EMC Test Report

Project Number: 3044696

Report Number: 3044696EMC23 **Revision Level:** 1

Client: Intermec

Equipment Under Test: Mobile Computer with CDMA/EVDO/GSM/UMTS/BT/WiFi

Marketing Name: Catalina

Model: CN51 (1015CP01S)

Applicable Standards: FCC Part 15 Subpart C, § 15.247

ANSI C63.10: 2009

Report issued on: 4 SEP 2013

Test Result: Compliant

Tested by: Jeremy O. Pickens, Senior EMC Engineer

Reviewed by: David Schramm, EMC 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)	Compliant
Peak Power Output	15.247(a) (1)	Compliant
Conducted Spurious Emissions	15.247(d)	Compliant
Band Edge	15.247(d)	Compliant
Radiated Spurious Emissions	15.247(d), 15.35(b),15.209	Compliant
Spectral Density	15.247(f), 15.247(e)	Compliant
AC Powerline Conducted Emission	15.107, 15.207	Compliant
Dwell time	15.247(a) (1)(iii)	See Note
Number of Hopping Frequencies	15.247(a) (1)(iii)	See Note
Channel separation	15.247(a) (1)(iii)	See Note

Note: See Bluetooth Approvals section for required testing/reporting for Bluetooth approved devices.

1.1 *Modifications Required for Compliance*

None

2 General Information

2.1 *Client Information*

Name:	Intermec
Address:	6001 36th Avenue West
City, State, Zip, Country:	Everett, WA 98203 - 1264 6001 36th Avenue West

2.2 *Test Laboratory*

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

2.3 *General Information of EUT*

Marketing Name:	Catalina
Model:	1015CP01S
Serial Number:	346X1200015 (conducted measurements) 077X1200001 (radiated measurements)
EUT Firmware Version:	1.0.0.0334
FCC ID:	1015CP01SX1
Frequency Range:	2402 to 2480 MHz
Number of channels:	79
Modulation type:	GFSK, DQPSK, 8DPSK
Channel spacing:	1 MHz
Antenna:	Integral
Rated Voltage:	3.8 VDC Internal Battery
Sample Received Date:	18APR2013
Dates of testing:	02 MAY – 26 JUL 2013

Operating Modes and Conditions

The EUT was configured in software to allow the user to the control the EUT to run continuously exercising all modes of operation.

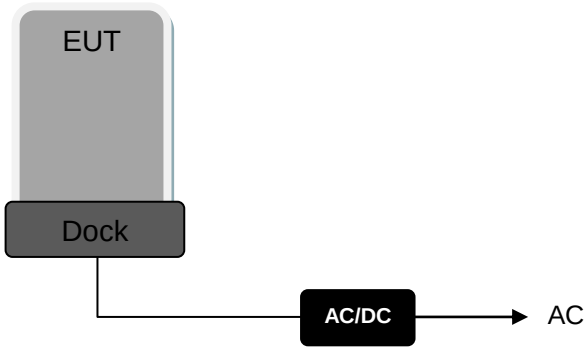
During testing, the hopping sequence was stopped in accordance with Section 5.1 of ANSI C63.10-2009 so that the low, mid and high channels could be tested independently.

Modulations used: For fundamental and spurious measurements, the EUT was configured to operate continuously with Bluetooth modulation enabled.

As specified in Section 5.10.5 of ANSI C63.10:2009:

- Software was designed to allow the EUT to operate
  - at 100 % duty cycle
  - at the worst-case duty cycle to allow measurements in instances where an average correction factor needs to be determined to calculate the average field strength from the measured peak field strength
- 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
- Since this is a frequency hopping system, the software allowed the hopping sequence to be turned off

2.4 *EUT Connection Block Diagram*



2.5 *System Configurations*

Device reference	Manufacturer	Description	Model Number	Serial Number
A	Intermec	EUT	1015CP01	346X1200015 (conducted measurements) 077X1200001 (radiated measurements)
B	Intermec	AC Adapter	AE37	000261

3 Bluetooth Approvals

BLUETOOTH APPROVALS
FCC Procedure Received from Joe Dichoso on 2-15-02

The following exhibit indicates the FCC Spread Spectrum requirements in Section 15.247 for devices meeting the Bluetooth Specifications in the 2.4 GHz band as of February 2001 operating in the USA. The purpose of this exhibit is to help expedite the approval process for Bluetooth devices. This exhibit provides items that vary for each device and also provides a list of items that are common to Bluetooth devices that explains the remaining requirements. The list of common items can be submitted for each application for equipment authorization. This exhibit only specifies requirements in Section 15.247, requirements in other rule Sections for intentional radiators such as in Section 15.203 or 15.207 must be also be addressed. A Bluetooth device is a FHSS transmitter in the data mode and applies as a Hybrid spread spectrum device in the acquisition mode.

For each individual device, the following items, 1-7 will vary from one device to another and must be submitted.

1) The occupied bandwidth in Section 15.247(a)(1)(ii).
2) Conducted output power specified in Section 15.247(b)(1).
3) EIRP limit in Section 15.247(b)(3).
4) RF safety requirement in Section 15.247(b)(4)
5) Spurious emission limits in Section 15.247(c).
6) Processing gain and requirements for Hybrids in Section 15.247(f) in the acquisition mode.
7) Power spectral density requirement in Section 15.247(f) in the acquisition mode.

For all devices, the following items, 1-12, are common to all Bluetooth devices and will not vary from one device to another. This list can be copied into the filing.

1 Output power and channel separation of a Bluetooth device in the different operating modes:
The different operating modes (data-mode, acquisition-mode) of a Bluetooth device don't influence the output power and the channel spacing. There is only one transmitter which is driven by identical input parameters concerning these two parameters.
Only a different hopping sequence will be used. For this reason, the RF parameters in one op-mode is sufficient.

2 Frequency range of a Bluetooth device:
The maximum frequency of the device is: **2402 – 2480 M**Hz.
This is according the Bluetooth Core Specification V 1.0B (+ critical errata) for devices which will be operated in the USA. Other frequency ranges (e.g. for Spain, France, Japan) which are allowed according the Core Specification must **not be** supported by the device.

3 Co-ordination of the hopping sequence in data mode to avoid simultaneous occupancy by multiple transmitters:
Bluetooth units which want to communicate with other units must be organized in a structure called piconet. This piconet consist of max. 8 Bluetooth units. One unit is the master the other seven are the slaves. The master co-ordinates frequency occupation in this piconet for all units. As the master hop sequence is derived from it's BD address which is unique for every Bluetooth device, additional masters intending to establish new piconets will always use different hop sequences.

4 Example of a hopping sequence in data mode:

Example of a 79 hopping sequence in data mode:
40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54, 67,
56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57, 70, 59,
72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03, 73, 07, 75,
09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53, 68, 02, 70, 06,
01, 51, 03, 55, 05, 04

5 Equally average use of frequencies in data mode and short transmissions:

The generation of the hopping sequence in connection mode depends essentially on two input values:
1. LAP/UAP of the master of the connection
2. Internal master clock

The LAP (lower address part) are the 24 LSB's of the 48 BD_ADDRESS. The BD_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP (upper address part) are the 24 MSB's of the 48 BD_ADDRESS. The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For synchronization with other units, only the offsets are used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5 µs. The clock has a cycle of about one day (23h30). In most case it is implemented as 28 bit counter. For the deriving of the hopping sequence the entire LAP (24 bits), 4 LSB's (4 bits) (Input 1) and the 27 MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions, the Bluetooth system has the following behavior:
The first connection between the two devices is established, a hopping sequence is generated. For transmitting the wanted data, the complete hopping sequence is not used and the connection ends. The second connection will be established. A new hopping sequence is generated. Due to the fact that the Bluetooth clock has a different value, because the period between the two transmission is longer (and it cannot be shorter) than the minimum resolution of the clock (312.5 µs). The hopping sequence will always differ from the first one.

6 Receiver input bandwidth, synchronization and repeated single or multiple packets:

The input bandwidth of the receiver is 1 MHz.

In every connection, one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence (see chapter 5). The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection (e.g. single or multi-slot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing is according to the packet type of the connection. Also, the slave of the connection uses these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence

7 Dwell time in data mode

The dwell time of 0.3797s within a 30 second period in data mode is independent from the packet type (packet length). The calculation for a 30 second period is a follows:
Dwell time = time slot length * hop rate / number of hopping channels *30s
Example for a DH1 packet (with a maximum length of one time slot)
Dwell time = 625 µs * 1600 1/s / 79 * 30s = 0.3797s (in a 30s period)

For multi-slot packet the hopping is reduced according to the length of the packet.
Example for a DH5 packet (with a maximum length of five time slots)
Dwell time = 5 * 625 µs * 1600 * 1/5 *1/s / 79 * 30s = 0.3797s (in a 30s period)
This is according the Bluetooth Core Specification V 1.0B (+ critical errata) for all Bluetooth devices. Therefore, all Bluetooth devices **comply** with the FCC dwell time requirement in the data mode.
This was checked during the Bluetooth Qualification tests.
The Dwell time in hybrid mode is approximately 2.6 mS (in a 12.8s period)

8 Channel Separation in hybrid mode

The nominal channel spacing of the Bluetooth system is 1Mhz independent of the operating mode.
The maximum "initial carrier frequency tolerance" which is allowed for Bluetooth is fcenter = 75 kHz.
This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/07-E) for three frequencies (2402, 2441, 2480 MHz).

9 Derivation and examples for a hopping sequence in hybrid mode

For the generation of the inquiry and page hop sequences the same procedures as described for the data mode are used (see item 5), but this time with different input vectors:
**For the inquiry hop sequence, a predefined fixed address is always used. This results in the same 32 frequencies used by all devices doing an inquiry but every time with a different start frequency and phase in this sequence.
**For the page hop sequence, the device address of the paged unit is used as the input vector. This results in the use of a subset of 32 frequencies which is specific for that initial state of the connection establishment between the two units. A page to different devices would result in a different subset of 32 frequencies.
So it is ensured that also in hybrid mode, the frequency is used equally on average.
Example of a hopping sequence in inquiry mode:
48, 50, 09, 13, 52, 54,41, 45, 56, 58, 11, 15, 60, 62, 43, 47, 00, 02, 64, 68, 04, 06, 17, 21, 08, 10, 66, 70, 12, 14, 19, 23
Example of a hopping sequence in paging mode:
08, 57, 68, 70, 51, 02, 42, 40, 04, 61, 44, 46, 63, 14, 50, 48, 16, 65, 52, 54, 67, 18, 58, 56, 20, 53, 60, 62, 55, 06, 66, 64

10 Receiver input bandwidth and synchronization in hybrid mode:

The receiver input bandwidth is the same as in the data mode (1 MHz). When two Bluetooth devices establish contact for the first time, one device sends an inquiry access code and the other device is scanning for this inquiry access code. If two devices have been connected previously and want to start a new transmission, a similar procedure takes place. The only difference is, instead of the inquiry access code, a special access code, derived from the BD_ADDRESS of the paged device will be, will be sent by the master of this connection. Due to the fact that both units have been connected before (in the inquiry procedure) the paging unit has timing and frequency information about the page scan of the paged unit. For this reason the time to establish the connection is reduced.

11 Spread rate / data rate of the direct sequence signal

The Spread rate / Data rate in inquiry and paging mode can be defined via the access code. The access code is the only criterion for the system to check if there is a valid transmission or not. If you regard the presence of a valid access code as one bit of information, and compare it with the length of the access code of 68 bits, the Spread rate / Data rate will be 68/1.

12 Spurious emission in hybrid mode

The Dwell in hybrid mode is shorter than in data mode. For this reason the spurious emissions average level in data mode is worst case. The spurious emissions peak level is the same for both modes.

4 Occupied Bandwidth

4.1 *Test Result*

Test Description	Basic Standards	Test Result
20 dB bandwidth	15.247(a) (1)	Pass

4.2 *Test Method*

The procedures from ANSI C63.10 (2009) clause 6.9 were used to determine the 20 dB bandwidth.

4.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions
Temperature: 21.7 °C
Relative Humidity: 46.9 %

4.4 *Test Equipment*

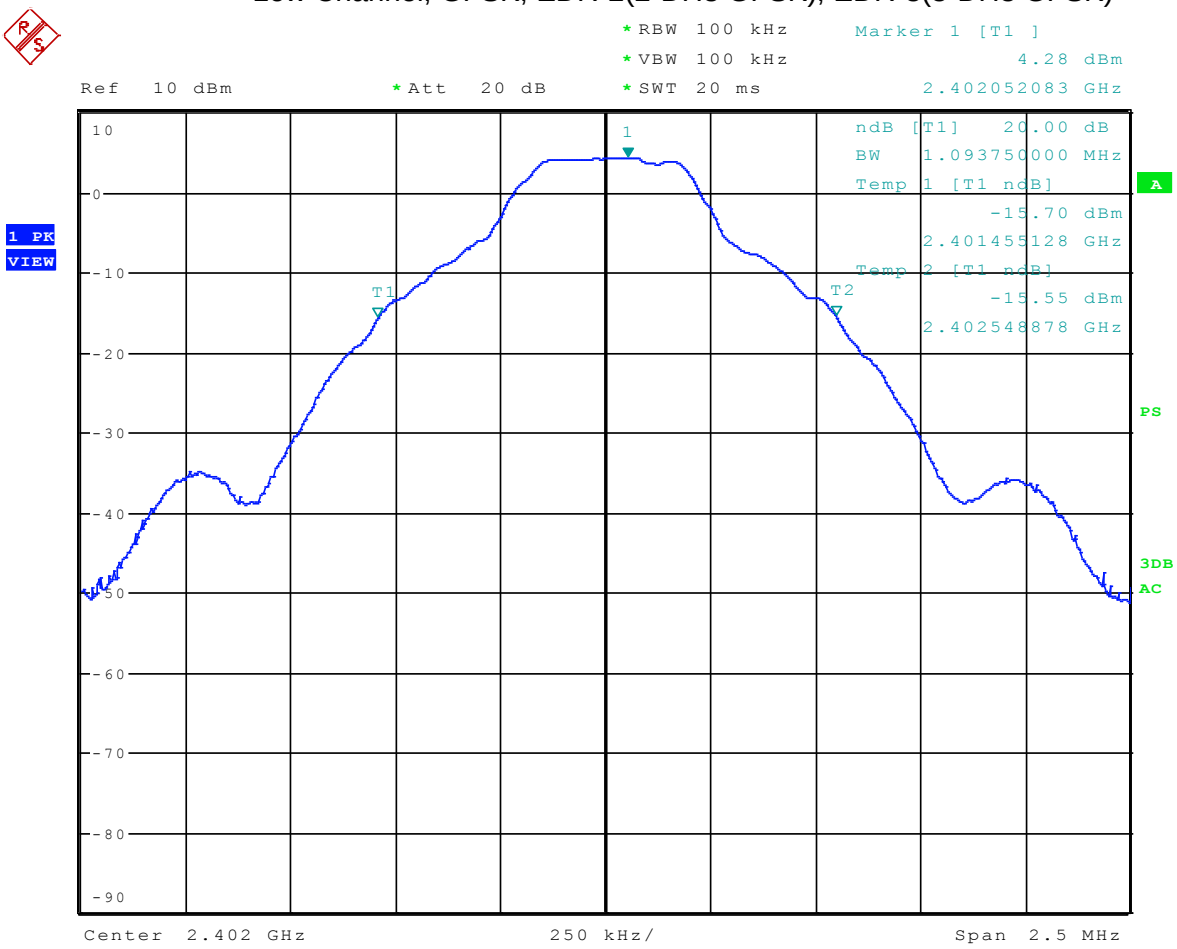
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
Receiver	ESU40	R&S	B079629	24 SEP 2013

Note: The calibration period equipment is 1 year.

4.5 *Test Data*

Frequency	Channel No	Modulation	20 dB bandwidth kHz
2402	0	GFSK	1093.8
		EDR-2	1446.3
		EDR-3	1426.3
2441	39	GFSK	1101.8
		EDR-2	1446.3
		EDR-3	1430.3
2480	78	GFSK	1089.7
		EDR-2	1442.3
		EDR-3	1426.3

Low Channel, GFSK, EDR-2(2-DH3 GFSK), EDR-3(3-DH3 GFSK)



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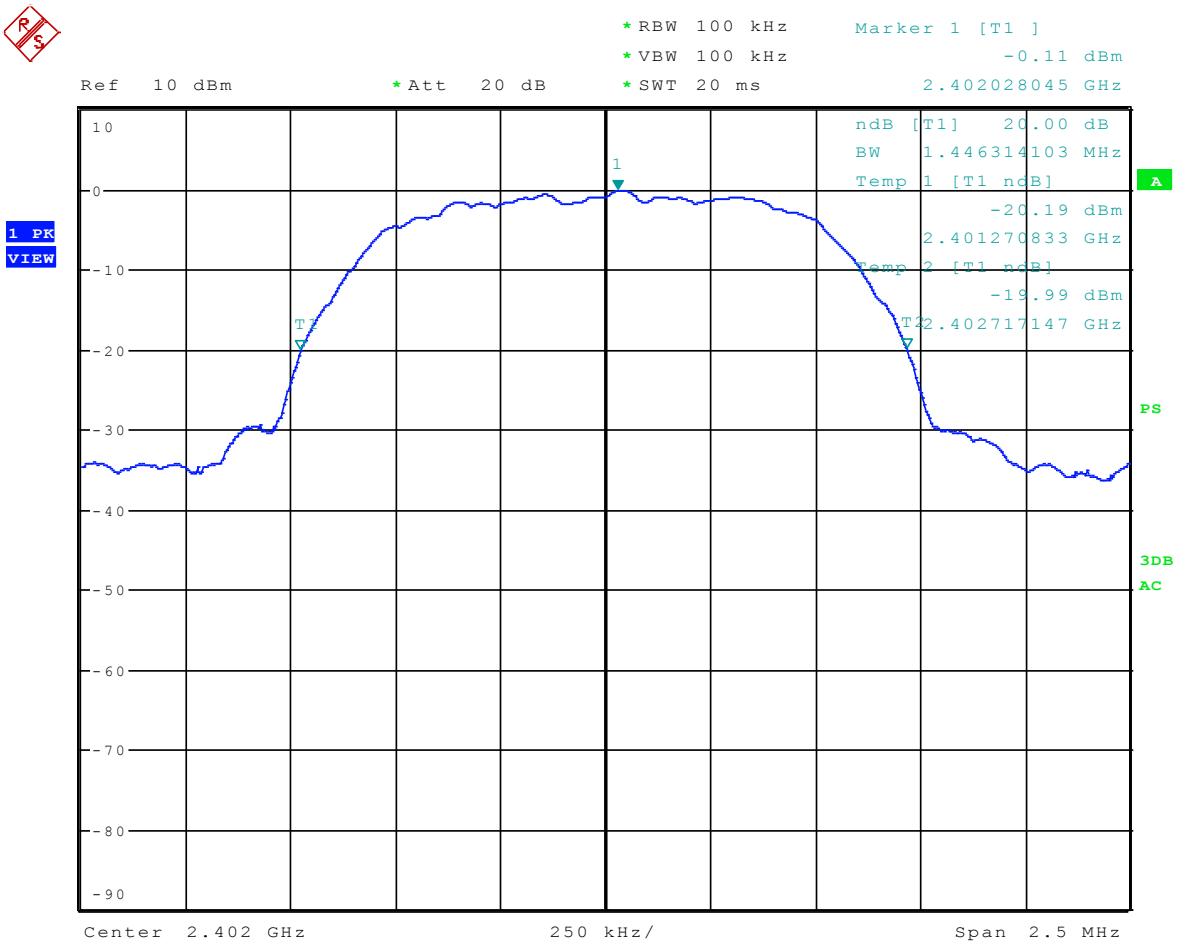

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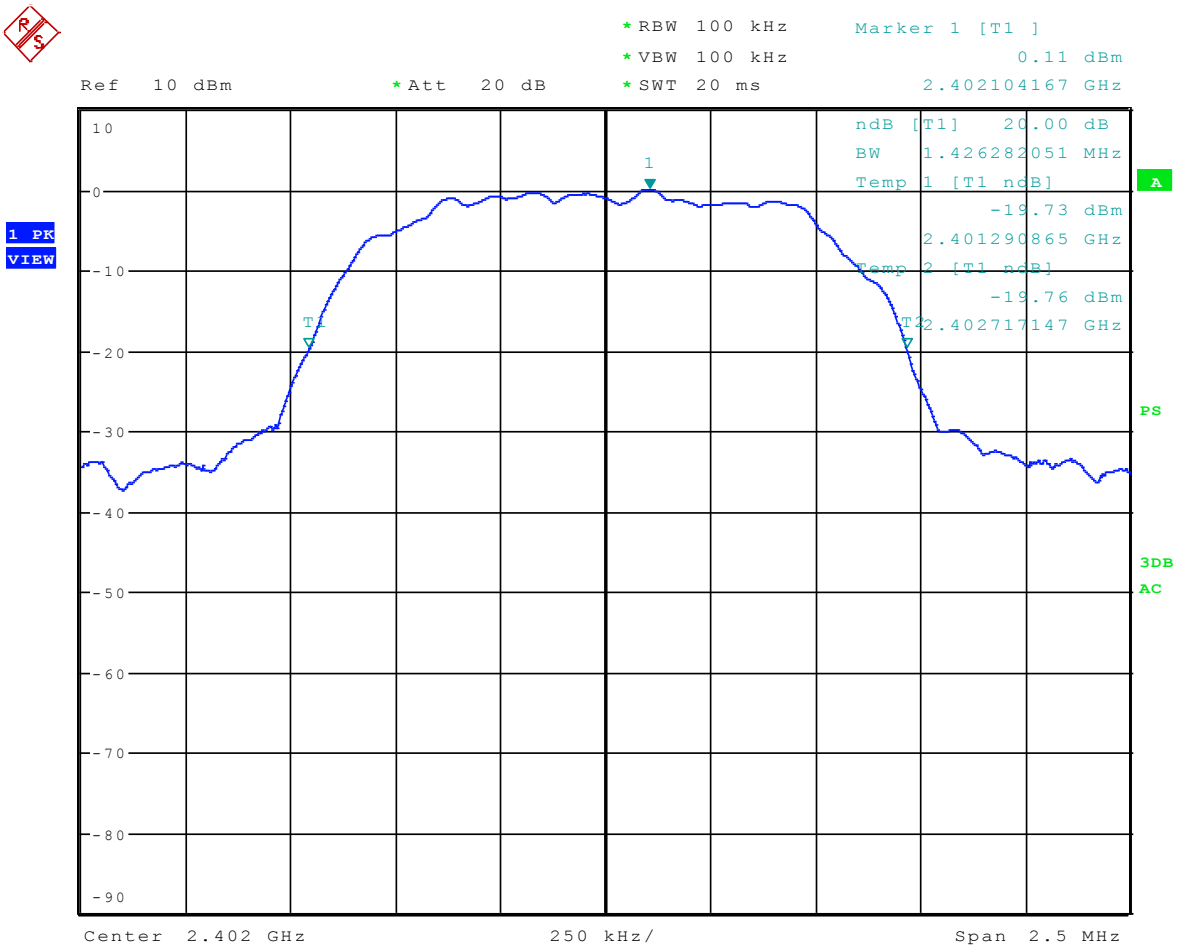

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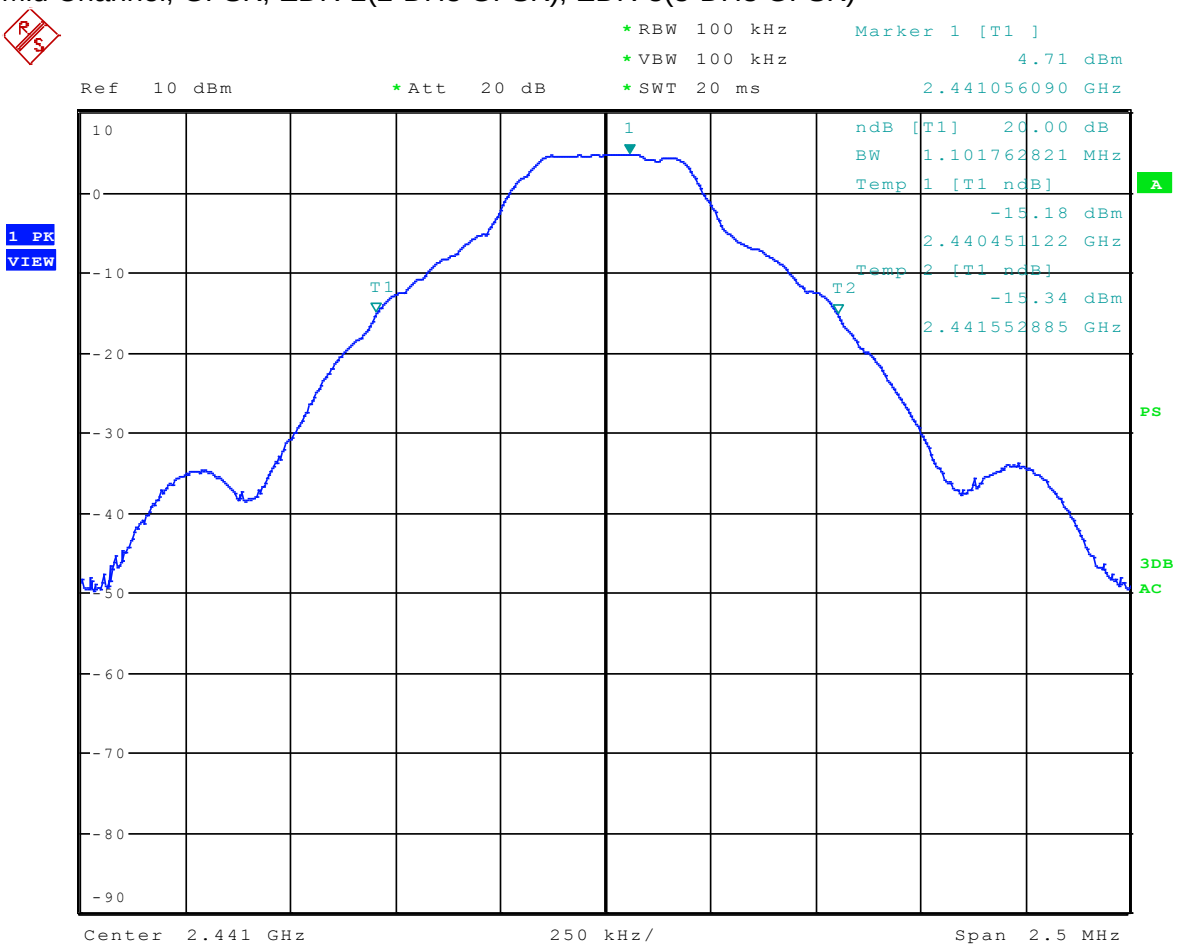
Mid Channel, GFSK, EDR-2(2-DH3 GFSK), EDR-3(3-DH3 GFSK)



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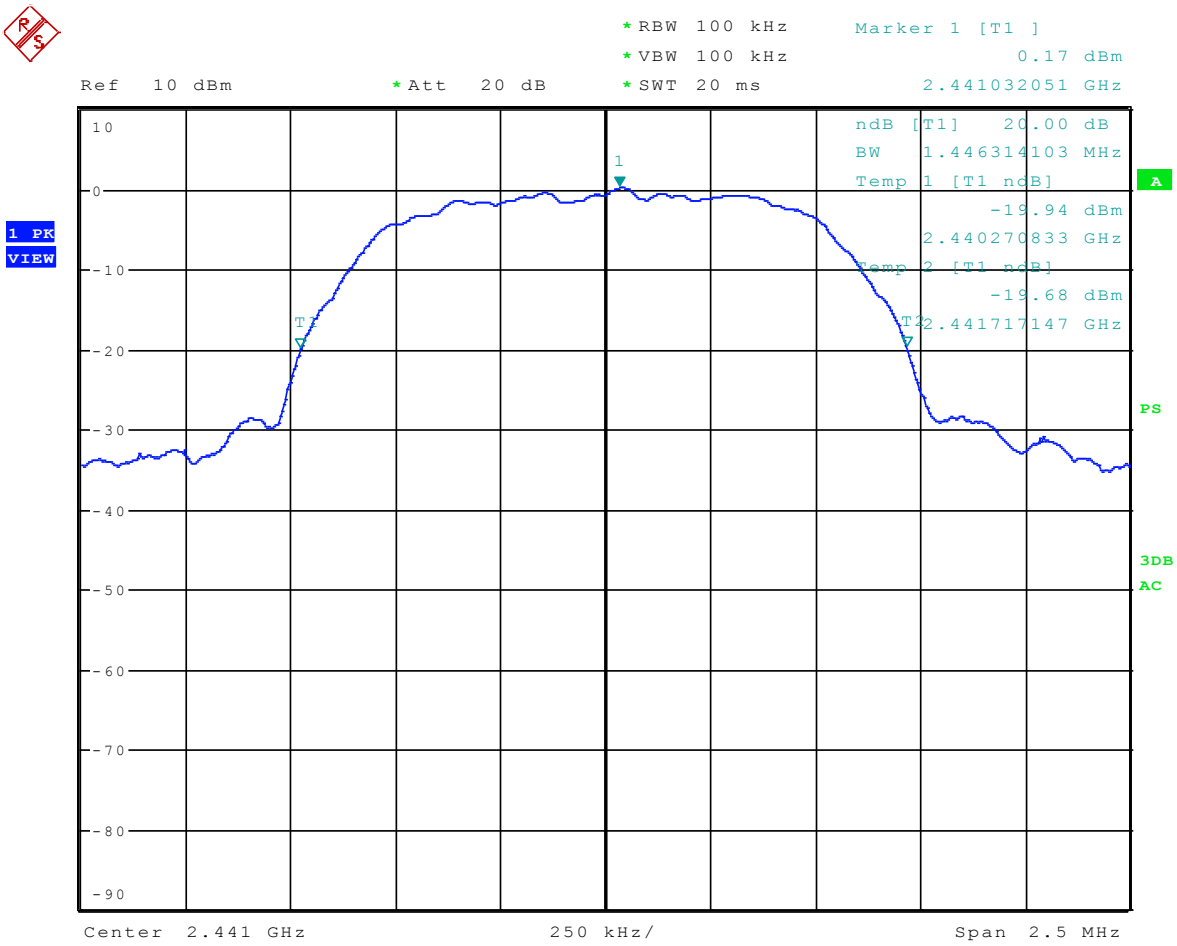

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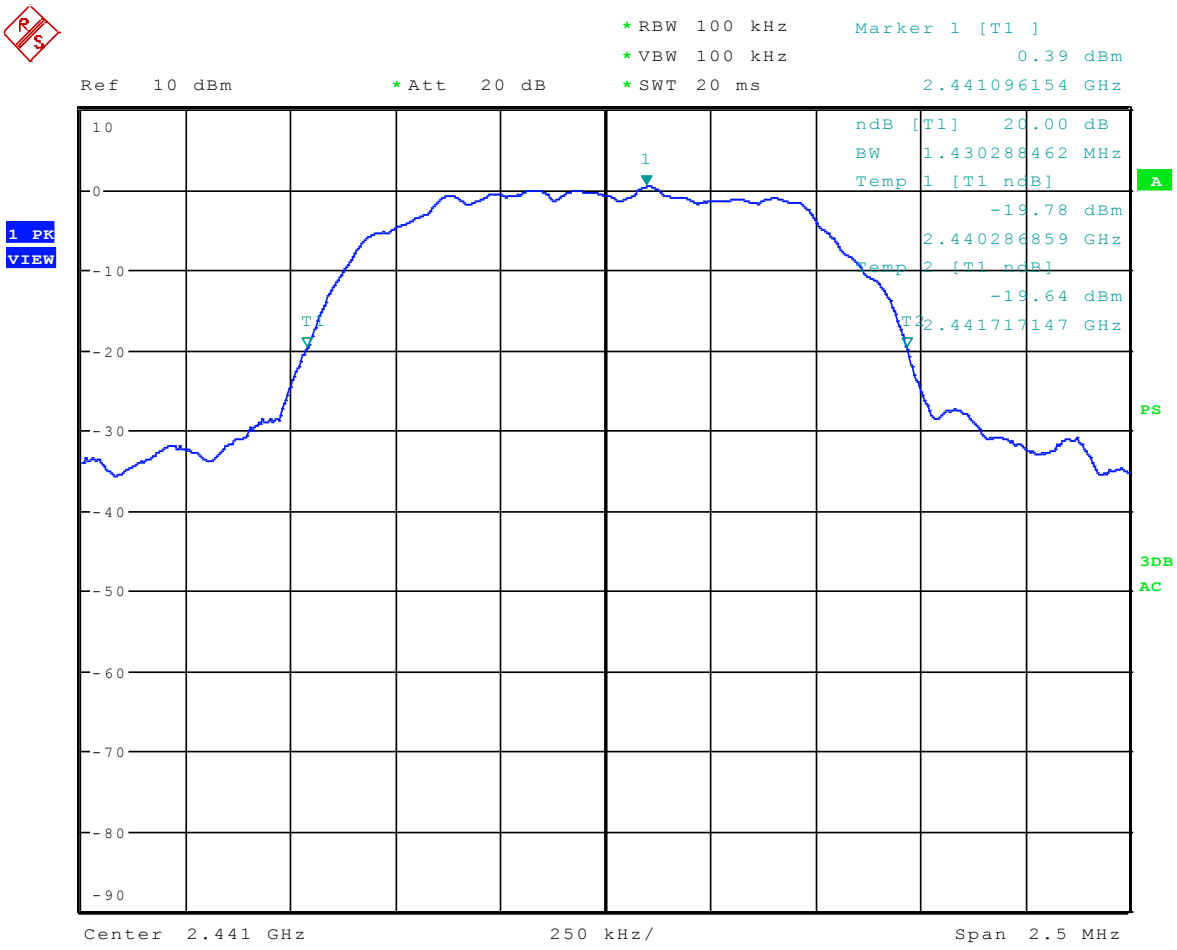

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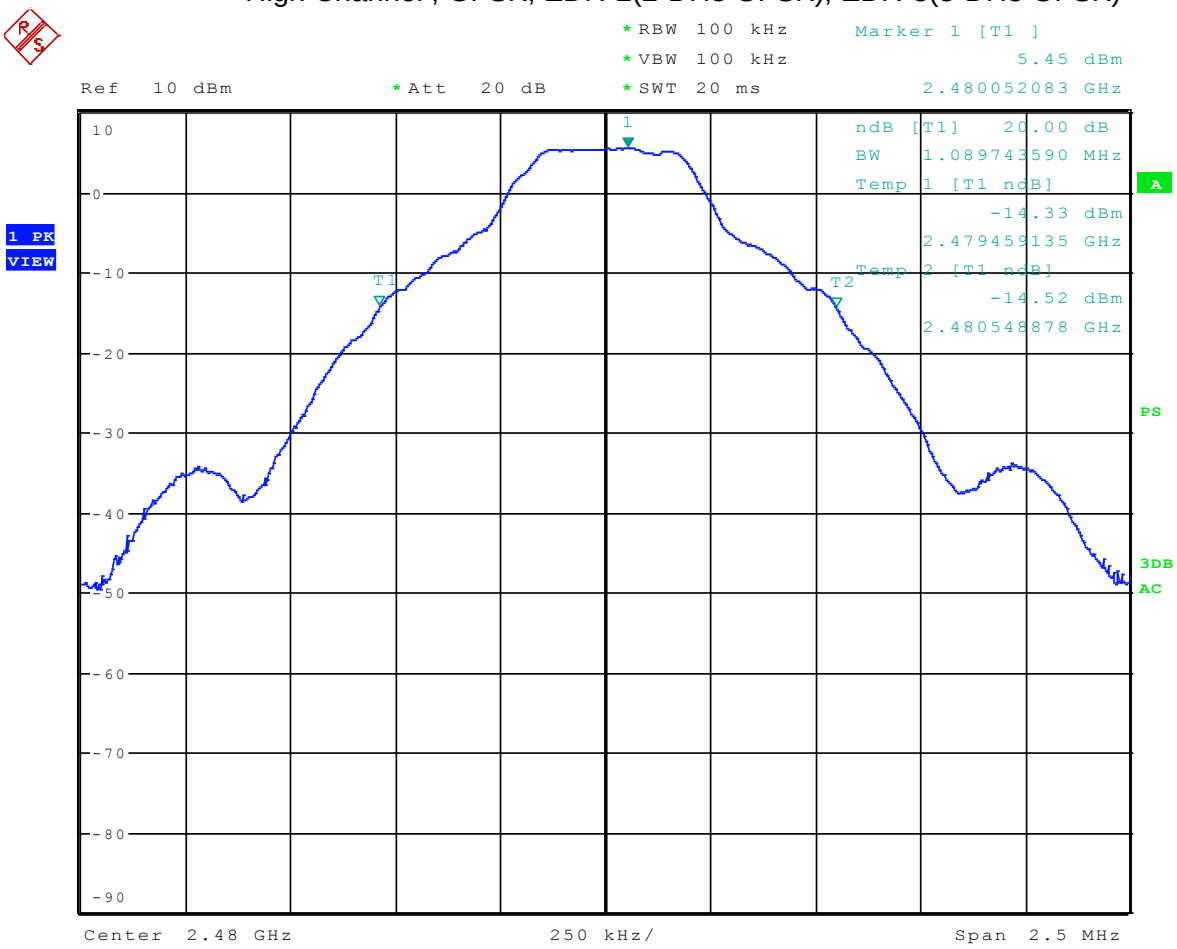
High Channel , GFSK, EDR-2(2-DH3 GFSK), EDR-3(3-DH3 GFSK)



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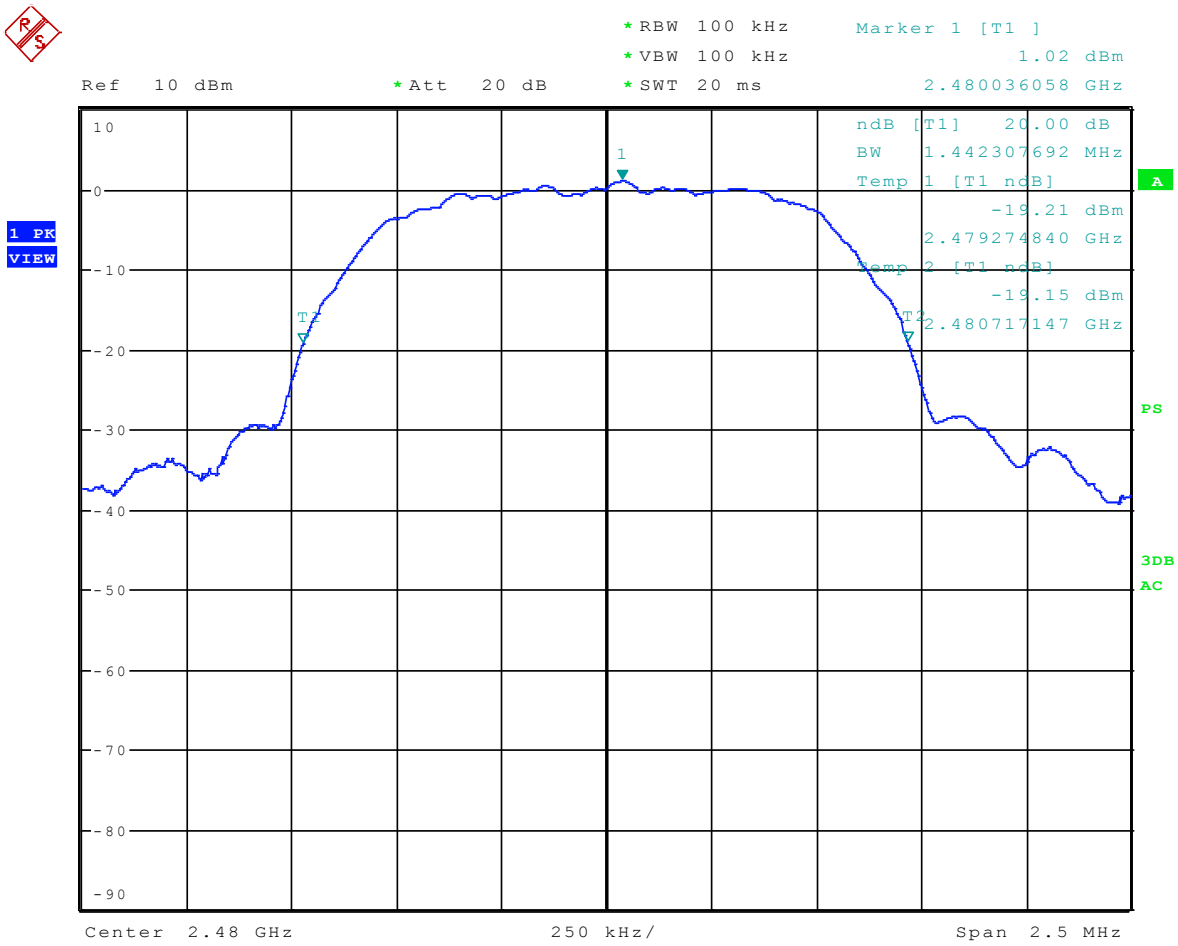

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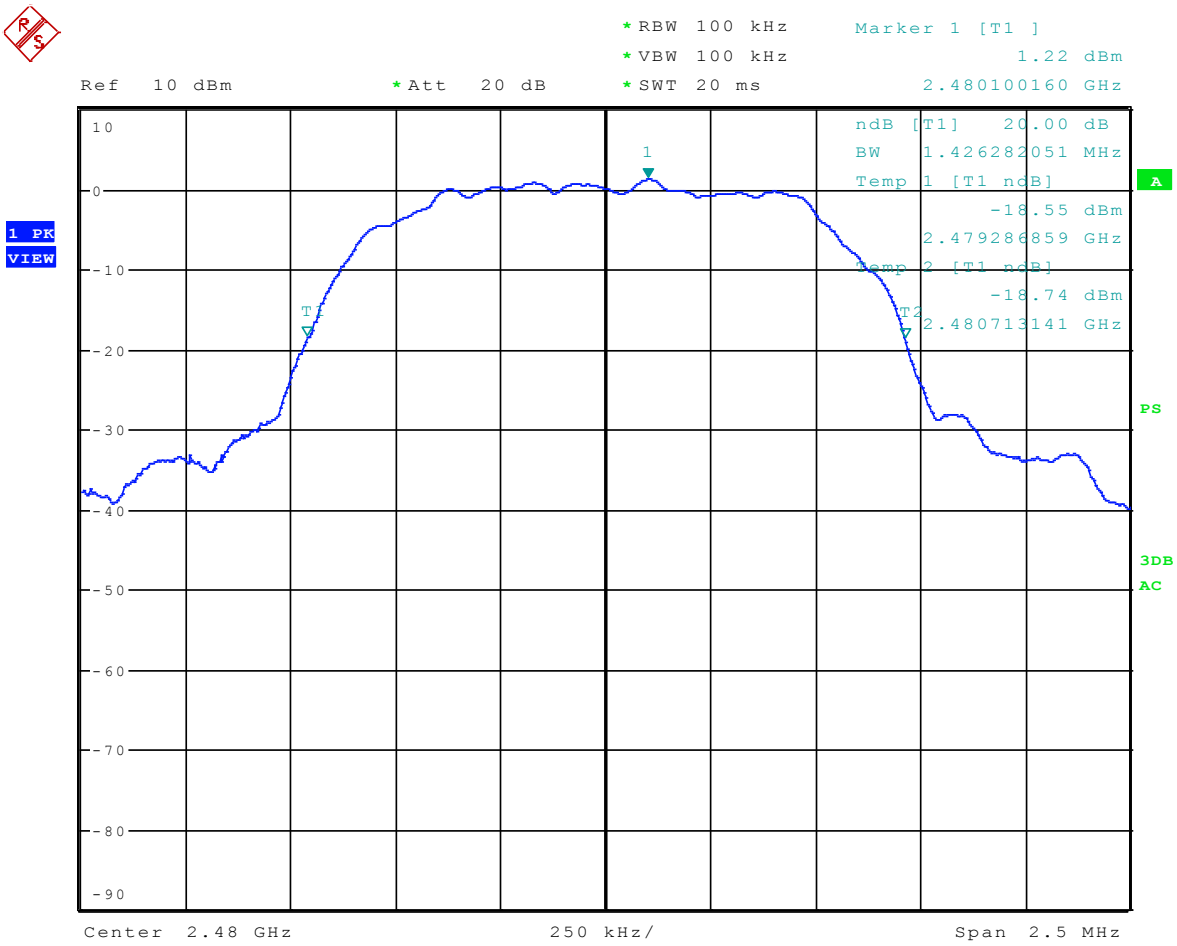


Date: 2.MAY.2013 13:44:06

5 Peak Output Power

5.1 *Test Result*

Test Description	Test Specification	Test Result
Peak Output Power	15.247(a) (1)	Compliant

5.2 *Test Method*

The test data was measured using a spectrum analyzer with Peak detector and a resolution bandwidth of 3 MHz.

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

5.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions
Temperature: 21.7 °C
Relative Humidity: 46.9 %

5.4 *Test Equipment*

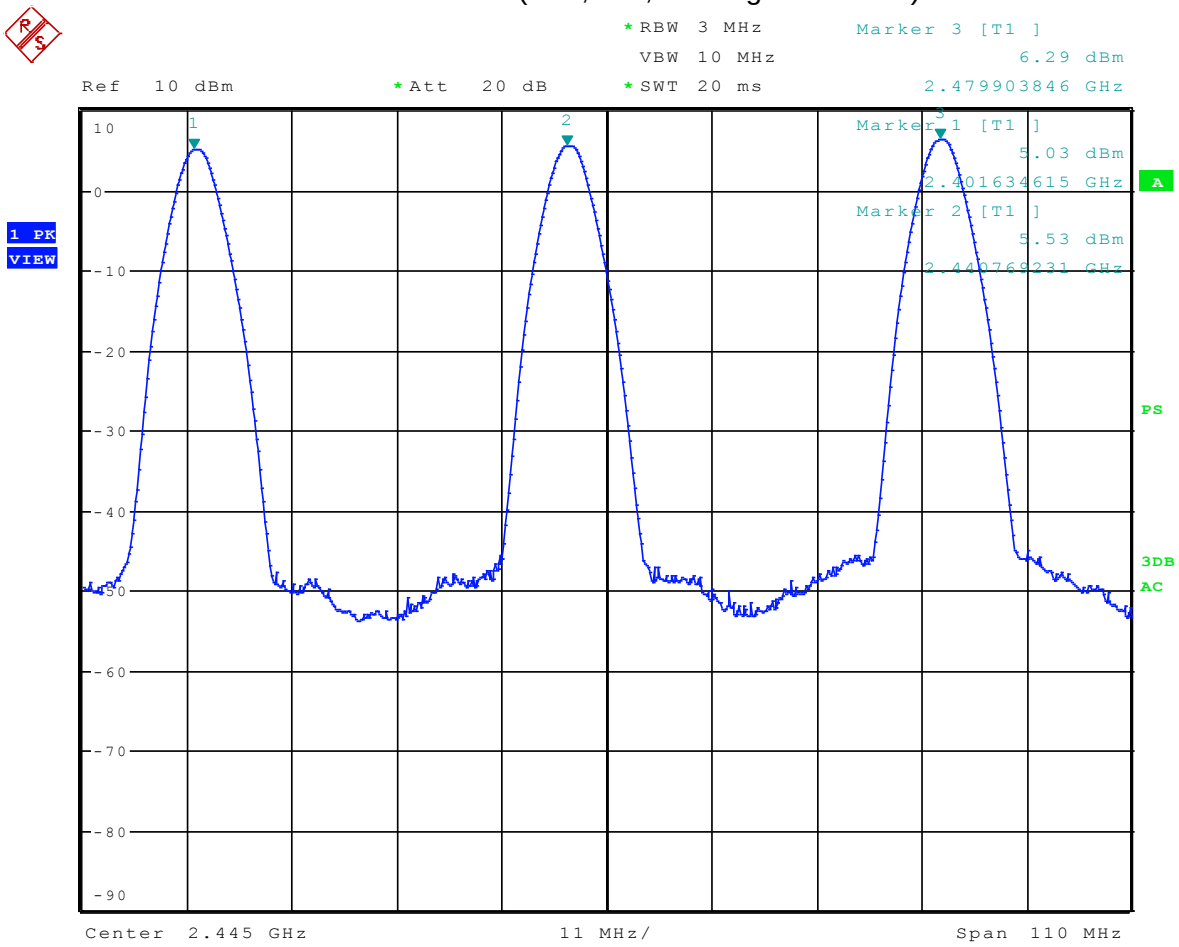
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
Receiver	ESU40	R&S	B079629	24 SEP 2013

Note: The calibration period equipment is 1 year.

5.5 *Test Data*

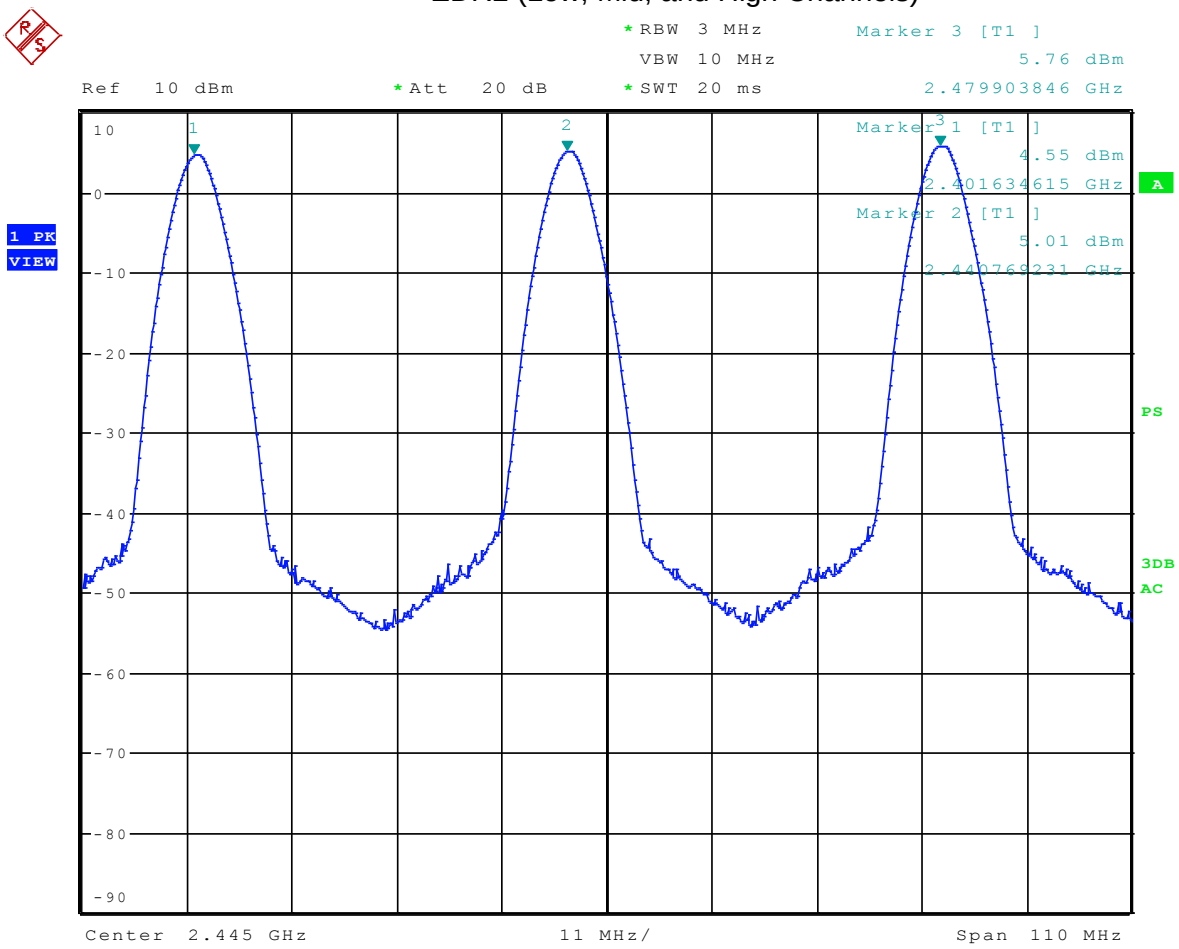
Frequency	Channel No	Modulation	Raw Measurement (dBm)	Cable Loss	Peak Output Power (dBm)
2402	0	GFSK	5.03	0.6	5.63
		EDR-2	4.55	0.6	5.15
		EDR-3	5.15	0.6	5.75
2441	39	GFSK	5.53	0.6	6.13
		EDR-2	5.01	0.6	5.61
		EDR-3	5.66	0.6	6.22
2480	78	GFSK	6.29	0.6	6.89
		EDR-2	5.76	0.6	6.36
		EDR-3	6.41	0.6	7.01

GFSK (Low, Mid, and High Channels)



Date: 2.MAY.2013 13:58:28

EDR2 (Low, Mid, and High Channels)



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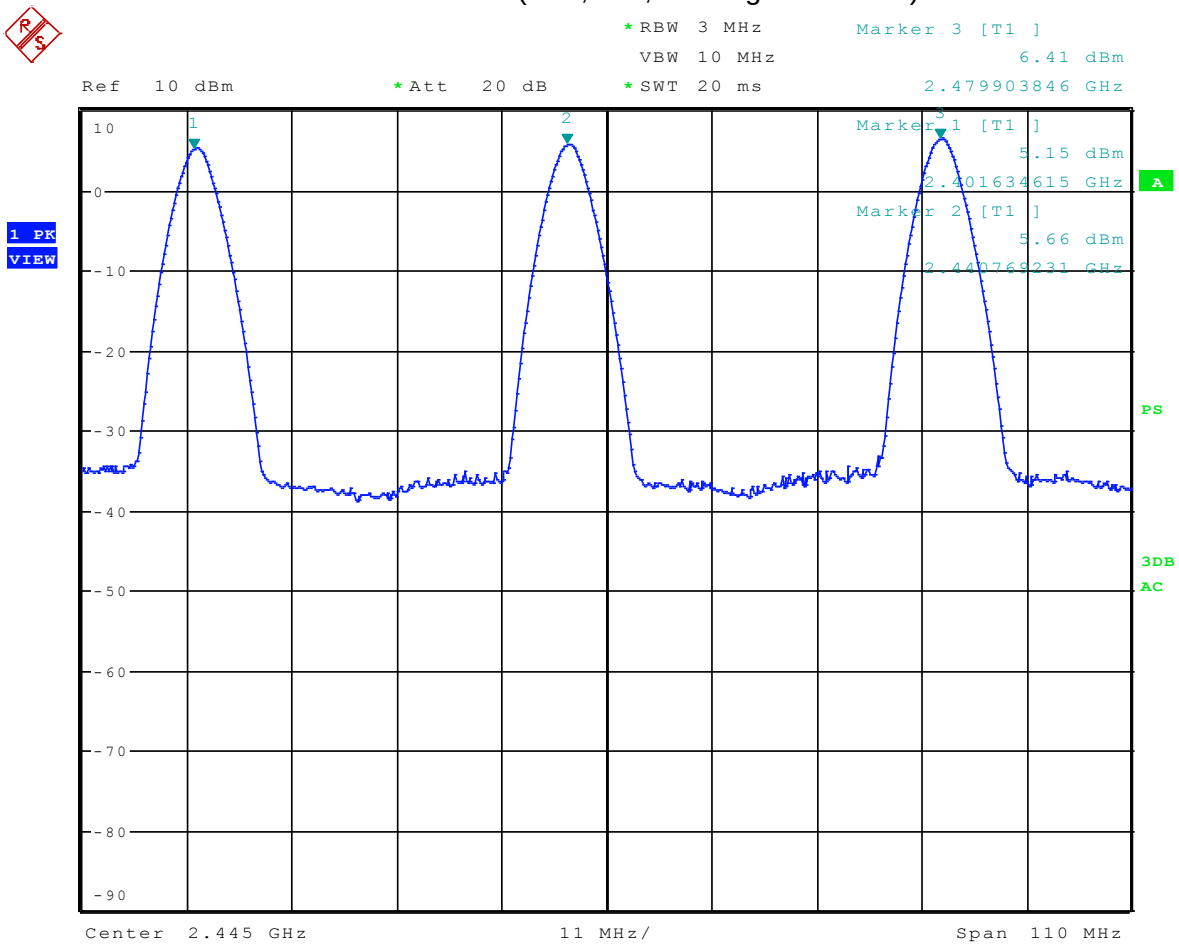
EDR3 (Low, Mid, and High Channels)



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6 Conducted Spurious Emissions and Band Edge Measurements

6.1 *Test Result*

Test Description	Test Specification	Test Result
Conducted Spurious Emissions	15.247(d)	Compliant

6.2 *Test Method*

The test data was measured using a spectrum analyzer with

- Peak detector, max hold
- Resolution bandwidth of at least 100 kHz
- Video bandwidth at least 3x RBW
- Frequency range: 30 MHz to 25 GHz

The limit is 20 dB below the measured peak power.

6.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 21.7 °C
Relative Humidity: 46.9 %

6.4 *Test Equipment*

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
Receiver	ESU40	R&S	B079629	24 SEP 2013

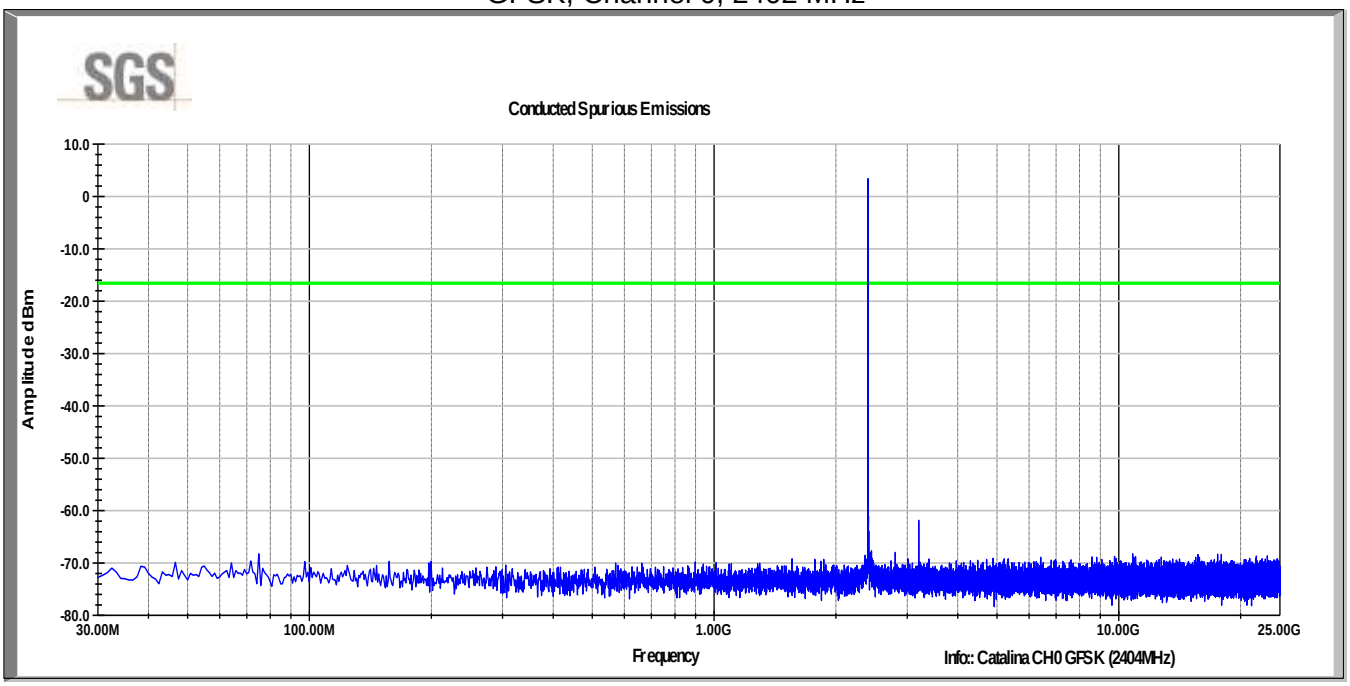
Note: The calibration period equipment is 1 year.

6.5 *Test Data*

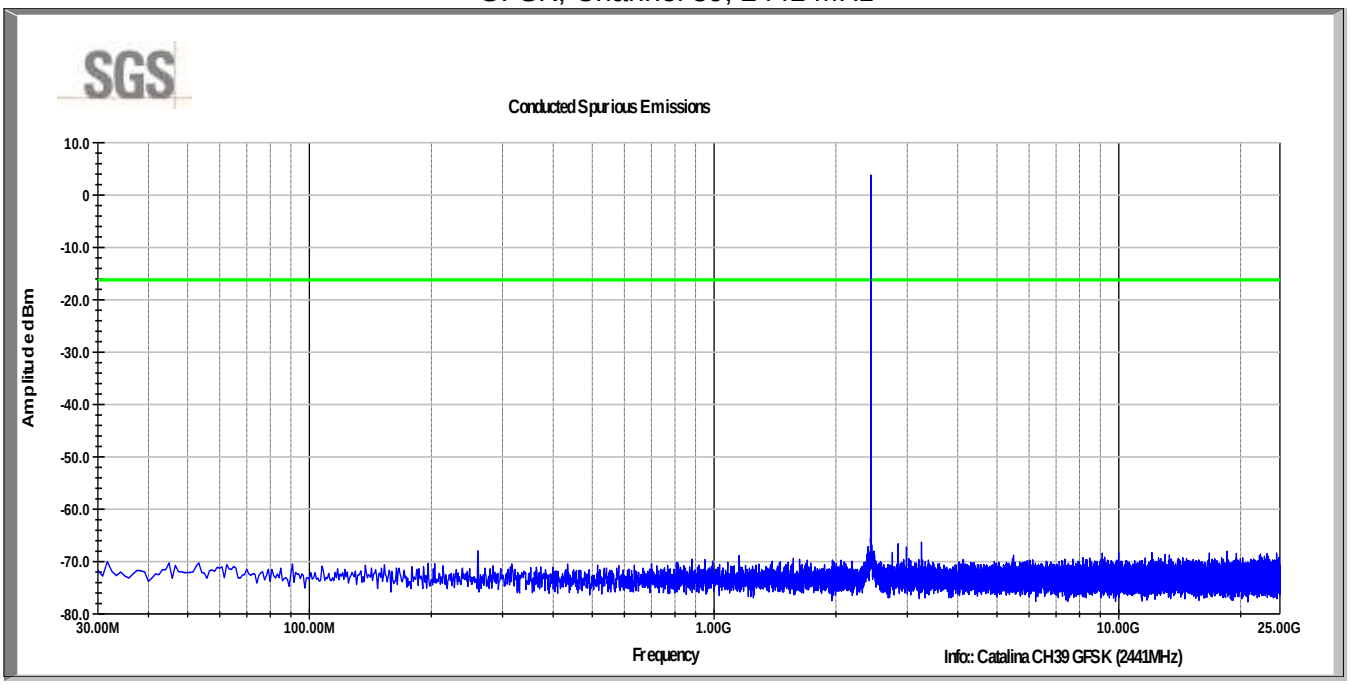
6.5.1 Spurious Emissions

No spurious emissions detected within 20dB of the limit.

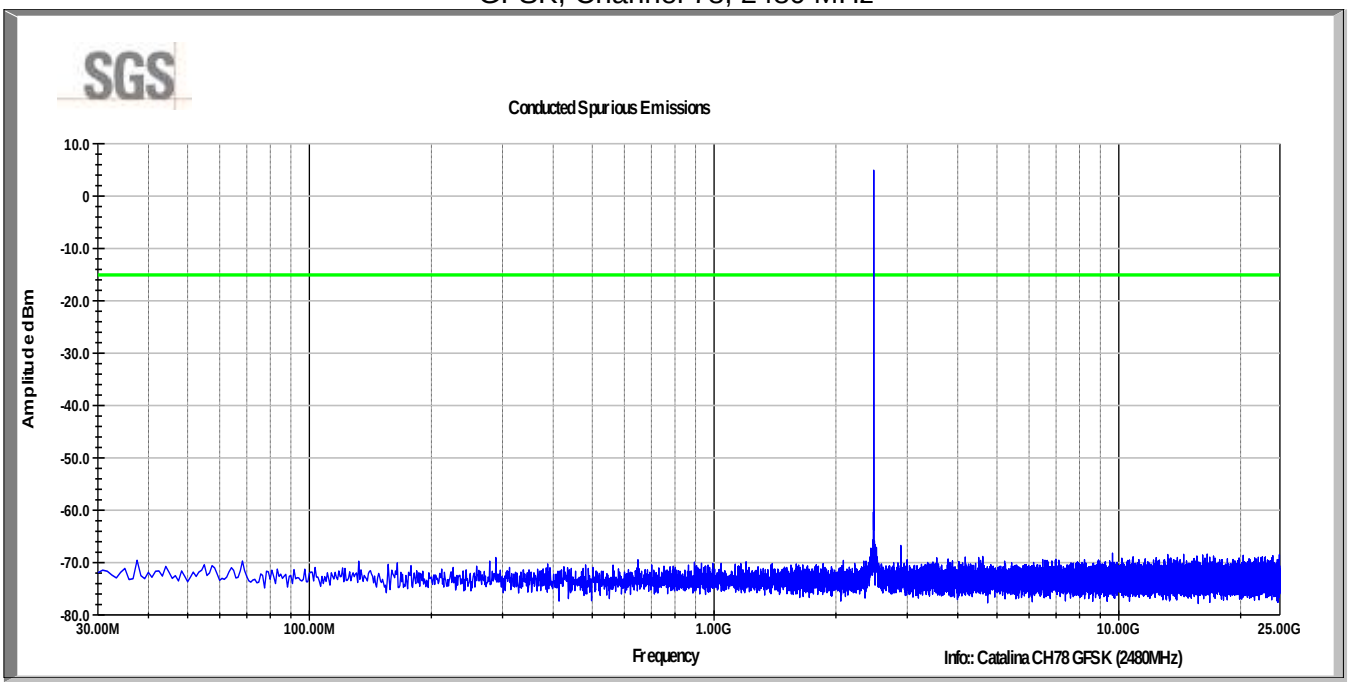
GFSK, Channel 0, 2402 MHz



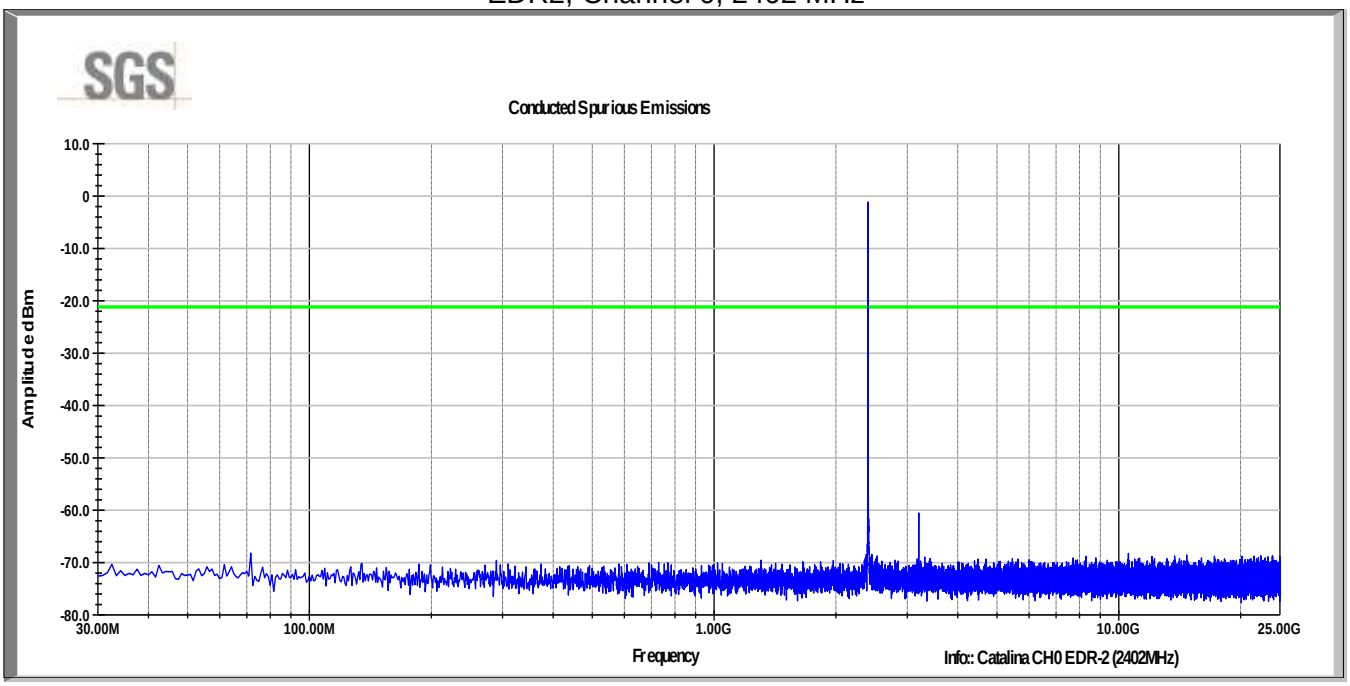
GFSK, Channel 39, 2441 MHz



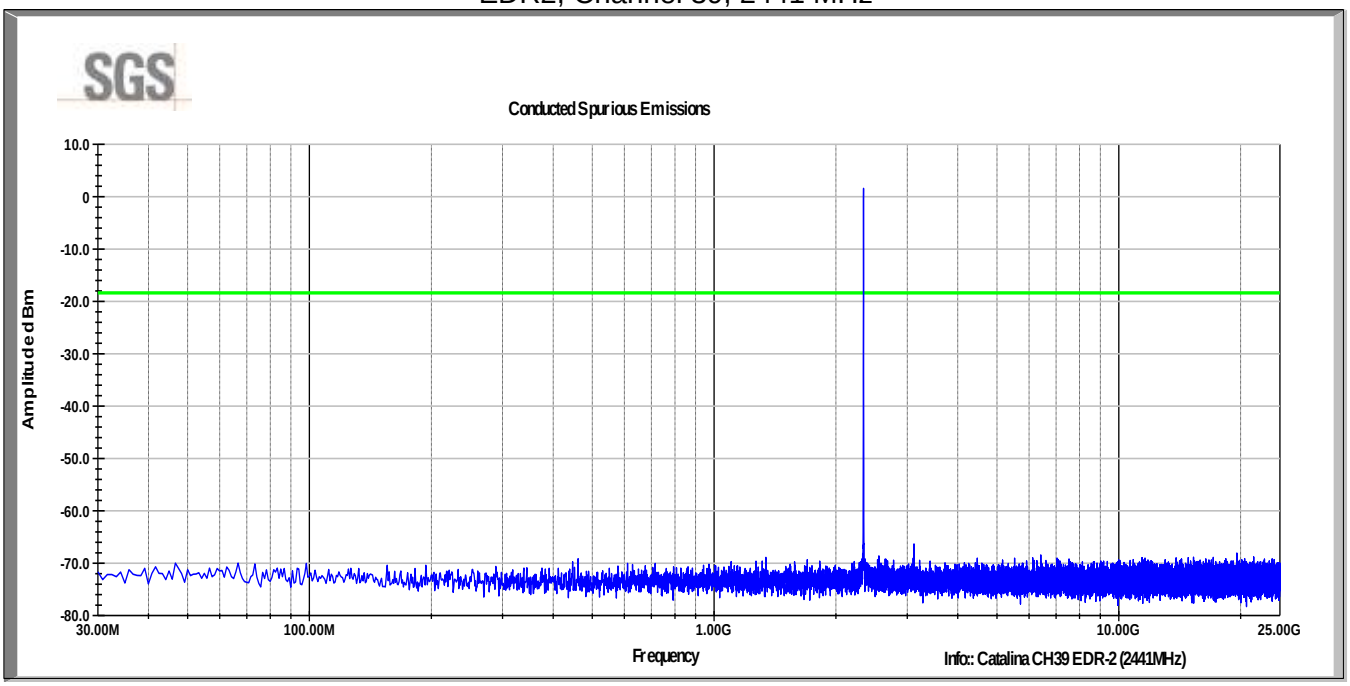
GFSK, Channel 78, 2480 MHz



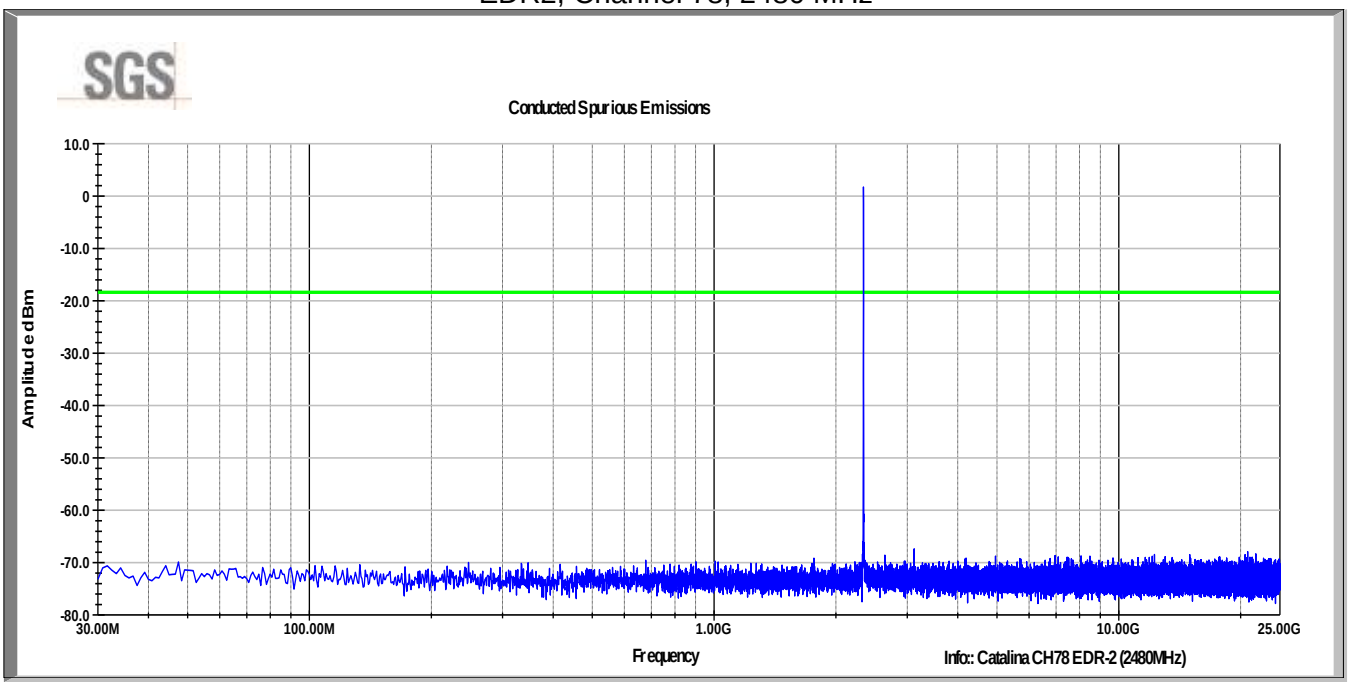
EDR2, Channel 0, 2402 MHz



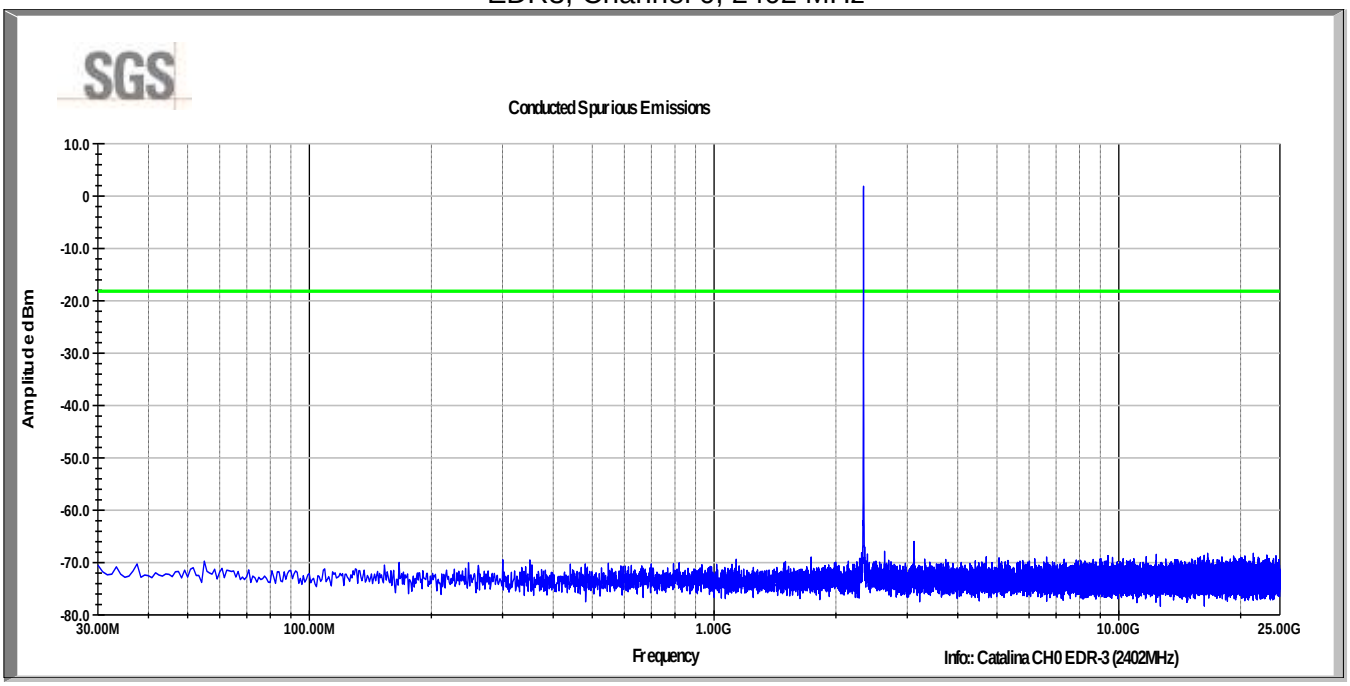
EDR2, Channel 39, 2441 MHz



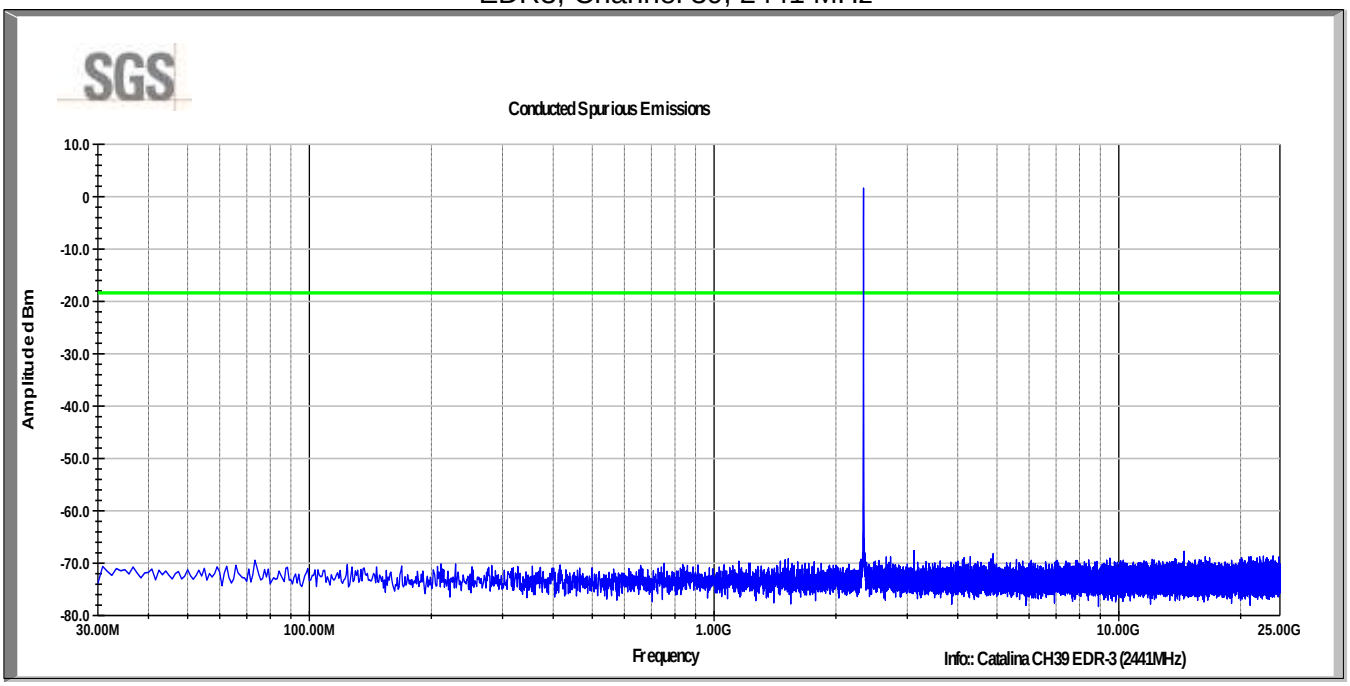
EDR2, Channel 78, 2480 MHz



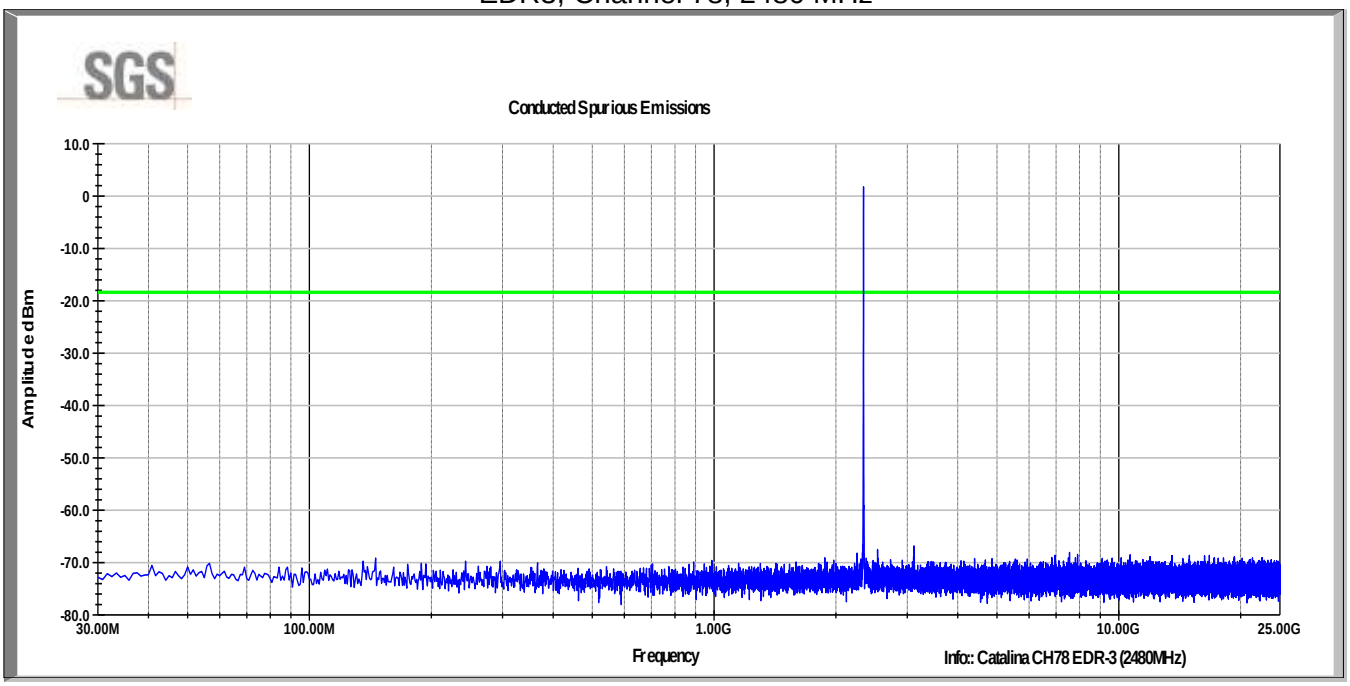
EDR3, Channel 0, 2402 MHz



EDR3, Channel 39, 2441 MHz

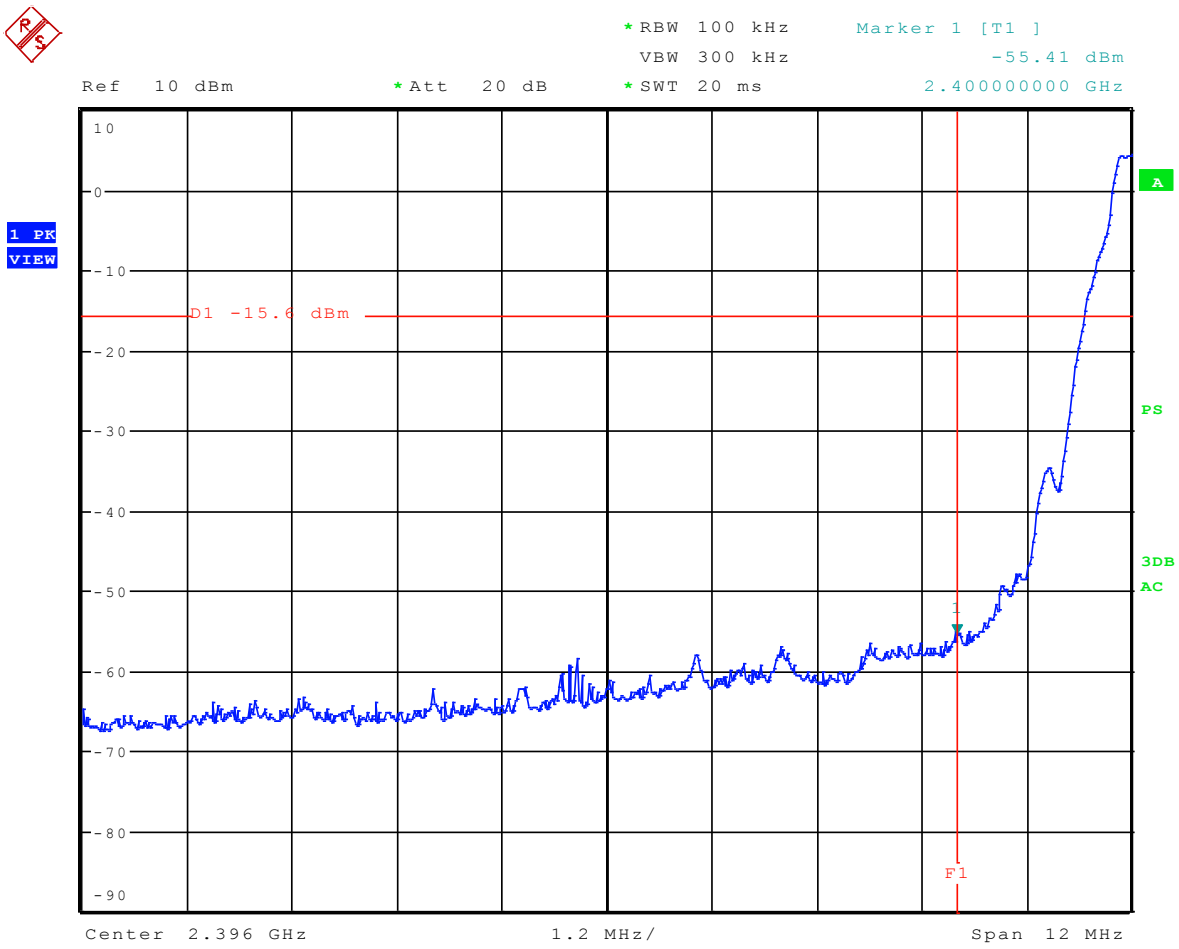


EDR3, Channel 78, 2480 MHz

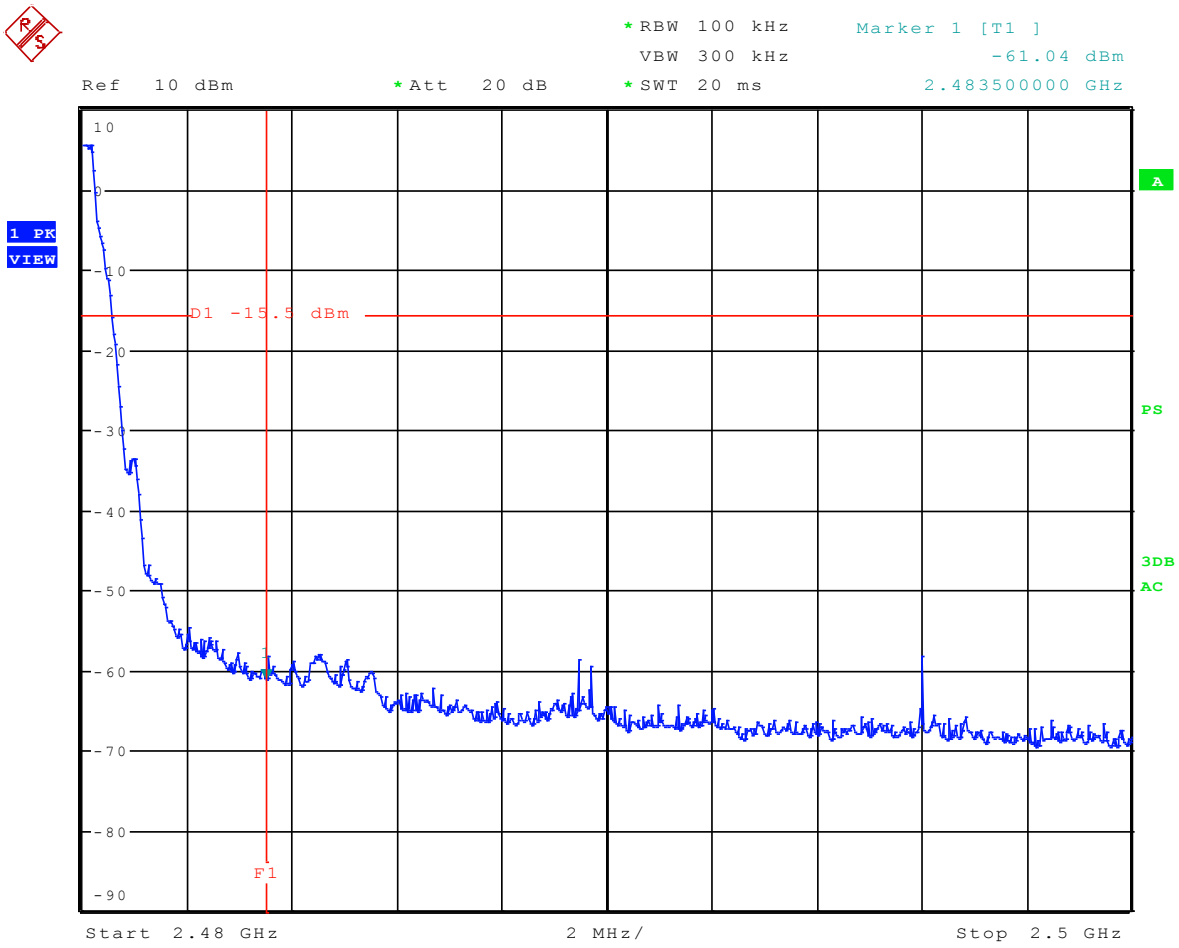


6.5.2 Band Edges

GFSK, Lower band edge / Upper band edge

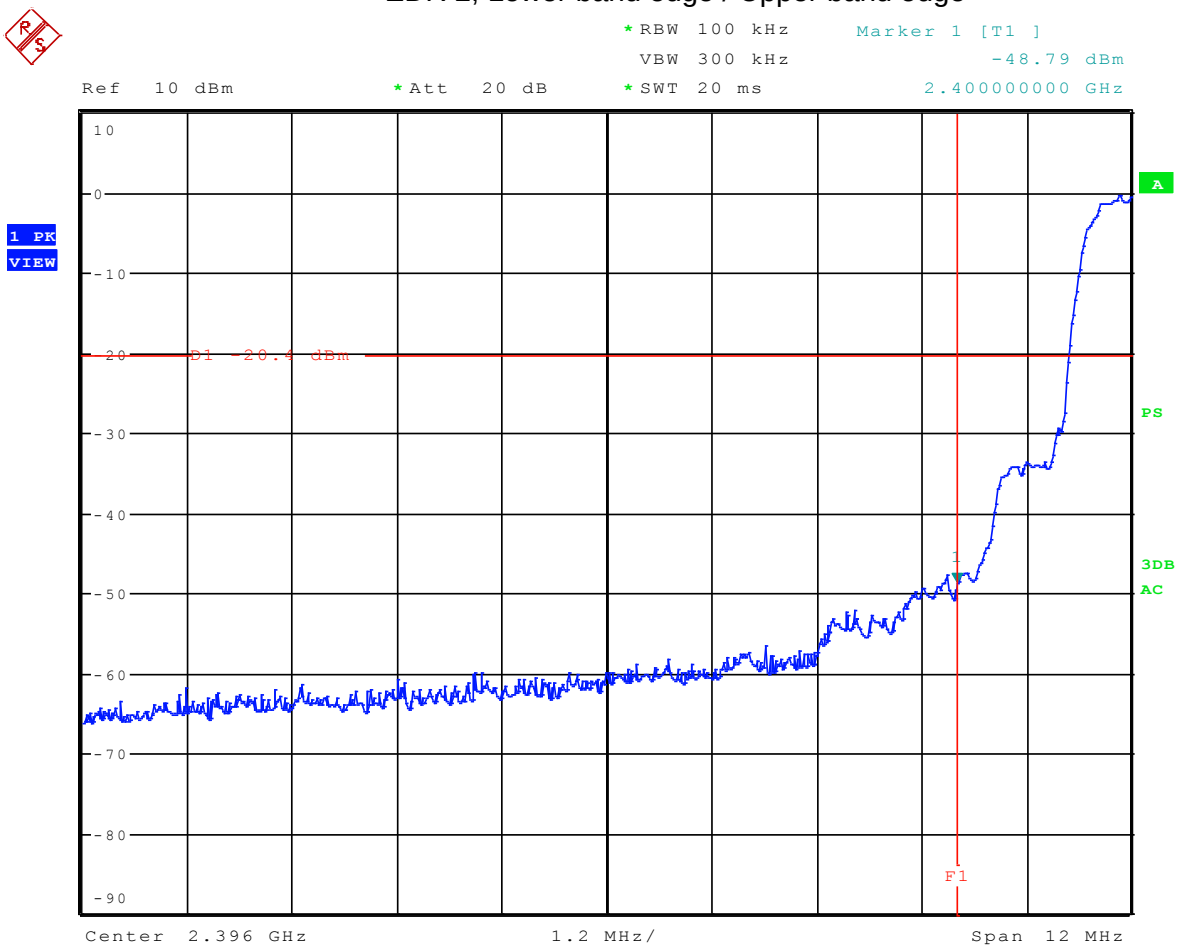


Date: 2.MAY.2013 14:23:21



Date: 2.MAY.2013 14:08:16

EDR 2, Lower band edge / Upper band edge



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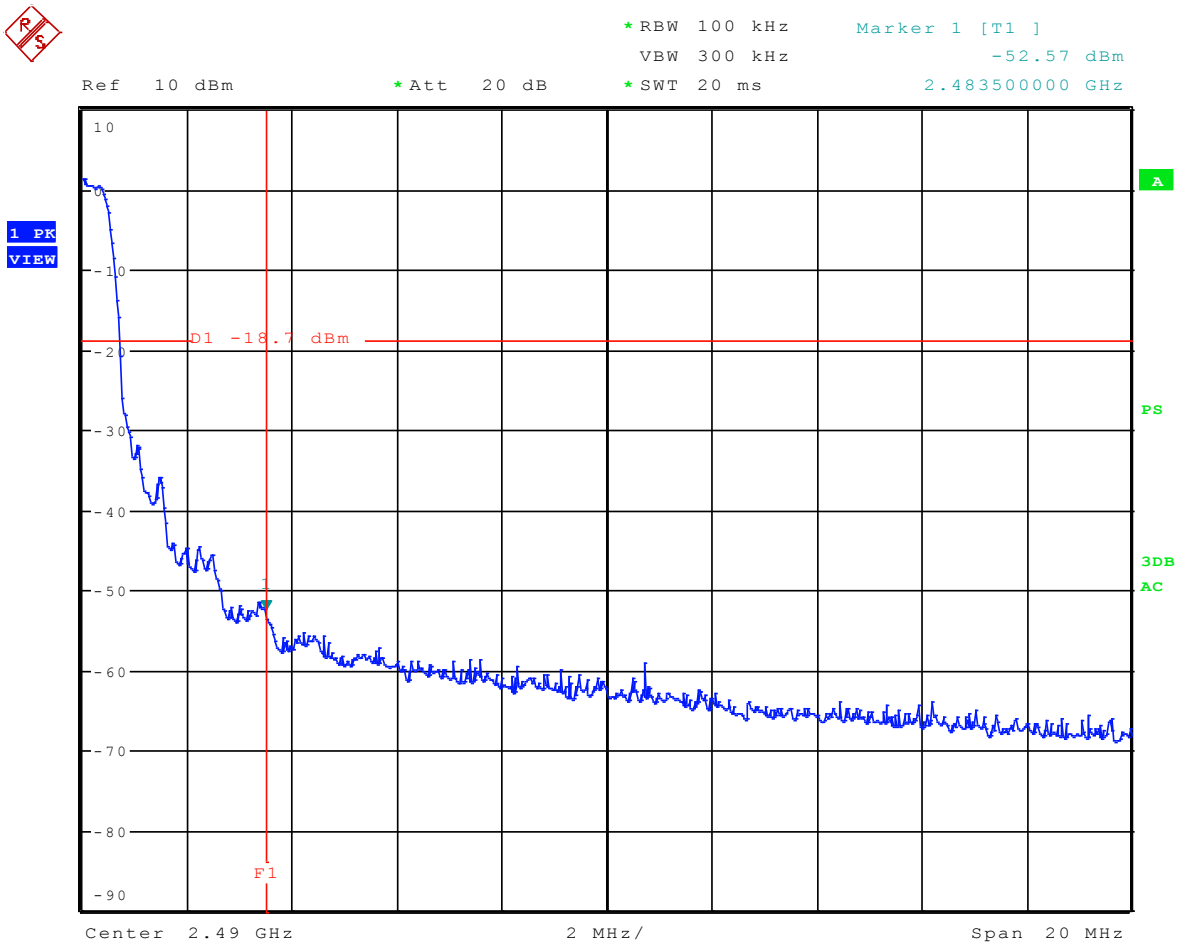
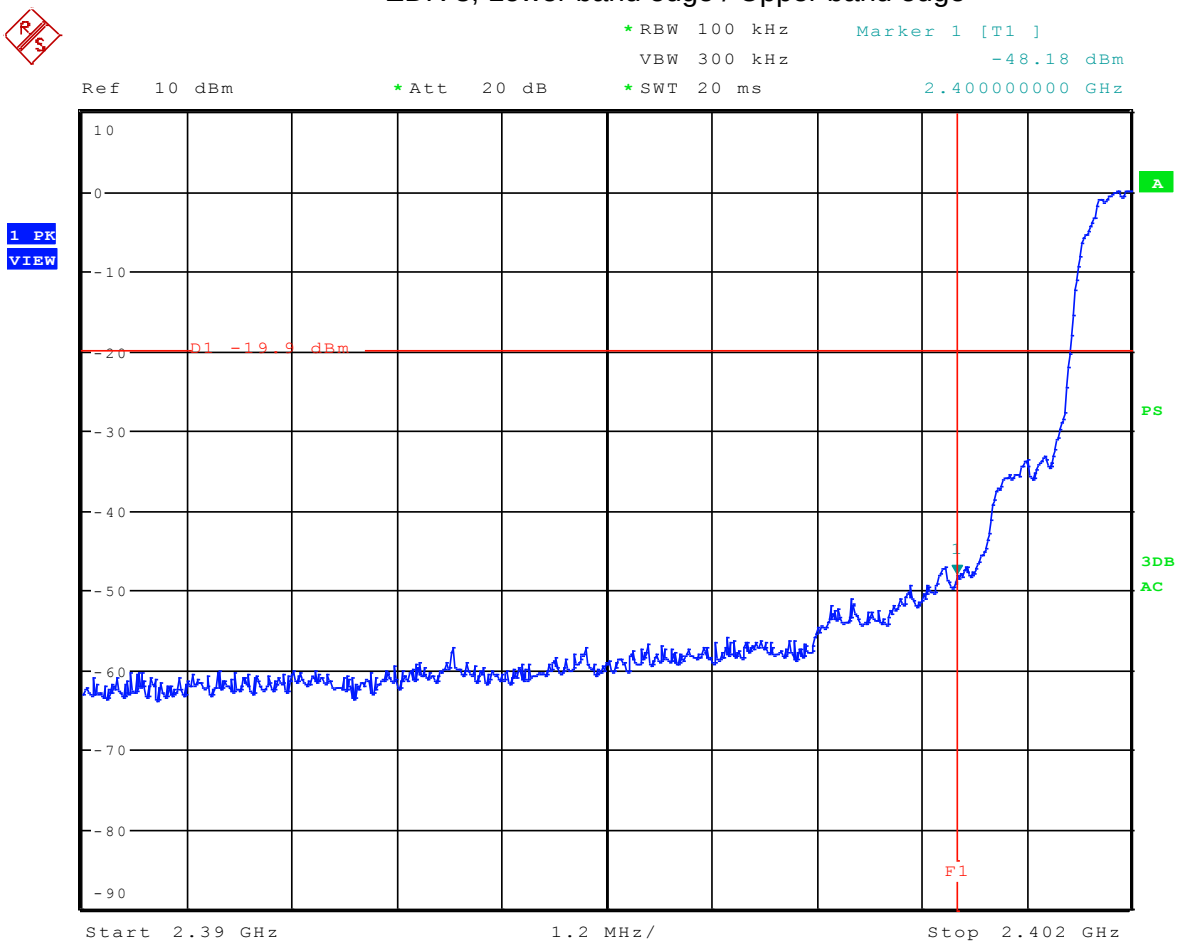
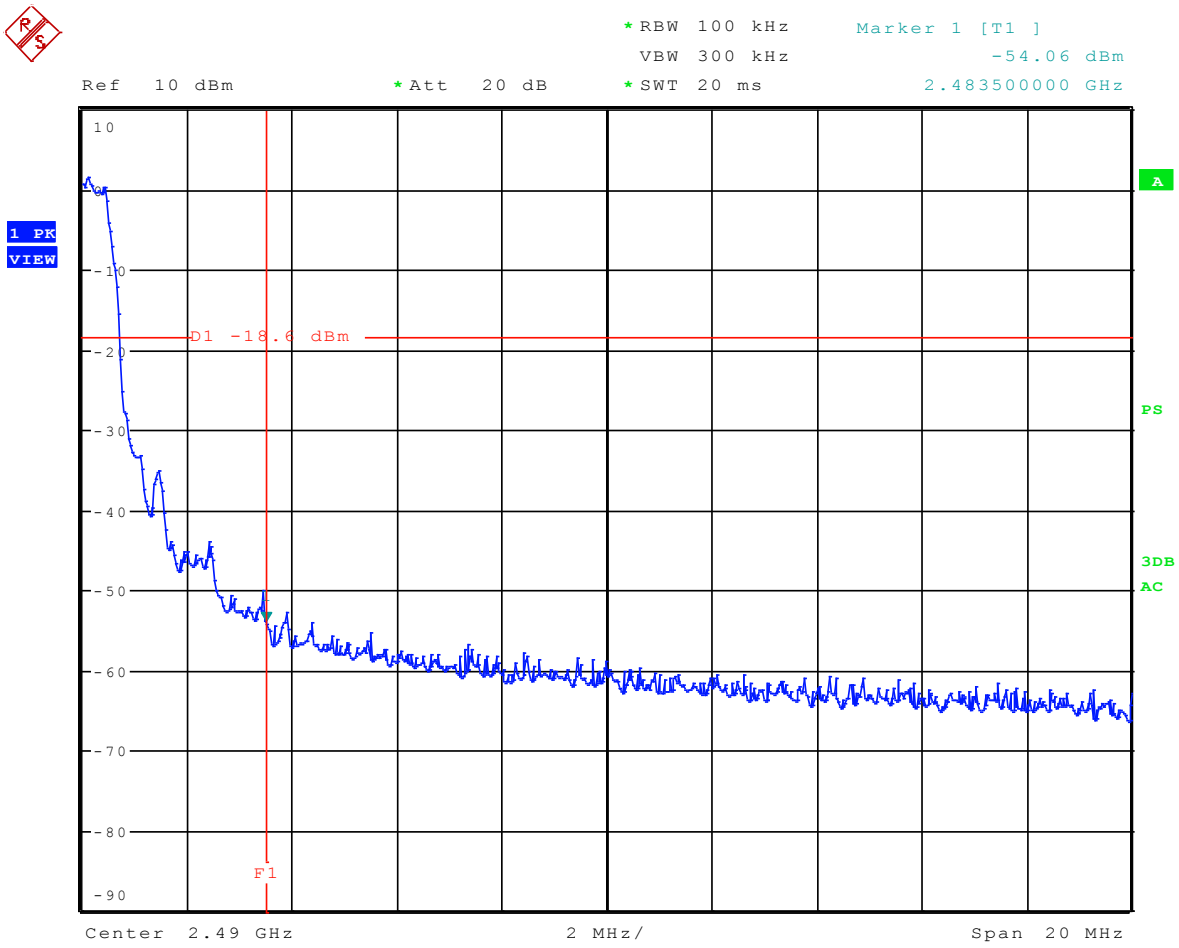


Date: 2.MAY.2013 14:10:01

EDR 3, Lower band edge / Upper band edge



Date: 2.MAY.2013 14:13:05



Date: 2.MAY.2013 14:11:12

7 Field Strength of Spurious Radiation

7.1 *Test Result*

Test Description	Test Specification	Test Result
Field strength of spurious radiation	15.249 (a) and 15.209 RSS 210 2.6, A2.9 (1)(2)	Compliant

7.2 *Test Method*

The initial preliminary 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:

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 1 meter

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

7.3 *Test Site*

3m Absorber Lined Shielded Enclosure (ALSE), Suwanee, GA

Environmental Conditions
Temperature: 23.8 °C
Relative Humidity: 46.6 %

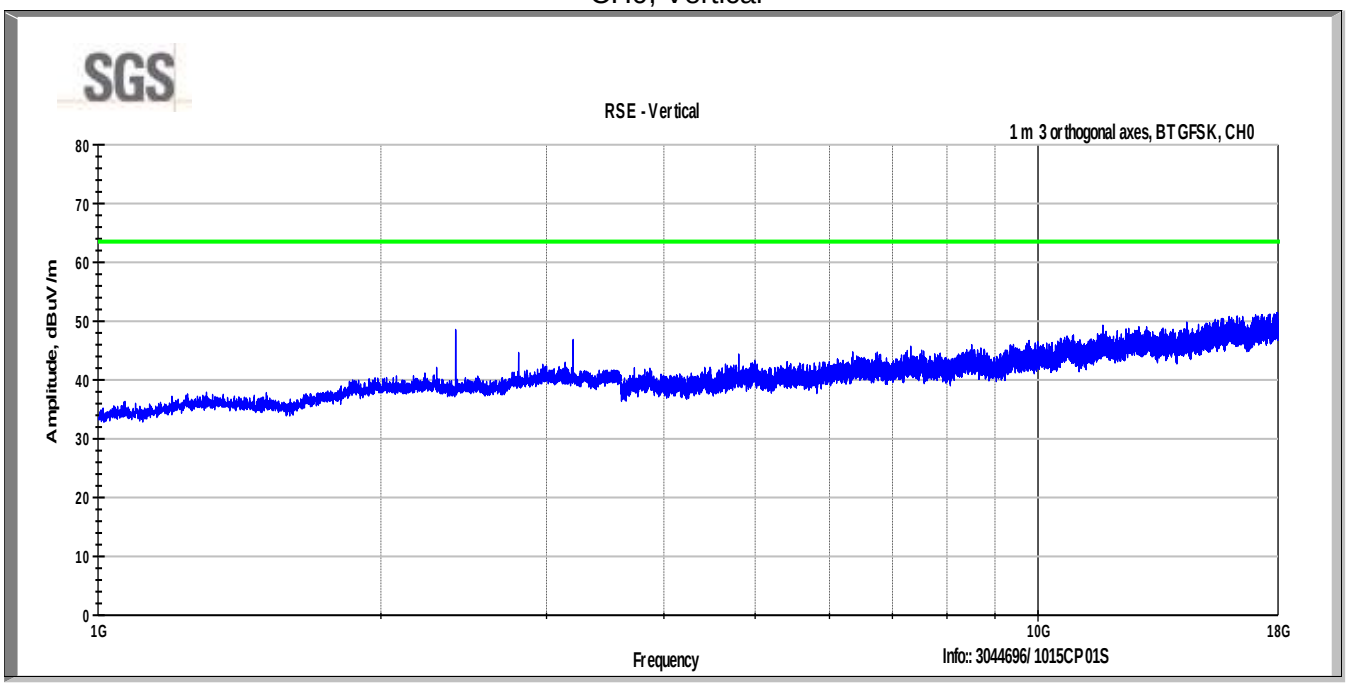
7.4 *Test Equipment*

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
Bilog Antenna	JB6	Sunol	B079689	4 SEP 2013
DRWG Antenna	3117	ETS	B079691	10 Jun 2014
DRWG Antenna	3116B	ETS	B079695	28 Feb 2014
Receiver	ESU40	R & S	B079629	24 SEP 2013
Pre-Amplifier	TS-PR18	Rohde & Schwarz	B094463	12 Oct 2014
Pre-Amplifier	NSP1840-HG	Miteq	B087572	22 Oct 2014
Filter	BRM50702	Micro-tronics	NA	Verified before use
Signal Generator	HMC T2240	Hittite	B079813	NCR
Coaxial Cable	Sucoflex 106	Huber+Suhner	B079714	13 Aug 2013
Coaxial Cable	Sucoflex 106	Huber+Suhner	B079659	13 Aug 2013
Coaxial Cable	Sucoflex 102	Huber+Suhner	B079822	12 Dec 2013
Coaxial Cable	Sucoflex 102	Huber+Suhner	B079824	12 Dec 2013

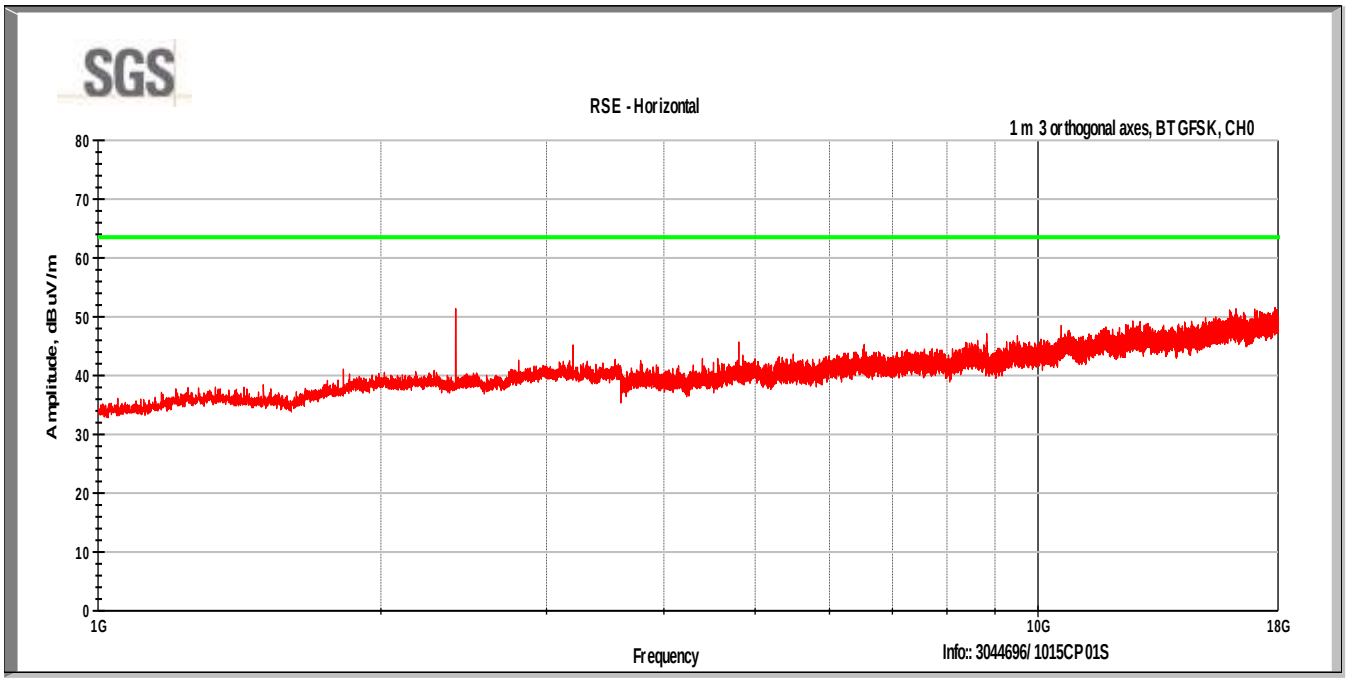
Note: The calibration period equipment is 1 year.
The filter used for 1 to 18 GHz testing was characterized using a calibrated network analyzer function (ESU-40) and tracking generator over the required frequency range

7.5 *Test Data*

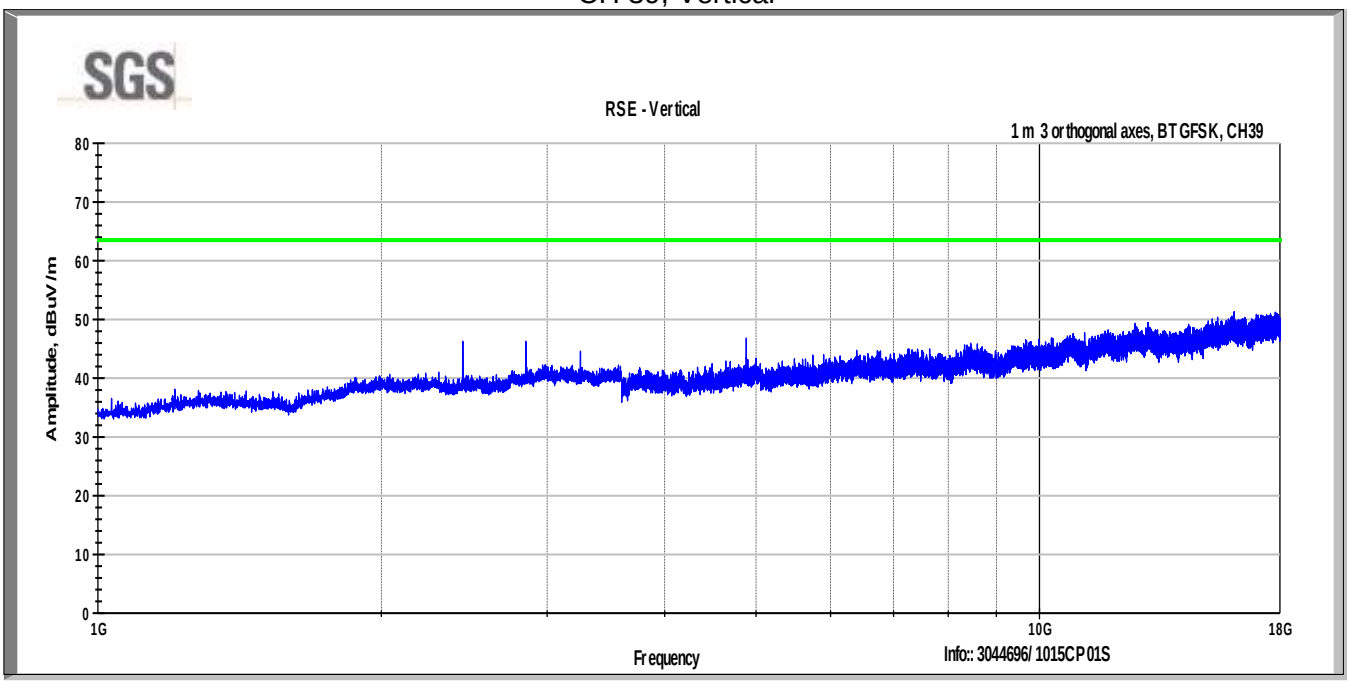
CH0, Vertical



Horizontal



CH 39, Vertical



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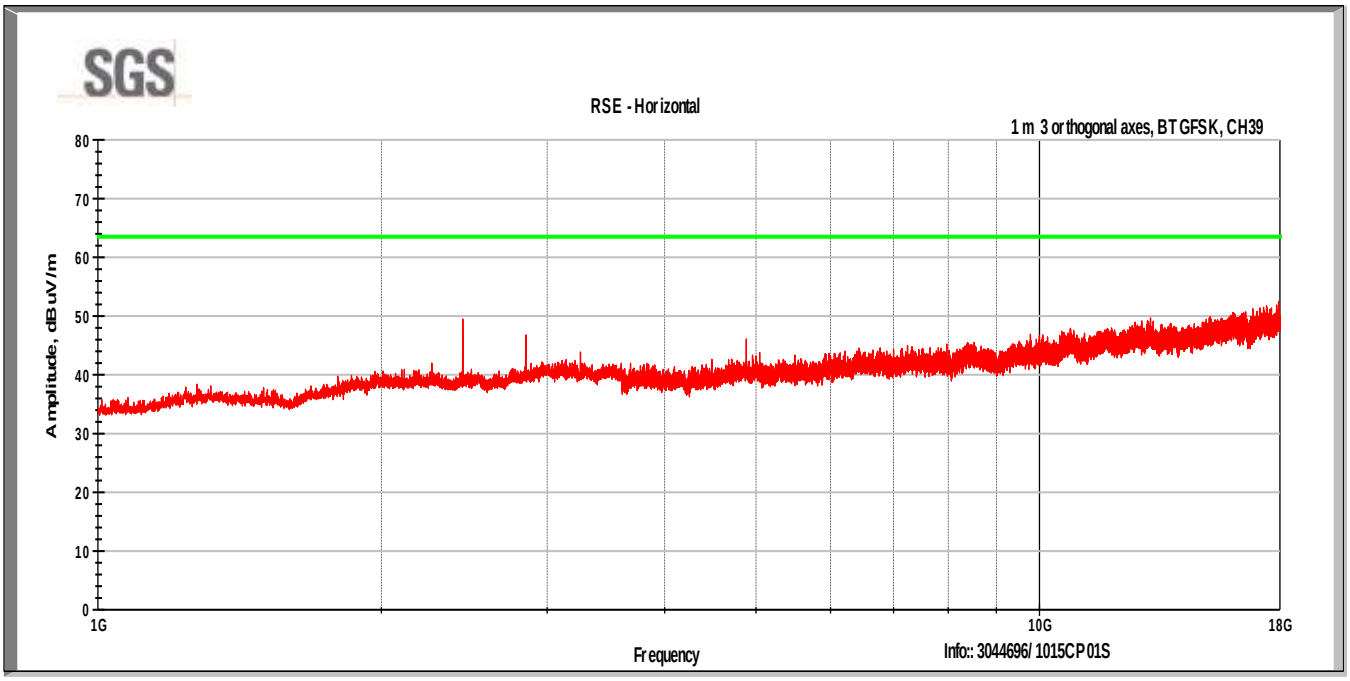
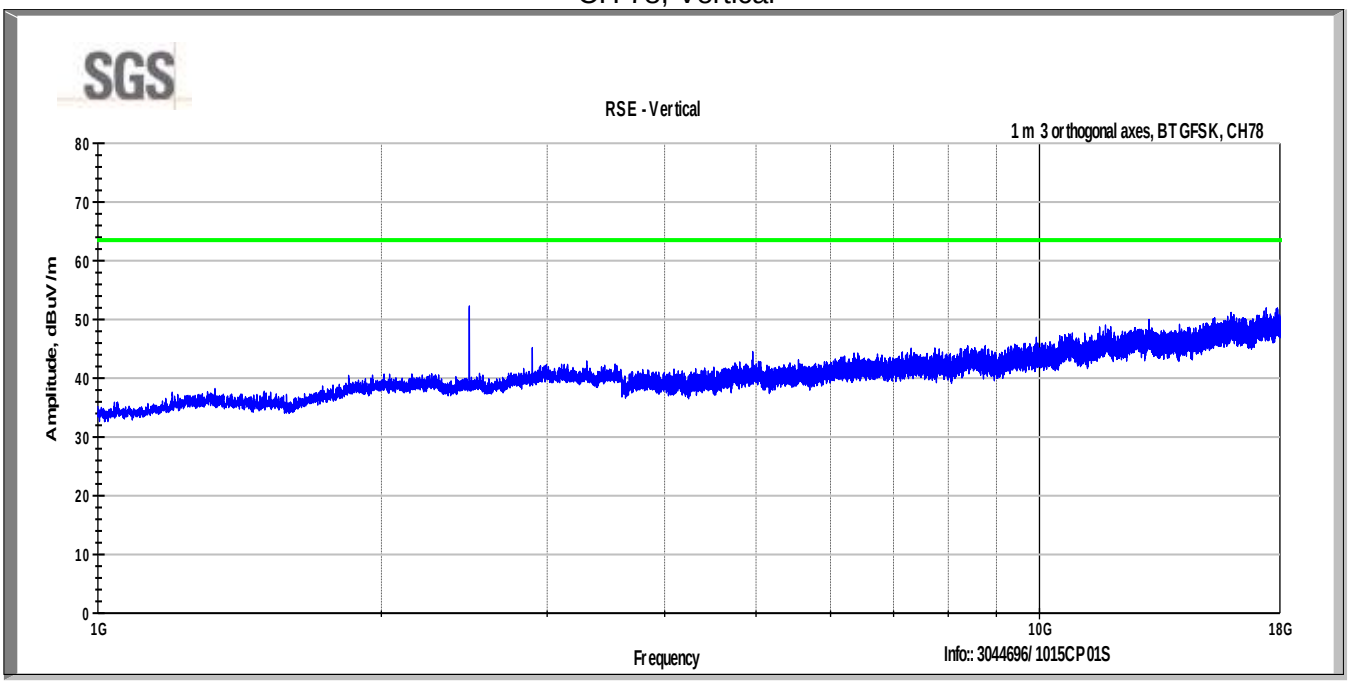
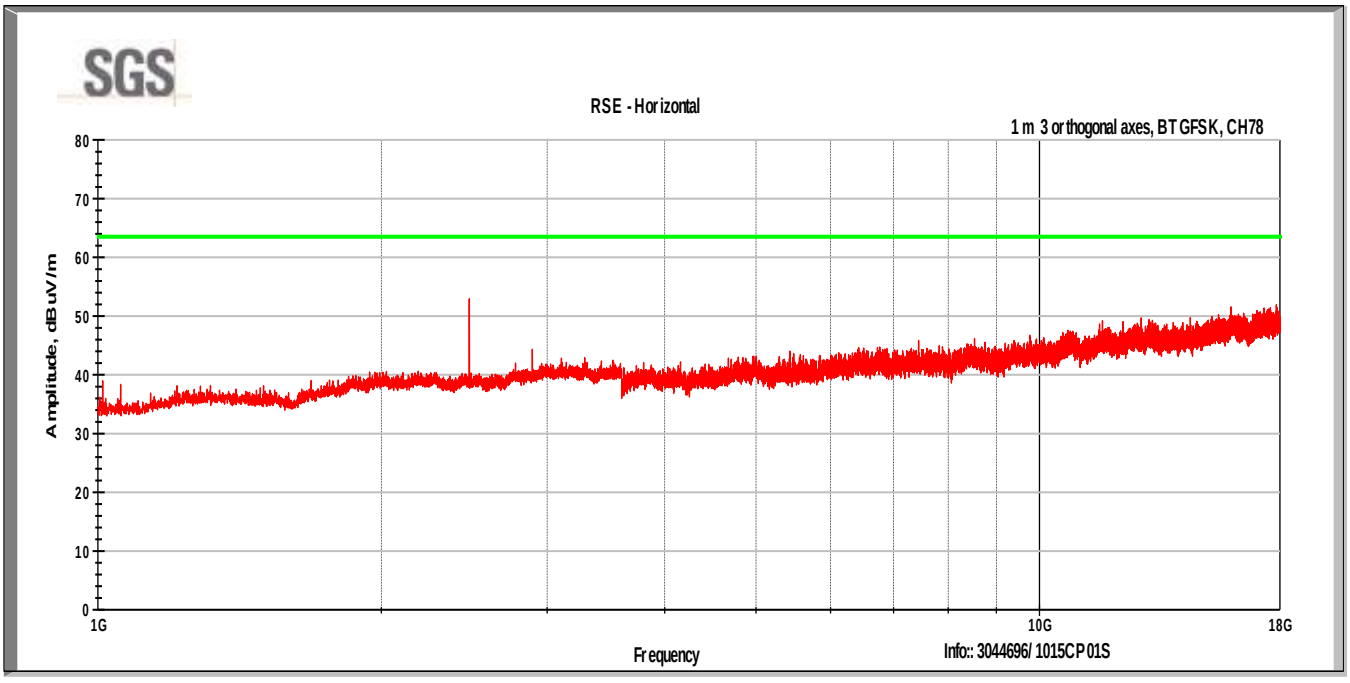


CH 78, Vertical

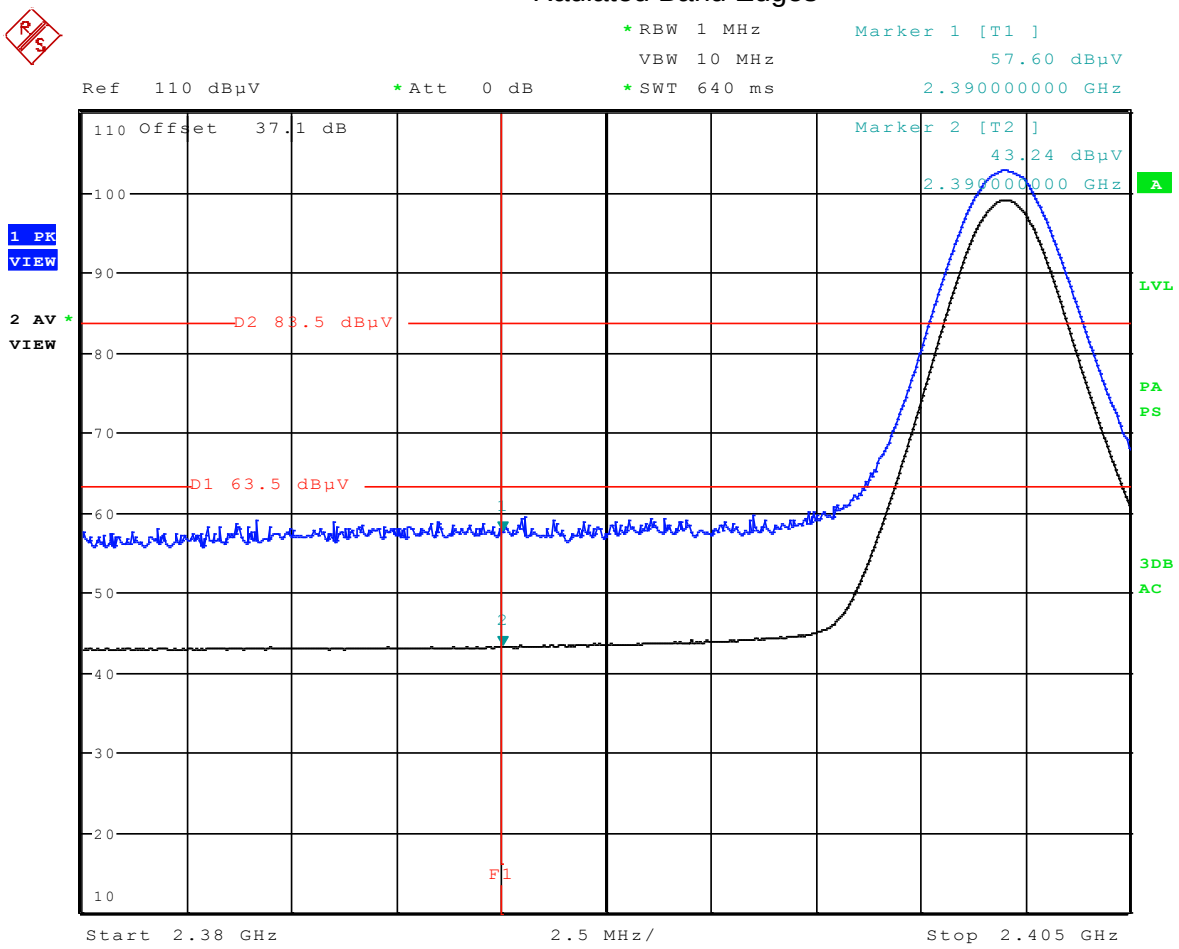


Horizontal

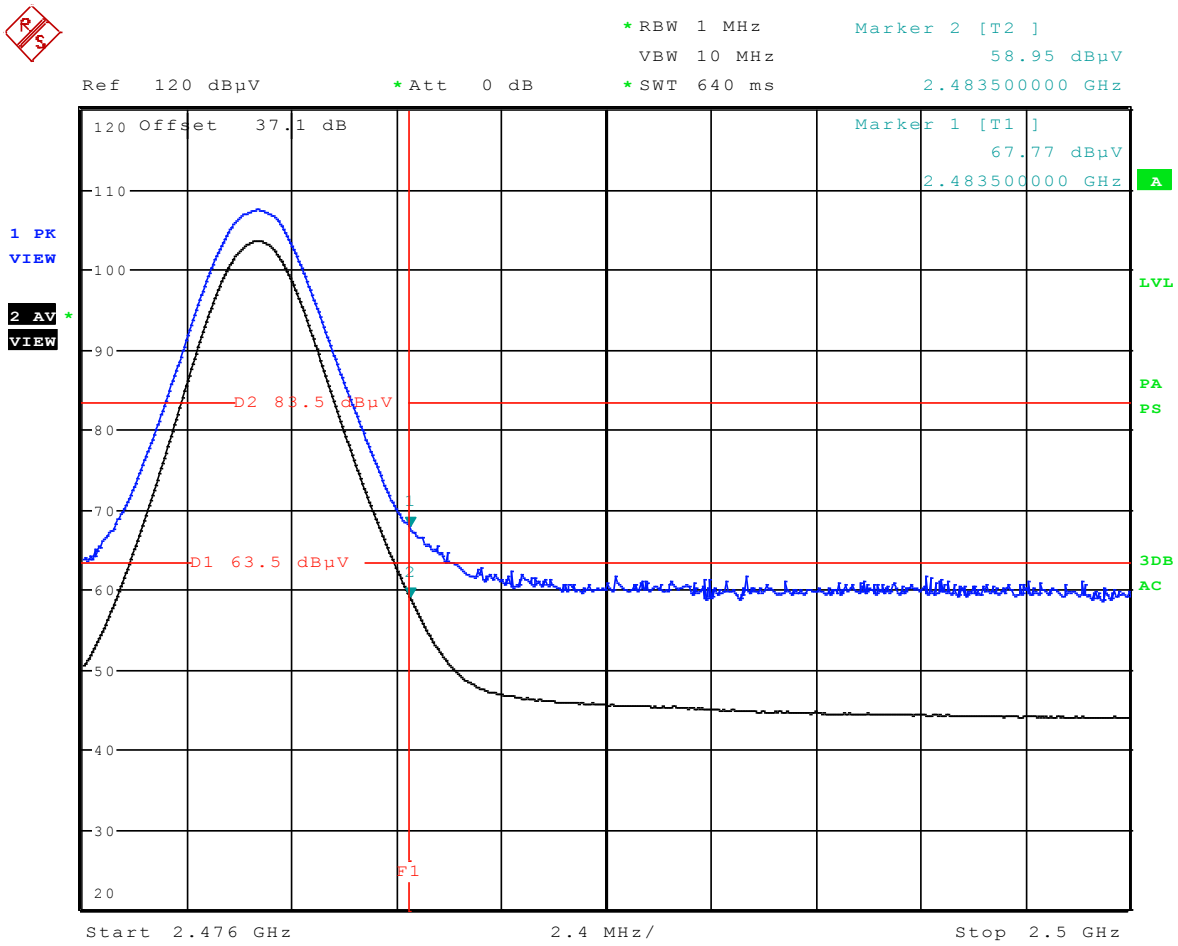


Note: For all scans performed 1 – 18, no peak signals were found above the average limit.

Radiated Band Edges



Date: 14.MAY.2013 10:13:26



Date: 14.MAY.2013 10:10:49

In the frequency range of 18 to 26 GHz, there were no emissions detectable above the noise floor.

8 Power Spectral Density

8.1 *Test Result*

Test Description	Basic Standards	Test Result
Power Spectral Density	15.247(f), 15.247(e) ANSI C63.4:2009	Compliant

8.2 *Test Method*

The EUT was set at each channel and data rate to transmit continuously, the peak emission was located and set as the center frequency. It was connected via customer supplied cable to the spectrum analyzer. The span was reduced to 300 kHz, swept 100 times with a 3 kHz RBW or greater, RMS detector and trace averaged. The peak signal was then measured and reported. The limit is 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 21.7 °C
Relative Humidity: 46.9 %

8.4 *Test Equipment*

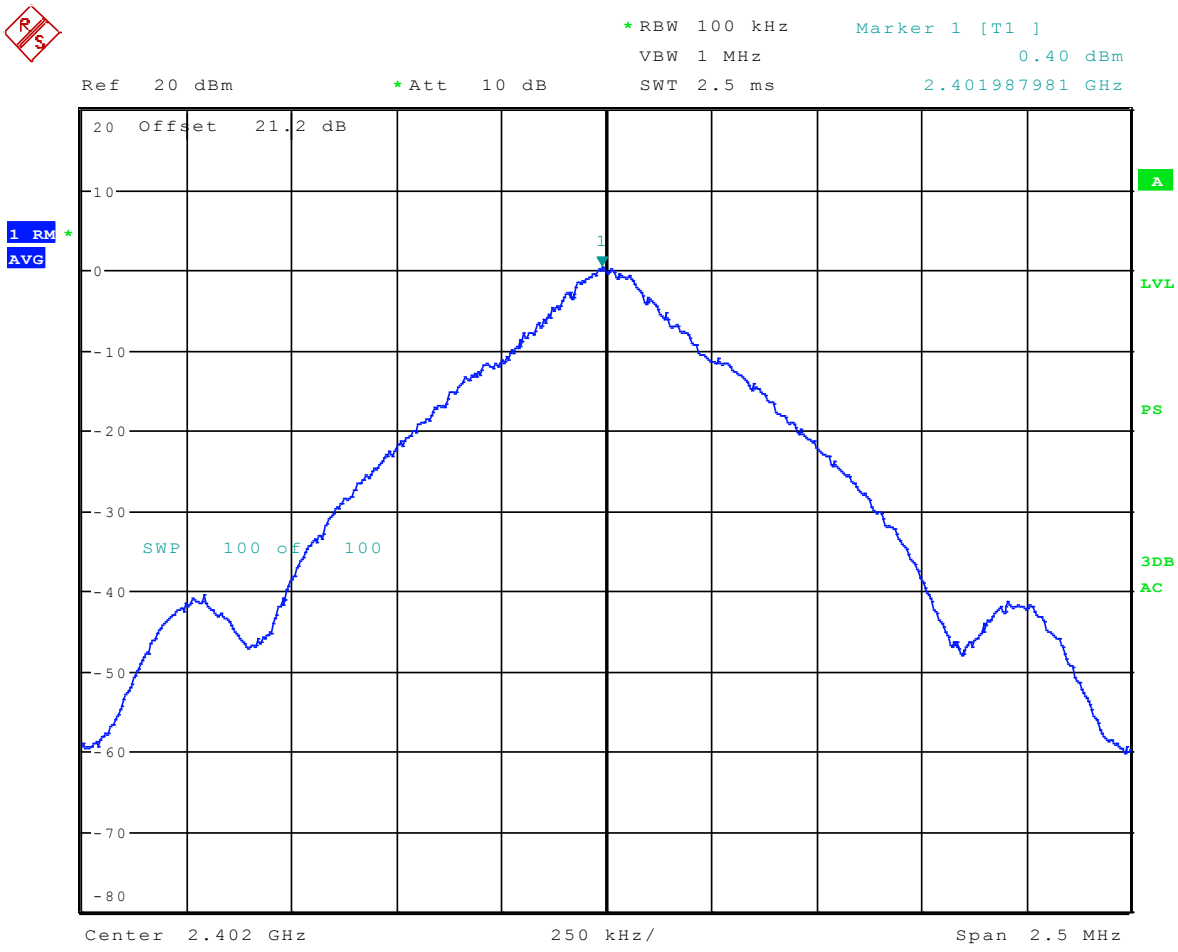
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
Receiver	ESU40	R&S	B079629	24 SEP 2013
Attenuator	BW-S10W2+	Mini-Circuits	NA	VBU
Attenuator	BW-S10W2+	Mini-Circuits	NA	VBU
Cable	086-24SM+	Mini-Circuits	NA	VBU
40GHz Signal Generator	HMC-T2240	Hittite	B079813	VBU

Note: The calibration period equipment is 1 year.
Prior to test, the measurement system was characterized over the test frequency range using the Receiver and Signal Generator.

8.5 *Test Data*

Frequency	Channel No	Modulation	Spectral Density Value, dBm
2402	0	GFSK	0.4
		EDR-2	-7.85
		EDR-3	-8.37
2441	39	GFSK	1.57
		EDR-2	-7.10
		EDR-3	-7.41
2480	78	GFSK	1.92
		EDR-2	-6.73
		EDR-3	-6.83

CH0(GFSK, EDR2, EDR3)



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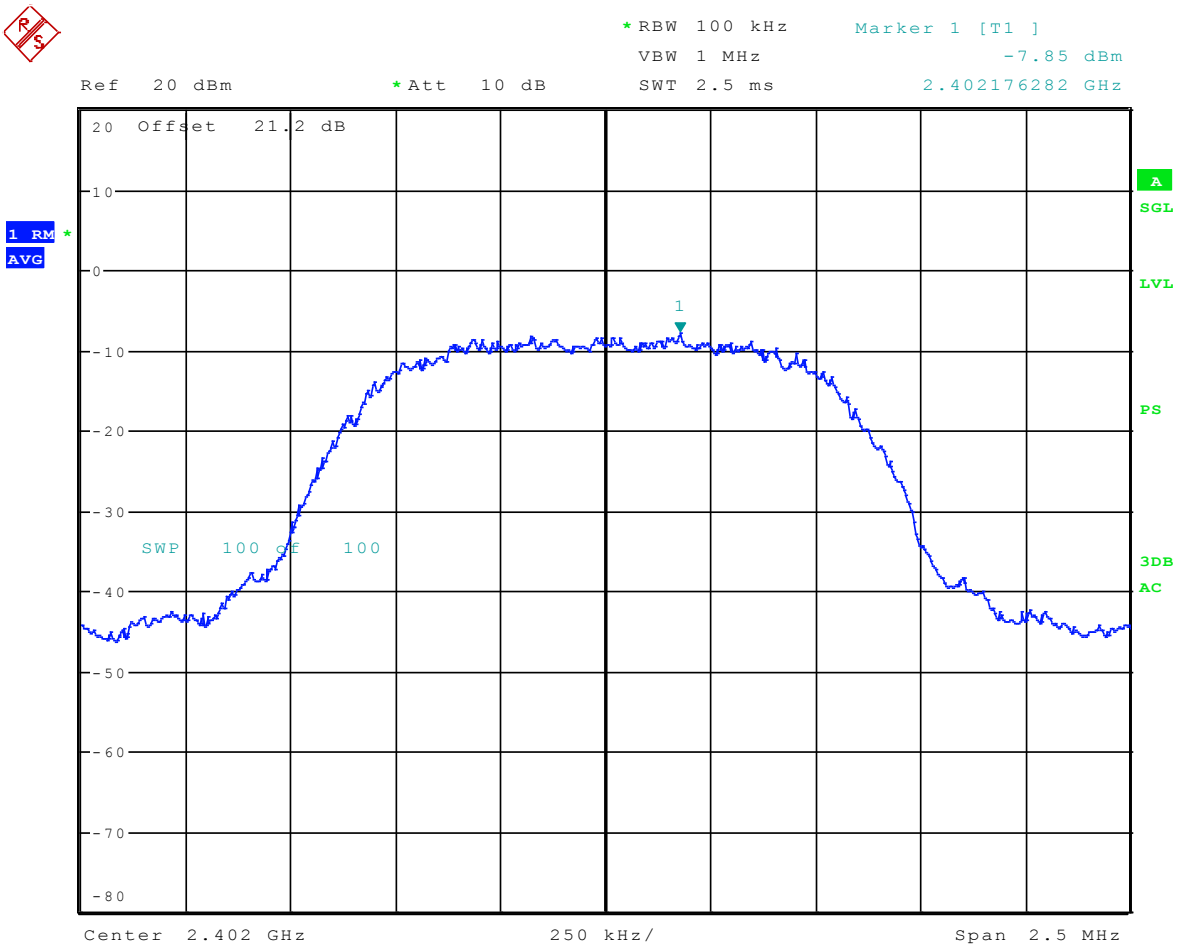

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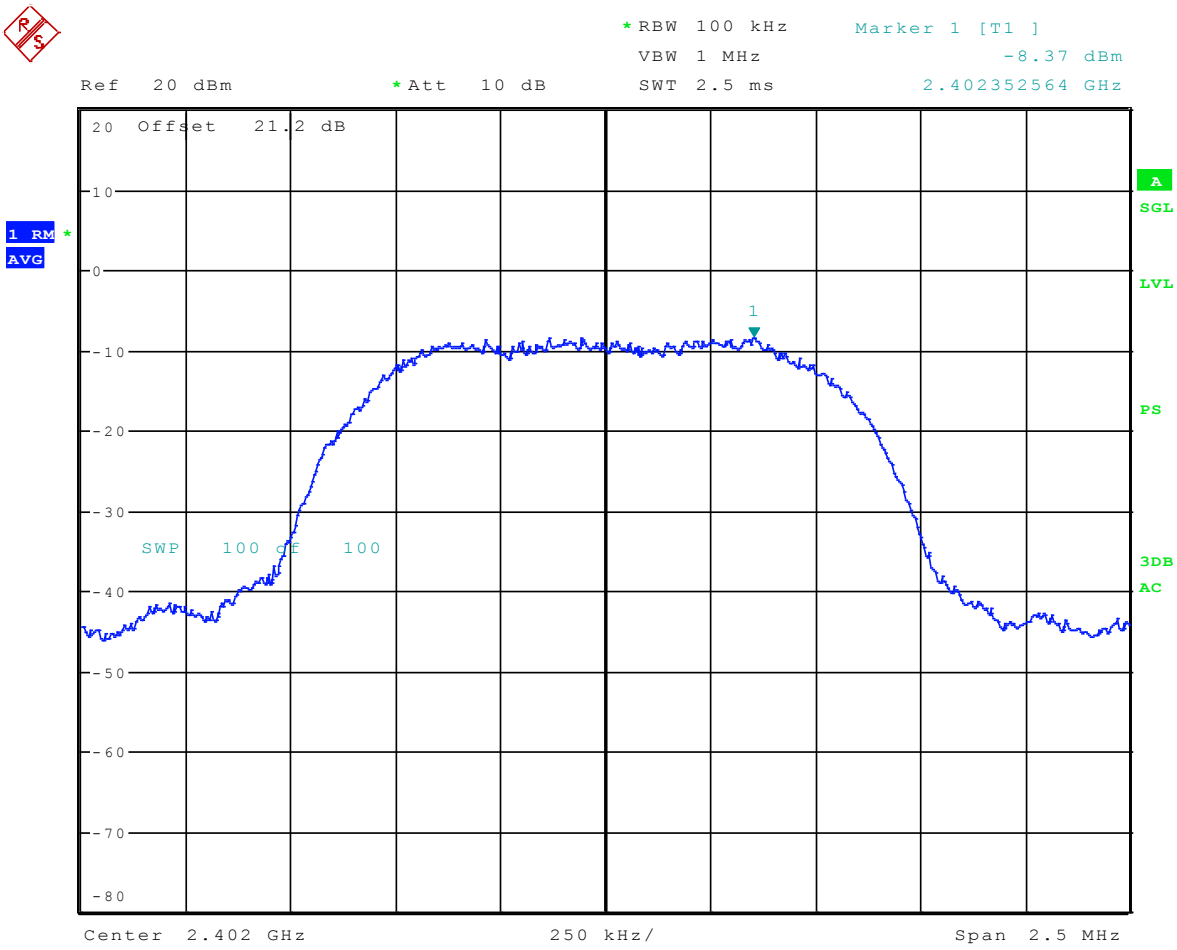

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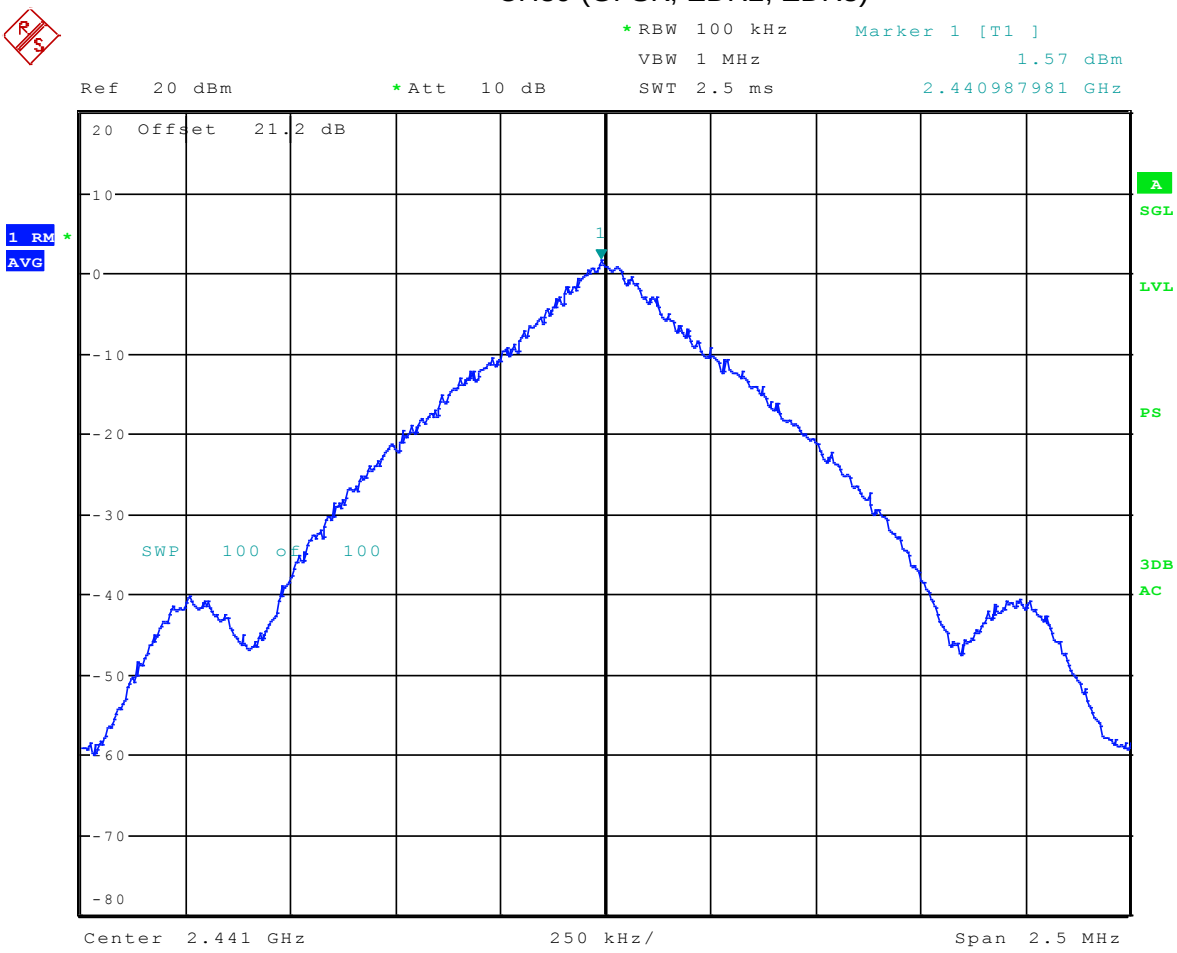
CH39 (GFSK, EDR2, EDR3)



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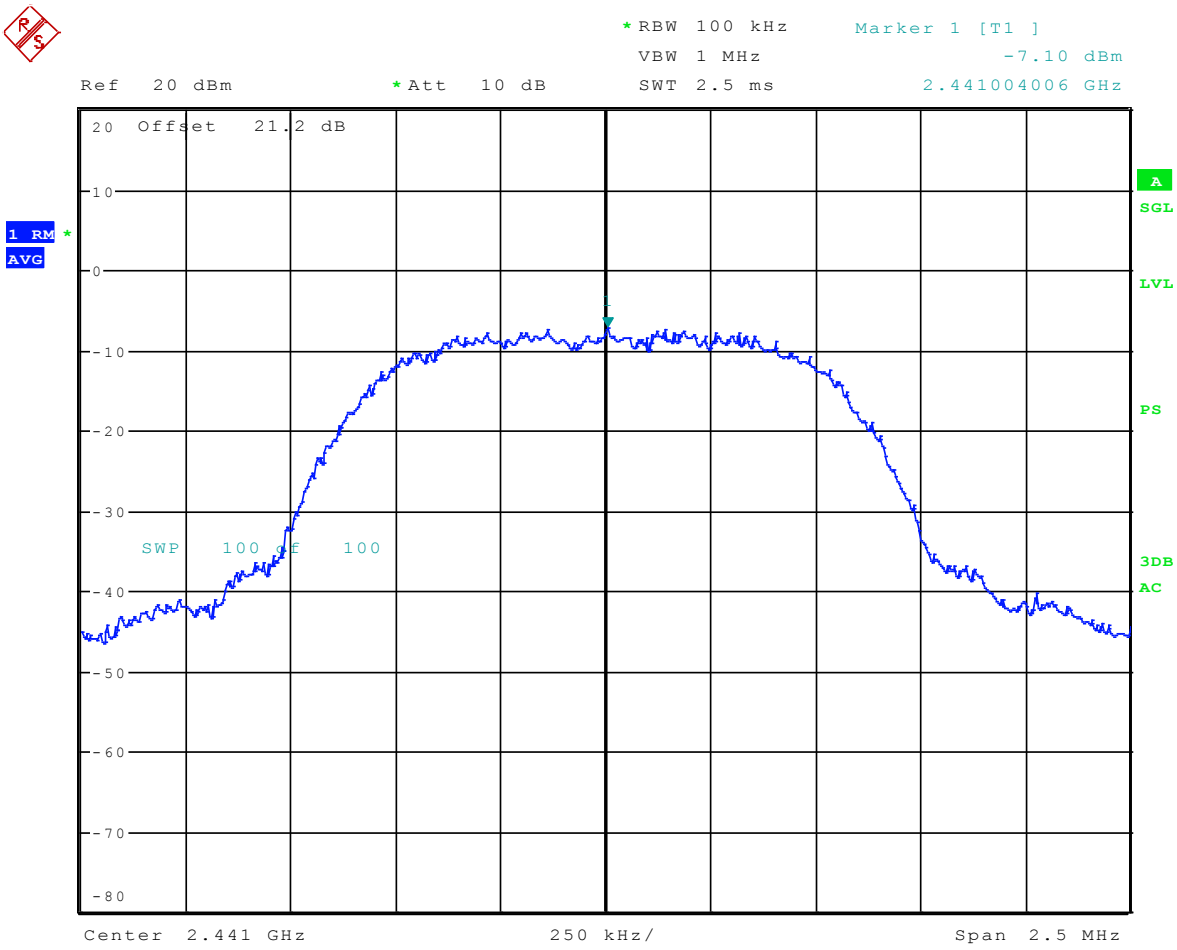

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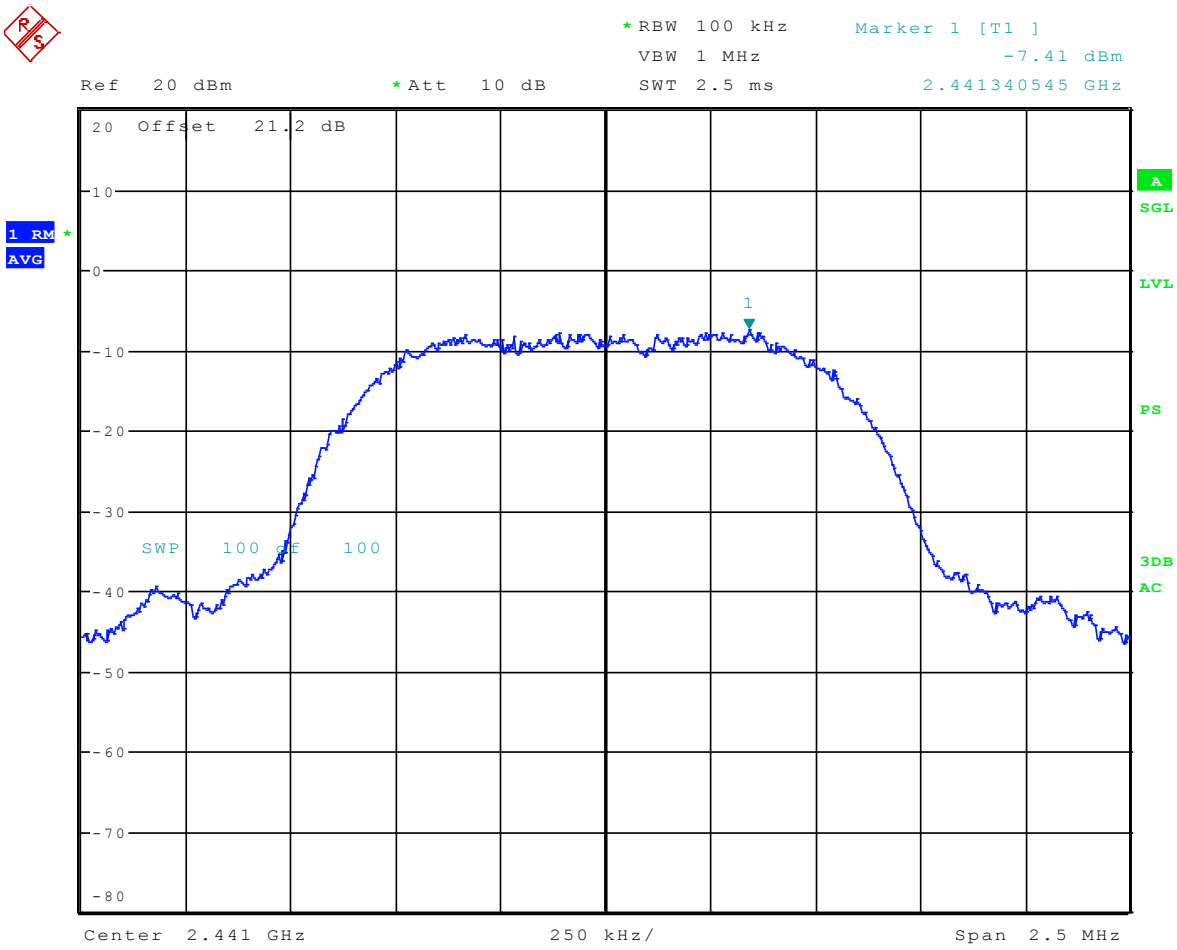

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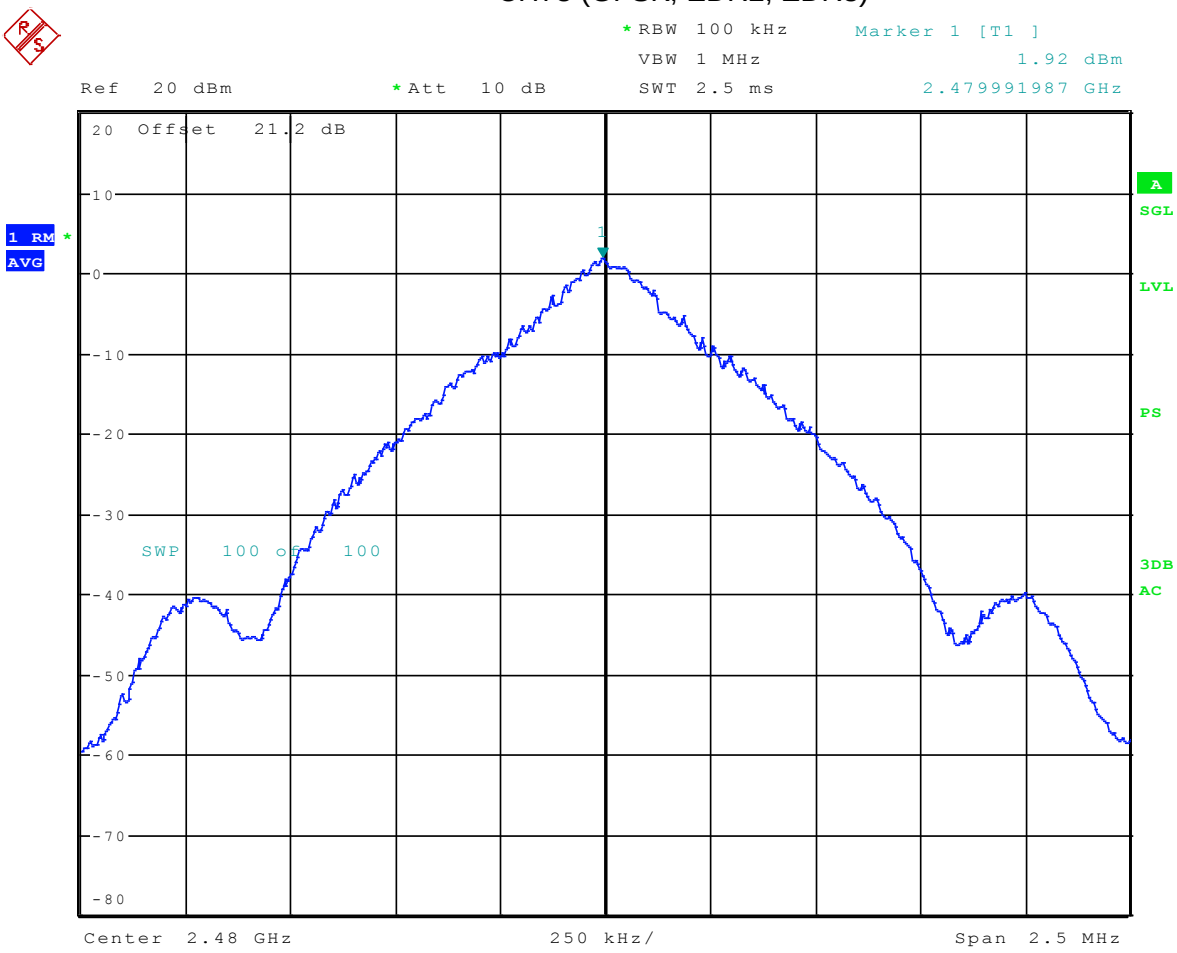
CH78 (GFSK, EDR2, EDR3)



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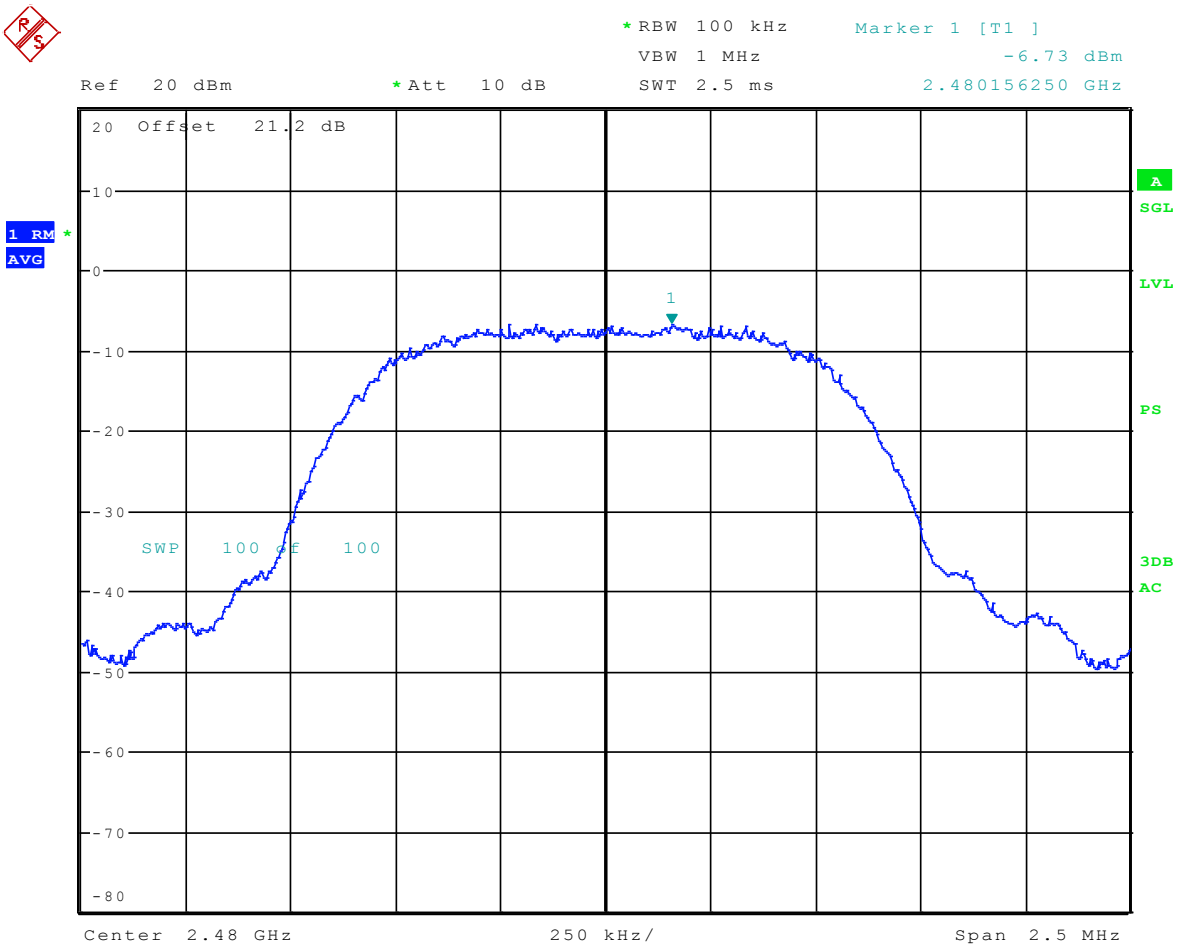

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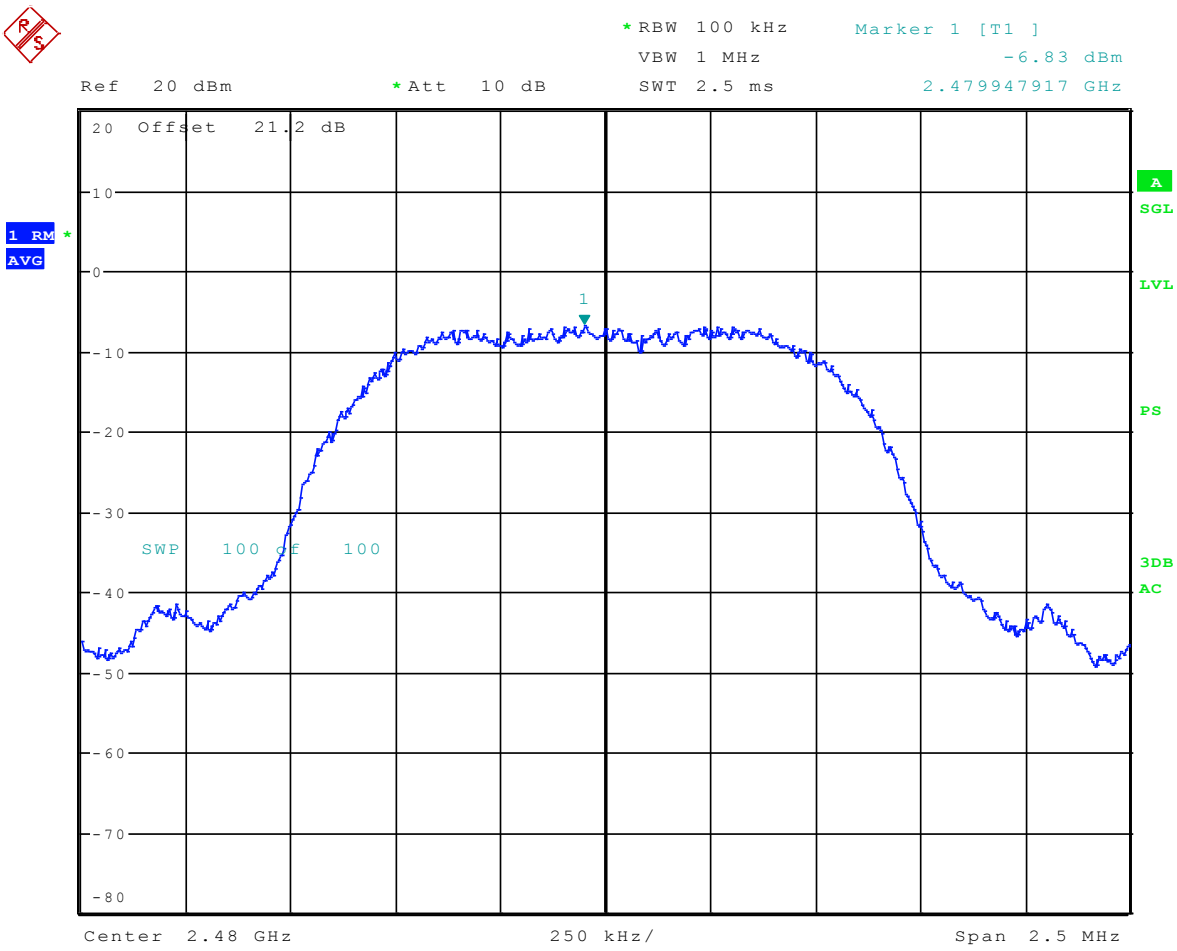
f



Date: 15.JUL.2013 16:45:50

9 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	4 Aug 2013
1	Updated index for spurious emissions and band edges, added FCC "Bluetooth Approvals" document	04SEP2013