


EMC Test Report

Project Number: 4050119**Report Number: 4050119EMC03****Revision Level: 0****Client: Windrock, Inc.****Equipment Under Test: Wireless Encoder****Model Number: A6420****FCC ID: VYK-A6420****IC ID: 7549A-A6420****Applicable Standards: FCC Part 15 Subpart C, § 15.247****RSS-247, Issue 2****ANSI C63.10: 2013****RSS-GEN Issue 4****Report issued on: 31 May 2017****Test Result: Compliant**

Tested by:



Jeremy O. Pickens, Senior EMC Engineer

Reviewed by:



David Schramm, EMC/RF/SAR/HAC Manager**Remarks:**

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 Summary of Test Results

Test Description	Test Specification		Test Result
Occupied Bandwidth	15.247(a)(1)	RSS-247 5.1(1)	Compliant
Peak Power Output	15.247(a)(1)	RSS-247 5.4(2)	Compliant
Conducted Spurious Emissions	15.247(d)	RSS-247 5.5	Compliant
Band Edge	15.247(d)	RSS-247 5.5	Compliant
Radiated Spurious Emissions	15.247(d), 15.35(b), 15.209	RSS-GEN 8.10	Compliant
Pseudo-Random Hop Sequence	15.247(a)(1)	RSS-247 5.1(1)	Compliant
Channel Separation	15.247(a)(1)	RSS-247 5.1(2)	Compliant
Number of Hopping Channels	15.247(a)(1)(iii)	RSS-247 5.1(4)	Compliant
Dwell Time	15.247(a)(1)(iii)	RSS-247 5.1(4)	Compliant
Number of hopping frequencies	15.247(a)(1)(iii)	RSS-247 5.1(4)	Compliant
AC Powerline Conducted Emission	15.107, 15.207	RSS-GEN 7.2.4	NA(1)

(1) The device does not connect to the AC mains

1.1 Modifications Required for Compliance

None

2 General Information

2.1 Client Information

Name: Windrock, Inc
Address: 1832 Midpark Rd, Suite 102
City, State, Zip, Country: Knoxville, TN 37921

2.1 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

2.2 General Information of EUT

EUT: Wireless Encoder
Model Number: A6420-00-00
Serial Number: 1609642015

Frequency Range: 2402 to 2480 MHz
Channels: 79 Channels
Modulation type: Bluetooth GFSK, EDR-2, EDR-3 (DH1, DH3, DH5)

Antenna: $\frac{3}{4}$ " External Monopole, Reverse SMA

Rated Voltage: 7.2 Vdc Li Ion Battery

Sample Received Date: 20 January 2017
Dates of testing: 24 – 26 January 2017

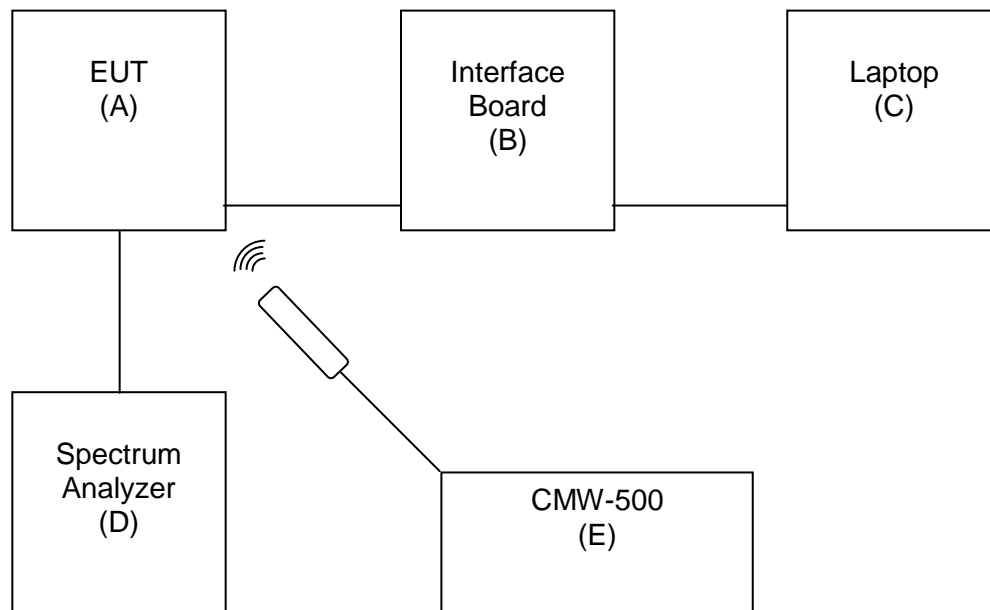
Operating Modes and Conditions

Using software commands, the EUT was placed into Bluetooth test mode. While in test mode, a CMW500 was used to connect to the EUT and control the channel, the modulation, the packet type, and force the EUT to max power. Where average measurements were used and the duty cycle measured less than 98%, a correction factor of $10 \cdot \log(1/DC)$ was applied.

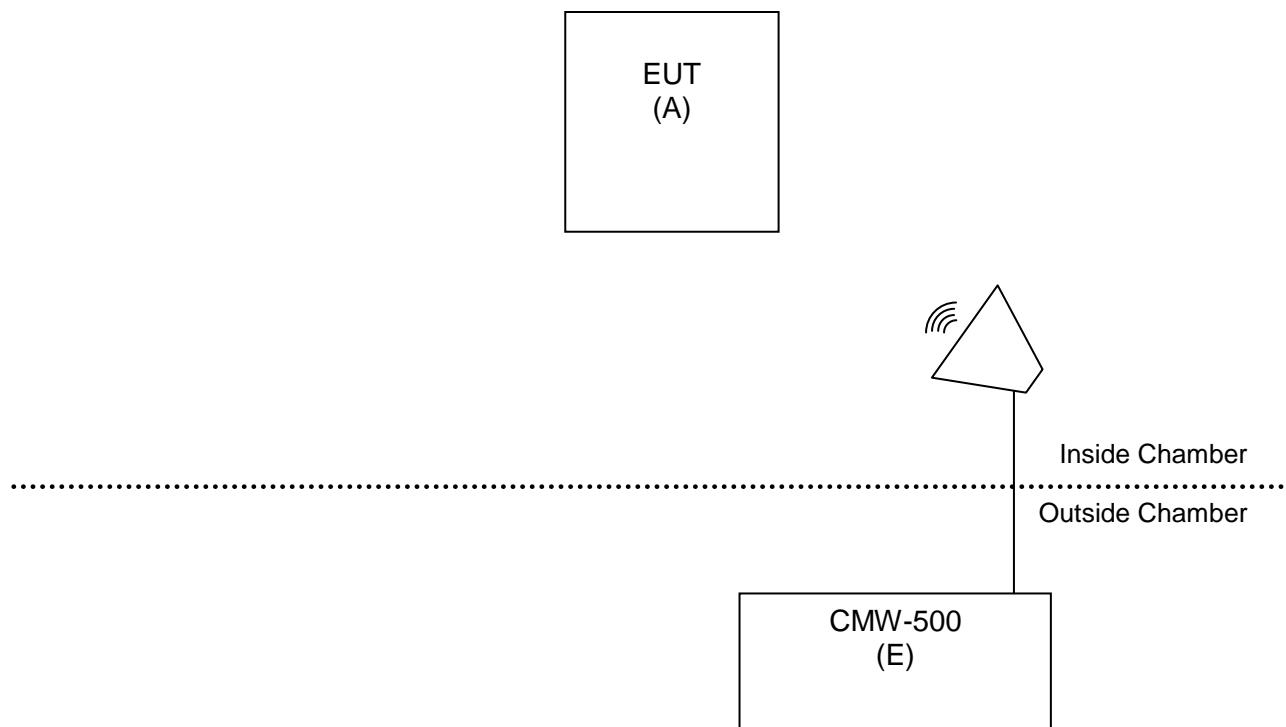
As specified in Section 5.11 of ANSI C63.10:2013:

- The software allowed configuration and operation on all available unlicensed wireless device channels.
- The software allowed configuration and operation using all available modulations and data rates
- The software allowed configuration and operation on all available power out levels

2.3 EUT Connection Block Diagram – Conducted Measurements



2.4 EUT Connection Block Diagram – Radiated Measurements



2.5 System Configurations

Device reference	Manufacturer	Description	Model Number	Serial Number
A	Windrock	Wireless Encoder	A6420-00-00	1609642015
B	MicroChip	Interface Board	MT151919328	
C	Lenovo	Laptop	Thinkpad T430	
D	Rohde & Schwarz	Spectrum Analyzer	FSV30	101595
E	Rohde & Schwarz	Communications Base Station	CMW-500	127722

3 Occupied Bandwidth

3.1 Test Result

Test Description	Basic Standards	Test Result
99% bandwidth	15.247(a)(1) RSS-247 5.1(1) ANSI C63.10: 2013	Compliant

3.2 Test Method

Occupied bandwidth measurements were taken using the methods defined in ANSI C63.10, Clause 6.9; Measurements were recorded using the 99% OBW function of the measurement receiver.

3.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C

Relative Humidity: 32.5 %

3.4 Test Equipment

Test Date: 24-Jan-2017

Tester: JOP

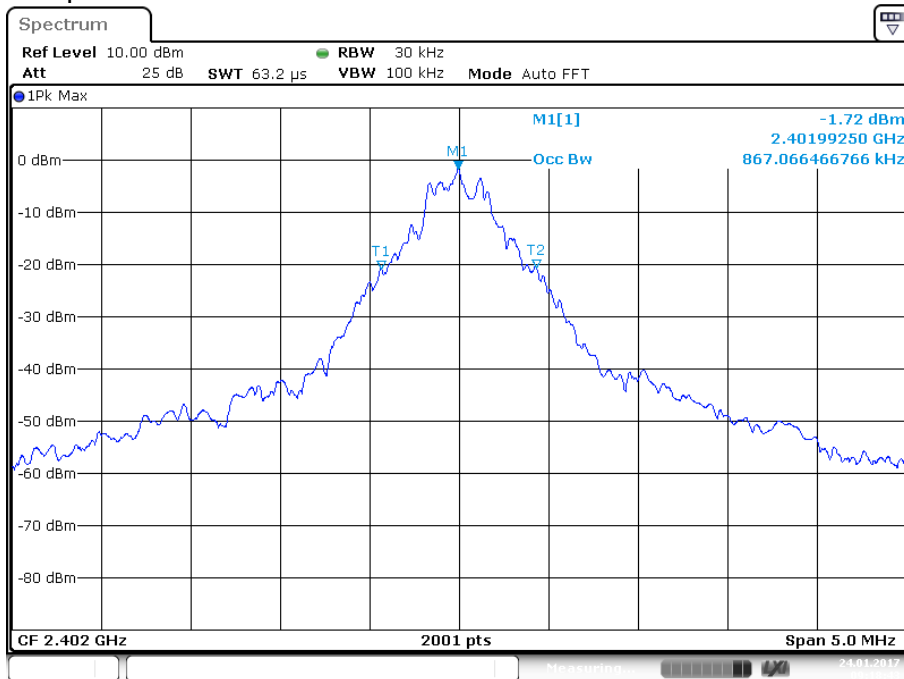
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

3.5 Test Data

Frequency	Channel No	Modulation	99% bandwidth kHz
2402	0	Basic Rate	867.1
		EDR-2	1159.4
		EDR-3	1161.9
2441	39	Basic Rate	897.1
		EDR-2	1156.9
		EDR-3	1161.9
2480	78	Basic Rate	897.1
		EDR-2	1156.9
		EDR-3	1159.4

Sample Plot



Date: 24.JAN.2017 09:18:44

4 Peak Output Power

4.1 Test Result

Test Description	Test Specification	Test Result
Peak Output Power	15.247(a)(1) RSS-247 5.4(2) ANSI C63.10: 2013	Compliant

4.2 Test Method

Output power measurements were taken using the methods defined in ANSI C63.10, Clause 7.8.5. A peak power meter was used for final measurements.

Limit

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

4.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C
Relative Humidity: 32.5 %

4.4 Test Equipment

Test Date: 24-Jan-2017

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

4.5 Test Data

Modulation	Packet Type	Frequency (MHz)	Peak Power (dBm)	Peak Power (Watts)
Basic Rate (GFSK)	DH1	2402.000000	1.41	0.00138
		2441.000000	1.19	0.00132
		2480.000000	0.82	0.00121
	DH3	2402.000000	1.38	0.00137
		2441.000000	1.18	0.00131
		2480.000000	0.82	0.00121
	DH5	2402.000000	1.43	0.00139
		2441.000000	1.21	0.00132
		2480.000000	0.84	0.00121
EDR2	DH1	2402.000000	0.36	0.00109
		2441.000000	0.16	0.00104
		2480.000000	-0.21	0.00095
	DH3	2402.000000	0.33	0.00108
		2441.000000	0.09	0.00102
		2480.000000	-0.36	0.00092
	DH5	2402.000000	0.31	0.00107
		2441.000000	0.06	0.00101
		2480.000000	-0.18	0.00096
EDR3	DH1	2402.000000	0.52	0.00113
		2441.000000	0.36	0.00109
		2480.000000	-0.10	0.00098
	DH3	2402.000000	0.48	0.00112
		2441.000000	0.26	0.00106
		2480.000000	-0.13	0.00097
	DH5	2402.000000	0.39	0.00109
		2441.000000	0.22	0.00105
		2480.000000	-0.19	0.00096

5 Conducted Spurious Emissions

5.1 Test Result

Test Description	Test Specification	Test Result
Conducted Spurious Emissions	15.247(d) RSS-247 5.4(2) ANSI C63.10: 2013	Compliant

5.2 Test Method

Conducted spurious emissions measurements were taken using the methods defined in ANSI C63.10, Clauses 5.5 and 5.6. Authorized band edge measurements were recorded using the methods in clause 6.10.4. Basic rate with a DH5 packet type was used as the worst-case mode of operation for spurious measurements. Band edge measurements were recorded using each modulation (Basic Rate, EDR-2, and EDR-3).

The limit is 20 dB below the measured peak power.

5.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C

Relative Humidity: 32.5 %

5.4 Test Equipment

Test Date: 24-Jan-2017

Tester: JOP

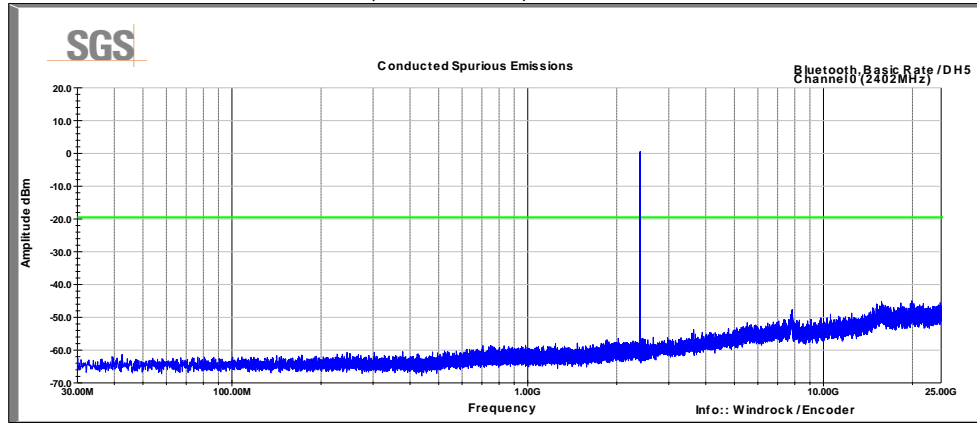
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

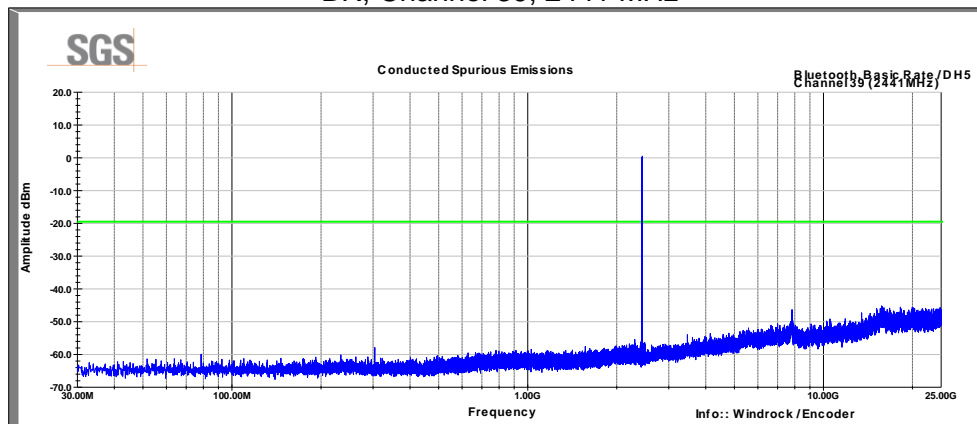
5.5 Test Data

No spurious emissions detected within 10dB of the limit.

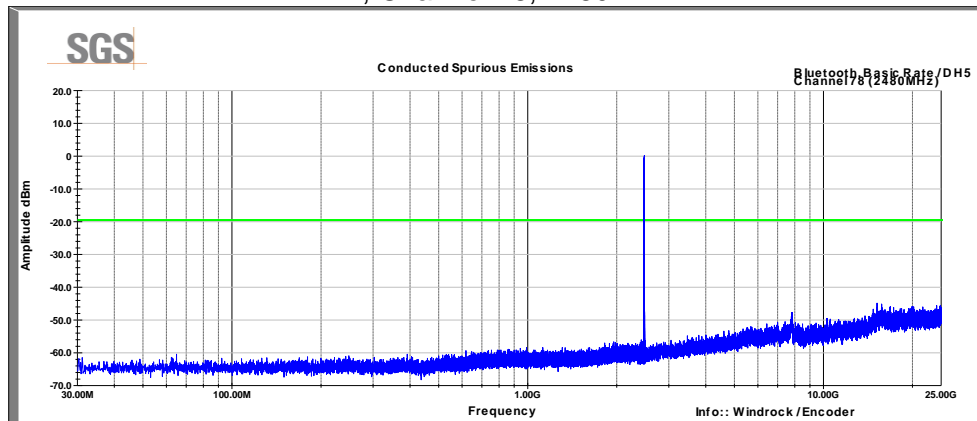
BR, Channel 0, 2402 MHz



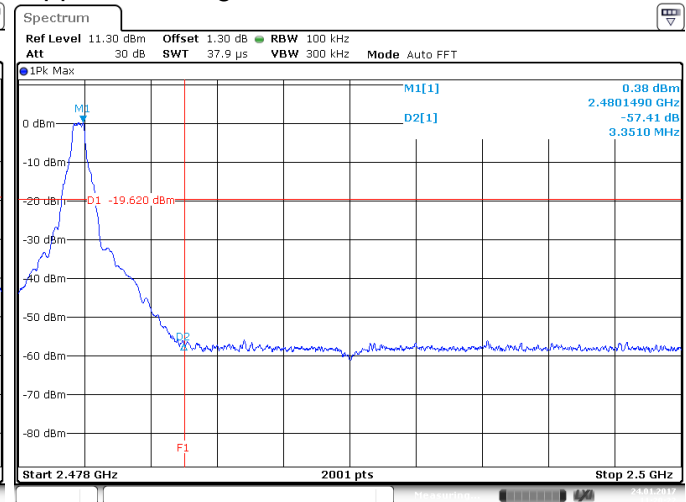
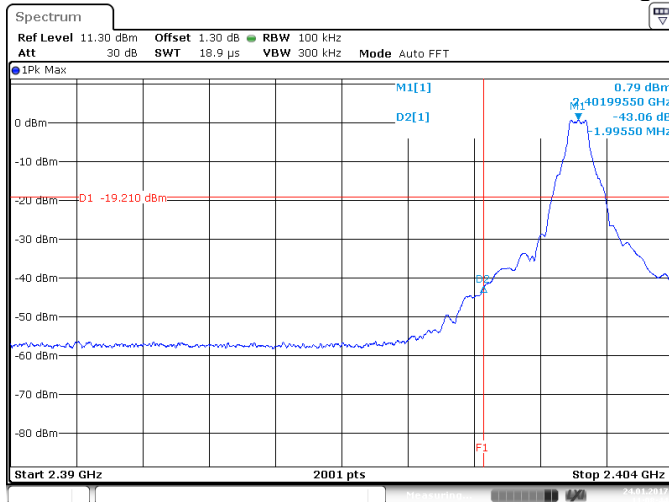
BR, Channel 39, 2441 MHz



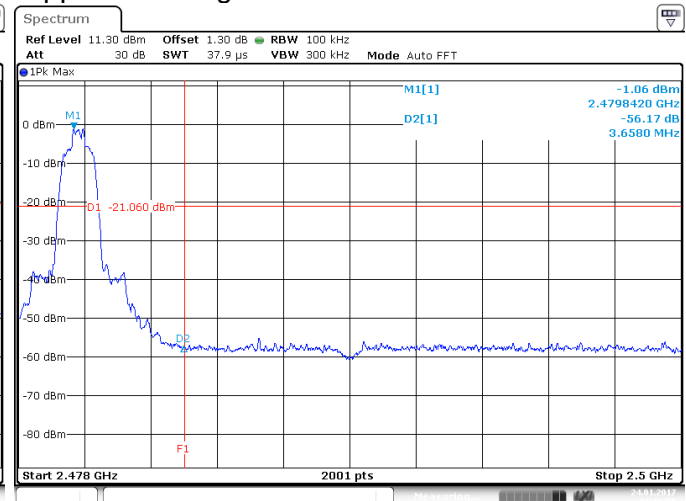
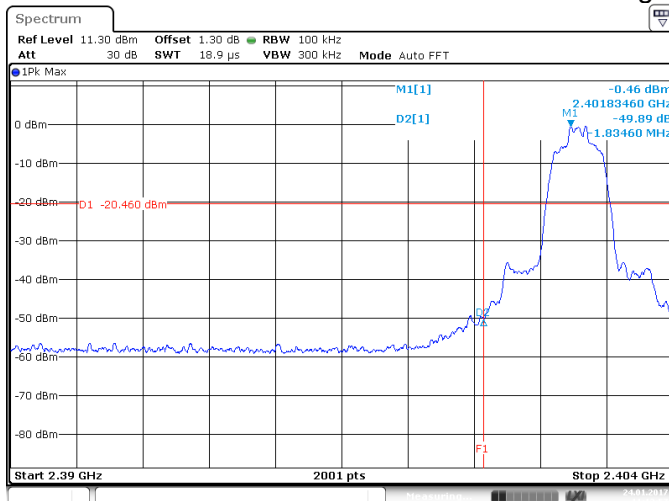
BR, Channel 78, 2480 MHz



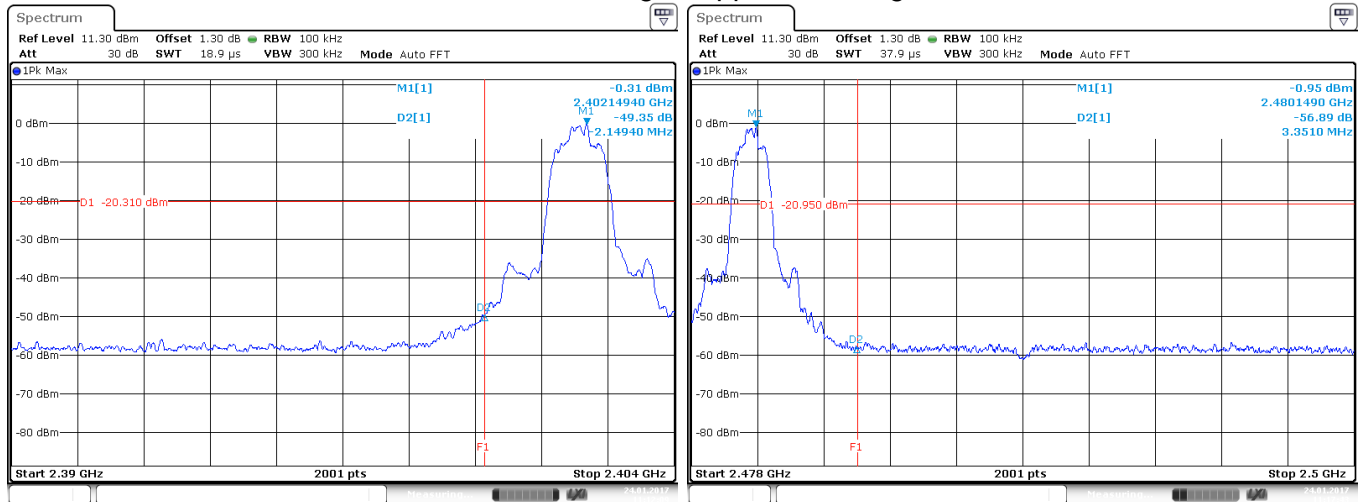
Basic Rate Lower band edge / Upper band edge



EDR 2 Lower band edge / Upper band edge



EDR 3 Lower band edge / Upper band edge



Date: 24.JAN.2017 11:12:09

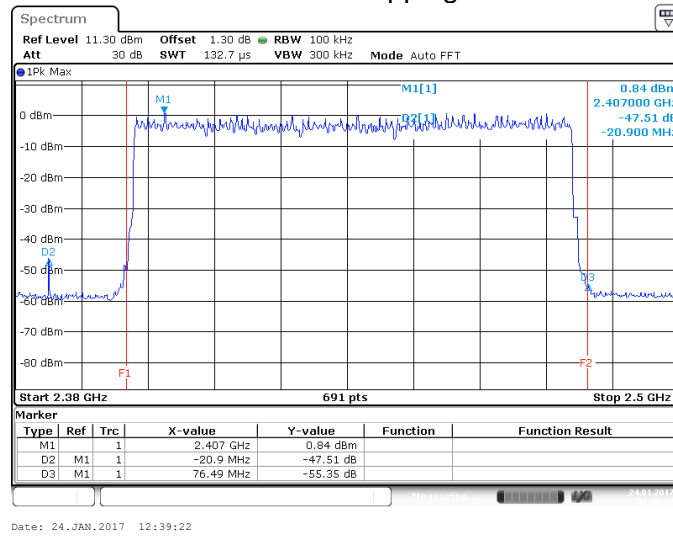
Date: 24.JAN.2017 11:17:44

Basic Rate – Hopping

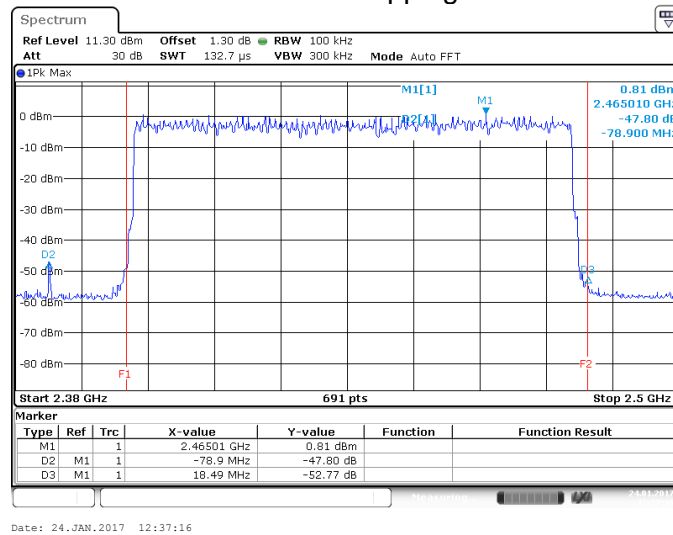


Date: 24.JAN.2017 12:40:25

EDR-2 - Hopping



EDR-3 - Hopping



6 Field Strength of Spurious Radiation

6.1 Test Result

Test Description	Test Specification	Test Result
Field strength of spurious radiation	15.247(d), 15.35(b), 15.209, RSS-GEN S8.10	Compliant

6.2 Test Method

Exploratory scans were performed over the frequency range as indicated in the tables below using the max hold function and incorporating a Peak detector and using TILE! software. The final test data was measured using a Quasi-Peak detector below 1GHz and a Peak detector above 1GHz. For harmonics of the fundamental, Average measurements were made by correcting the peak value with the duty cycle correction factor. For emissions other than harmonics of the fundamental, the Average measurements were made using the Average detector. The receivers resolution bandwidth was set to 120 kHz for measurements taken in the 30MHz to 1GHz frequency range and 1MHz for measurements for 1GHz and higher. Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency. The radiated measurements were recorded and compared to the limits indicated in the table below.

Test distance:

9kHz to 30MHz – A near field scan was performed to determine if any emissions existed

30 MHz to 1 GHz - The EUT to measurement antenna distance is 3 meters

1 to 18 GHz - The EUT to measurement antenna distance is 3 meters

18 to 40 GHz - The EUT to measurement antenna distance is 3 meters

Frequency	Limits ⁽¹⁾		Peak Limits dBuV/m
	Microvolts/m	dBuV/m	
30 - 88 MHz	100	40 ⁽²⁾	--
88 - 216 MHz	150	43.5 ⁽²⁾	--
216 - 960 MHz	200	46 ⁽²⁾	--
960 - 1000 MHz	500	54 ⁽²⁾	--
1 - 40 GHz	500	54 ⁽³⁾	74

(1) These limits are applicable to emissions outside of the intentional transmit frequency band.

(2) Quasi-peak limit

(3) Average limit

6.3 Test Site

10m Absorber Lined Shielded Enclosure (ALSE), Suwanee, GA

Environmental Conditions

Temperature: 23.8 °C

Relative Humidity: 38.6 %

6.4 Test Equipment

Test Date: 31-Jan-2017

Tester: FN

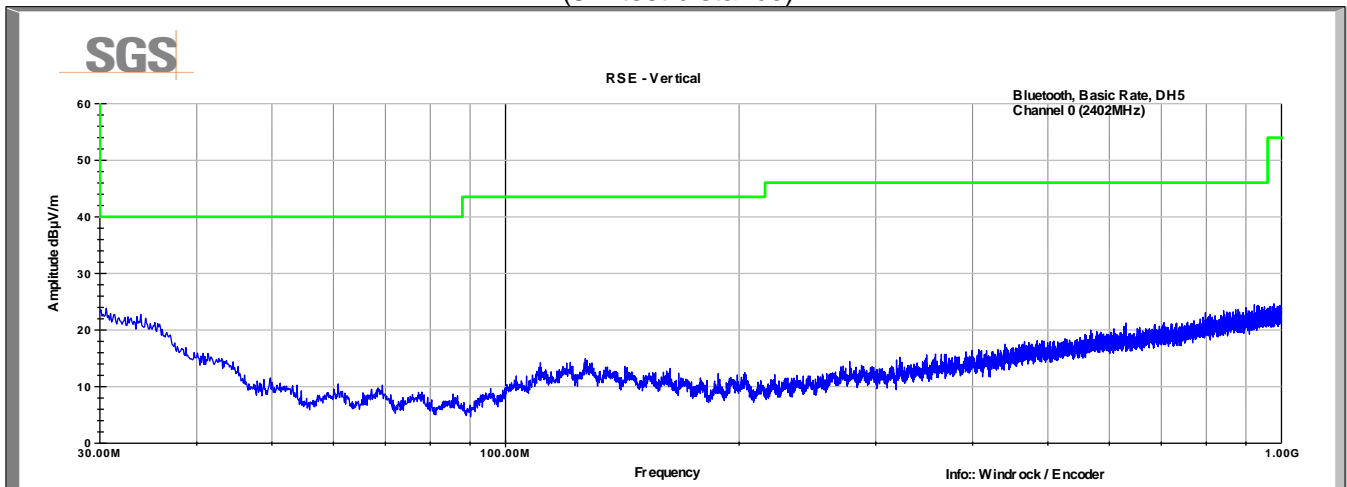
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
ANTENNA, BILOG	JB6	SUNOL	B079690	10-Nov-2017
RF CABLE	SF106	HUBER & SUHNER	B079716	27-Jul-2017
RF CABLE	SUCOFLEX 100	HUBER & SUHNER	B108523	4-Aug-2017
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	25-Apr-2018
RF CABLE	SF106	HUBER & SUHNER	B079712	27-Jul-2017
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	B094463	22-Feb-2018
RF CABLE	SF102	HUBER & SUHNER	B079822	27-Jul-2017
RF CABLE	SF102	HUBER & SUHNER	B079824	27-Jul-2017
HORN(SMALL)	LB-180400-20-C-KF	A-INFO	15007	21-Mar-2018
LOW NOISE AMPLIFIER	NSP1840-HG	MITEQ	B087572	29-Jul-2017
RF CABLE	SF106	HUBER & SUHNER	B085892	27-Jul-2017
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079691	27-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3-year calibration cycle based on manufacturer's recommendation..

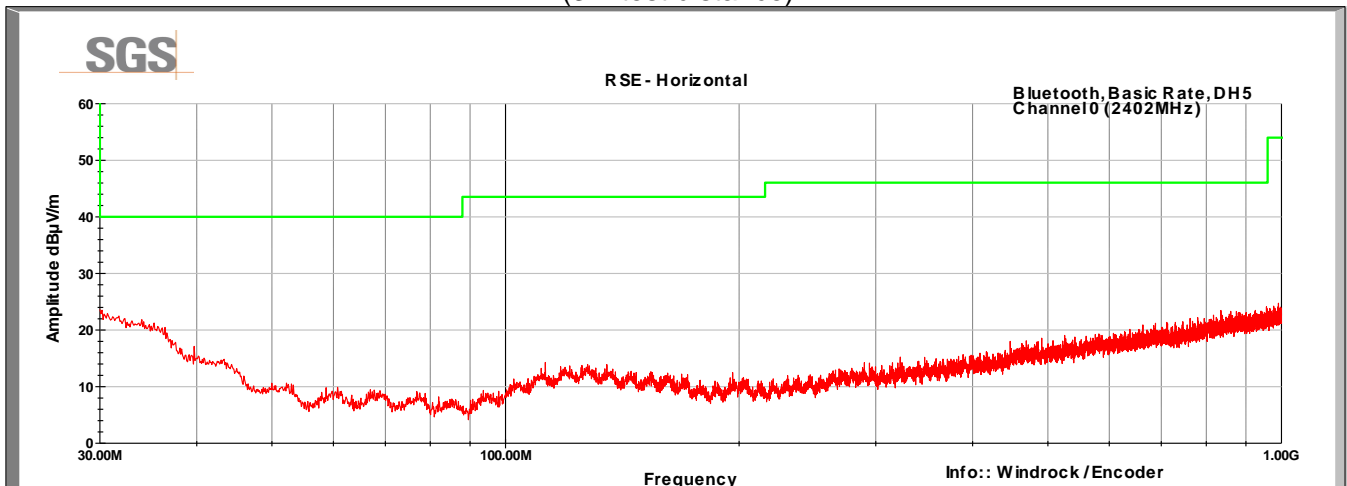
6.5 Test Data

There were no detectable emissions below 30MHz.

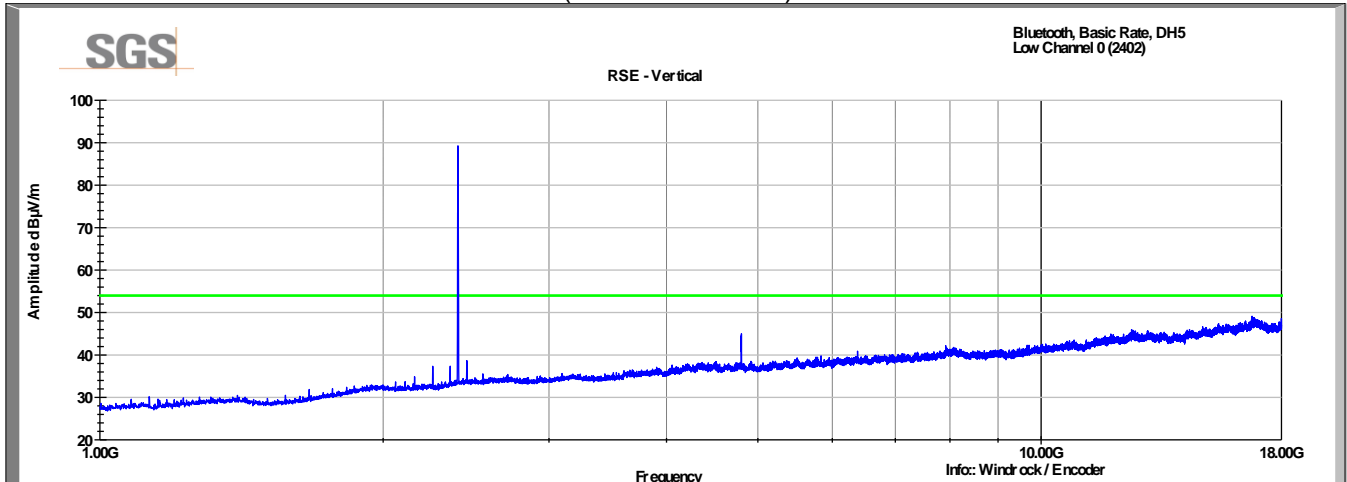
Bluetooth, Channel 0
30-1000MHz
Vertical
(3m test distance)



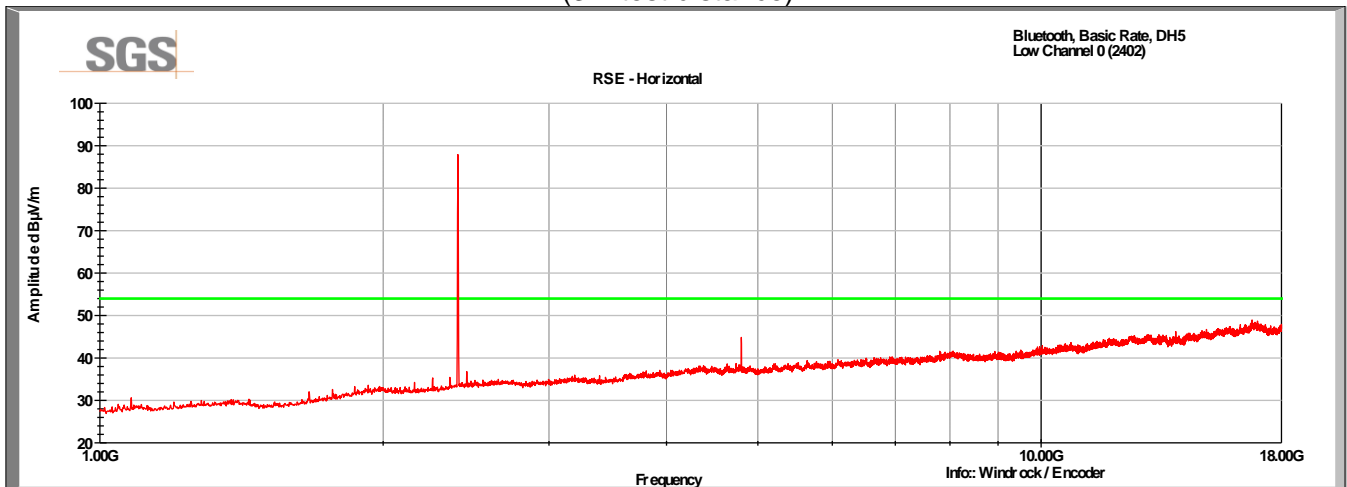
Bluetooth, Channel 0
30-1000MHz
Horizontal
(3m test distance)



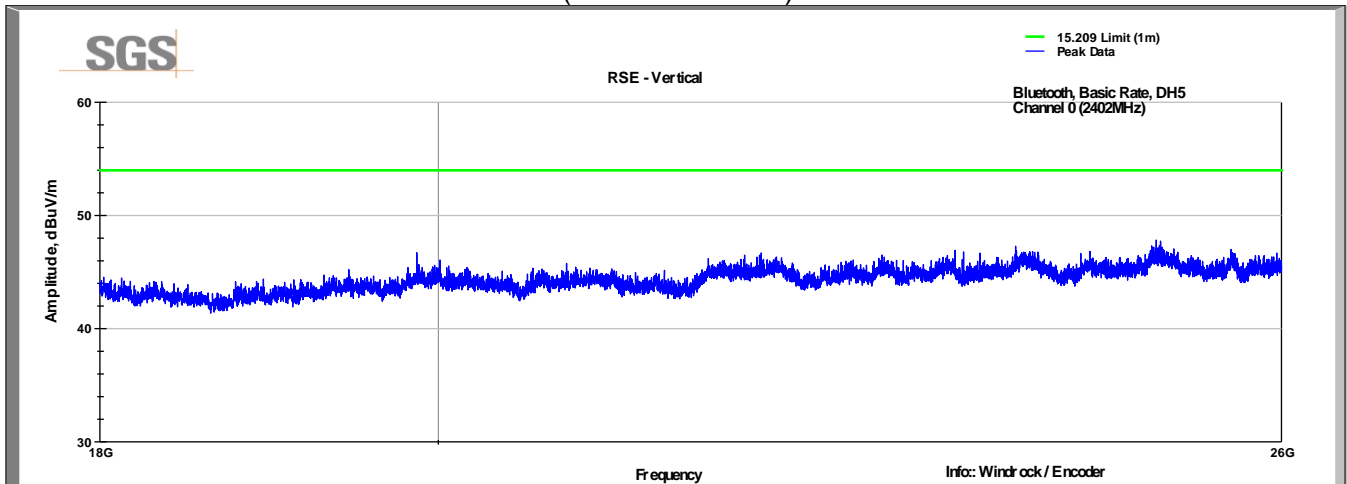
Bluetooth, Channel 0
1-18GHz
Vertical
(3m test distance)



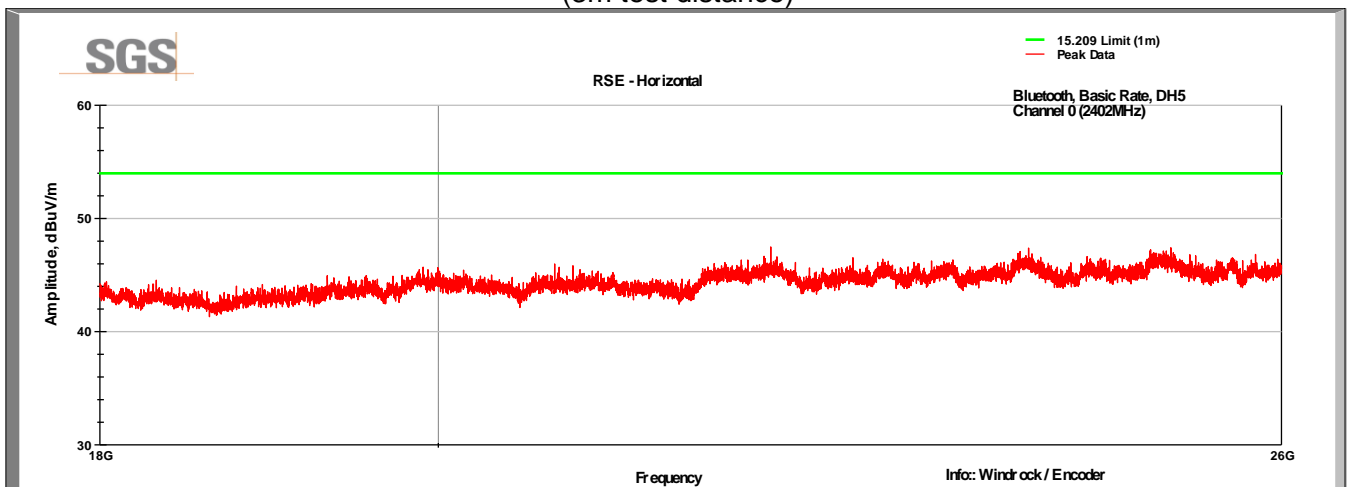
Bluetooth, Channel 0
1-18GHz
Horizontal
(3m test distance)



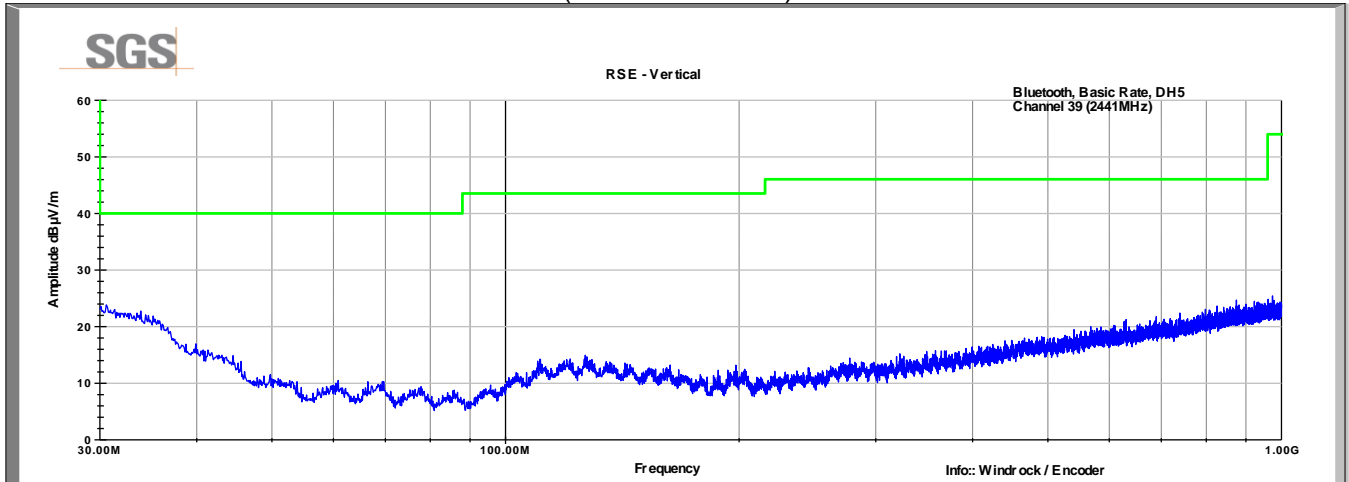
Bluetooth, Channel 0
18-26GHz
Vertical
(3m test distance)



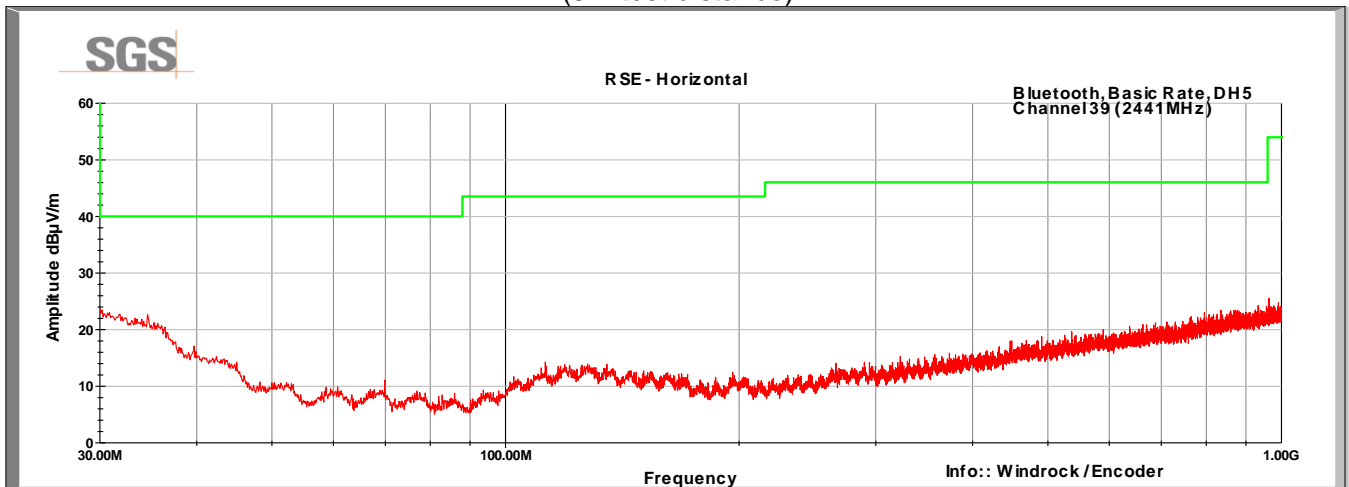
Bluetooth, Channel 0
18-26GHz
Horizontal
(3m test distance)



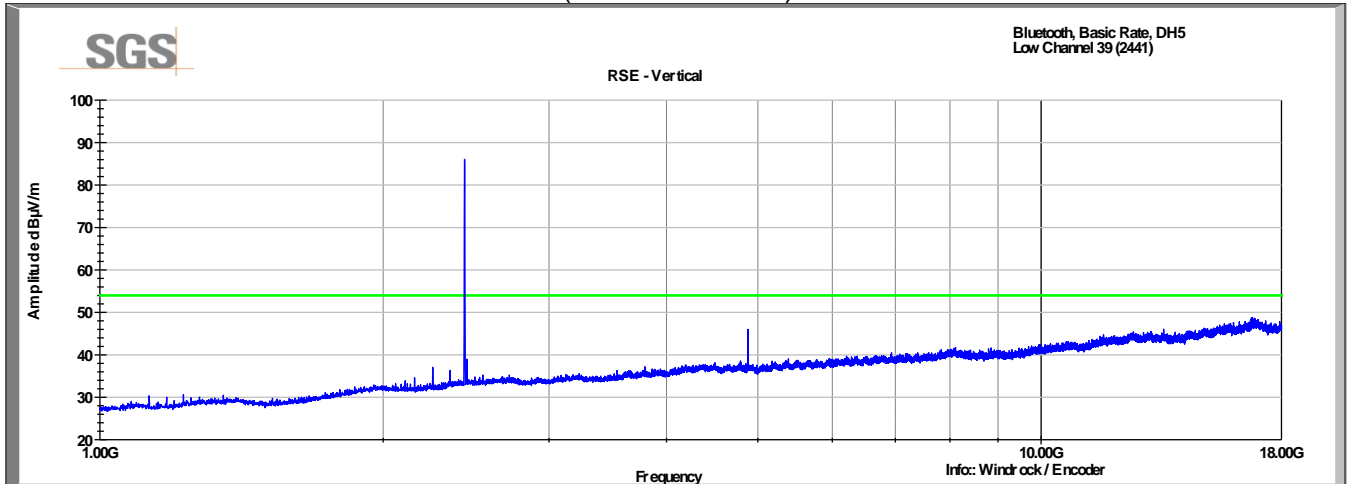
Bluetooth, Channel 39
30-1000MHz
Vertical
(3m test distance)



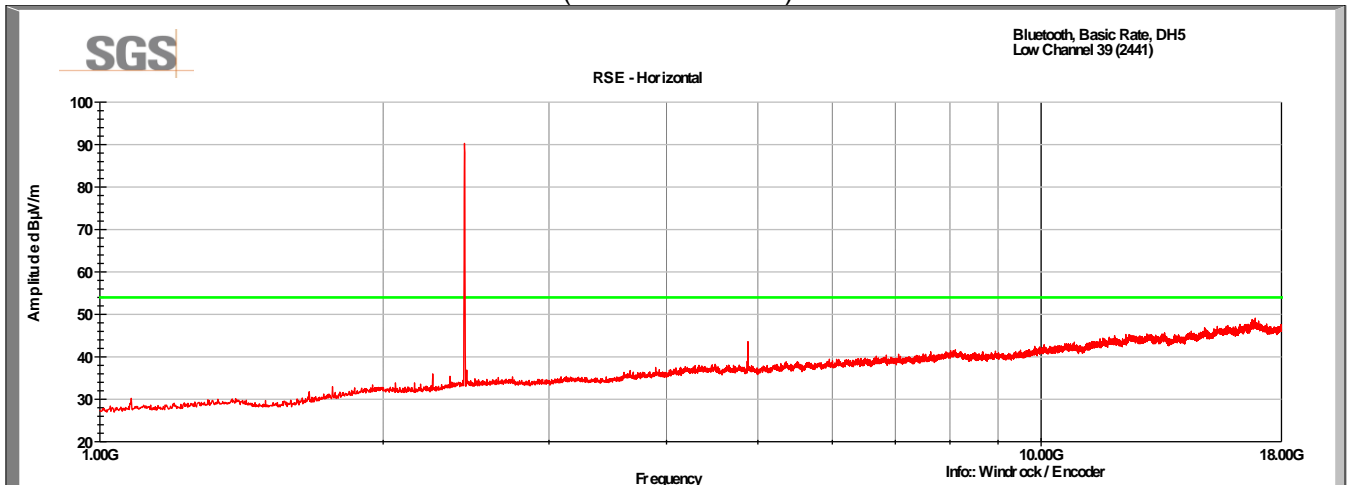
Bluetooth, Channel 39
30-1000MHz
Horizontal
(3m test distance)



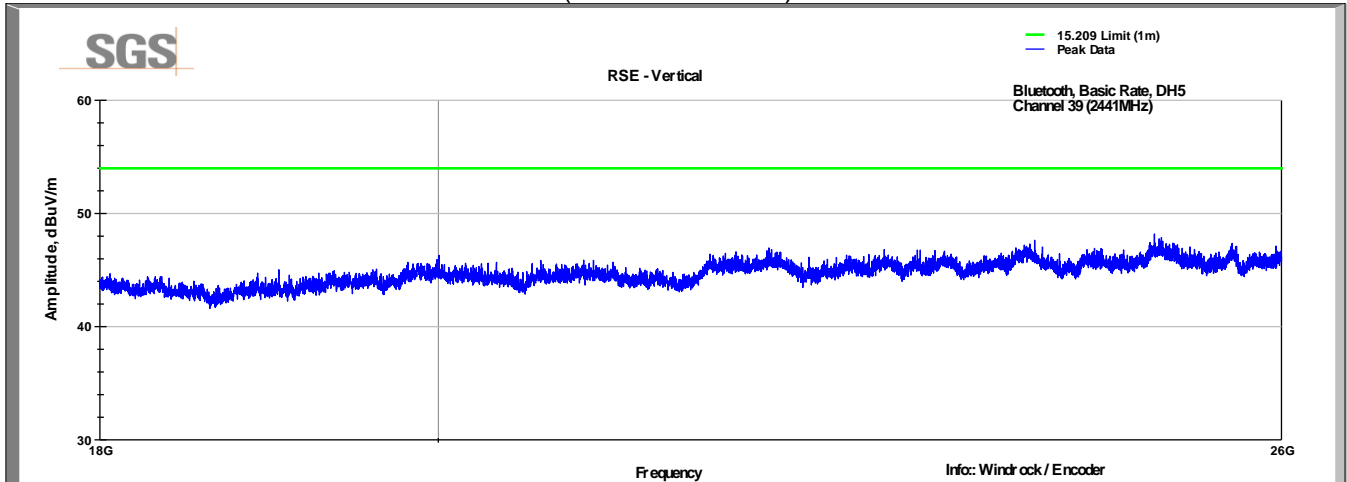
Bluetooth, Channel 39
1-18GHz
Vertical
(3m test distance)



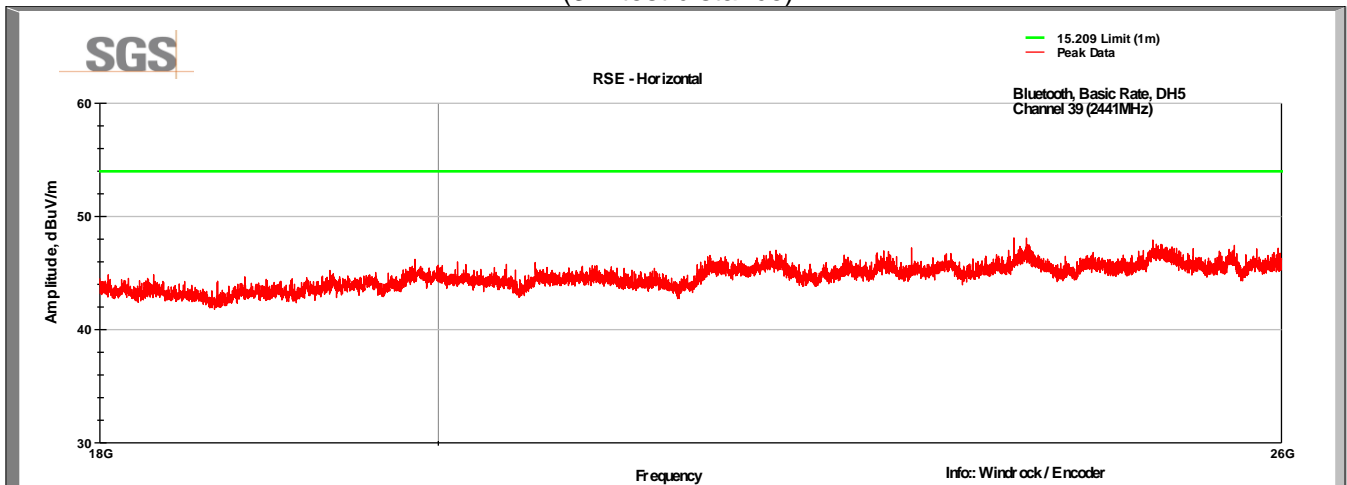
Bluetooth, Channel 39
1-18GHz
Horizontal
(3m test distance)



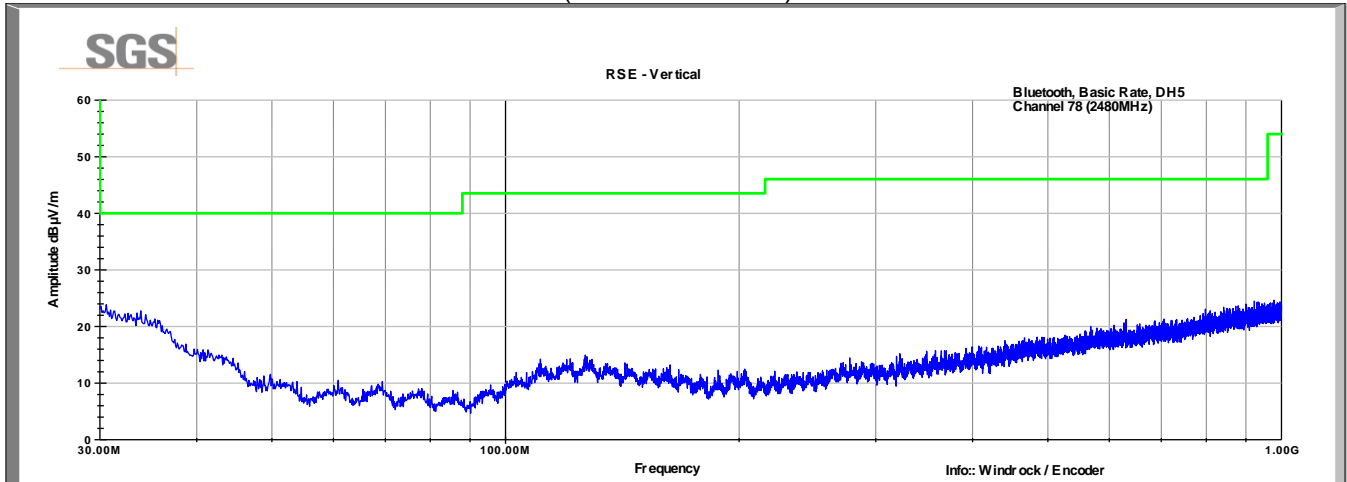
Bluetooth, Channel 39
18-26GHz
Vertical
(3m test distance)



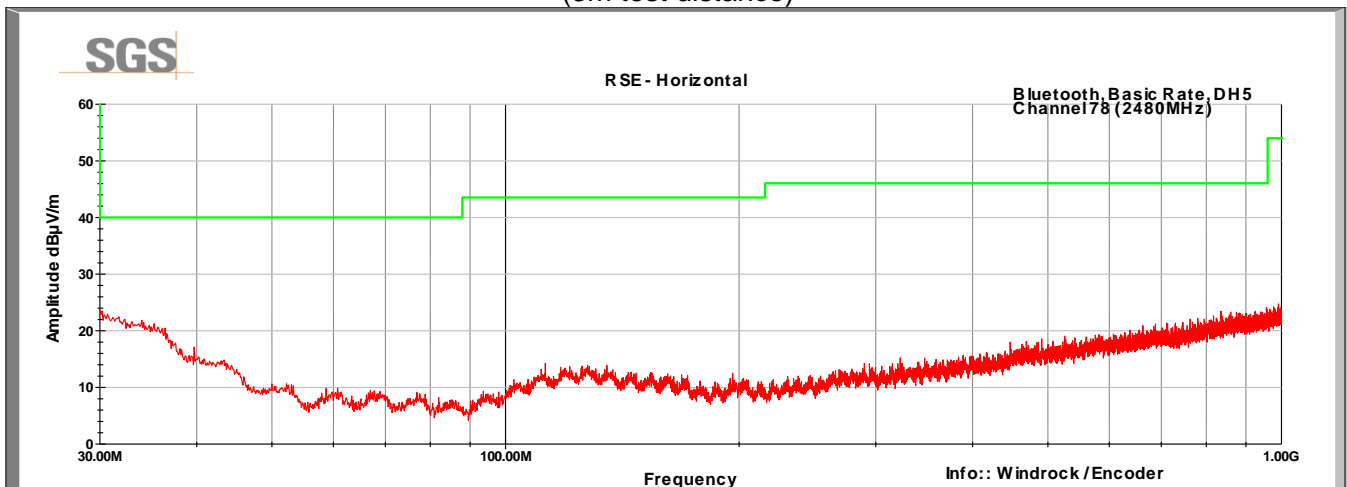
Bluetooth, Channel 39
18-26GHz
Horizontal
(3m test distance)



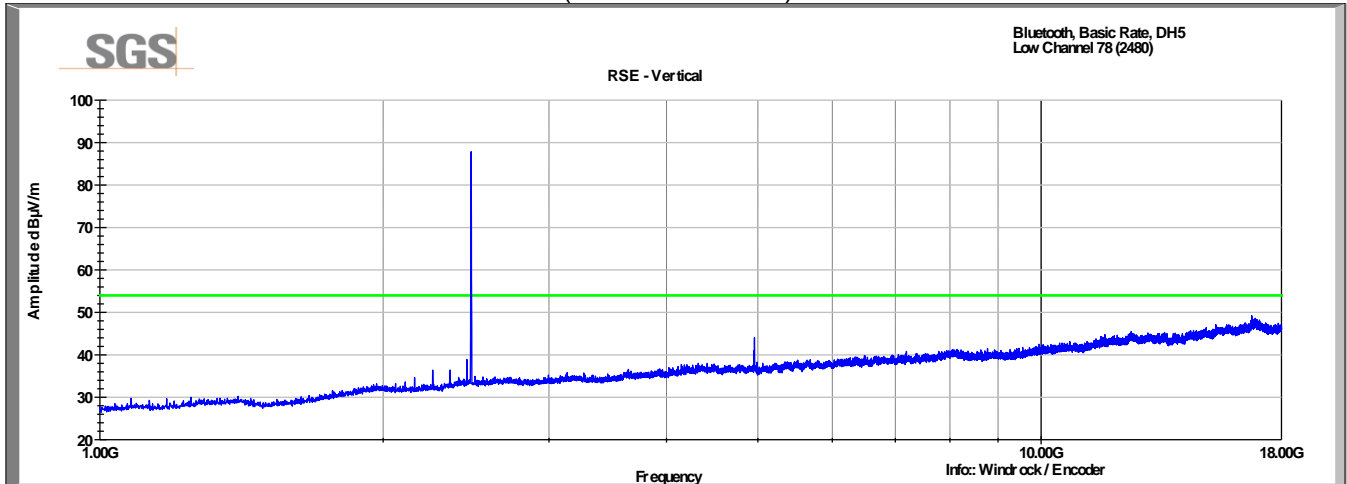
Bluetooth, Channel 78
30-1000MHz
Vertical
(3m test distance)



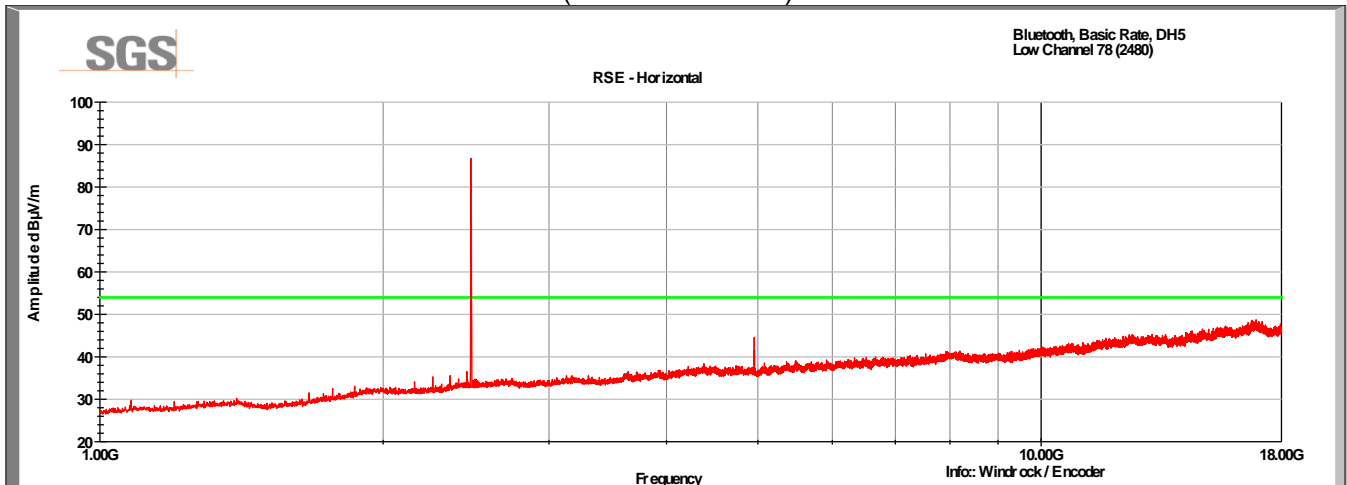
Bluetooth, Channel 78
30-1000MHz
Horizontal
(3m test distance)



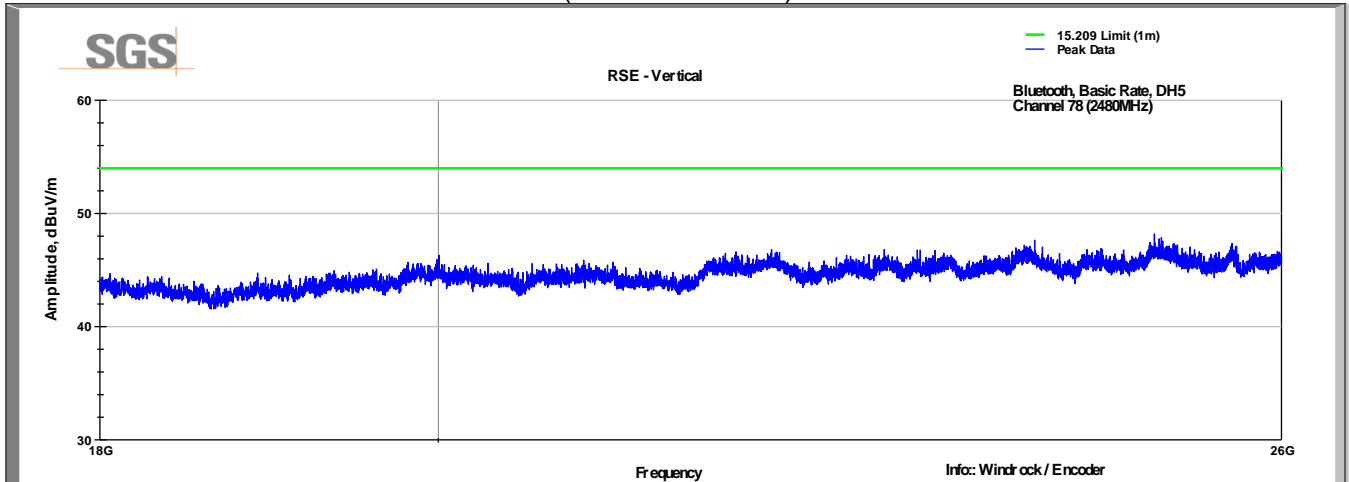
Bluetooth, Channel 78
1-18GHz
Vertical
(3m test distance)



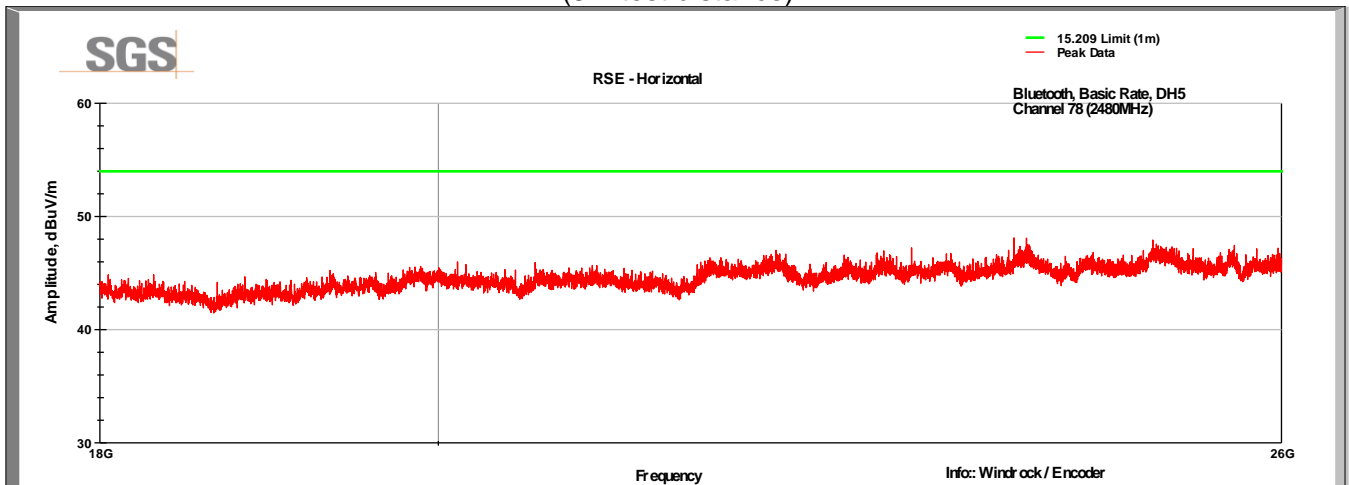
Bluetooth, Channel 78
1-18GHz
Horizontal
(3m test distance)



Bluetooth, Channel 78
18-26GHz
Vertical
(3m test distance)



Bluetooth, Channel 78
18-26GHz
Horizontal
(3m test distance)



7 Radiated Emissions at Band Edge / Restricted Band

7.1 Test Result

Test Description	Test Specification		Test Result
Spurious Emissions	15.205 / 15.209	RSS-GEN S8.9 / 8.10	Compliant

7.2 Test Method

Field strength measurements were performed at the restricted band edges of 2390MHz and 2483.5MHz. Measurements were made using conducted methods.

Offset Calculations:

Offset calculations so that conducted measurements on the spectrum analyzer in dBμV represent field strength measurements in dBμV/m.

$$\text{Offset} = -20\log(D) + 104.8 - 107 + \text{CL} + \text{DC} + \text{AG}$$

$$\text{Offset}_{3m} = -11.7 + \text{CL} + \text{DC} + \text{AG}$$

D = 3m	Distance
CL = 1.3 dB	Cable Loss
DC = 5.6 dB (27.3%)	Duty Cycle Correction Factor
AG = 2 dB*	Antenna Gain

$$\text{Offset} = -8.8 \text{ dB}$$

- The actual antenna gain was -0.9dBi. 2 dB correction is the minimum allowed by the test method.

7.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature:	24.4 °C
Relative Humidity:	49.5 %

7.4 Test Equipment

Test Date: 24-Jan-2017

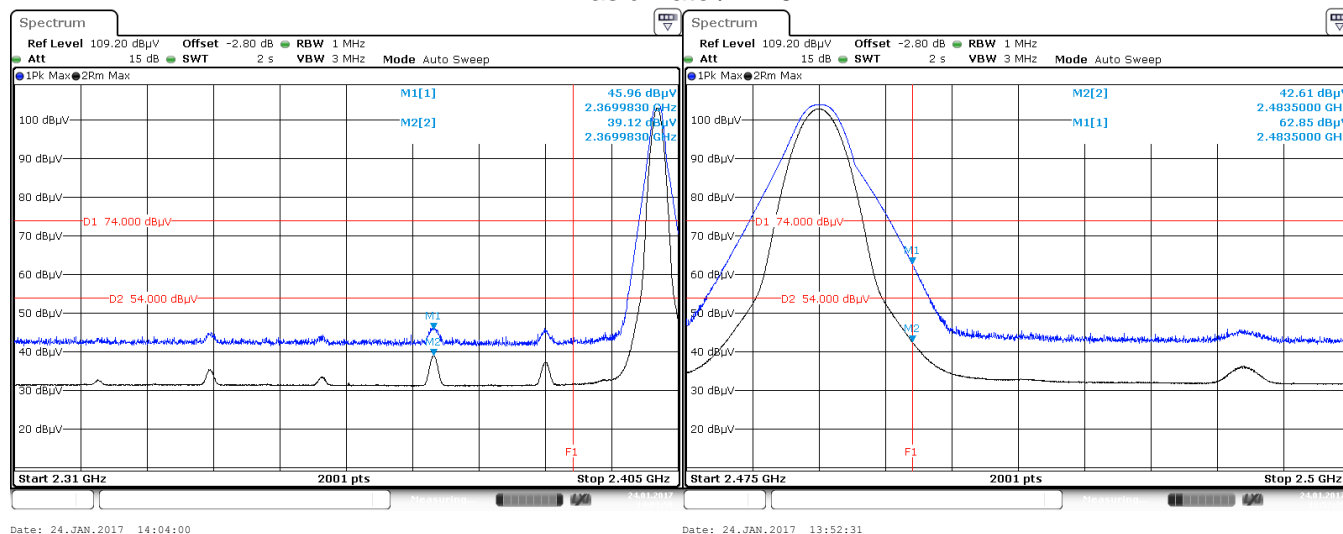
Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095585	26-Jul-2017

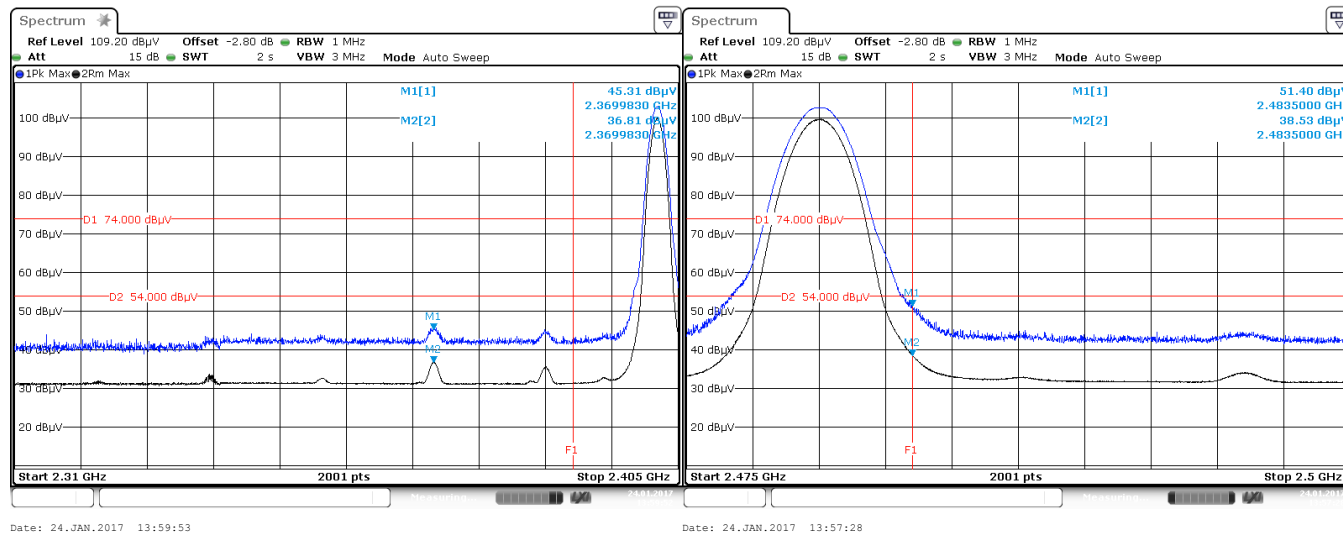
Note: The equipment calibration period is 1 year except for the FSV30 which is on a 2-year cycle.

7.5 Test Data – Restricted Band Edge

Basic Rate / DH5



EDR-3 / DH5



Channel	Frequency (MHz)	Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measuremnt Detector
0 (BR / DH5)	2370	45.96	74	-28.04	Peak
0 (BR / DH5)	2370	39.12	54	-14.88	RMS
0 (EDR3 / DH5)	2370	45.31	74	-28.69	Peak
0 (EDR3 / DH5)	2370	36.81	54	-17.19	RMS
78 (BR / DH5)	2483.5	62.85	74	-11.15	Peak
78 (BR / DH5)	2483.5	42.61	54	-11.39	RMS
78 (EDR3 / DH5)	2483.5	51.4	74	-22.6	Peak
78 (EDR3 / DH5)	2483.5	38.53	54	-15.47	RMS

8 Pseudo-Random Hop Sequence

8.1 Test Result

Test Description	Test Specification	Test Result
Pseudo-Random Hop Sequence	15.247(a)(1), RSS-247 5.1(1) ANSI C63.10	Compliant ⁽¹⁾

Note (1): The theory of operation states that the device is Bluetooth and operates using a pseudo-random hopping technique.

8.2 Test Method

Compliance is demonstrated by Manufacturer's declaration or is stated in the Theory of Operation.

Requirement

The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset, while the long-term distribution appears evenly distributed.

9 Channel Separation

9.1 Test Result

Test Description	Test Specification	Test Result
Number of Hopping Channels	15.247(a)(1)(iii) RSS-247 5.1(2) ANSI C63.10	Compliant

9.2 Test Method

Measurements were taken using the methods defined in ANSI C63.10, Clause 7.8.2. The test data was measured using a spectrum analyzer with Peak detector (max hold) and a resolution bandwidth of 100 kHz. The trace was allowed to stabilize until all channels were displayed.

Requirement

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the -20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the band 2400-2483.5 MHz may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the -20 dB bandwidth of the hopping channel, whichever is greater, provided that the systems operate with an output power no greater than 0.125 W.

9.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C
Relative Humidity: 32.5 %

9.4 Test Equipment

Test Date: 24-Jan-2017

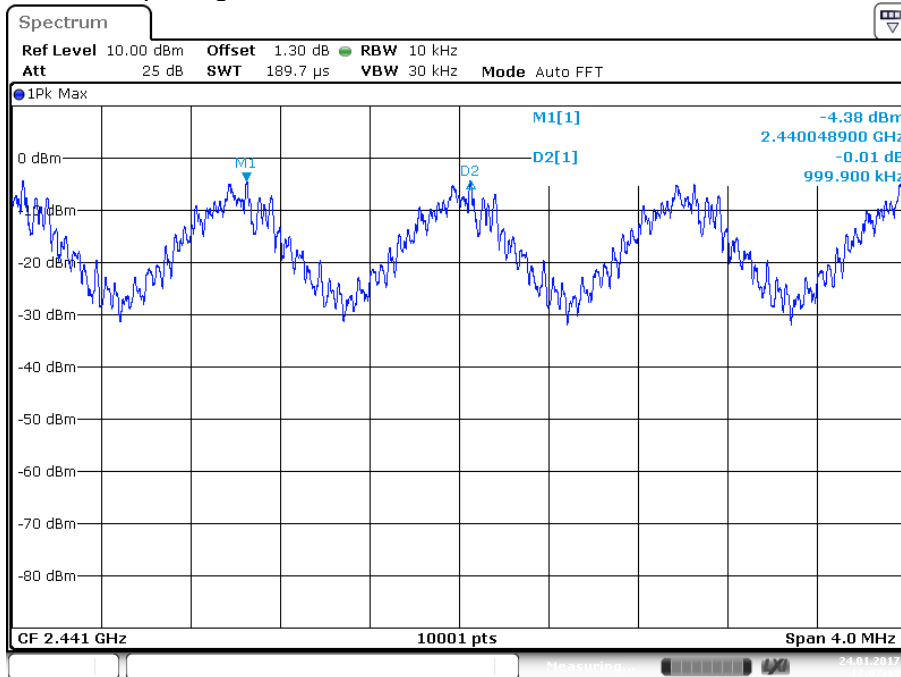
Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

9.5 Test Data

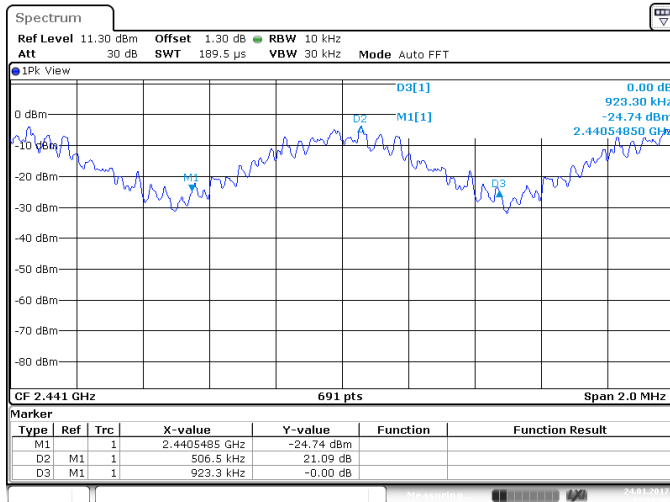
Channel Spacing



Date: 24.JAN.2017 12:07:16

20dB Bandwidth

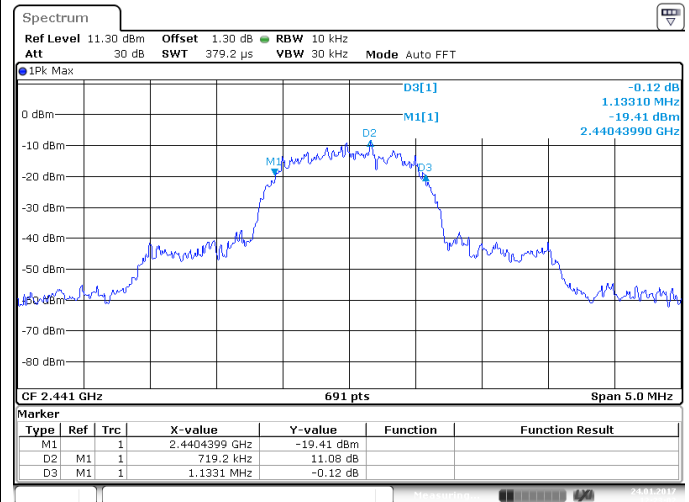
Basic Rate



Date: 24.JAN.2017 12:18:48

$2/3 \text{ of } 923.3 = 615.5\text{kHz}$

EDR-3



Date: 24.JAN.2017 12:23:03

$2/3 \text{ of } 1133.1 = 755.4\text{kHz}$

10 Number of Hopping Channels

10.1 Test Result

Test Description	Test Specification	Test Result
Number of Hopping Channels	15.247(a)(1)(iii) RSS-247 5.1(4)	Compliant

10.2 Test Method

Measurements were taken using the methods defined in ANSI C63.10, Clause 7.8.3. The test data was measured using a spectrum analyzer with Peak detector (max hold) and a resolution bandwidth of 30 kHz. The trace was allowed to stabilize until all channels were displayed.

Requirement

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

10.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C

Relative Humidity: 32.5 %

10.4 Test Equipment

Test Date: 24-Jan-2017

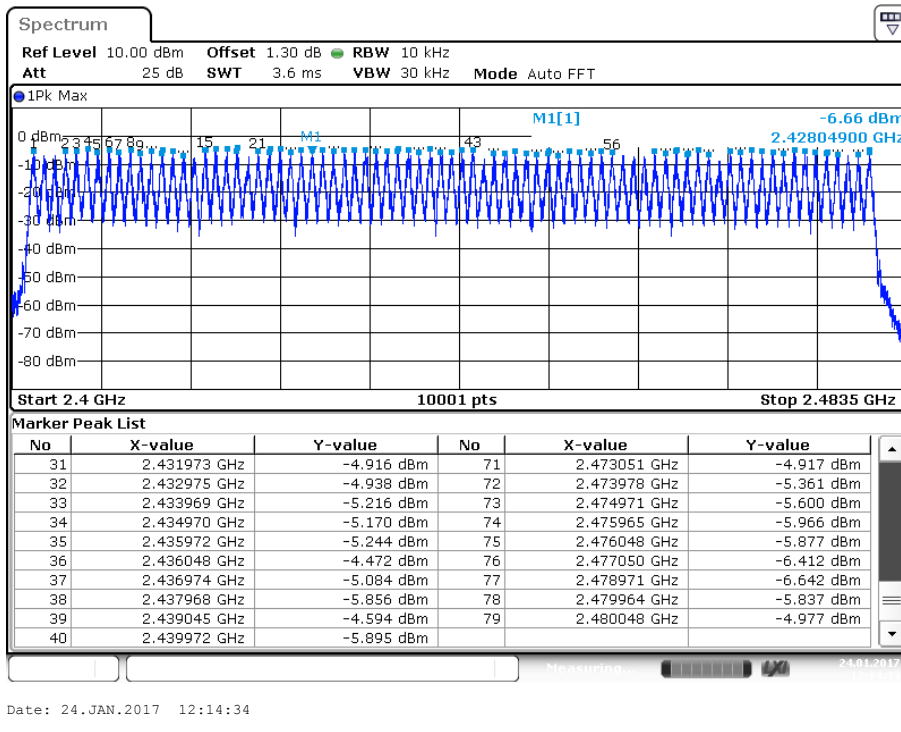
Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

10.5 Test Data

There are 79 Channels.



11 Dwell Time

11.1 Test Result

Test Description	Test Specification	Test Result
Dwell Time	15.247(a)(1)(iii) RSS-247 5.1(4)	Compliant

11.2 Test Method

Measurements were taken using the methods defined in ANSI C63.10, Clause 7.8.4. The EUT was set to test mode which allowed it to be controlled by the Bluetooth Tester. The Bluetooth Tester was then set to operate on US/EU Hopping Scheme with pseudo-random data. For each packet type, the pulse width of the packet was measured and the pulses were counted over the total observation period.

Requirement

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 ($0.4 \times 79 = 31.6s$).

11.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.6 °C

Relative Humidity: 32.5 %

11.4 Test Equipment

Test Date: 24-Jan-2017

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
RF CABLE	141	HUBER & SUHNER	B095590	26-Jul-2017
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	ROHDE & SCHWARZ	B079788	20-Oct-2017

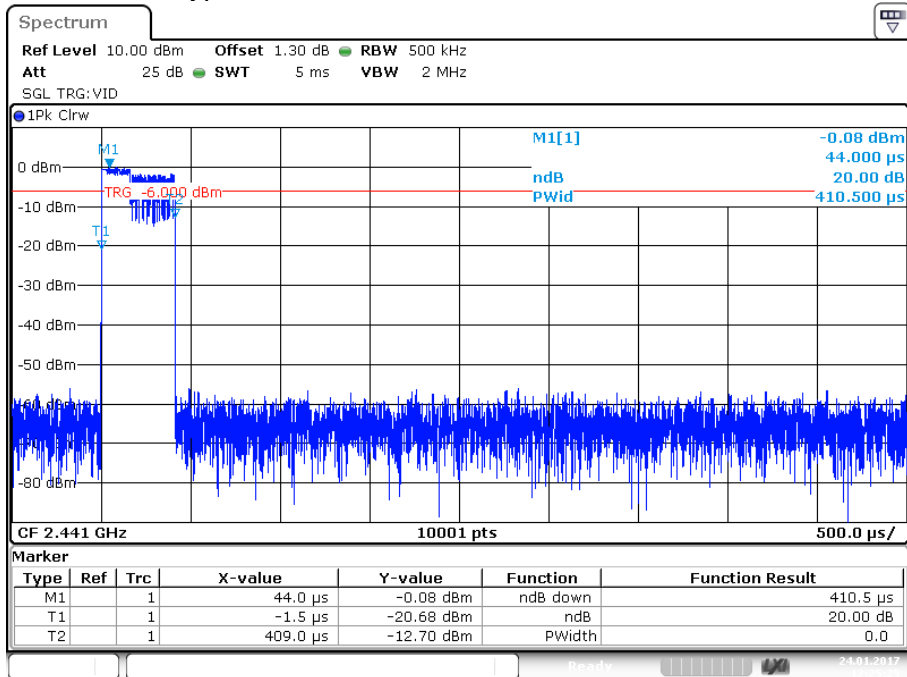
Note: The calibration period equipment is 1 year except for the CMW500 which is on a 3 year cal cycle and the FSV which is one a 2 year cal cycle per manufacturer's recommendations.

11.5 Test Data

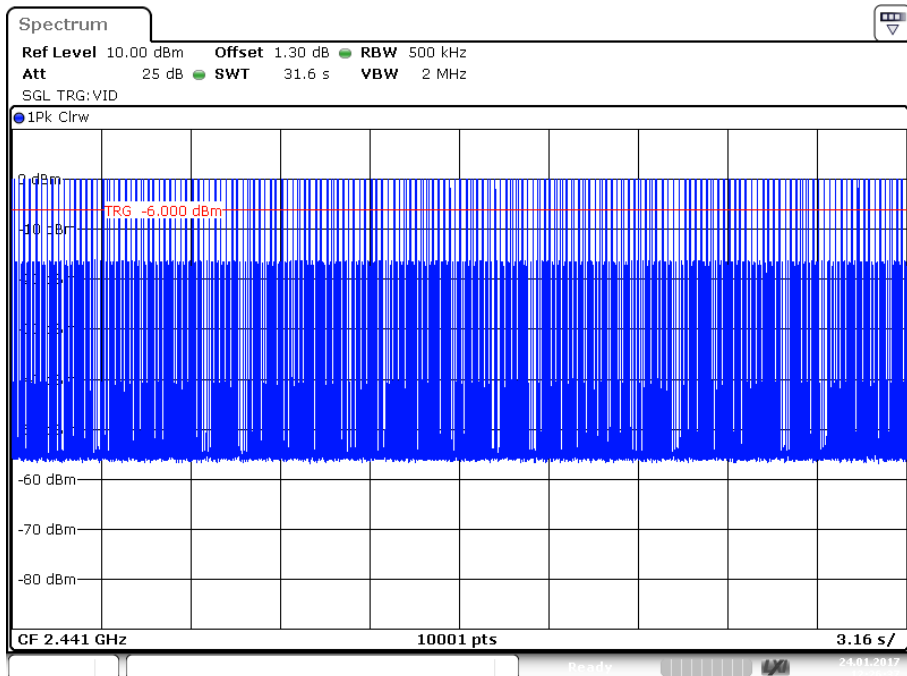
Packet Type	Pulse Width ms	Pulses per 31.6 sec	Dwell Time Sec	Limit	Result
DH1	0.409	317	0.146	0.4	PASS
DH3	1.661	153	0.254	0.4	PASS
DH5	2.912	116	0.338	0.4	PASS

11.6 Plots

DH1 Packet Type, EDR 3

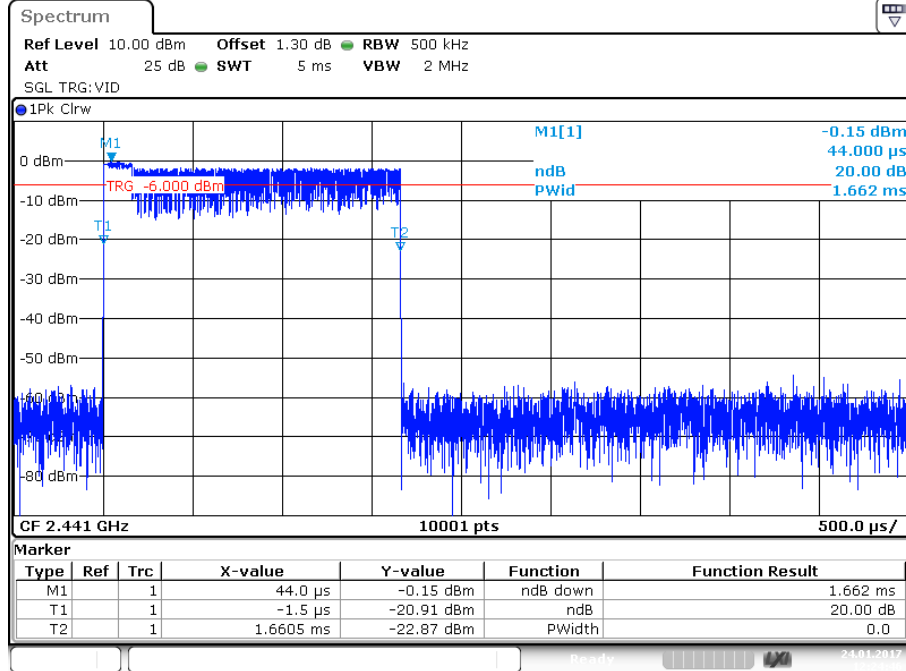


Date: 24.JAN.2017 12:25:26

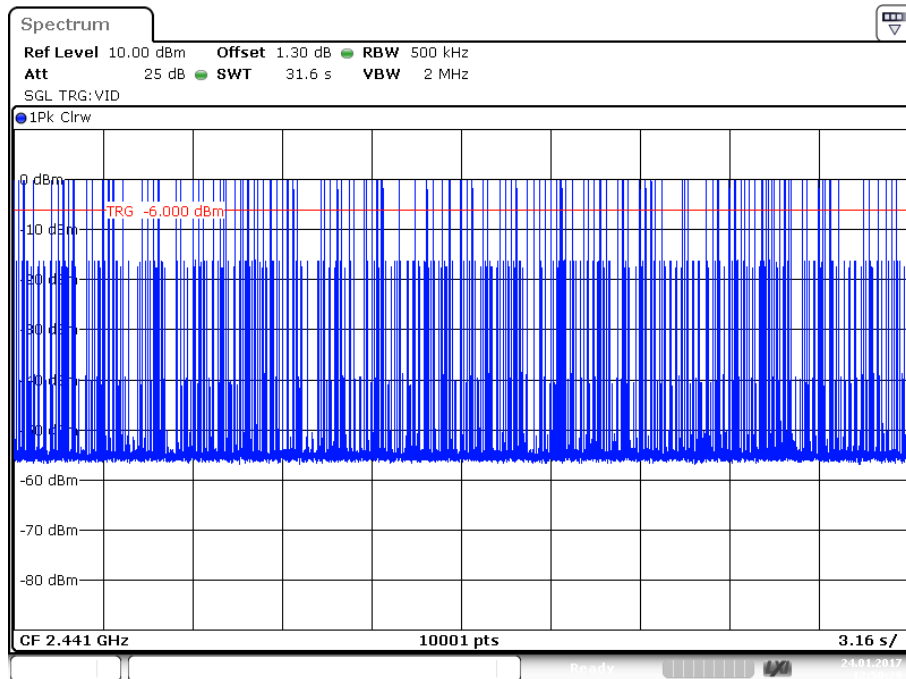


Date: 24.JAN.2017 12:26:38

DH3 Packet Type, EDR 3

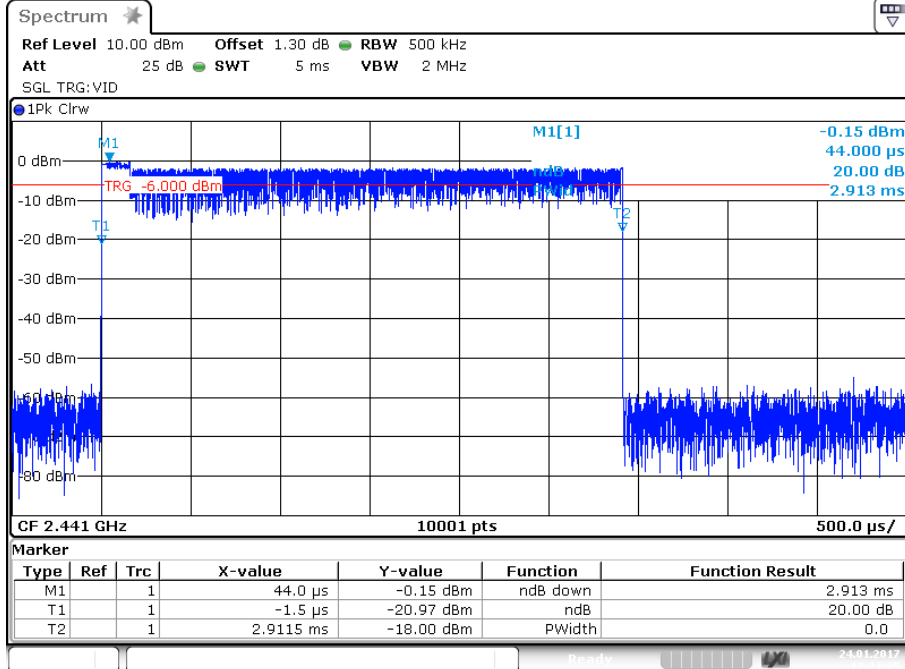


Date: 24.JAN.2017 12:24:47

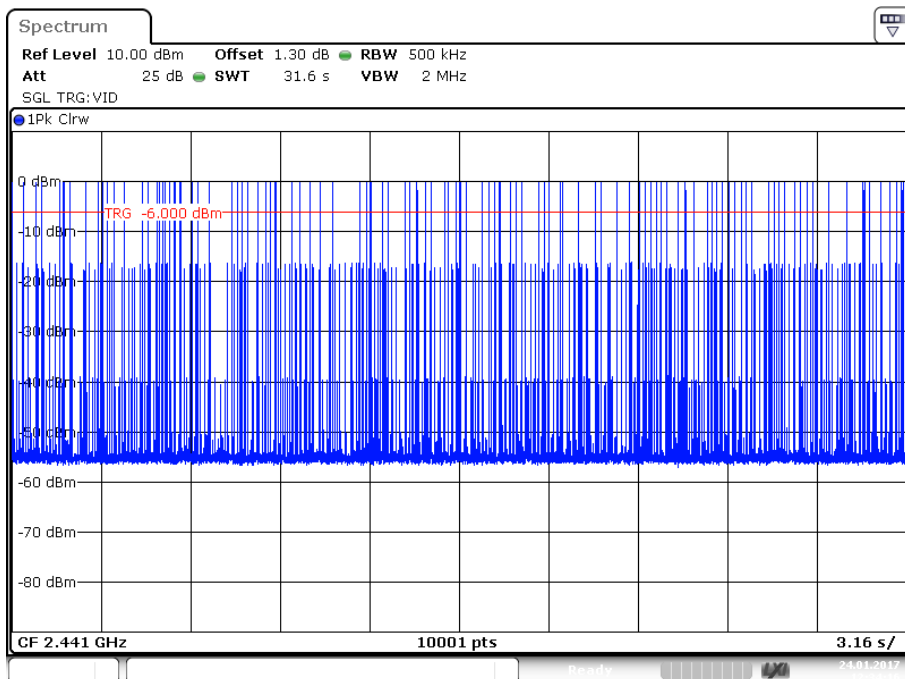


Date: 24.JAN.2017 12:50:29

DH5 Packet Type, EDR 3



Date: 24.JAN.2017 12:21:25



Date: 24.JAN.2017 12:34:17

12 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	31 May 2017