FCC 47 CFR PART 15 SUBPART C

Product Type	:	Bluetooth Car Kit
Applicant	:	Guoguang Electric Co.,Ltd
Address	:	No. 8 Jinghu Road, Xinhua Town, Huadu Region, Guangzhou, 510800 P. R. China
Model Number	:	BTC1
Trade Name	:	NA
Test Specification	:	FCC 47 CFR PART 15 SUBPART C: Oct., 2012 Canada RSS-210 ISSUE 8: Dec., 2010 Canada RSS-Gen ISSUE 3: Dec., 2010 ANSI C63.4:2009
Receive Date	:	18 April, 2014
Test Period	:	22 April, 2014~05 May, 2014
Issue Date	:	08 May, 2014

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
Tel：+886-3-2710188 / Fax：+886-3-2710190

Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	08 May, 2014	Initial Issue	

Verification of Compliance

Issued Date: 08 May, 2014

Product Type	:	Bluetooth Car Kit
Applicant	:	Guoguang Electric Co.,Ltd
Address	:	No. 8 Jinghu Road, Xinhua Town, Huadu Region, Guangzhou, 510800 P. R. China
Model Number	:	BTC1
Trade Name	:	NA
FCC ID	:	2AAP800006
EUT Rated Voltage	:	DC 12V
Test Voltage	:	DC 12V
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART C: Oct., 2012 ANSI C63.4:2009
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City, Taoyuan County 334, Taiwan R.O.C. Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 .
The test results of this report relate only to the tested sample identified in this report.

Approved By : _____ (Manager)

Reviewed By : Fly Lu (Testing Engineer)

TABLE OF CONTENTS

1 General Information

1.1. Summary of Test Result

Standard FCC 15.207&FCC15.247	Item	Result	Remark
15.207	AC Power Conducted Emission	NA	DC power supply only
15.247(b)(1)	Max. Output Power	PASS	-----
15.247(c)	Transmitter Radiated Emissions	PASS	-----
15.247(a)(1)	20dB RF Bandwidth	PASS	-----
15.247(a)(1)(iii)	Carrier Frequency Separation	PASS	-----
15.247(a)(1)(iii)	Number of Hopping	PASS	-----
15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	PASS	-----
15.247(c)	Out of Band Conducted Spurious Emission	PASS	-----
15.247(c)	Band Edge Measurement	PASS	-----
15.247(c)	Occupied Bandwidth Measurement	PASS	-----
15.203	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Measurement Uncertainty

Test Item	Frequency Range		Uncertainty (dB)
Conducted Emission	9kHz ~ 30MHz		± 2.02
Radiated Emission	30MHz ~ 1000MHz	Horizontal	± 3.98
		Vertical	± 3.62
	1000MHz ~ 18000MHz	Horizontal	± 3.11
		Vertical	± 3.07
	18000MHz ~ 40000MHz	Horizontal	± 3.66
		Vertical	± 3.54

2 EUT Description

Product	Bluetooth Car Kit				
Trade Name	NA				
Model Number	BTC1				
Applicant	Guoguang Electric Co.,Ltd No. 8 Jinghu Road, Xinhua Town, Huadu Region, Guangzhou, 510800 P. R. China				
Manufacturer	Guoguang Electric Co.,Ltd No. 8 Jinghu Road, Xinhua Town, Huadu Region, Guangzhou, 510800 P. R. China				
FCC ID	2AAP800006				
Frequency Range	2402 ~ 2480 MHz				
Modulation Type	GFSK for 1Mbps				
	π/4-DQPSK for 2Mbps				
	8DPSK for 3Mbps				
Antenna Type	Monopole				
Antenna Gain	0dBi				
RF Output Power (Conducted)	GFSK for 1Mbps	8.832	dBm /	7.642	mW
	π/4-DQPSK for 2Mbps	7.461	dBm /	5.573	mW
	8DPSK for 3Mbps	7.487	dBm /	5.606	mW
20dB Bandwidth	GFSK: 0.874MHz 8DPSK: 1.147MHz				

3 Test Methodology

3.1. Mode of Operation

Decision of Test 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: Normal Operation Mode
Mode 2: GFSK Link Mode
Mode 3: π/4-DQPSK Link Mode
Mode 4: 8DPSK Link Mode
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By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

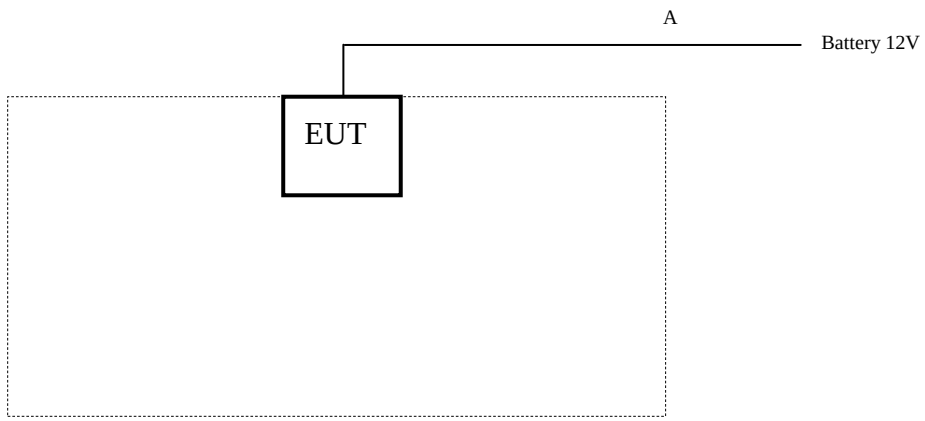
Description of Test Modes

Preliminary tests were performed in different modulation to find the worst case. The modulation has shown the worst-case in section 6.5. Investigation has been done on all the possible configurations for searching the worst cases.

EUT Exercise Software

1	Setup the EUT as shown on 3.2.
2	Turn on the power of all EUT.
3	Keep EUT in continuous transmitting under the help of PC software CSR BlueTest3.

3.2. Configuration of Test System Details



Signal Cable Type		Signal Cable Description
A	DC Power Cable	Non-Shielded, 1.0 m

3.3. Test Site Environment

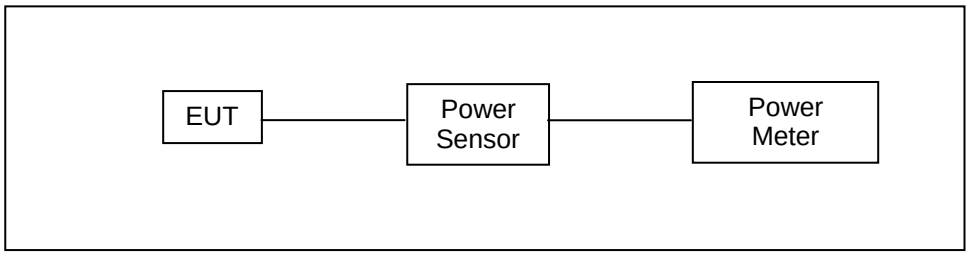
Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 Maximum Conducted Output Power Measurement

4.1. Limit

For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels < 1 watt.

4.2. Test Setup



4.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/19/2013	(1)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/19/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

4.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

4.5. Test Result

Model Number	BTC1			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 2: GFSK Link Mode			
Date of Test	2014/04/28			
Frequency (MHz)	Packet Type	Peak Power		Limit (mW)
		(dBm)	(mW)	
2402	DH1	5.938	3.925	< 1000
	DH3	5.787	3.791	
	DH5	5.818	3.8177	
2441	DH1	7.539	5.674	
	DH3	7.968	6.264	
	DH5	7.537	5.671	
2480	DH1	8.439	6.981	
	DH3	8.832	7.642	
	DH5	8.667	7.357	

Model Number	BTC1			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 3: π/4- DQPS Mode			
Date of Test	2014/04/28			
Frequency (MHz)	Packet Type	Peak Power		Limit (mW)
		(dBm)	(mW)	
2402	DH1	4.295	2.688	< 1000
	DH3	4.828	3.039	
	DH5	4.609	2.890	
2441	DH1	6.384	4.349	
	DH3	6.552	4.521	
	DH5	6.703	4.680	
2480	DH1	7.115	5.146	
	DH3	7.297	5.367	
	DH5	7.461	5.573	

Model Number	BTC1			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 4: 8DPSK Link Mode			
Date of Test	2014/04/28			
Frequency (MHz)	Packet Type	Peak Power		Limit (mW)
		(dBm)	(mW)	
2402	DH1	4.243	2.656	< 1000
	DH3	4.810	3.027	
	DH5	4.634	2.907	
2441	DH1	6.339	4.304	
	DH3	6.731	4.711	
	DH5	6.386	4.351	
2480	DH1	7.096	5.124	
	DH3	7.115	5.146	
	DH5	7.487	5.606	

5 Conducted Emission Measurement

5.1. Limit

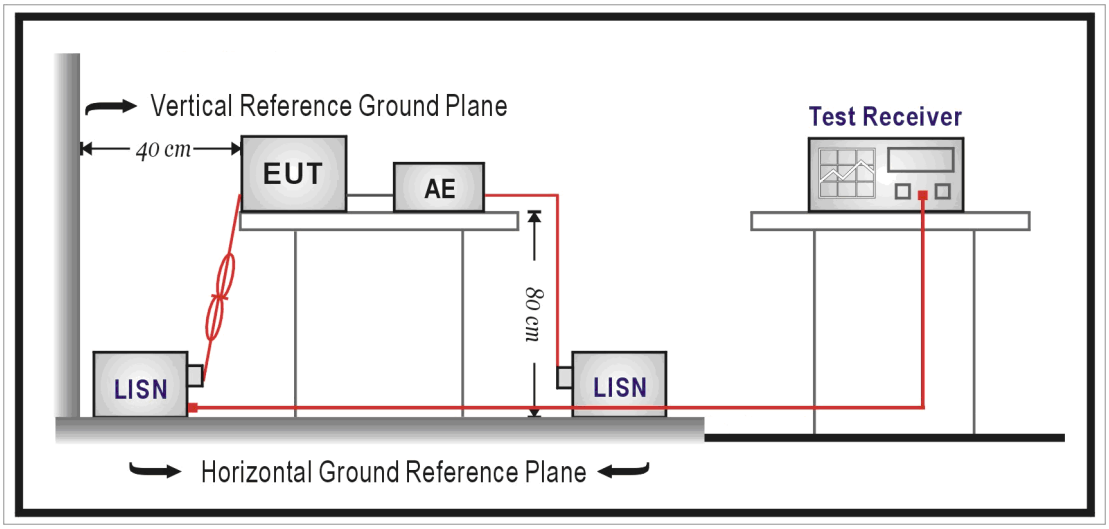
Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

5.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/06/2013	(1)
LISN	R&S	ENV216	101040	03/04/2014	(1)
LISN	R&S	ENV216	101041	03/04/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

5.3. Test Setup



5.4. Test Procedure

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

5.5. Test Result

Not applicable, EUT was battery operated only.

6 Radiated Interference Measurement

6.1. Limit

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m at meter)	Measurement Distance (meters)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 - 88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

6.2. Test Instruments

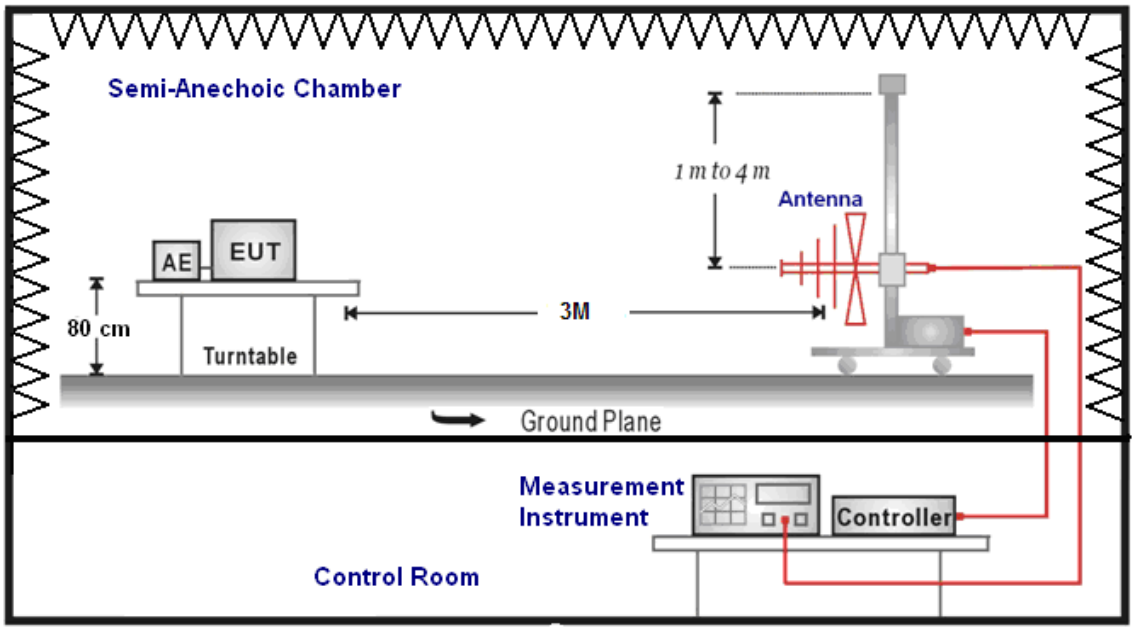
3 Meter Chamber (966-A)					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/21/2014	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/21/2014	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2014	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/21/2014	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/01/2013	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/10/2013	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/13/2013	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	08/14/2013	(3)
Test Site	ATL	TE01	888001	08/28/2013	(1)

3 Meter Chamber (966-B)					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/10/2013	(1)
Amplifier	Mini-Circuits	ZKL-1R5+	072010	05/29/2013	(1)
Amplifier	Mini-Circuits	ZVA-213-S+	467900926	05/29/2013	(1)
RF Pre-selector	Agilent	N9039A	MY46520255	01/21/2014	(1)
Double-Ridged Waveguide Horn	ETS-Lindgren	3117	00128055	08/24/2013	(1)
Trilog-Broadband Antenna	Schwarzbeck Mess-Elektronik	SB AC VULB	9168-419	05/10/2013	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	08/14/2013	(3)
Test Site	ATL	TE09	TE09	05/10/2013	(1)

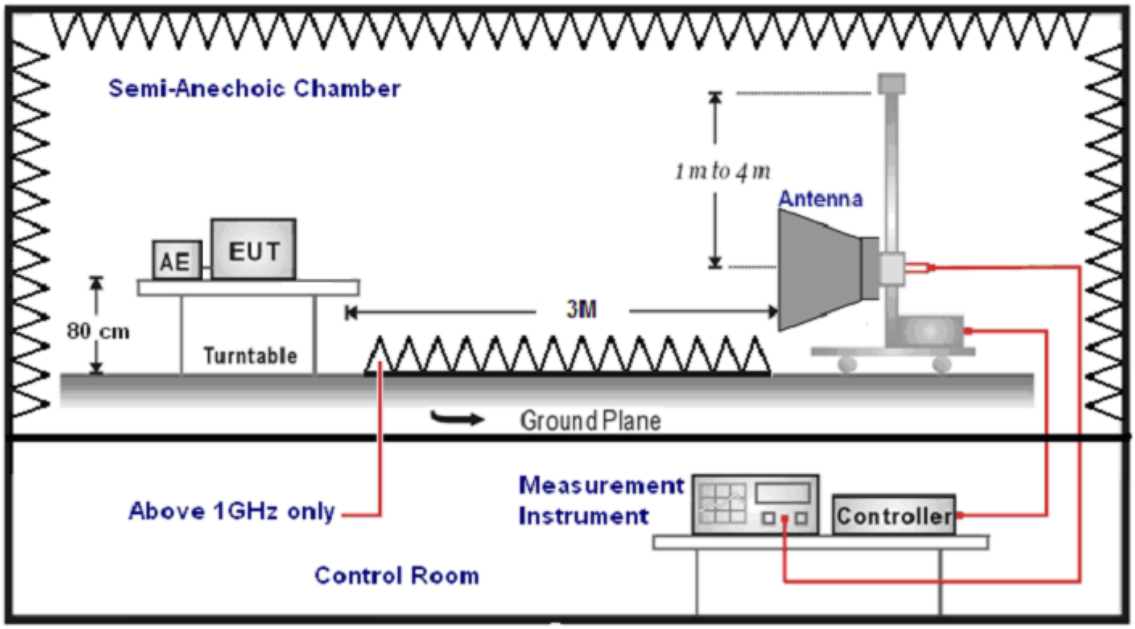
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.
NOTE: N.C.R. = No Calibration Request.

6.3. Setup

Below 1GHz



Above 1GHz



6.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

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

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

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).

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

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)
FI= Reading of the field intensity.
AF= Antenna factor.
CL= Cable loss.
P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)
The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:
(a) For fundamental frequency : Transmitter Output < +30dBm
(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

6.5. Test Result

Below 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
		Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dB	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
146.40	2.81	13.07	15.88	43.5	27.62	QP	H
458.04	6.51	12.53	19.04	43.5	24.46	QP	H
192.96	6.41	11.51	17.92	43.5	25.58	QP	H
204.60	4.44	12.44	16.88	43.5	26.62	QP	H
536.34	1.64	21.08	22.72	46.0	23.28	QP	H
668.26	2.17	22.93	25.10	46.0	20.90	QP	H
37.76	8.41	16.41	24.82	40.0	15.18	QP	V
109.54	6.63	13.70	20.33	43.5	23.17	QP	V
131.85	2.71	14.24	16.95	43.5	26.55	QP	V
165.80	8.10	12.17	20.27	43.5	23.23	QP	V
173.56	6.97	11.71	18.68	43.5	24.82	QP	V
251.16	3.30	15.14	18.44	46.0	27.56	QP	V

Note: No emission found between lowest internal used/generated frequencies to 30MHz (9 kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4804	48.4	5.8	54.2	74.0	19.8	peak	H
4804	39.0	5.8	44.8	54.0	9.2	Average	H
7206	41.6	6.8	48.4	74.0	25.6	peak	H
7206	30.0	6.8	36.8	54.0	17.2	Average	H
4804	47.9	5.8	53.7	74.0	20.3	peak	V
4804	39.0	5.8	44.8	54.0	9.	Average	V
7206	38.4	6.8	45.2	74.0	28.8	peak	V
7206	28.9	6.8	35.7	54.0	18.3	Average	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2441 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4882	51.5	5.9	57.4	74.0	16.6	peak	H
4882	42.2	5.9	48.1	54.0	5.9	Average	H
7323	42.9	6.8	49.7	74.0	24.3	peak	H
7323	28.7	6.8	35.5	54.0	18.5	Average	H
4882	45.2	5.9	51.1	74.0	22.9	peak	V
4882	35.9	5.9	41.8	54.0	12.2	Average	V
7323	41.3	6.8	48.1	74.0	25.9	peak	V
7323	29.1	6.8	35.9	54.0	18.1	Average	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4960	49.6	5.9	55.5	74.0	18.5	peak	H
4960	40.3	5.9	46.2	54.0	7.8	Average	H
7440	40.6	6.8	47.4	74.0	26.6	peak	H
7440	27.1	6.8	33.9	54.0	20.1	Average	H
4960	48.2	5.9	54.1	74.0	19.9	peak	V
4960	38.9	5.9	44.8	54.0	9.2	Average	V
7440	38.4	6.8	45.2	74.0	28.8	peak	V
7440	27.7	6.8	34.5	54.0	19.5	Average	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4804	45.3	5.8	51.1	74.0	22.9	peak	H
4804	35.9	5.8	41.7	54.0	12.3	Average	H
7206	40.8	6.8	47.6	74.0	26.4	peak	H
7206	29.4	6.8	36.2	54.0	17.8	Average	H
4804	44.5	5.8	50.3	74.0	23.7	peak	V
4804	35.1	5.8	40.9	54.0	13.1	Average	V
7206	37.8	6.8	44.6	74.0	29.4	peak	V
7206	27.8	6.8	34.6	54.0	19.4	Average	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2441 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4882	46.2	5.9	52.1	74.0	21.9	peak	H
4882	36.9	5.9	42.8	54.0	11.2	Average	H
7323	42.2	6.8	49.0	74.0	25.0	peak	H
7323	28.1	6.8	34.9	54.0	19.1	Average	H
4882	45.2	5.9	51.1	74.0	22.9	peak	V
4882	35.9	5.9	41.8	54.0	12.2	Average	V
7323	40.1	6.8	46.9	74.0	27.1	peak	V
7323	28.1	6.8	34.9	54.0	19.1	Average	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	Fly Lu

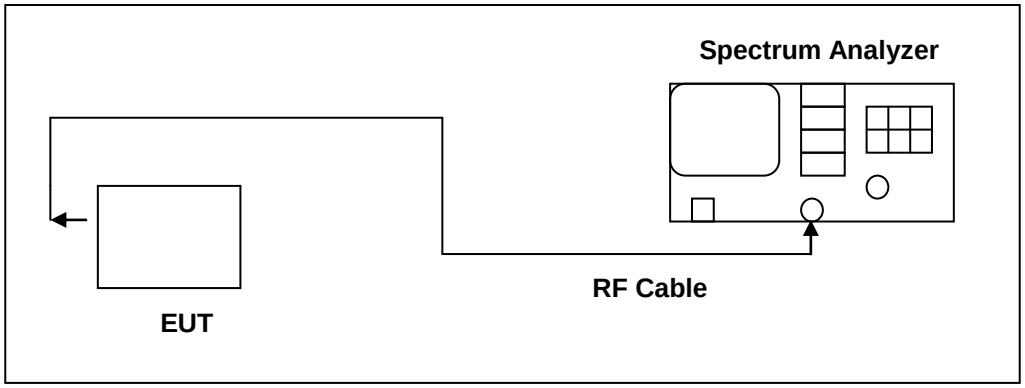
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
4960	49.3	5.9	55.2	74.0	18.8	peak	H
4960	39.9	5.9	45.8	54.0	8.2	Average	H
7440	39.5	6.8	46.3	74.0	27.7	peak	H
7440	26.1	6.8	32.9	54.0	21.1	Average	H
4960	45.7	5.9	51.6	74.0	22.4	peak	V
4960	36.4	5.9	42.3	54.0	11.7	Average	V
7440	37.5	6.8	44.3	74	29.7	peak	V
7440	27.0	6.8	33.8	54	20.2	Average	V

7 20dB RF Bandwidth Measurement

7.1. Limit

N/A

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

7.4. Test Procedure

20dB RF Bandwidth

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = approx. 2 to 3 times the 20dB bandwidth, centered on a hopping frequency
2. RBW ≥1% of the 20dB span
3. VBW ≥RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

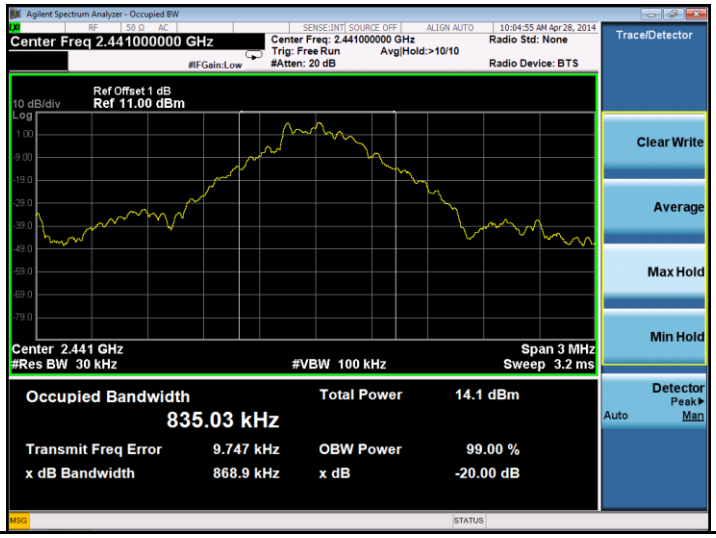
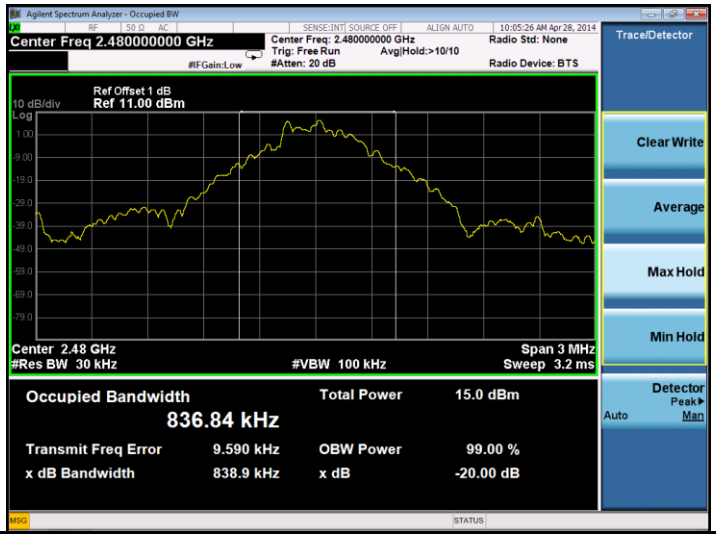
The trace was allowed to stabilize. The EUT was transmitting at its maximum data rate. The marker-to-peak function was used to set the marker to the peak of the emission. The marker-delta function was used to measure 20dB down one side of the emission. The marker-delta function and marker was moved to the other side of the emission until it was even with the reference marker. The marker-delta reading at this point was the 20dB bandwidth of the emission.

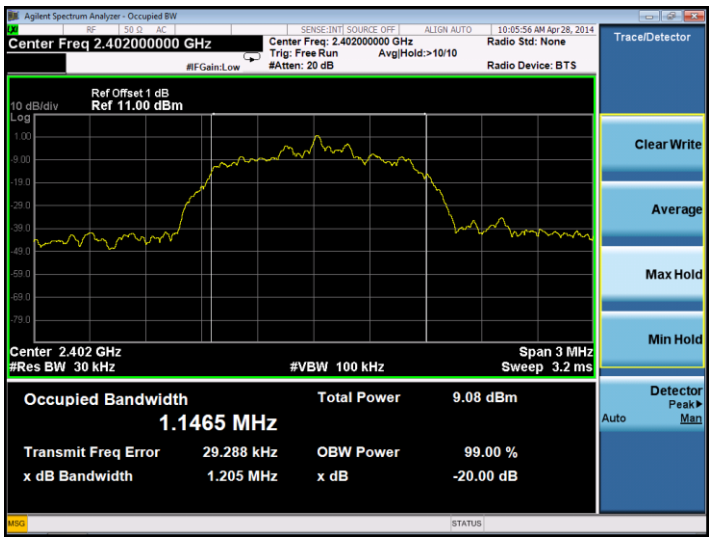
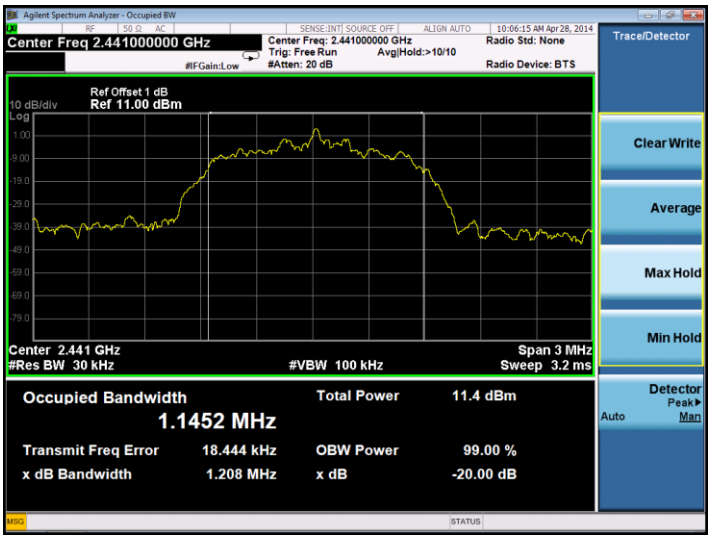
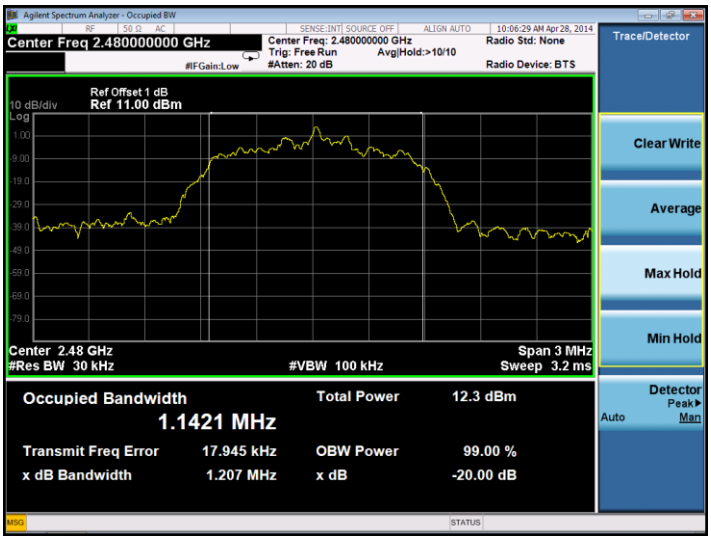
7.5. Test Result

Model Number	BTC1	
Test Item	20dB RF Bandwidth and 99 % Occupied Bandwidth	
Test Mode	Mode 2: GFSK Link Mode	
Date of Test	2014/04/28	
Frequency (MHz)	20dB RF Bandwidth (MHz)	Limit (MHz)
2402	0.874	-----
2441	0.869	-----
2480	0.839	-----

Model Number	BTC1		
Test Item	20dB RF Bandwidth and 99 % Occupied Bandwidth		
Test Mode	Mode 4: 8DPSK Link Mode		
Date of Test	2014/04/28		
Frequency (MHz)	20dB RF Bandwidth (MHz)		Limit (MHz)
2402	1.205		-----
2441	1.208		-----
2480	1.207		-----

7.6. Test Graphs

Mode 2: GFSK Link Mode	
2402	
2441	
2480	

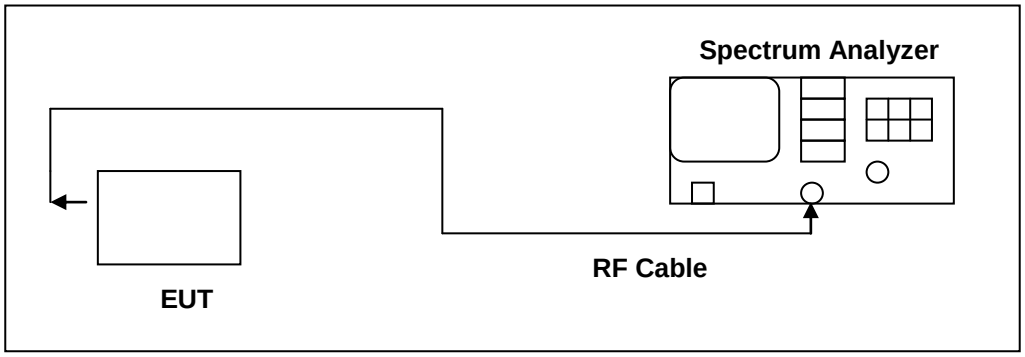
Mode 4: 8DPSK Link Mode	
2402	
2441	
2480	

8 Carrier Frequency Separation Measurement

8.1. Limit

Title 47 of the CFR, Part 15 Subpart (c) 15.247(a)(1)(i) requires the measurement of the bandwidth of the transmission between the -20 dB points on the transmitted spectrum. The results of this test determine the limits for channel spacing. The channel spacing shall be a minimum of 25 kHz or the 20 dB bandwidth.

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

8.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth transmitter of the V6 had its hopping function enabled. The following spectrum analyzer settings were used:

1. Span = wide enough to capture the peaks of two adjacent channels
2. Resolution (or IF) Bandwidth (RBW) ≥1% of the span
3. Video (or Average) Bandwidth (VBW) ≥RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The marker-delta function was used to determine the separation between the peaks of the adjacent channels.

8.5. Test Result

Model Number	BTC1	
Test Item	Carrier Frequency Separation	
Test Mode	Mode 2: GFSK Link Mode	
Date of Test	2014/04/28	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
2441	1.003	> 0.863

8.6. Test Graphs

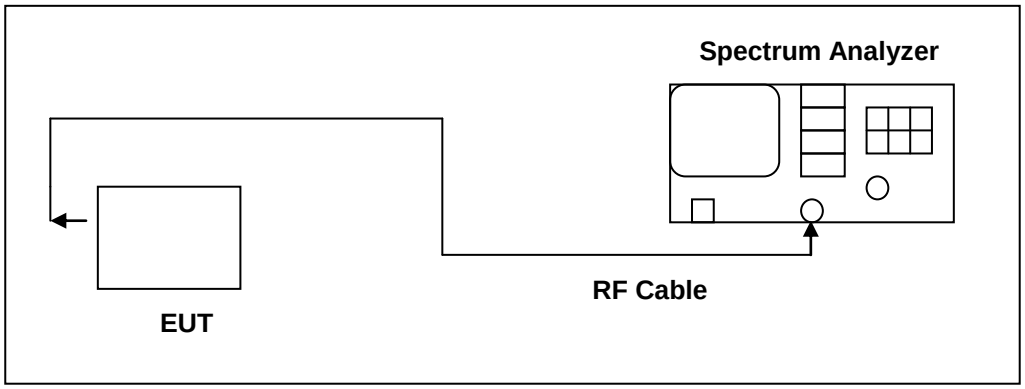
Mode 2: GFSK Link Mode	
2441	

9 Number of Hopping Measurement

9.1. Limit

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

9.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = the frequency band of operation
2. RBW ≥1% of the span
3. VBW ≥RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

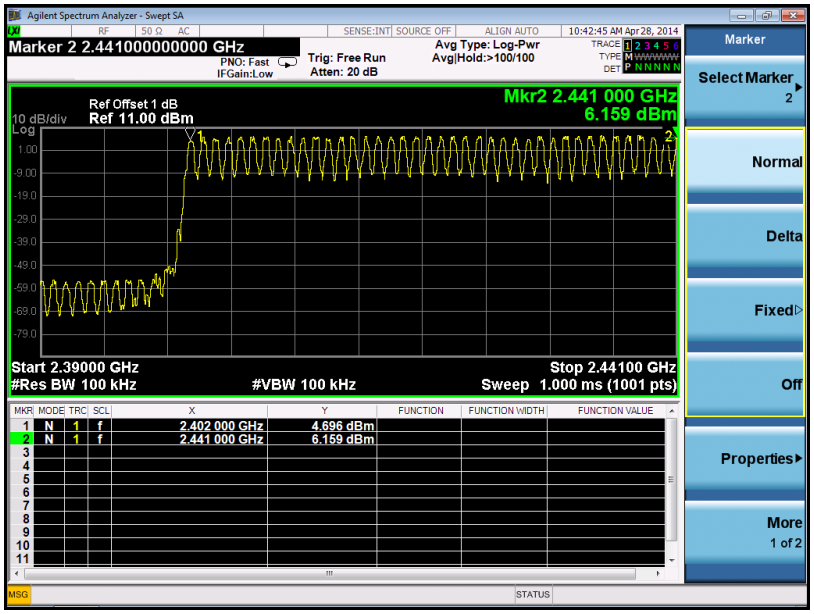
The trace was allowed to stabilize.

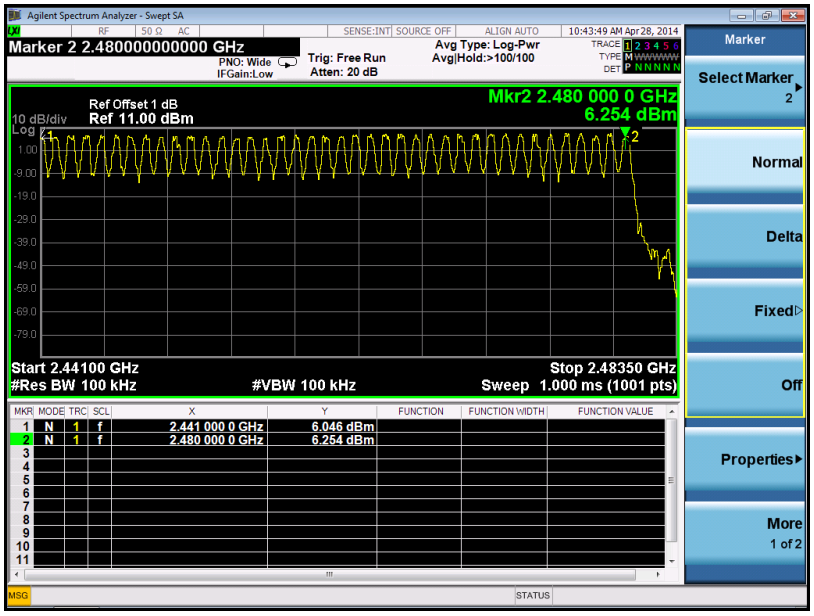
9.5. Test Result

Model Number	BTC1	
Test Item	Number of Hopping	
Test Mode	Mode 2: GFSK Link Mode	
Date of Test	2014/04/28	
Frequency Range (MHz)	Measurement (ch)	Limit (ch)
2402 - 2480	79	> 15

9.6. Test Graphs

Mode 2: GFSK Link Mode



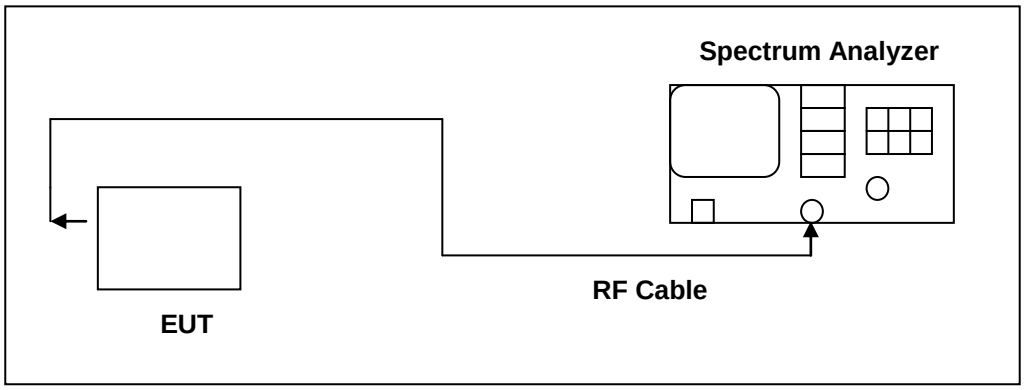


10 Time of Occupancy (Dwell Time) Measurement

10.1. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

10.2. Test Setup



10.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

10.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth hopping function of the EUT was enabled. The following spectrum analyzer settings were used:

1. Span = zero span, centered on a hopping channel
2. RBW = 1 MHz
3. VBW ≥RBW
4. Sweep = as necessary to capture the entire dwell time per hopping channel
5. Detector function = peak
6. Trace = max hold

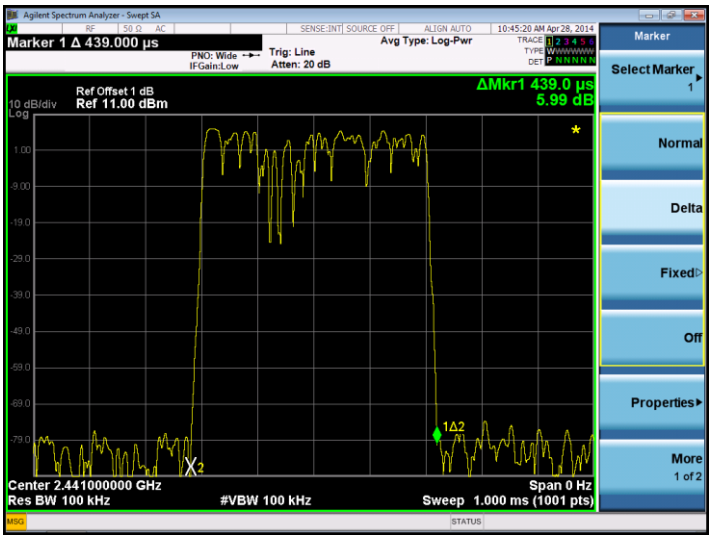
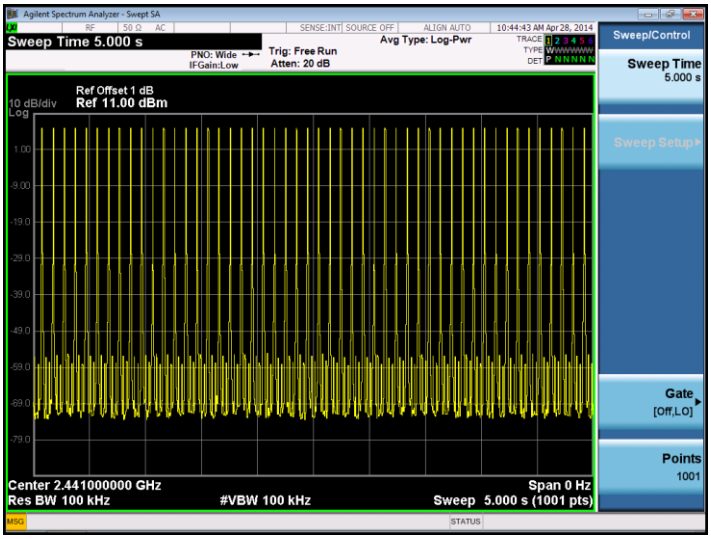
The marker-delta function was used to determine the dwell time.

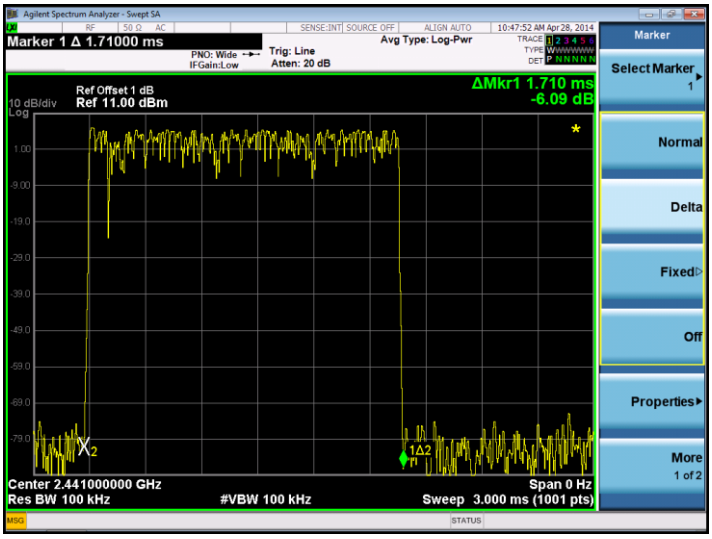
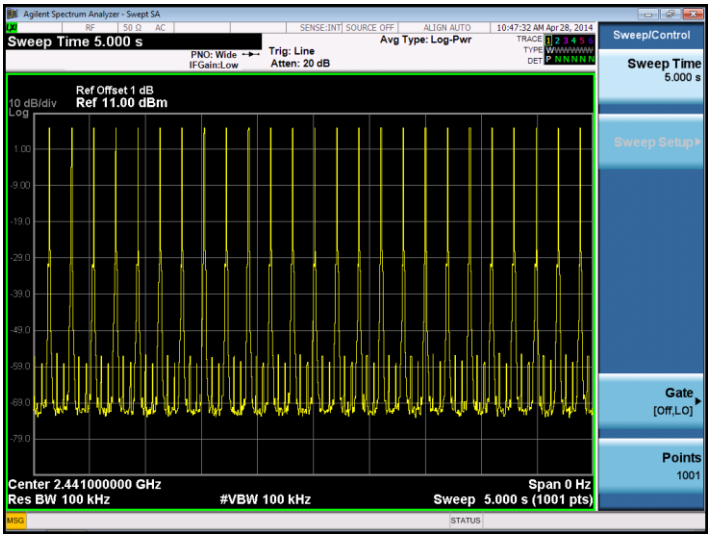
10.5. Test Result

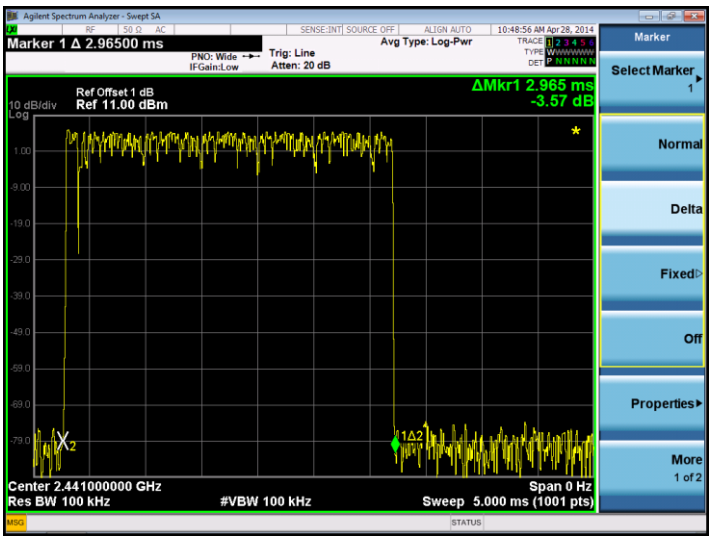
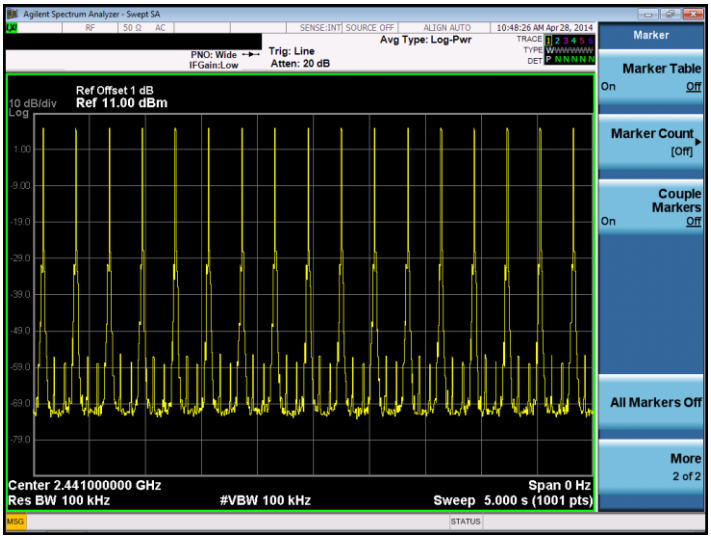
Model Number	BTC1
Test Item	Time of Occupancy (Dwell Time)
Test Mode	Mode 2: GFSK Link Mode
Date of Test	2014/04/28
DH1	
Length of per burst(ms)	0.439
Number of burst in 5 seconds	50
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*50*0.439 =138.724
LIMIT(msec)	< = 400
DH3	
Length of per burst(ms)	1.710
Number of burst in 5 seconds	25
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*25*1.710 =270.180
LIMIT(msec)	< = 400
DH5	
Length of per burst(ms)	2.965
Number of burst in 5 seconds	17
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*17*2.965 =318.560
LIMIT(msec)	< = 400

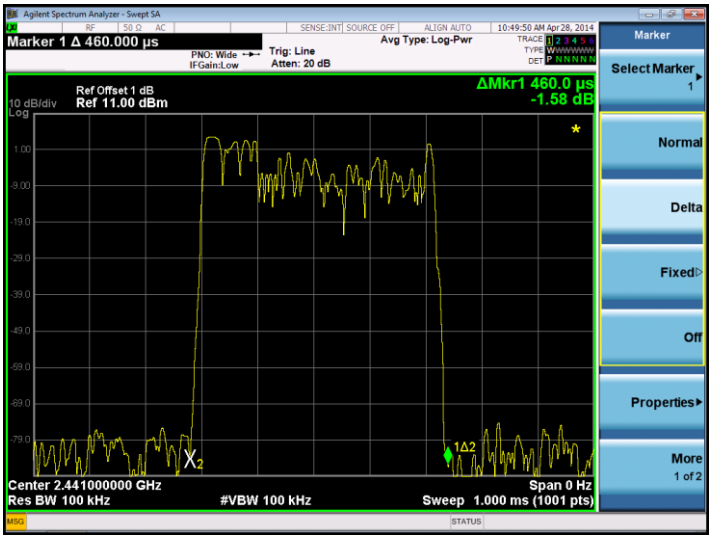
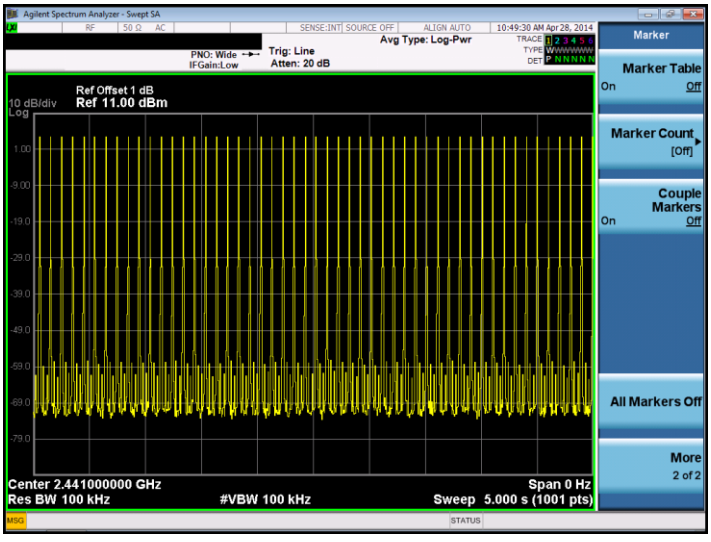
Model Number	BTC1
Test Item	Time of Occupancy (Dwell Time)
Test Mode	Mode 4: 8DPSK Link Mode
Date of Test	2014/04/28
DH1	
Length of per burst(ms)	0.460
Number of burst in 5 seconds	51
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*51*0.460 =148.267
LIMIT(msec)	< = 400
DH3	
Length of per burst(ms)	1.710
Number of burst in 5 seconds	26
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*26*1.710 =280.987
LIMIT(msec)	< = 400
DH5	
Length of per burst(ms)	2.965
Number of burst in 5 seconds	17
Cycle Calculate	79CH * 0.4 = 31.6 (sec)
Dwell Times	31.6/5*17*2.965 =318.560
LIMIT(msec)	< = 400

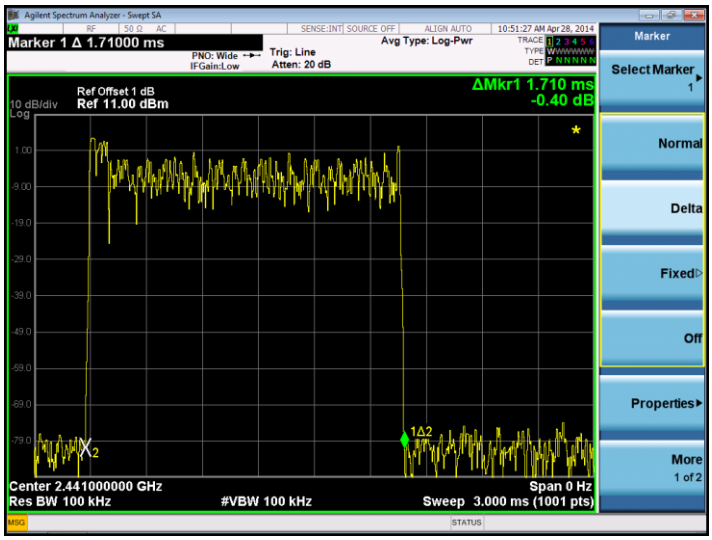
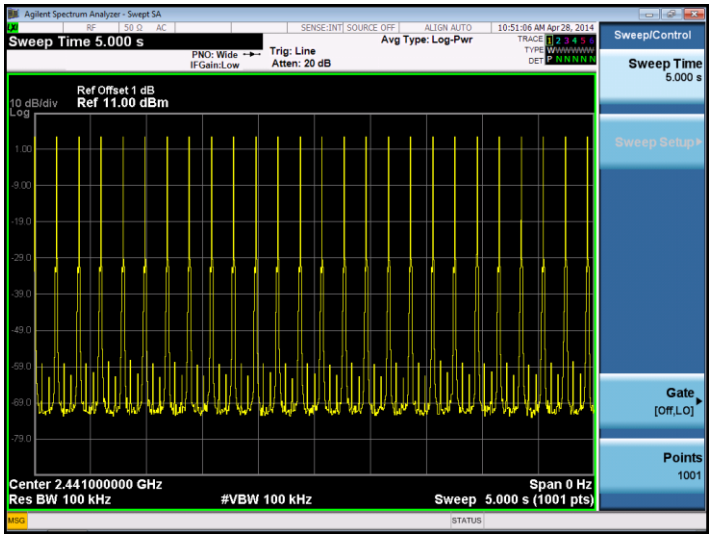
Test Graphs

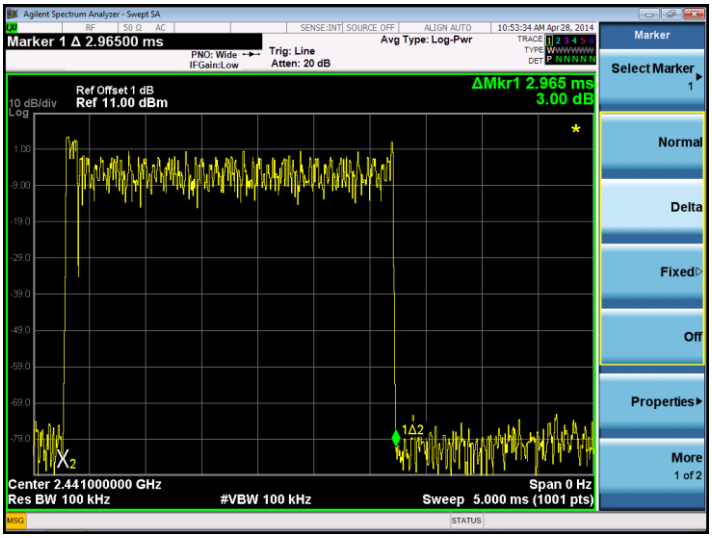
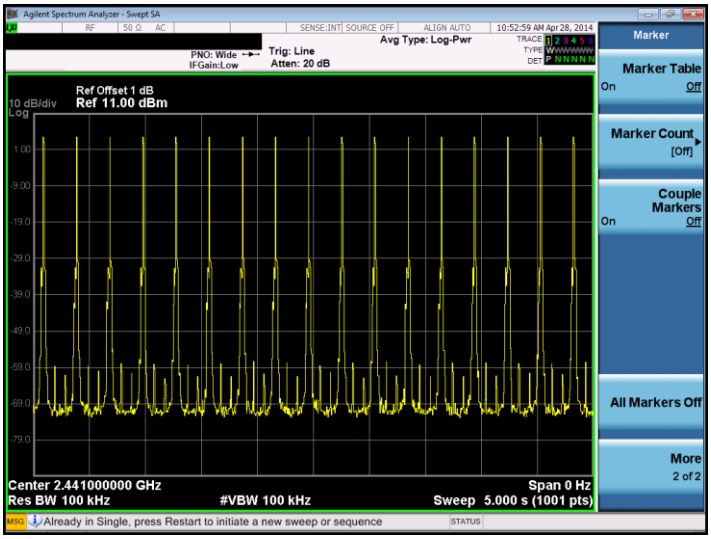
Mode 2: GFSK Link Mode	
DH1	
	

Mode 2: GFSK Link Mode	
DH3	
	

Mode 2: GFSK Link Mode	
DH5	 

Mode 4: 8DPSK Link Mode	
DH1	
	

Mode 4: 8DPSK Link Mode	
DH3	
	

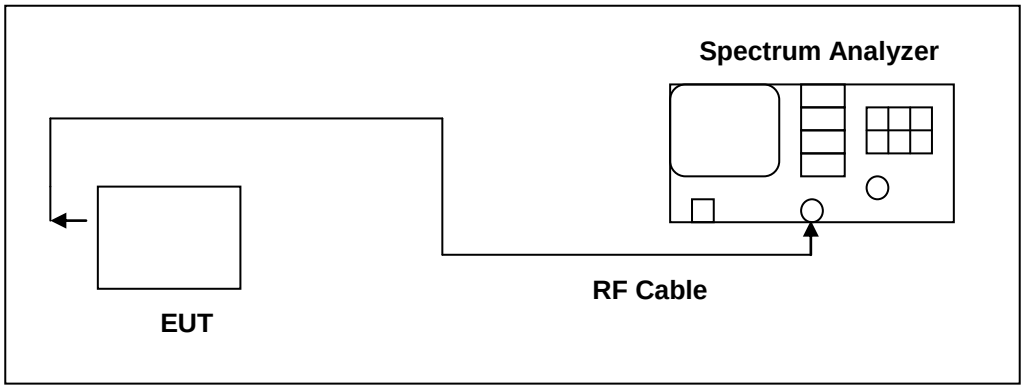
Mode 4: 8DPSK Link Mode	
DH5	
	

11 Out of Band Conducted Emissions Measurement

11.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

11.2. Test Setup



11.3. Test Instruments

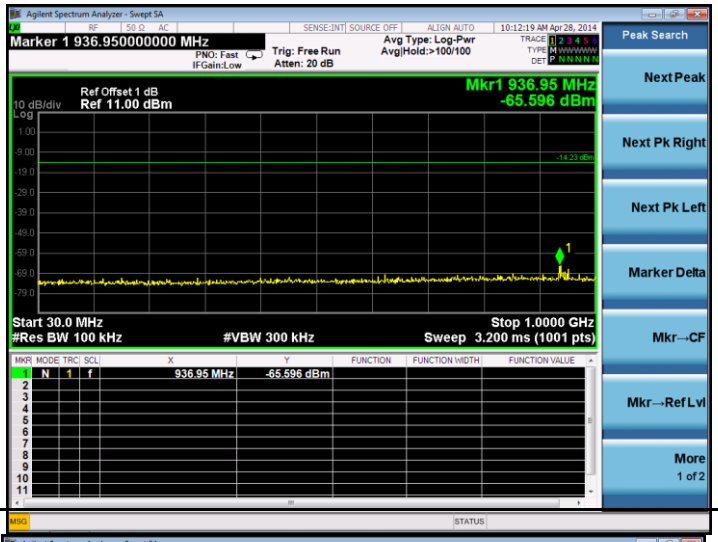
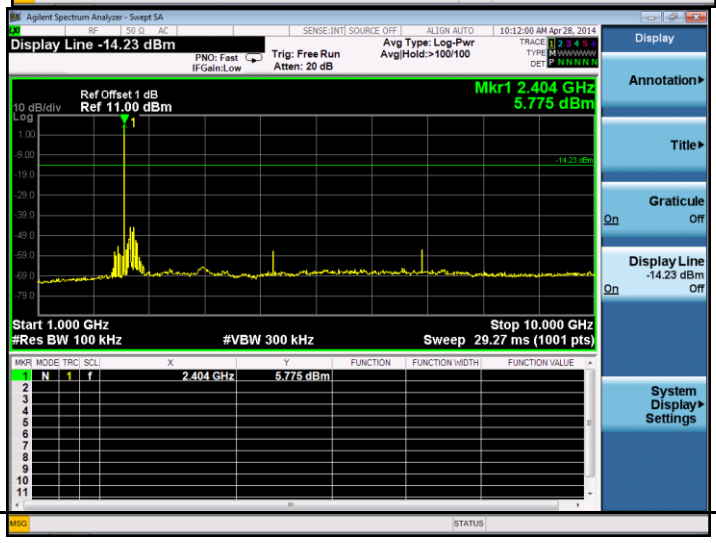
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2013	(1)
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/09/2013	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

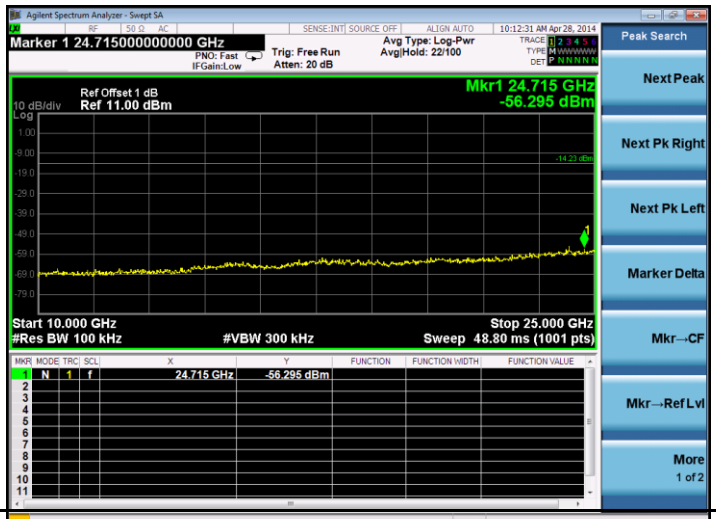
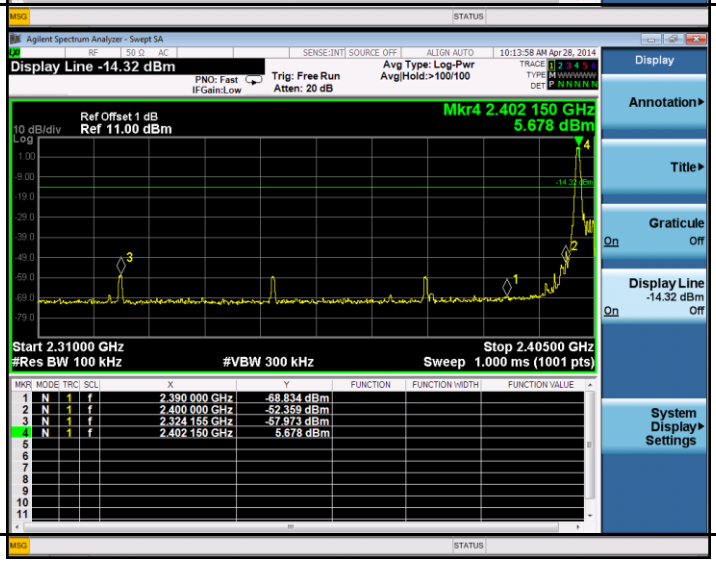
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
NOTE: N.C.R. = No Calibration Request.

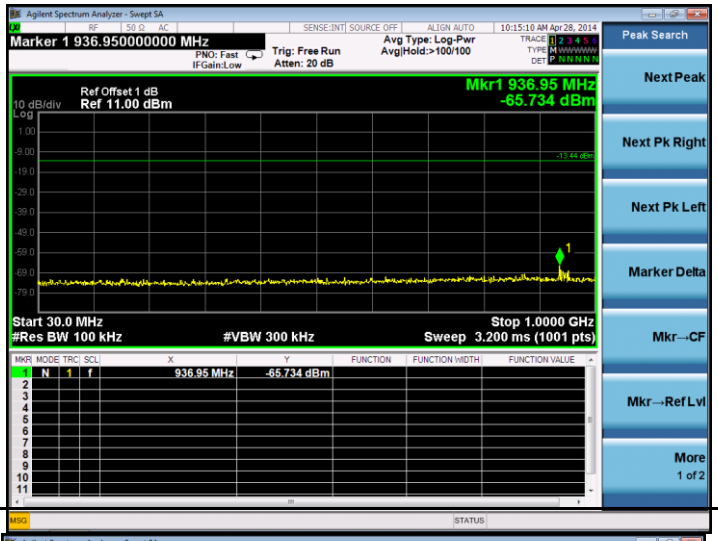
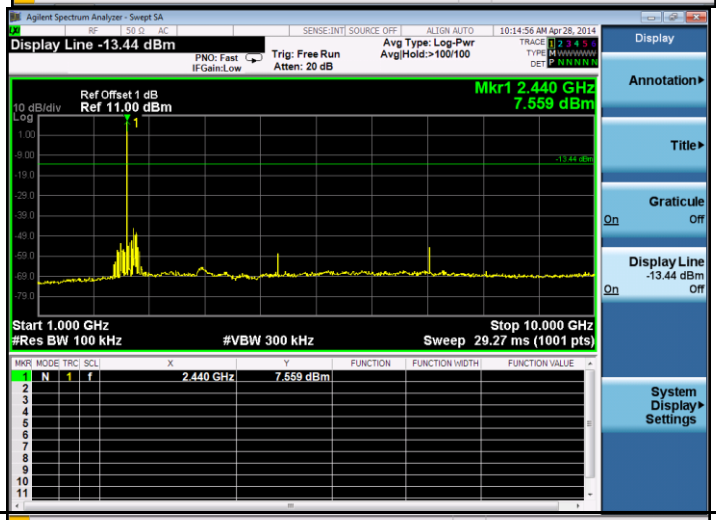
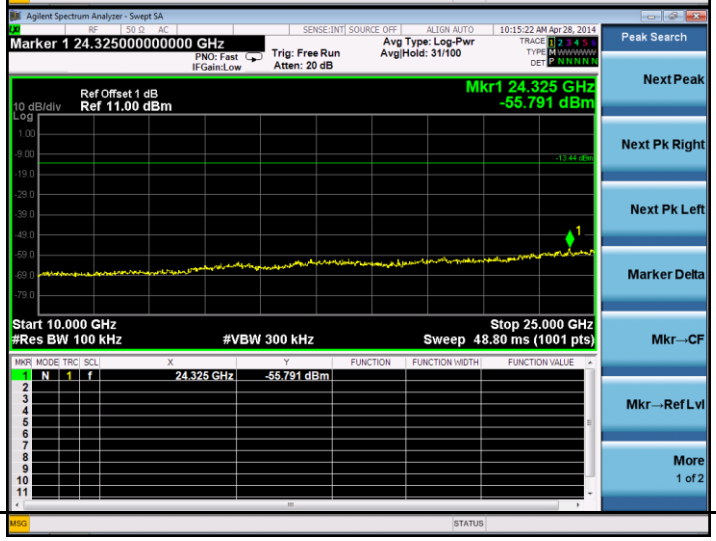
11.4. Test Procedure

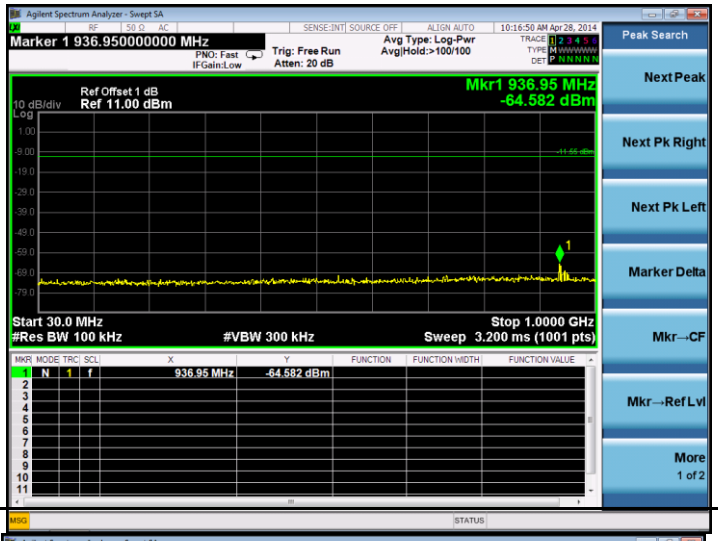
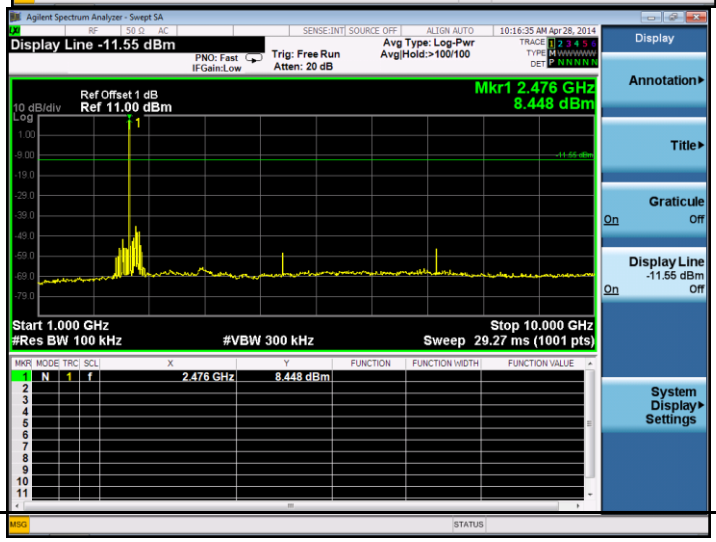
Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels (Channel 0, 39, 78)

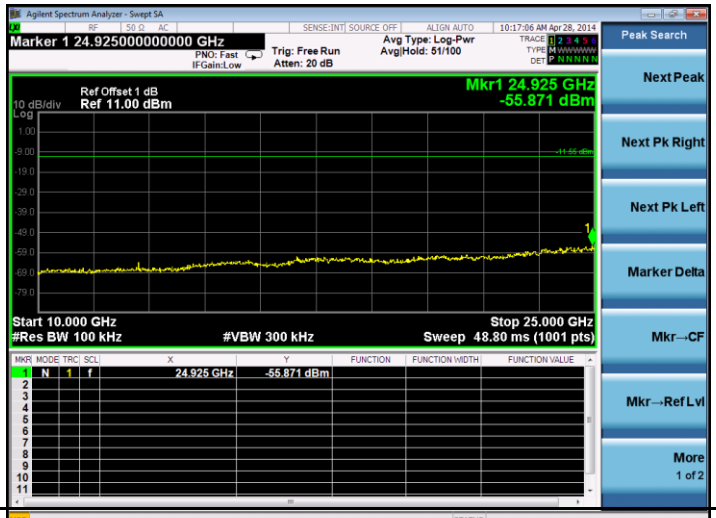
11.5. Test Graphs

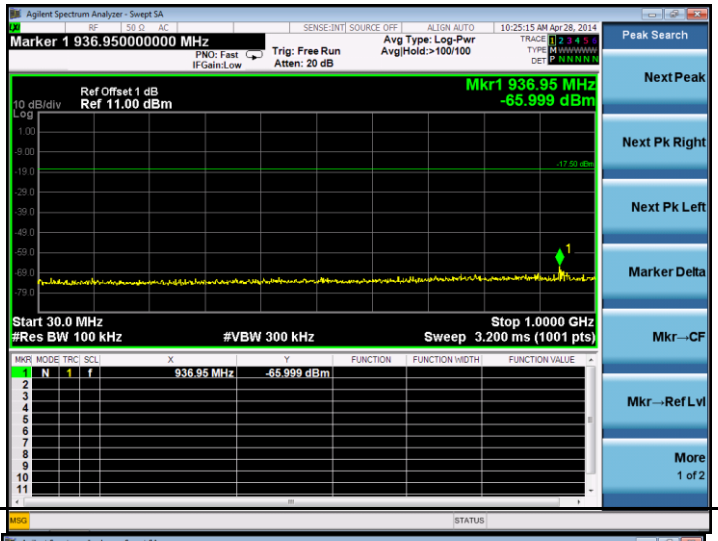
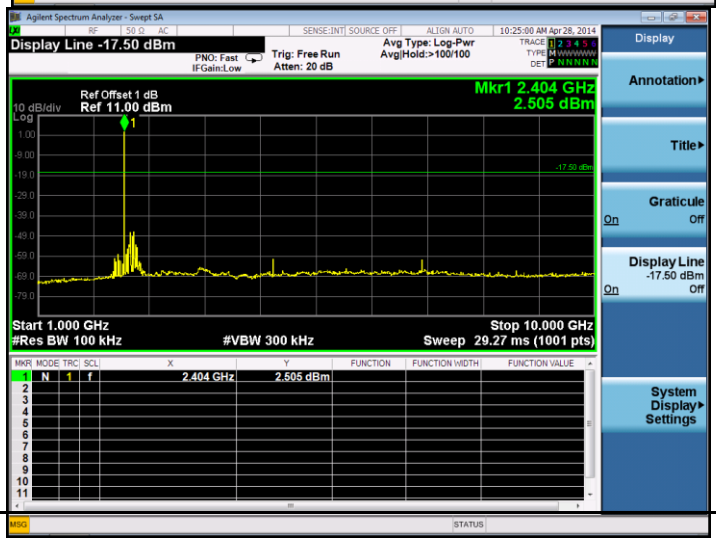
Mode 2: GFSK Link Mode	
2402	 

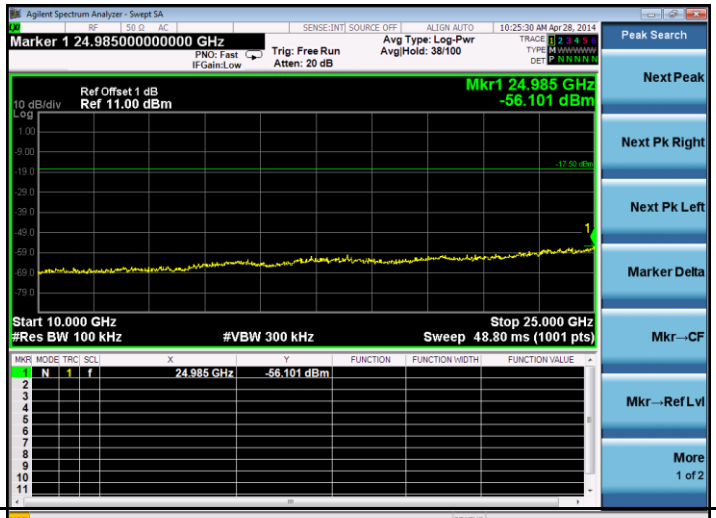
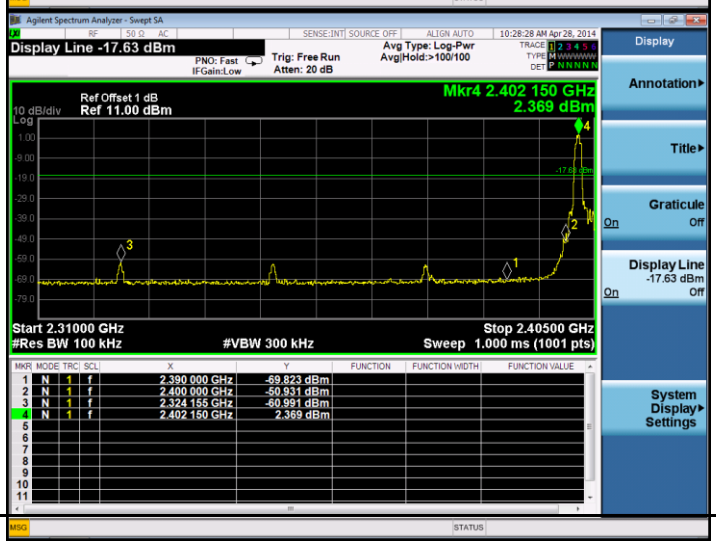
Mode 2: GFSK Link Mode(continuous)	
2402	 

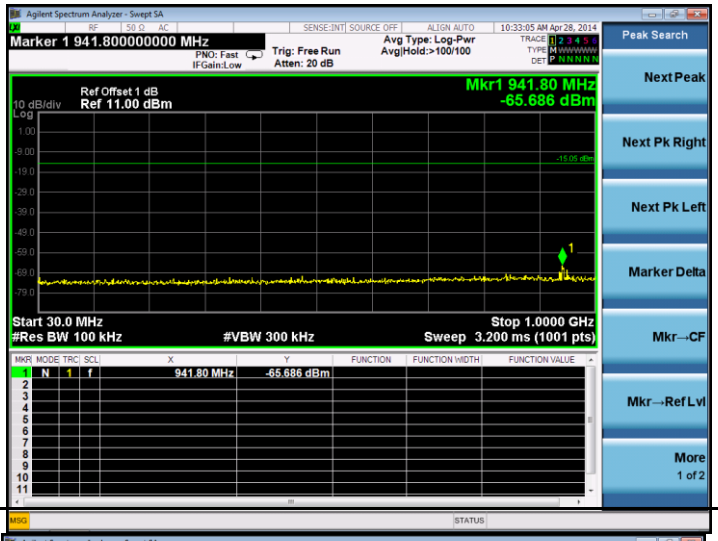
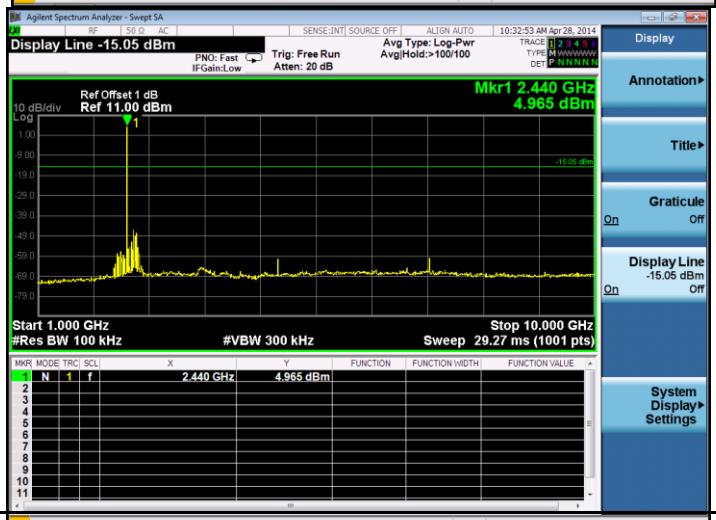
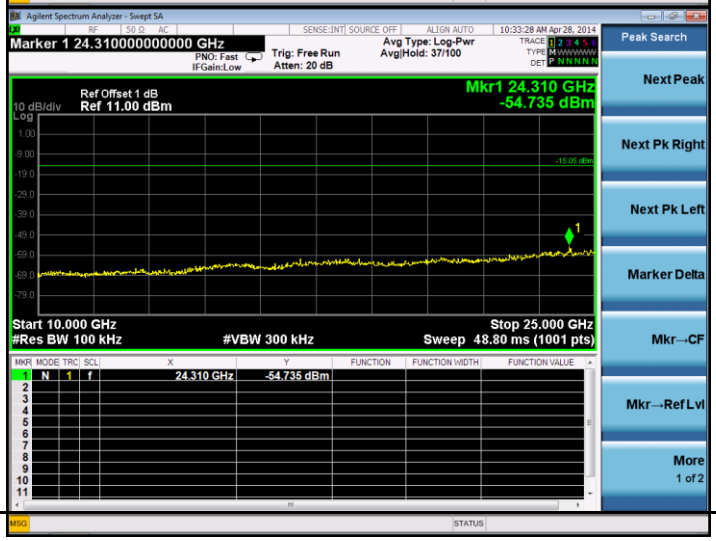
Mode 2: GFSK Link Mode	
2441	  

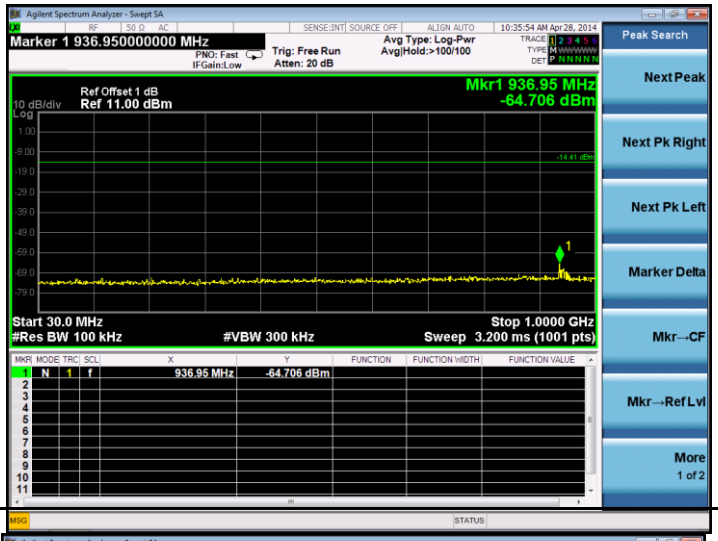
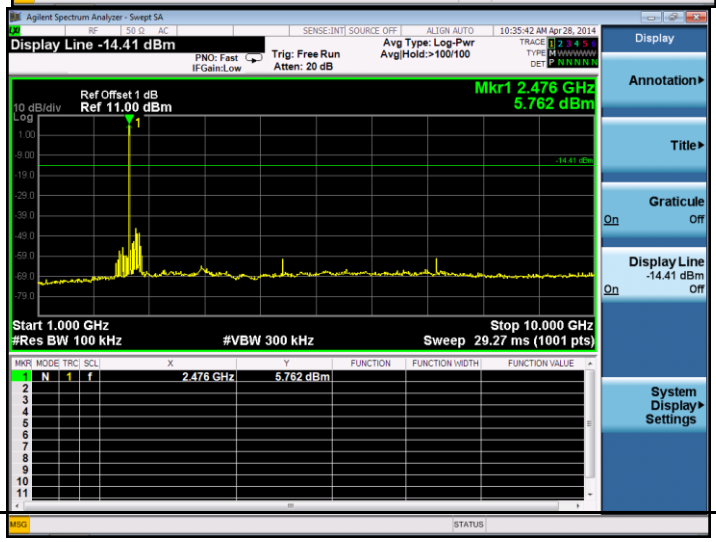
Mode 2: GFSK Link Mode	
2480	 

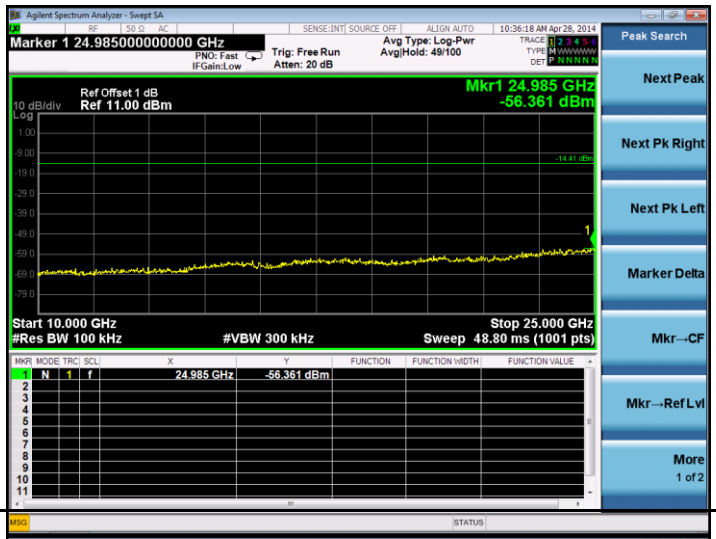
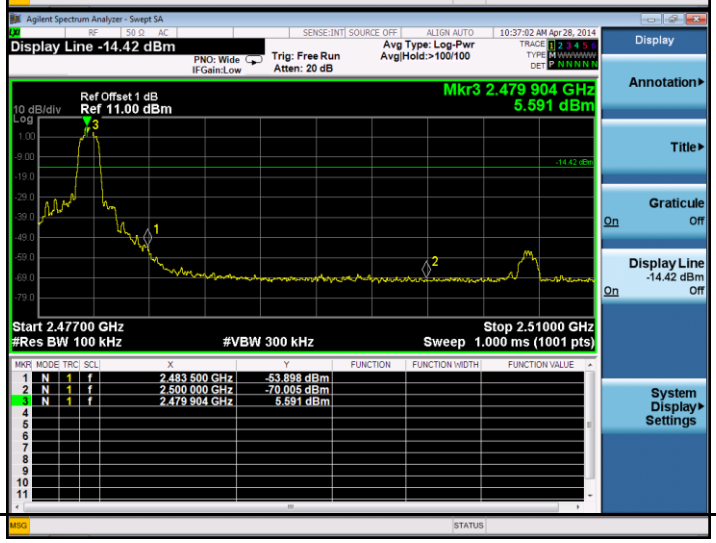
Mode 2: GFSK Link Mode (continuous)	
2480	 

Mode 4: 8DPSK Link Mode	
2402	 

Mode 4: 8DPSK Link Mode (continuous)	
2402	 

Mode 4: 8DPSK Link Mode	
2441	  

Mode 4: 8DPSK Link Mode	
2480	 

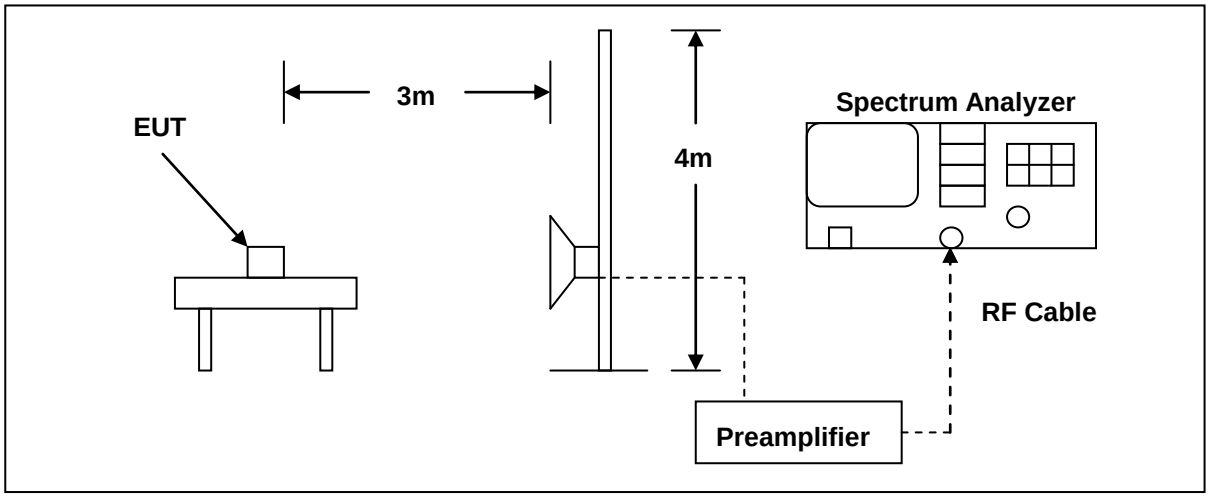
Mode 4: 8DPSK Link Mode(continuous)	
2480	 

12 Band Edges Measurement

12.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

12.2. Test Setup



12.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/09/2013	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/21/2014	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9120D	9120D-550	06/15/2013	(1)
Test Site	ATL	TE01	888001	08/28/2013	(1)

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

12.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

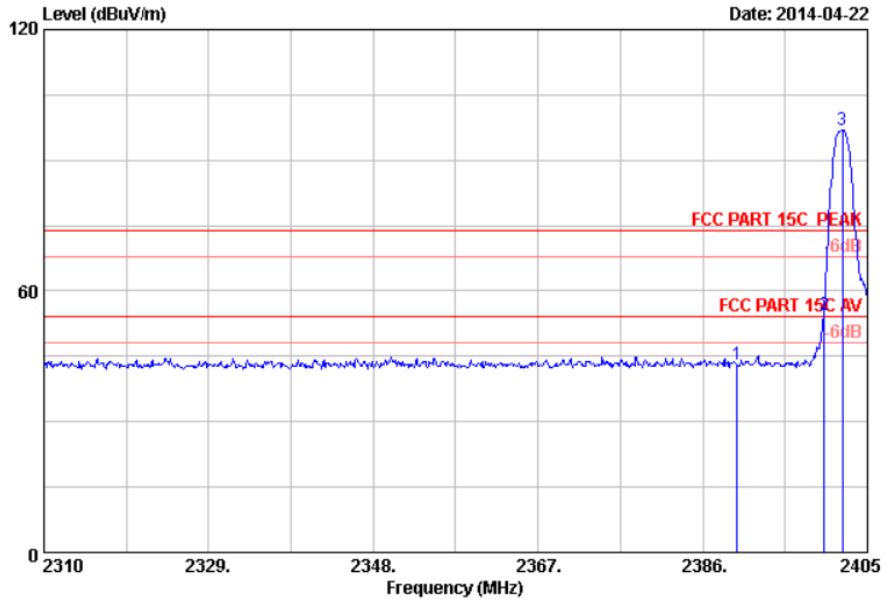
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

12.5. Test Result

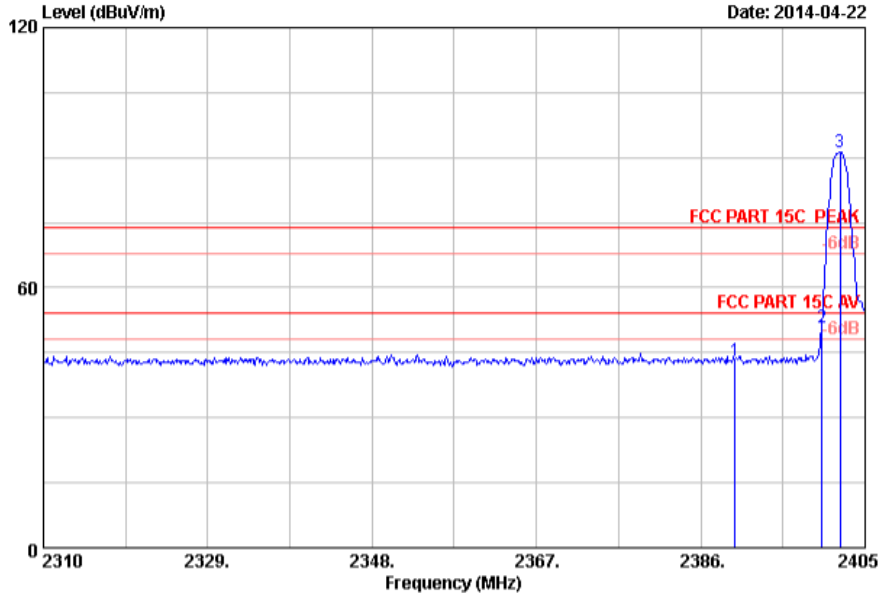
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	
Ant.Polar.:	Horizontal		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.16	5.78	35.70	44.84	43.08	74.00	30.92	Peak
2	2400.000	28.18	5.80	35.70	56.08	54.36	74.00	19.64	Peak
3	2402.150	28.18	5.80	35.70	98.70	96.98	74.00	-22.98	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

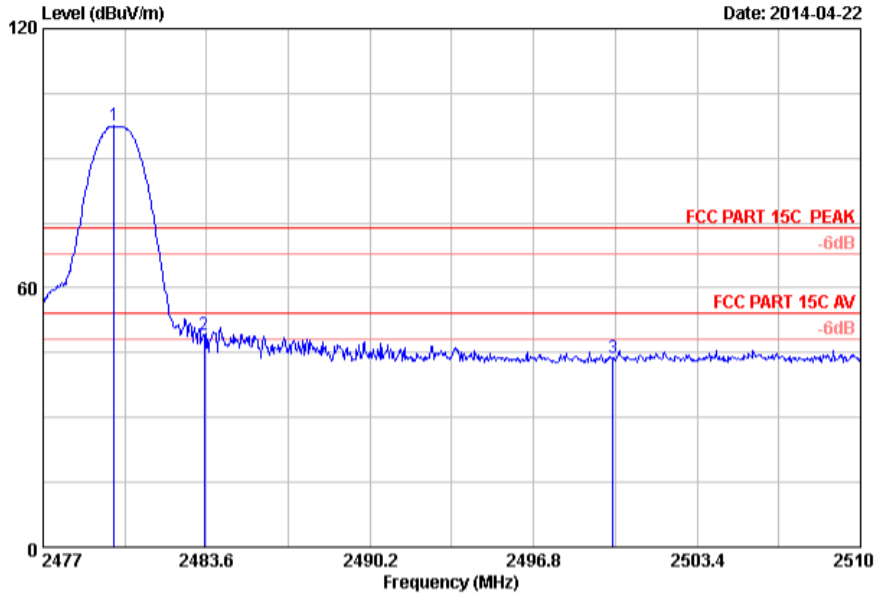
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	
Ant.Polar.:	Vertical		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.16	5.78	35.70	44.73	42.97	74.00	31.03	Peak
2	2400.000	28.18	5.80	35.70	52.60	50.88	74.00	23.12	Peak
3	2402.150	28.18	5.80	35.70	93.01	91.29	74.00	-17.29	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

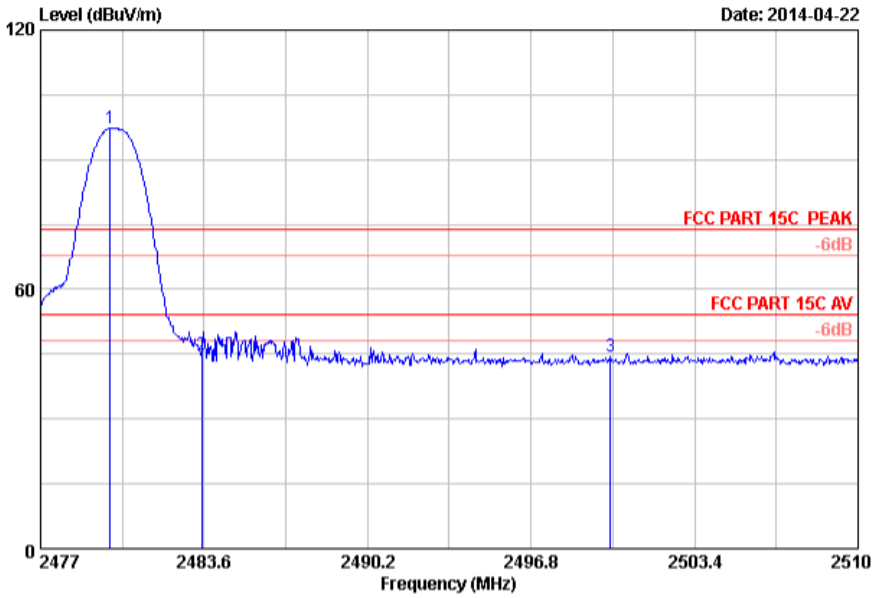
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	
Ant.Polar.:	Horizontal		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.871	28.36	5.91	35.70	98.91	97.48	74.00	-23.48	Peak
2	2483.500	28.36	5.92	35.70	50.69	49.27	74.00	24.73	Peak
3	2500.000	28.40	5.94	35.70	45.12	43.76	74.00	30.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

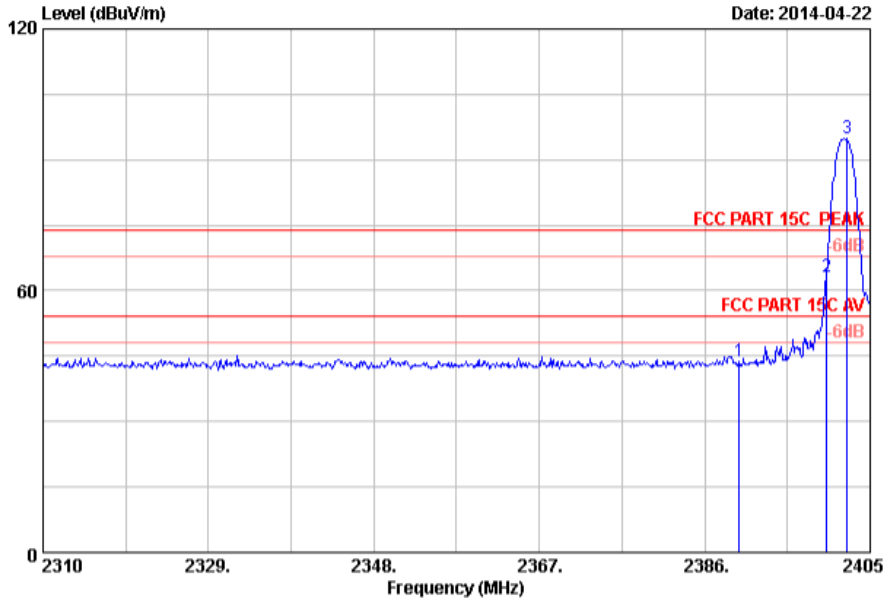
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	
Ant.Polar.:	Vertical		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.805	28.36	5.91	35.70	98.75	97.32	74.00	-23.32	Peak
2	2483.500	28.36	5.92	35.70	46.08	44.66	74.00	29.34	Peak
3	2500.000	28.40	5.94	35.70	45.84	44.48	74.00	29.52	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

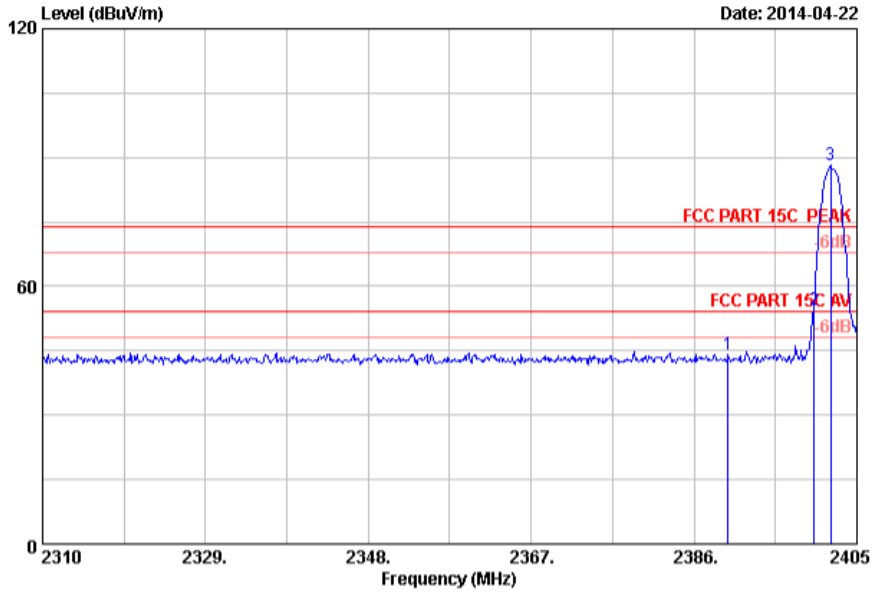
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	
Ant.Polar.:	Horizontal		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.16	5.78	35.70	45.70	43.94	74.00	30.06	Peak
2	2400.000	28.18	5.80	35.70	64.80	63.08	74.00	10.92	Peak
3	2402.340	28.19	5.80	35.70	96.64	94.93	74.00	-20.93	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

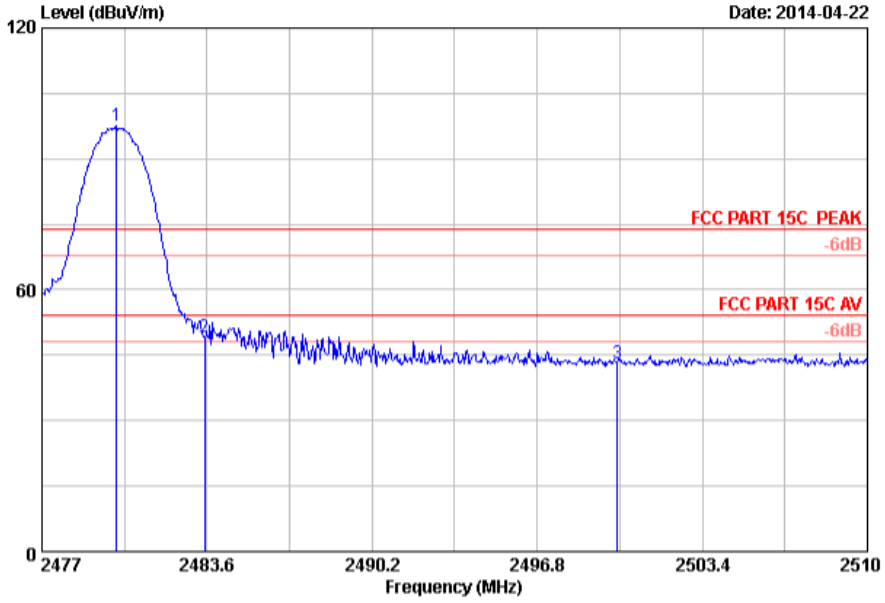
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2402 MHz	Test By:	
Ant.Polar.:	Vertical		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.16	5.78	35.70	45.76	44.00	74.00	30.00	Peak
2	2400.000	28.18	5.80	35.70	56.13	54.41	74.00	19.59	Peak
3	2401.960	28.18	5.80	35.70	90.09	88.37	74.00	-14.37	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

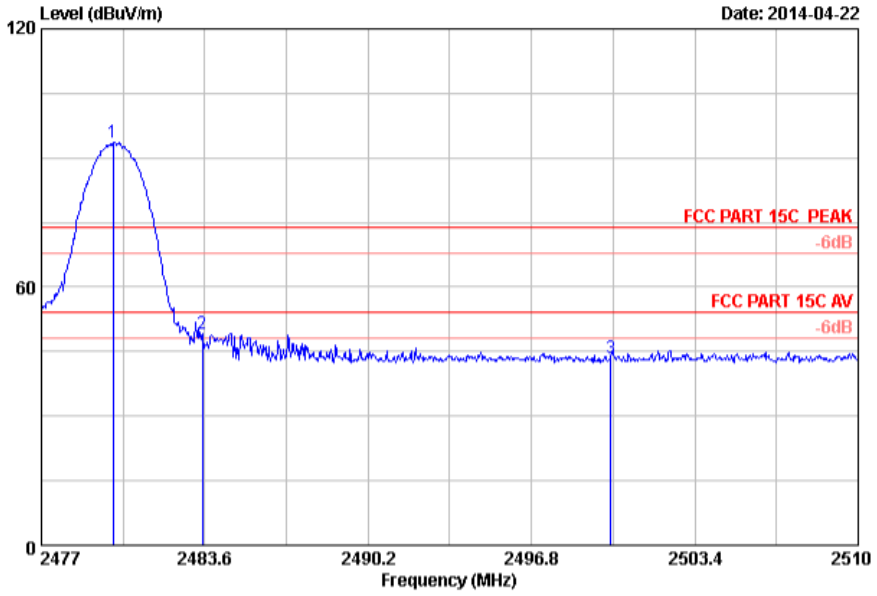
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	
Ant.Polar.:	Horizontal		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.970	28.36	5.91	35.70	98.91	97.48	74.00	-23.48	Peak
2	2483.500	28.36	5.92	35.70	50.55	49.13	74.00	24.87	Peak
3	2500.000	28.40	5.94	35.70	44.64	43.28	74.00	30.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 12V
Model Number:	BTC1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	2014/04/22
Frequency:	2480 MHz	Test By:	
Ant.Polar.:	Vertical		



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.904	28.36	5.91	35.70	94.92	93.49	74.00	-19.49	Peak
2	2483.500	28.36	5.92	35.70	50.53	49.11	74.00	24.89	Peak
3	2500.000	28.40	5.94	35.70	44.97	43.61	74.00	30.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

13 Antenna Measurement

13.1. Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

13.2. Antenna Connector Construction

The antenna used in this product is internal PCB antenna. And the maximum Gain of this antenna is 0 dBi.