

CETECOM Inc.



CETECOM Inc.

411 Dixon Landing Road, Milpitas, CA-95035, USA
Phone: +1 408 586 6200 Fax: +1 408 586 6299
www.cetecom.com

Issued test report consists of 62 Pages

Page 1 (62)

<p>FCC LISTED, REG. NO.: 101450 & RECOGNIZED BY INDUSTRY CANADA IC – 3925</p>
--

**Test report no.: 266FCC/2002
FCC Part 15.247
(FUD-202)**

Table of Contents**1 General information****1.1 Notes****1.2 Testing laboratory****1.3 Details of applicant****1.4 Application details****1.5 Test item****1.6 Test standards****2 Technical test****2.1 Summary of test results****2.2 Test report****1 General information****1.1 Notes**

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc USA.

TEST REPORT PREPARED BY:**EMC Engineer: Harpreet Sidhu****1.2 Testing laboratory****CETECOM Inc.**

411 Dixon Landing Road, Milpitas, CA-95035, USA

Phone: +1 408 586 6200 Fax: +1 408 586 6299

E-mail: lothar.schmidt@cetecomusa.comInternet: www.cetecom.com

1.3 Details of applicant

Name : Futureinternet Co., Ltd
Street : 11F, Samhomoolsan Bldg., 275-6, Yangjea Dong, Seocho Ku
City : Seoul 137-130
Country : Korea
Contact : Dong Ik Jung
Telephone : +82-2-589-6992
Telefax : +82-2-589-4855
e-mail : Richard70@sorimail.net

1.4 Application details

Date of receipt of application : 2002-04-01
Date of receipt test item : 2002-04-04
Date of test : 2002-04-06/8/9

1.5 Test item

Manufacturer : Applicant
Name of EUT : FUD-202
[Description](#) : [Bluetooth USB Adapter](#)
Model No. : FUD-202
Serial No. : N/A
FCC ID. : P9L-FUD-202

Additional information

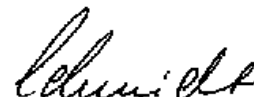
Frequency : 2402MHz – 2480MHz
Type of modulation : GFSK
Number of channels : 79
Antenna : Internal Microstrip Antenna
Power supply : 5VDC (From PC USB port power source)
Output power : 2.94dBm (1.97mW)
Extreme temp. Tolerance : -10 C to +50 C

1.6 Test standards: FCC Part 15 §15.247 (DA00-705)

2 Technical test**2.1 Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

Technical responsibility for area of testing :

2002-04-22**EMC & Radio****Lothar Schmidt (Manager)**

Date**Section****Name****Signature**

2.2 Test report

TEST REPORT

**Test report no. : 266FCC/2001
(FUD-202)**

TEST REPORT REFERENCE**LIST OF MEASUREMENTS**

Paragraph	PARAMETER TO BE MEASURED	PAGE
	Transmitter parameters	
§ 15.204	Antenna gain	7
§ 15.247 (a)	Carrier frequency separation	8
§ 15.247 (a)	Number of hopping channels	9
§ 15.247 (a)	Time of occupancy (dwell time)	13
§ 15.247 (a)(1)	Spectrum Bandwidth of a FHSS System	16
§ 15.247 (b)(2)	Maximum peak output power	20
§15.247	Band edge compliance	28
§ 15.247 (c)(1)	Emission limitations	36
§ 15.107/207	AC Line Conducted Emission	53
	Receiver parameters	
§ 15.209	Spurious radiations - Radiated	55
	Test equipment listing	60
	Block Diagrams	61

Antenna Gain

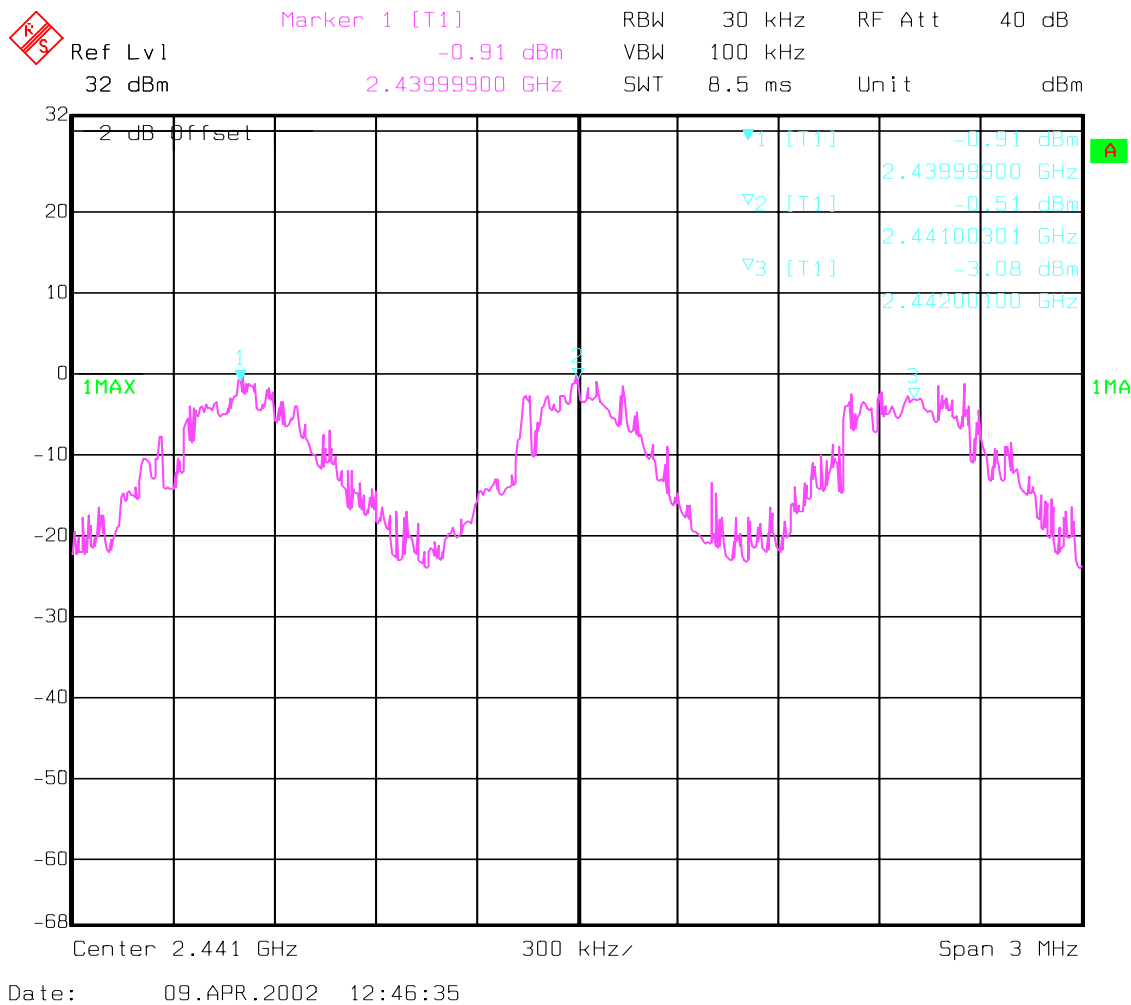
SUBCLAUSE § 15.204

The max gain is: 1.98dBi

(measured effective isotropic radiated power – measured conducted power with a temporary RF-connector)

CARRIER FREQUENCY SEPERATION

§15.247(a)



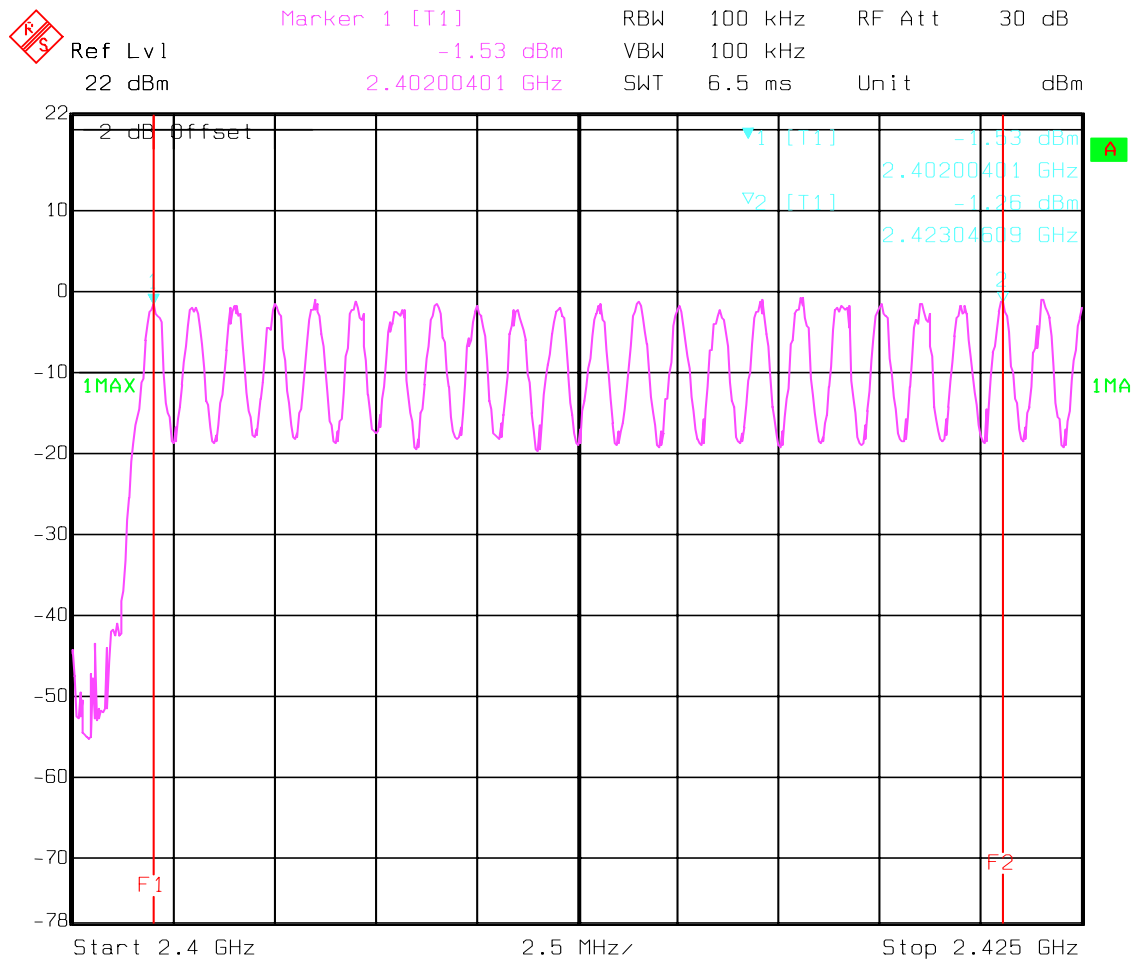
NUMBER OF HOPPING CHANNELS

§15.247(a)

The number of hopping channels is 79 (see next 4 plots)

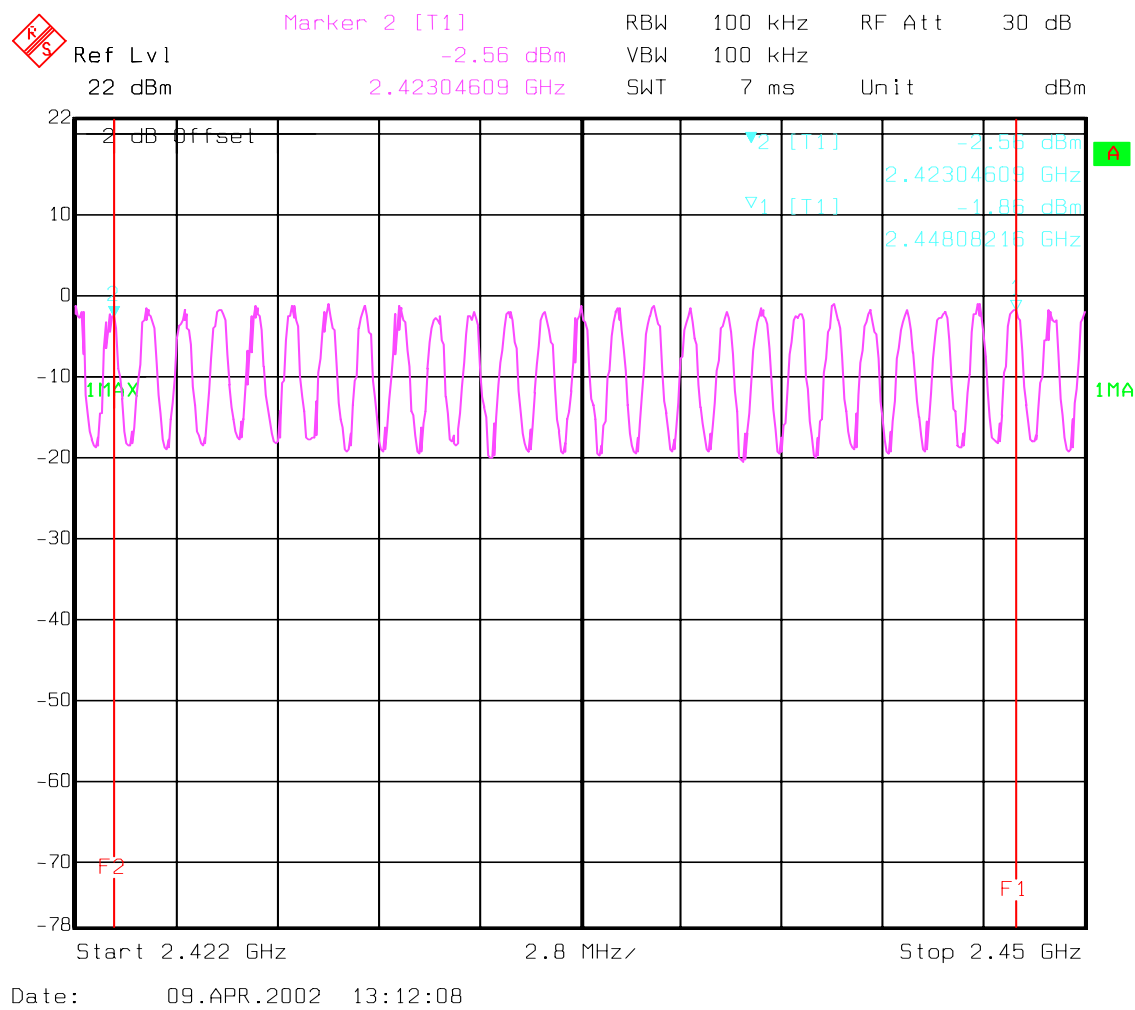
The right red line corresponds to the left red line from the next plot.

Plot 1: Total 22

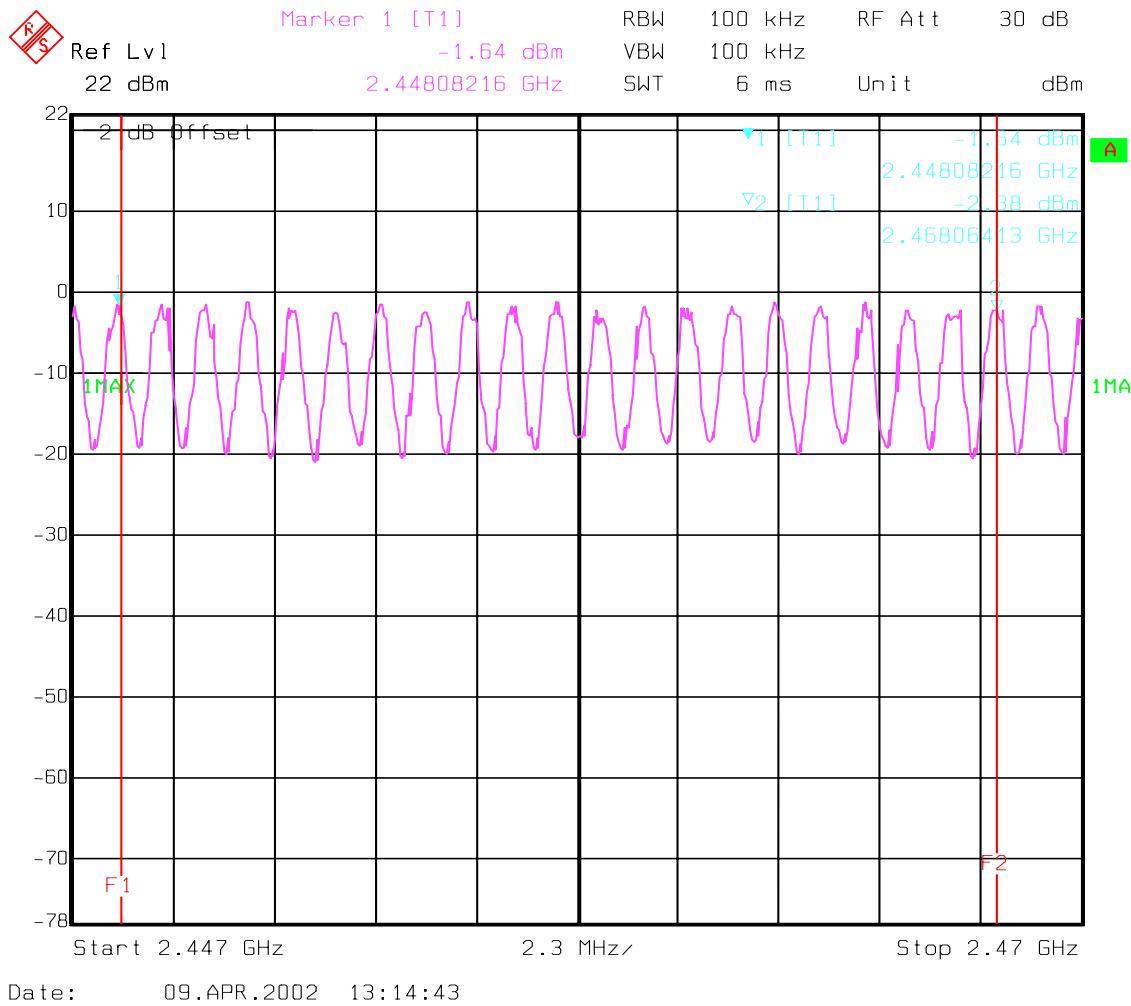


Date: 09.APR.2002 13:09:37

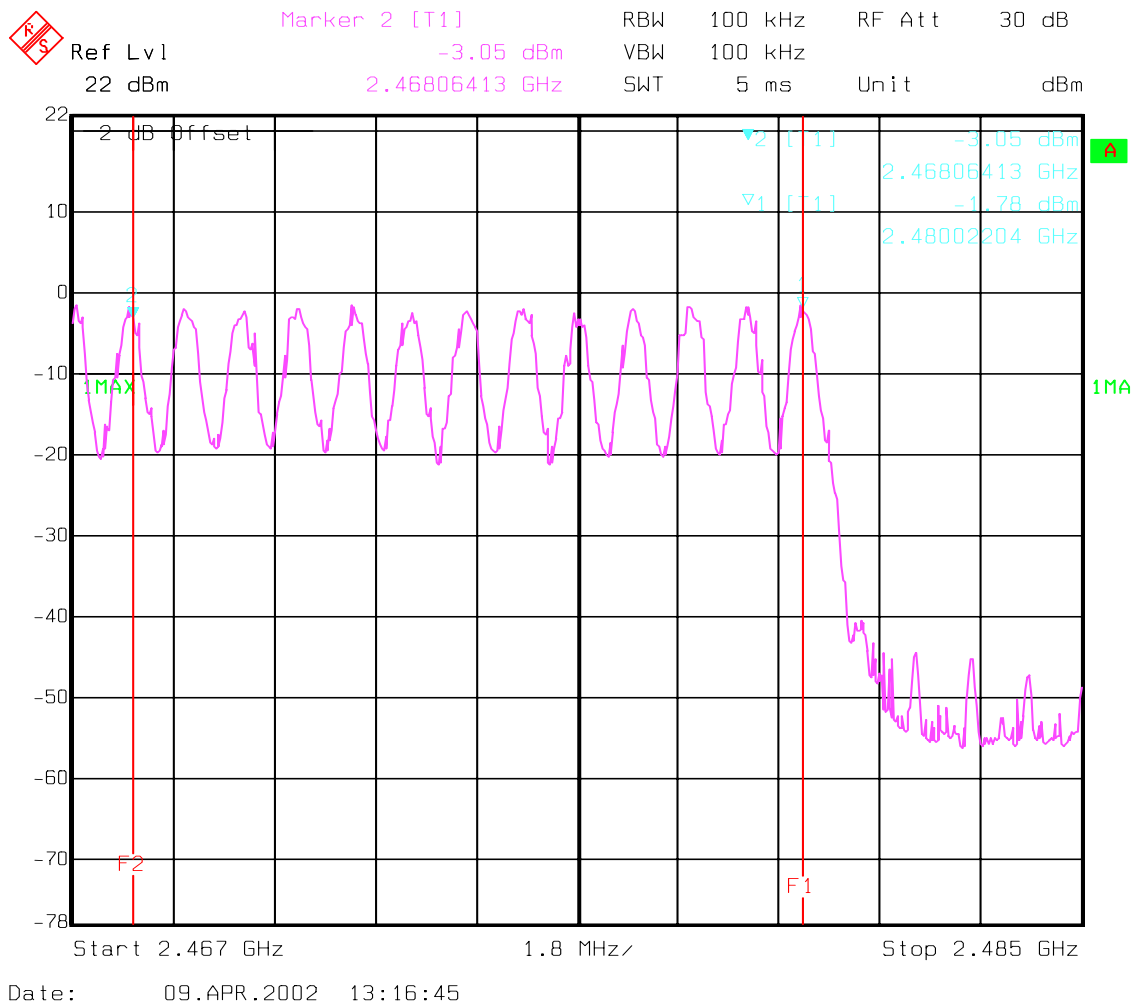
Plot 2: Total 25



Plot 3: Total 20



Plot 4: Total 12



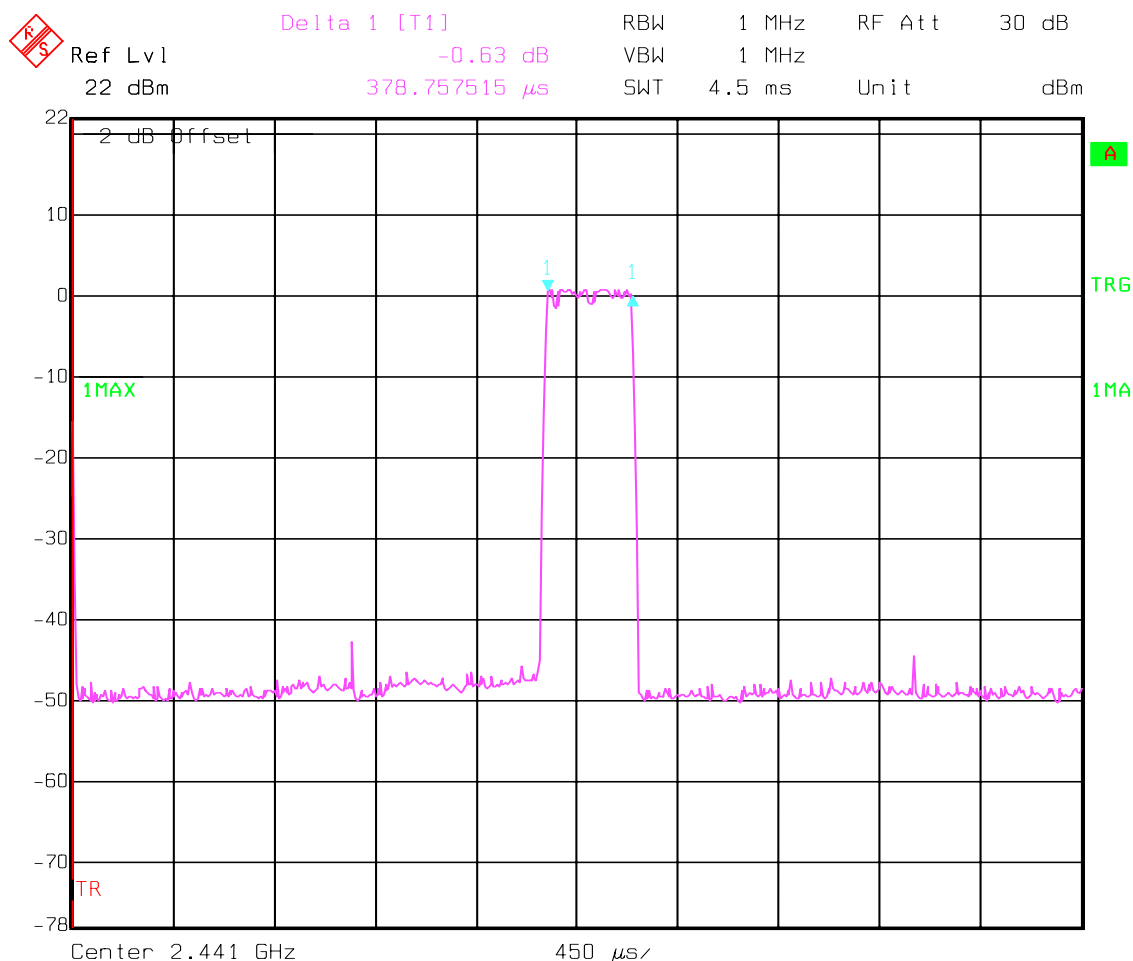
TIME OF OCCUPANCY (DWELL TIME) FOR DH1

§15.247(a)

The system makes worst case 1600 hops per second or 1 time slot has a length of 625 μ s with 79 channels. A DH1 Packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 times per second and so for 30 seconds you have 303.9 times of appearance .

Each Tx-time per appearance is 378.75 μ s.

So we have $303.9 * 378.75 \mu\text{s} = 115.10 \text{ ms}$ per 30 seconds.



Date: 09.APR.2002 12:55:21

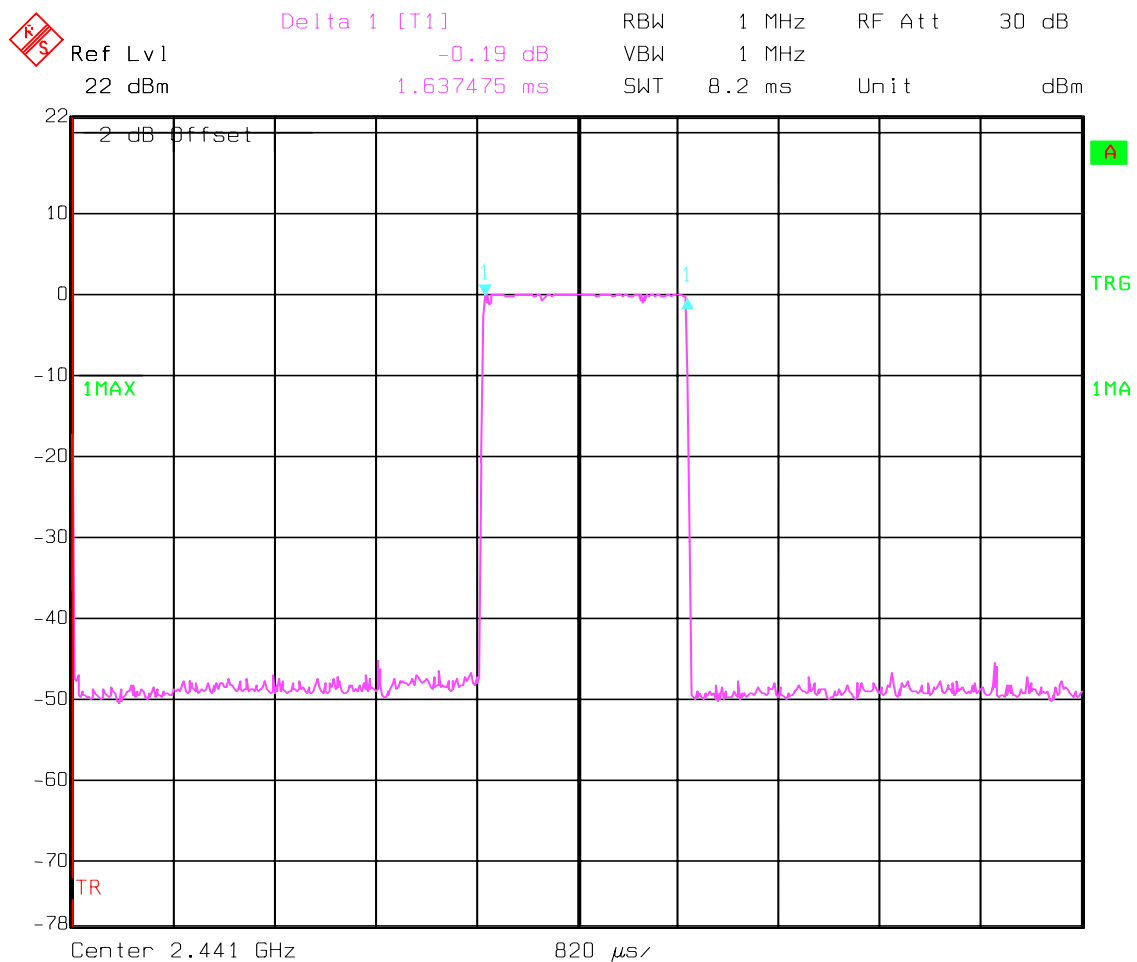
TIME OF OCCUPANCY (DWELL TIME) FOR DH3

§15.247(a)

A DH3 Packets need 3 time slots for transmit and 1 for receicing, then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 times per second and so for 30 seconds you have 153 times of appearance .

Each Tx-time per appearance is 1.637 ms.

So we have $153 * 1.637 \text{ ms} = 250.46 \text{ ms}$ per 30 seconds.



Date: 09.APR.2002 13:01:04

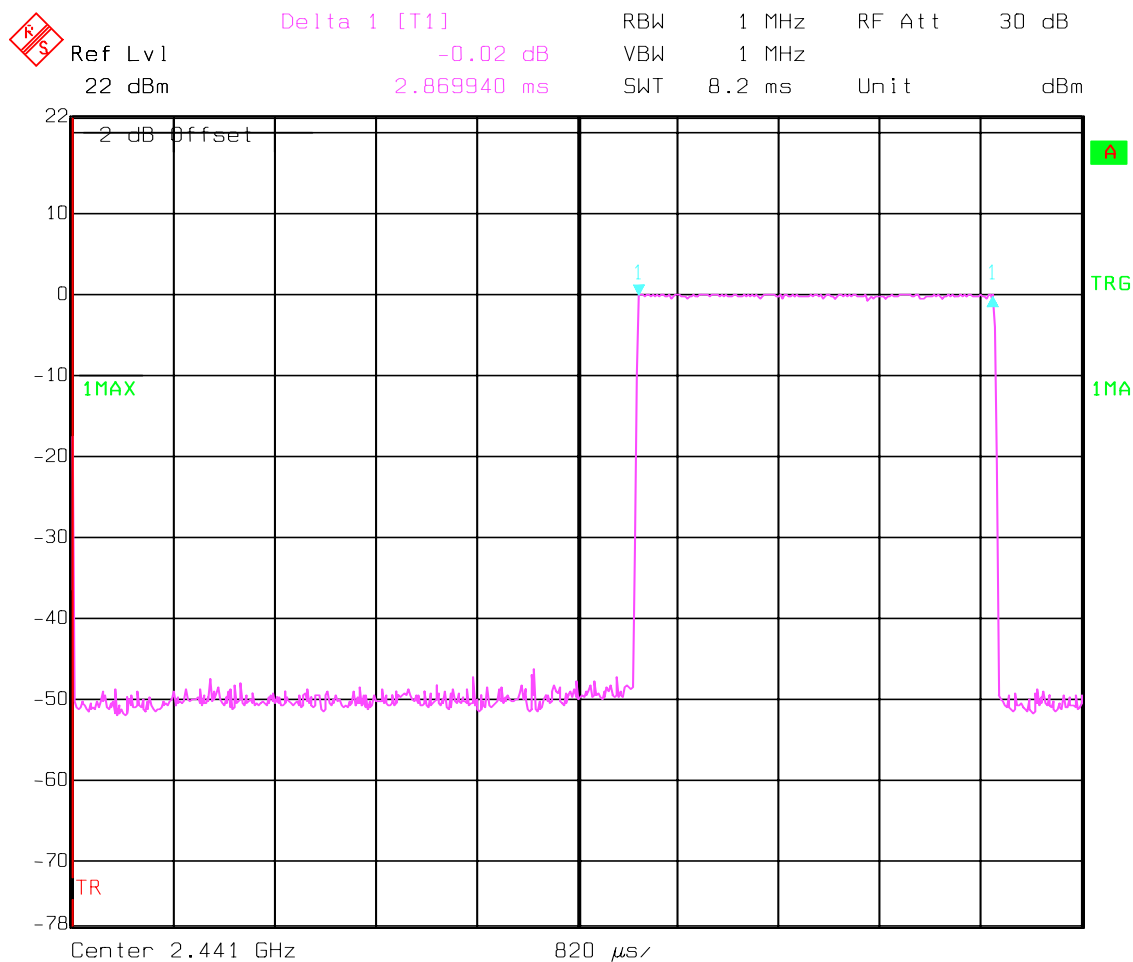
TIME OF OCCUPANCY (DWELL TIME) FOR DH5

§15.247(a)

At DH5 Packets you need 5 time slots for transmit and 1 for receicing,then the system makes worst case 266,7 hops per second with 79 channels. So you have each channel 3.36 times per second and so for 30 seconds you have 100.8 times of appearance .

Each tx-time per appearance is 2.87 ms.

So we have $100.8 * 2.87\text{ms} = 289.3 \text{ ms}$ per 30 seconds.



Date: 09.APR.2002 13:02:53

SPECTRUM BANDWIDTH OF FHSS SYSTEM
20 dB bandwidth**§15.247(a)**

TEST CONDITIONS		20 dB BANDWIDTH (kHz)		
Frequency (MHz)		2402	2441	2480
T _{nom} (23)°C	V _{nom} (5.0)VDC	965.93	949.89	953.90

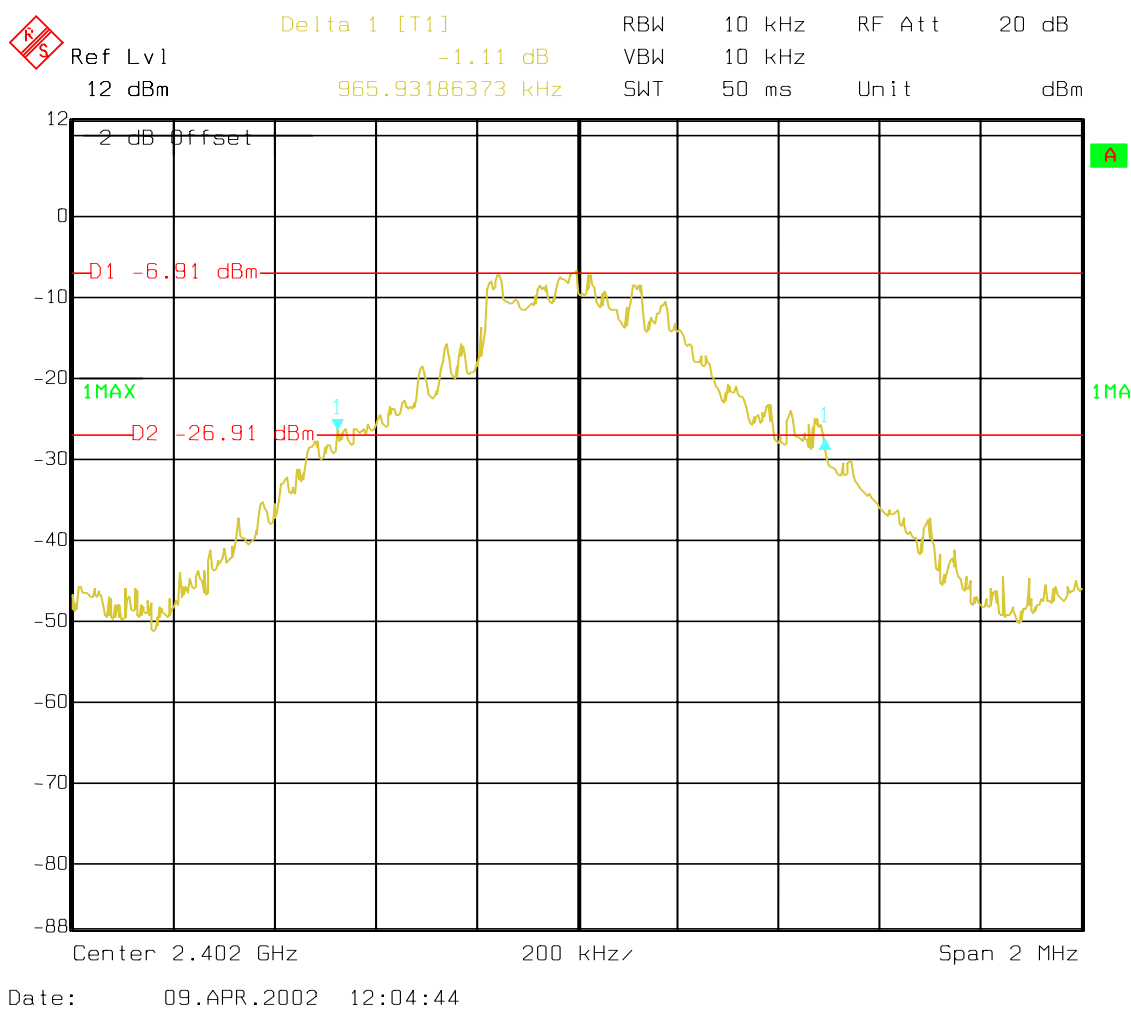
RBW / VBW as provided in the "Measurement Guidelines" (DA 00-705, March 30, 2000)

LIMIT**SUBCLAUSE §15.247(a) (1)****The maximum 20dB bandwidth shall be at maximum 1000 KHz**

SPECTRUM BANDWIDTH OF FHSS SYSTEM 20 dB bandwidth

§15.247(a)

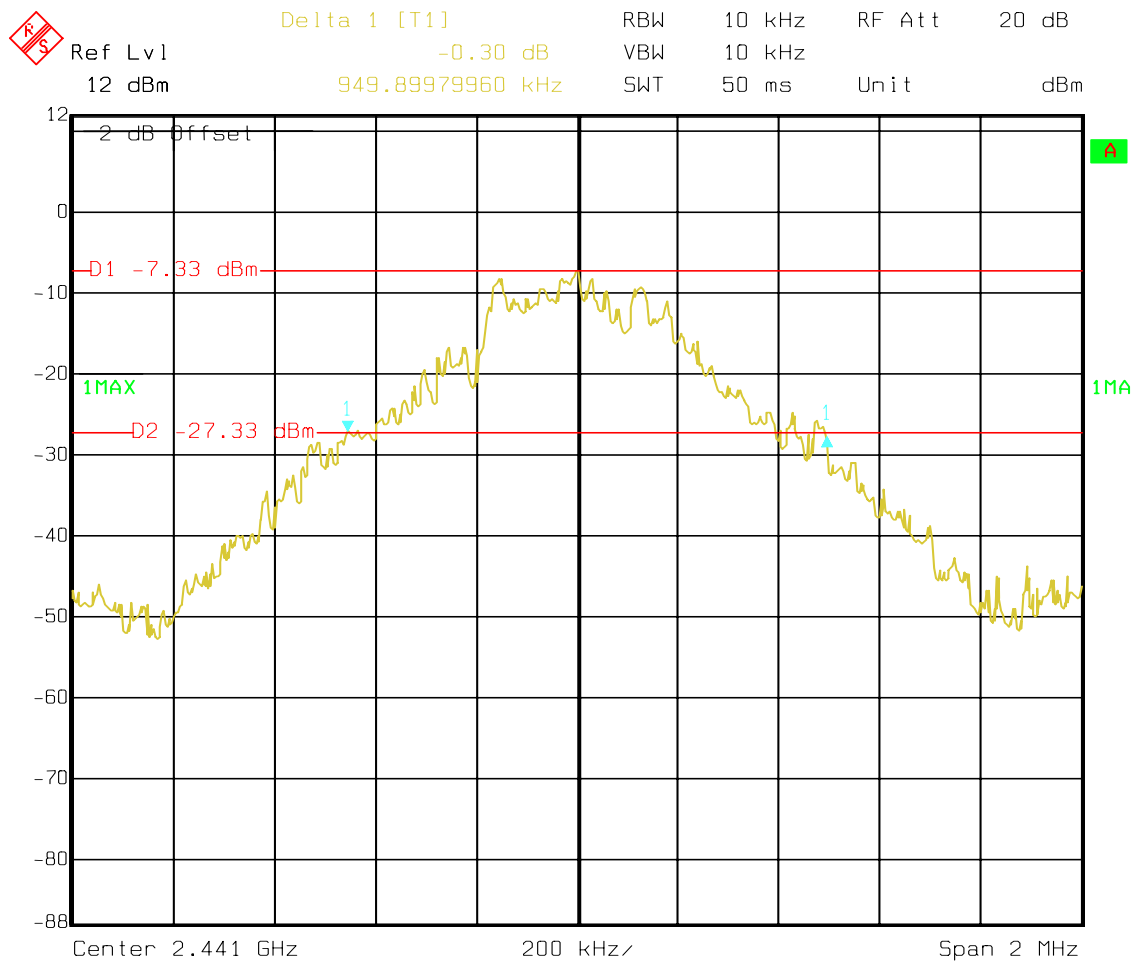
Lowest Channel: 2402MHz



SPECTRUM BANDWIDTH OF FHSS SYSTEM 20 dB bandwidth

§15.247(a)

Mid Channel: 2441MHz

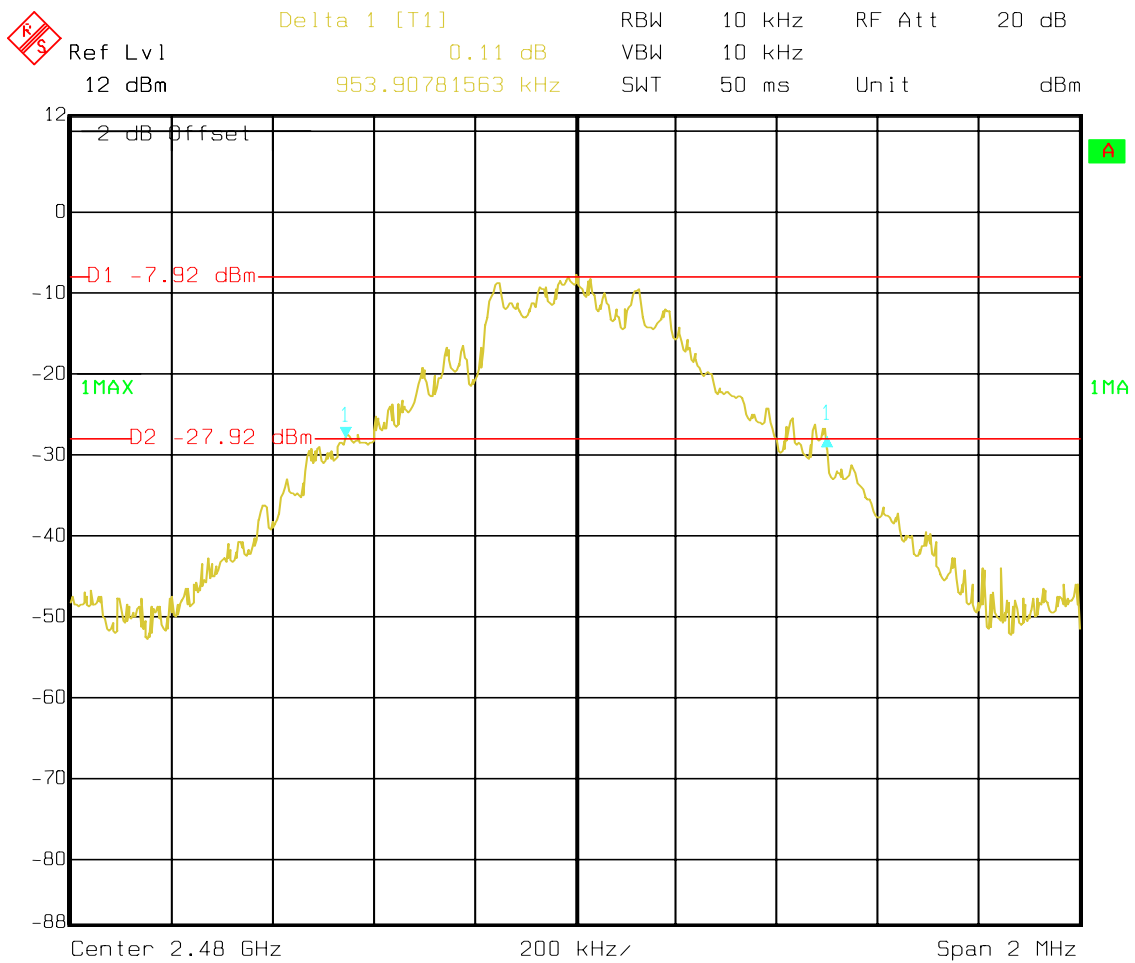


Date: 09.APR.2002 12:07:07

SPECTRUM BANDWIDTH OF FHSS SYSTEM 20 dB bandwidth

§15.247(a)

Highest Channel: 2480MHz



Date: 09.APR.2002 12:09:11

**MAXIMUM PEAK OUTPUT POWER
(conducted)****SUBCLAUSE § 15.247 (b) (1)**

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)			
Frequency (MHz)			2402	2441	2480
T _{nom} (23)°C	V _{nom} (5.0)VDC	PK	0.79	0.78	0.35
Measurement uncertainty			±0.5dBm		

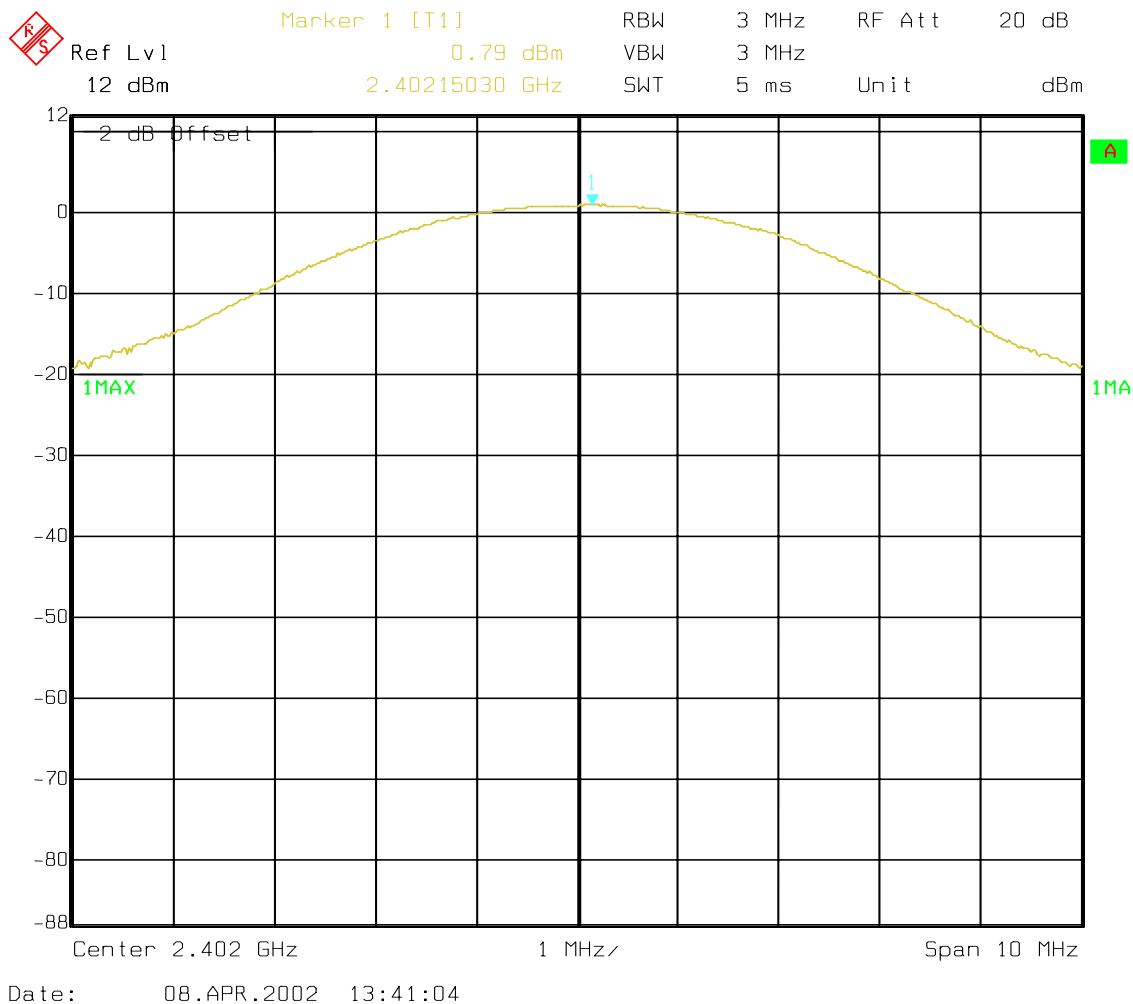
RBW / VBW : 3 MHz**LIMIT****SUBCLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz	1.0 Watt

PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b)

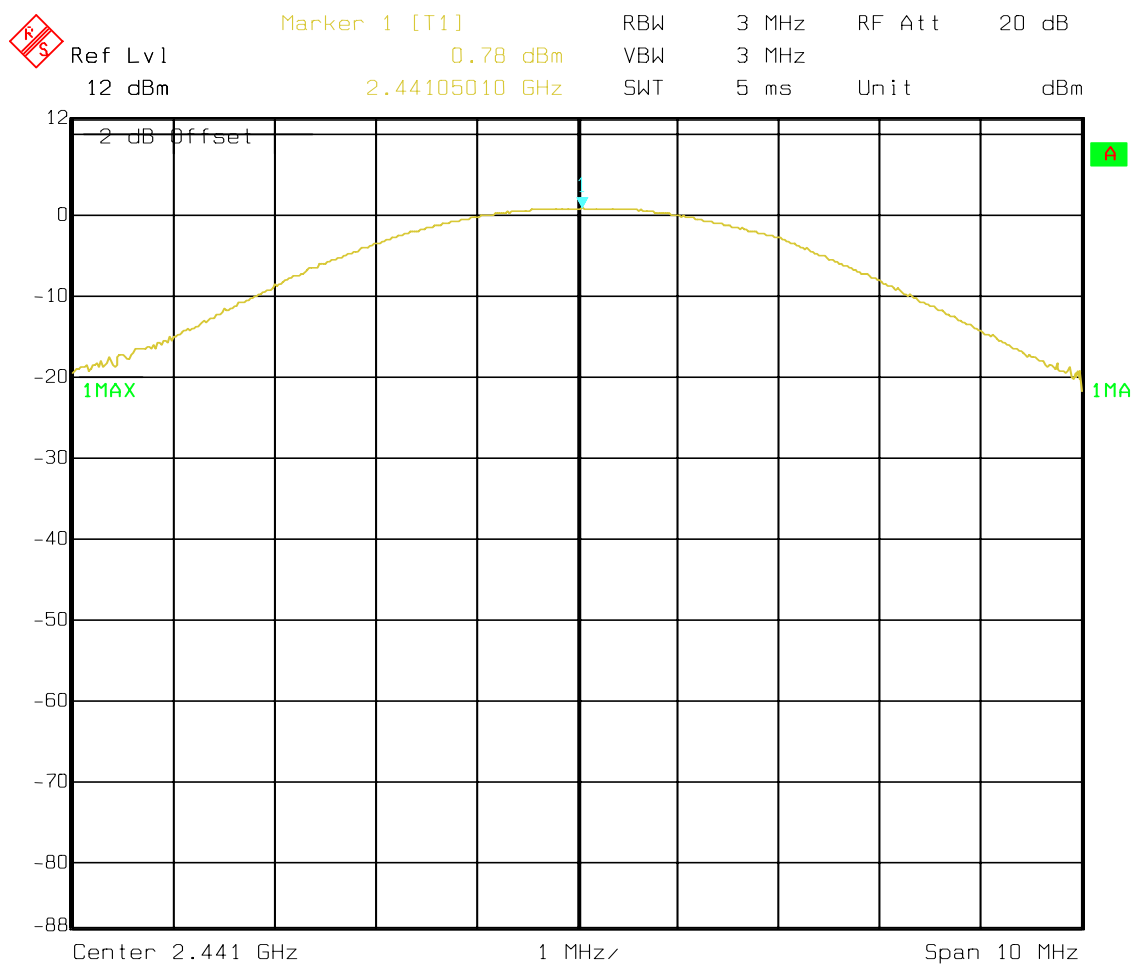
Lowest Channel: 2402MHz



PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b)

Mid Channel: 2441MHz

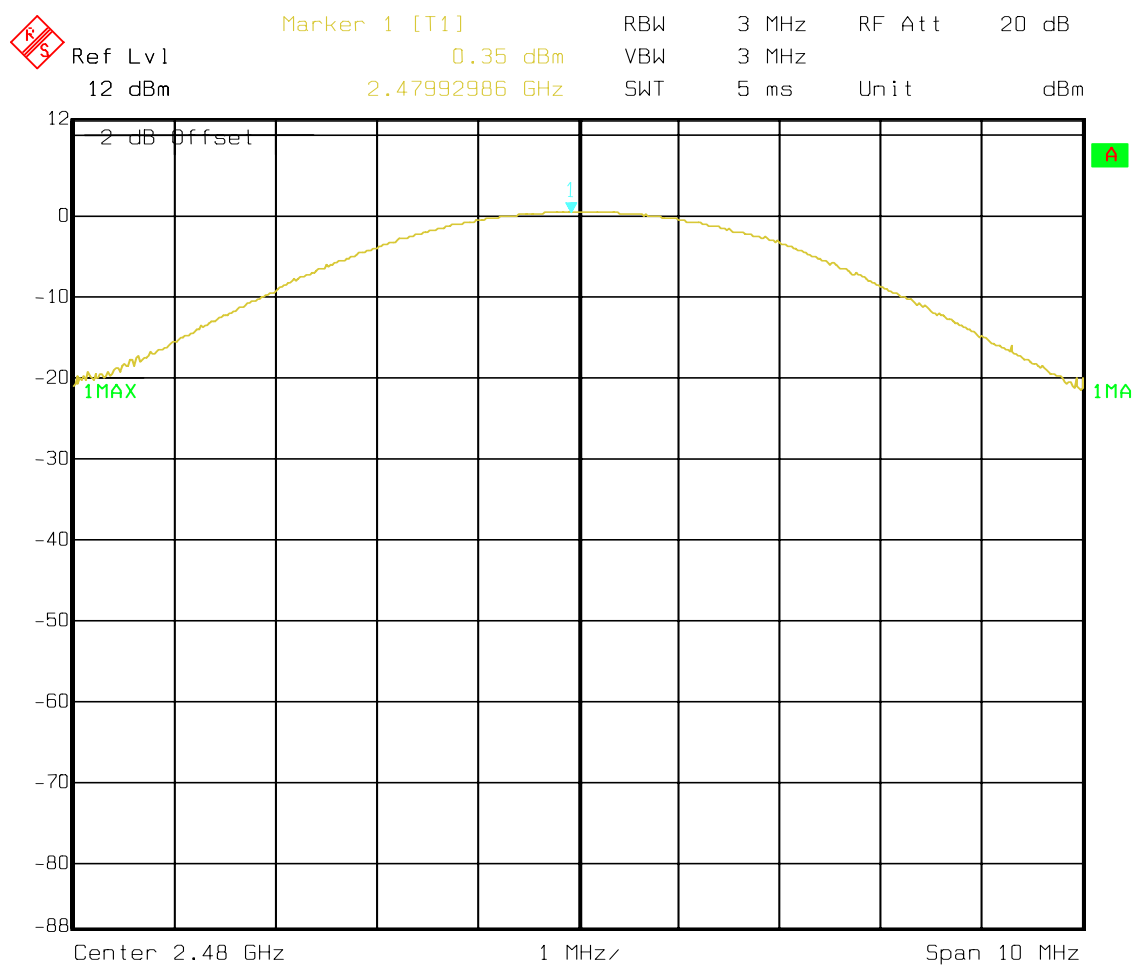


Date: 08.APR.2002 13:42:18

PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b)

Highest Channel: 2480MHz



Date: 08.APR.2002 13:44:00

**MAXIMUM PEAK OUTPUT POWER
(RADIATED)****SUBCLAUSE § 15.247 (b) (1)****EIRP:**

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2402	2441	2480
T _{nom} (23)°C	V _{nom} (5.0)VDC	2.94	2.35	2.58
Measurement uncertainty		±0.5dBm		

RBW/VBW : 3 MHz**LIMIT****SUBCLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz	1.0 Watt

PEAK OUTPUT POWER (RADIATED)

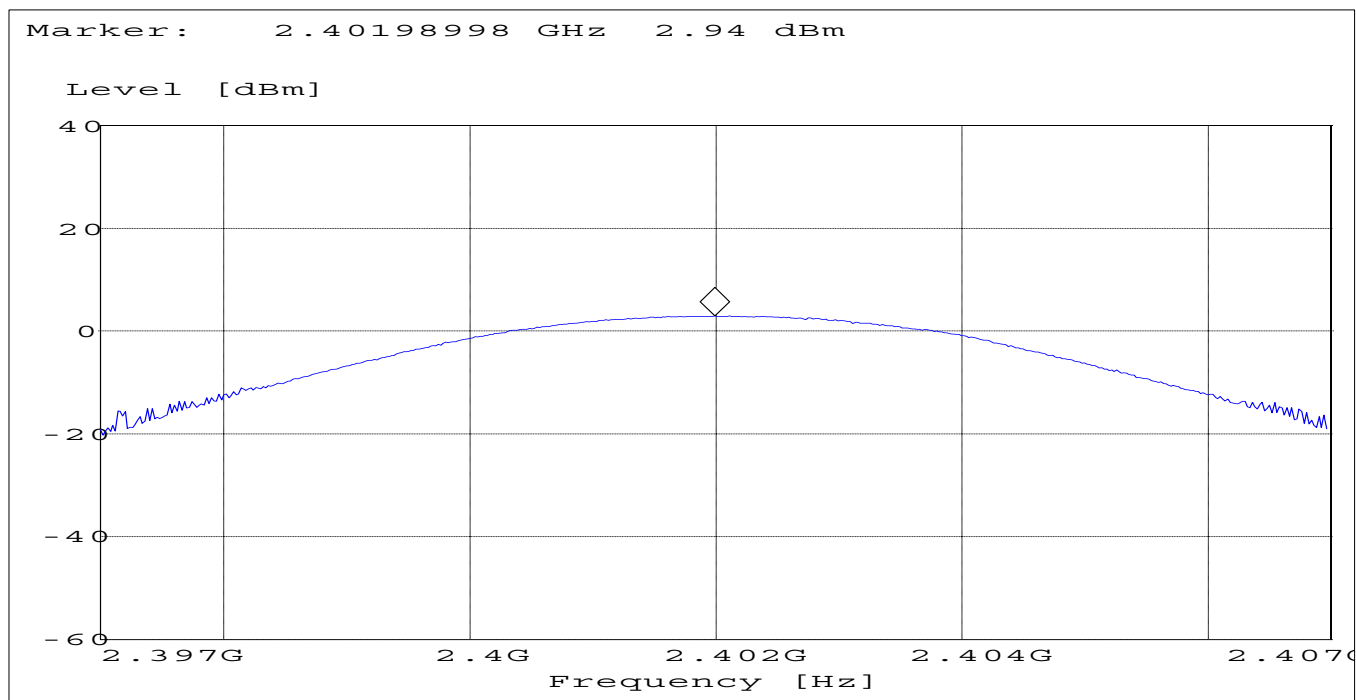
§15.247 (b) (1)

Lowest Channel: 2402MHz

SWEEP TABLE: "EIRP BT low channel"

Short Description: EIRP Bluetooth channel-2402MHz

Start	Stop	Detector	Meas.	IF
Frequency	Frequency		Time	BW
2.397GHz	2.407GHz	MaxPeak	Coupled	3 MHz



PEAK OUTPUT POWER (RADIATED)

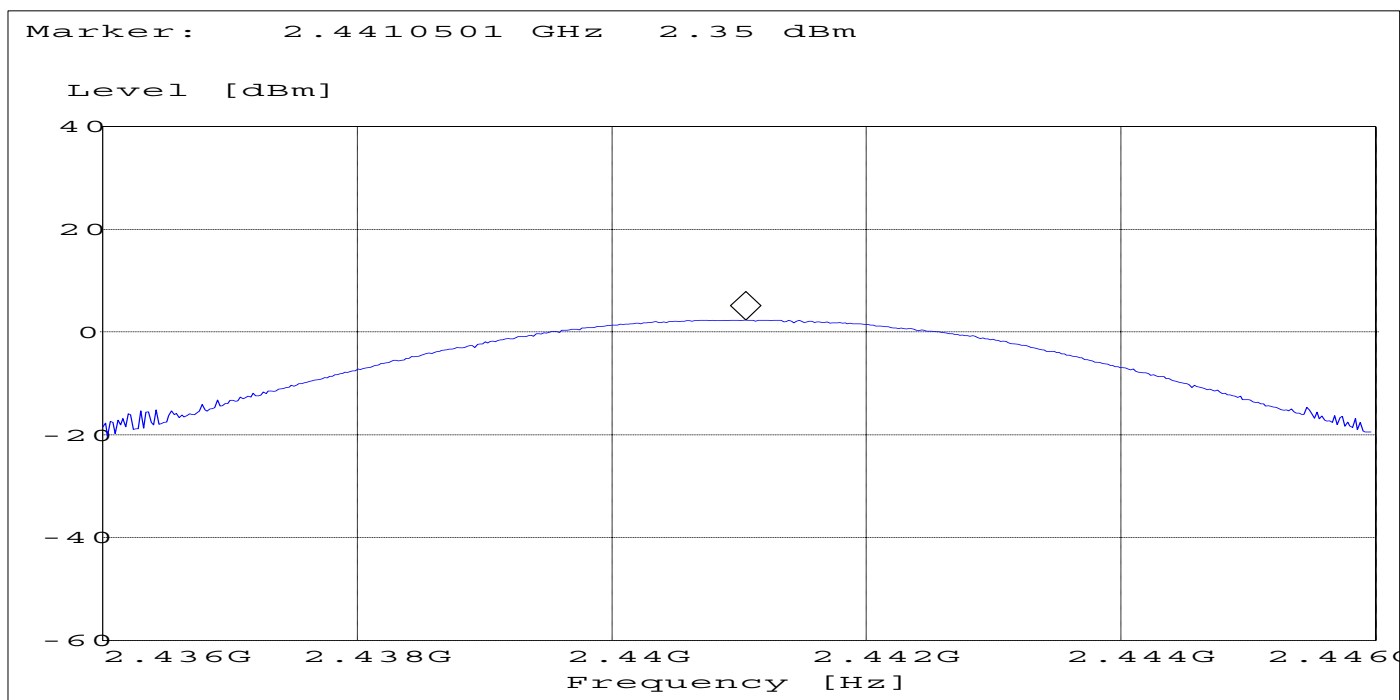
§15.247 (b) (1)

Mid Channel: 2441MHz

SWEEP TABLE: "EIRP BT Mid channel"

Short Description: EIRP Bluetooth channel-2441MHz

Start	Stop	Detector	Meas.	IF
Frequency	Frequency		Time	BW
2.436GHz	2.446GHz	MaxPeak	Coupled	3 MHz



PEAK OUTPUT POWER (RADIATED)

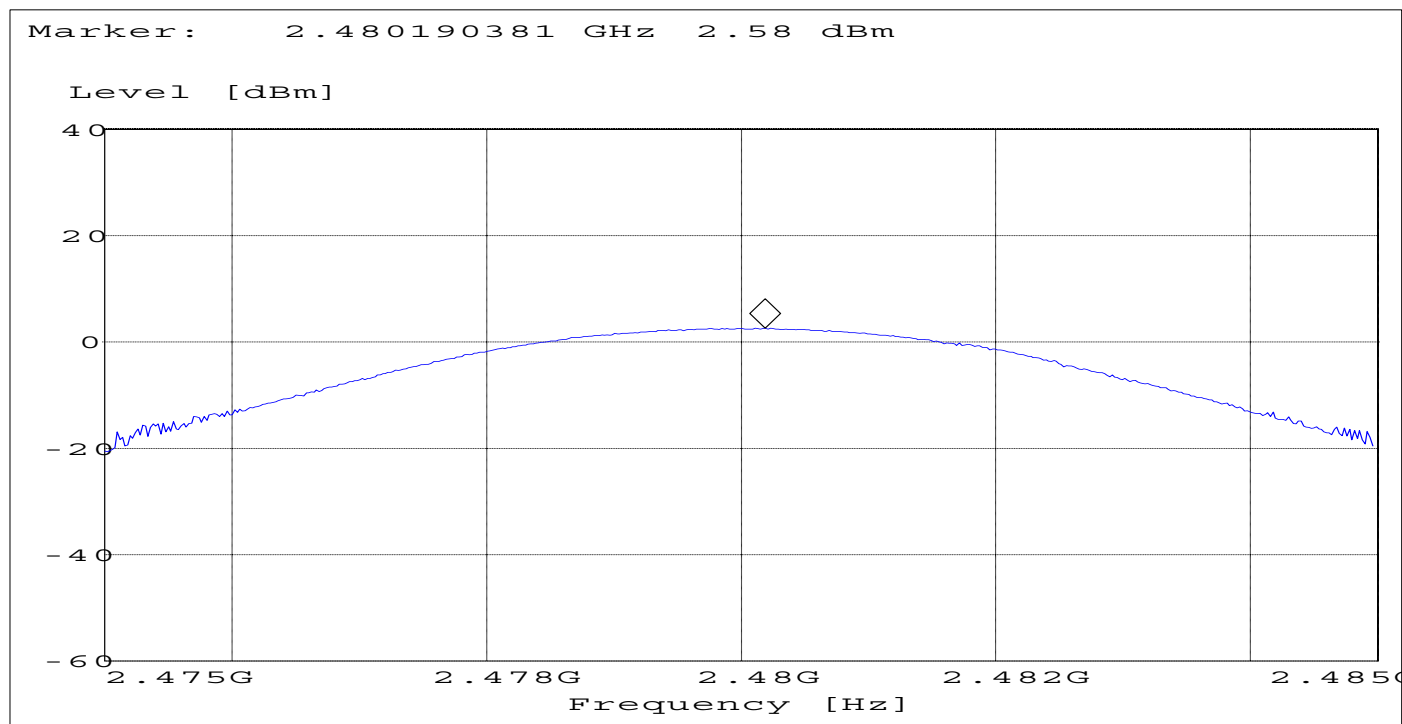
§15.247 (b) (1)

Highest Channel: 2480MHz

SWEEP TABLE: "EIRP BT High channel"

Short Description: EIRP Bluetooth channel-2480MHz

Start	Stop	Detector	Meas.	IF
Frequency	Frequency		Time	BW
2.475GHz	2.485GHz	MaxPeak	Coupled	3 MHz



BAND EDGE COMPLIANCE

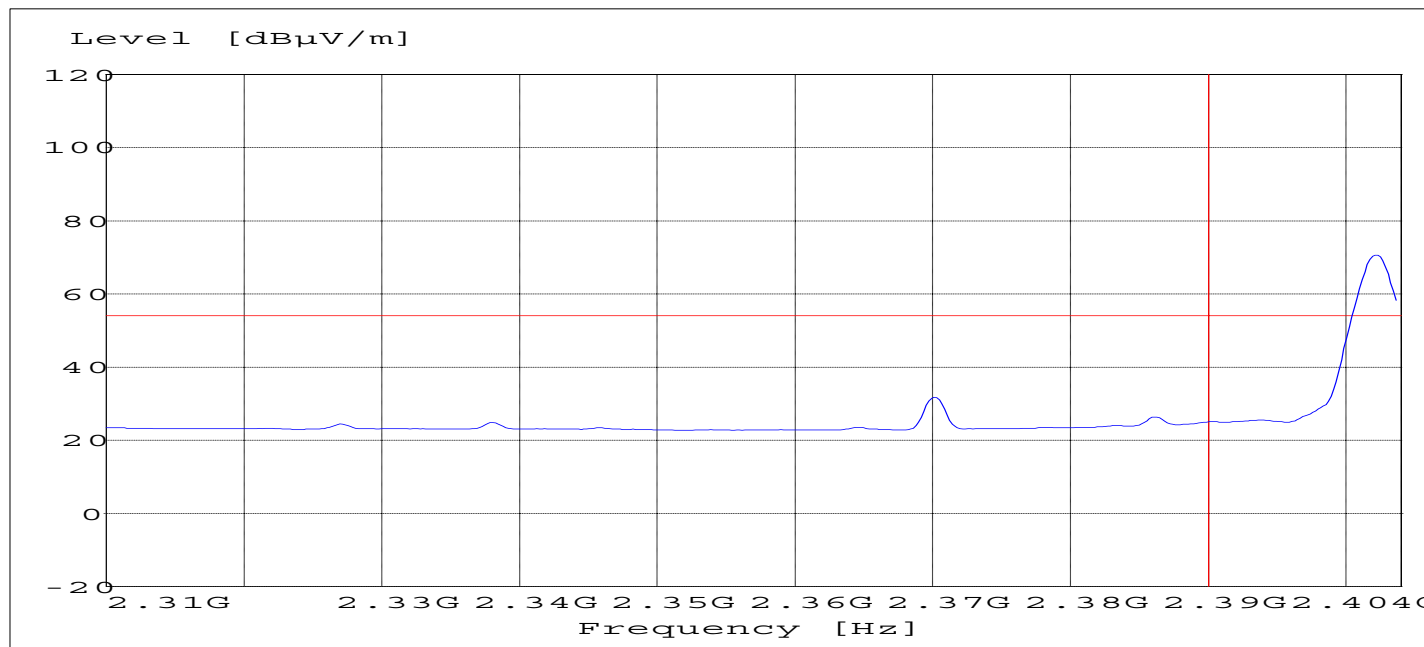
§15.247 (c)

Low frequency section (spurious in the restricted band 2310 – 2390 MHz)

(Hopping – OFF, Average measurement)

Operating condition : Tx at 2402MHz
 SWEEP TABLE : "FCC15.247 LBE_AVG"
 Short Description : FCC15.247 BT Low-band-edge
 Limit Line : 54dBμV

Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.404 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



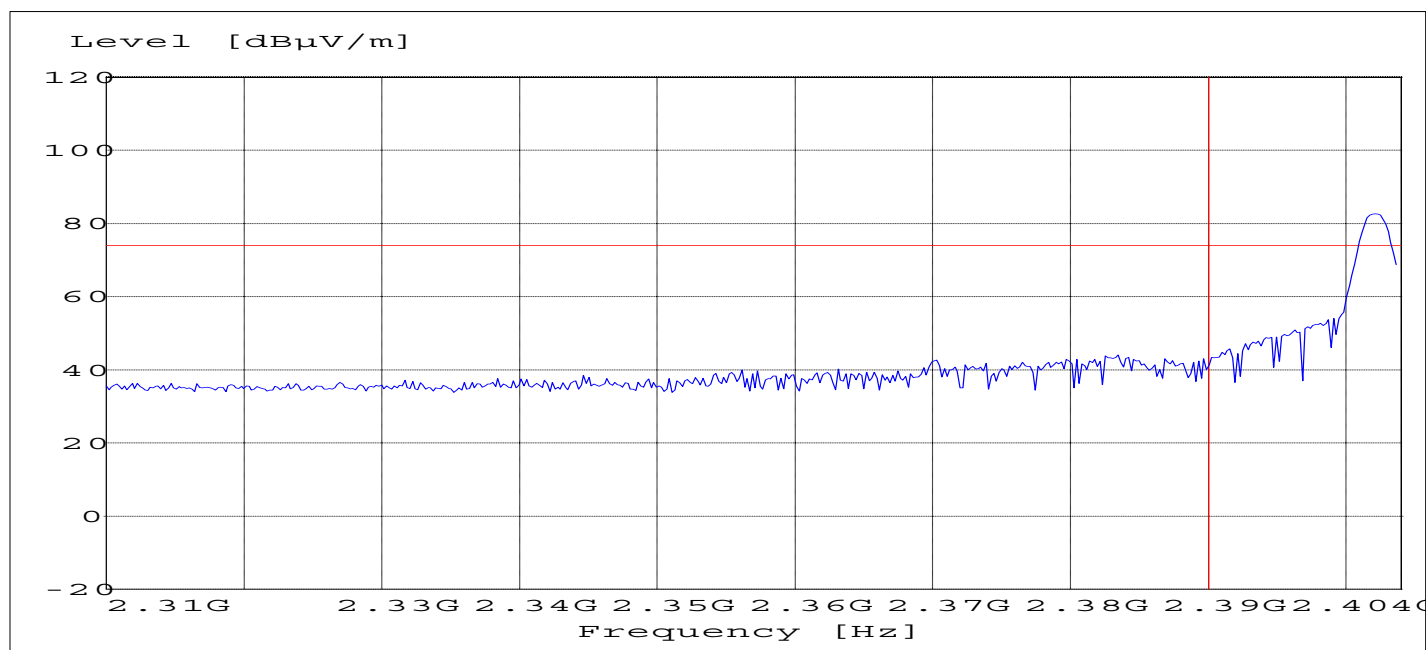
BAND EDGE COMPLIANCE

§15.247 (c)

Low frequency section (spurious in the restricted band 2310 – 2390 MHz)**(Hopping – OFF, Peak measurement)**

Operating condition : Tx at 2402MHz
SWEEP TABLE : "FCC15.247 LBE_Pk"
Short Description : FCC15.247 BT Low-band-edge
Limit Line : 74dBμV

Start Frequency	Stop Frequency	Detector Time	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.404 GHz	MaxPeak	Coupled	1 MHz	1MHz	#326 horn (dBi)



BAND EDGE COMPLIANCE

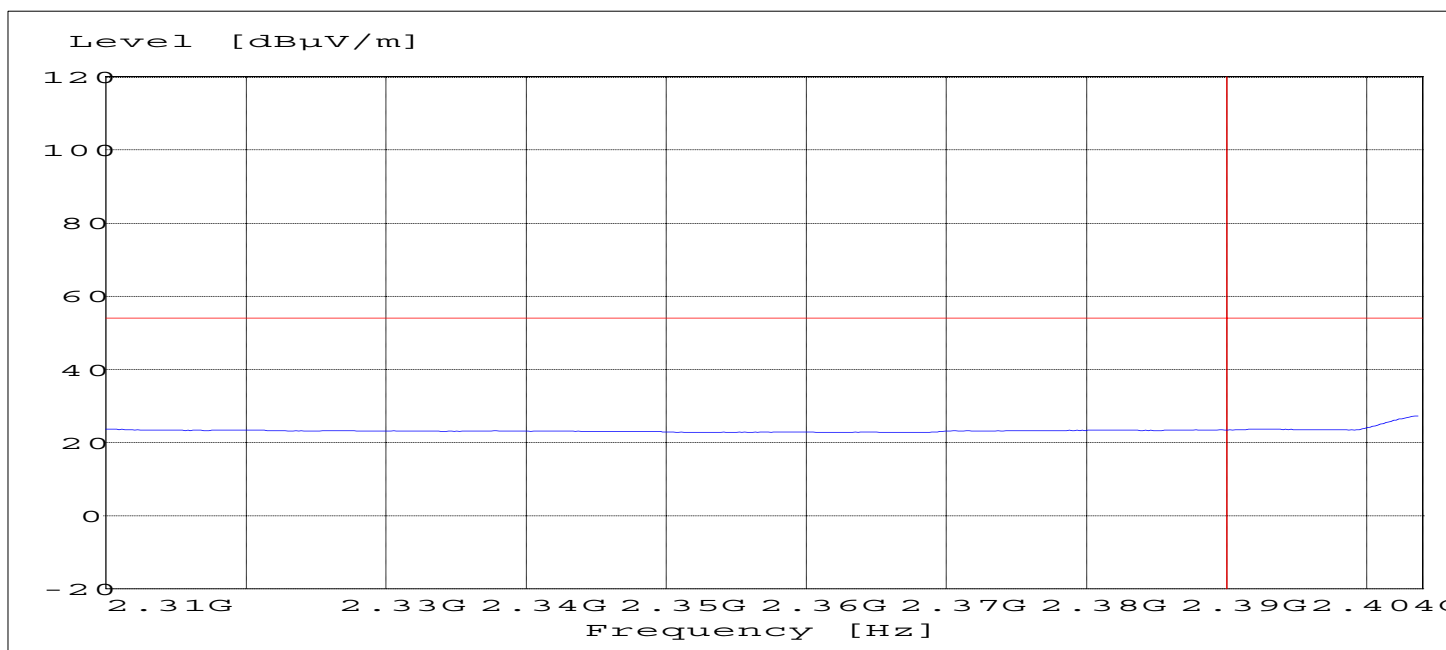
§15.247 (c)

Low frequency section (spurious in the restricted band 2310 – 2390 MHz)

(Hopping – ON, Average measurement)

Operating condition : Tx at 2402MHz
 SWEEP TABLE : "FCC15.247 LBE_AVG"
 Short Description : FCC15.247 BT Low-band-edge
 Limit Line : 54dBμV

Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.404 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



BAND EDGE COMPLIANCE

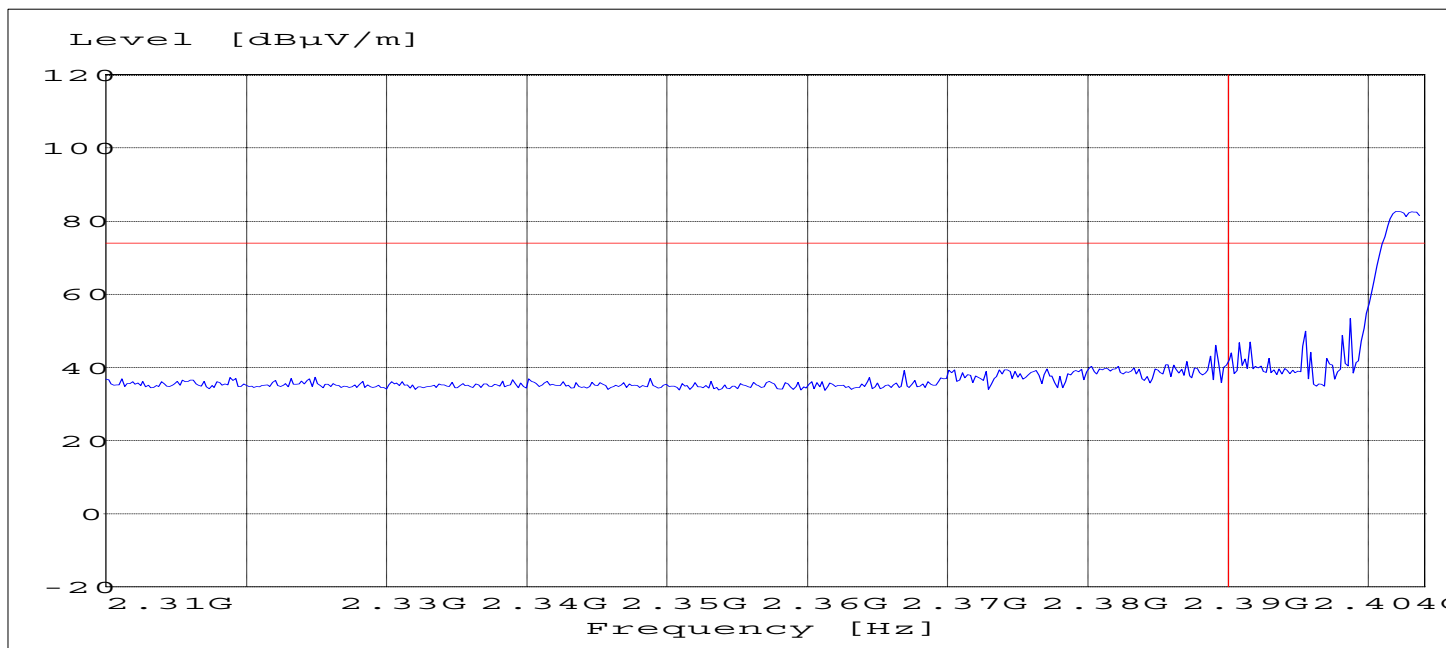
§15.247 (c)

Low frequency section (spurious in the restricted band 2310 – 2390 MHz)

(Hopping – ON, Peak measurement)

Operating condition : Tx at 2402MHz
 SWEEP TABLE : "FCC15.247 LBE_Pk"
 Short Description : FCC15.247 BT Low-band-edge
 Limit Line : 74dBμV

Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.404 GHz	MaxPeak	Coupled	1 MHz	1MHz	#326 horn (dBi)



BAND EDGE COMPLIANCE

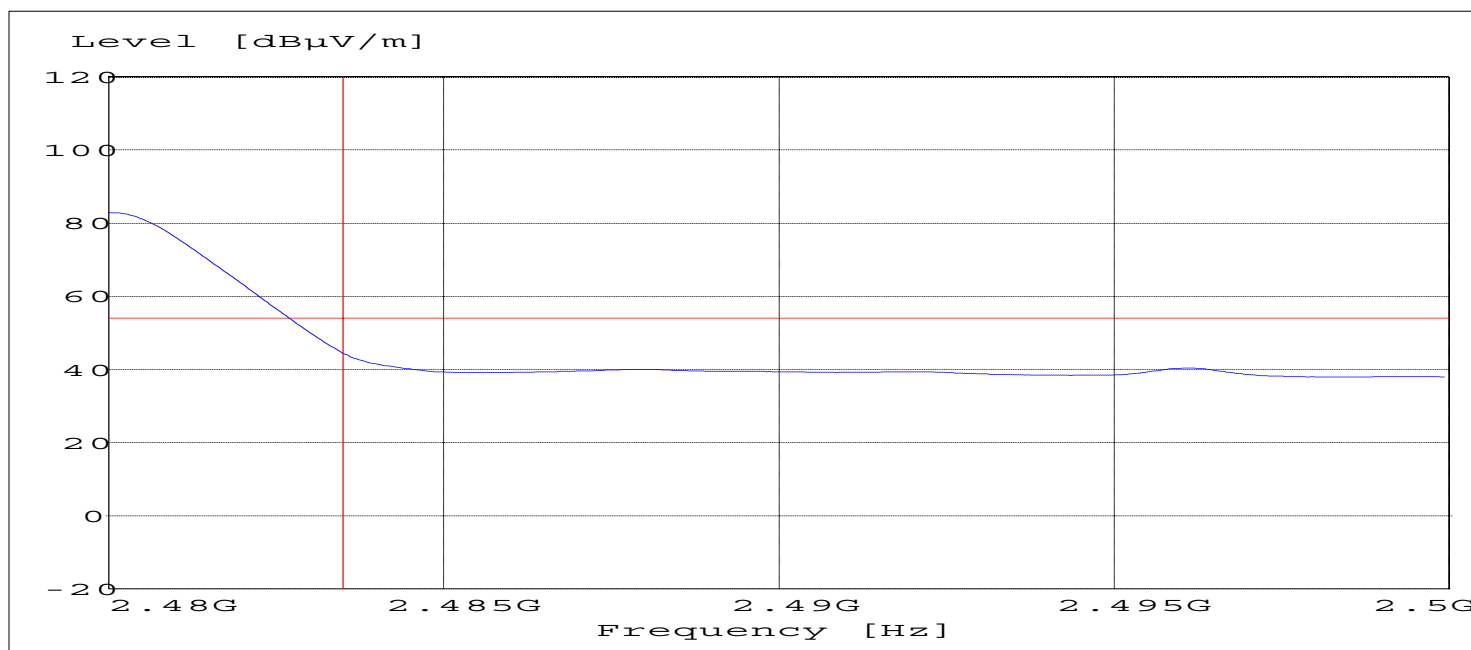
§15.247 (c)

High frequency section (spurious in the restricted band 2483.5 – 2500 MHz)

(Hopping – OFF, Average measurement)

Operating condition : Tx at 2480MHz
 SWEEP TABLE : "FCC15.247 HBE_AVG"
 Short Description : FCC15.247 BT High-band-edge
 Limit Line : 54dBμV

Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.48 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



BAND EDGE COMPLIANCE

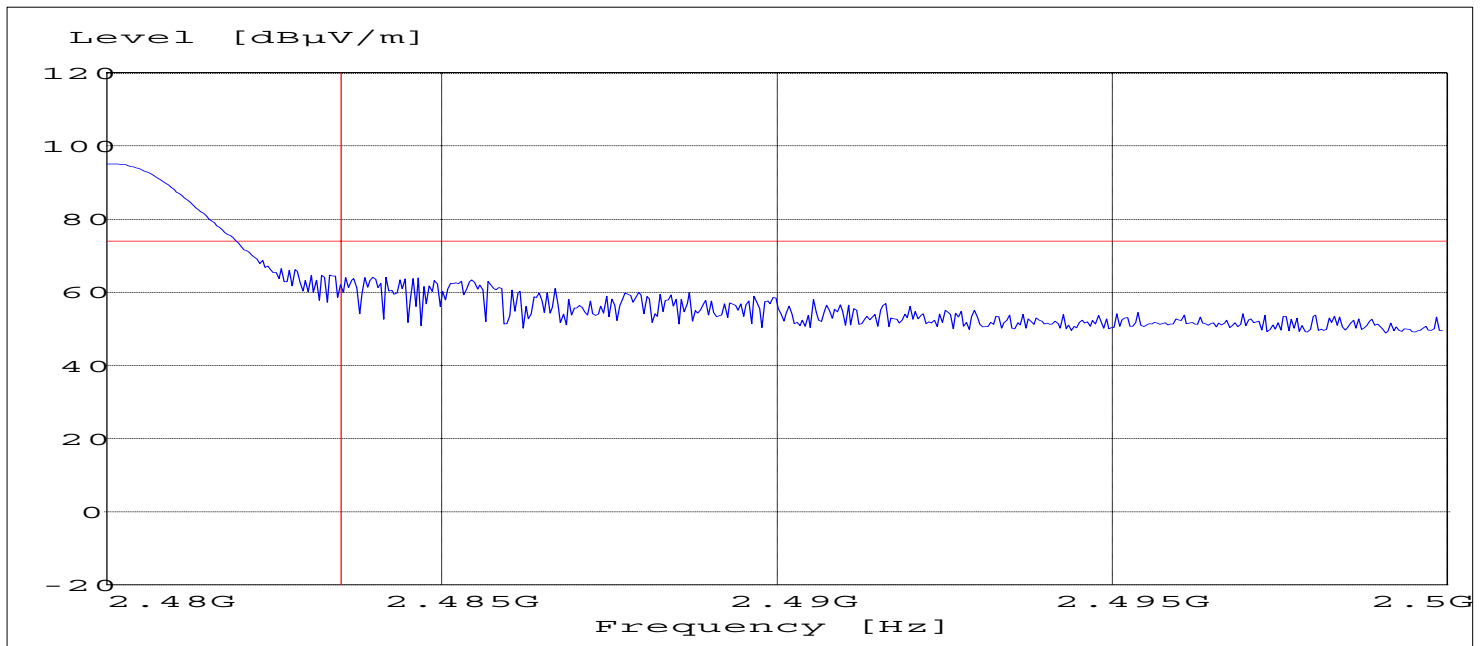
§15.247 (c)

High frequency section (spurious in the restricted band 2483.5 – 2500 MHz)

(Hopping – OFF, Peak measurement)

Operating condition : Tx at 2480MHz
 SWEEP TABLE : "FCC15.247 HBE_PK"
 Short Description : FCC15.247 BT High-band-edge
 Limit Line : 74dBμV

Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.48 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	1MHz	#326 horn (dBi)



BAND EDGE COMPLIANCE

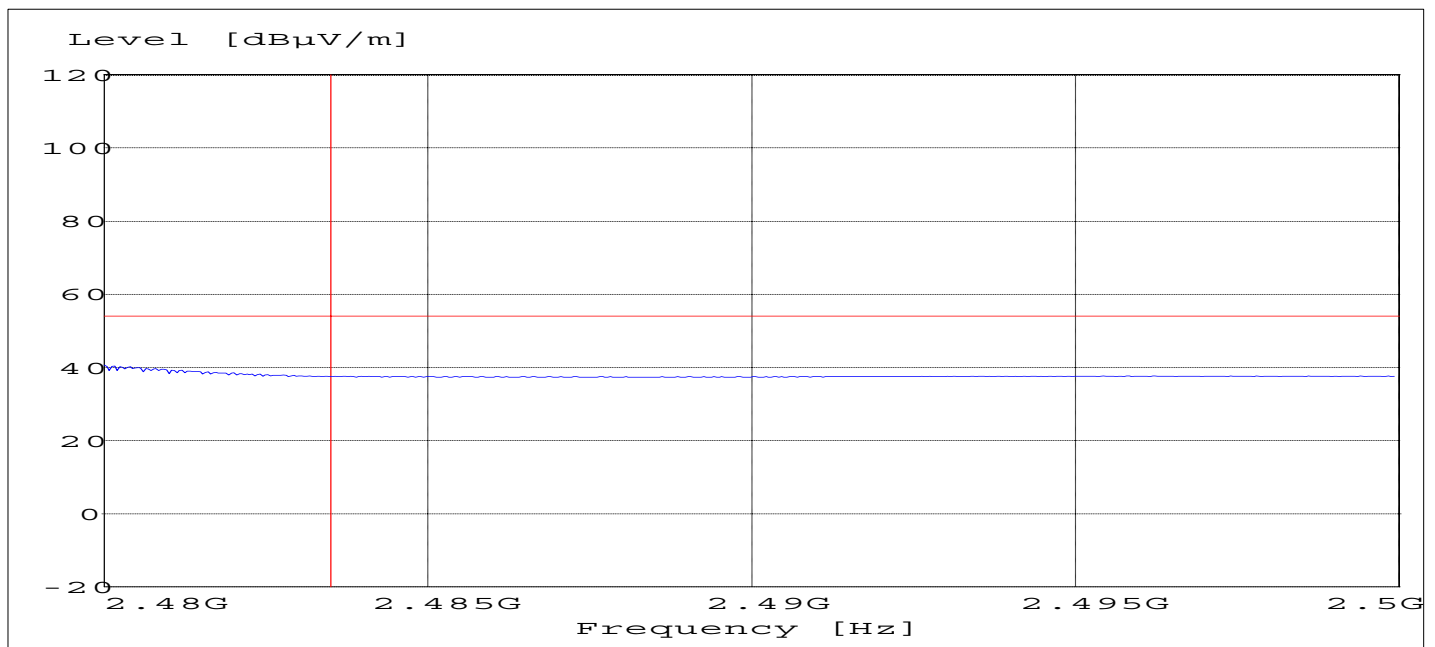
§15.247 (c)

High frequency section (spurious in the restricted band 2483.5 – 2500 MHz)

(Hopping – ON, Average measurement)

Operating condition : Tx at 2480MHz
 SWEEP TABLE : "FCC15.247 HBE_AVG"
 Short Description : FCC15.247 BT High-band-edge
 Limit Line : 54dBμV

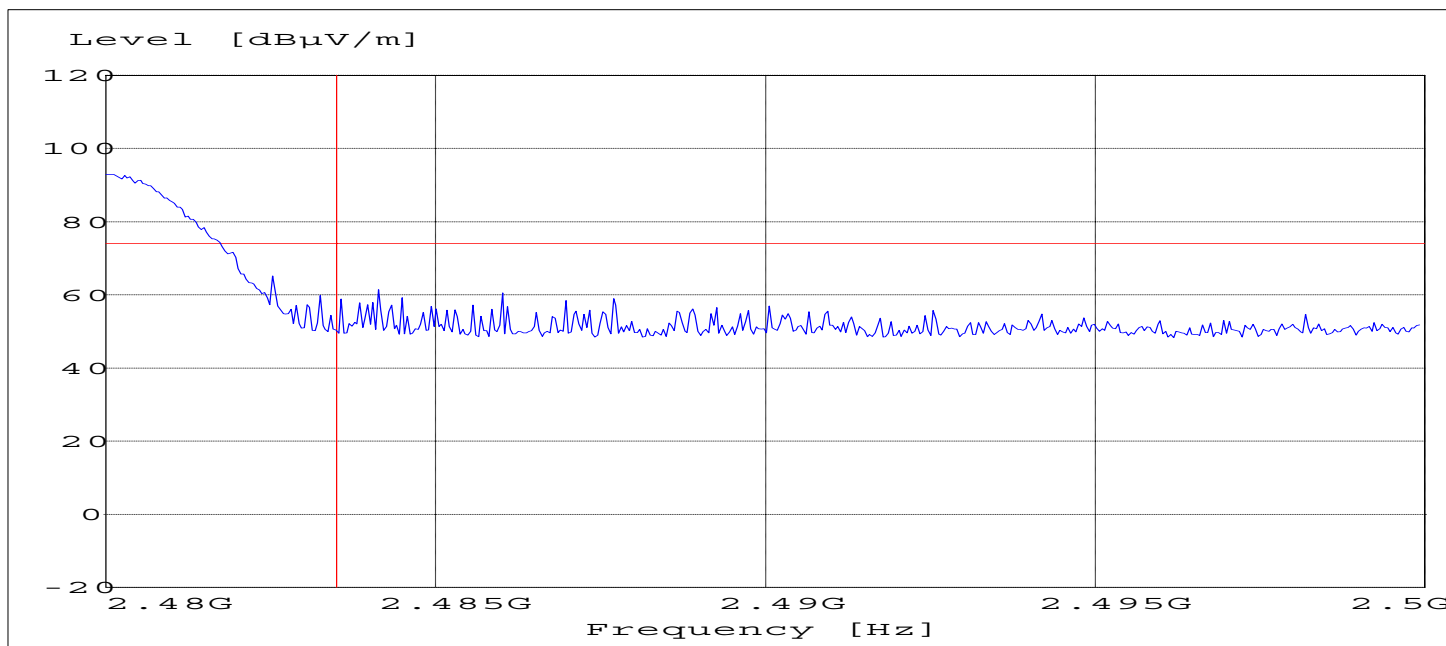
Start Frequency	Stop Frequency	Detector	Meas. Bandw.	RBW	VBW	Transducer
2.48 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



High frequency section (spurious in the restricted band 2483.5 – 2500 MHz) (Hopping – ON, Peak measurement)

Operating condition : Tx at 2480MHz
 SWEEP TABLE : "FCC15.247 HBE_PK"
 Short Description : FCC15.247 BT High-band-edge
 Limit Line : 74dBμV

Start Frequency	Stop Frequency	Detector Time	Meas. Bandw.	RBW	VBW	Transducer
2.48 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	1MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

LIMITS

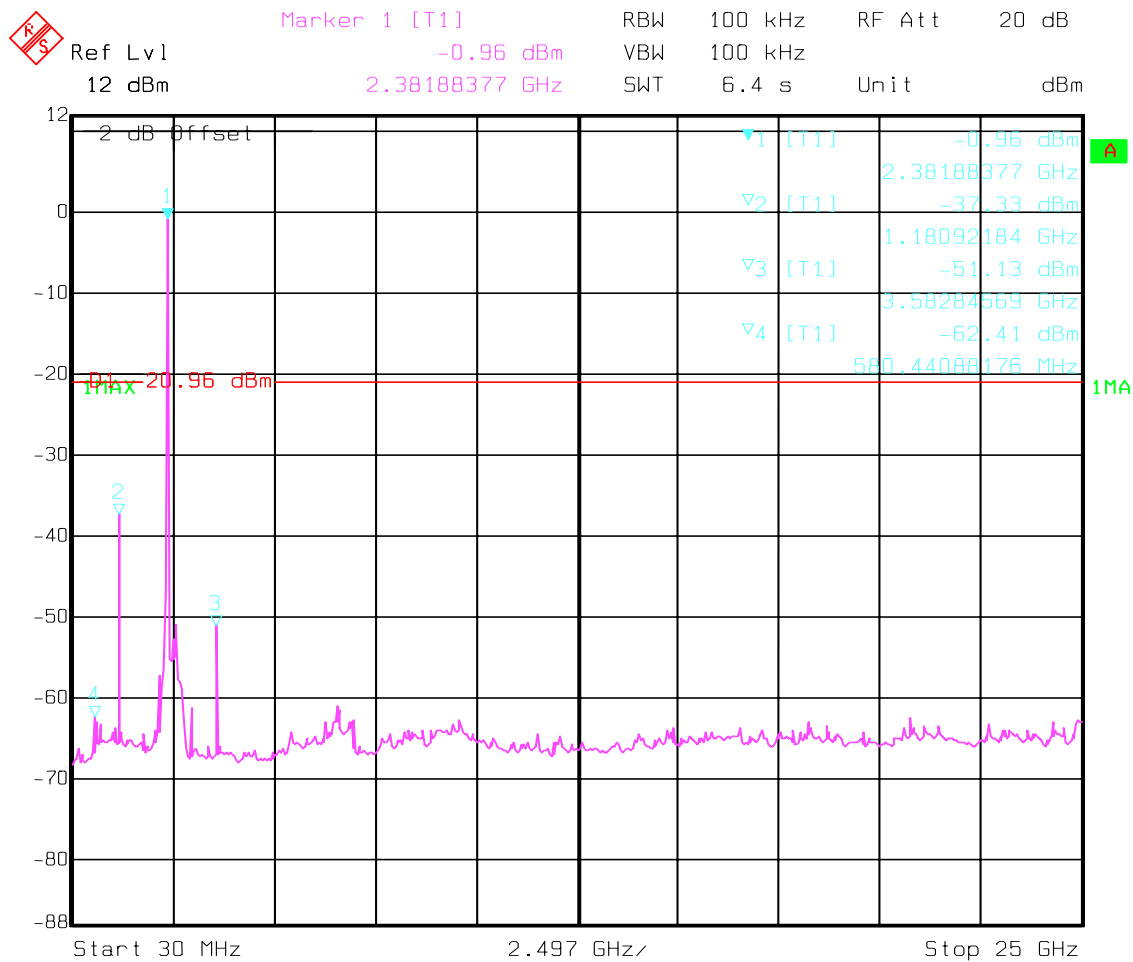
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

NOTE: Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Lowest Channel(2402MHz): 30MHz - 25 GHz



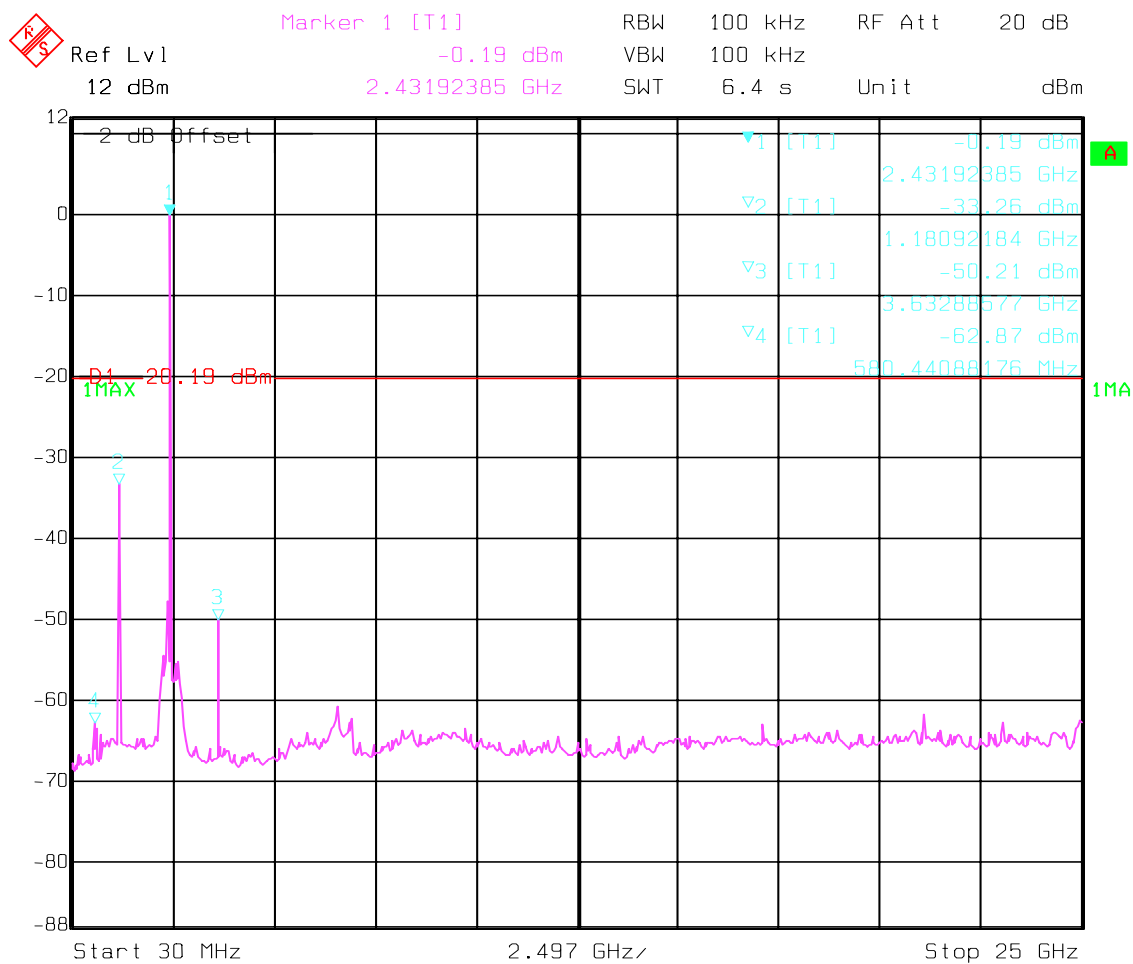
Date: 09.APR.2002 12:25:43

NOTE: The peak above the limit is the carrier frequency.

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Mid Channel(2441MHz): 30MHz - 25GHz



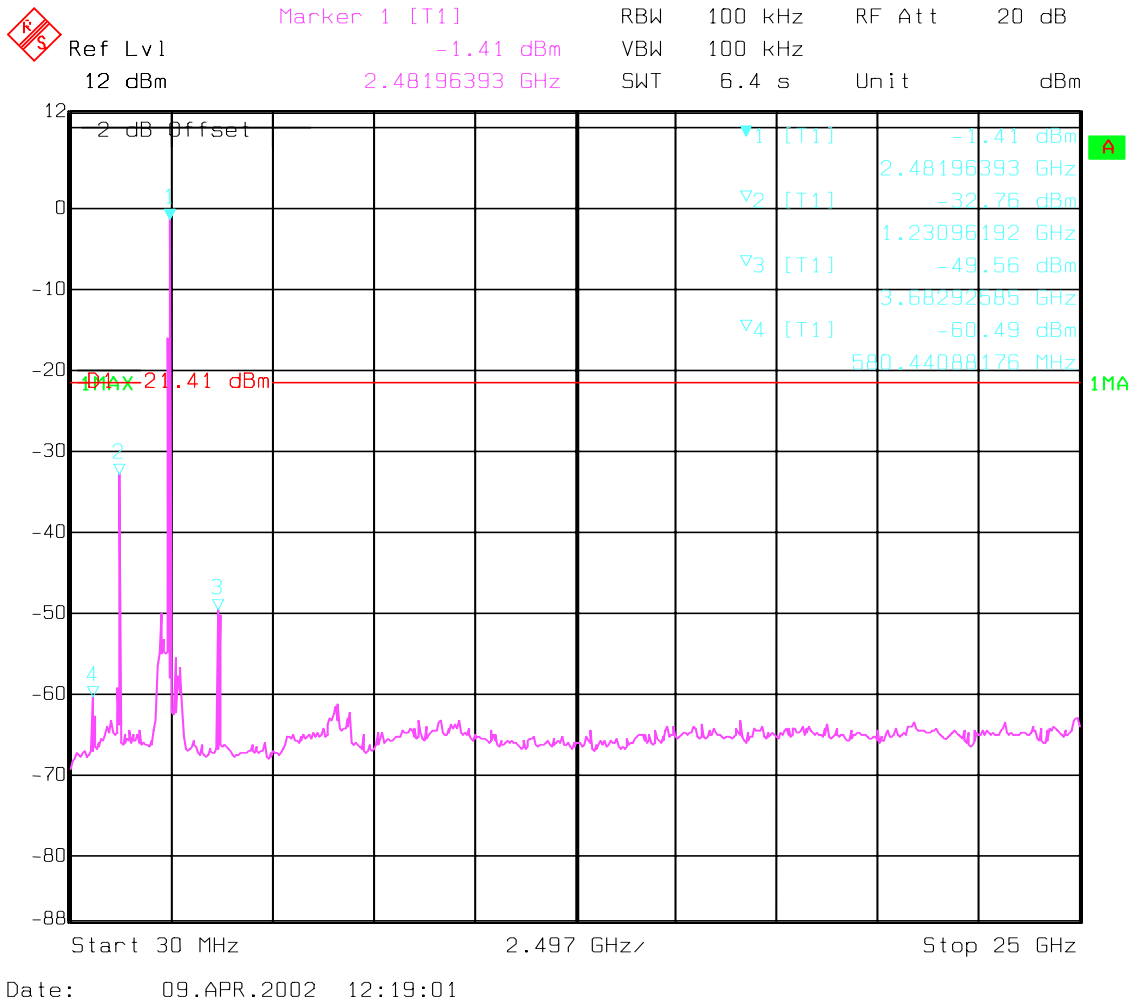
Date: 09.APR.2002 12:22:23

NOTE: The peak above the limit is the carrier frequency.

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Highest Channel(2480MHz): 30MHz - 25GHz



NOTE: The peak above the limit is the carrier frequency.

EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)**LIMITS**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

NOTE:

1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 18 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.
2. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

Results for the radiated measurements below 30MHz according § 15.33

Frequency	Measured values	Remarks
9KHz – 30MHz	No emissions found, caused by the EUT	This is valid for all the tested channels

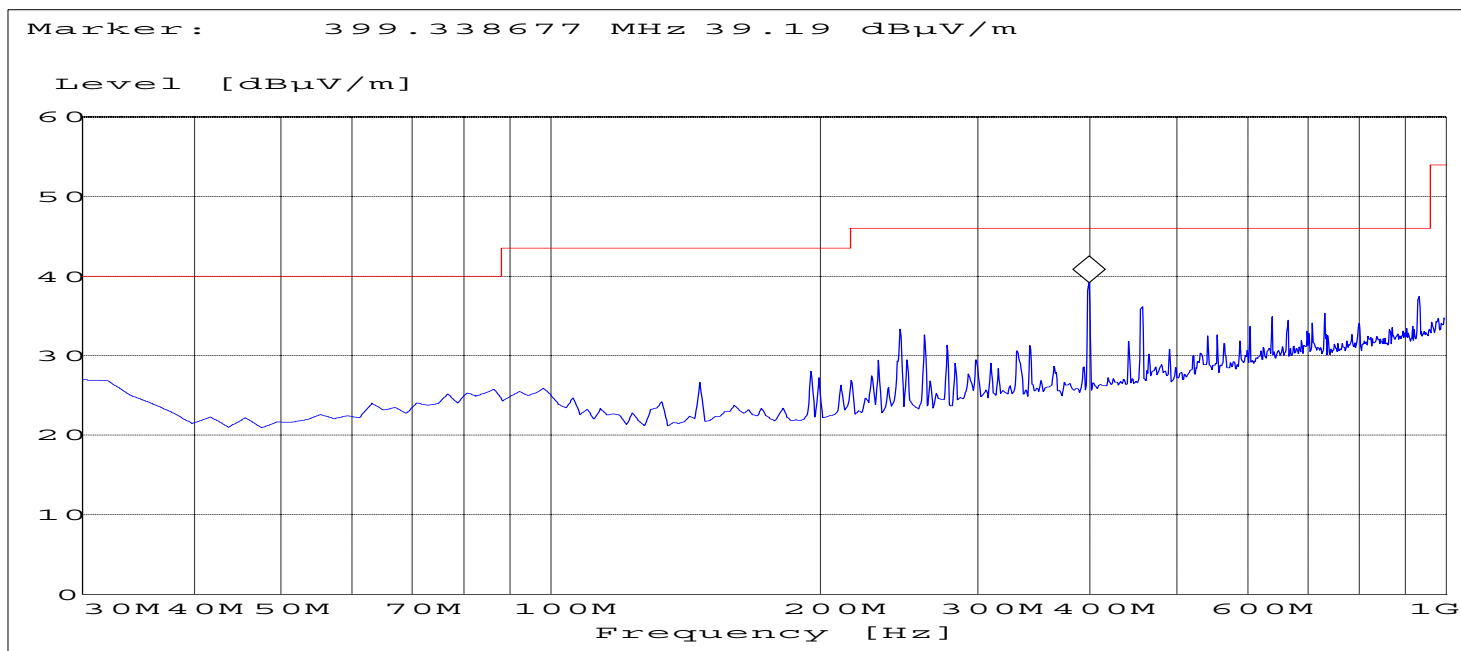
EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Harmonics	Tx ch-Low Freq. (MHz)	Level (dBμV)	Tx ch-Mid Freq. (MHz)	Level (dBμV)	Tx ch-High Freq. (MHz)	Level (dBμV)
2	4804	42.71	4882	43.19	4960	43.60
3	7206	49.57	7323	49.47	7440	49.41
4	9608	22.35	9764	21.19	9920	22.01
5	12010	24.85	12205	24.32	12400	24.70
6	14412	28.87	14646	28.22	14880	27.43
7	16814	32.59	17087	32.78	17360	34.45
8	19216	34.19	19528	33.62	19840	33.78
9	21618	33.68	21969	34.19	22320	33.34
10	24020	33.92	24410	35.13	24800	35.48

EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Lowest Channel(2402MHz): 30MHz – 1GHz

SWEEP TABLE: "BT Spuri hi 30-1G"
Short Description: Bluetooth 30MHz-1GHz

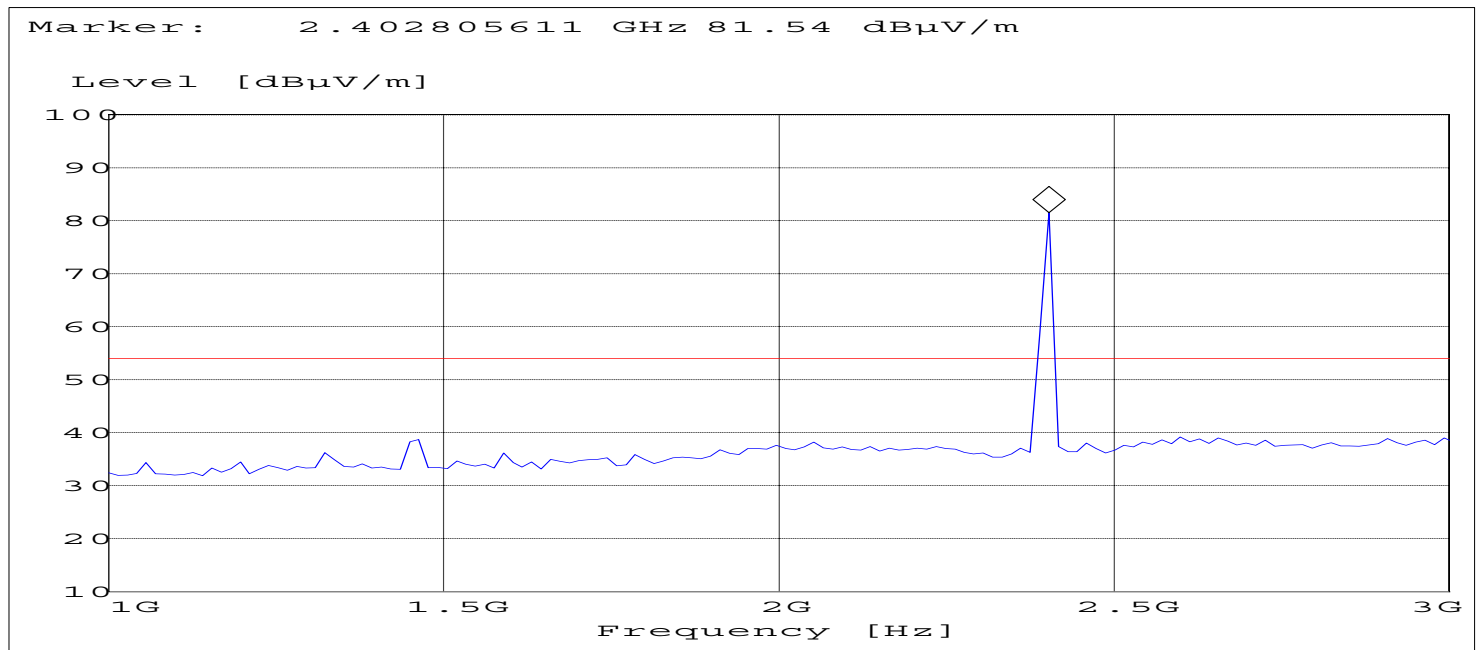
Start	Stop	Detector	Meas. Time	RBW	VBW	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz		3141-#1186



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Lowest Channel(2402MHz): 1GHz – 3GHz

NOTE: The peak above the limit is the carrier frequency.

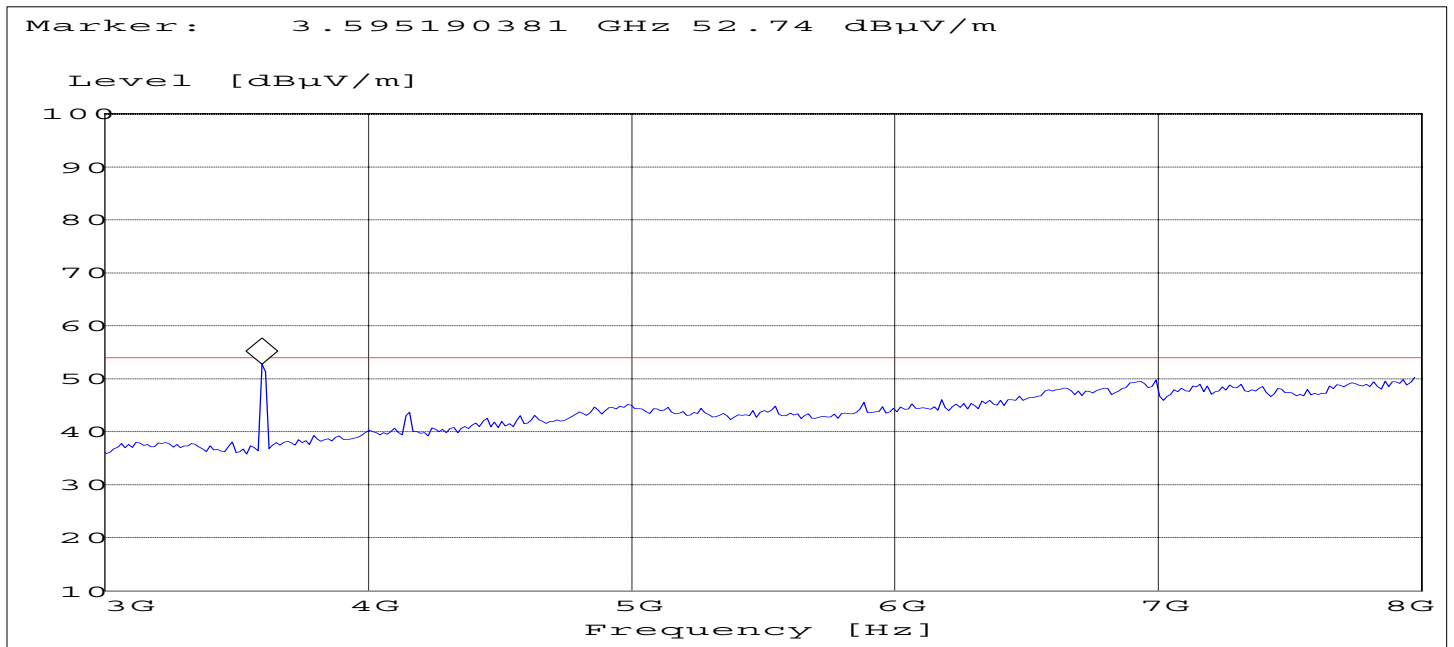
SWEEP TABLE:		"BT Spuri hi 1-3G"			
Short Description:		Bluetooth Spurious 1-3 GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)
Lowest Channel(2402MHz): 3GHz – 8GHz

SWEEP TABLE: "BT Spuri hi 3-8G"
 Short Description: Bluetooth Spurious 3-8GHz

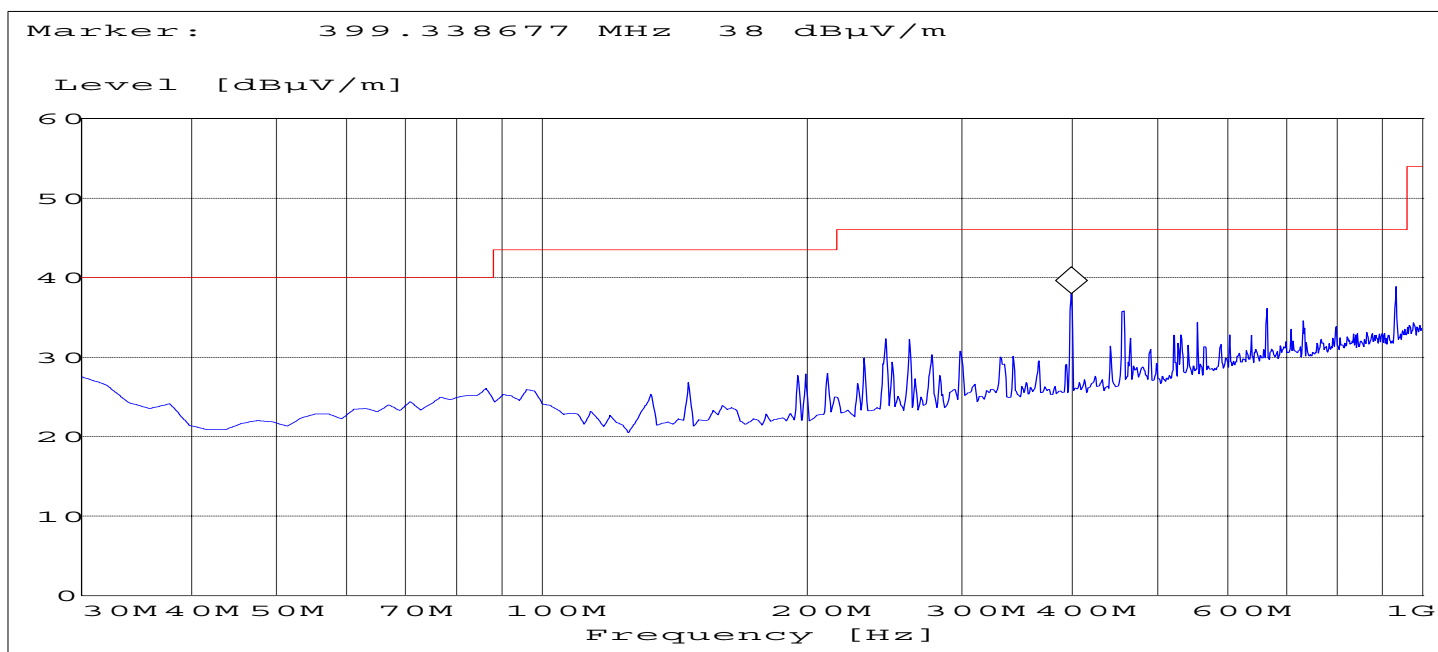
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	8.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Middle Channel(2441MHz): 30MHz – 1GHz

SWEEP TABLE: "BT Spuri hi 30-1G"
Short Description: Bluetooth 30MHz-1GHz

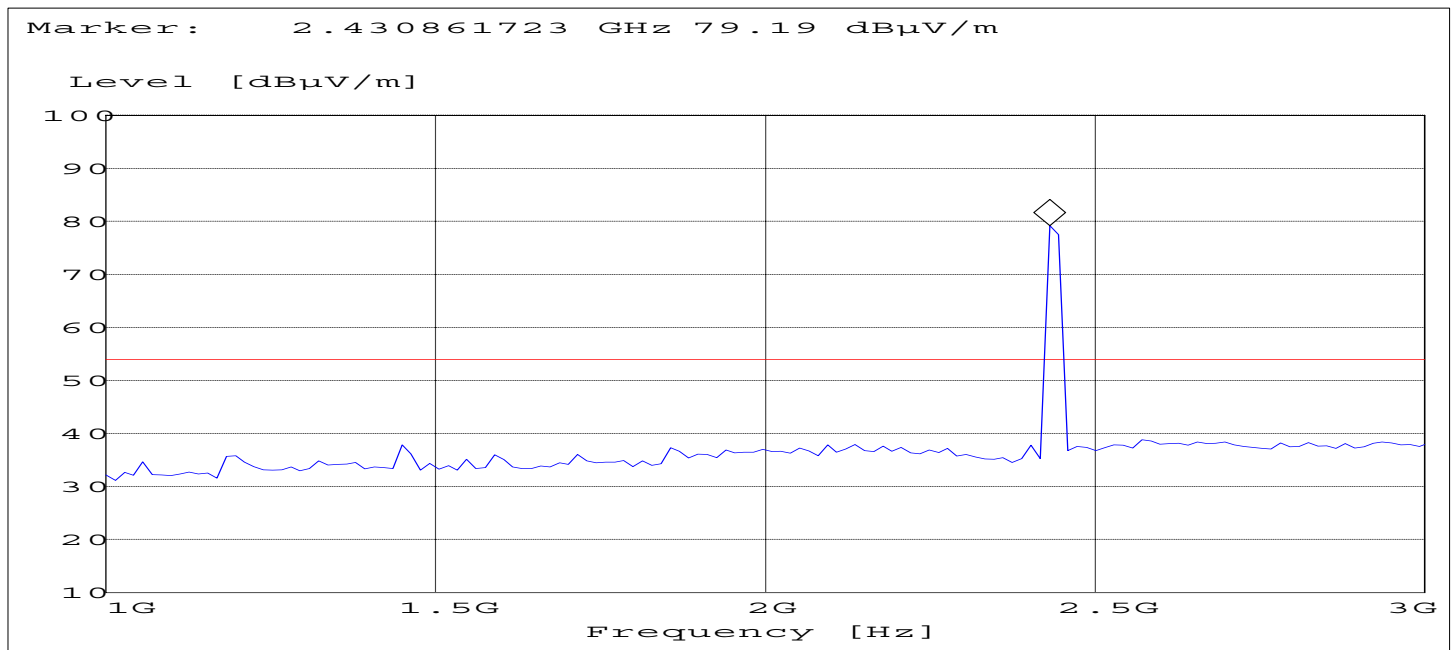
Start	Stop	Detector	Meas. Time	RBW	VBW	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz		3141-#1186



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Middle Channel(2441MHz): 1GHz – 3GHz

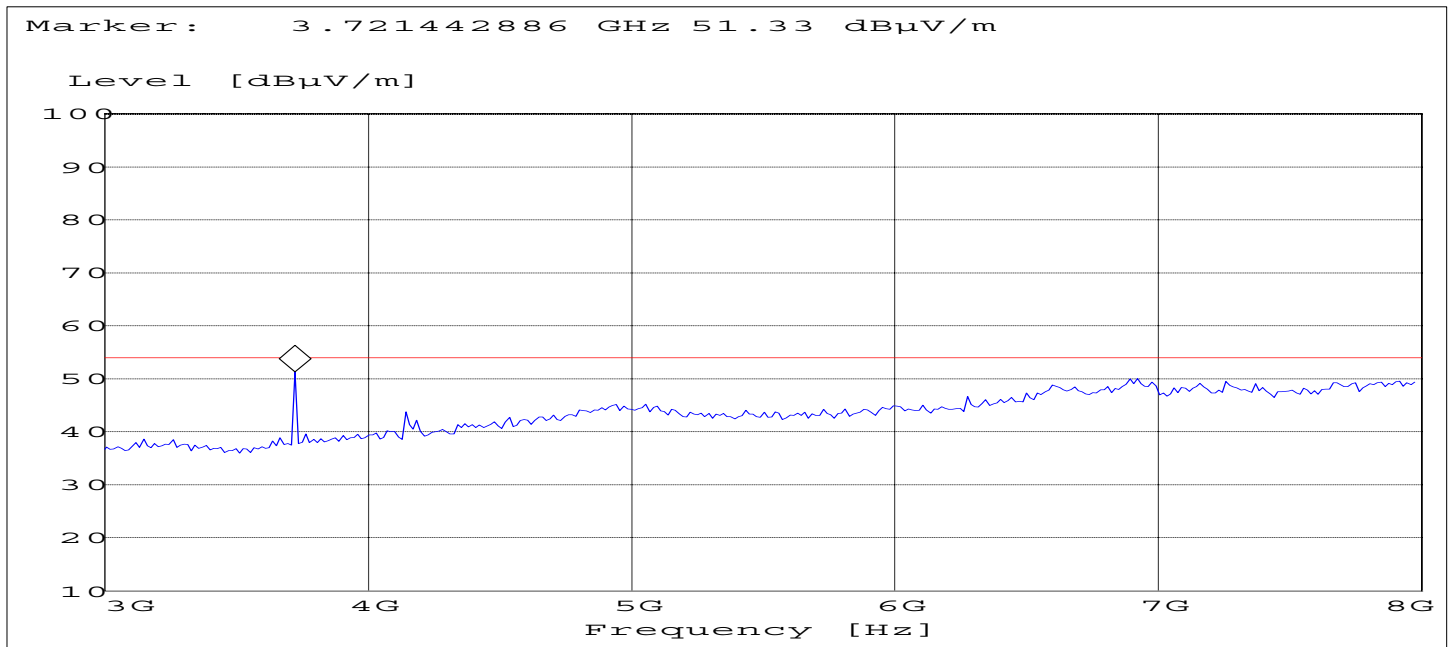
NOTE: The peak above the limit is the carrier frequency.

SWEEP TABLE:		"BT Spuri hi 1-3G"			
Short Description:		Bluetooth Spurious 1-3 GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)
Middle Channel(2441MHz): 3GHz – 8GHz

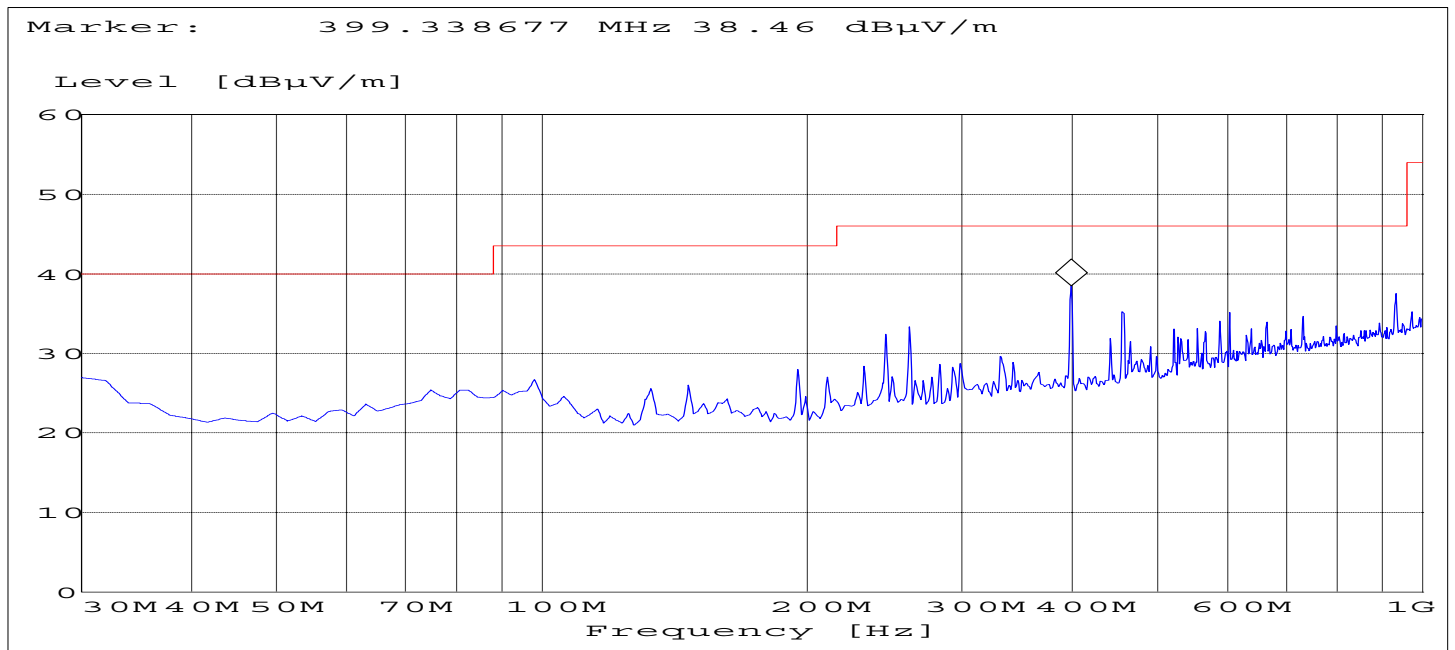
SWEEP TABLE:		"BT Spuri hi 3-8G"			
Short Description:		Bluetooth Spurious 3-8GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	8.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Highest Channel(2480MHz): 30MHz – 1GHz

SWEEP TABLE: "BT Spuri hi 30-1G"
Short Description: Bluetooth 30MHz-1GHz

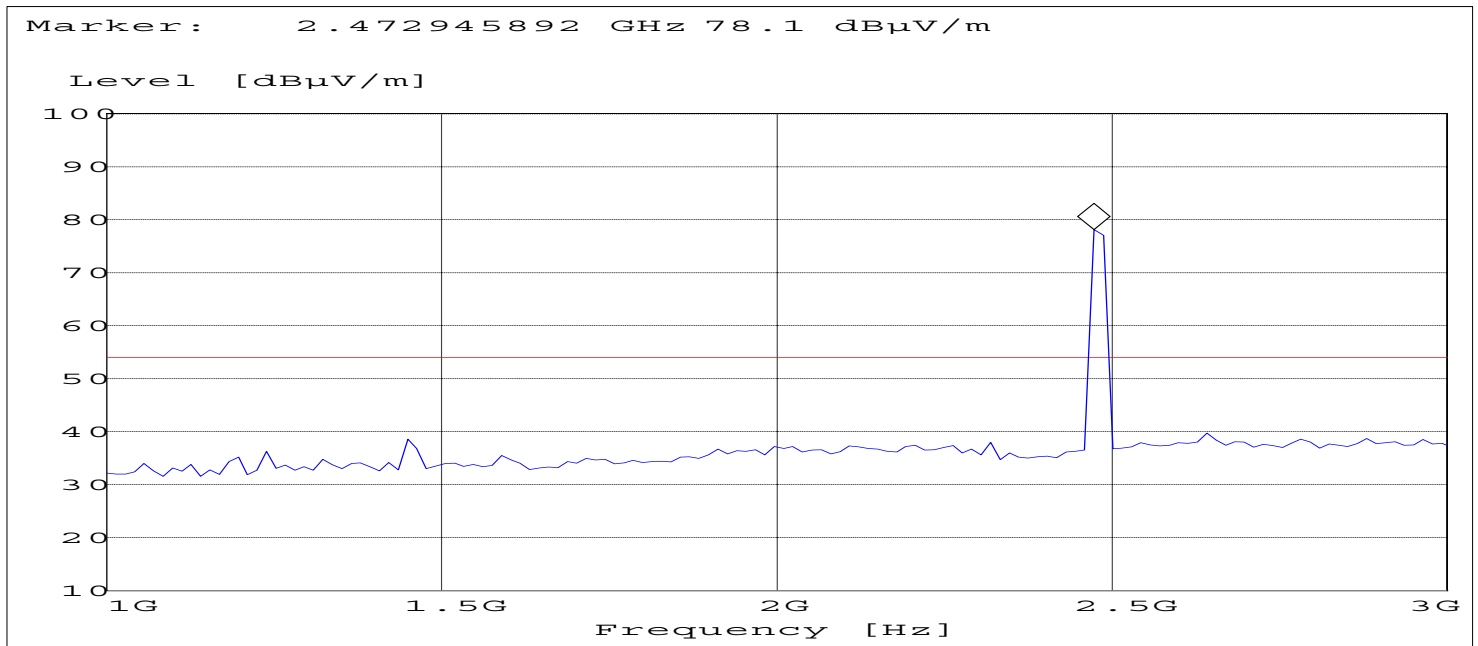
Start	Stop	Detector	Meas. Time	RBW	Transducer
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1) Highest Channel(2480MHz): 1GHz – 3GHz

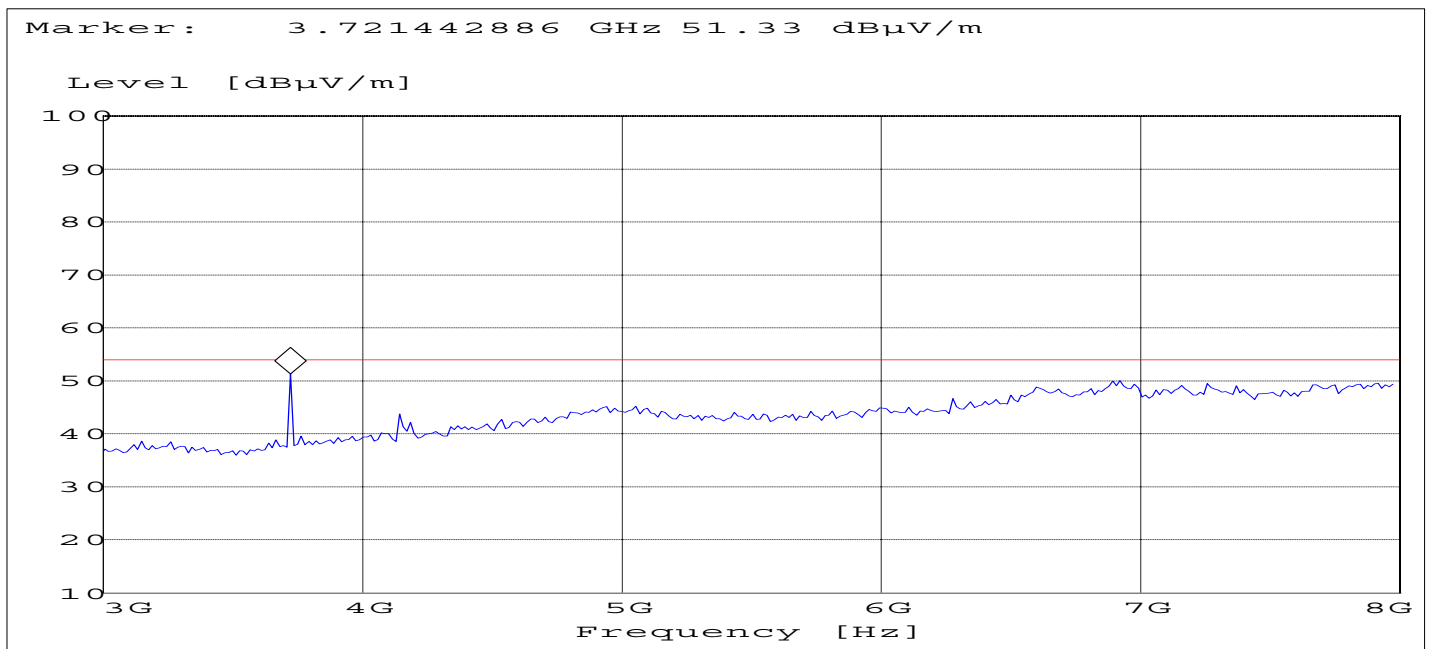
NOTE: The peak above the limit is the carrier frequency.

SWEEP TABLE:		"BT Spuri hi 1-3G"			
Short Description:		Bluetooth Spurious 1-3 GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)
Highest Channel(2480MHz): 3GHz – 8GHz

SWEEP TABLE:		"BT Spuri hi 3-8G"			
Short Description:		Bluetooth Spurious 3-8GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	8.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)

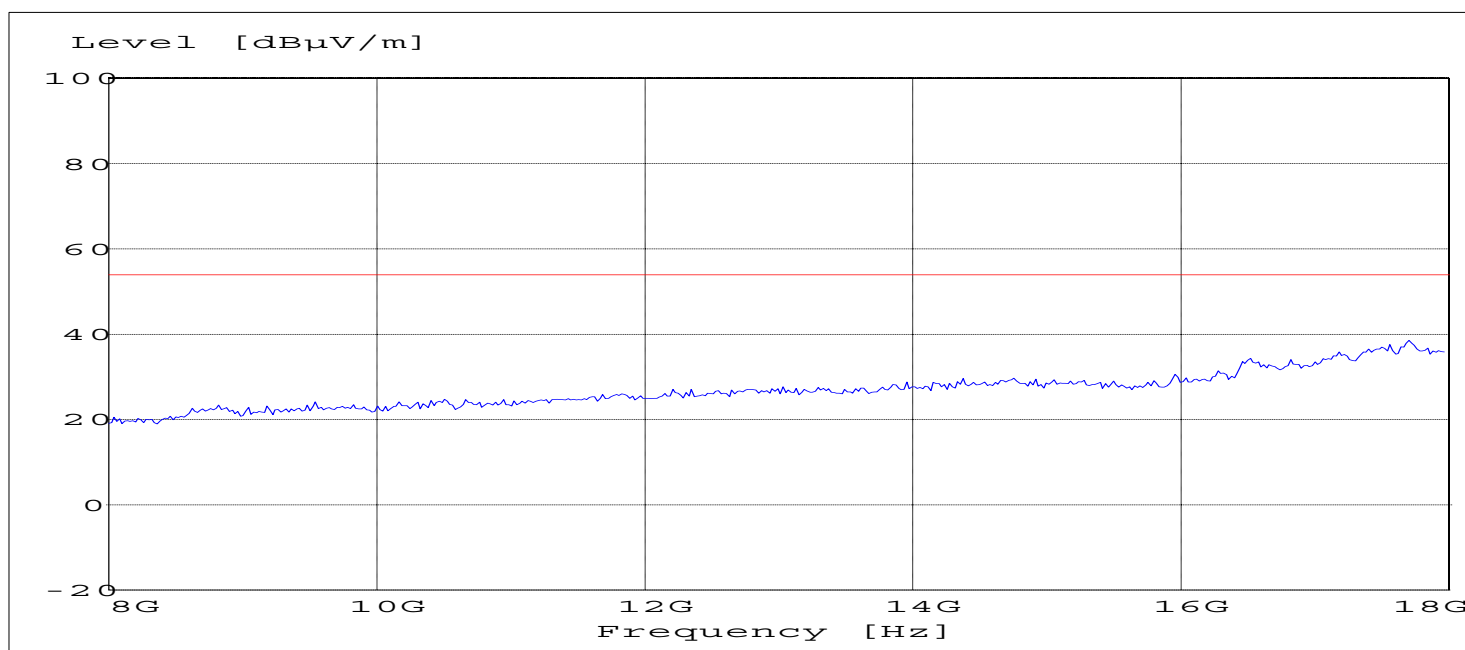


EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)

8GHz – 18GHz

(This plot is valid for all three channels)

SWEEP TABLE:		"BT Spuri hi 8-18G"			
Short Description:		Bluetooth Spurious 8-18GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
8.0 GHz	18 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)

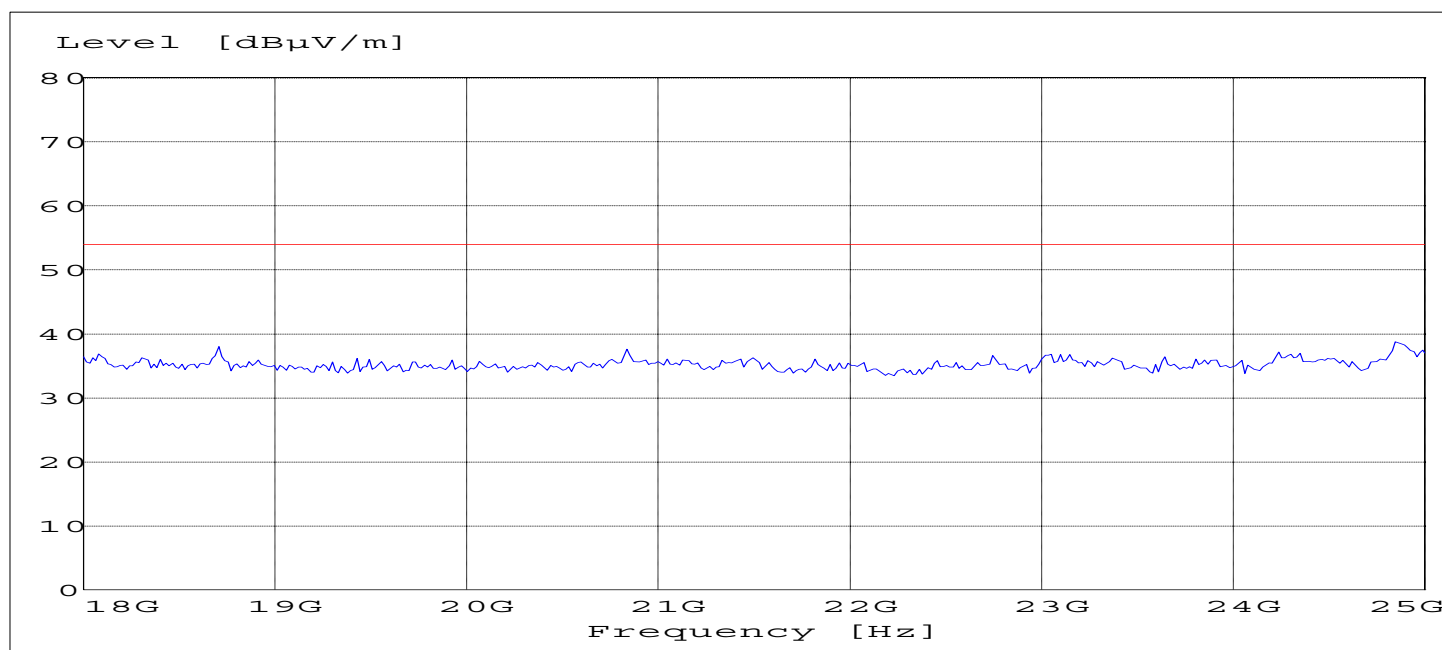


EMISSION LIMITATIONS - Radiated (Transmitter) SUBCLAUSE § 15.247 (c) (1)

18GHz – 25GHz

(This plot is valid for all three channels)

SWEEP TABLE:		"BT Spuri hi 18-25G"			
Short Description:		Bluetooth Spurious 18-25GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
18 GHz	25 GHz	MaxPeak	Coupled	1 MHz	#141 horn (dBi)

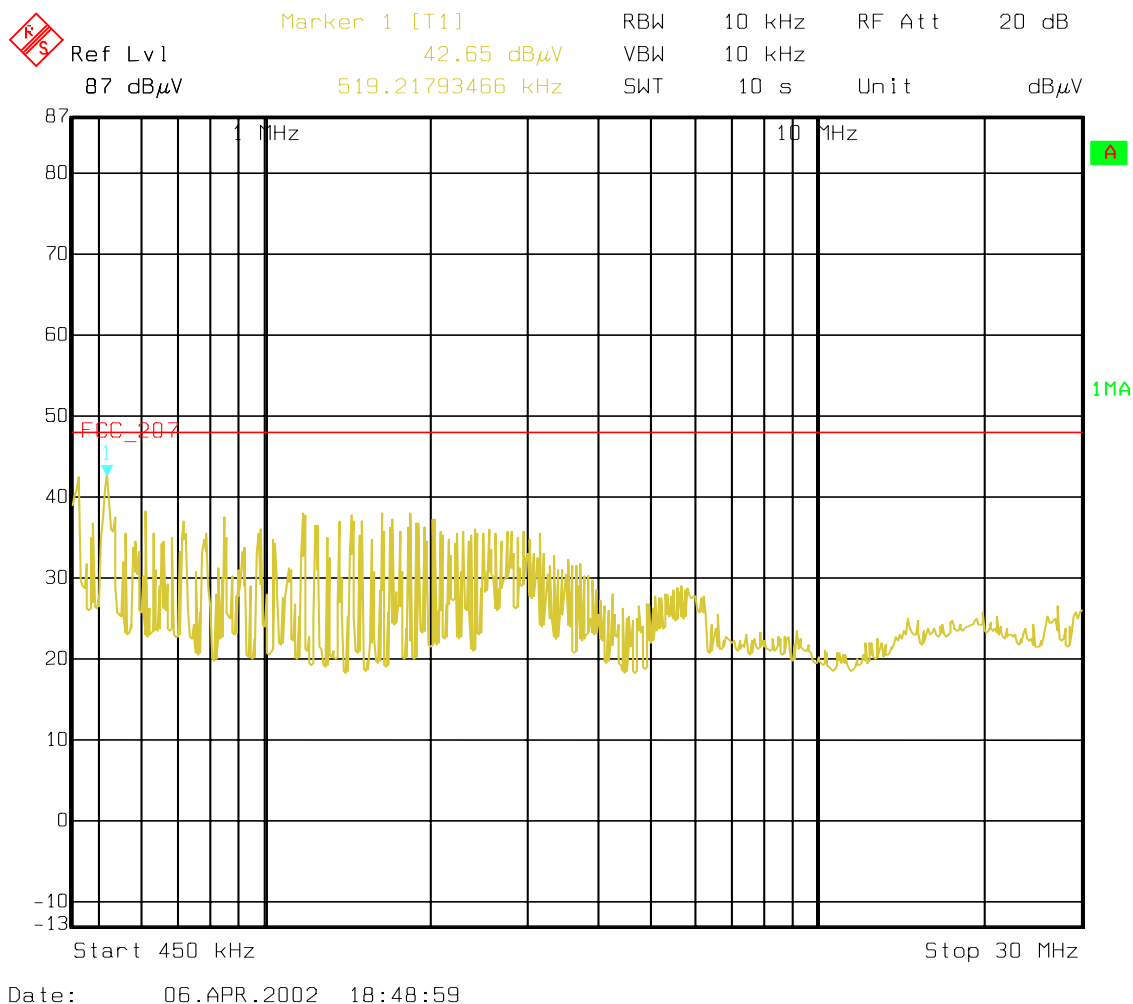


CONDUCTED EMISSIONS

§ 15.107/207

Measured with AC/DC power adapter

Phase: Line



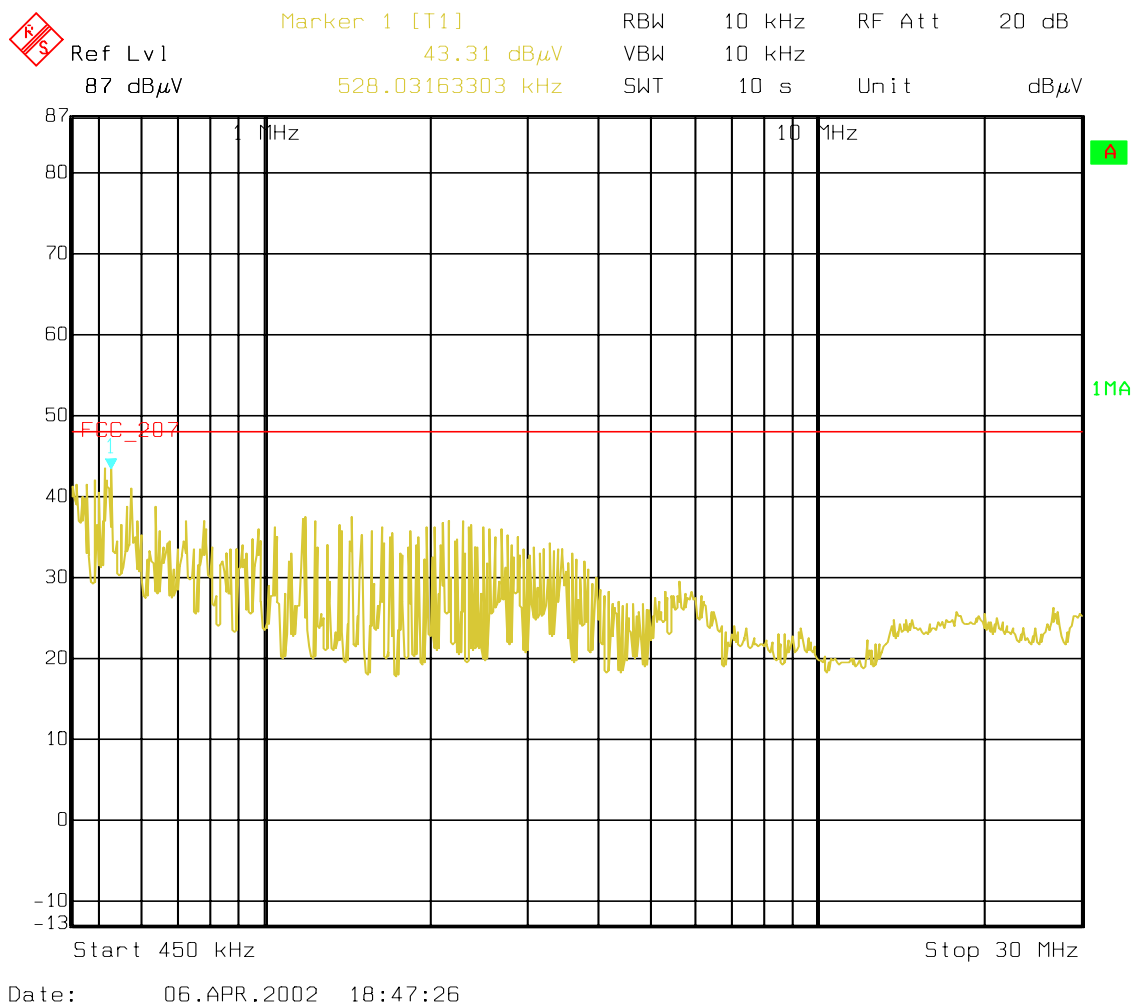
Technical specification: 15.107 / 15.207 (Revised as of October 1, 1991)

Limit

0.45 to 30 MHz	250 μV / 47.96dBμV
----------------	--------------------

ANALYZER SETTINGS: RBW = 10KHz VBW = 10KHz

Phase: Neutral



Technical specification: 15.107 / 15.207 (Revised as of October 1, 1991)

Limit

0.45 to 30 MHz	250 μV / 47.96dBμV
----------------	--------------------

ANALYZER SETTINGS: RBW = 10KHz VBW = 10KHz

RECEIVER SPURIOUS RADIATION**§ 15.209****Limits**

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

NOTE:

1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 18 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.
2. Measurements were done on low, mid & high channels, but plots depicting the worst case are submitted in the test report.

RECEIVER SPURIOUS RADIATION

§ 15.209

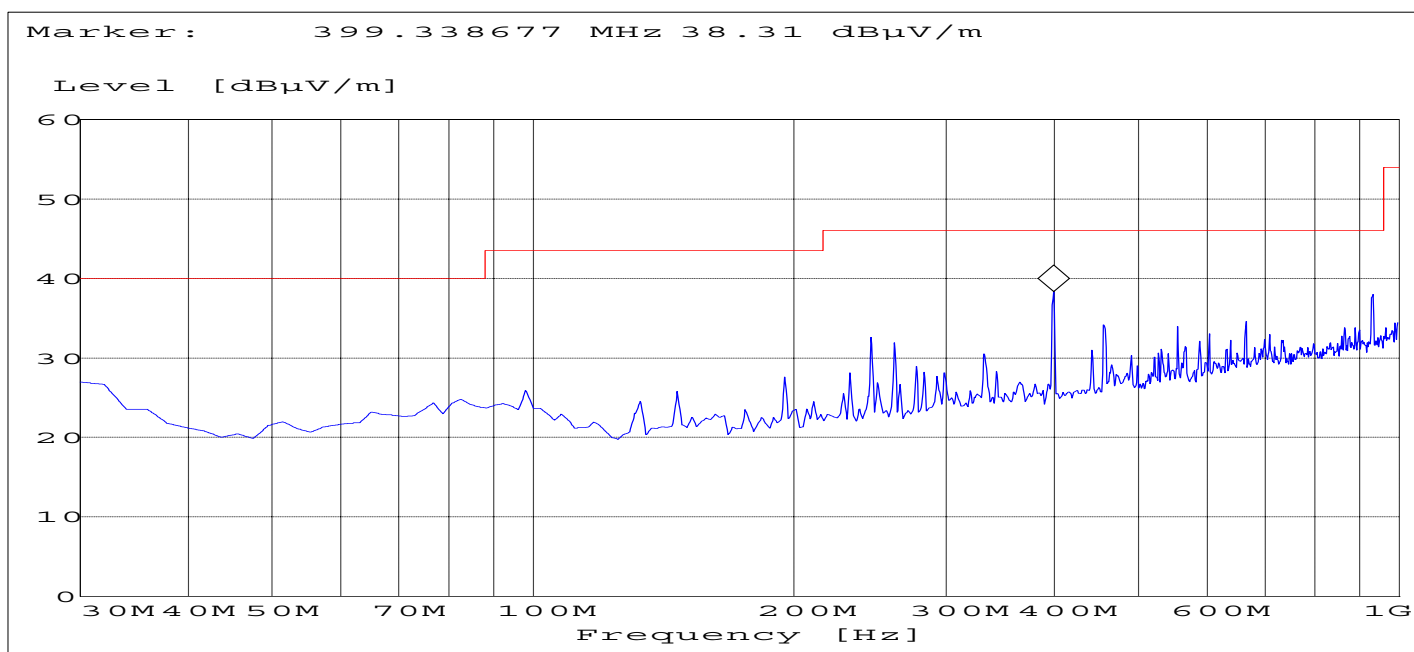
30MHz – 1GHz

(This plot is valid for all three channels)

SWEEP TABLE: "BT Spuri hi 30-1G"

Short Description: Bluetooth 30MHz-1GHz

Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency		Time	VBW	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186



RECEIVER SPURIOUS RADIATION

§ 15.209

1GHz – 8GHz

(This plot is valid for all three channels)

SWEEP TABLE:

"BT Spuri hi 1-8G"

Short Description:

Bluetooth Spurious 1-8 GHz

Start

Stop

Detector

Meas.

RBW

Transducer

Frequency

Frequency

Time

Bandw.

VBW

1.0 GHz

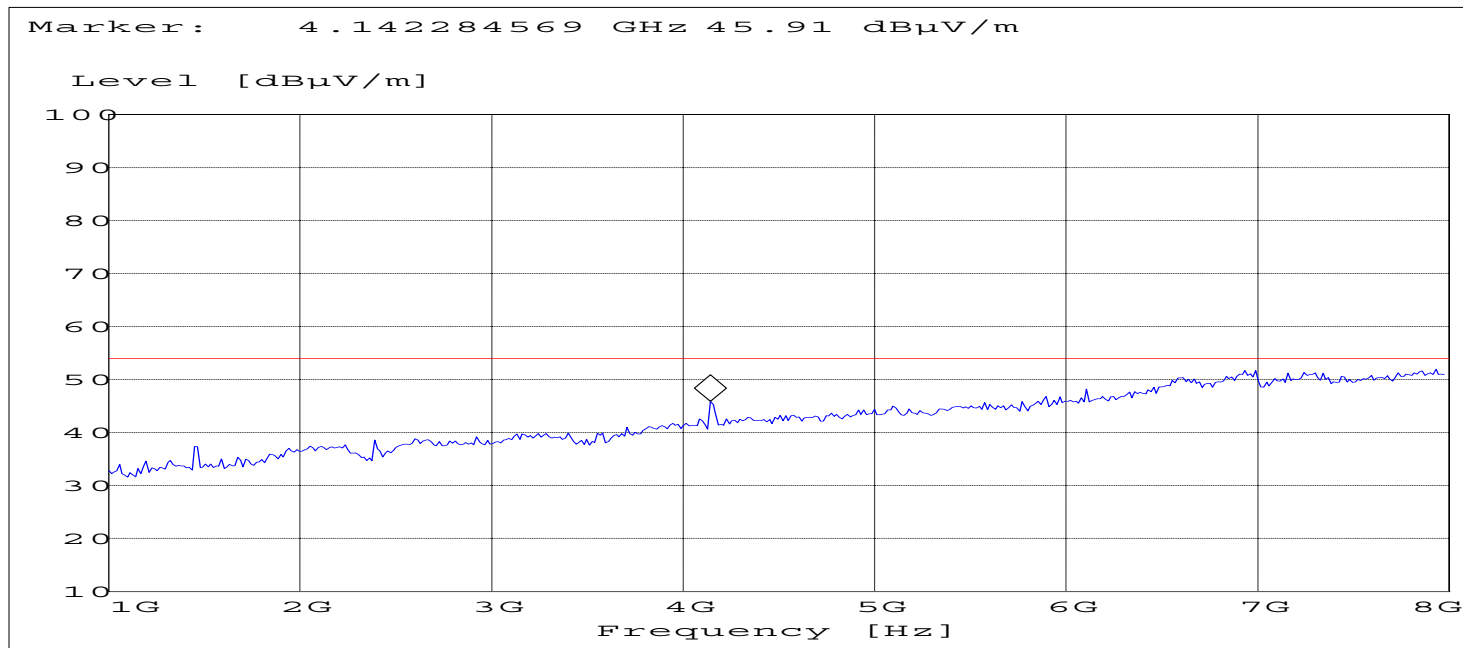
8.0 GHz

MaxPeak

Coupled

1 MHz

#326 horn (dBi)



RECEIVER SPURIOUS RADIATION

§ 15.209

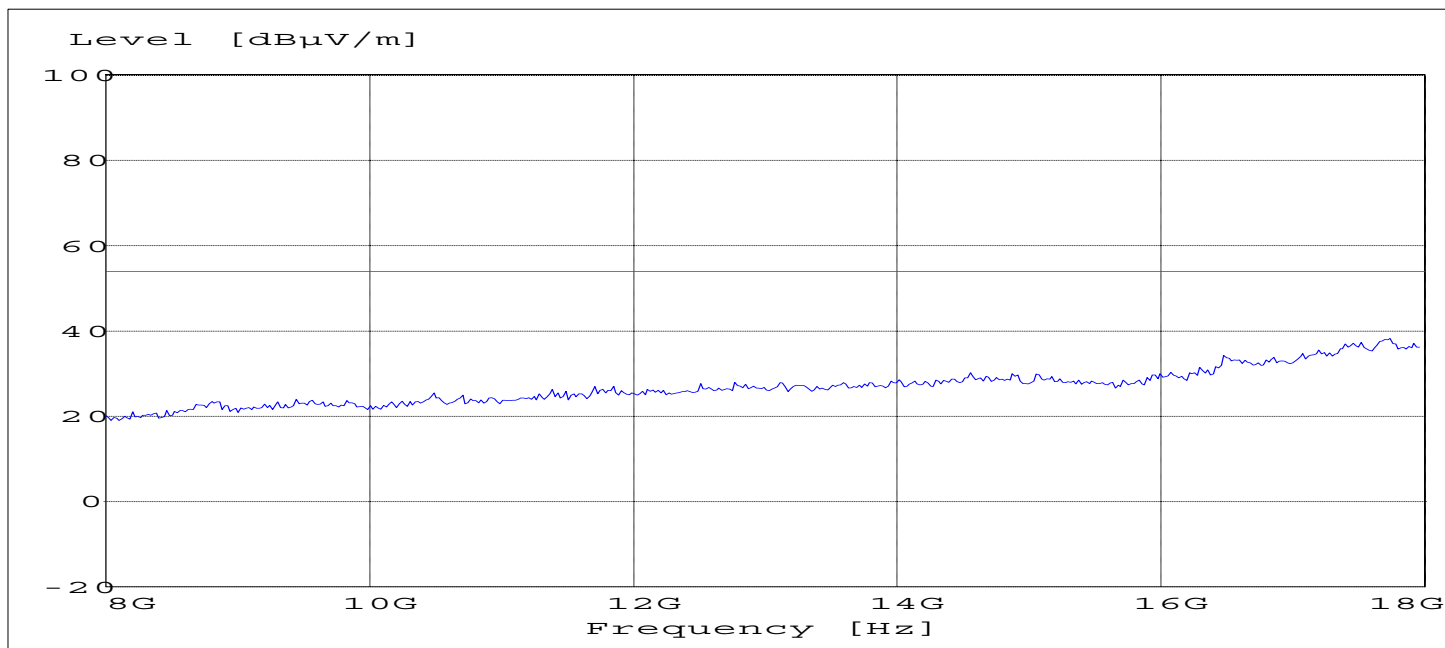
8GHz – 18GHz

(This plot is valid for all three channels)

SWEEP TABLE: "BT Spuri hi 8-18G"

Short Description: Bluetooth Spurious 8-18GHz

Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
8.0 GHz	18 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



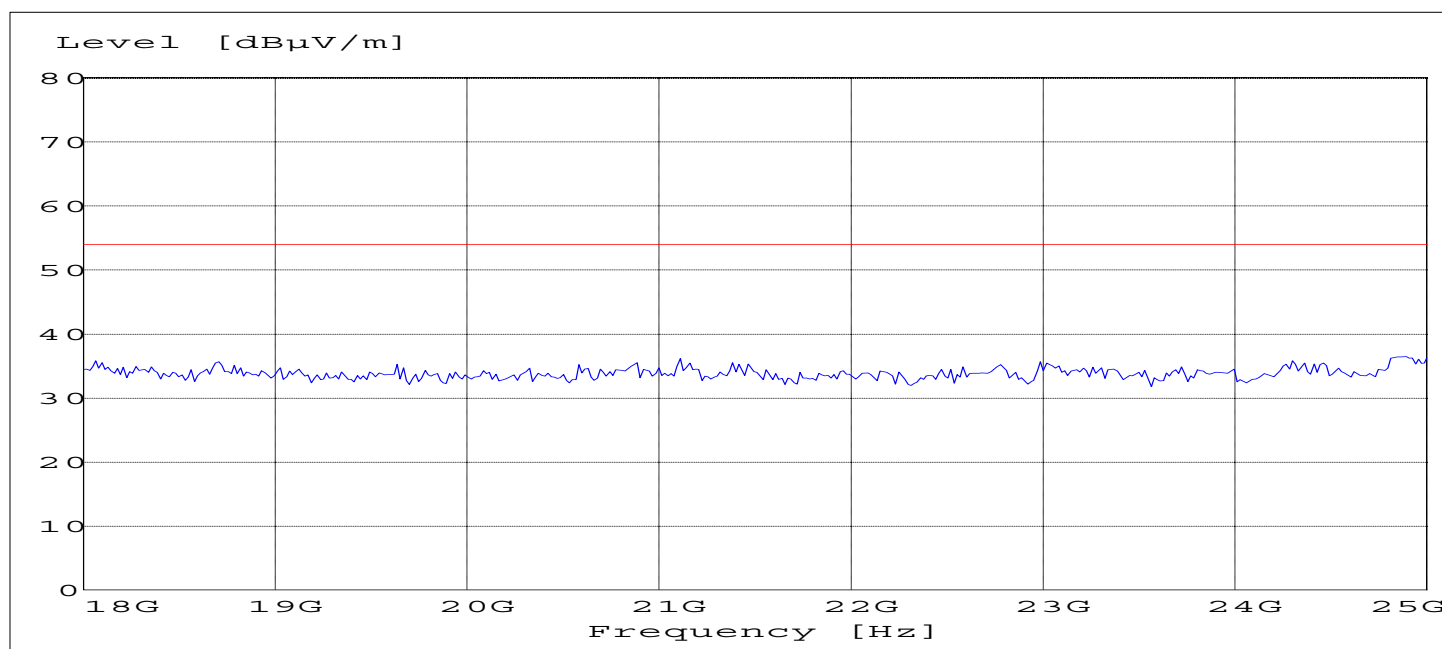
RECEIVER SPURIOUS RADIATION

§ 15.209

18GHz – 25GHz

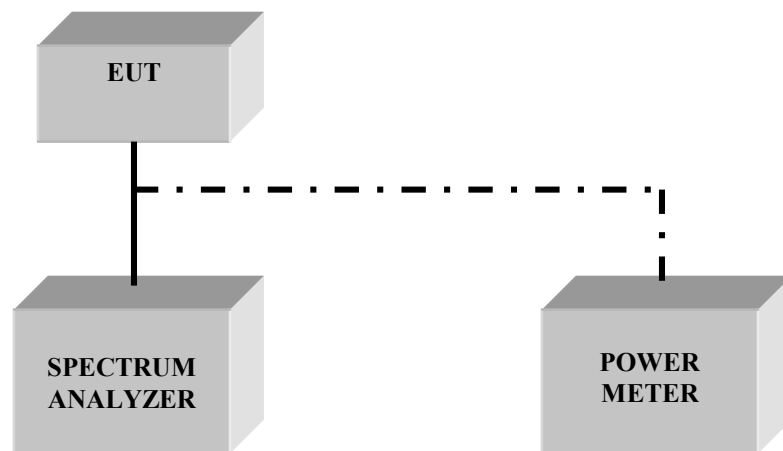
(This plot is valid for all three channels)

SWEEP TABLE:		"BT Spuri hi 18-25G"			
Short Description:		Bluetooth Spurious 18-25GHz			
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
18 GHz	25 GHz	MaxPeak	Coupled	1 MHz	#141 horn (dBi)



[illegible]

BLOCK DIAGRAM – Conducted Measurements



BLOCK DIAGRAM – Radiated Measurements

