

# **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](http://www.cetecom.com)

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Issued test report consists of 60 Pages

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**FCC LISTED, REG. NO.: 101450  
&  
RECOGNIZED BY INDUSTRY CANADA  
IC – 3925**

**Test report no.: EMC\_338\_FCC15.247\_2002  
FCC Part 15.247 for FHSS systems / CANADA RSS-210  
(Model: 23011)**

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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.com](mailto:lothar.schmidt@cetecomusa.com)****Internet: [www.cetecom.com](http://www.cetecom.com)**

**1.3 Details of applicant**

Name	:	Skypower Wireless Ltd.
Street	:	Unit 508 Tower B
City / Zip Code	:	New Mandarin Plaza, TST East, Kowloon
Country	:	Hongkong
Contact	:	Chris Burgin
Telephone	:	+852 2312 2212
Tele-fax	:	+852 2312 2282
e-mail	:	cburgin@skypower.com

**1.4 Application details**

Date of receipt of application	:	2002-09-12
Date of receipt test item	:	2002-09-12
Date of test	:	2002-09-12/13

**1.5 Test item**

Manufacturer	:	Applicant
Marketing Name	:	Mobile Bluetooth Adapter (MBA)
Model No.	:	23011
Description	:	Wireless Headset Dongle
HW version	:	1.0
SW version	:	1.0
FCC-ID	:	

**Additional information**

Frequency	:	2402MHz – 2480MHz
Type of modulation	:	GFSK
Number of channels	:	79
Antenna	:	Internal
Power supply	:	3.7VDC
Output power	:	4.79dBm (3.013Mw) max. EIRP
Extreme vol. Limits	:	3.1VDC – 3.7VDC
Extreme temp. Tolerance	:	0°C - +55°C

**1.6 Test standards:****FCC Part 15 §15.247 (DA00-705) / CANADA RSS-210**

**Note: All radiated measurements were made in all three orthogonal planes. The values reported are the maximum values.**

**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

Final Verdict: (only "passed" if all single measurements are "passed")	<b>Passed</b>
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**Technical responsibility for area of testing:**

2002-09-  
18

EMC & Radio

Lothar Schmidt (Manager)



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Date	Section	Name	Signature
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**Responsible for test report and project leader:**

2002-09-18 EMC & Radio Harpreet Sidhu (EMC Engineer)

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Date	Section	Name	Signature
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## **2.2 Test report**

### **TEST REPORT**

**Test report no. : EMC\_338\_FCC15.247\_2002**  
**(Model: 23011)**

**TEST REPORT REFERENCE**

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**ANTENNA GAIN****§ 15.204**

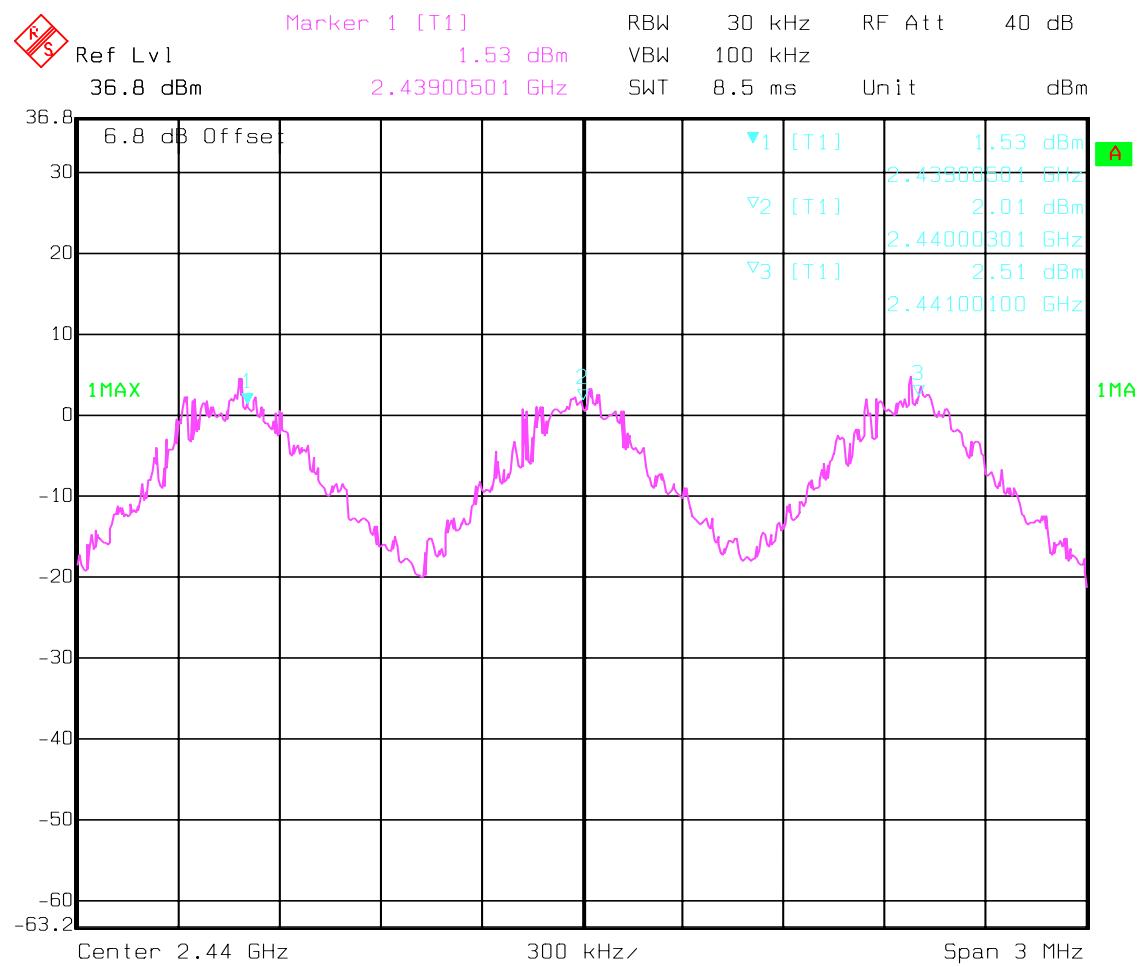
**The antenna gain of the complete system is calculated by the difference of conducted power of the module and the radiated power in EIRP.**

	<b>Low channel</b>	<b>Mid channel</b>	<b>High channel</b>
<b>Conducted Power</b>	<b>1.27dBm</b>	<b>0.98dBm</b>	<b>0.81dBm</b>
<b>Radiated Power (EIRP)</b>	<b>4.79dBm</b>	<b>3.64dBm</b>	<b>3.61dBm</b>
<b>Antenna Gain</b>	<b>+3.52dBi</b>	<b>+2.66dBi</b>	<b>+2.8dBi</b>

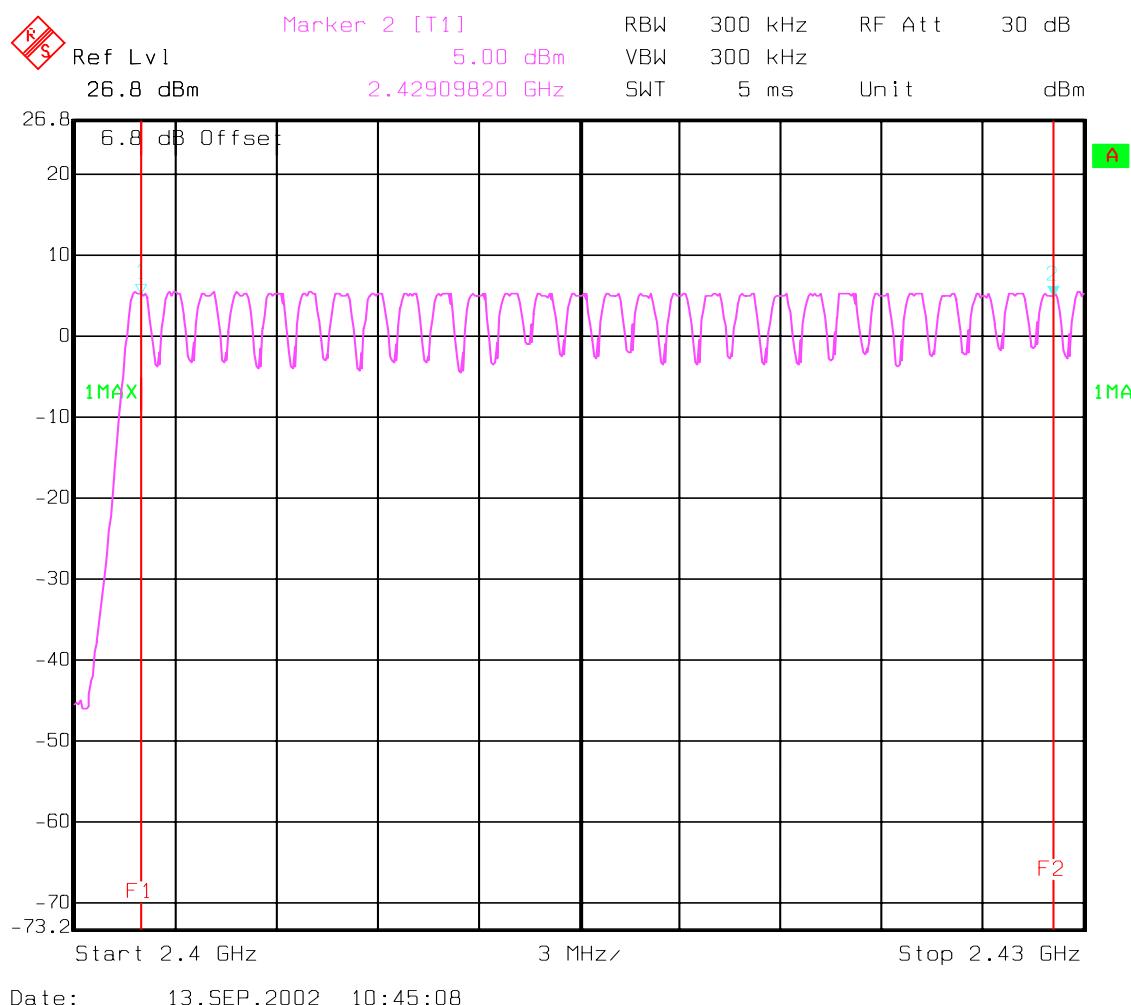
**The calculated antenna gain is between +2.66dBi and +3.52dBi.**

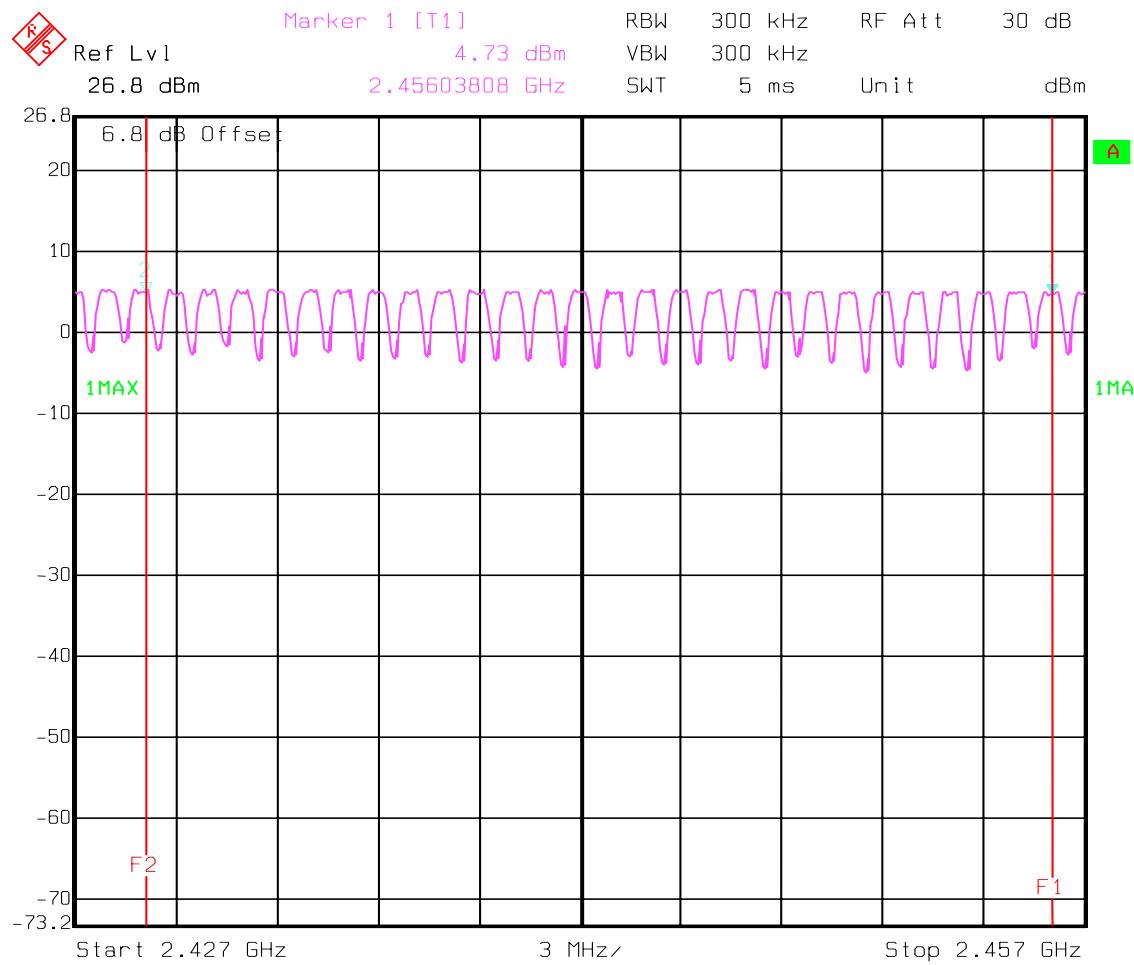
## CARRIER FREQUENCY SEPERATION

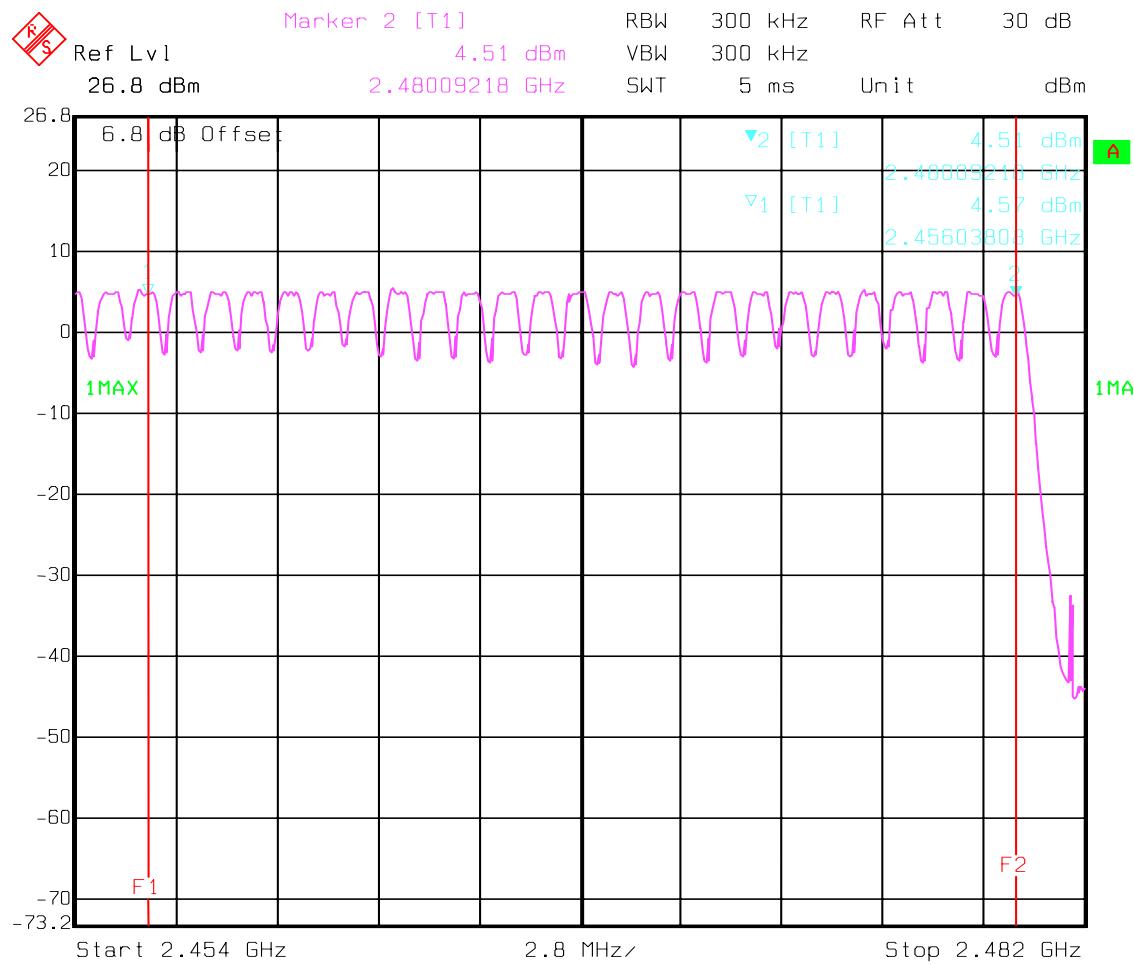
§15.247(a)



Date: 13.SEP.2002 10:33:29

**NUMBER OF HOPPING CHANNELS****§15.247(a)****The number of hopping channels is 79 (see next 3 plots)****The right red line corresponds to the left red line from the next plot.****Plot 1: Total 28**

**Plot 2: Total 27**

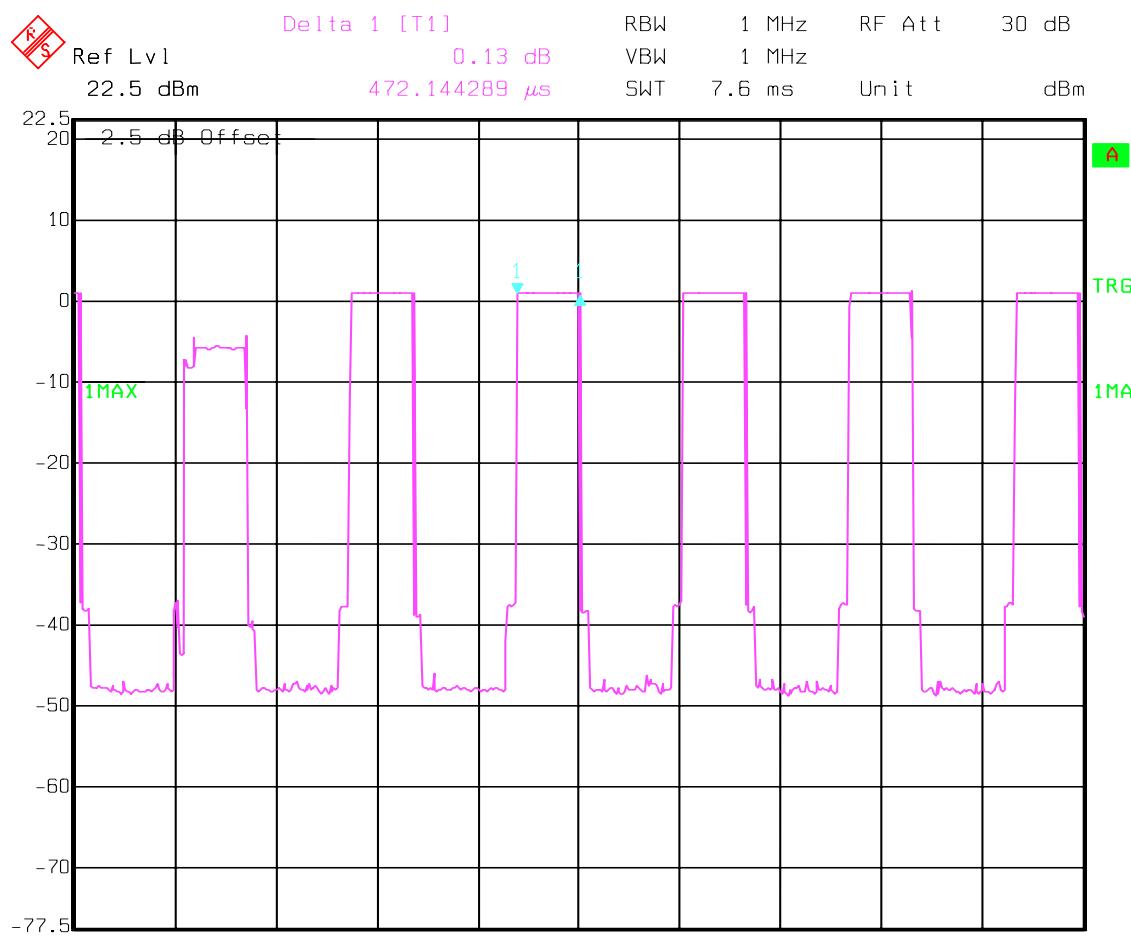
**Plot 3: Total 24**

**TIME OF OCCUPANCY (DWELL TIME)**  
**DH1 – Packet**
**§15.247(a)**

The system makes worst case 1600 hops per second or 1 time slot has a length of 625 $\mu$ 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 appearence .

Each Tx-time per appearence is 472.14 $\mu$ s.

So we have 303.9 \* 472.14  $\mu$ s = 143.48 ms per 30 seconds.



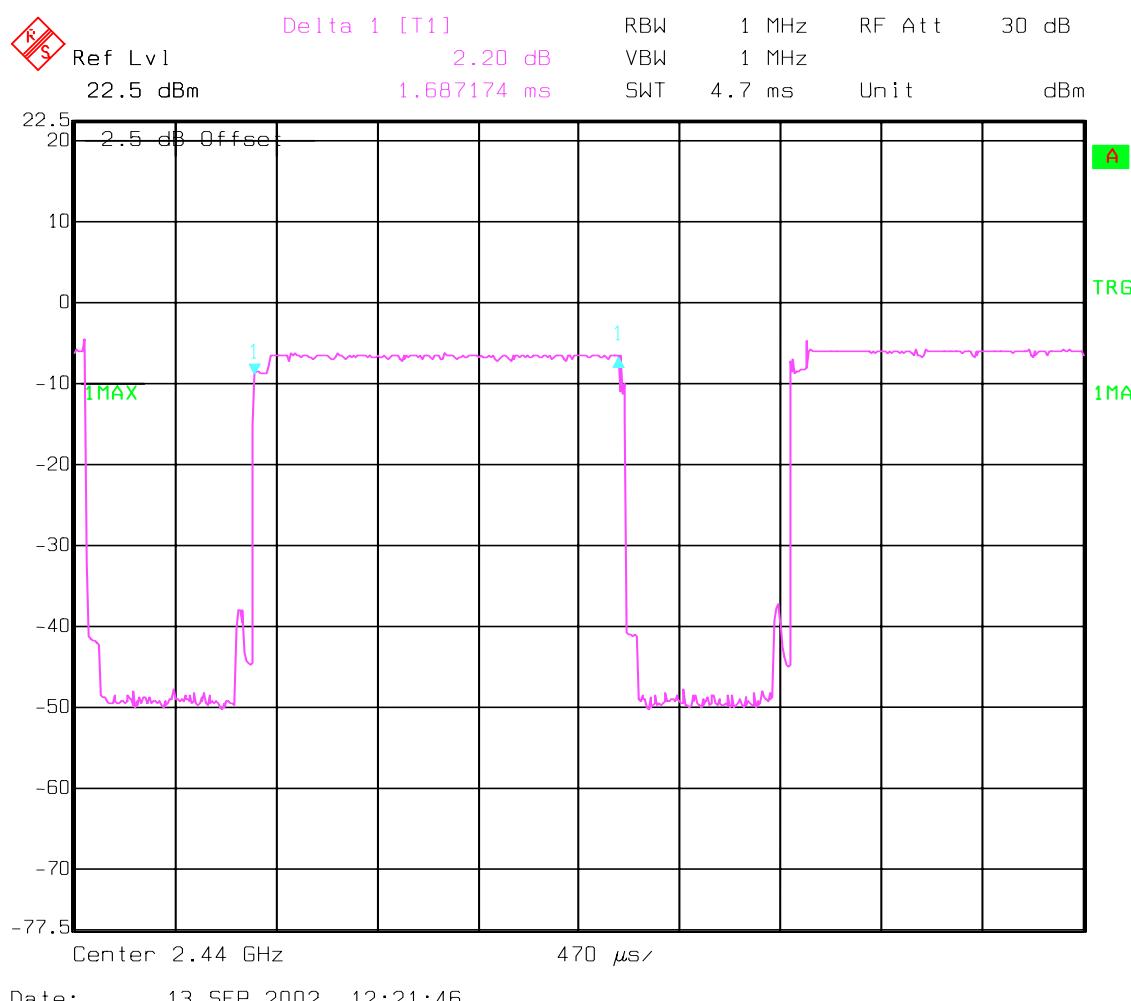
Date: 13.SEP.2002 12:17:52

**TIME OF OCCUPANCY (DWELL TIME)****§15.247(a)****DH3 – Packet**

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 appearence .

Each Tx-time per appearence is 1.68 ms.

So we have  $153 * 1.68\text{ms} = 257\text{ ms}$  per 30 seconds.

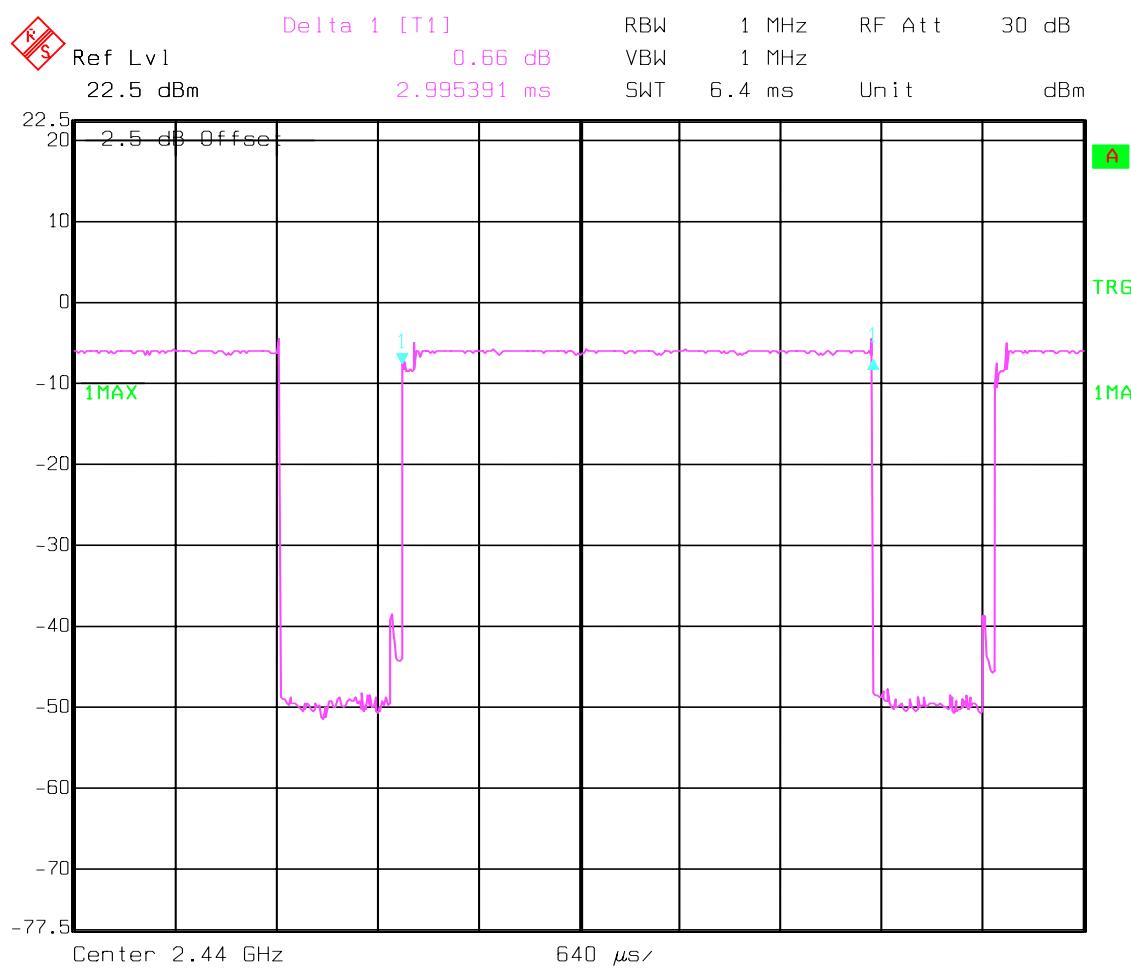


**TIME OF OCCUPANCY (DWELL TIME)****§15.247(a)****DH5 – Packet**

At DH5 Packets you need 5 time slots for transmit and 1 for receiving, 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 2.99 ms.

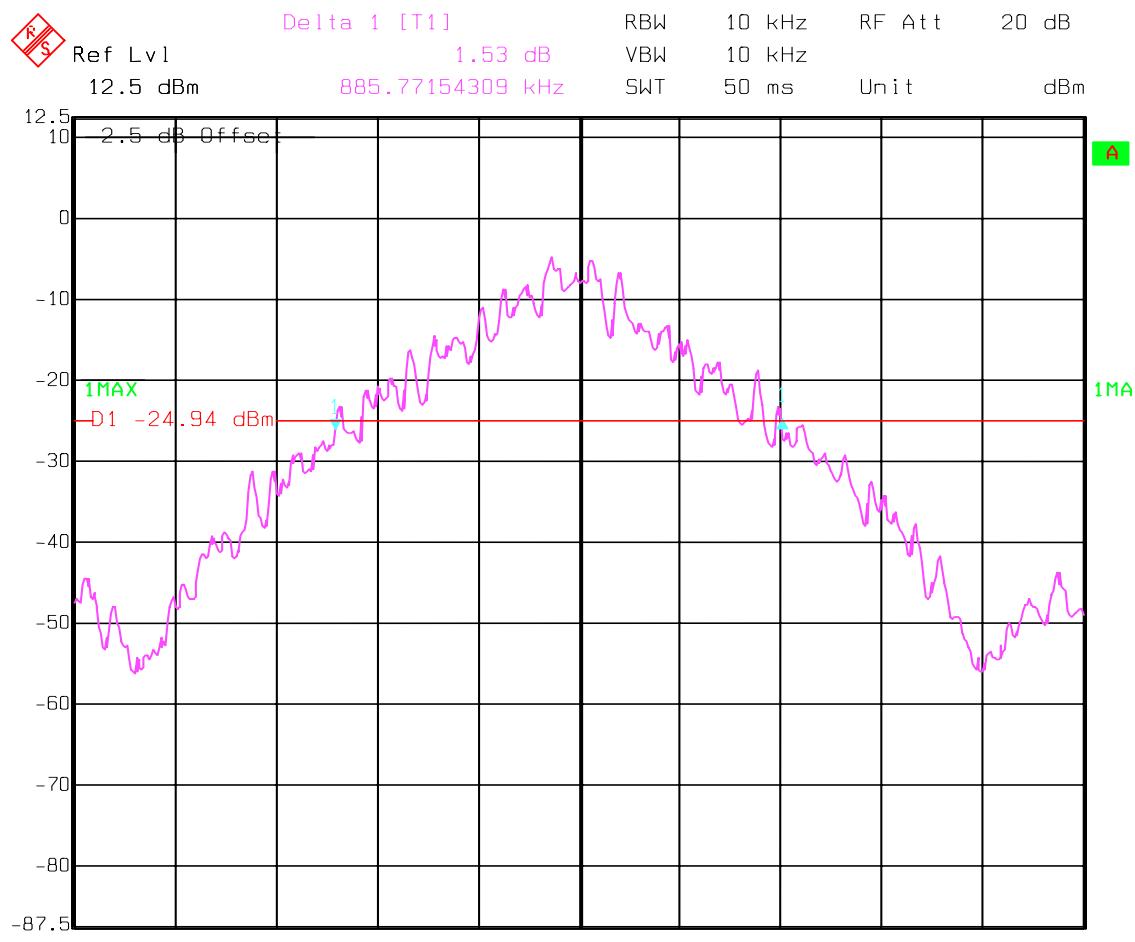
So we have  $100.8 * 2.99\text{ms} = 301.39\text{ ms per 30 seconds.}$



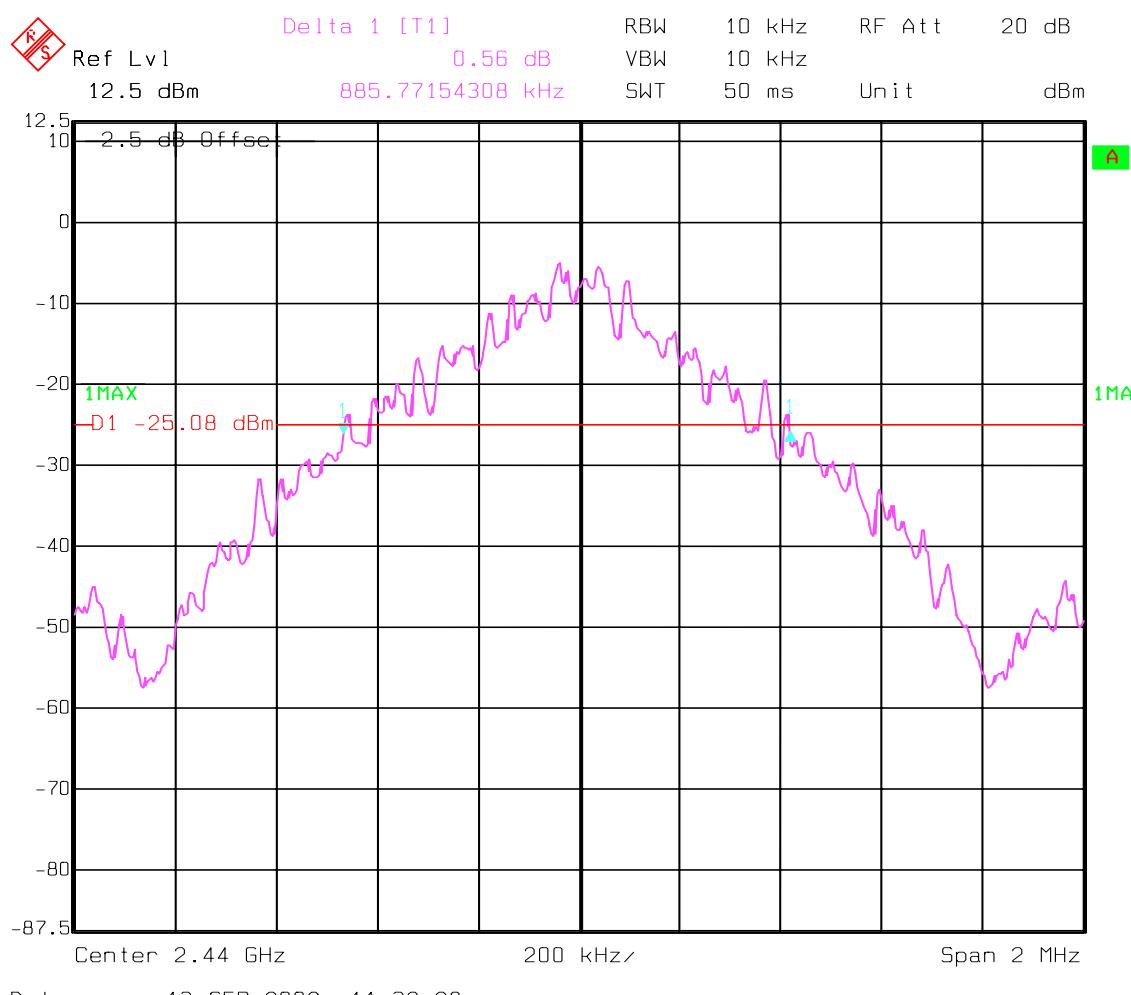
**SPECTRUM BANDWIDTH OF FHSS SYSTEM**  
**20 dB bandwidth****§15.247(a)**

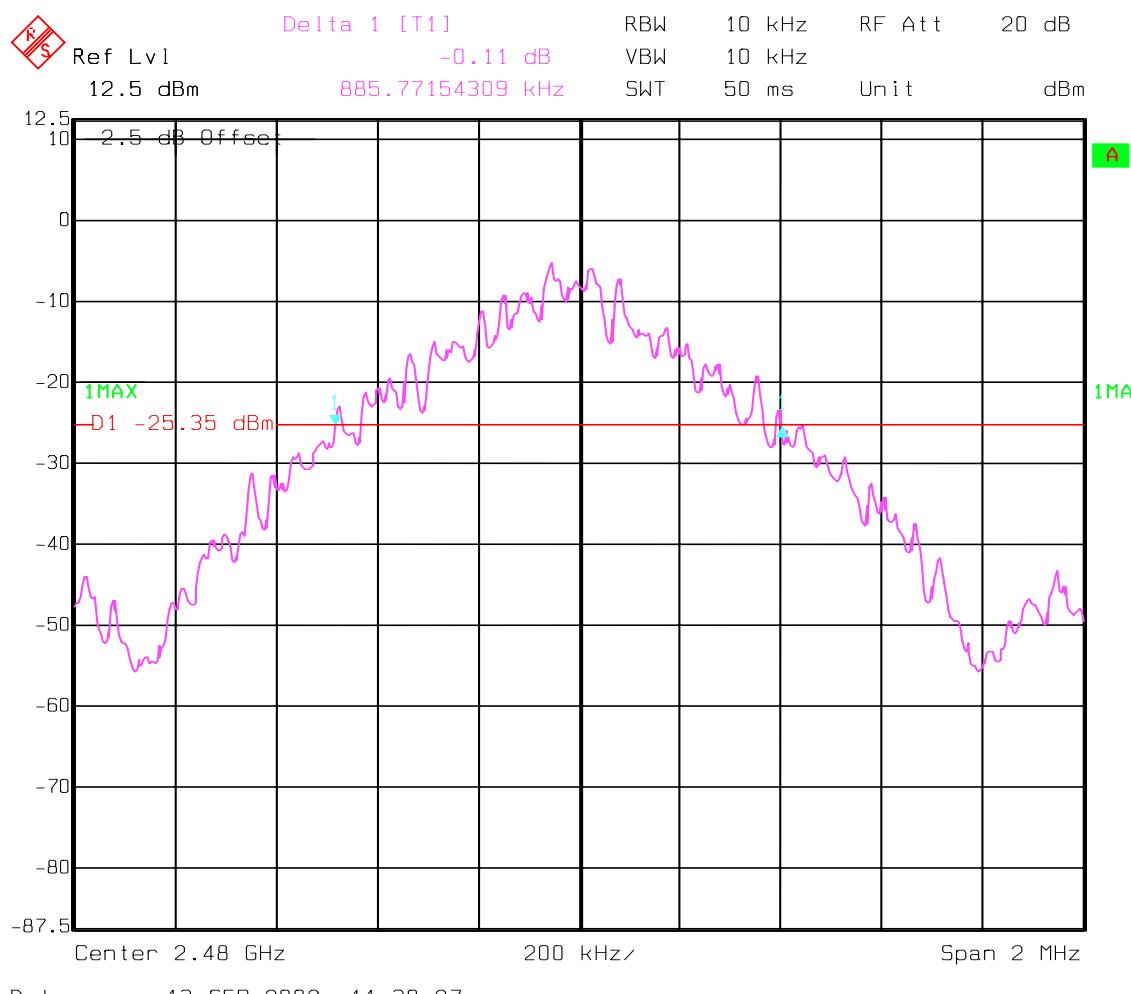
<b>TEST CONDITIONS</b>		<b>20 dB BANDWIDTH (kHz)</b>		
<b>Frequency (MHz)</b>		<b>2402</b>	<b>2440</b>	<b>2480</b>
$T_{nom}(23)^\circ C$	$V_{nom}(3.7)VDC$	<b>885.77</b>	<b>885.77</b>	<b>885.77</b>

**RBW / VBW as provided in the "Measurement Guidelines" (DA 00-705, March 30, 2000)****LIMIT****SUBCLAUSE §15.247(a) (1)****The maximum 20dB bandwith shall be at maximum 1000 KHz**

**SPECTRUM BANDWIDTH OF FHSS SYSTEM**  
**20 dB bandwidth****§15.247(a)****Lowest Channel: 2402MHz**

Date: 13.SEP.2002 11:16:47

**SPECTRUM BANDWIDTH OF FHSS SYSTEM**  
**20 dB bandwidth****§15.247(a)****Mid Channel: 2440MHz**

**SPECTRUM BANDWIDTH OF FHSS SYSTEM**  
**20 dB bandwidth****§15.247(a)****Highest Channel: 2480MHz**

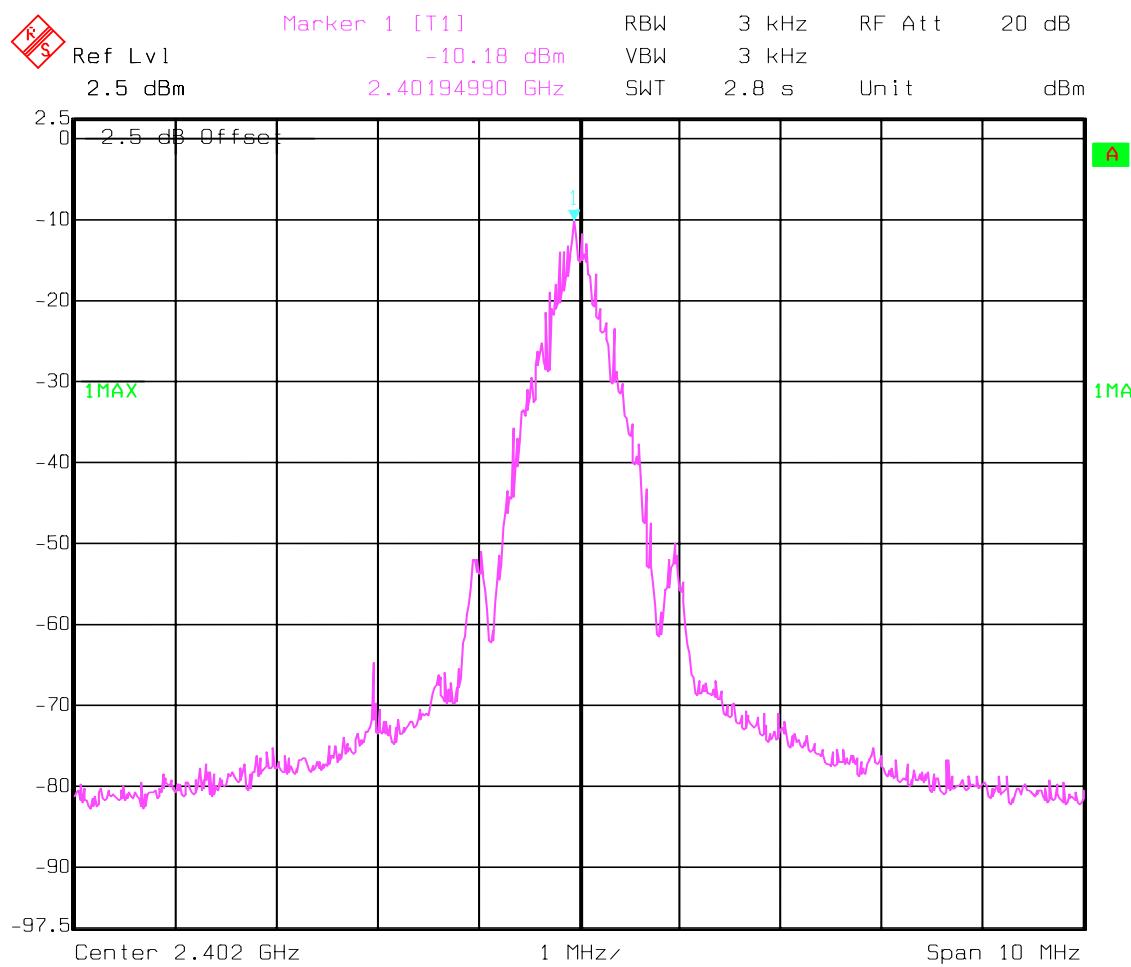
**POWER SPECTRAL DENSITY****§15.247 (d)**

<b>TEST CONDITIONS</b>		<b>POWER SPECTRAL DENSITY (dBm)</b>		
		<b>2402</b>	<b>2440</b>	<b>2480</b>
<b>T<sub>nom</sub>(23)°C</b>	<b>V<sub>nom</sub>(3.7)VDC</b>	<b>-10.18</b>	<b>-10.50</b>	<b>-10.71</b>

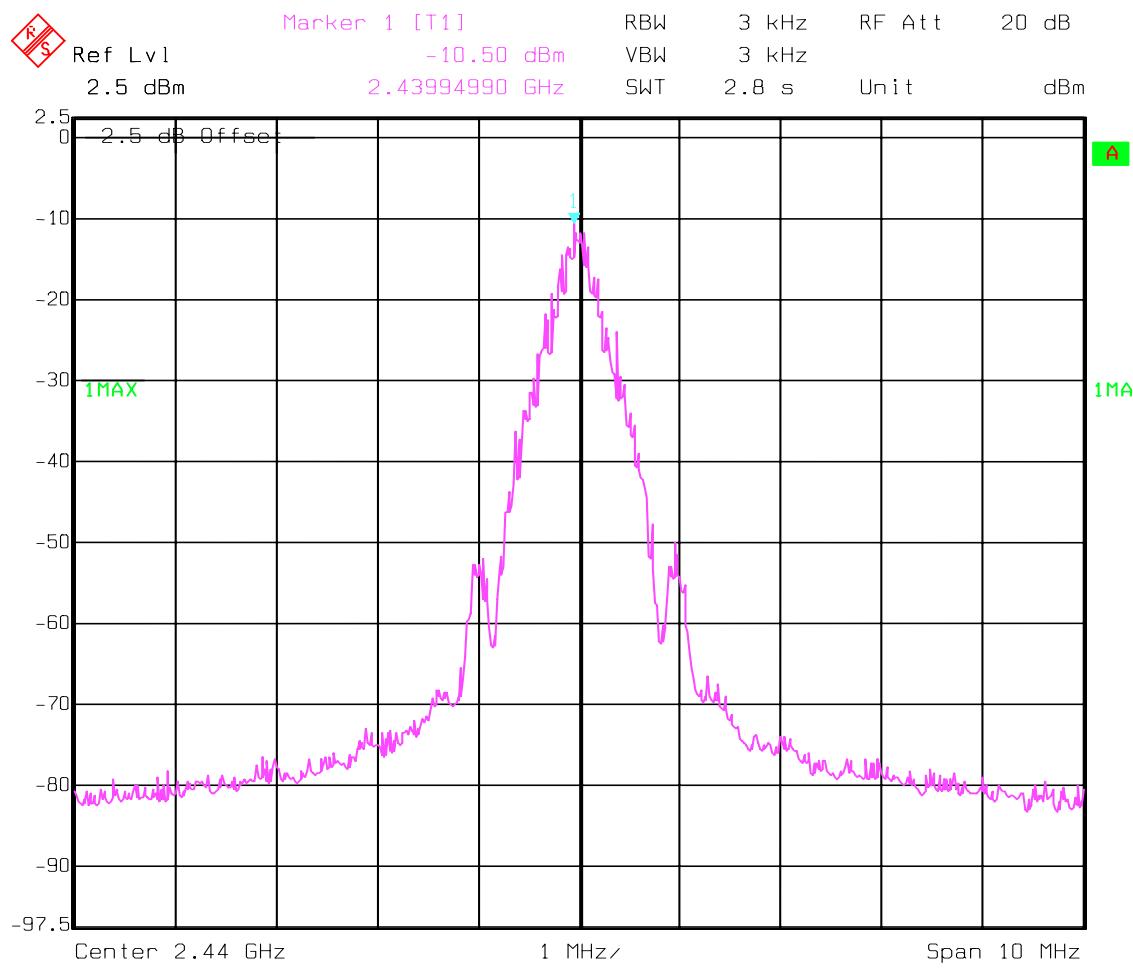
**LIMIT****SUBCLAUSE §15.247(d)**

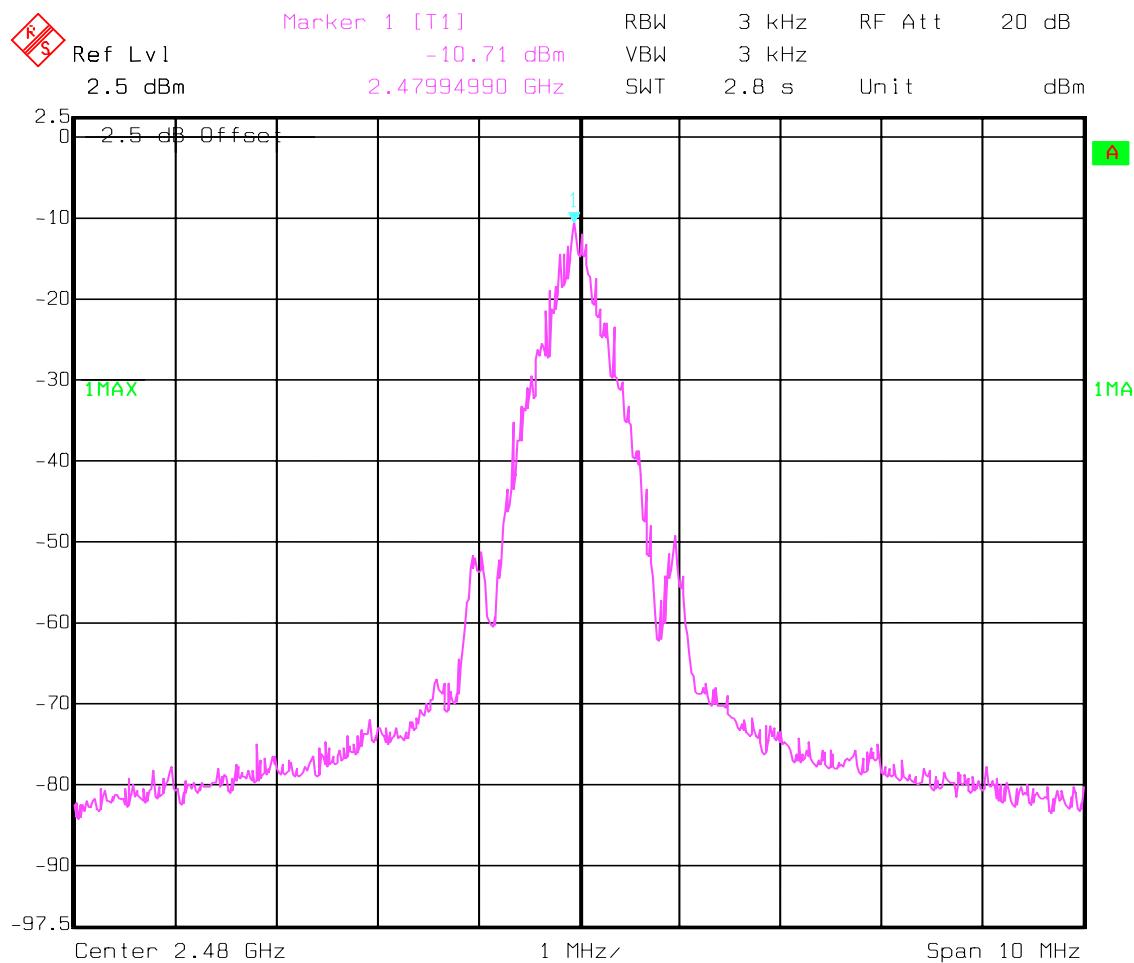
**The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band**

**ANALYZER SETTINGS: RBW=3KHz , VBW=3KHz**

**POWER SPECTRAL DENSITY****§15.247(d)****Lowest Channel: 2402MHz**

Date: 13.SEP.2002 11:18:39

**POWER SPECTRAL DENSITY****§15.247(d)****Middle Channel: 2440MHz**

**POWER SPECTRAL DENSITY****§15.247(d)****Highest Channel: 2480MHz**

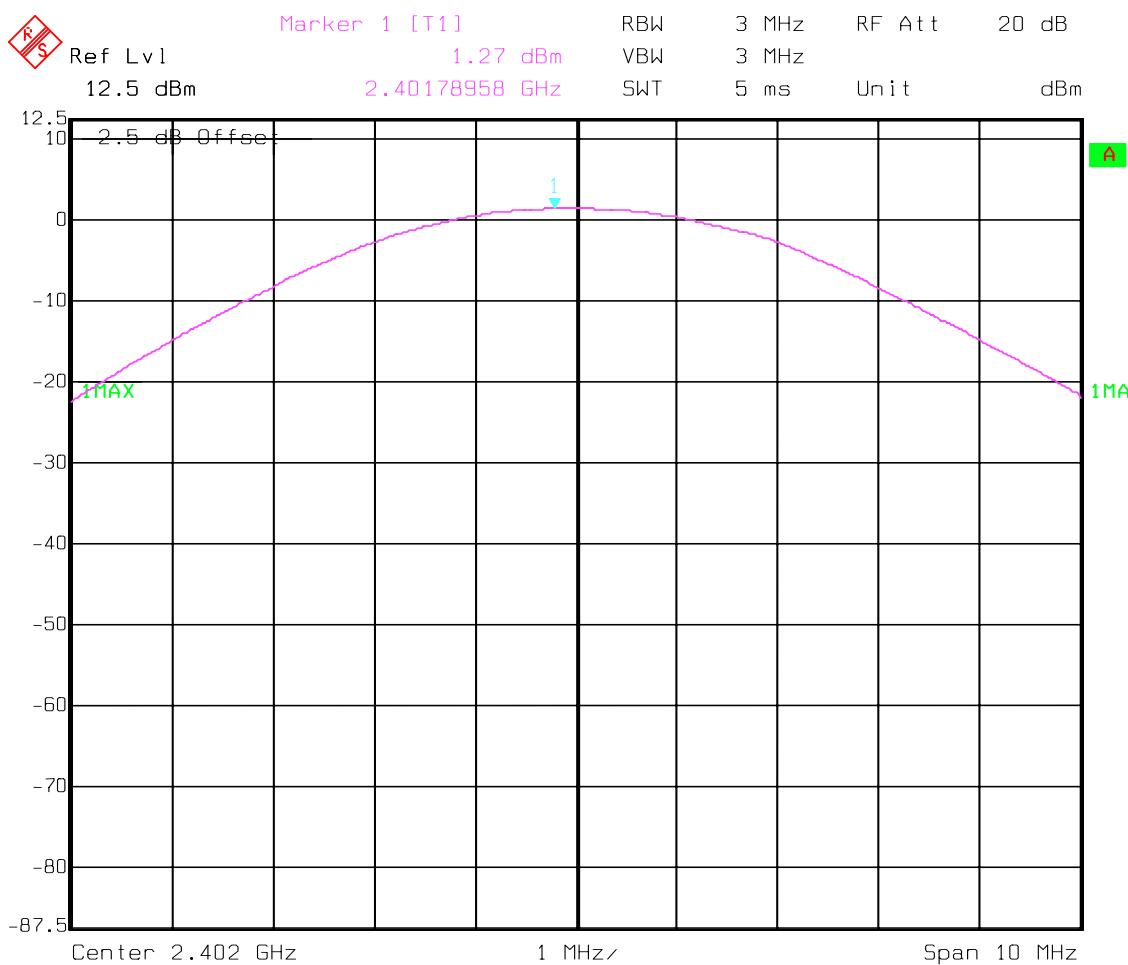
**MAXIMUM PEAK OUTPUT POWER  
(conducted)****§ 15.247 (b) (1)**

<b>TEST CONDITIONS</b>		<b>MAXIMUM PEAK OUTPUT POWER (dBm)</b>		
<b>Frequency (MHz)</b>		<b>2402</b>	<b>2440</b>	<b>2480</b>
$T_{\text{nom}}(23)^\circ\text{C}$	$V_{\text{nom}}(3.7)\text{VDC}$	<b>1.27</b>	<b>0.98</b>	<b>0.81</b>
<b>Measurement uncertainty</b>		<b><math>\pm 0.5\text{dBm}</math></b>		

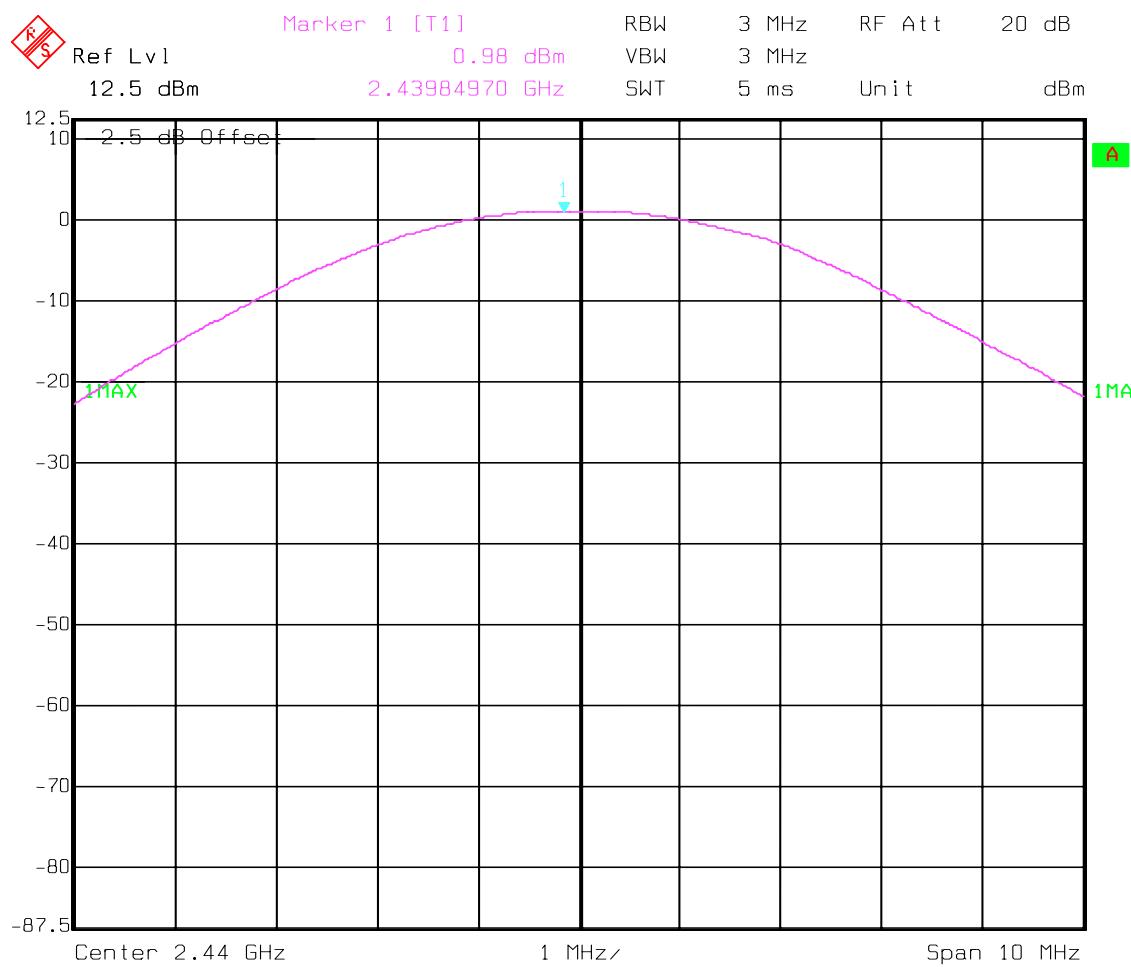
RBW / VBW : 3 MHz

**LIMIT****SUBCLAUSE § 15.247 (b) (1)**

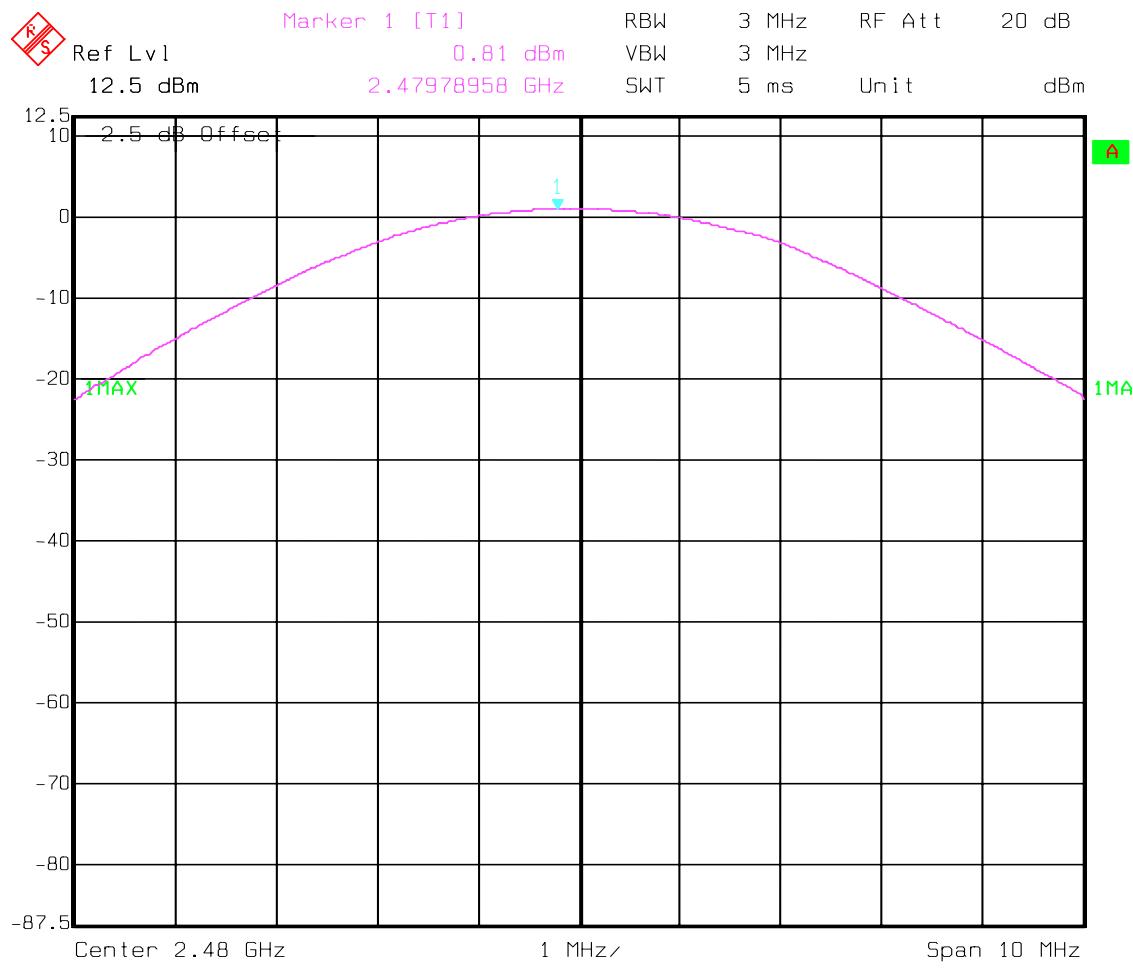
<b>Frequency range</b>	<b>RF power output</b>
<b>2400-2483.5 MHz</b>	<b>1.0 Watt</b>

**PEAK OUTPUT POWER (CONDUCTED)****§15.247 (b)****Lowest Channel: 2402MHz**

Date: 13.SEP.2002 11:13:39

**PEAK OUTPUT POWER (CONDUCTED)****§15.247 (b)****Mid Channel: 2440MHz**

Date: 13.SEP.2002 11:33:55

**PEAK OUTPUT POWER (CONDUCTED)****§15.247 (b)****Highest Channel: 2480MHz**

Date: 13.SEP.2002 11:28:42

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

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2402	2440	2480
T <sub>nom</sub> (23)°C	V <sub>nom</sub> (3.7)VDC	4.79	3.64	3.61
Measurement uncertainty		±0.5dBm		

RBW/VBW : 3 MHz

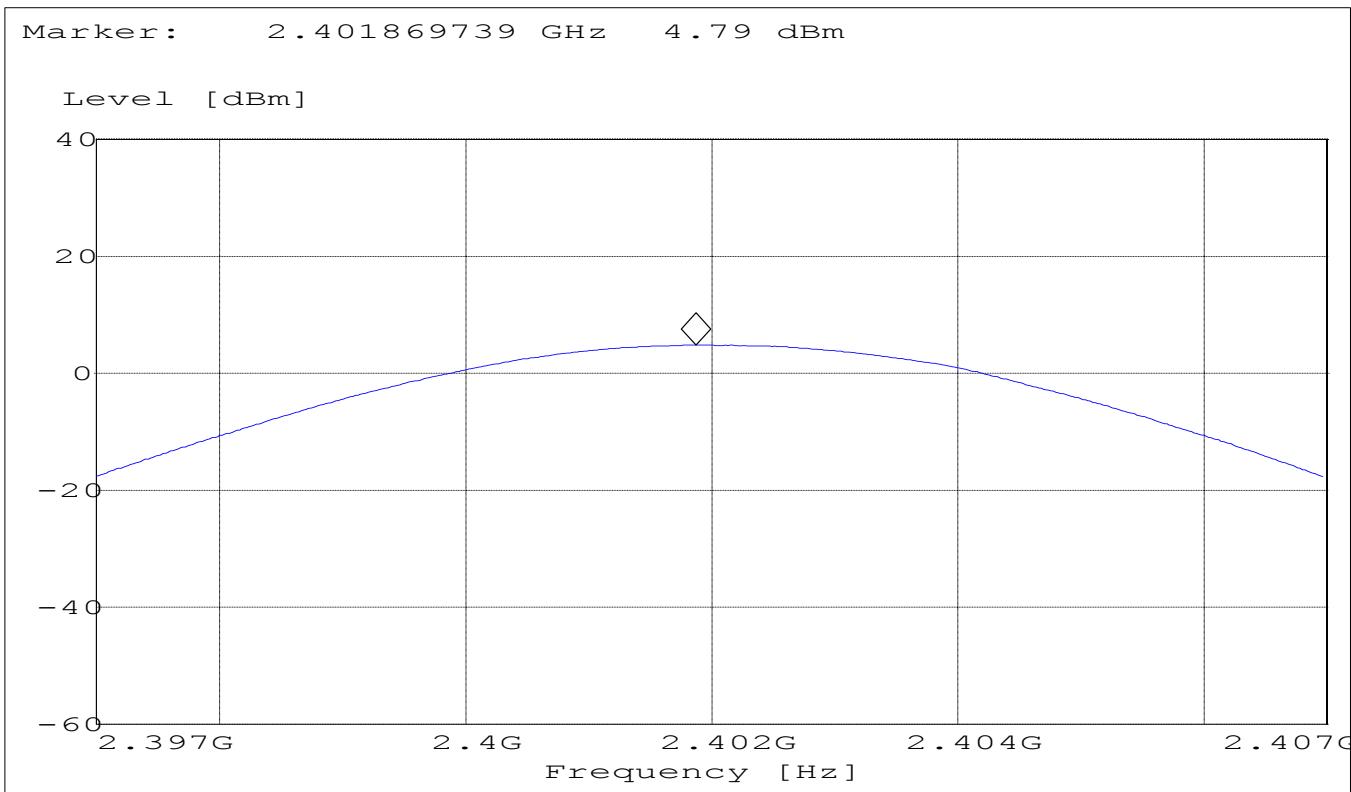
**Note:** All radiated measurements were made in all three orthogonal planes. The values reported are the maximum values.

**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"**

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

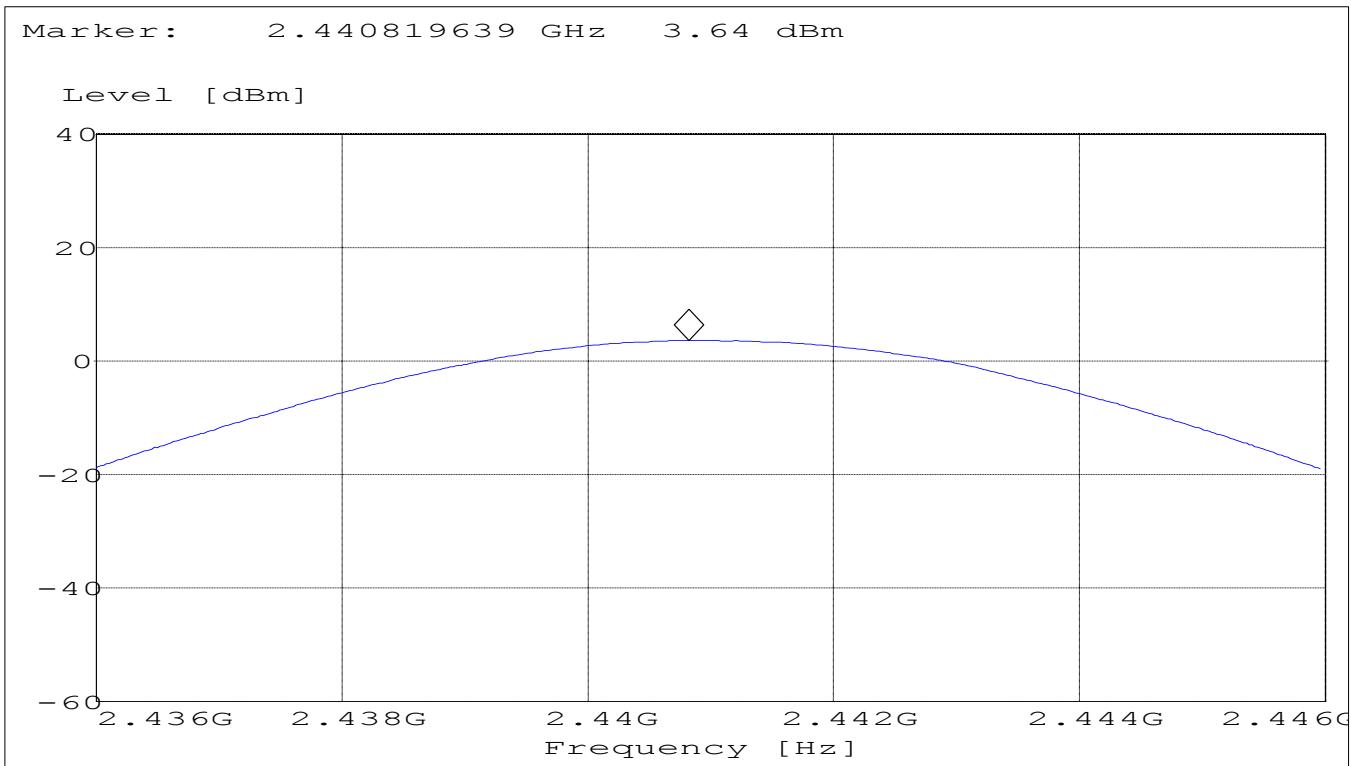


**PEAK OUTPUT POWER (RADIATED)****§15.247 (b) (1)****Mid Channel: 2440MHz**

## SWEEP TABLE: "EIRP BT Mid channel"

Short Description: EIRP Bluetooth channel-2440MHz

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

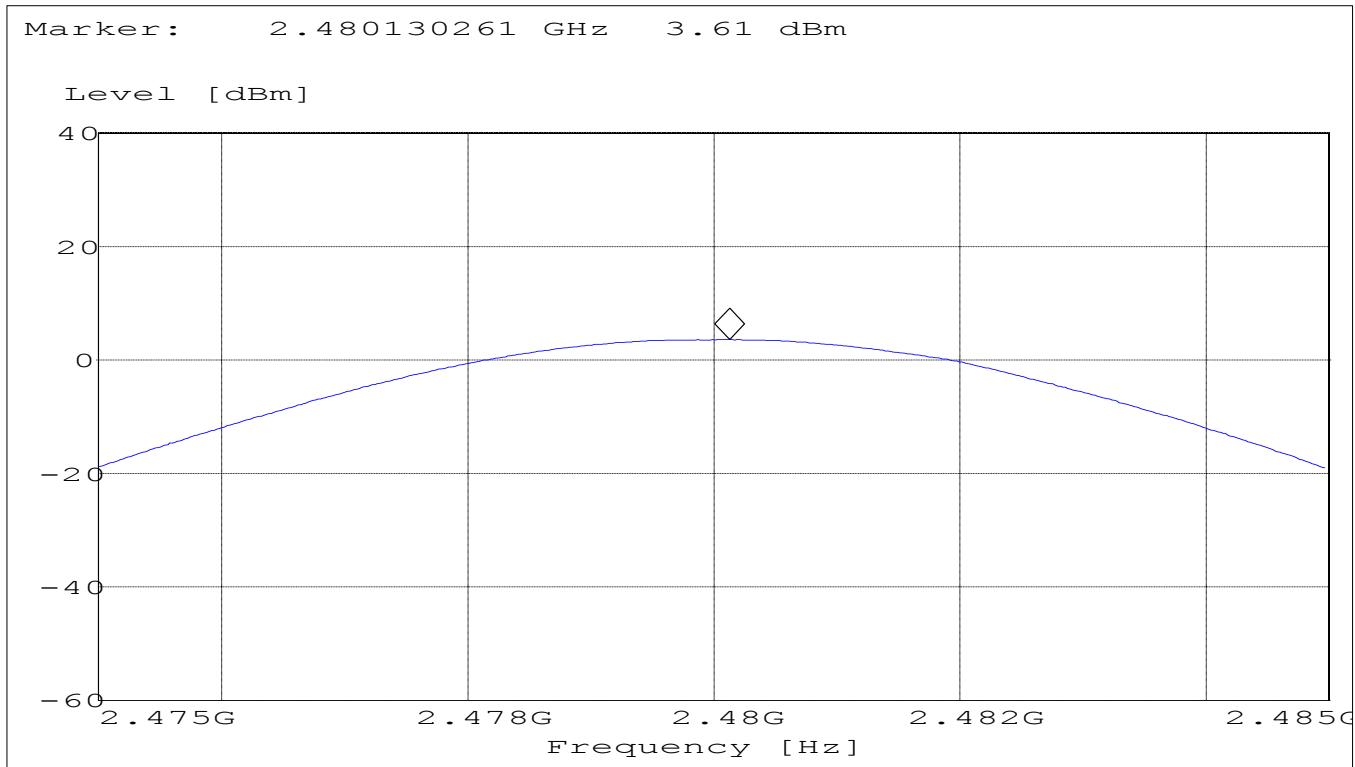


**PEAK OUTPUT POWER (RADIATED)****§15.247 (b) (1)****Highest Channel: 2480MHz**

SWEEP TABLE: "EIRP BT High channel"

Short Description: EIRP Bluetooth channel-2480MHz

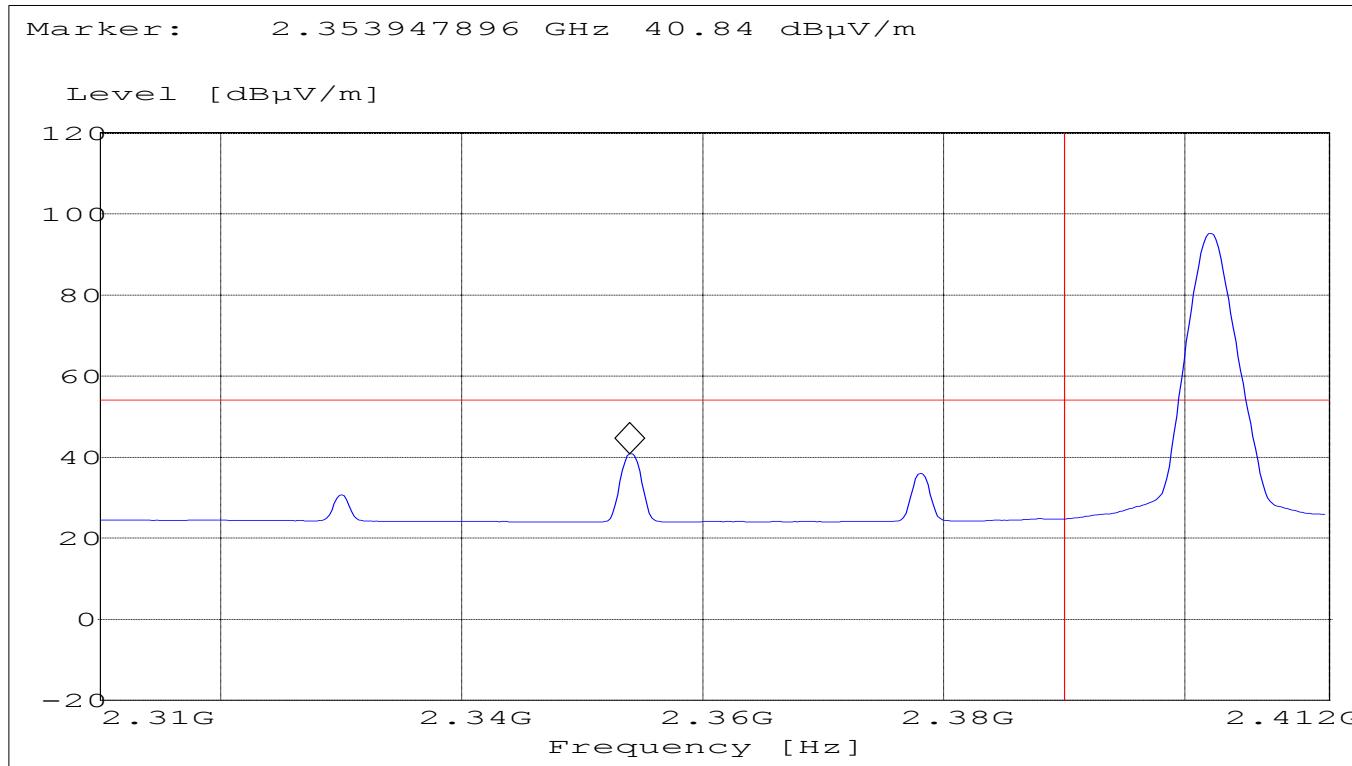
Start Frequency	Stop Frequency	Detector	Meas.	IF
2.475GHz	2.485GHz	MaxPeak	Time Coupled	BW 3 MHz



**BAND EDGE COMPLIANCE****§15.247 (c)****Low frequency section (spurious in the restricted band 2310 – 2390 MHz)****(Average measurement – This plot is valid for both Hopping – ON & OFF)**

Operating condition : Tx at 2402MHz  
SWEEP TABLE : "FCC15.247 LBE\_AVG"  
Short Description : FCC15.247 BT Low-band-edge  
Limit Line : 54dB $\mu$ V

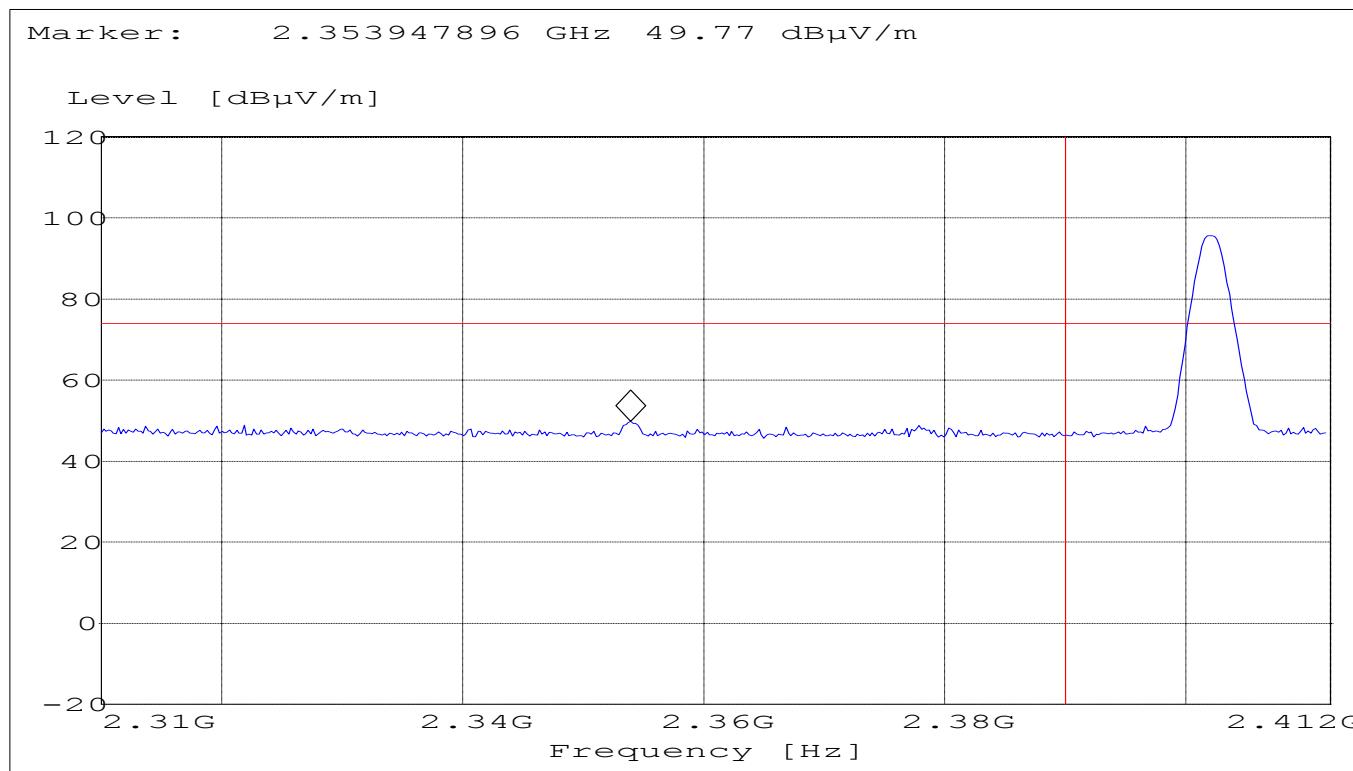
Start Frequency	Stop Frequency	Detector Time	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.412 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



**BAND EDGE COMPLIANCE****§15.247 (c)****Low frequency section (spurious in the restricted band 2310 – 2390 MHz)****(Peak measurement – This plot is valid for both Hopping – ON & OFF)**

Operating condition : Tx at 2402MHz  
SWEEP TABLE : "FCC15.247 LBE\_Pk"  
Short Description : FCC15.247 BT Low-band-edge  
Limit Line : 74dB $\mu$ V

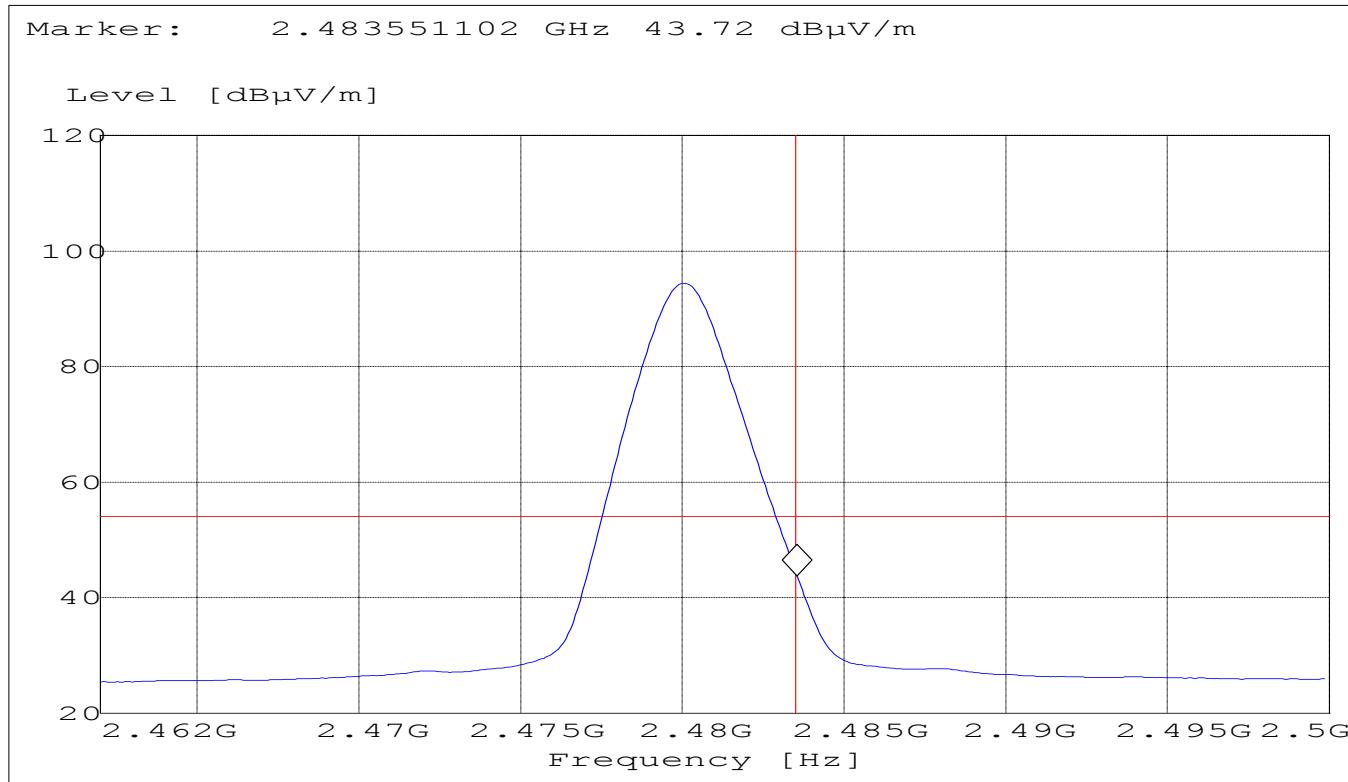
Start Frequency	Stop Frequency	Detector Time	Meas. Bandw.	RBW	VBW	Transducer
2.31 GHz	2.412 GHz	MaxPeak	Coupled	1 MHz	1MHz	#326 horn (dBi)



**BAND EDGE COMPLIANCE****§15.247 (c)****High frequency section (spurious in the restricted band 2483.5 – 2500 MHz)****(Average measurement – This plot is valid for both Hopping – ON & OFF)**

Operating condition : Tx at 2480MHz  
SWEEP TABLE : "FCC15.247 HBE\_AVG"  
Short Description : FCC15.247 BT High-band-edge  
Limit Line : 54dB $\mu$ V

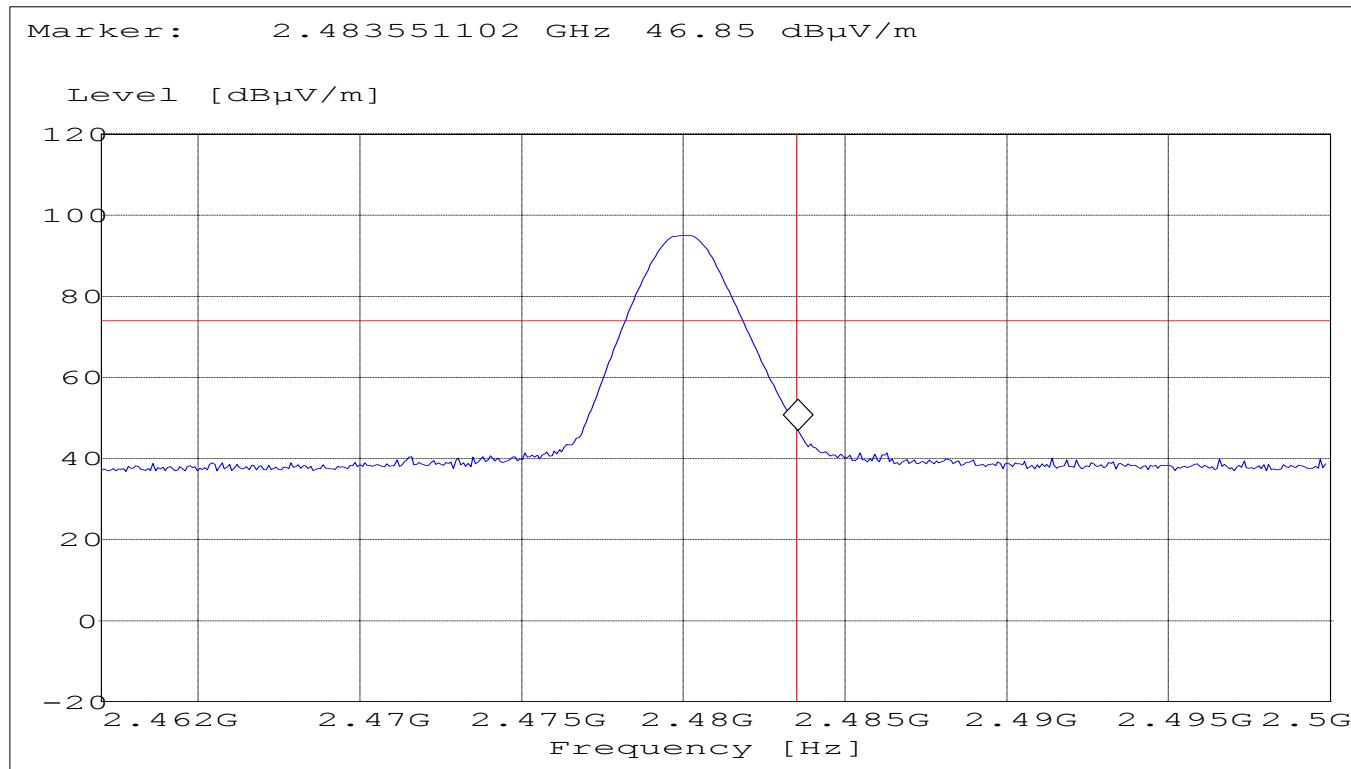
Start Frequency	Stop Frequency	Detector Time	Meas. Bandw.	RBW	VBW	Transducer
2.462 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	10Hz	#326 horn (dBi)



**BAND EDGE COMPLIANCE****§15.247 (c)****High frequency section (spurious in the restricted band 2483.5 – 2500 MHz)****(Peak measurement – This plot is valid for both Hopping – ON & OFF)**

Operating condition : Tx at 2480MHz  
SWEEP TABLE : "FCC15.247 HBE\_PK"  
Short Description : FCC15.247 BT High-band-edge  
Limit Line : 74dB $\mu$ V

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



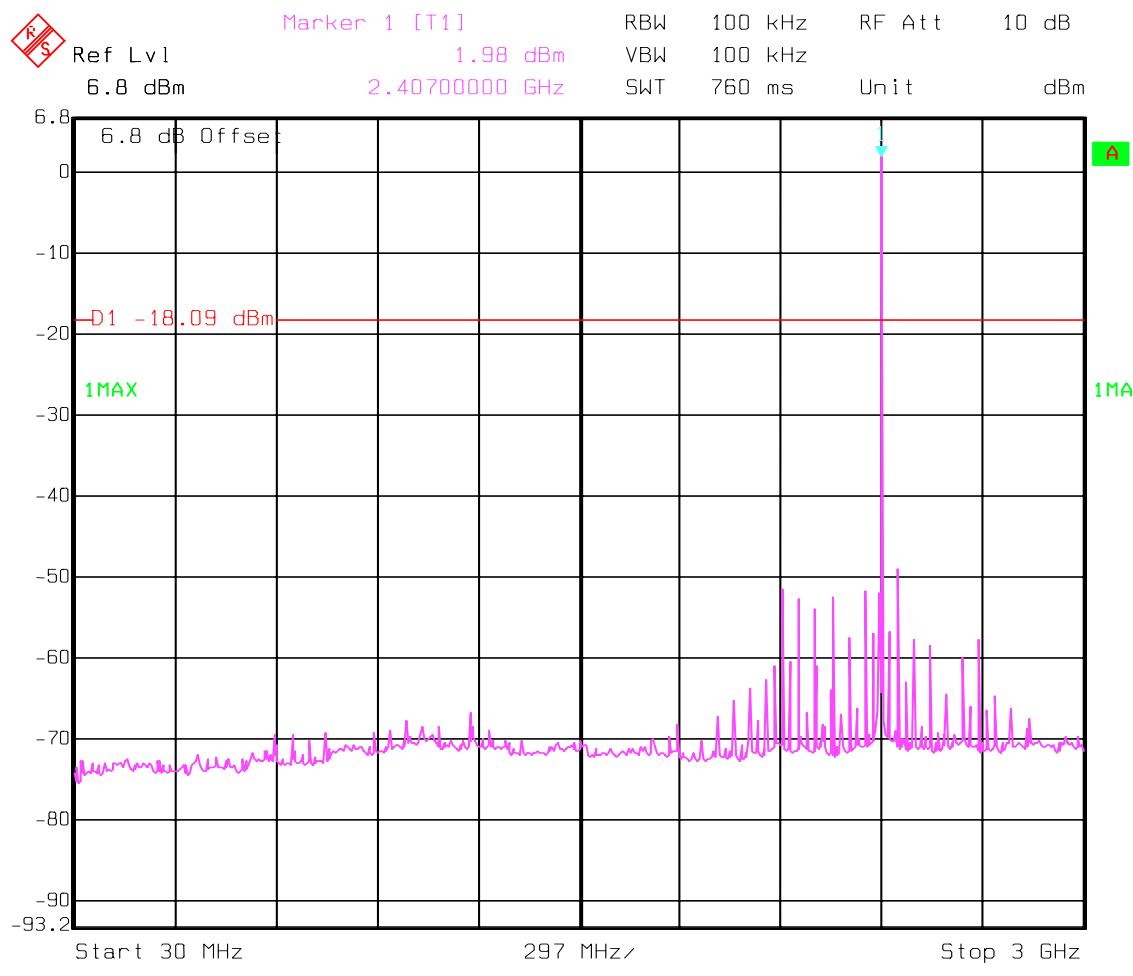
**EMISSION LIMITATIONS  
Transmitter (Conducted)  
LIMITS****§ 15.247 (c) (1)**

**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.**

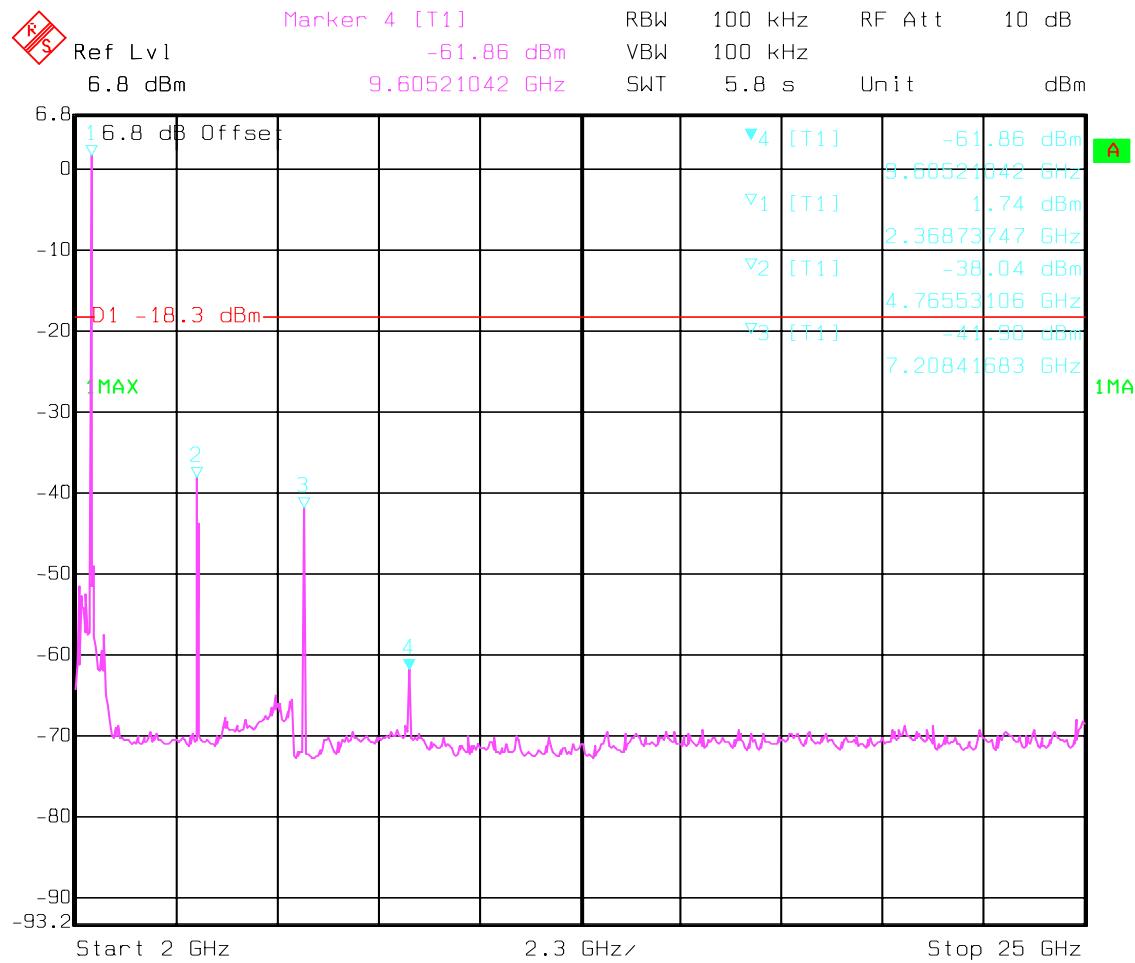
**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Lowest Channel(2402MHz): 30MHz - 3GHz**

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



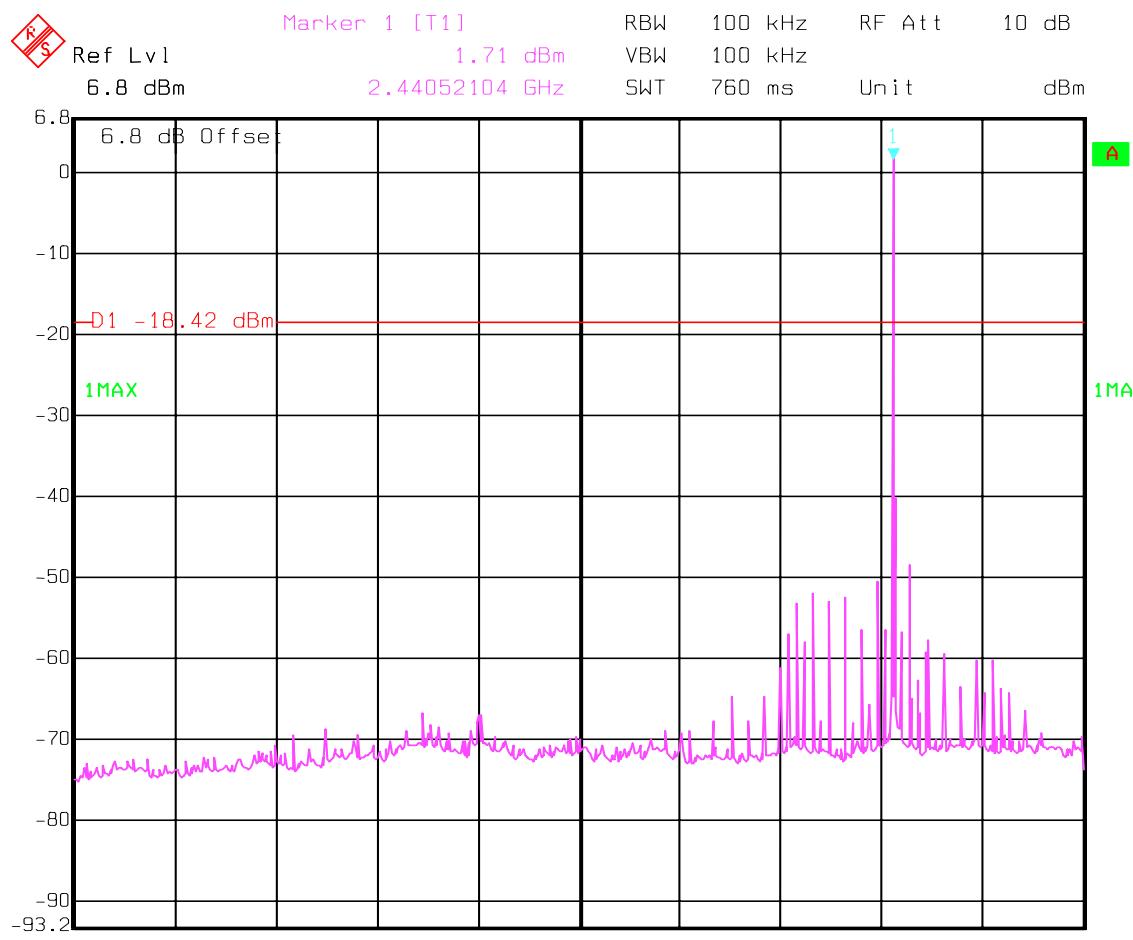
**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Lowest Channel(2402MHz): 2GHz - 25GHz**

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



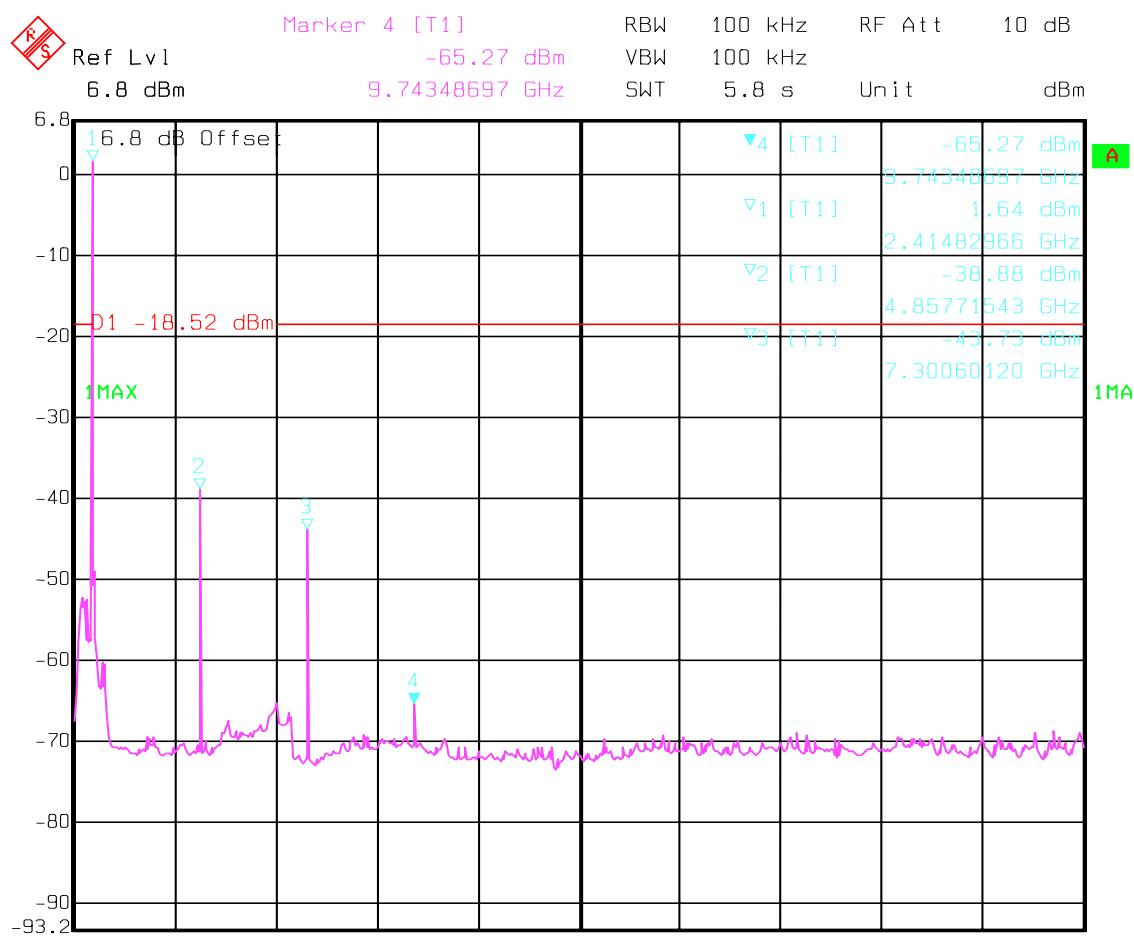
**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Mid Channel(2440MHz): 30MHz - 3GHz**

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



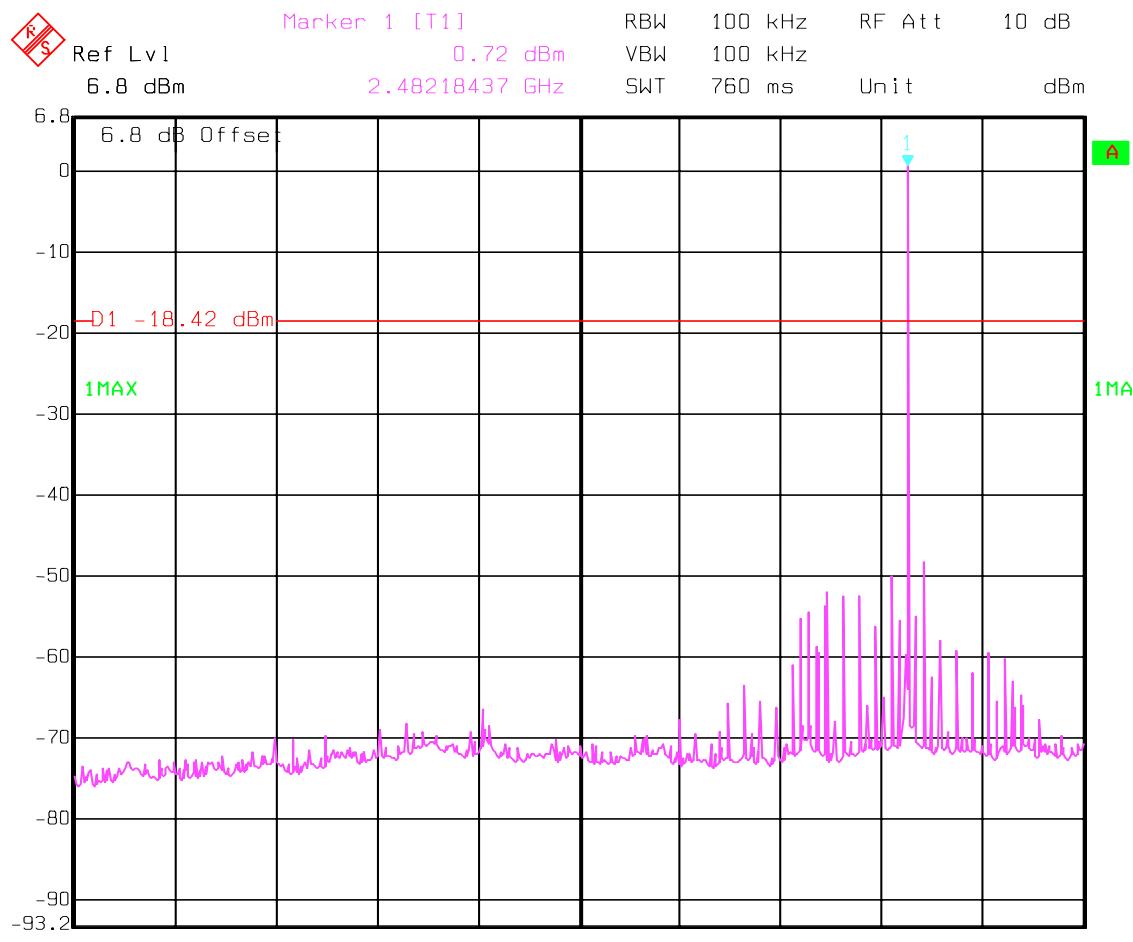
**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Mid Channel(2440MHz): 2GHz - 25GHz**

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



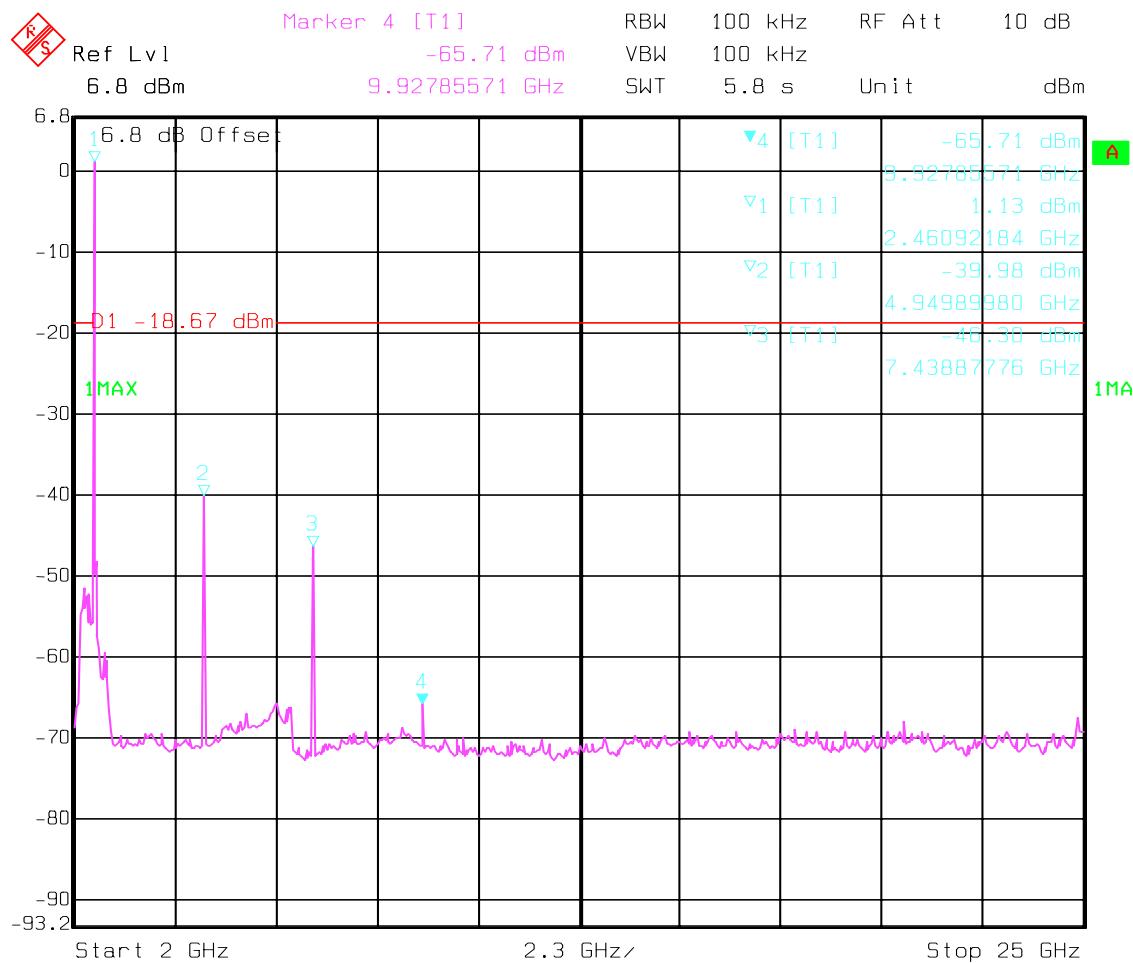
**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Highest Channel(2480MHz): 30MHz - 3GHz**

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



**EMISSION LIMITATIONS - Conducted (Transmitter)****§ 15.247 (c) (1)****Highest Channel(2480MHz): 2GHz - 25GHz**

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



**EMISSION LIMITATIONS  
Transmitter (Radiated)****§ 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)

**§ 15.247 (c) (1)**

**Note: All radiated measurements were made in all three orthogonal planes. The values reported are the maximum values.**

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

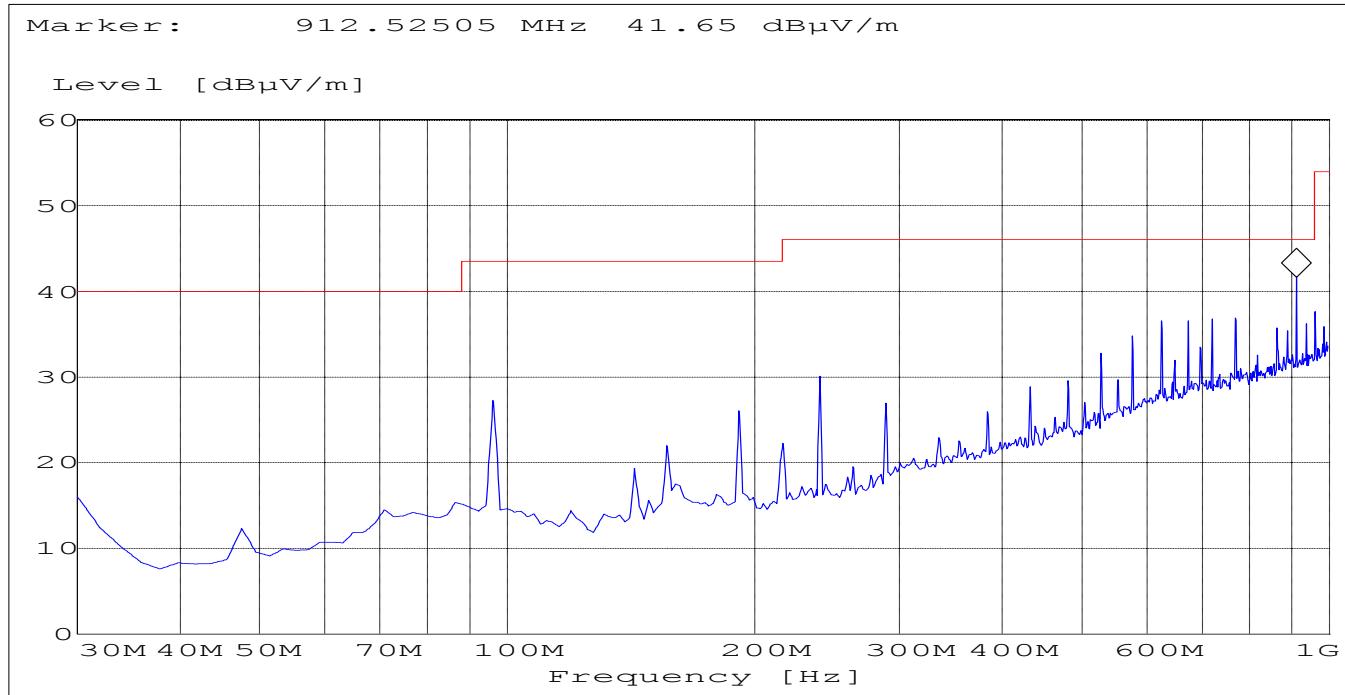
SWEEP TABLE:

"BT Spuri hi 30-1G"

Short Description:

Bluetooth 30MHz-1GHz

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

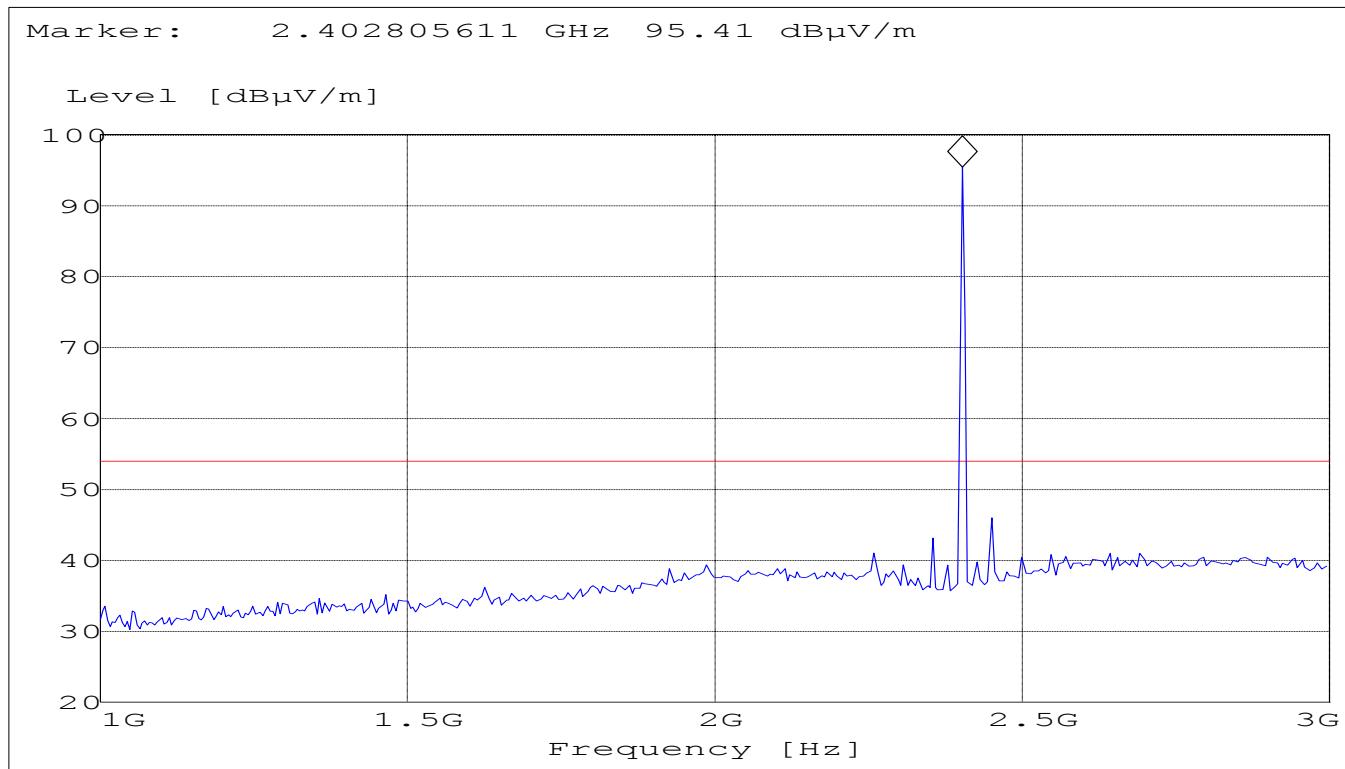


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****Lowest Channel(2402MHz): 1GHz – 3GHz****NOTE: The peak above the limit is the carrier frequency.**

SWEEP TABLE: "BT Spuri hi 1-3G"

Short Description: Bluetooth Spurious 1-3 GHz

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

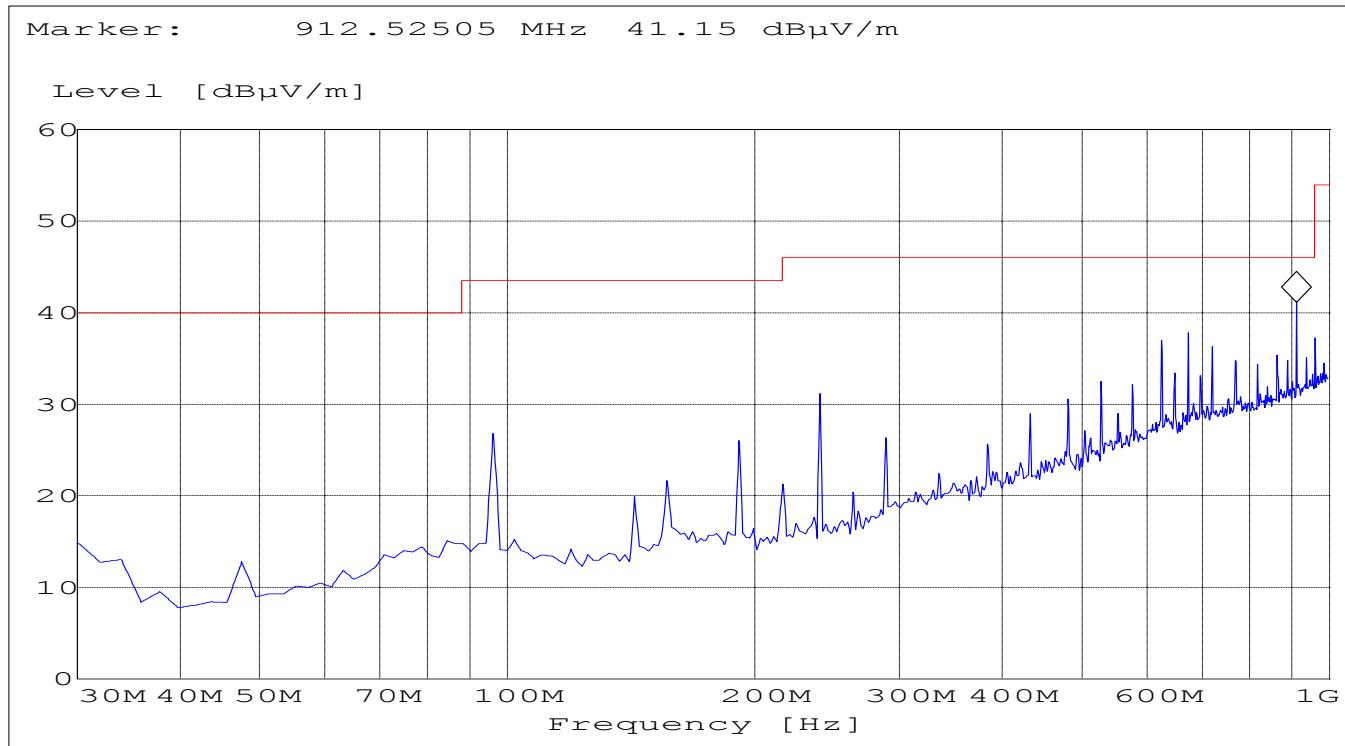


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****Middle Channel(2440MHz): 30MHz – 1GHz**

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

Short Description: Bluetooth 30MHz-1GHz

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

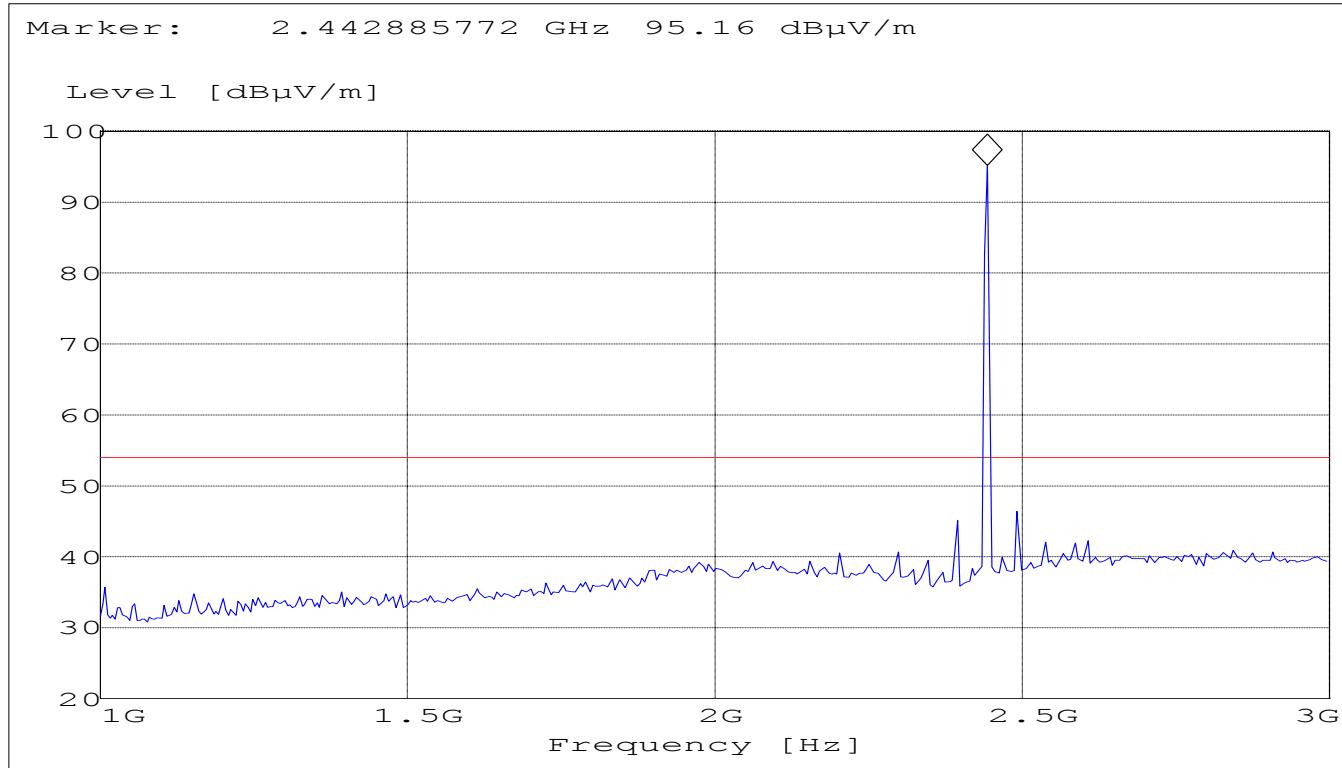


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****Middle Channel(2440MHz): 1GHz – 3GHz****NOTE: The peak above the limit is the carrier frequency.**

SWEEP TABLE: "BT Spuri hi 1-3G"

Short Description: Bluetooth Spurious 1-3GHz

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

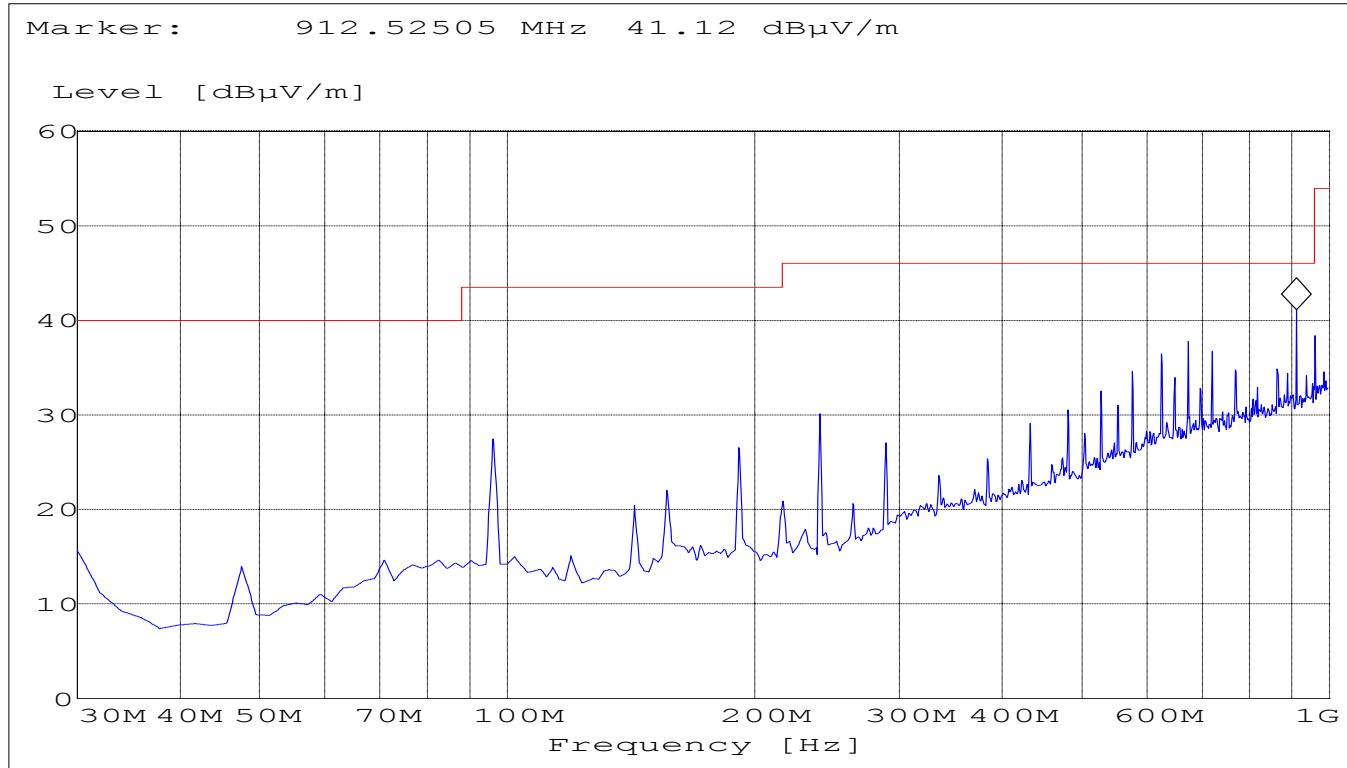


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****Highest Channel(2480MHz): 30MHz – 1GHz**

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

Short Description: Bluetooth 30MHz-1GHz

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

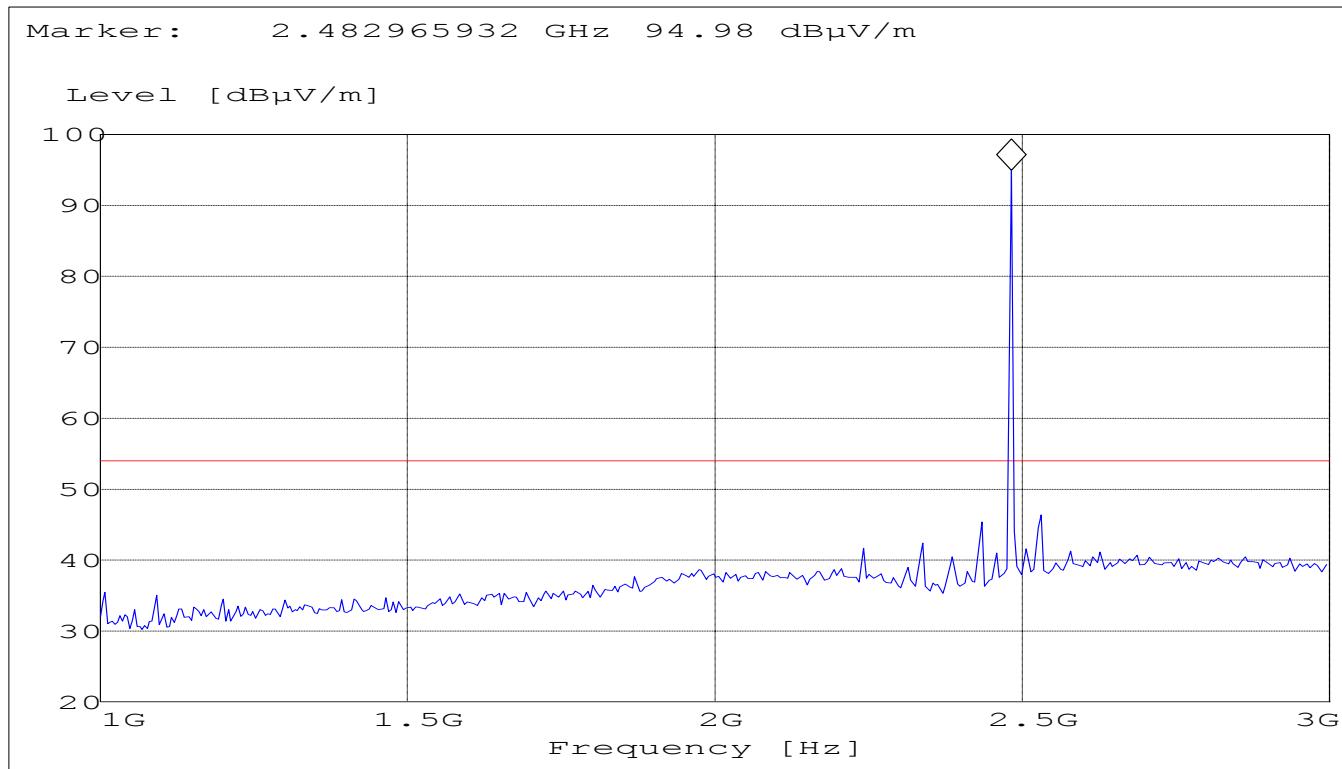


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****Highest Channel(2480MHz): 1GHz – 3GHz****NOTE: The peak above the limit is the carrier frequency.**

SWEEP TABLE: "BT Spuri hi 1-3G"

Short Description: Bluetooth Spurious 1-3GHz

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

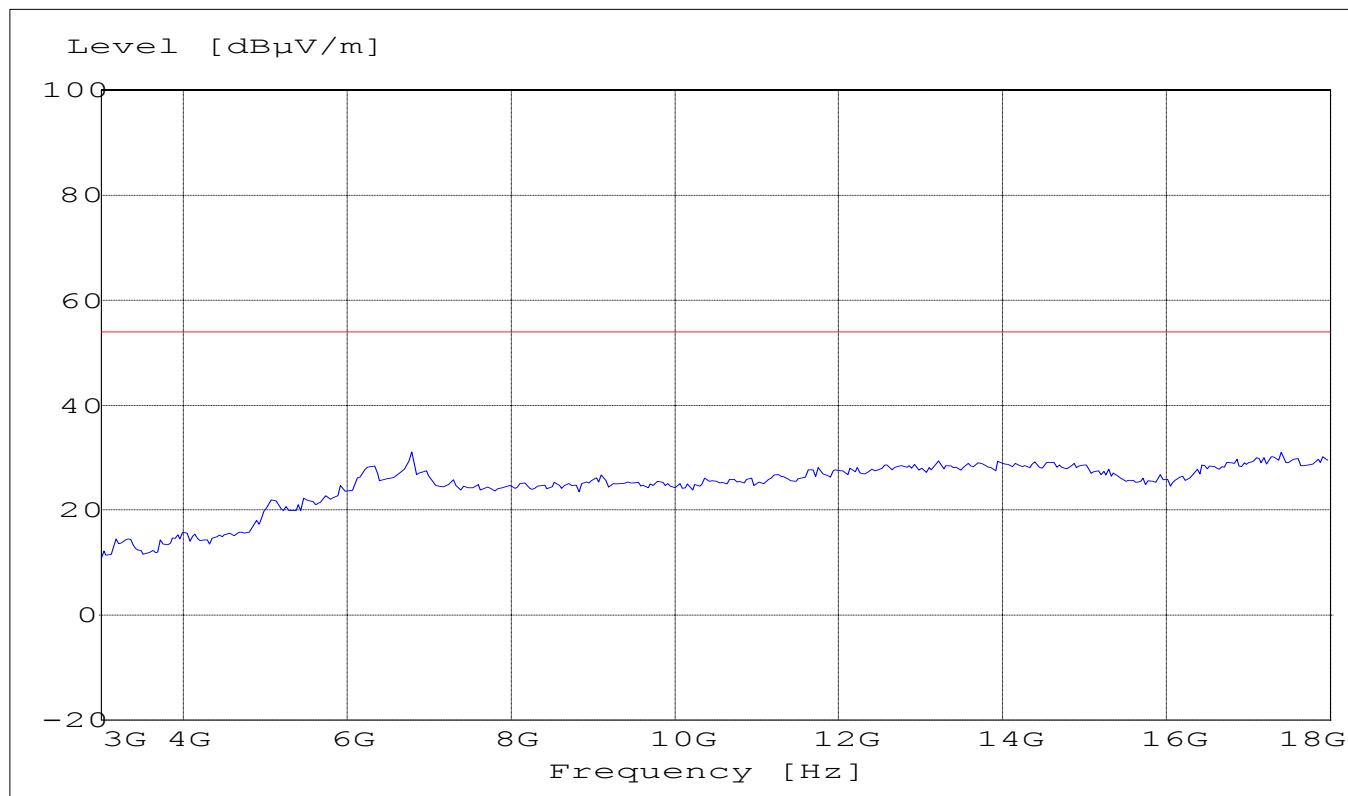


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****3GHz – 18GHz****(This plot is valid for all three channels)**

SWEEP TABLE: "BT Spuri hi 3-18G"

Short Description: Bluetooth Spurious 3-18GHz

Start Frequency	Stop Frequency	Detector	Meas.	RBW	Transducer
3.0 GHz	18 GHz	Time	Bandw.	VBW	
		MaxPeak	Coupled	1 MHz	#326 horn (dB <sub>i</sub> )

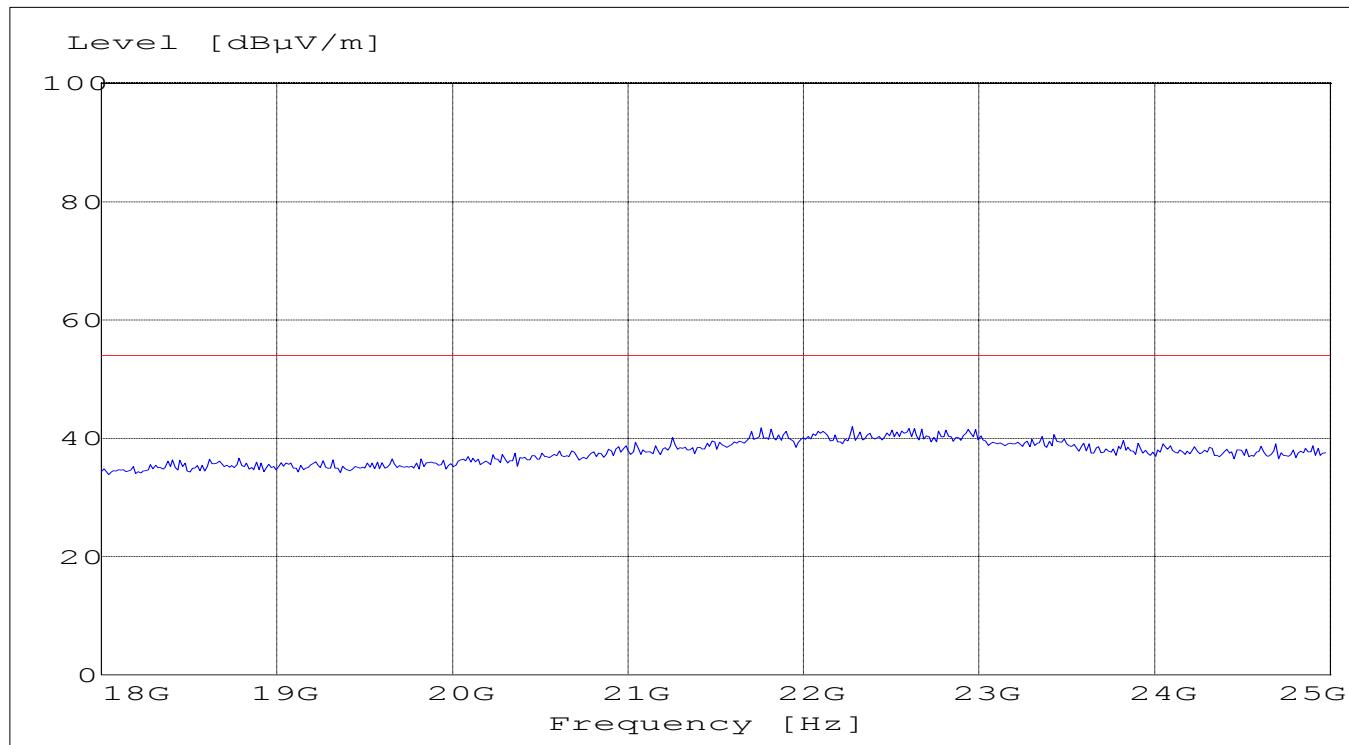


**EMISSION LIMITATIONS - Radiated (Transmitter)****§ 15.247 (c) (1)****18GHz – 25GHz****(This plot is valid for all three channels)**

SWEEP TABLE: "BT Spuri hi 18-25G"

Short Description: Bluetooth Spurious 18-25GHz

Start Frequency	Stop Frequency	Detector	Meas.	RBW	Transducer
18 GHz	25 GHz	Time	Bandw.	VBW	
		MaxPeak	Coupled	1 MHz	#141 horn (dBi)



**CONDUCTED EMISSIONS****§ 15.107/207****Measured with AC/DC power adapter**

(Limit: CISPR 22 class-B)

Note: This measurement is carried out according to guidelines of FCC 02-157

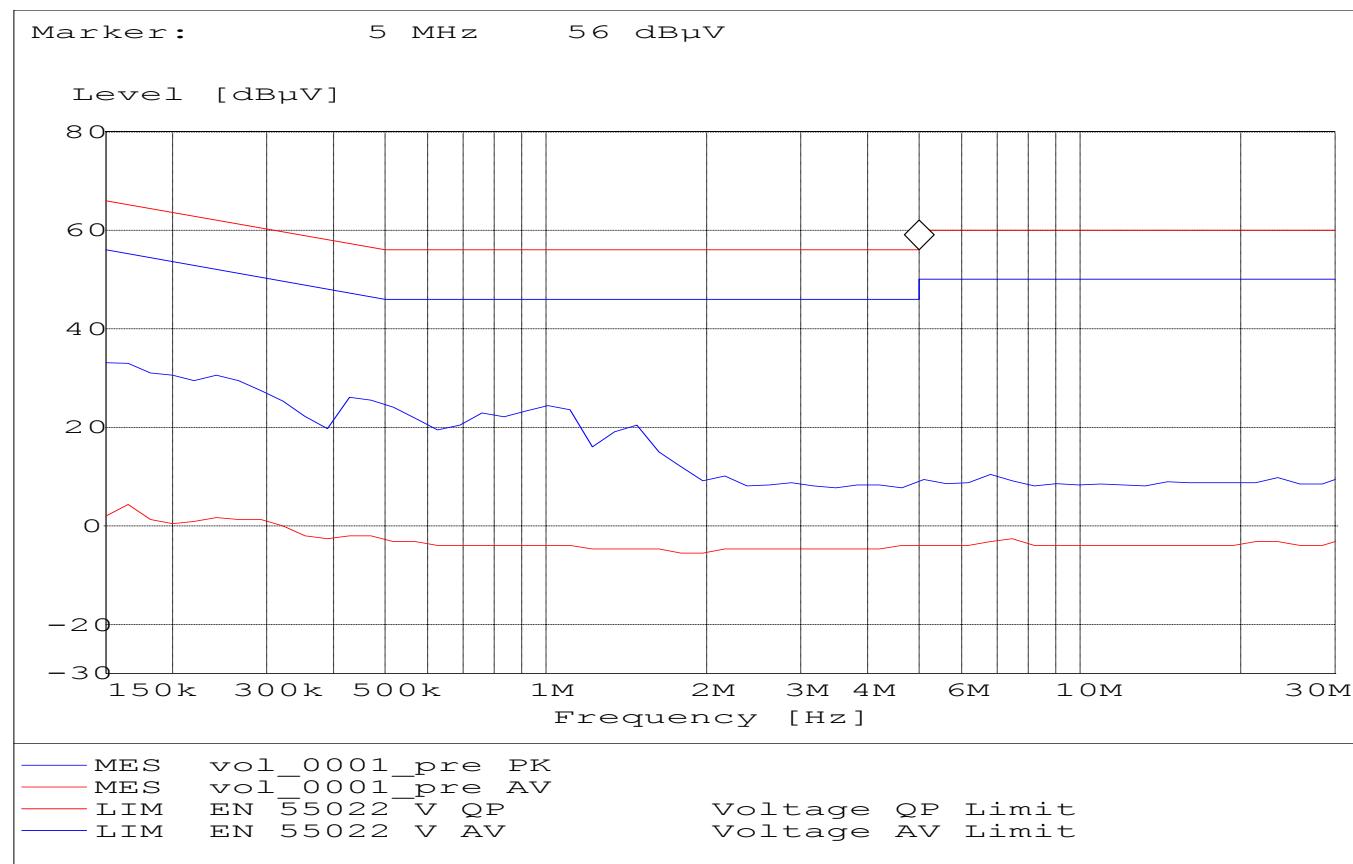
**Technical specification : 15.107 / 15.207 (Revised as of October 1, 1991 )****Limit**

0.45 to 30 MHz

250  $\mu$ V / 47.96 dB $\mu$ V

ANALYZER SETTINGS: RBW = 10KHz

VBW = 10KHz



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

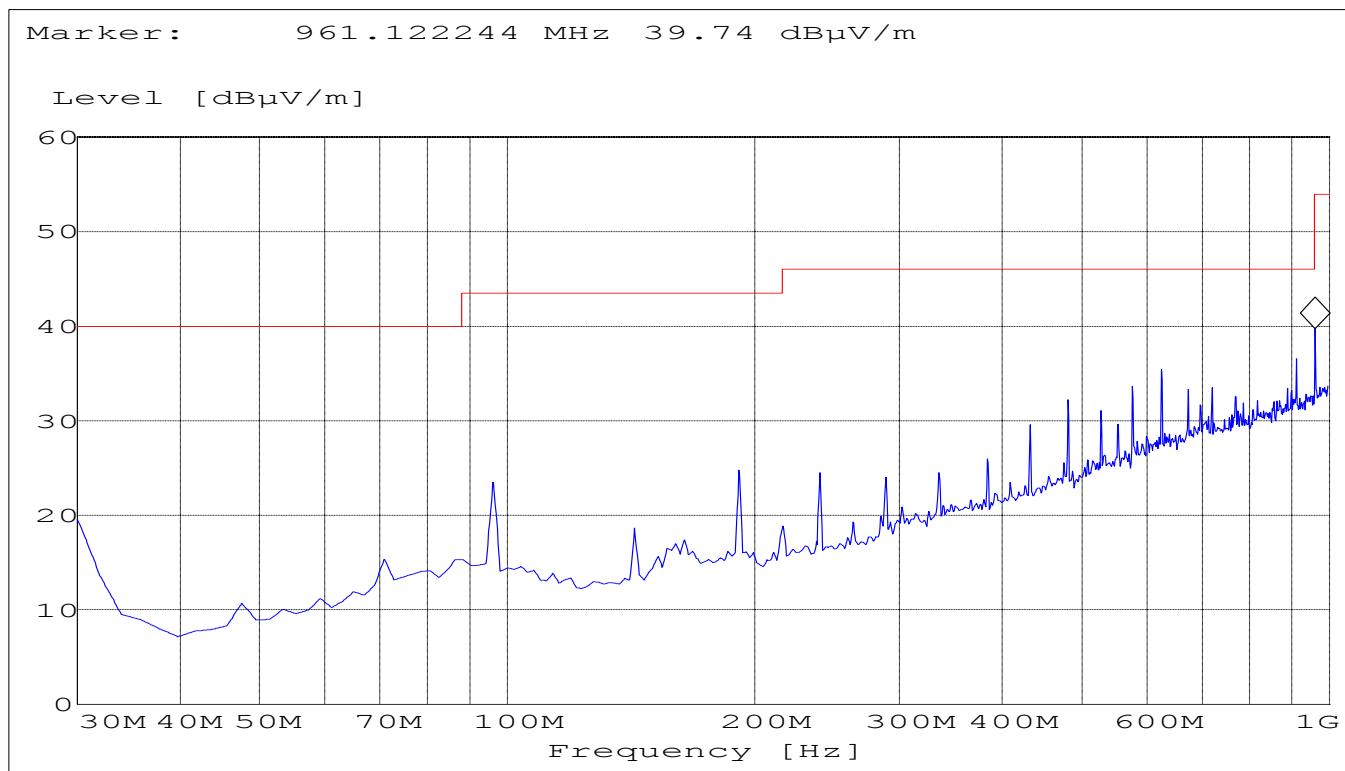
Frequency (MHz)	Field strength ( $\mu$ V/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

**NOTE:**

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.

**RECEIVER SPURIOUS RADIATION****§ 15.209****30MHz – 1GHz**

SWEET TABLE: "BT Spuri hi 30-1G"  
Short Description: Bluetooth 30MHz-1GHz  
Start Frequency Stop Frequency Detector Meas. RBW Transducer  
30.0 MHz 1.0 GHz MaxPeak Time VBW  
Coupled 100 kHz 3141-#1186

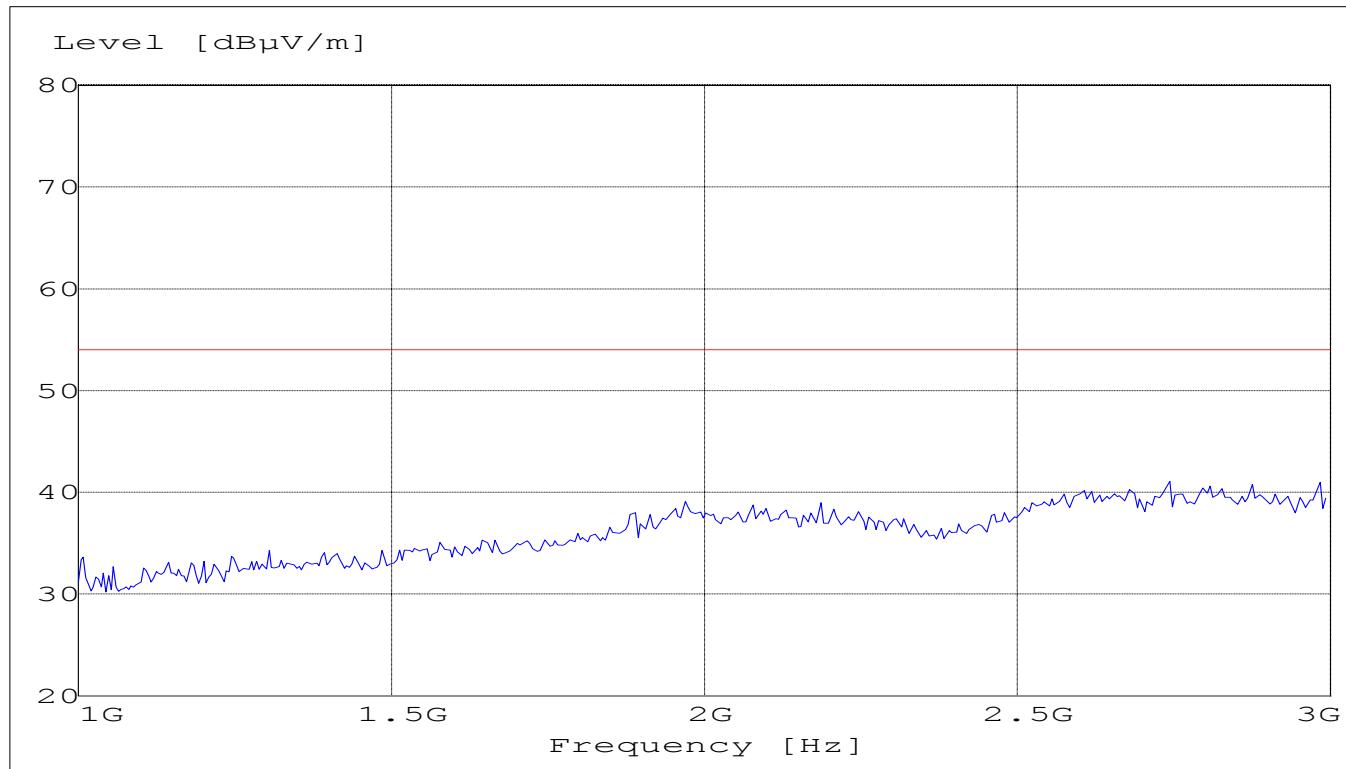


**RECEIVER SPURIOUS RADIATION****§ 15.209****1GHz – 3GHz**

SWEEP TABLE: "BT Spuri hi 1-3G"

Short Description: Bluetooth Spurious 1-3 GHz

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

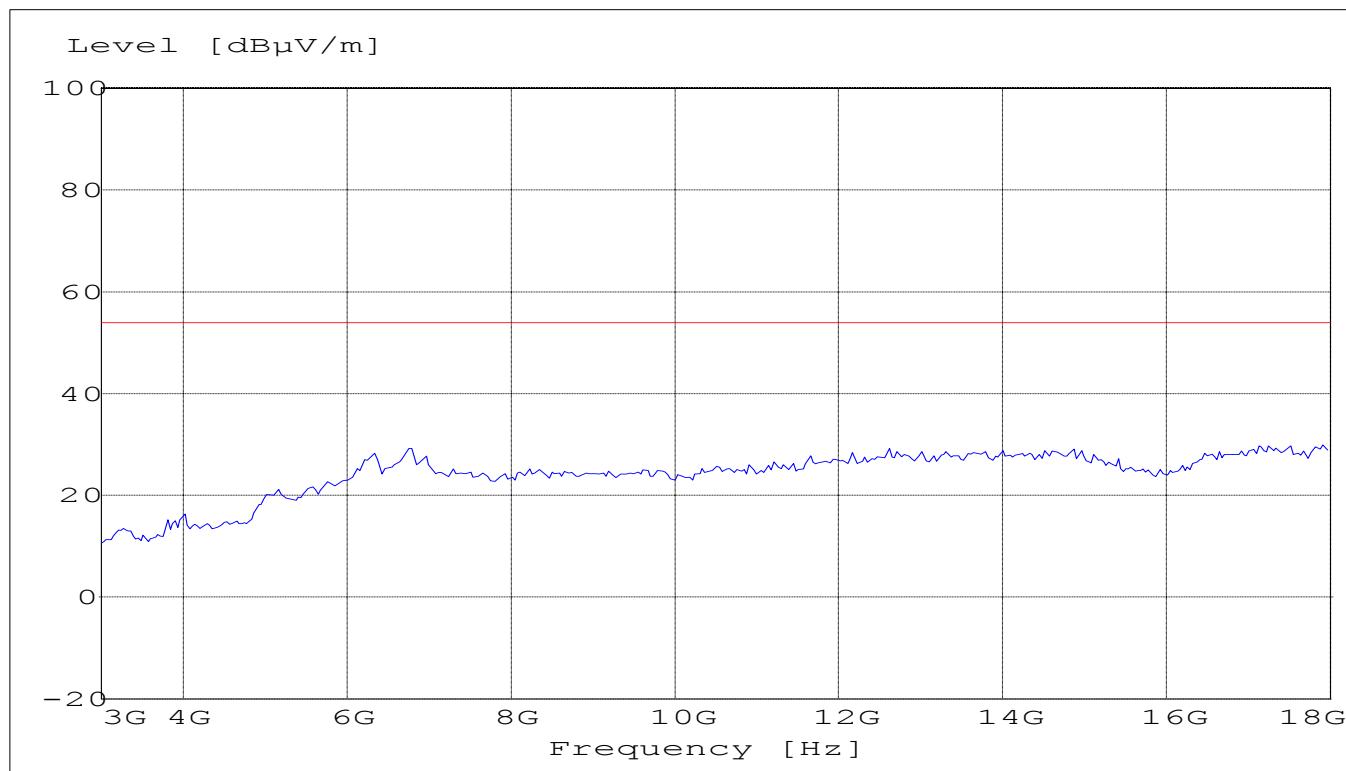


**RECEIVER SPURIOUS RADIATION****§ 15.209****3GHz – 18GHz**

SWEEP TABLE: "BT Spuri hi 3-18G"

Short Description: Bluetooth Spurious 3-18GHz

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

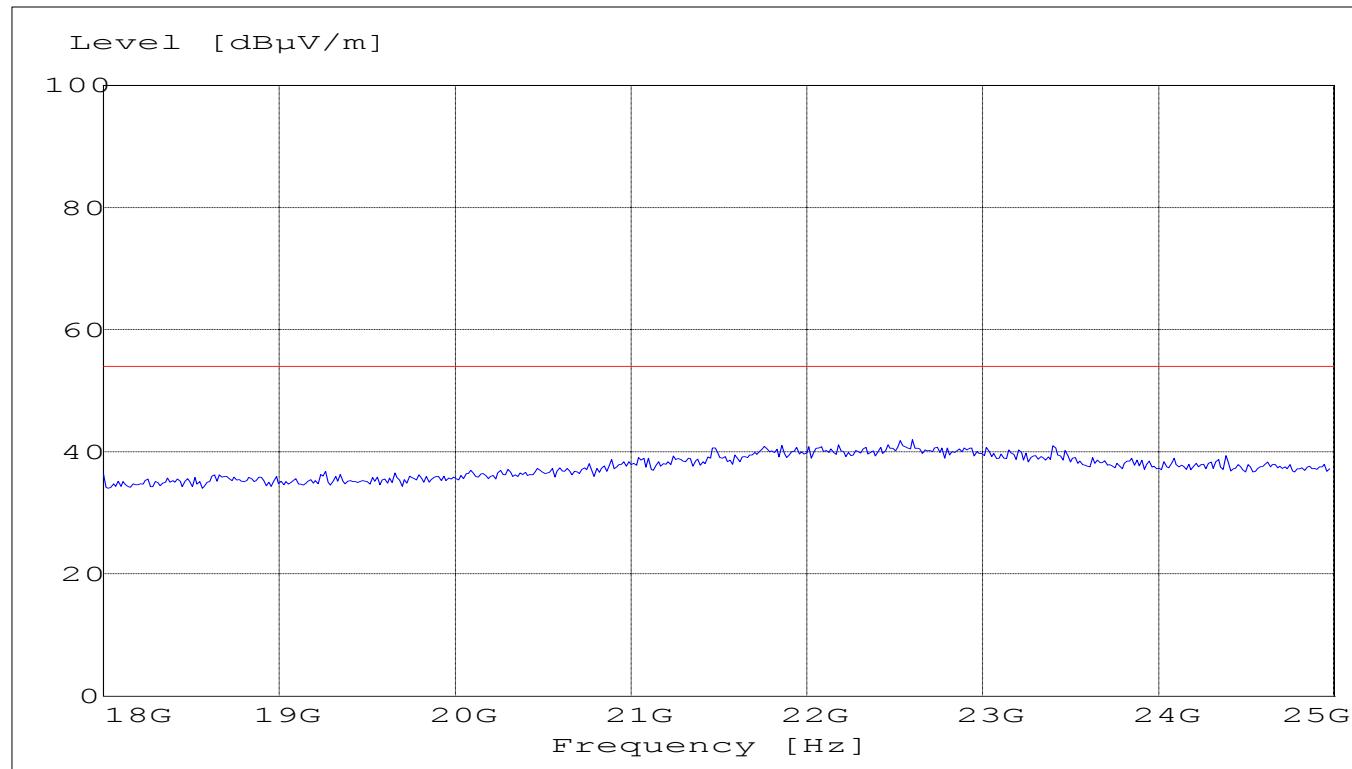


**RECEIVER SPURIOUS RADIATION  
18GHz – 25GHz****§ 15.209**

SWEEP TABLE: "BT Spuri hi 18-25G"

Short Description: Bluetooth Spurious 18-25GHz

Start Frequency	Stop Frequency	Detector	Meas.	RBW	Transducer
18 GHz	25 GHz	Time	Bandw.	VBW	#141 horn (dBi)
		MaxPeak	Coupled	1 MHz	

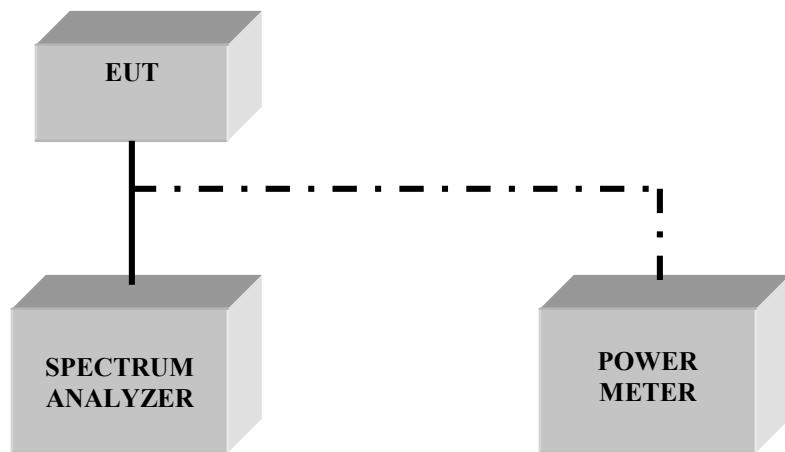


**TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS**

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	826880/010
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02
05	Power Amplifier	250W1000	Amplifier Research	300031
06	Biconilog Antenna	3141	EMCO	0005-1186
07	Horn Antenna	SAS-200/571	AH Systems	325
08	Power Splitter	11667B	Hewlett Packard	645348
09	Climatic Chamber	VT4004	Votch	G1115
10	Pre-Amplifier	JS4-00102600	Miteq	00616
11	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807
12	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008

**BLOCK DIAGRAMS**

**Conducted Testing**



**Radiated Testing****ANECHOIC CHAMBER**