3.80	20	-4.37	-0.005	±2.5	Pass
Battery cut-off point	3.50	20	-2.69	-0.003	±2.5	Pass
Normal	3.80	30	10.28	0.012	±2.5	Pass
Normal	3.80	40	-1.47	-0.002	±2.5	Pass
Normal	3.80	50	6.24	0.007	±2.5	Pass

Model Number	AC815S					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 2					
Date of Test	10/24/2015					
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-30	-0.74	0.000	±2.5	Pass
Normal	3.80	-20	-8.40	-0.004	±2.5	Pass
Normal	3.80	-10	-29.05	-0.015	±2.5	Pass
Normal	3.80	0	-9.99	-0.005	±2.5	Pass
Normal	3.80	10	-5.03	-0.003	±2.5	Pass
Battery full point	4.35	20	-22.07	-0.012	±2.5	Pass
Normal	3.80	20	2.30	0.001	±2.5	Pass
Battery cut-off point	3.50	20	-8.01	-0.004	±2.5	Pass
Normal	3.80	30	-2.04	-0.001	±2.5	Pass
Normal	3.80	40	-6.74	-0.004	±2.5	Pass
Normal	3.80	50	2.91	0.002	±2.5	Pass

Model Number	AC815S					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 5					
Date of Test	10/24/2015					
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-30	-5.48	-0.003	±2.5	Pass
Normal	3.80	-20	-7.93	-0.004	±2.5	Pass
Normal	3.80	-10	-7.72	-0.004	±2.5	Pass
Normal	3.80	0	-21.28	-0.011	±2.5	Pass
Normal	3.80	10	-18.31	-0.010	±2.5	Pass
Battery full point	4.35	20	-3.21	-0.002	±2.5	Pass
Normal	3.80	20	-5.43	-0.003	±2.5	Pass
Battery cut-off point	3.50	20	-7.44	-0.004	±2.5	Pass
Normal	3.80	30	3.15	0.002	±2.5	Pass
Normal	3.80	40	-18.50	-0.010	±2.5	Pass
Normal	3.80	50	11.54	0.006	±2.5	Pass

Model Number	AC815S					
Test Item	Frequency Stability (Temperature & Voltage Variation)					
Test Mode	Mode 6					
Date of Test	10/24/2015					
Level	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	3.80	-30	-4.29	-0.005	±2.5	Pass
Normal	3.80	-20	-9.41	-0.011	±2.5	Pass
Normal	3.80	-10	-17.59	-0.021	±2.5	Pass
Normal	3.80	0	-16.80	-0.020	±2.5	Pass
Normal	3.80	10	-19.43	-0.023	±2.5	Pass
Battery full point	4.35	20	-17.83	-0.021	±2.5	Pass
Normal	3.80	20	-4.98	-0.006	±2.5	Pass
Battery cut-off point	3.50	20	-15.19	-0.018	±2.5	Pass
Normal	3.80	30	1.53	0.002	±2.5	Pass
Normal	3.80	40	-10.51	-0.013	±2.5	Pass
Normal	3.80	50	14.97	0.018	±2.5	Pass