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Shenzhen, Guangdong, China 518057

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FCC REPORT

Application No: SZEM1607005346CR

Applicant: BEWELL CONNECT CORP

Manufacturer: SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.

Factory: SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.

Product Name: MyBabyScale Model No.(EUT): BW-SCB1

Add Model No.: S2501-BB01BT

Trade Mark: Bewell connect

FCC ID: 2AF8T-BW-SCB1

Standards: 47 CFR Part 15, Subpart C (2015)

 Date of Receipt:
 2016-07-07

 Date of Test:
 2016-07-11

 Date of Issue:
 2016-07-19

Test Result: PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



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2 Version

Revision Record							
Version Chapter Date Modifier Remark							
00		2016-07-19		Original			

Authorized for issue by:		
	Brir Chen	2016-07-11
Tested By	(Bill Chen) /Project Engineer	Date
	Eric Fu	2016-07-19
Checked By	(Eric Fu) /Reviewer	Date



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3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2013	N/A
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(3)	ANSI C63.10 2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(2)	ANSI C63.10 2013	PASS
Power Spectral Density	47 CFR Part 15, Subpart C Section 15.247 (e)	ANSI C63.10 2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
Radiated Spurious Emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2013	PASS
Restricted bands around fundamental frequency (Radiated Emission) 47 CFR Part 15, Subpart C Section 15.205/15.209		ANSI C63.10 2013	PASS



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5 General Information

5.1 Client Information

Applicant:	BEWELL CONNECT CORP
Address of Applicant:	SUITE 410 - 185 ALEWIFE BROOK PARKWAY COMBRIDGE, MA 02138 - USA
Manufacturer:	SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.
Address of Manufacturer:	Block 48, Changxing Industrial Zone, ChangZhen, Gongming Town, Guangming District, Shenzhen, Guangdong, China 518132
Factory:	SHENZHEN HEALTHCARE ELECTRONIC TECHNOLOGY CO., LTD.
Address of Factory:	Block 48, Changxing Industrial Zone, ChangZhen, Gongming Town, Guangming District, Shenzhen, Guangdong, China 518132

5.2 General Description of EUT

Product Name:	MyBabyScale
Model No.:	BW-SCB1
Trade Mark:	Bewell connect
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0 Signal mode
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	Portable production
Antenna Type:	Integral
Antenna Gain:	0dBi
Power Supply:	Battery: 3.0 DC (1.5V x 2"AA"Size Batteries)

Remark:

Model No.: BW-SCB1, S2501-BB01BT

Only the model BW-SCB1 was tested, since the circuit design, PCB layout, electrical components used, internal wiring and functions were identical for the above models, only different on color.



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Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency	
The lowest channel (CH0)	2402MHz	
The middle channel (CH19)	2440MHz	
The highest channel (CH39)	2480MHz	



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5.3 Test Environment

Operating Environment:				
Temperature:	25.0 °C			
Humidity:	53 % RH			
Atmospheric Pressure:	1005mbar			

5.4 Description of Support Units

Description	Manufacturer	Model No.	
Laptop	Lenovo	T430u	
Test board	Supply to SGS	N/A	

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



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5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.



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5.10 Equipment List

	RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)	
1	10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2016-05-13	2017-05-13	
2	EMI Test Receiver (9k-3GHz)	Rohde & Schwarz	ESCI	SEM004-01	2016-04-25	2017-04-25	
3	Trilog-Broadband Antenna(30M-1GHz)	Schwarzbeck	VULB9168	SEM003-17	2016-01-26	2017-01-26	
4	Pre-amplifier	Sonoma Instrument Co	310N	SEM005-03	2016-04-25	2017-04-25	
5	Loop Antenna	ETS-Lindgren	6502	SEM003-08	2015-08-14	2016-08-14	

	RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)	
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2016-05-13	2017-05-13	
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEM004-04	2016-04-25	2017-04-25	
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2014-11-15	2017-11-15	
4	Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2015-10-09	2016-10-09	
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14	
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEM003-12	2014-11-24	2017-11-24	
7	Low Noise Amplifier	Black Diamond Series	BDLNA- 0118- 352810	SEM005-05	2015-10-09	2016-10-09	
8	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A	



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RF connected test											
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)					
1	DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2015-10-09	2016-10-09					
2	Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2015-10-17	2016-10-17					
3	Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2016-04-25	2017-04-25					
4	Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2015-10-09	2016-10-09					



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6 Test results and Measurement Data

6.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

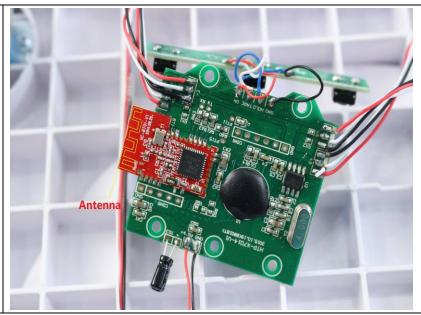
15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:



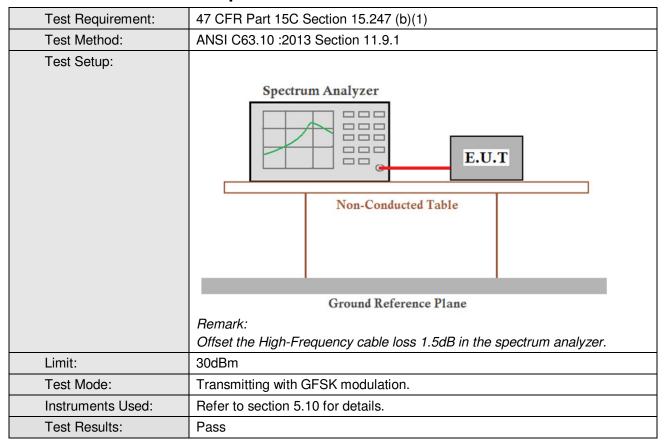
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



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6.2 Conducted Peak Output Power



Measurement Data

GFSK mode									
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result						
Lowest	-2.86	30.00	Pass						
Middle	-2.95	30.00	Pass						
Highest	-3.49	30.00	Pass						

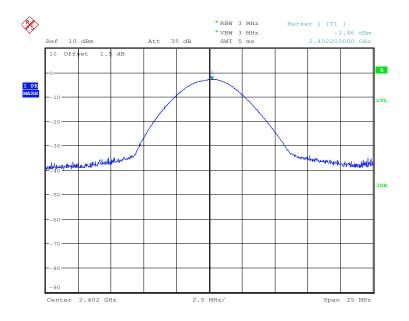


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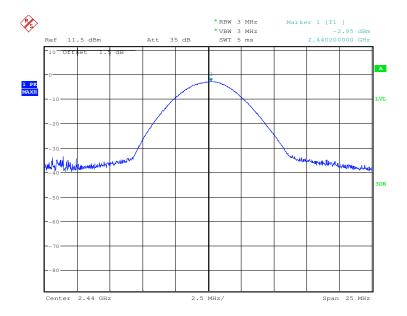
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Test plot as follows:

Test mode: GFSK Test channel: Lowest





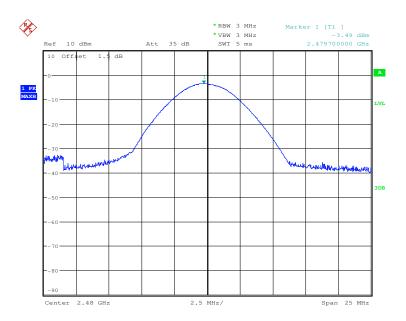




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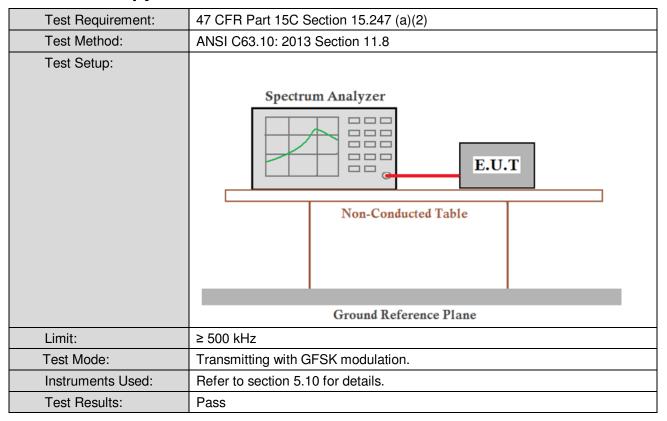




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6.3 6dB Occupy Bandwidth



Measurement Data

GFSK mode									
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result						
Lowest	0.678	≥500	Pass						
Middle	0.678	≥500	Pass						
Highest	0.672	≥500	Pass						

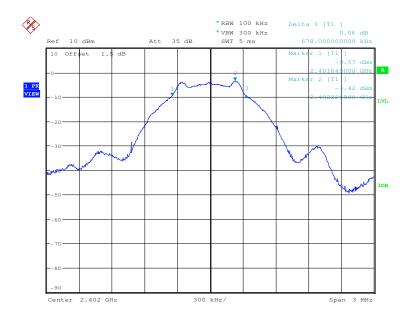


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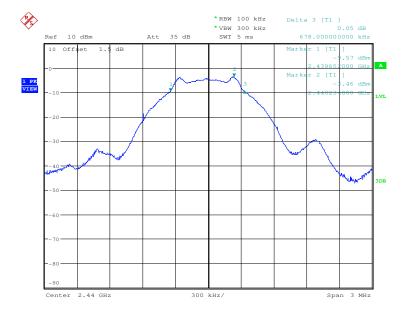
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Test plot as follows:

Test mode: GFSK Test channel: Lowest





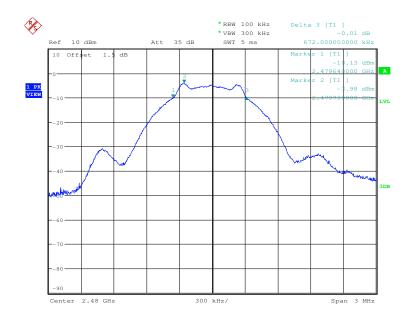




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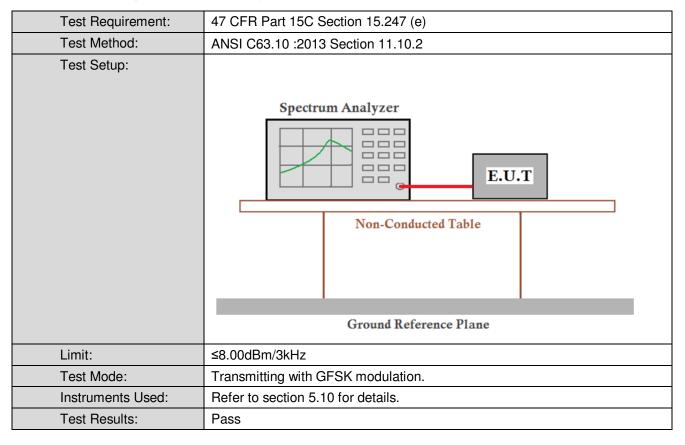




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6.4 Power Spectral Density



Measurement Data

GFSK mode									
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result						
Lowest	-15.90	≤8.00	Pass						
Middle	-16.79	≤8.00	Pass						
Highest	-16.63	≤8.00	Pass						

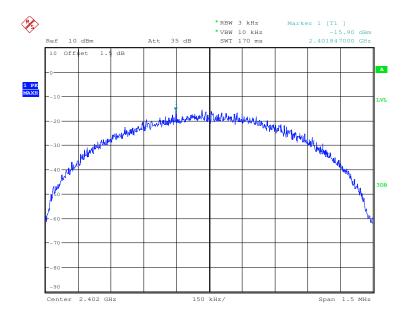


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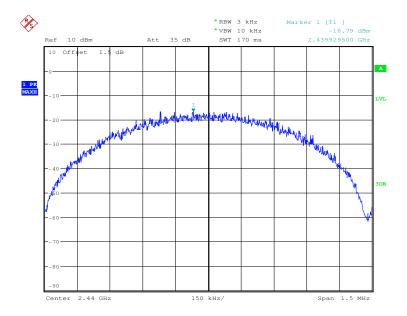
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Test plot as follows:

Test mode: GFSK Test channel: Lowest





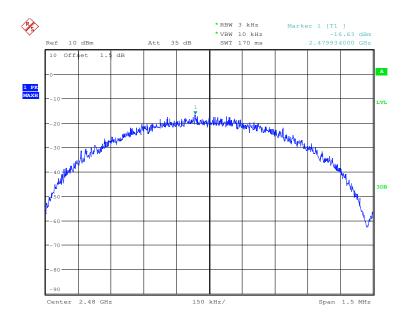




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Test mode: GFSK Test channel: Highest

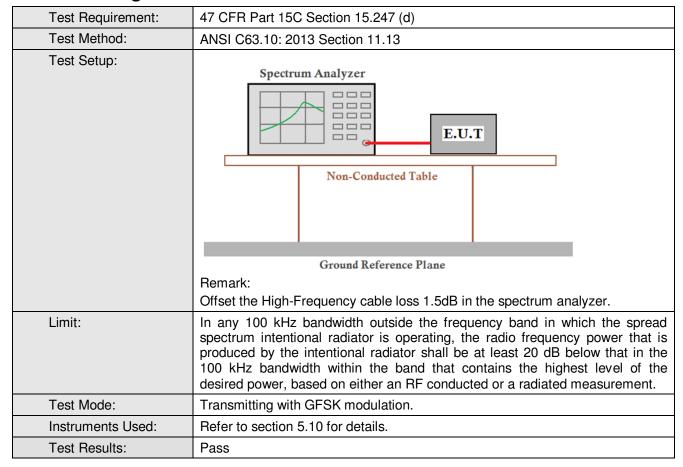




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6.5 Band-edge for RF Conducted Emissions



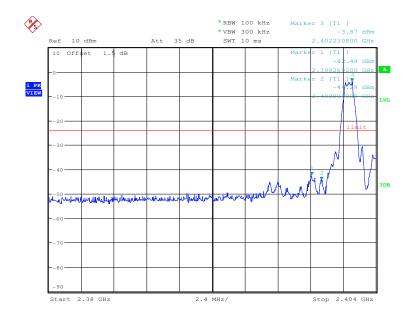


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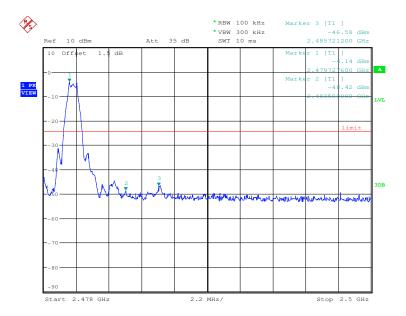
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Test plot as follows:

Test mode: GFSK Test channel: Lowest









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6.6 Spurious RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)				
Test Method:	ANSI C63.10: 2013 Section 11.11				
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane Remark:				
	Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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, based on either an RF conducted or a radiated measurement.				
Test Mode:	Transmitting with GFSK modulation.				
Instruments Used:	Refer to section 5.10 for details.				
Test Results:	Pass				

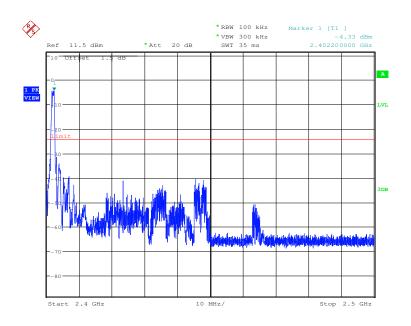


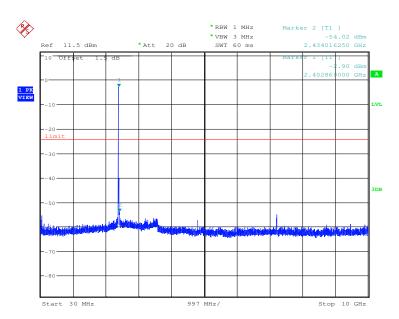
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Test plot as follows:

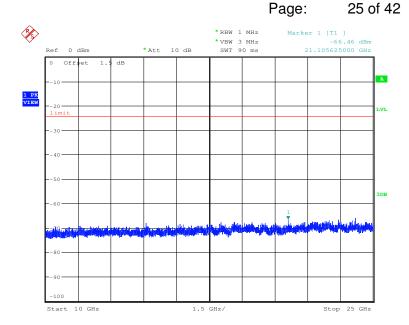
Test mode: GFSK Test channel: Lowest



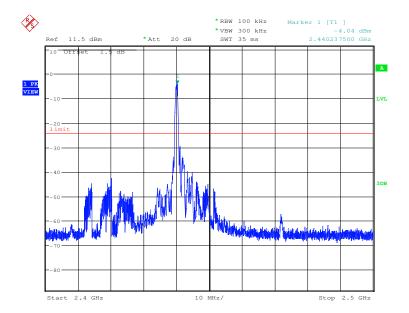




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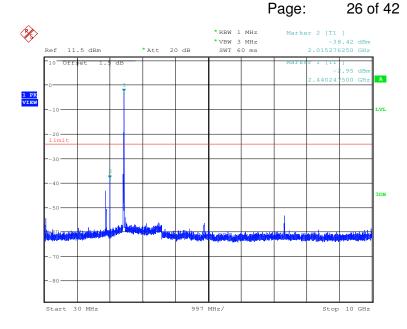


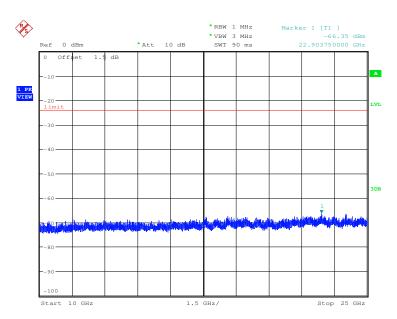






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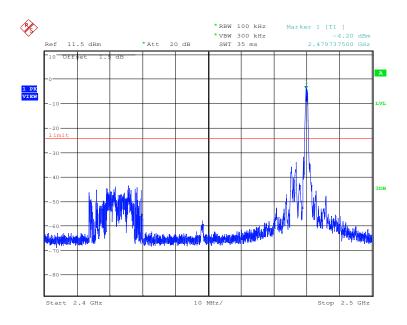


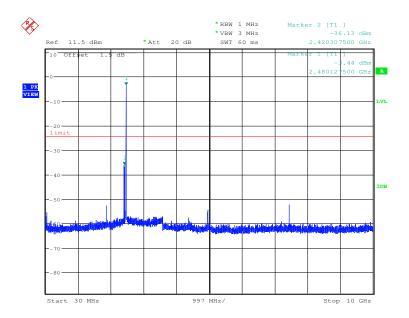


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Test mode: GFSK Test channel: Highest

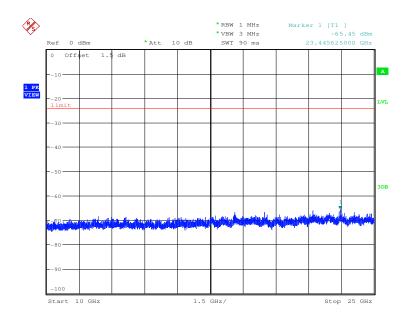






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Remark:

Use 100kHz RBW to determine the relative limit in the band 2.4GHz to 2.5GHz, and Use 1MHz RBW to measure spurious emissions in the band 30MHz to 10GHz and 10GHz to 25GHz. The sweep points set to 30001.



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6.7 Radiated Spurious Emission

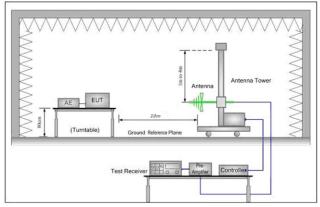
6.7.1 Spurious Emiss	ions									
Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205									
Test Method:	ANSI C63.10 :2013 Section 11.12									
Test Site:		Measurement Distance: 3m (Semi-Anechoic Chamber) Measurement Distance: 10m (Semi-Anechoic Chamber)								
Receiver Setup:	Frequency		Detector	RBW	'	VBW	Remark			
	0.009MHz-0.090MH	Z	Peak	10kHz	<u>z</u>	30kHz	Peak			
	0.009MHz-0.090MH	z	Average	10kHz	Z	30kHz	Average			
	0.090MHz-0.110MH	Z	Quasi-peak	10kHz	<u>z</u>	30kHz	Quasi-peak			
	0.110MHz-0.490MH	Z	Peak	10kHz	<u>z</u>	30kHz	Peak			
	0.110MHz-0.490MH	Z	Average	10kHz	<u>z</u>	30kHz	Average			
	0.490MHz -30MHz		Quasi-peak	10kHz	Z	30kHz	Quasi-peak			
	30MHz-1GHz		Quasi-peak	100 kH	lz	300kHz	Quasi-peak			
	Above 1GHz		Peak	1MHz	<u> </u>	3MHz	Peak			
	Above IGHZ		Peak	1MHz	7	10Hz	Average			
Limit:	Frequency		eld strength crovolt/meter)	Limit (dBuV/m)		Remark	Measurement distance (m)			
	0.009MHz-0.490MHz	2	400/F(kHz)	-		-	300			
	0.490MHz-1.705MHz	24	1000/F(kHz)	-		-	30			
	1.705MHz-30MHz		30	-		-	30			
	30MHz-88MHz		100	29.9	Q	uasi-peak	10			
	88MHz-216MHz		150	44.7	Q	uasi-peak	10			
	216MHz-960MHz		200	60.3	Q	uasi-peak	10			
	960MHz-1GHz	960MHz-1GHz Above 1GHz		100	Q	uasi-peak	10			
	Above 1GHz			54.0	/	Average	3			
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.									



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Test Setup:



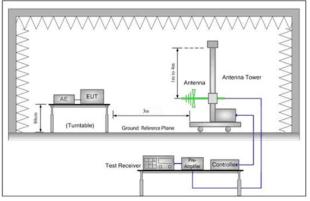


Figure 1. Below 30MHz

Figure 2. 30MHz to 1GHz

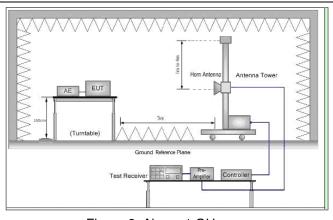


Figure 3. Above 1 GHz

Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 and 10meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the massurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the



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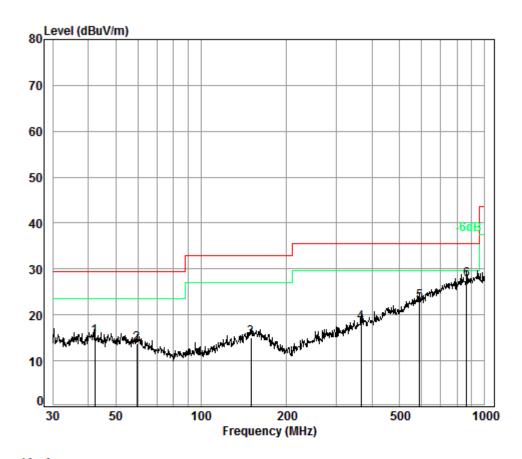
	limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. h. Test the EUT in the lowest channel (2402MHz),the middle channel (2440MHz),the Highest channel (2480MHz) i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation.
=Apronatory root moder	Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation.
	Pretest the EUT at Transmitting mode, found the Transmitting mode which it is worse case.
	For below 1GHz part, through pre-scan, the worst case is the lowest channel.
	Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass



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Radiated Emission below 1GHz								
30MHz~1GHz (QP)	30MHz~1GHz (QP)							
Test mode:	Transmitting mode	Vertical						



Condition: 10m VERTICAL

Job No. : 5346CR Test Mode: TX mode

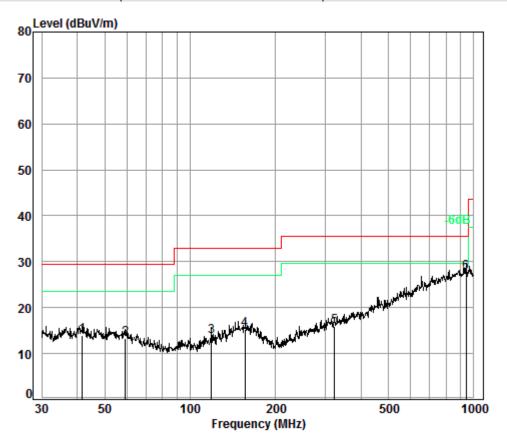
		Cable	Ant	Preamp	Read		Limit	0ver
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	42.30	6.80	13.12	32.99	28.28	15.21	29.50	-14.29
2	59.44	7.00	12.04	32.95	27.60	13.69	29.50	-15.81
3	150.01	7.45	13.41	32.74	26.90	15.02	33.00	-17.98
4	366.82	8.30	14.21	32.60	28.30	18.21	35.60	-17.39
5	588.91	8.87	18.48	32.60	28.17	22.92	35.60	-12.68
6 pp	863.06	9.42	21.75	32.54	29.07	27.70	35.60	-7.90



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Test mode: Transmitting mode Horizontal



Condition: 10m HORIZONTAL

Job No. : 5346CR Test Mode: TX mode

		Cable	Ant	Preamp	Read		Limit	0ver
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	41.71	6.80	13.17	32.99	26.93	13.91	29.50	-15.59
2	59.23	7.00	12.06	32.95	27.09	13.20	29.50	-16.30
3	119.02	7.30	11.38	32.77	27.73	13.64	33.00	-19.36
4	156.46	7.48	13.40	32.74	27.09	15.23	33.00	-17.77
5	323.32	8.12	13.32	32.60	27.14	15.98	35.60	-19.62
6 pp	938.83	9.55	22.65	32.50	28.01	27.71	35.60	-7.89



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Transmitter Emission above 1GHz										
Test mode:		GFSK	Test	channel:	Lowest	Ren	nark:	Peak		
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	I Imit	Polarization		
3709.691	5.02	33.08	38.83	46.21	45.48	74	-28.52	Vertical		
4804.000	5.63	34.70	39.24	52.28	53.37	74	-20.63	Vertical		
6017.064	6.68	36.28	39.18	47.00	50.78	74	-23.22	Vertical		
7206.000	6.80	35.63	39.07	46.22	49.58	74	-24.42	Vertical		
9608.000	8.94	37.33	37.93	42.58	50.92	74	-23.08	Vertical		
11872.880	9.36	38.57	38.64	44.39	53.68	74	-20.32	Vertical		
3728.625	5.00	33.10	38.84	46.77	46.03	74	-27.97	Horizontal		
4804.000	5.63	34.70	39.24	52.78	53.87	74	-20.13	Horizontal		
6017.064	6.68	36.28	39.18	46.90	50.68	74	-23.32	Horizontal		
7206.000	6.80	35.63	39.07	46.20	49.56	74	-24.44	Horizontal		
9608.000	8.94	37.33	37.93	43.07	51.41	74	-22.59	Horizontal		
11933.470	9.34	38.63	38.67	44.17	53.47	74	-20.53	Horizontal		

Test mode:		GFSK		t channel:	Middle	Rem	ark:	Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3616.451	5.11	33.01	38.79	46.16	45.49	74	-28.51	Vertical
4880.000	5.61	34.78	39.26	47.44	48.57	74	-25.43	Vertical
6017.064	6.68	36.28	39.18	47.54	51.32	74	-22.68	Vertical
7320.000	6.73	35.51	39.06	47.52	50.70	74	-23.30	Vertical
9760.000	8.84	37.80	37.84	43.09	51.89	74	-22.11	Vertical
11933.470	9.34	38.63	38.67	44.08	53.38	74	-20.62	Vertical
3786.010	4.94	33.14	38.86	48.16	47.38	74	-26.62	Horizontal
4880.000	5.61	34.78	39.26	52.67	53.80	74	-20.20	Horizontal
6428.771	6.60	35.81	39.14	48.34	51.61	74	-22.39	Horizontal
7320.000	6.73	35.51	39.06	46.36	49.54	74	-24.46	Horizontal
9760.000	8.84	37.80	37.84	43.74	52.54	74	-21.46	Horizontal
11457.210	9.88	38.19	38.45	43.94	53.56	74	-20.44	Horizontal



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Test mode:		GFSK	Test	channel:	Highest	Rem	ark:	Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3963.520	5.16	33.44	38.94	47.46	47.12	74	-26.88	Vertical
4960.000	5.60	34.86	39.29	51.85	53.02	74	-20.98	Vertical
6017.064	6.68	36.28	39.18	47.14	50.92	74	-23.08	Vertical
7440.000	6.72	35.43	39.05	46.38	49.48	74	-24.52	Vertical
9920.000	9.19	38.27	37.75	42.76	52.47	74	-21.53	Vertical
12178.980	9.01	38.93	38.85	44.85	53.94	74	-20.06	Vertical
3653.463	5.08	33.04	38.81	46.83	46.14	74	-27.86	Horizontal
4960.000	5.60	34.86	39.29	52.03	53.20	74	-20.80	Horizontal
6017.064	6.68	36.28	39.18	47.24	51.02	74	-22.98	Horizontal
7440.000	6.72	35.43	39.05	45.77	48.87	74	-25.13	Horizontal
9920.000	9.19	38.27	37.75	43.07	52.78	74	-21.22	Horizontal
11226.250	9.61	38.12	38.33	43.62	53.02	74	-20.98	Horizontal

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
 - Final Test Level = Receiver Reading + Antenna Factor + Cable Factor Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

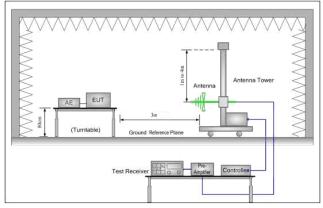


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6.8 Restricted bands around fundamental frequency

	1							
Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10: 2013 Section 11.12							
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Limit:	Frequency	Limit (dBuV/m @3m)	Remark					
	30MHz-88MHz	40.0	Quasi-peak Value					
	88MHz-216MHz	43.5	Quasi-peak Value					
	216MHz-960MHz	46.0	Quasi-peak Value					
	960MHz-1GHz	54.0	Quasi-peak Value					
	Above 1CUz	54.0	Average Value					
	Above 1GHz	74.0	Peak Value					
			·					
Test Setup:								



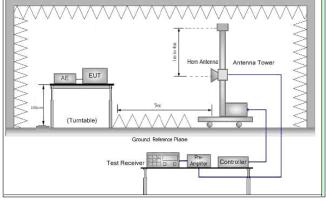


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
- h. Test the EUT in the lowest channel, the Highest channel
- i. The radiation measurements are performed in X, Y, Z axis positioning for



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	Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.					
Exploratory Test Mode:	: Transmitting with GFSK modulation.					
	Transmitting mode.					
Final Test Mode:	Transmitting with GFSK modulation.					
	Pretest the EUT at Transmitting mode, found the Transmitting mode which it					
	worse case.					
	Only the worst case is recorded in the report.					
Instruments	Refer to section 5.10 for details.					
Used:						
Test Results:	Pass					

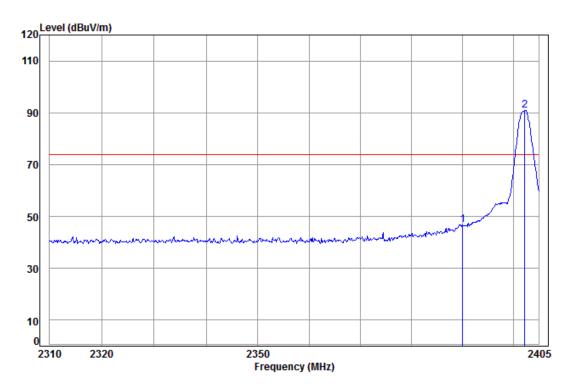


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Test plot as follows:

Worse case mode: GFSK (DH5) Test channel: Lowest Remark: Peak Vertical



Condition: 3m VERTICAL

Job No: : 5346CR

Mode: : 2402 Band edge

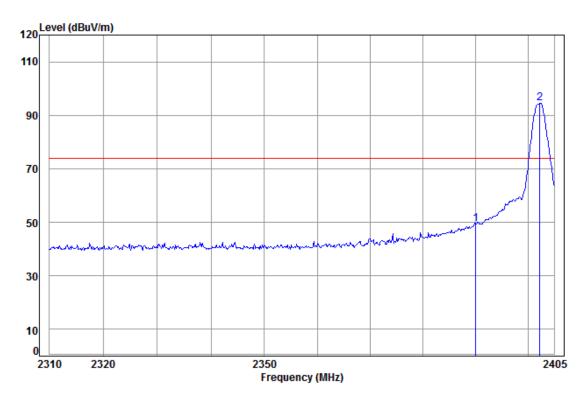
Freq			Preamp Factor				
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
2390.000 2402.288							



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Worse case mode: GFSK (DH5) Test channel: Lowest Remark: Peak Horizontal



Condition: 3m HORIZONTAL

Job No: : 5346CR

Mode: : 2402 Band edge

Cable

	Frea			Factor				
	MHz	dВ	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	5.34	29.08	38.14	53.17	49.45	74.00	-24.55
2	pp 2402.288	5.35	29.11	38.15	98.18	94.49	74.00	20.49

Read

Limit

Over

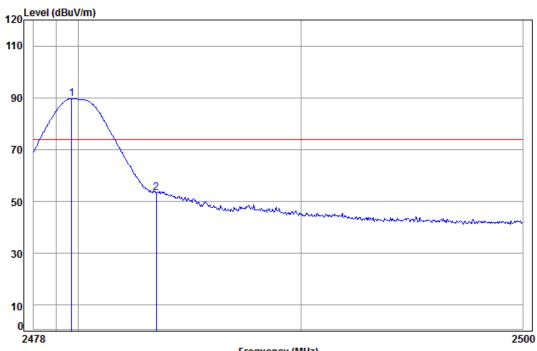
Ant Preamn



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Worse case mode: GFSK (DH5) Test channel: Highest Remark: Peak Vertical



Frequency (MHz)

Condition: 3m VERTICAL Job No: : 5346CR

Mode: : 2480 Band edge

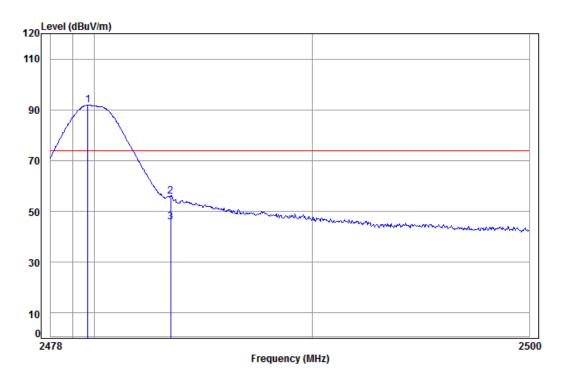
Cable Ant Preamp Read Limit 0ver Loss Factor Factor Level Line Limit MHz dB dB/m dBuV dBuV/m dBuV/m 1 pp 2479.709 5.41 29.34 38.15 93.13 89.73 74.00 15.73 5.41 29.35 38.15 56.74 53.35 74.00 -20.65



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Worse case mode: GFSK(DH5) Test channel: Highest Remark: Peak Horizontal



Condition: 3m Horizontal

Job No: : 5346CR

Mode: : 2480 Band edge

. 122.
e Limit
m dB
0 17.86
0 -18.13
0 -8.19
2

Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



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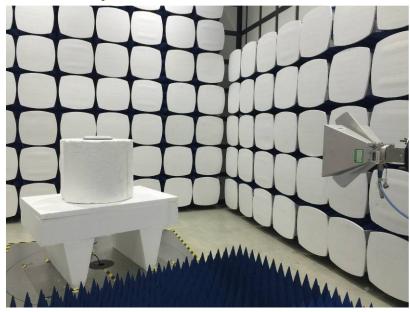
7 Photographs - EUT Test Setup

Test model No.: BW-SCB1

7.1 Radiated Emission



7.2 Radiated Spurious Emission



8 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1607005346CR.