FCC TEST REPORT

For

Clamp Meter

Model Number: CM78

FCC ID: ZLV-CM7X

Report Number : WT138001972

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
Site Location	:	No.4 TongFa Road, Xili Town, Nanshan District, Shenzhen, China
Tel	:	0086-755-86009898
Fax	:	0086-755-86009898-31396
Web	:	www.smq.com.cn

Test report declaration

Applicant	:	FLIR Systems AB
Address	:	Antennvagen 6, P.O. Box 7376, SE-187 15 Taby, Sweden
Manufacturer	:	SHENZHEN EVERBEST MACHINERY INDUSTRY CO., LTD
Address	:	19th Building, 5th Region, Baiwangxin Industrial Park, Songbai Rd., Baimang, Xili, Nanshan, Shenzhen, China
EUT Description	:	Clamp Meter
Model No	:	CM78
Trade mark	:	Flir
FCC ID	:	ZLV-CM7X

Test Standards:

FCC Part 15 (10-1-12 Edition)

ANSI C63.4-2009

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. 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 EUT tested as described in this report is in compliance with FCC Rules Part 15.207, 15.209 and 15.247.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	(Chen Qichun)	Date:	Sep.09,2013
Checked by:	(Yang Dongping)	Date:	Sep.09,2013
Approved by:	(Lin Bin)	Date:	Sep.09,2013

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1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test
20dB bandwidth measurement	15.247 (a) (1)	Pass
Carrier frequency separation measurement	15.247 (a) (1)	Pass
Number of hopping channel	15.247 (a) (1) III	Pass
Time of occupancy	15.247 (a) (1) III	Pass
Peak output power	15.247 (b) (1)	Pass
Band edge compliance measurement	15.247 (d)	Pass
Radiated spurious emission & Radiated restricted band measurement	15.247 (d) / 15.205 & 15.209	Pass
Conducted emission test for power port	15.207	N/A
Antenna Requirement	15.203	Pass

Remark: " N/A" means " Not applicable."

2. GENERAL INFORMATION

2.1. Report information

2.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

2.1.2. The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

2.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at No.4 TongFa Road, Xili Town, Nanshan District, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.
The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number are 446246 806614 994606(semi anechoic chamber).

The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is 11177A.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is E2024086Z02.

2.3. Measurement Uncertainty

Conducted Emission

9kHz~30MHz 3.5dB

Radiated Emission

30MHz~1000MHz 4.5dB

1GHz~26GHz 4.6dB

3. PRODUCT DESCRIPTION

3.1. EUT Description

Description	:	Clamp Meter
Manufacturer	:	SHENZHEN EVERBEST MACHINERY INDUSTRY CO., LTD
Model Number	:	CM78
Operate Frequency	:	2.402GHz~2.480GHz
Antenna Designation	:	PCB Antenna

3.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: ZLV-CM7X, filing to comply with Section 15.207，15.209，15.247 of the FCC Part 15, Subpart C Rules.

3.3. Block Diagram of EUT Configuration

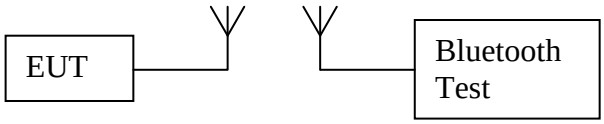

Figure 1 EUT setup

3.4. Operating Condition of EUT

Test Mode 1: Bluetooth

Note: For the maximum peak output power, carrier frequency separation, 20 dB bandwidth, band edge, radiated spurious emissions tests were tested with both BDR 1M/s data rate and EDR 3Mb/s data rate. It was considered worst case of all modes based on preliminary scans of all other data rates.

3.5. Support Equipment List

Table 2 Support Equipment List

Name	Model No	S/N	Manufacturer
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3.6. Test Conditions

Date of test：Aug.20, 2013

Date of EUT Receive：Jul.16, 2013

Temperature: (23-24)℃

Relative Humidity: (53-56)%

3.7. Special Accessories

Not available for this EUT intended for grant.

3.8. Equipment Modifications

Not available for this EUT intended for grant.

4. TEST EQUIPMENT USED

Table 3 Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
SB8501/09	EMI Test Receiver	Rohde & Schwarz	ESU40	May.17, 2013	1 Year
SB9060	Spectrum analyzer	Rohde & Schwarz	FSQ40	May.17, 2013	1 Year
--	Power Divider	Agilent	87302C	May.17, 2013	3 Years
SB3955	Broadband antenna	SCHWARZBECK	VULB9163	Jan.21, 2013	1 Year
SB8501/01	Horn Antenna	Rohde & Schwarz	HF907	May.14, 2013	1 Year
SB8501/10	Horn Antenna	Rohde & Schwarz	3160-09	May.14, 2013	3 Years
SB8501/12	Horn Antenna	Rohde & Schwarz	3160-10	May.14, 2013	3 Years
SB8501/17	Preamplifier	Rohde & Schwarz	SCU-18	May.14, 2013	1 Year
SB8501/16	Preamplifier	Rohde & Schwarz	SCU-26	May.14, 2013	1 Year
SB9059	Preamplifier	Rohde & Schwarz	SCU-40	May.14, 2013	1 Year
SB7939	Bluetooth Tester	Rohde & Schwarz	CBT	May.14, 2013	1 Year

5. CONDUCTED DISTURBANCE TEST

5.1. Test Standard and Limit

5.1.1. Test Standard

FCC Part 15 15.207

5.1.2. Test Limit

Table 4 Conducted Disturbance Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

* Decreasing linearly with logarithm of the frequency

* The lower limit shall apply at the transition frequency.

5.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.). An EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions from both sides of AC line. According to the requirements in Section 7 and 13 of ANSI C63.4-2009.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

5.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

5.4. Test Data

The EUT is power supply by batteries, Therefore this test is not applicable.

6. RADIATED DISTURBANCE TEST

6.1. Test Standard and Limit

6.1.1. Test Standard

FCC Part 15 15.209

6.1.2. Test Limit

Table 5 Radiated Disturbance Test Limit

FREQUENCY MHz	FIELD STRENGTHS LIMITS (μV/m)	FIELD STRENGTHS LIMITS dB (μV/m)
Fundamental	50000	94.0
Harmonics	500	54.0
30 ~ 88	100	40.0
88 ~ 216	150	43.5
216 ~ 960	200	46.0
960 ~	500	54.0

* The lower limit shall apply at the transition frequency.

* The test distance is 3m.

6.2. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can move up and down to find out the maximum emission level. Radiated emission test above 1 GHz, between the antenna and the EUT using RF absorbing material covering the ground plane. Broadband antenna is used as a receiving antenna at frequency range 30MHz to 1000MHz, Horn antenna is used as a receiving antenna at frequency range above 1GHz. Both horizontal and vertical polarization of the antenna is set on test, in order to find out the max emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and13 of ANSI C63.4-2009.

Radiated measurements were performed on the frequency range from 30MHz to 25GHz. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz，VBW≥RBW. All readings above 1 GHz are AV and PK values。RBW=1MHz and VBW=10Hz for AV value，RBW=1MHz and VBW≥RBW for peak value.

6.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture. The EUT shall be measured in the XYZ three positions, and the test data which was shown in the follow was the worst case.
The EUT is set in continuous transmission mode.

6.4. Test Data

The emissions don’ t show in below are too low against the limits.

Table 6 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, Low channel, Basic rate

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dB μ V)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	EUT axes	Note
31.201	Vertical	0.6	12.3	13.9	26.8	40.0	X	QP

Table 7 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, Middle channel, Basic rate

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dB μ V)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	EUT axes	Note
31.392	Vertical	0.6	12.3	13.2	26.1	40.0	X	QP

Table 8 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, High channel, Basic rate

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dB μ V)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	EUT axes	Note
31.356	Vertical	0.6	12.3	14.1	27.0	40.0	X	QP

Table 9 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, Low channel, EDR

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dBμV)	Emission Level dB (μV/m)	Limits dB (μV/m)	EUT axes	Note
30.250	Vertical	0.6	12.3	15.1	28.0	40.0	X	QP

Table 10 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, Middle channel, EDR

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dBμV)	Emission Level dB (μV/m)	Limits dB (μV/m)	EUT axes	Note
31.207	Vertical	0.6	12.3	15.6	28.5	40.0	X	QP

Table 11 Radiated Disturbance Test Data

Model No.: CM78

Test mode: 1, TX, High channel, EDR

Frequency (MHz)	Polarization	Correction Factor (dB)	Antenna Factor (dB/m)	Reading Value (dBμV)	Emission Level dB (μV/m)	Limits dB (μV/m)	EUT axes	Note
30.097	Vertical	0.6	12.3	10.7	23.6	40.0	X	QP

Note: 1. Emission level(dBuV/m)=Reading Value(dBuV) + Correction Factor(dB)+Antenna Factor (dB/m)

2. Correction Factor(dB) = Cable Factor (dB)+Amplifier Factor(dB)

3. No other spurious and harmonic emissions were reported greater than listed emissions above table.

Table 12 **Restricted Band Radiated Emission Data**

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	
6.31175 - 6.31225	123 - 138	2200 - 2300	
8.291 - 8.294	149.9 - 150.05	2310 - 2390	
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	
12.29 - 12.293	167.72 - 173.2	3332 - 3339	
12.51975 -	240 - 285	3345.8 - 3358	
12.52025	322 - 335.4	3600 - 4400	
12.57675 -			
12.57725			
13.36 - 13.41			

Except as shown in above tables, all other emissions of the above band were less than the limit 20dB.

7. 20DB BANDWIDTH MEASUREMENT

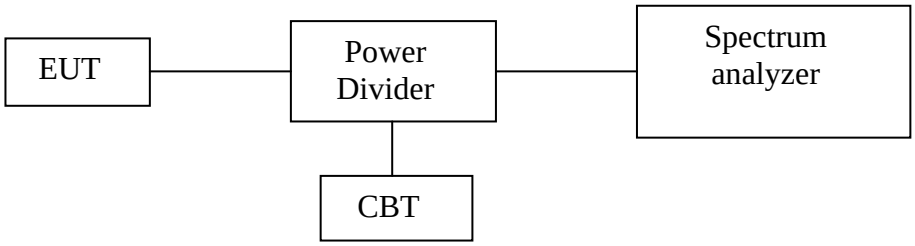
7.1. Limits of 20dB Bandwidth Measurement

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.

7.2. Test Procedure

The transmitter output and CBT output were connected to the spectrum analyzer through a power divider. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and VBW≥ RBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

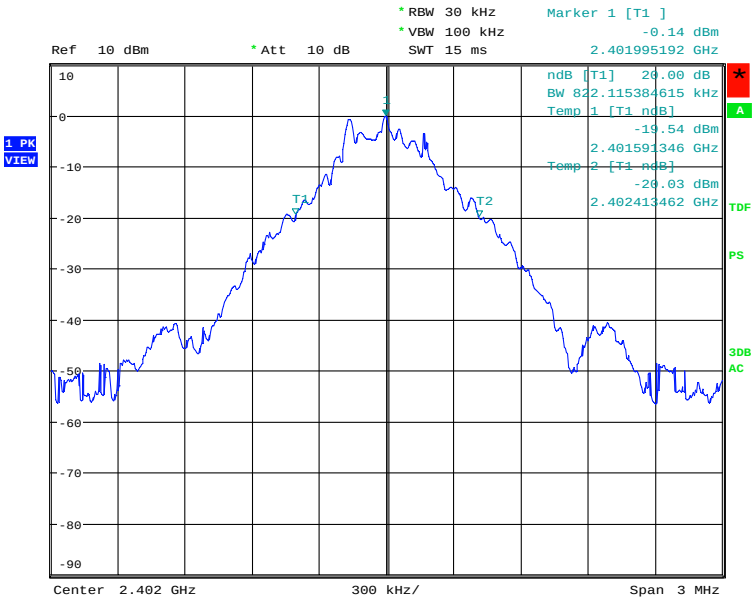
7.3. Test Setup



7.4. Test Data

Table 13 20dB Bandwidth Test Data (Basic rate)

CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)	results
2402	0.822	Pass
2441	0.827	Pass
2480	0.827	Pass



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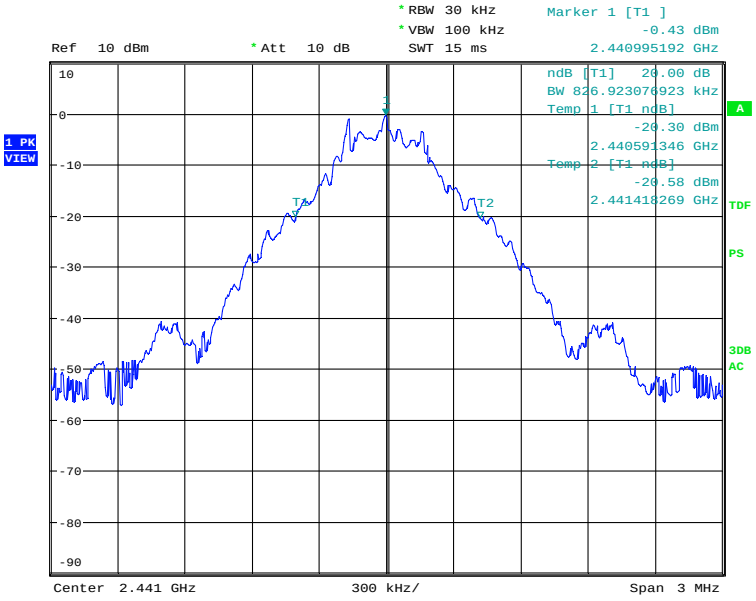

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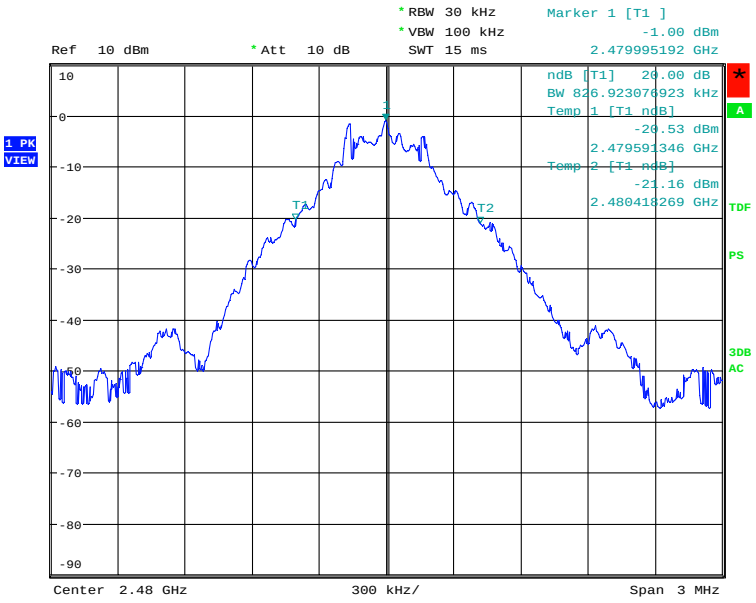

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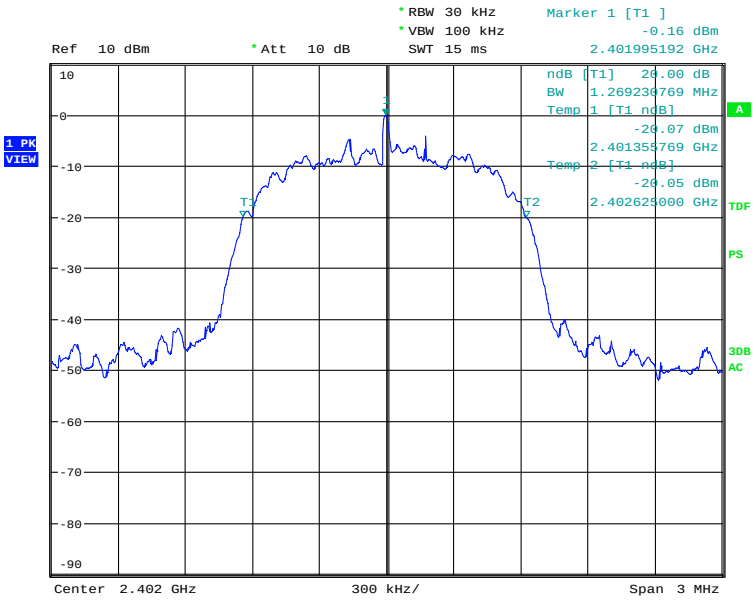
Table 14 20dB Bandwidth Test Data (EDR)

CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)	results
2402	1.269	Pass
2441	1.264	Pass
2480	1.269	Pass



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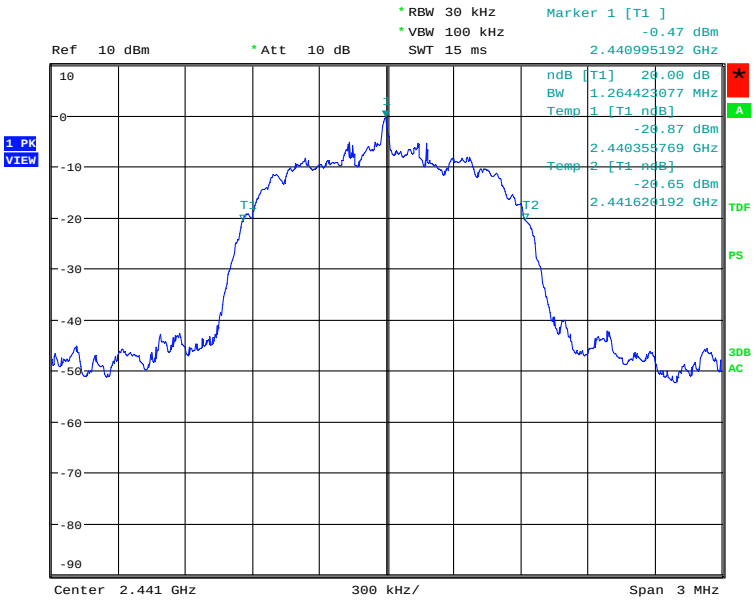

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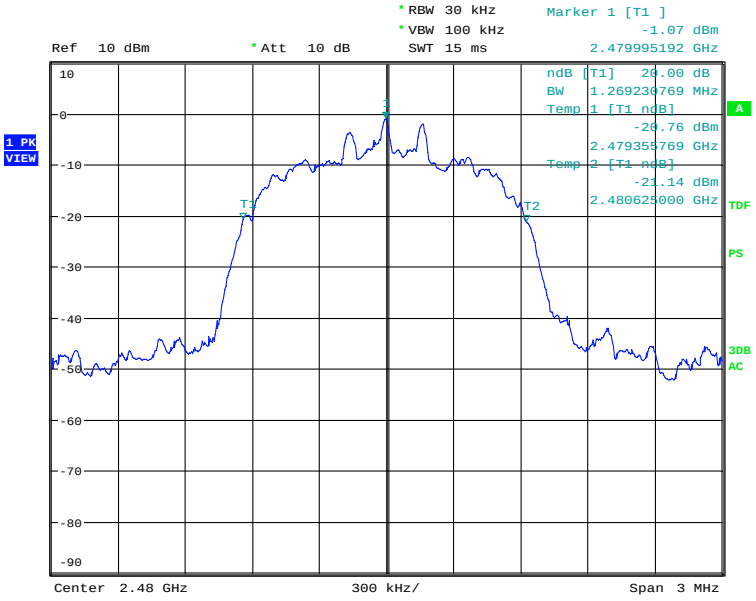

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8. CARRIER FREQUENCY SEPARATION MEASUREMENT

8.1. Limits of Carrier Frequency Separation Measurement

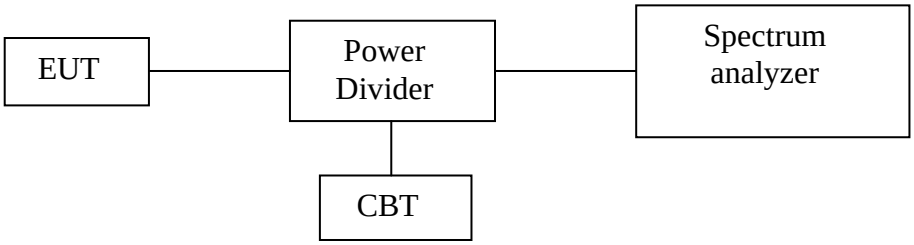
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

8.2. Test Procedures

(a) Connect transmitter output and CBT output to spectrum analyzer through a power divider.

(b) Set the transmitter to transmit maximum output power and switch ON frequency hopping function, then set the measured frequency number to two adjacent channels separately and test the carrier frequency separation with spectrum analyzer.

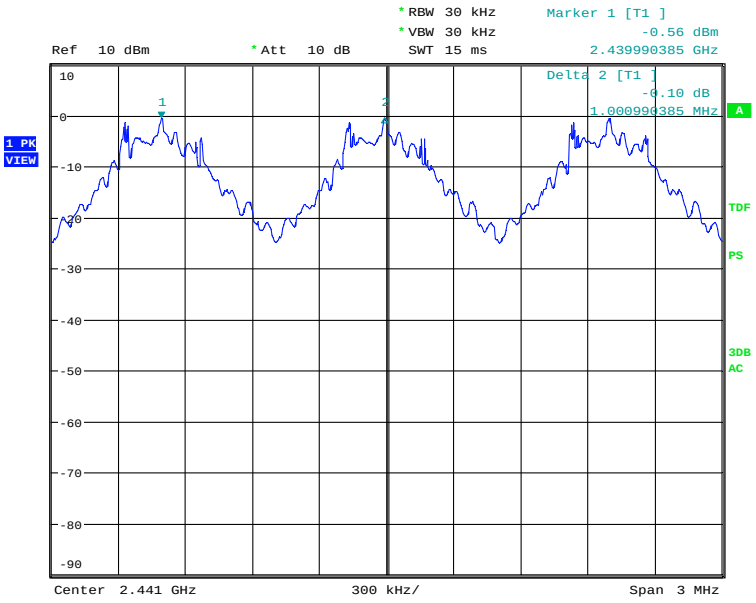
8.3. Test Setup



8.4. Test Data

Table 15 Carrier Frequency Separation Test Data

Frequency (GHz)	Frequency (GHz)	Frequency separation (MHz)	Result	Note
2.440	2.441	1.001	Pass	Basic rate
2.440	2.441	1.006	Pass	EDR



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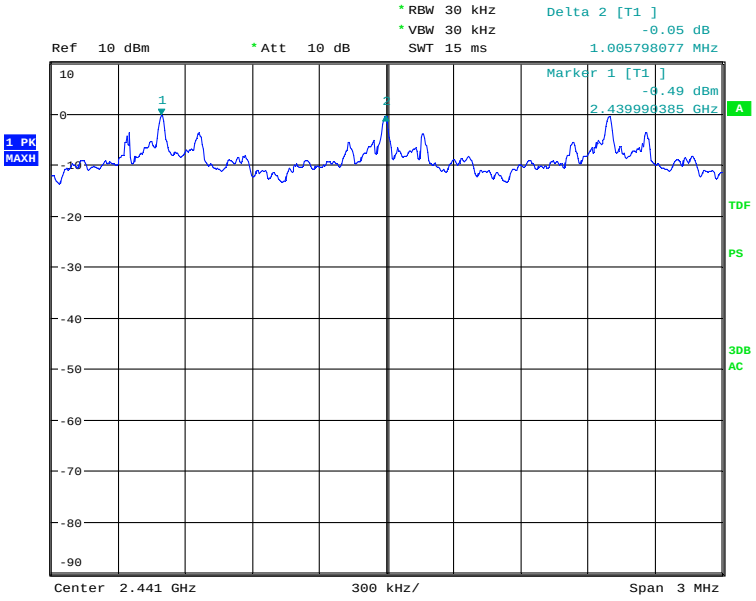

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9. NUMBER OF HOPPING CHANNEL

9.1. Limits of Number of Hopping Channel

Number of hopping channel should be compliance with the requirements in part15.247 (a) (1) iii.

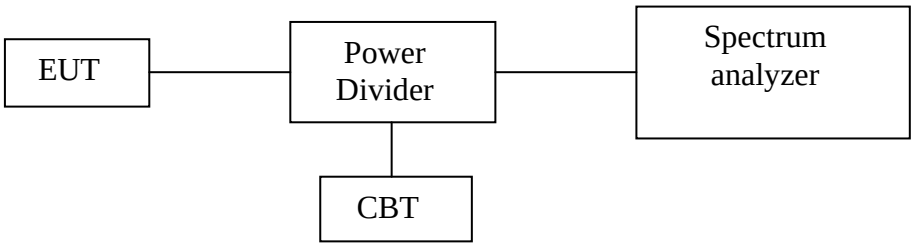
9.2. Test Procedure

(a) Connect transmitter output and CBT output to spectrum analyzer through a power divider.

(b) Set the transmitter to transmit maximum output power and switch ON frequency hopping function, then set enough count time (larger than 5000 times) to get all the hopping frequency channel displayed on the screen of spectrum analyzer.

(c) Count the quantity of peaks to get the number of hopping channels.

9.3. Test Setup



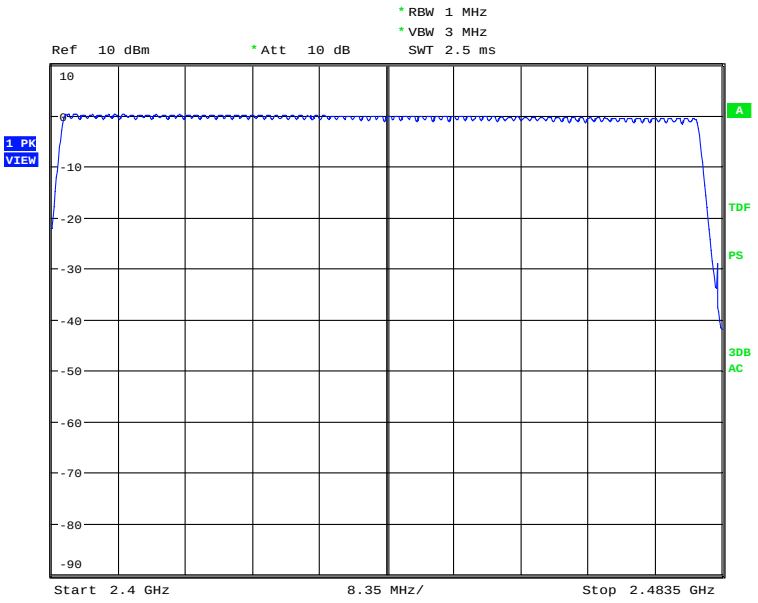
9.4. Test Data

Table 16 Number of Hopping Channel Test Data

Hopping numbers	LIMIT	results
79	>15	Pass

Note: in case of AFH mode, minimum number of hopping channels is 20.

Basic rate



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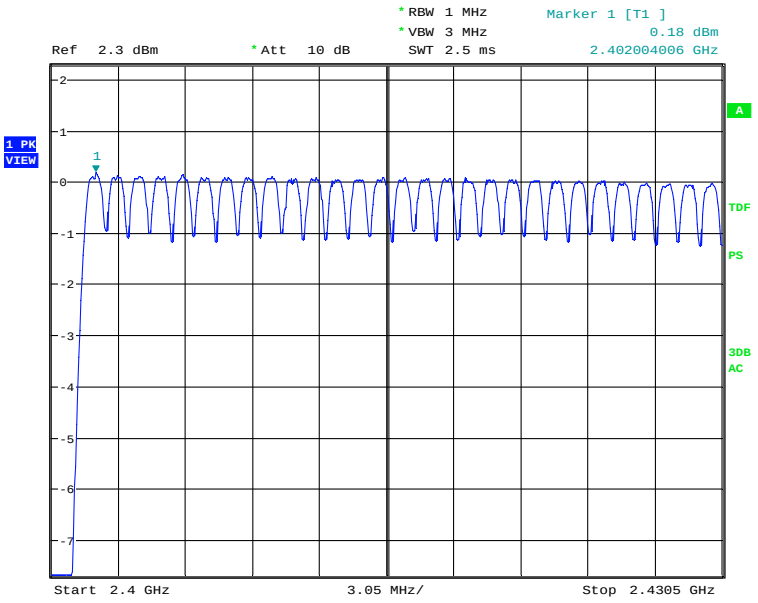

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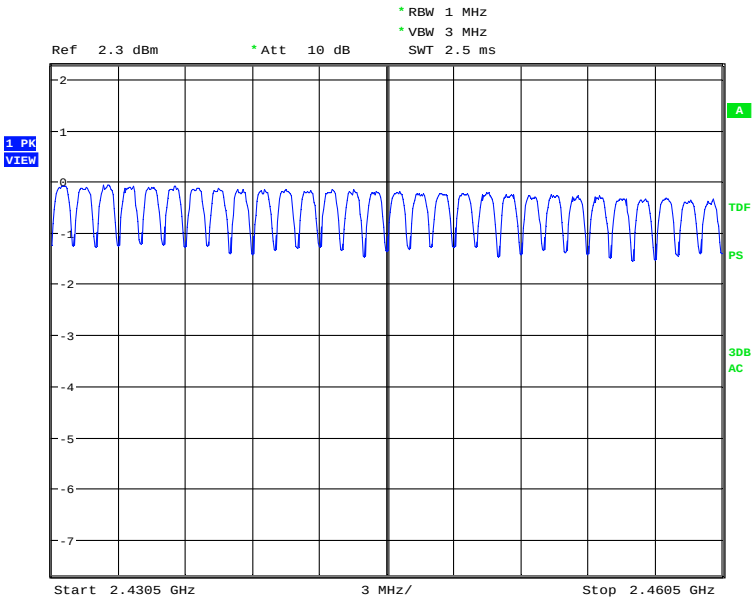

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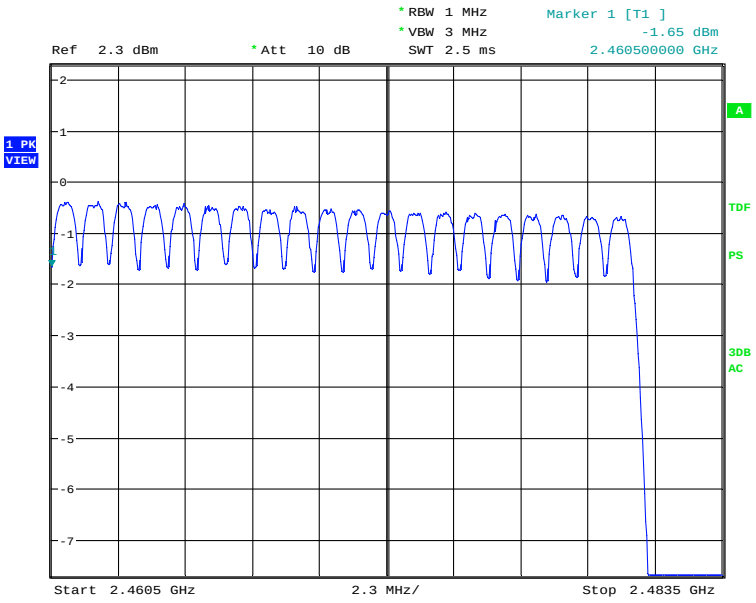

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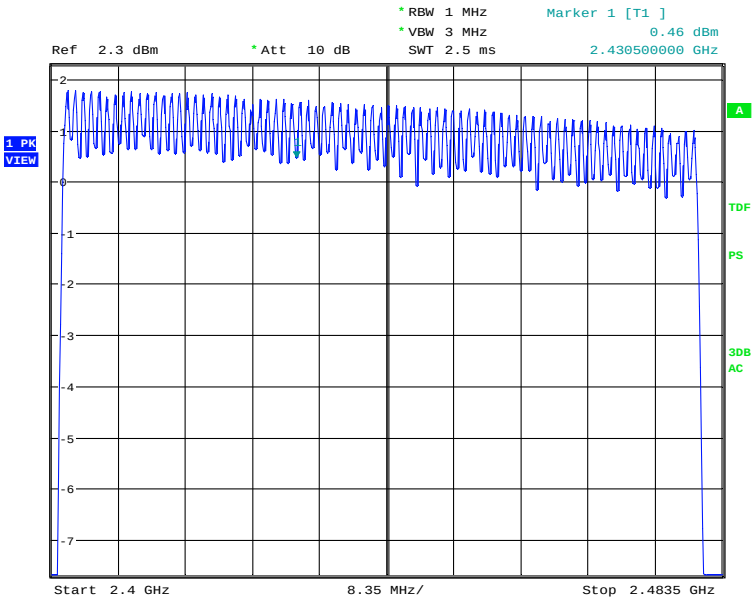
EDR



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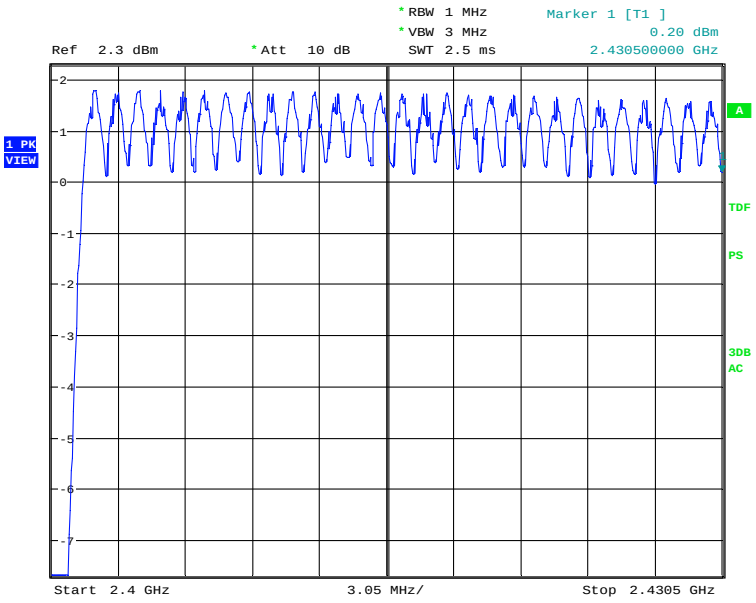

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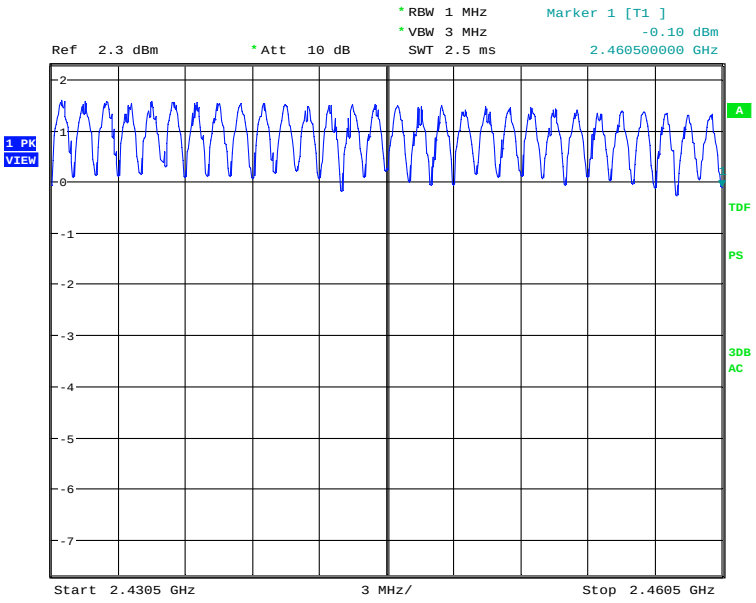

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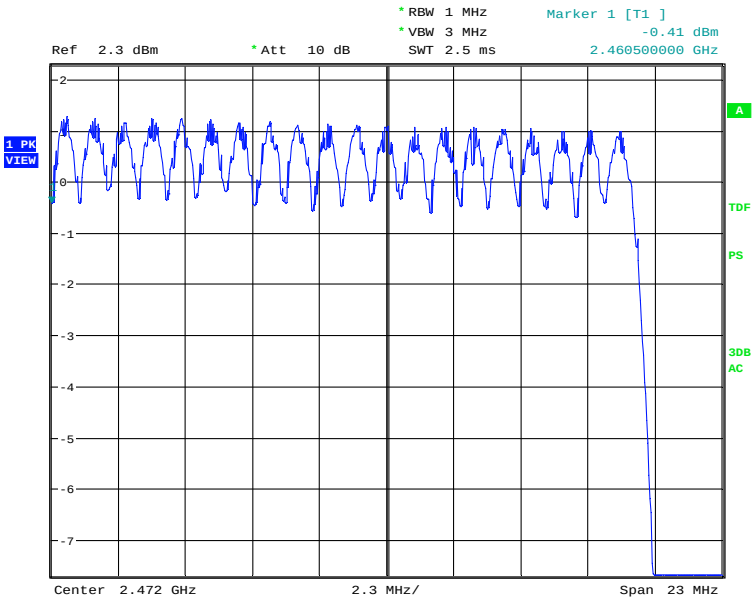

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10. TIME OF OCCUPANCY

10.1. Limits of Time of Occupancy

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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

10.2. Test Procedure

(a) Connect transmitter output and CBT output to spectrum analyzer through a power divider.

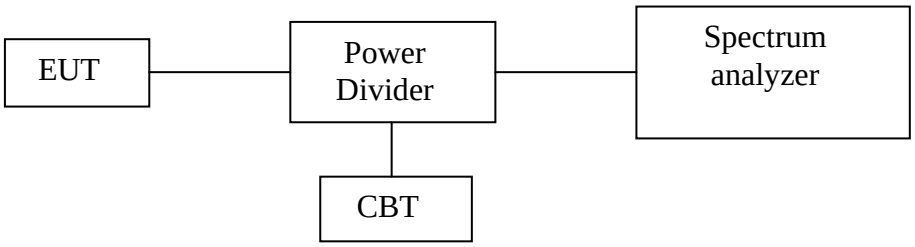
(b) Set the transmitter to transmit maximum output power and switch on frequency hopping function.

(c) Set the span of spectrum analyzer to 0 Hz, and set the resolution bandwidth to1 MHz and the video bandwidth to 1 MHz, then get the time domain measured diagram. And set sweep time to 2 times of one burst occupancy time, and measure the time of occupancy of one burst.

(d) Set the resolution bandwidth to1 MHz and the video bandwidth to 3 MHz ,and set the sweep time to a period (0.4 seconds multiplied by the number of hopping channels employed), and count the number of the bursts.

(e) Calculate the time of occupancy in a period with time occupancy of a burst and quantity of bursts.

10.3. Test Setup



10.4.Test Results

Table 17 Time of Occupancy Test Data (Basic Rate)

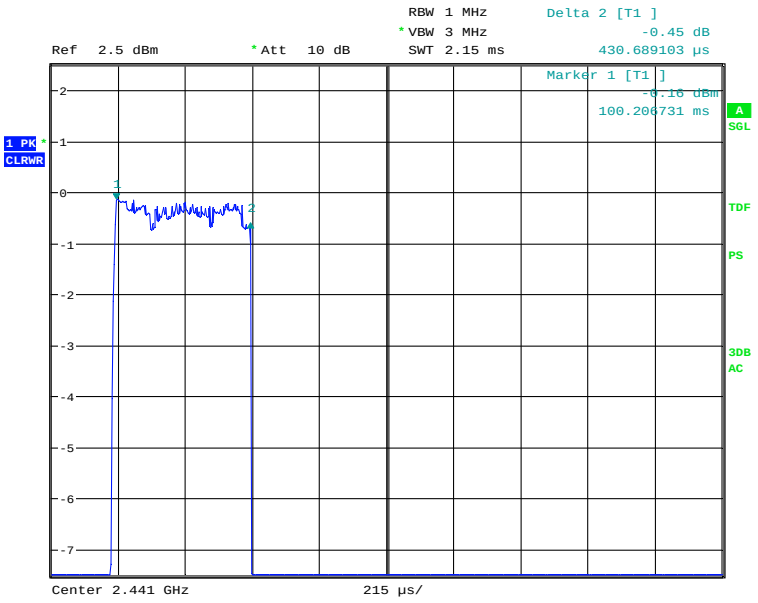
	Time of Single Slot [ms]	Numbers of slots in a period 3.16s	Time of occupied in a period [s]	Limit [s]	Result
DH1	0.431	30	0.129	≤ 0.4	Pass
DH3	1.656	17	0.282	≤ 0.4	Pass
DH5	2.949	12	0.354	≤ 0.4	Pass

AFH mode

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to 10 * (# of pulses in 0.8 s) * pulse width.

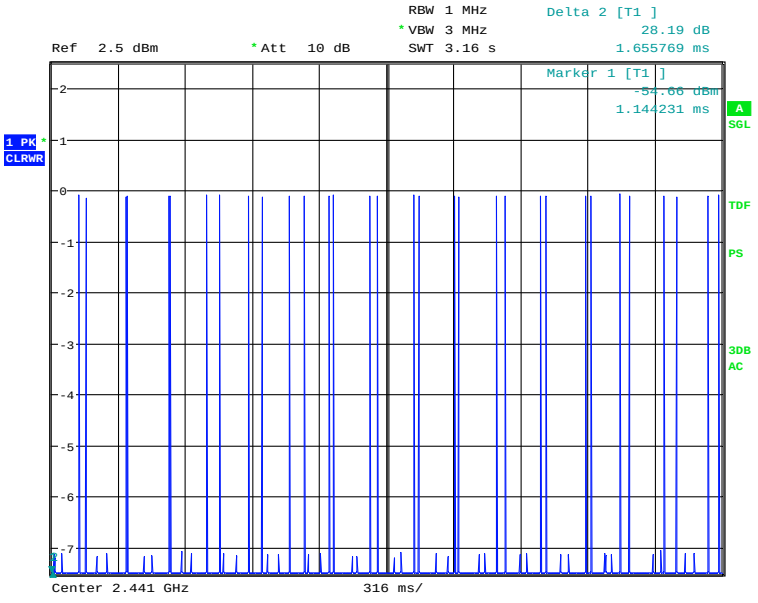
	Time of Single Slot [ms]	Numbers of slots in a period 3.16s	Time of occupied in a period [s]	Limit [s]	Result
AFH Mode DH5	2.949	12	0.090	≤ 0.4	Pass

DH1



OCB-V

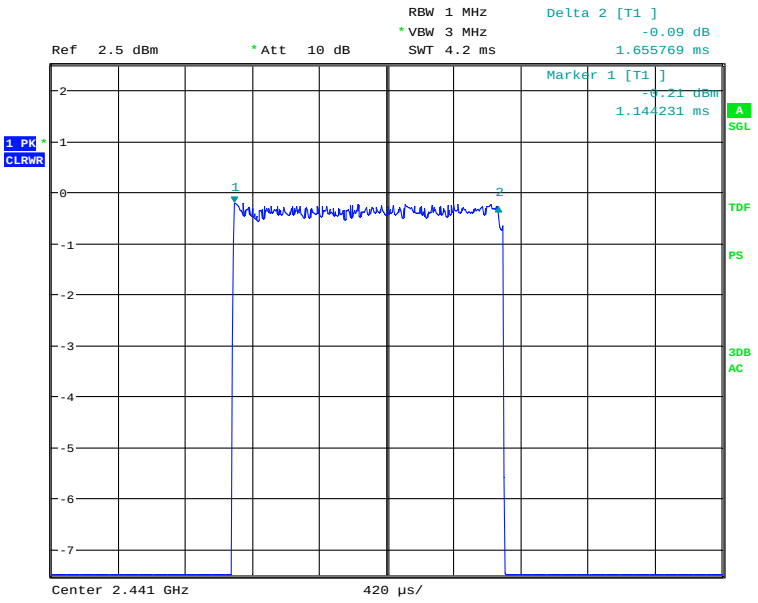
Date: 20.AUG.2013 12:04:21



OCB-V

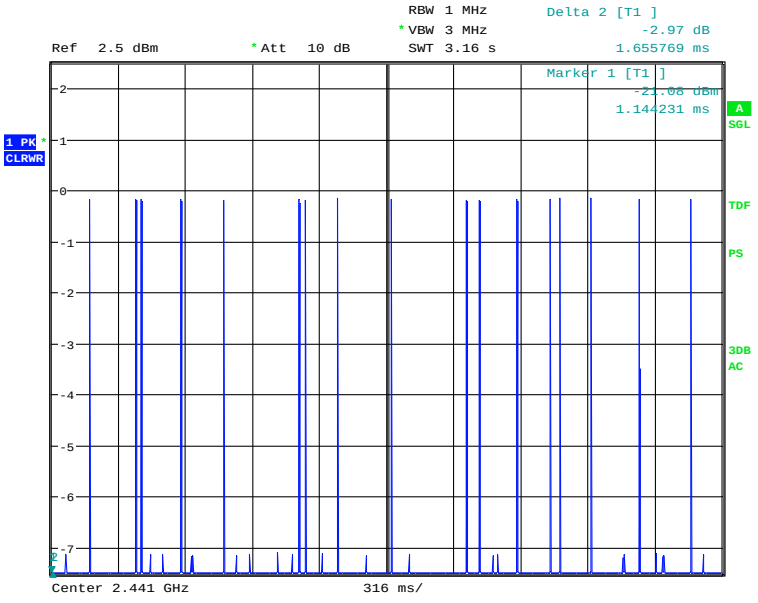
Date: 20.AUG.2013 11:48:45

DH3



OCB-V

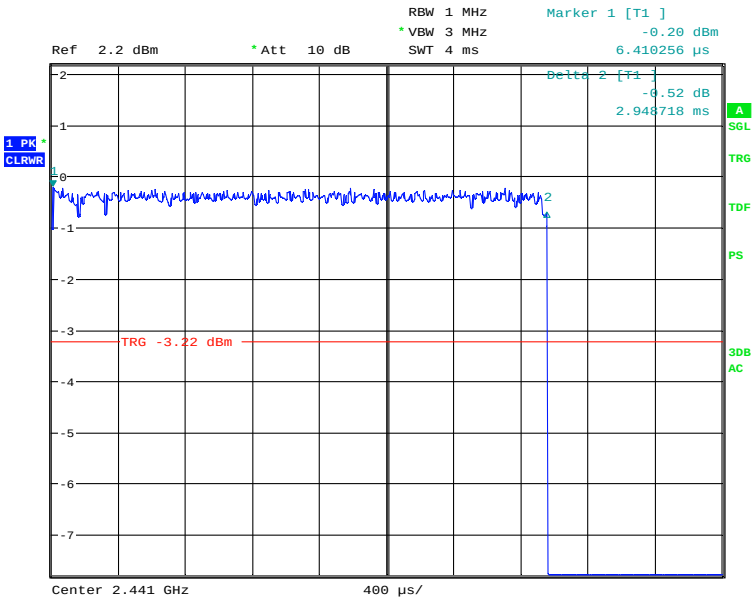
Date: 20.AUG.2013 11:46:38



OCB-V

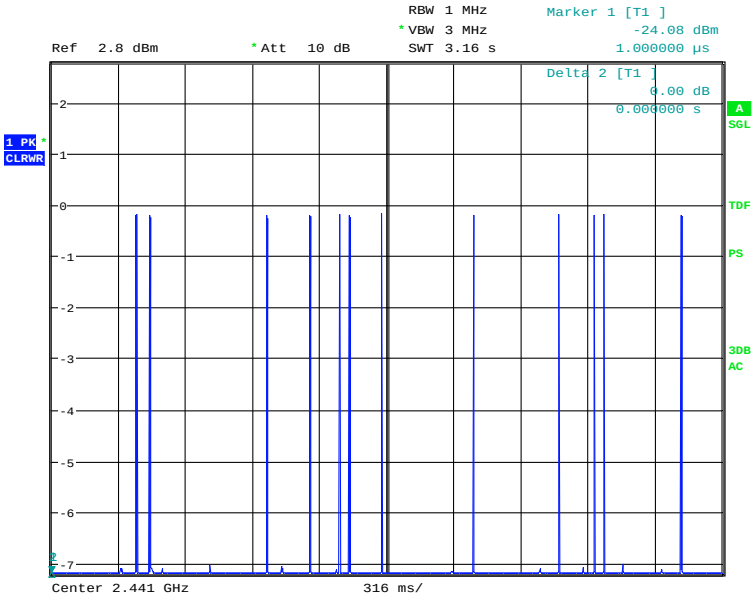
Date: 20.AUG.2013 11:47:45

DH5



OCB-V

Date: 20.AUG.2013 12:10:04



OCB-V

Date: 20.AUG.2013 11:36:50

Table 18 Time of Occupancy Test Data (EDR)

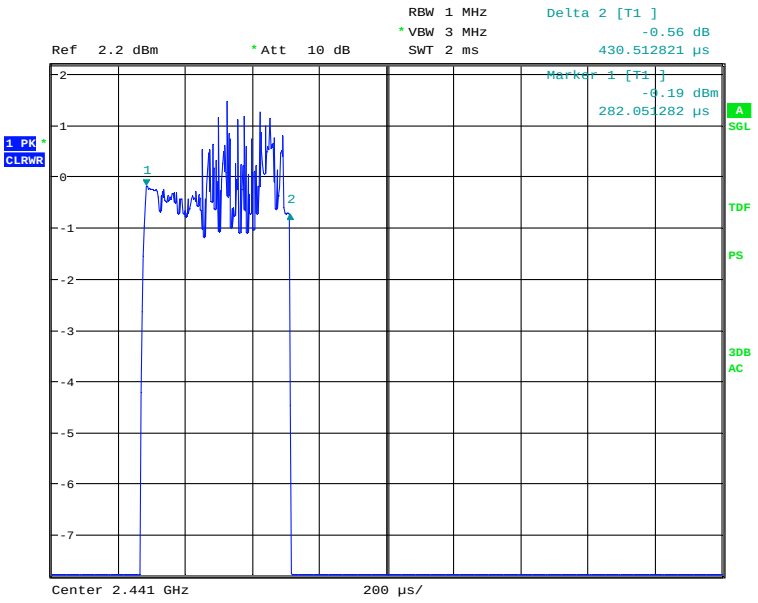
	Time of Single Slot [ms]	Numbers of slots in a period 3.16s	Time of occupied in a period [s]	Limit [s]	Result
3-DH1	0.431	32	0.138	≤ 0.4	Pass
3-DH3	1.662	18	0.299	≤ 0.4	Pass
3-DH5	2.912	13	0.379	≤ 0.4	Pass

AFH mode

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to 10 * (# of pulses in 0.8 s) * pulse width.

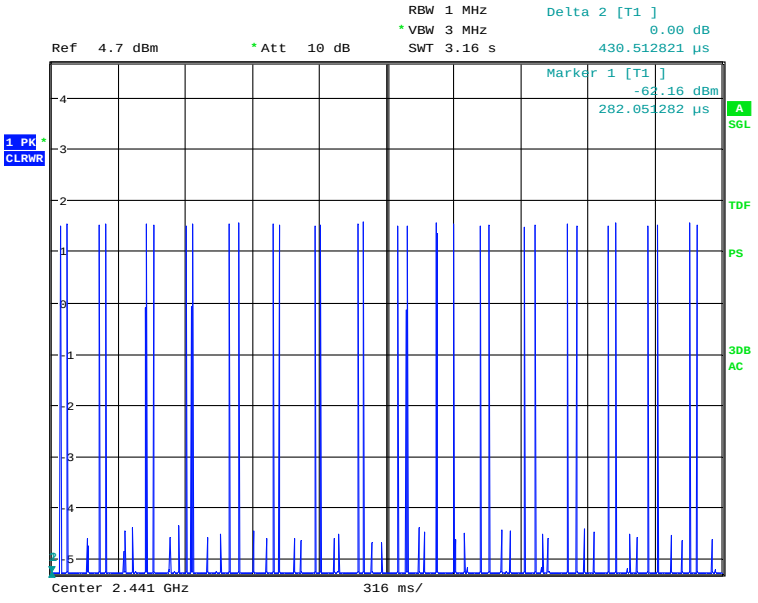
	Time of Single Slot [ms]	Numbers of slots in a period 3.16s	Time of occupied in a period [s]	Limit [s]	Result
AFH Mode DH5	2.912	13	0.096	≤ 0.4	Pass

3-DH1



OCB-V

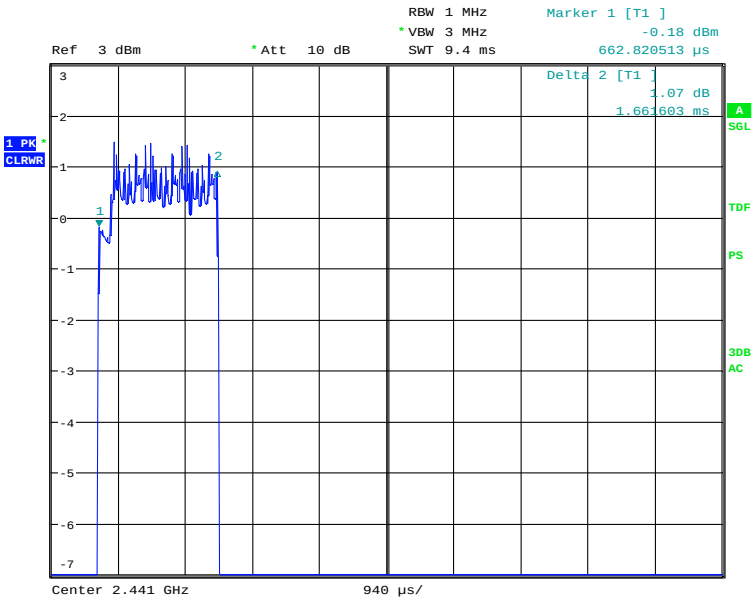
Date: 20.AUG.2013 12:14:02



OCB-V

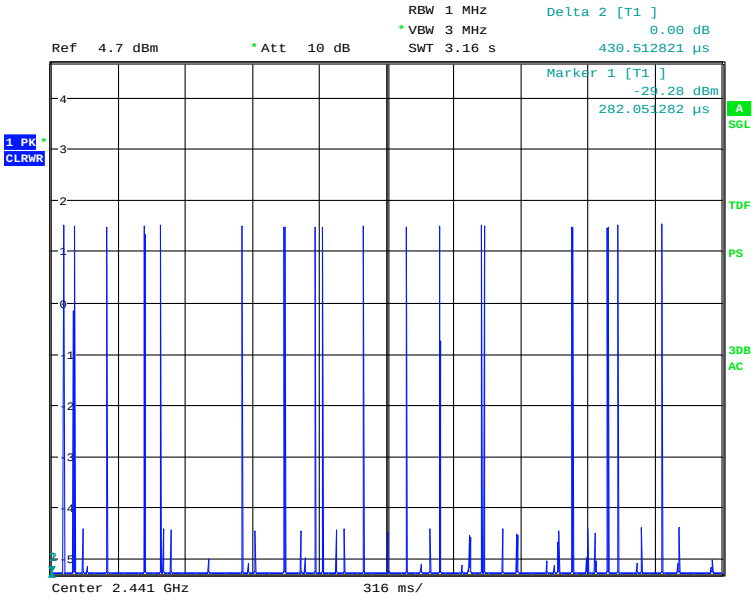
Date: 20.AUG.2013 12:14:56

3-DH3



OCB-V

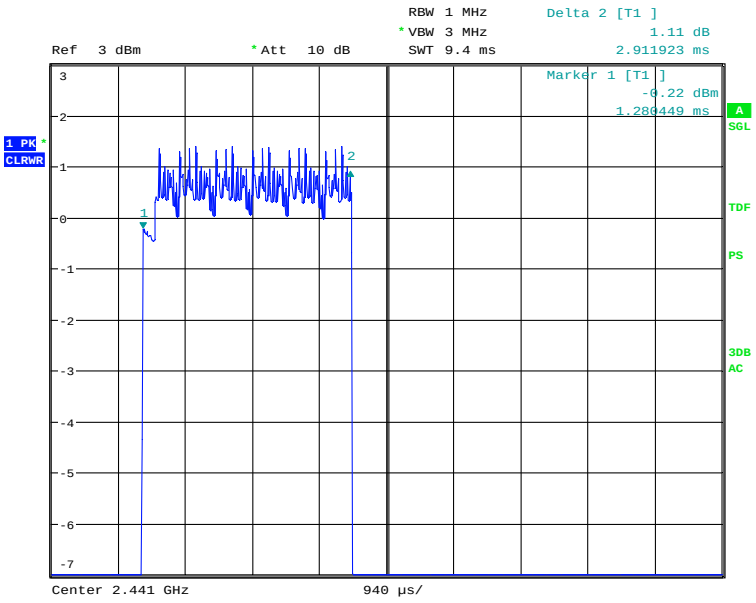
Date: 20.AUG.2013 12:16:58



OCB-V

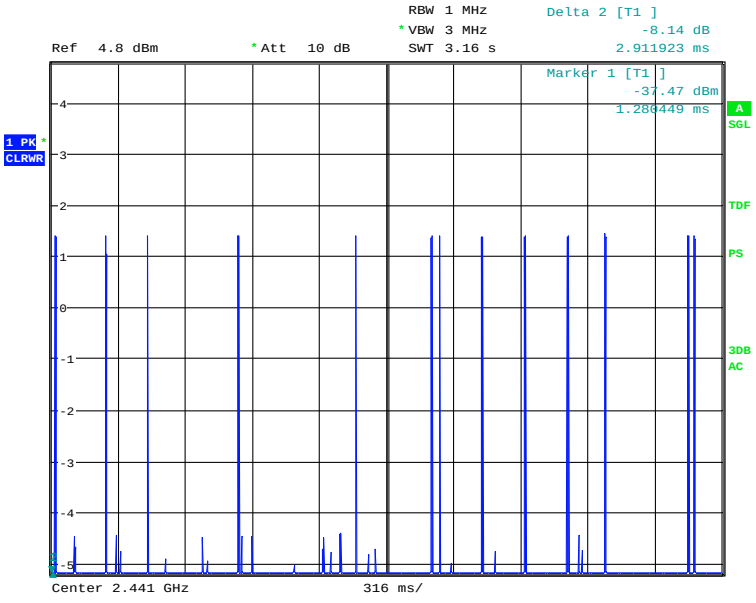
Date: 20.AUG.2013 12:15:30

3-DH5



OCB-V

Date: 20.AUG.2013 12:17:57



OCB-V

Date: 20.AUG.2013 12:19:02

11. PEAK POWER

11.1. Limits of Peak Power

Compliance with part 15.247 (b) (1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt (30dBm). For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watt (21dBm).

11.2. Test Procedure

(a) Connect transmitter output and CBT output to spectrum analyzer through a power divider.

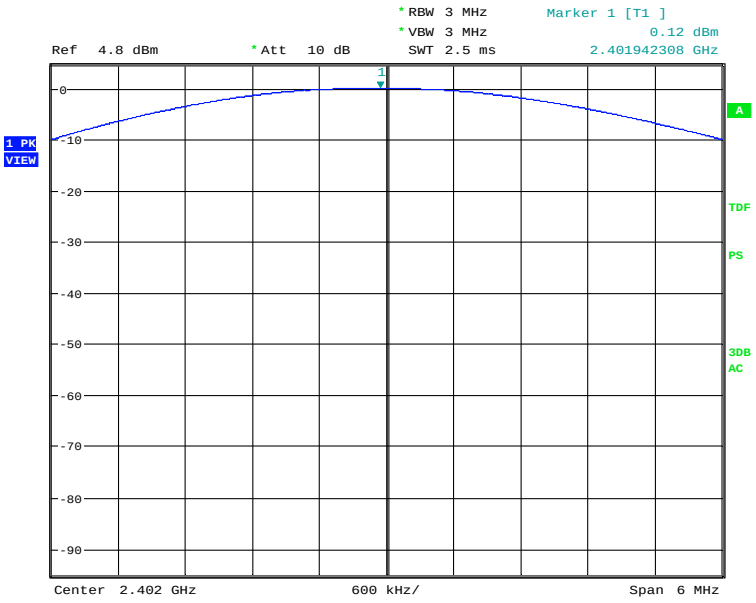
(b) Set the EUT to transmit maximum output power and switch off frequency hopping function.

(c) Then set the EUT to transmit at highest, middle and lowest frequency and measure the conducted output power separately.

11.3. Test Results

Table 19 Peak Power Test Data (Basic Rate)

Channel	Channel No.	Center Freq.[MHz]	Meas. Level (Cond.) [dBm]
Lowest	0	2402	0.12
Middle	39	2441	-0.17
Highest	78	2480	-0.68



OCB-V

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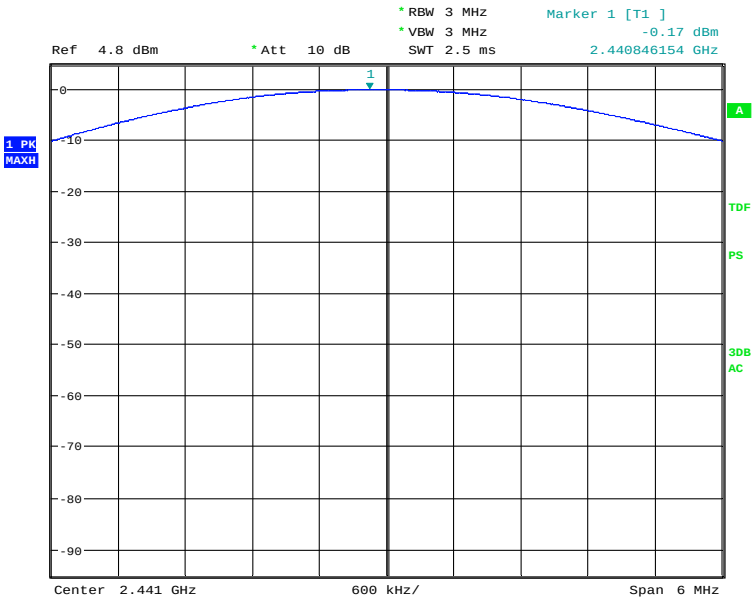
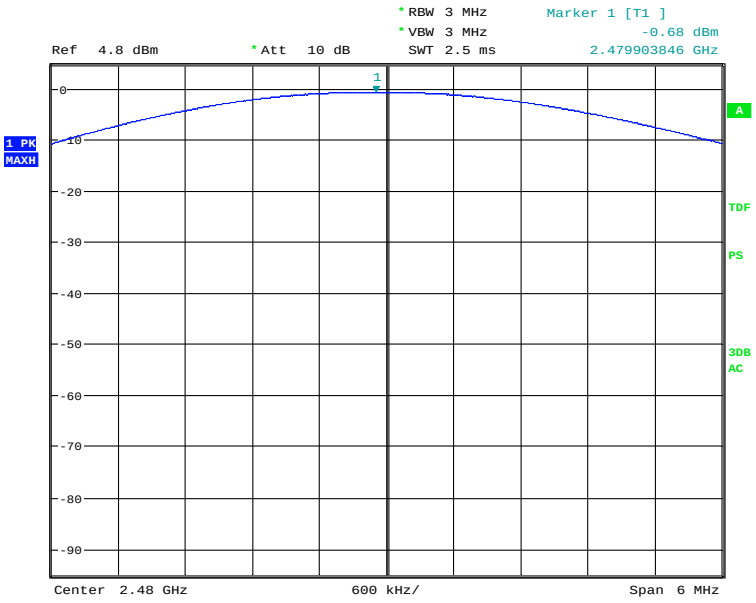


OCB-V

Date: 20.AUG.2013 12:22:07

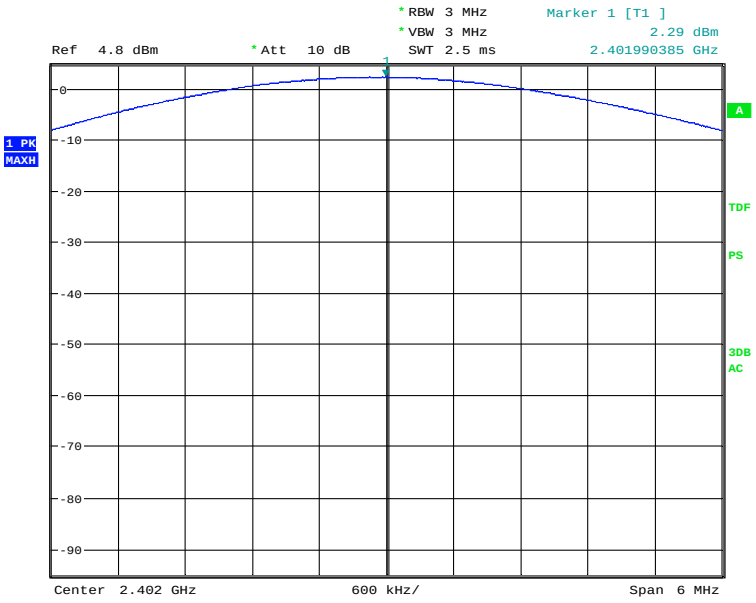


OCB-V

Date: 20.AUG.2013 12:22:39

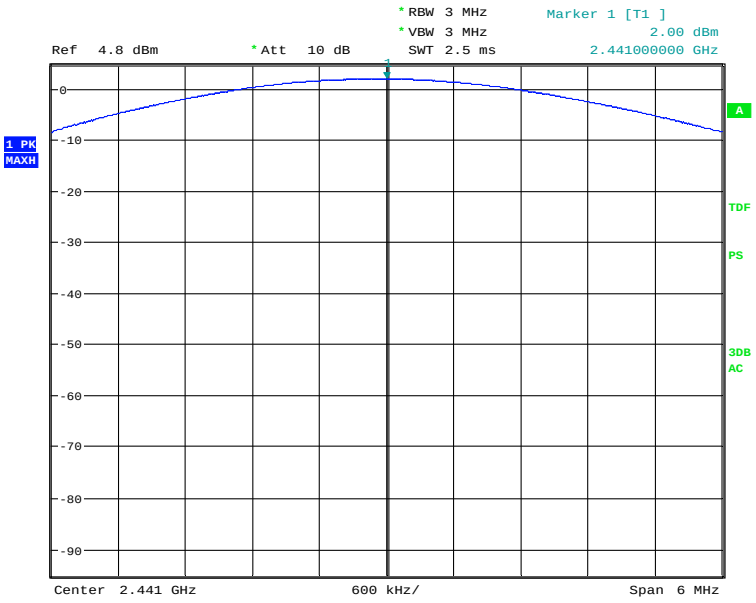
Table 20 Peak Power Test Data (Modulation: EDR)

Channel	Channel No.	Center Freq.[MHz]	Meas. Level (Cond.) [dBm]
Lowest	0	2402	2.29
Middle	39	2441	2.00
Highest	78	2480	1.48



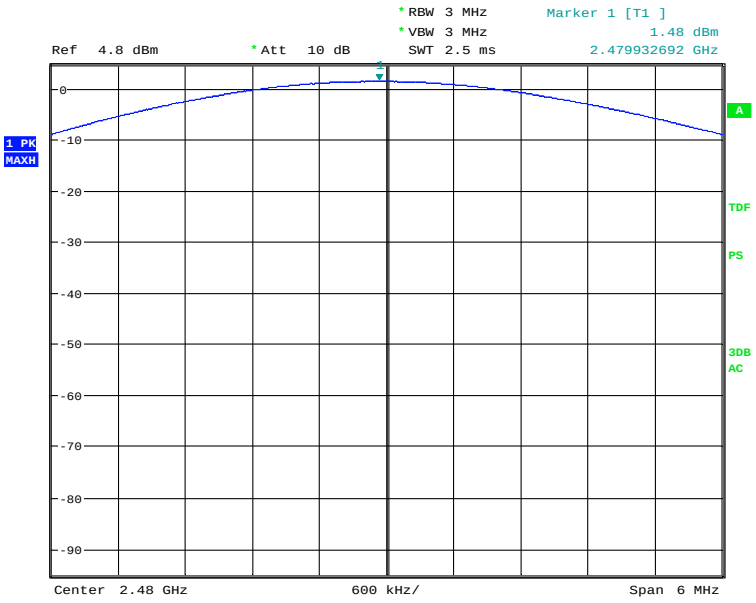
OCB-V

Date: 20.AUG.2013 12:24:46



OCB-V

Date: 20.AUG.2013 12:23:55



OCB-V

Date: 20.AUG.2013 12:23:27

12. BAND EDGES MEASUREMENT

12.1. Limits of Band Edges Measurement

Below – 20dB of the highest emission level of operating band (in 100kHz resolution bandwidth).

12.2. TEST PROCEDURE

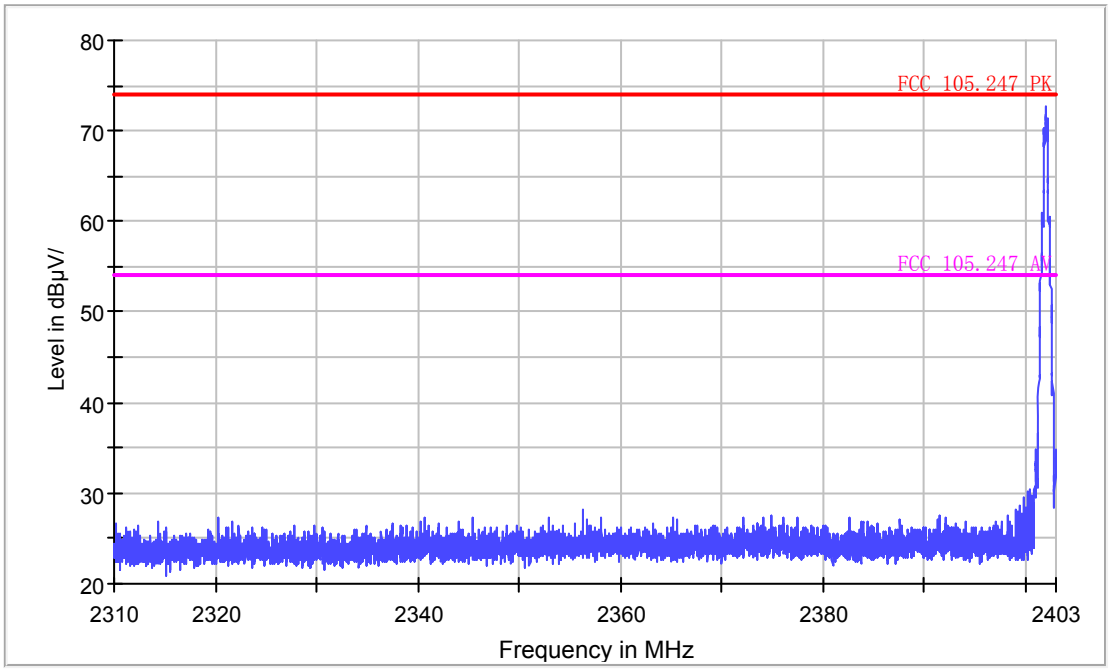
1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

12.3. Test Results

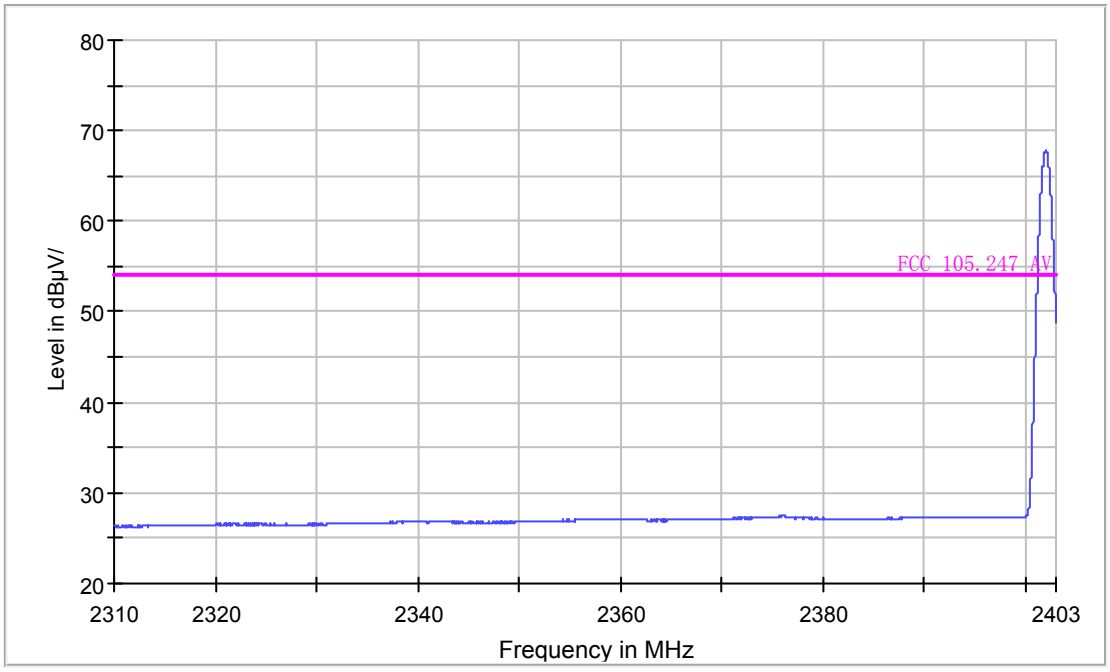
The measured plots are attached on the following. Test data shows compliance with the band edge requirement in part 15.247(d).

Bluetooth Basic Rate

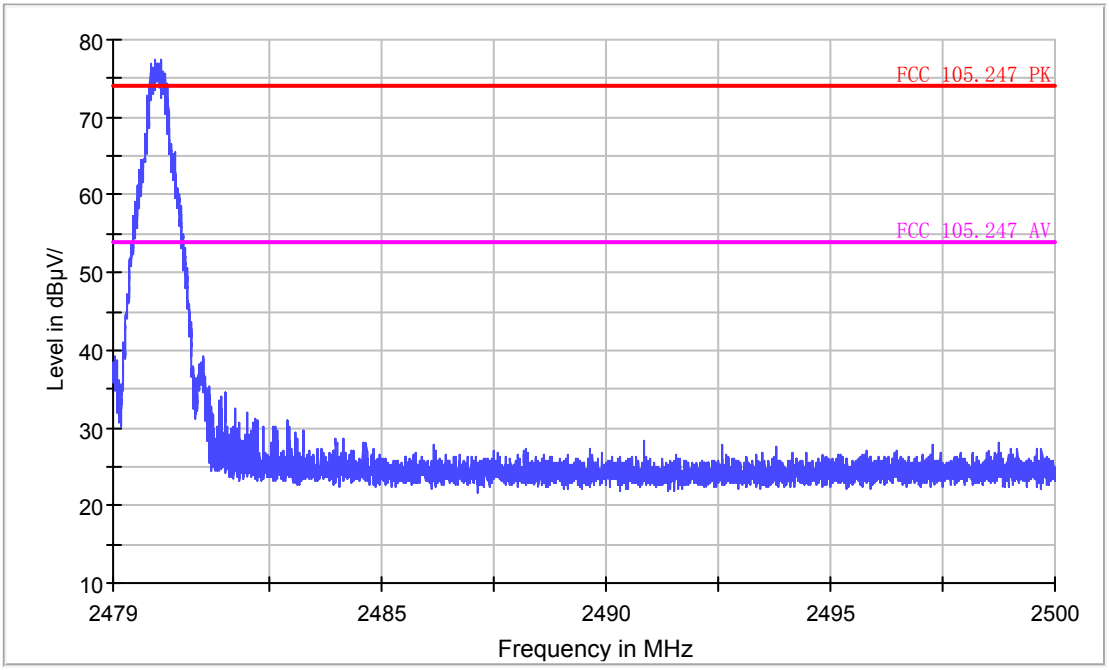
FCC Electric Field Strength 2.4GHz Bandedge-PK



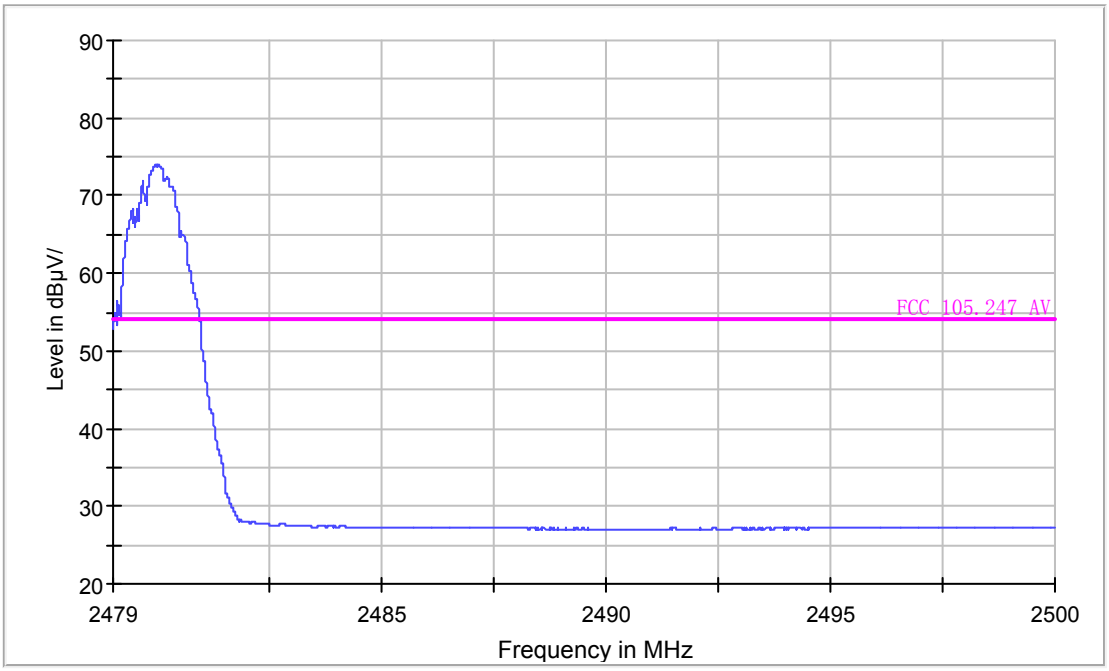
FCC Electric Field Strength 2.4GHz Bandedge-AV



FCC Electric Field Strength 2.4GHz Bandedge-PK

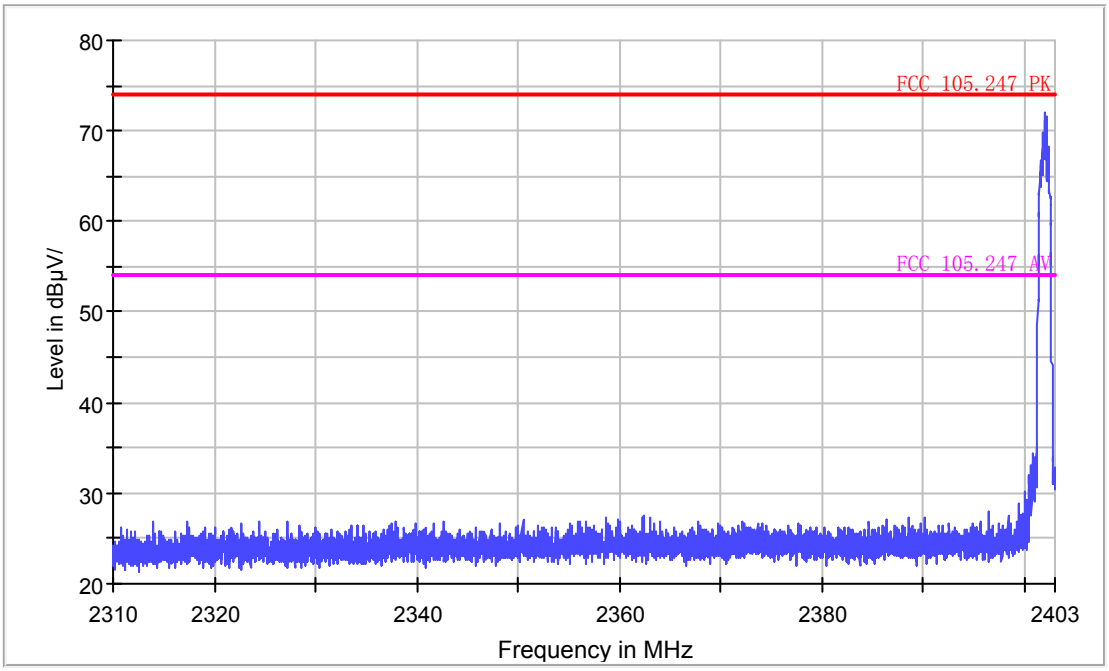


FCC Electric Field Strength 2.4GHz Bandedge-AV

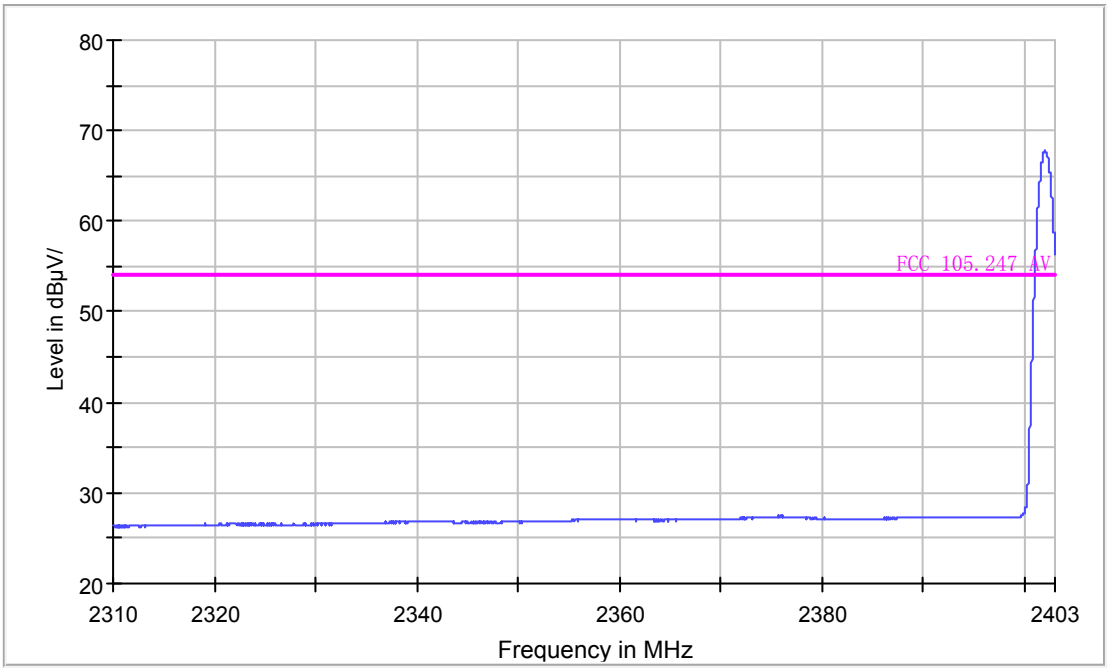


Bluetooth EDR

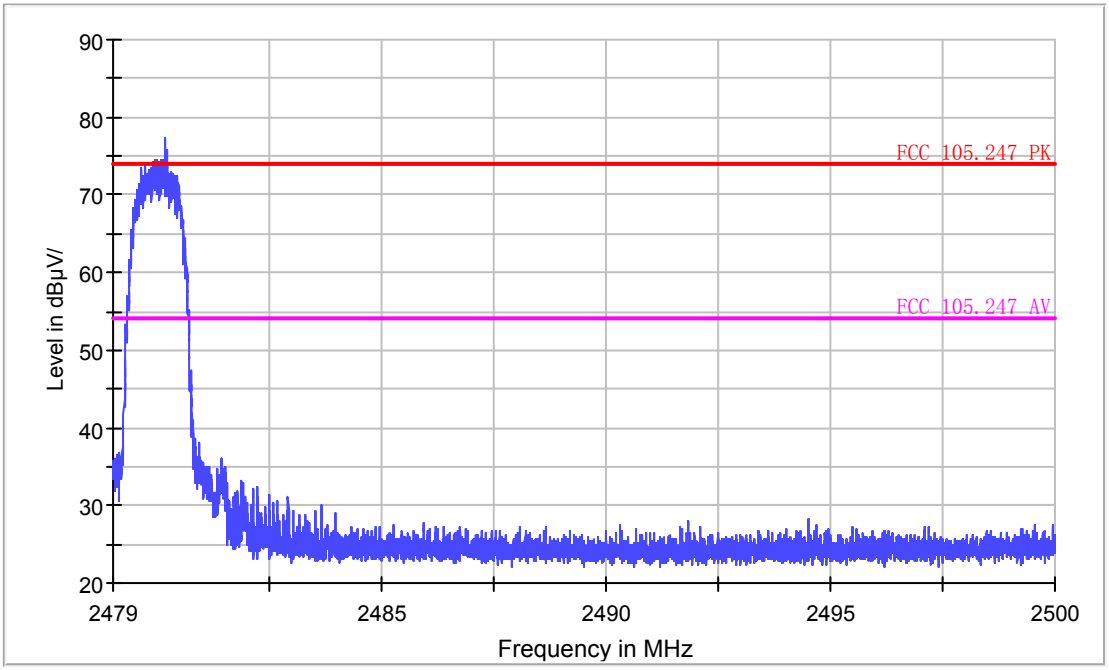
FCC Electric Field Strength 2.4GHz Bandedge-PK



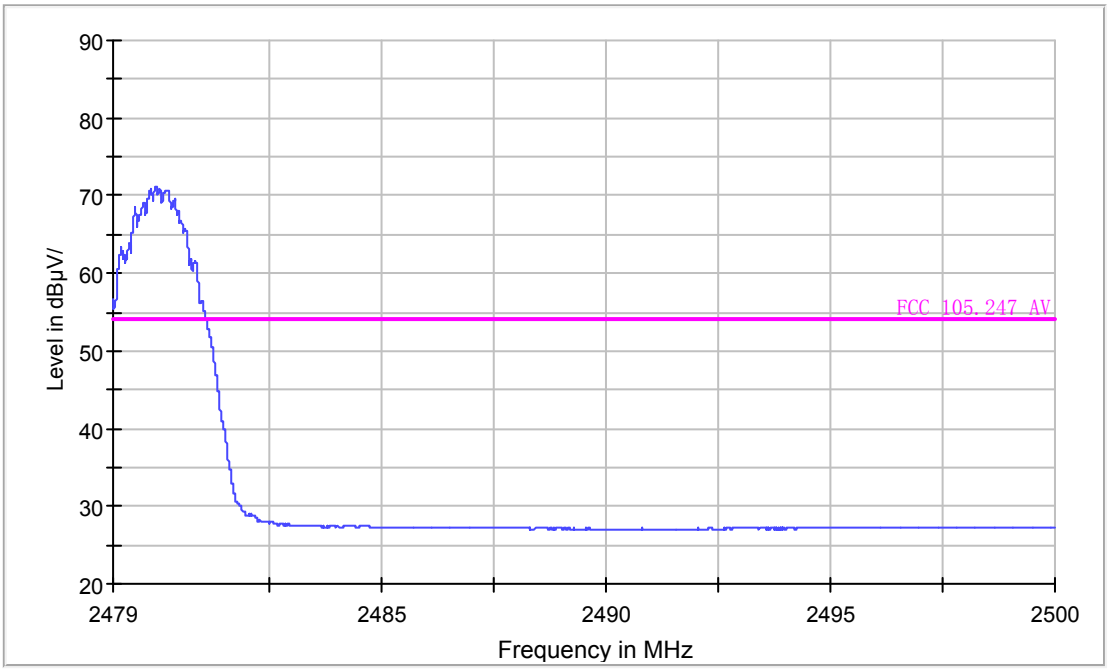
FCC Electric Field Strength 2.4GHz Bandedge-AV



FCC Electric Field Strength 2.4GHz Bandedge-PK



FCC Electric Field Strength 2.4GHz Bandedge-AV



13. CONDUCTED SPURIOUS EMISSIONS

13.1. Limits of Band Edges Measurement

Below – 20dB of the highest emission level of operating band (in 100kHz resolution bandwidth).

13.2. Test Procedure

The transmitter output and CBT output were connected to the spectrum analyzer through a power divider. The resolution bandwidth is set to100 kHz. The video bandwidth is set to 300 kHz.

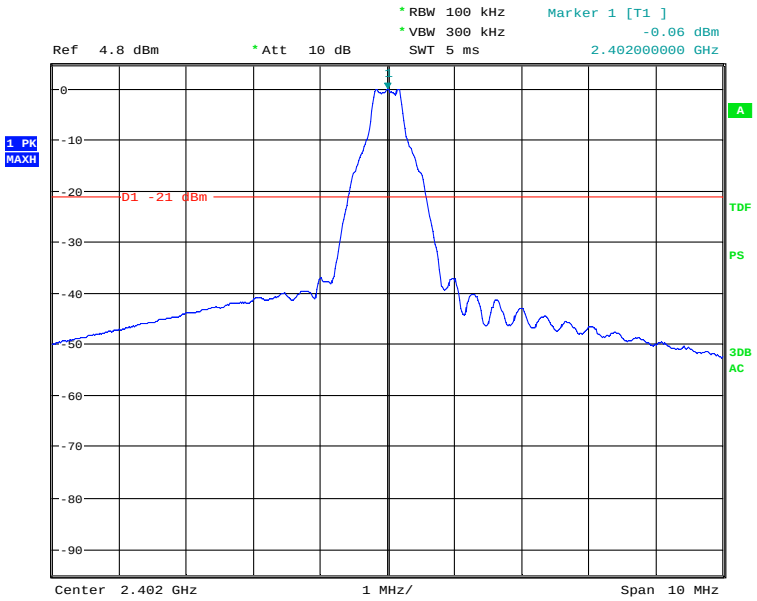
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal

13.3. TEST RESULTS

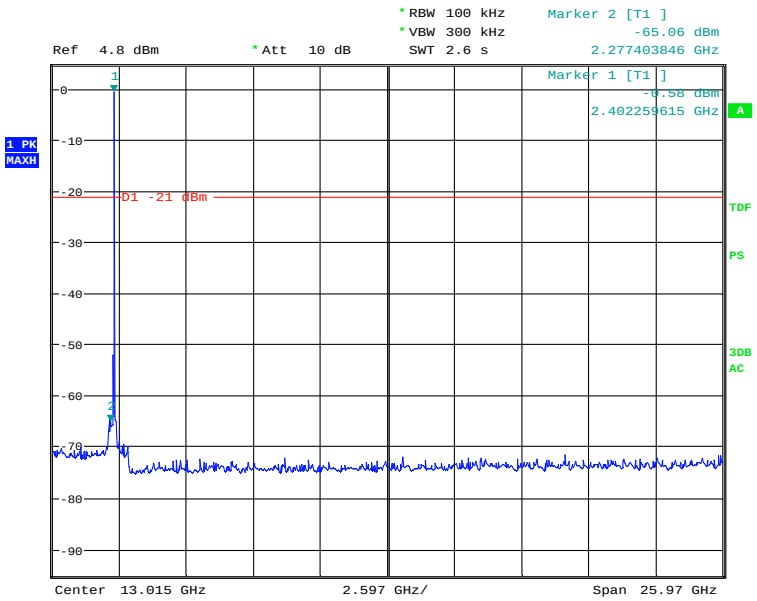
Bluetooth Basic

Low channel



OCB-V

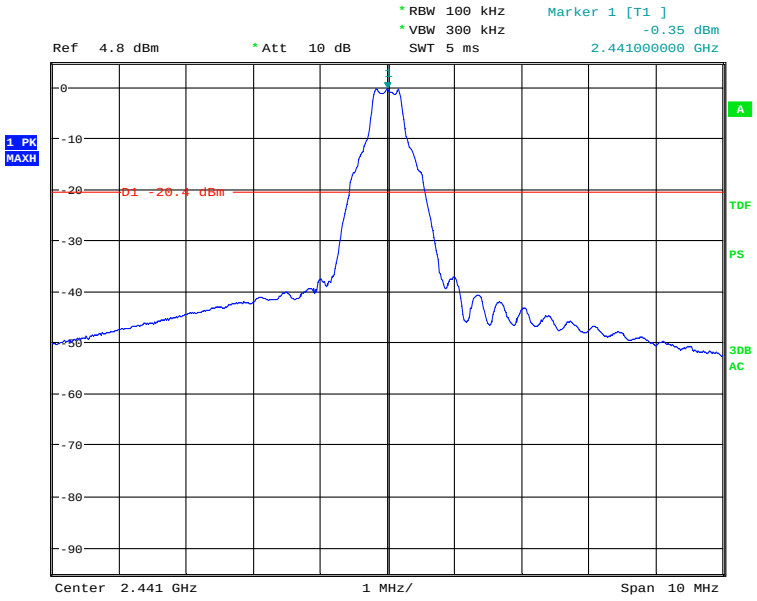
Date: 20.AUG.2013 12:28:01



OCB-V

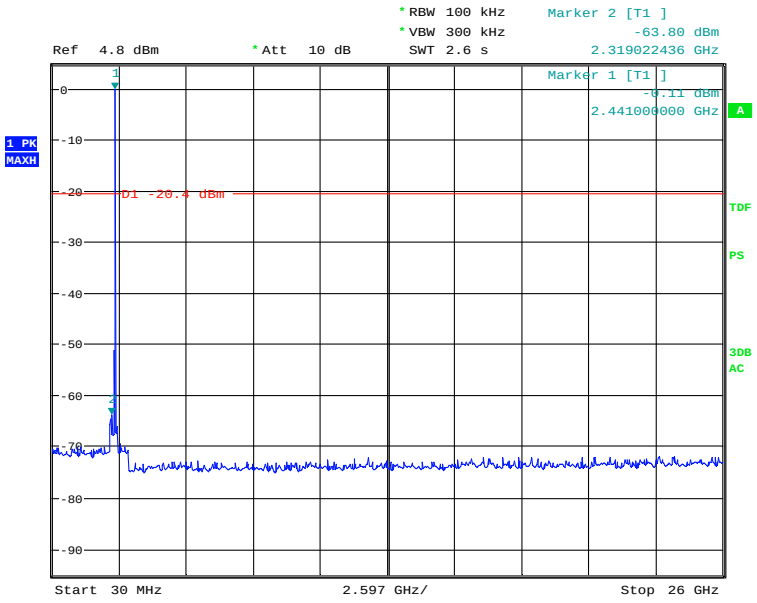
Date: 20.AUG.2013 12:34:05

Mid channel



OCB-V

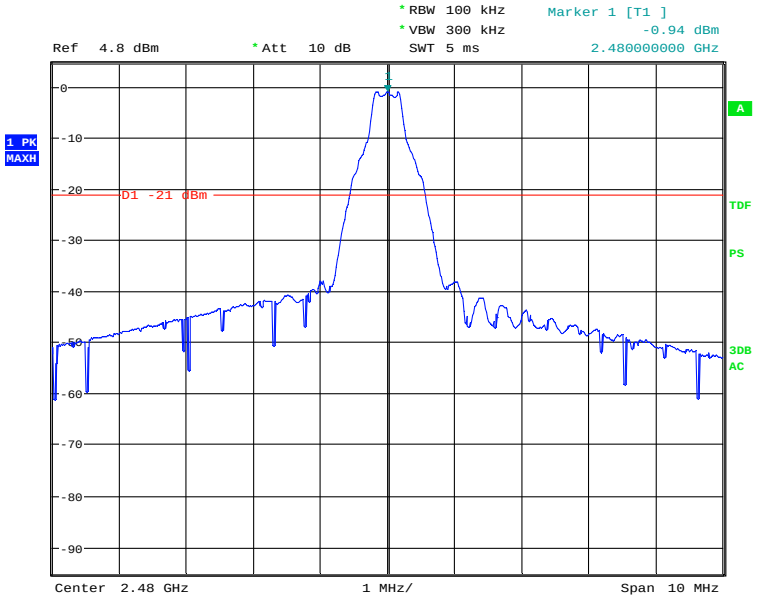
Date: 20.AUG.2013 12:31:23



OCB-V

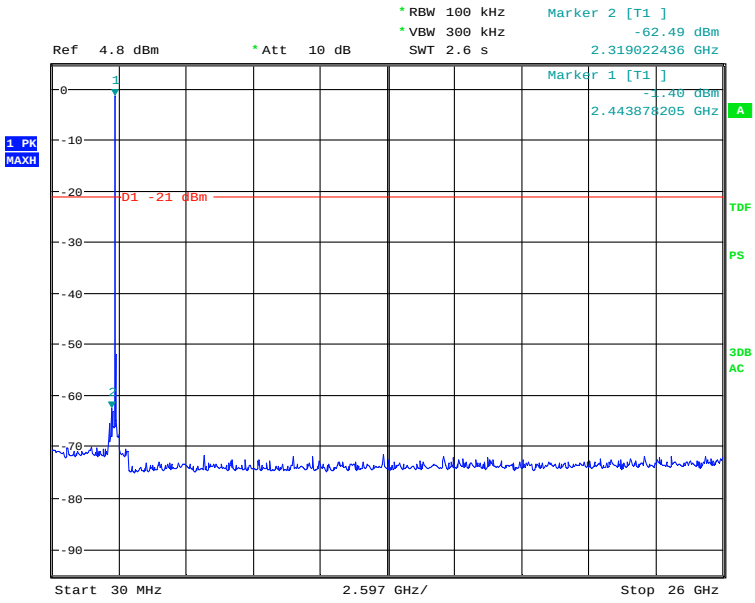
Date: 20.AUG.2013 12:32:31

High Channel



OCB-V

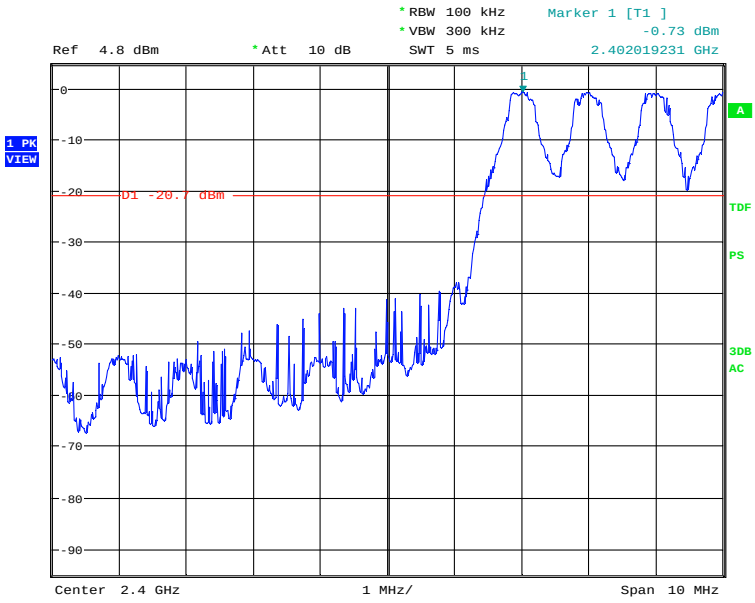
Date: 20.AUG.2013 12:35:48



OCB-V

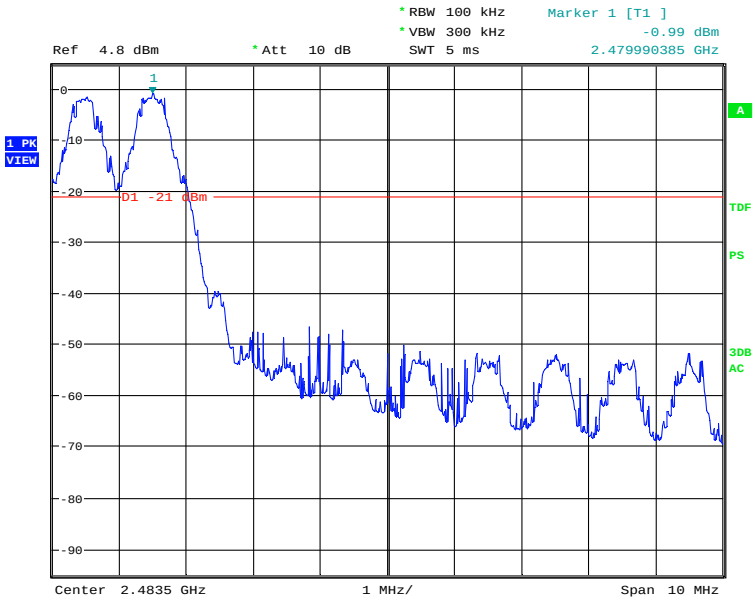
Date: 20.AUG.2013 12:36:48

Band Edge with Hopping On



OCB-V

Date: 20.AUG.2013 12:38:40

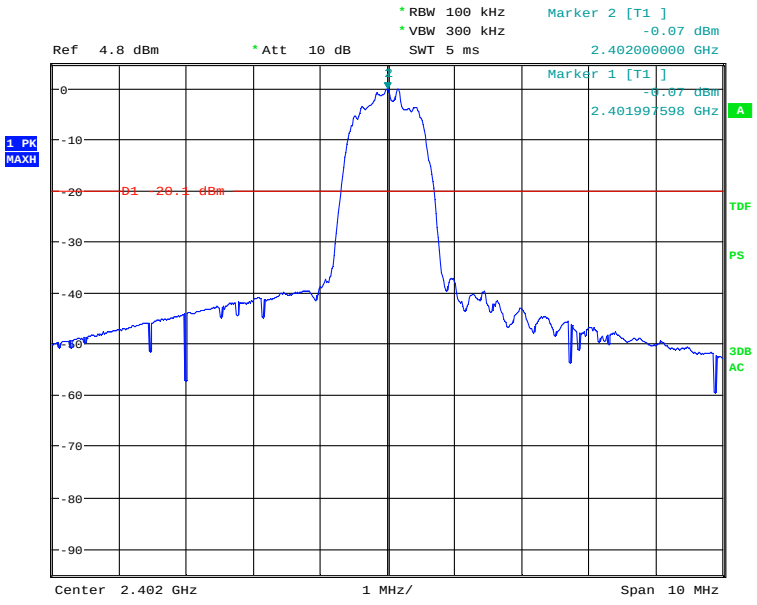


OCB-V

Date: 20.AUG.2013 12:41:41

Bluetooth EDR

Low channel



OCB-V

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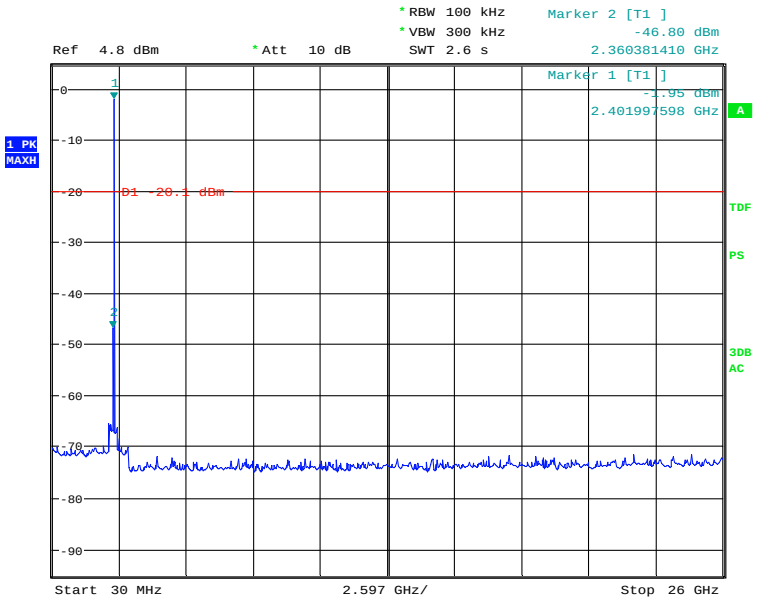
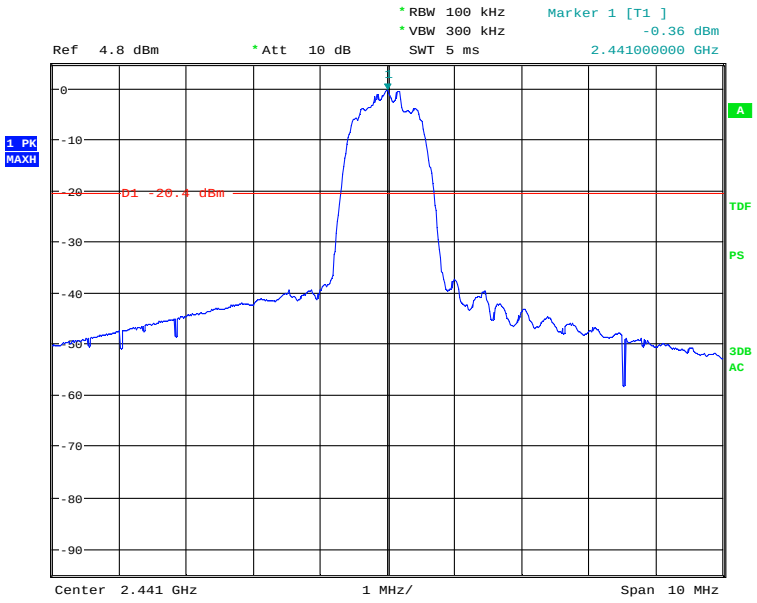


OCB-V

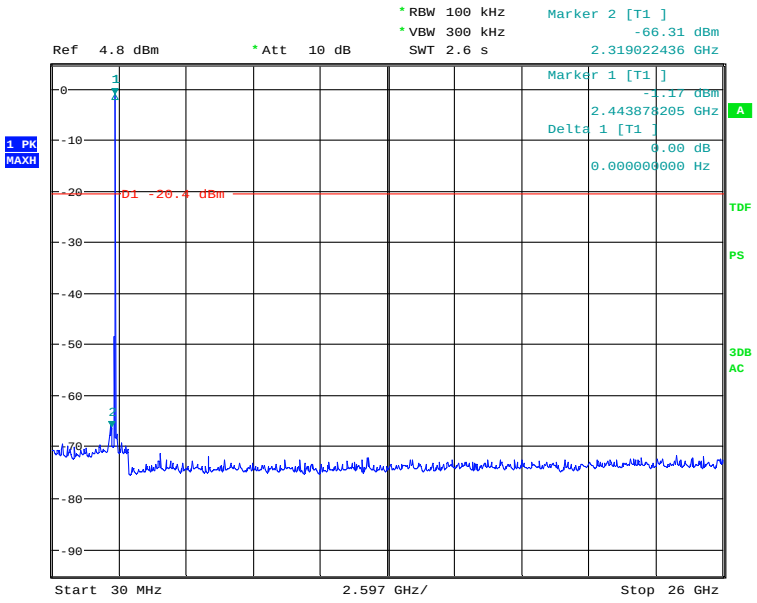
Date: 20.AUG.2013 12:50:10

Mid Channel



OCB-V

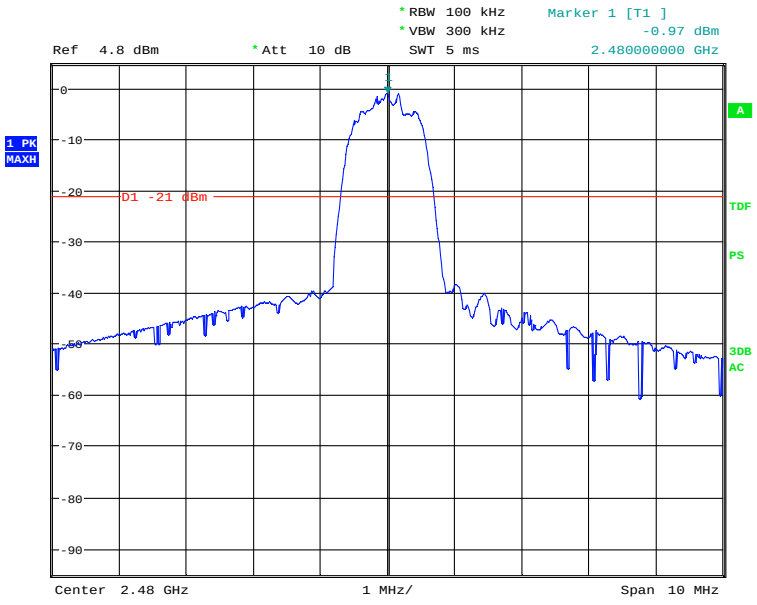
Date: 20.AUG.2013 12:47:05



OCB-V

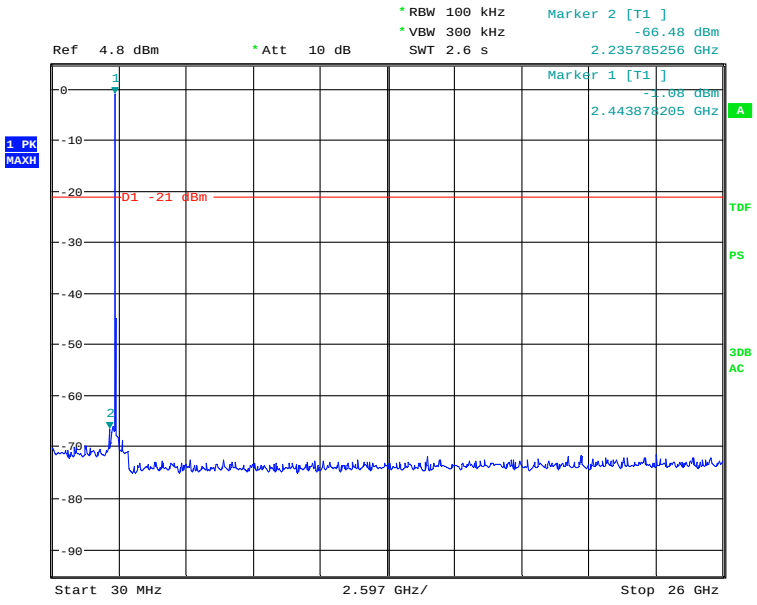
Date: 20.AUG.2013 12:51:39

High Channel



OCB-V

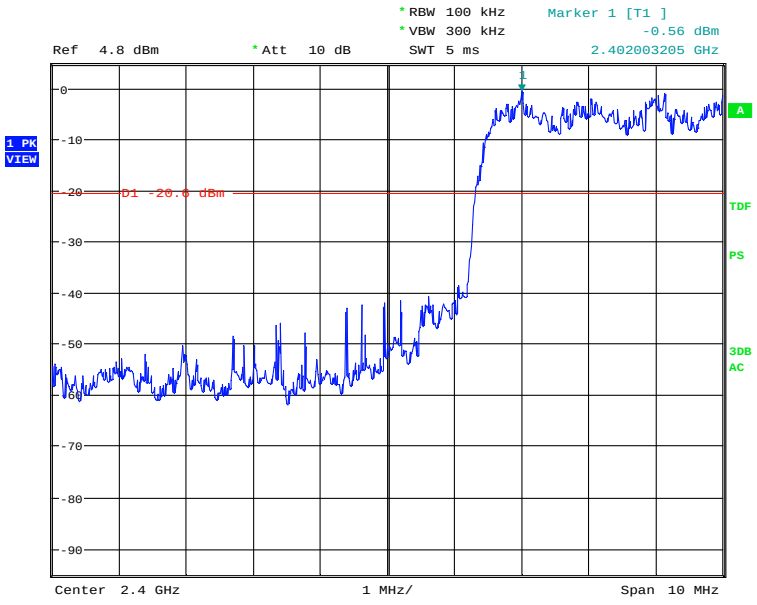
Date: 20.AUG.2013 12:45:13



OCB-V

Date: 20.AUG.2013 12:46:11

Band Edge with Hopping On



OCB-V

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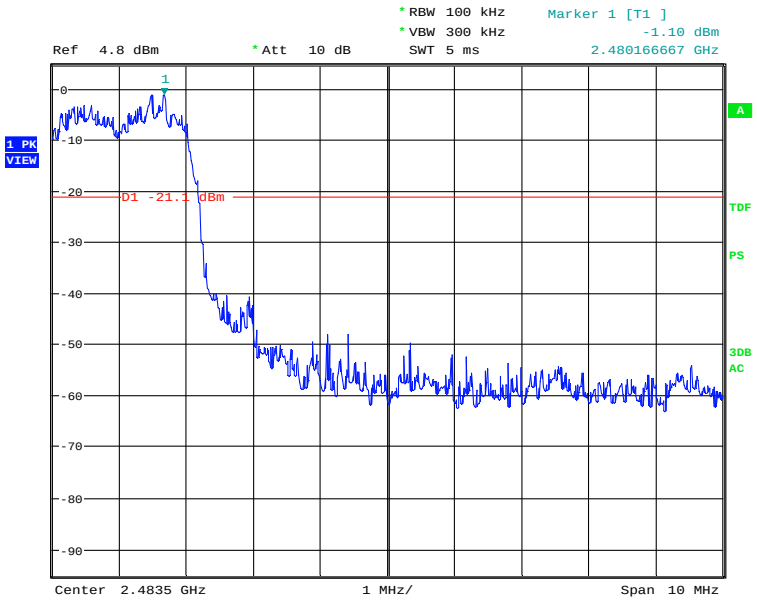

OCB-V

Date: 20.AUG.2013 12:42:33

14. ANTENNA REQUIREMENT

According to Section 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.

The EUT has a built in antenna which is integrated inside the enclosure, this is permanently attached antenna and meets the requirements of this section.