



FCC Test Report

Test report no.: EMC_416FCC15.247_2003

FCC Part 15.247 for DSSS systems / CANADA RSS-210

EUT: The Microsoft Broadband Networking Wireless Base Station

Model: MN-700

FCC ID: C3KMN700

IC: 3048A-MN700



TTI-P-G 081/94-A0

Accredited according to **ISO/IEC 17025**



FCC listed # 101450

IC recognized # 3925

CETECOM Inc.

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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.com****Internet: www.cetecom.com**

1.3 Details of applicant

Name : **Microsoft Corporation**
Street : **One Microsoft Way**
City / Zip Code : **Redmond, WA 98052-6399**
Country : **USA**
Contact : **Stephen Stegner**
Telephone : **+1 425 706 2697**
e-mail : sstegner@microsoft.com

1.4 Application details

Date of receipt of application : 2002-11-15
Date of receipt test item : 2002-11-15
Date of test : 2002-11-21, 2002-12-11/15, 2003-01-17, 2003-06-11

1.5 Test item

Manufacturer : Accton Technology Corporation
Street : 1, Creation 3rd Rd., Science-based Industrial Park
City / Zip Code : Hsinchu, 300
Country : Taiwan, R.O.C
Telephone : 886 3 577 0270
Model No.(EUT) : MN-700
Description : [The Microsoft Broadband Networking Wireless Base Station with WLAN Model# BCM94306MP](#)
FCC ID : **C3KMN700**
IC ID : **3048A-MN700**

Additional information

Frequency : 2412MHz – 2462MHz
Type of modulation : DSSS / OFDM (orthogonal frequency division multiplexing)
Number of channels : 11
Antenna : 3dBi
Power supply WLAN : 3.3 VDC from Host
Power supply AP : 12VDC (AC Adaptor input 120VDC)
Output power : 25.55dBm (359mW) conducted peak power
(For EIRP and Source-based time-averaged output please see page no.11)
Extreme temp. Tolerance : 0°C to +70°C

1.6 Test standards: **FCC Part 15 §15.247 / 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”)

Passed

Technical responsibility for area of testing:

2003-06-18 EMC & Radio

Lothar Schmidt
(EMC Manager)

Date

Section

Name

Signature

Responsible for test report and project leader:

2003-06-18 EMC & Radio

Harpreet Sidhu
(EMC Engineer)

Date

Section

Name

Signature

2.2 Test report

TEST REPORT

Test report no. : EMC_416FCC15.247_2003
FCC Part 15.247 for DSSS systems / CANADA RSS-210

EUT: The Microsoft Broadband Networking Wireless Base Station
Model: MN-700

FCC ID: C3KMN700
IC: 3048A-MN700

TEST REPORT REFERENCE

LIST OF MEASUREMENTS		PAGE
SPECTRUM BANDWIDTH OF DSSS SYSTEM	§15.247(a) (2)	7
OUTPUT POWER	§ 15.247 (b) (1)	11
POWER SPECTRAL DENSITY	§15.247 (d)	21
BAND EDGE COMPLIANCE	§15.247 (c)	29
EMISSION LIMITATIONS	§15.247 (c) (1)	33
CONDUCTED EMISSIONS	§15.107/207	47
RECEIVER SPURIOUS RADIATION	§15.209	48
TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS		53
BLOCK DIAGRAMS		54

NOTE:

During testing EUT was set to transmit on different data rates in both 802.11b & 54g modes. Device acts as 802.11b product using DSSS modulation technique if the data rate is below 11 Mbit/sec. and 54g product using OFDM if data rate is above 11Mbit/sec upto 54Mbit/sec. The test report reflects the worst-case of data rate and modulation technique.

SPECTRUM BANDWIDTH OF DSSS SYSTEM
6 dB bandwidth**§15.247(a) (2)**

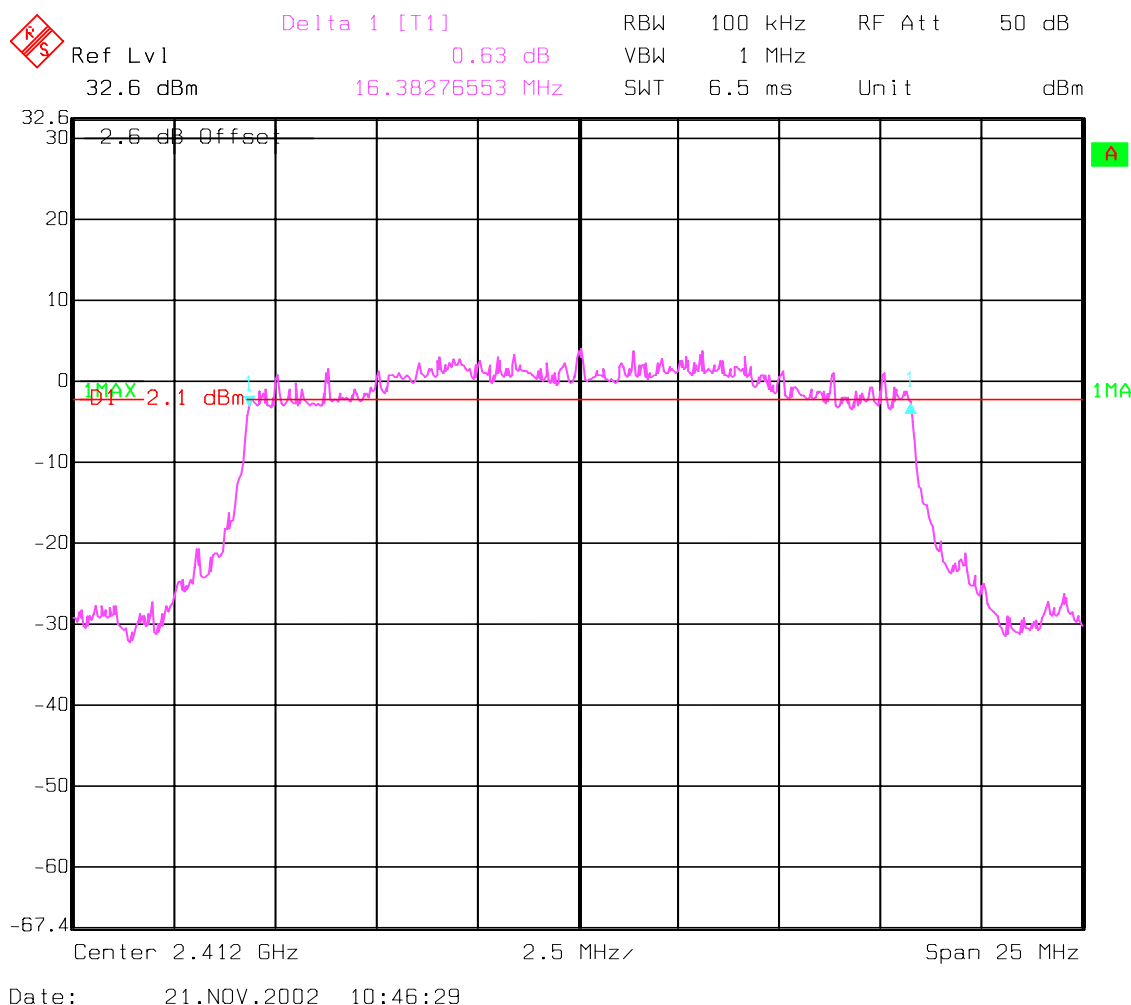
TEST CONDITIONS		6 dB BANDWIDTH (MHz)		
Frequency (MHz)		2412	2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	16.38	16.53	16.43

LIMIT**SUBCLAUSE §15.247(a) (2)****The minimum 6dB bandwidth shall be at least 500 KHz**

SPECTRUM BANDWIDTH OF DSSS SYSTEM 6 dB bandwidth

§15.247(a) (2)

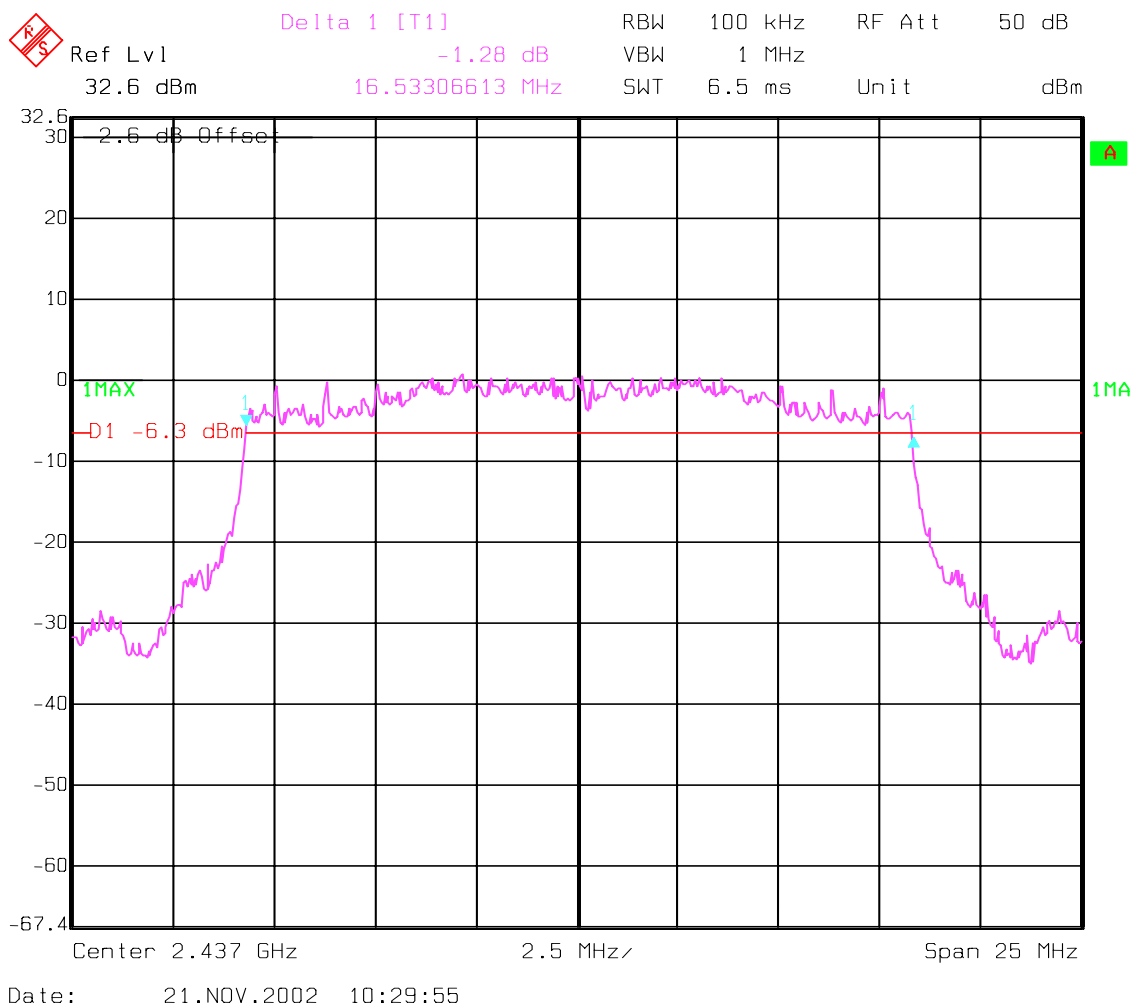
Lowest Channel: 2412MHz



SPECTRUM BANDWIDTH OF DSSSS SYSTEM 6 dB bandwidth

§15.247(a) (2)

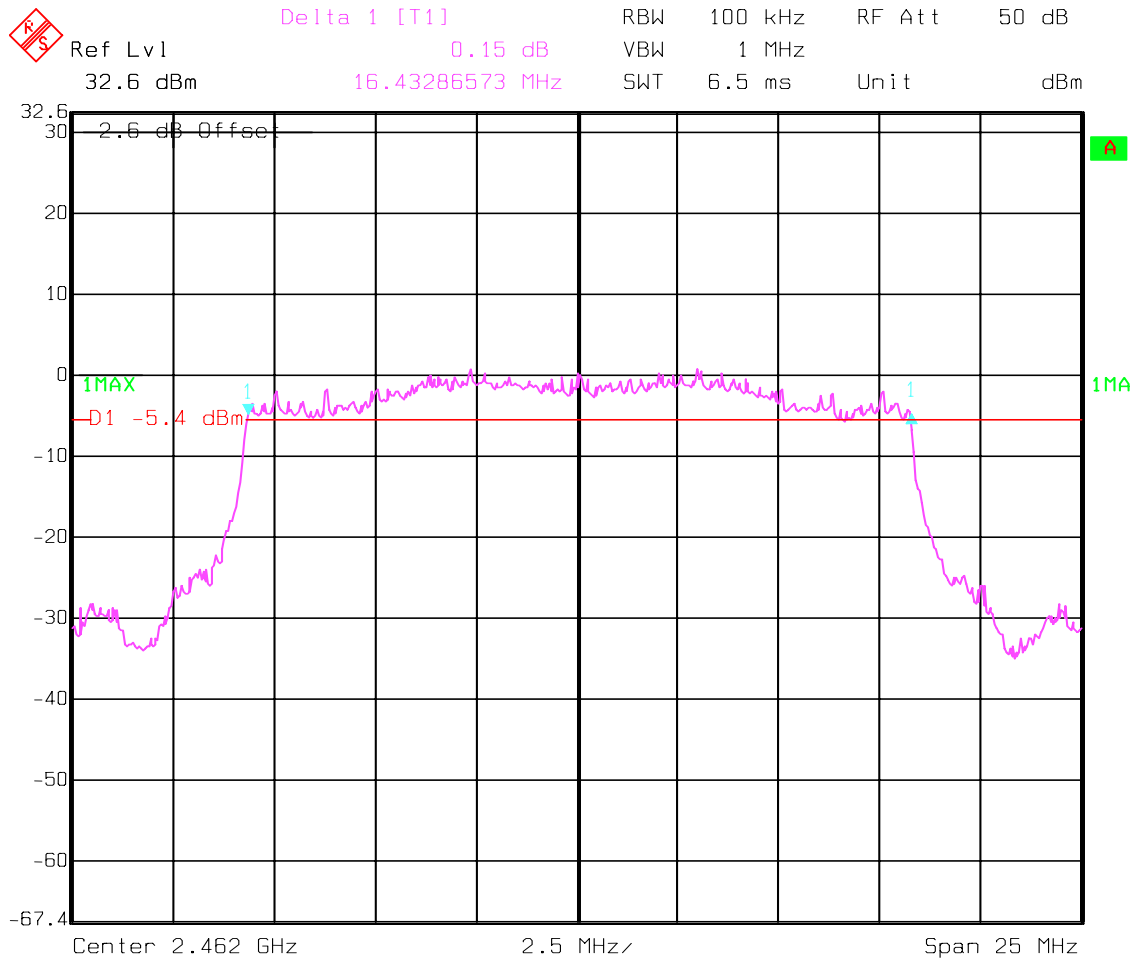
Mid Channel: 2437MHz



SPECTRUM BANDWIDTH OF DSSS SYSTEM 6 dB bandwidth

§15.247(a) (2)

Highest Channel: 2462MHz



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OUTPUT POWER**§ 15.247 (b) (1)**

	Low channel	Mid channel	High channel
*Conducted Peak Power	25.55dBm	24.48dBm	24.11dBm
*Radiated Power (EIRP)	28.55dBm	27.48dBm	27.11dBm
*Source-based time averaged output	21.78dBm	20.71dBm	20.34dBm

The source-based time averaged power is calculated using the duty cycle (measurement result see page 20-23)

***For details please refer to pages 12,16 & 17 respectively.**

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

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)			
Frequency (MHz)		2412		2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	Pk	*25.55	*24.48	*24.11
Measurement uncertainty		±0.5dBm			

RBW / VBW : 10MHz

*To comply with following;

RBW / VBW should be equal to or greater than the 6dB BW

All mesured values are corrected by **10log 6dB BW / used BW**

(Therefore correction factor of 2.14, 2.18 & 2.15 is added to low, mid& high channel measurements respectively)

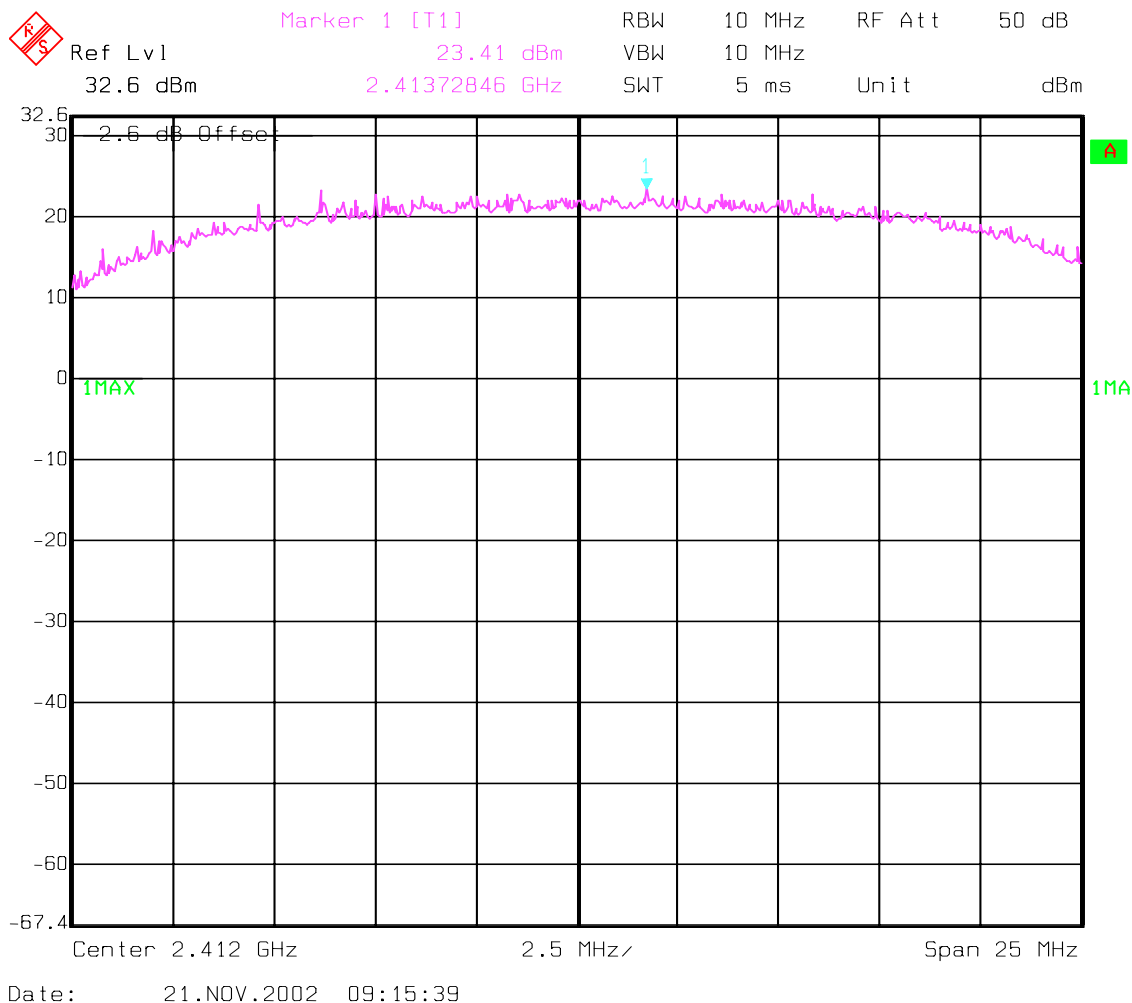
LIMIT
SUBCLAUSE § 15.247 (b) (1)

Frequency range	RF power output
2400-2483.5 MHz	1.0 Watt / 30dBm

PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b) (1)

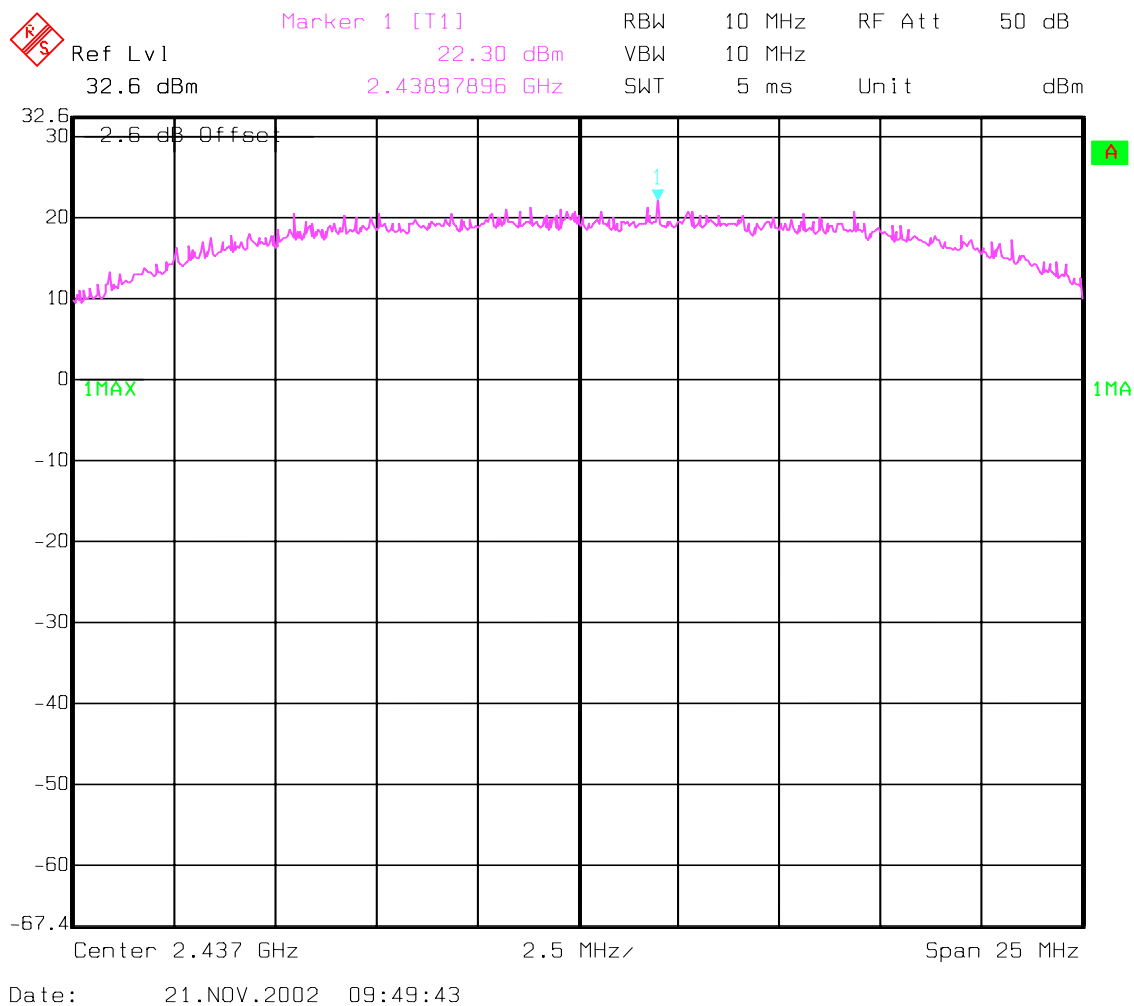
Lowest Channel: 2412MHz



PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b)

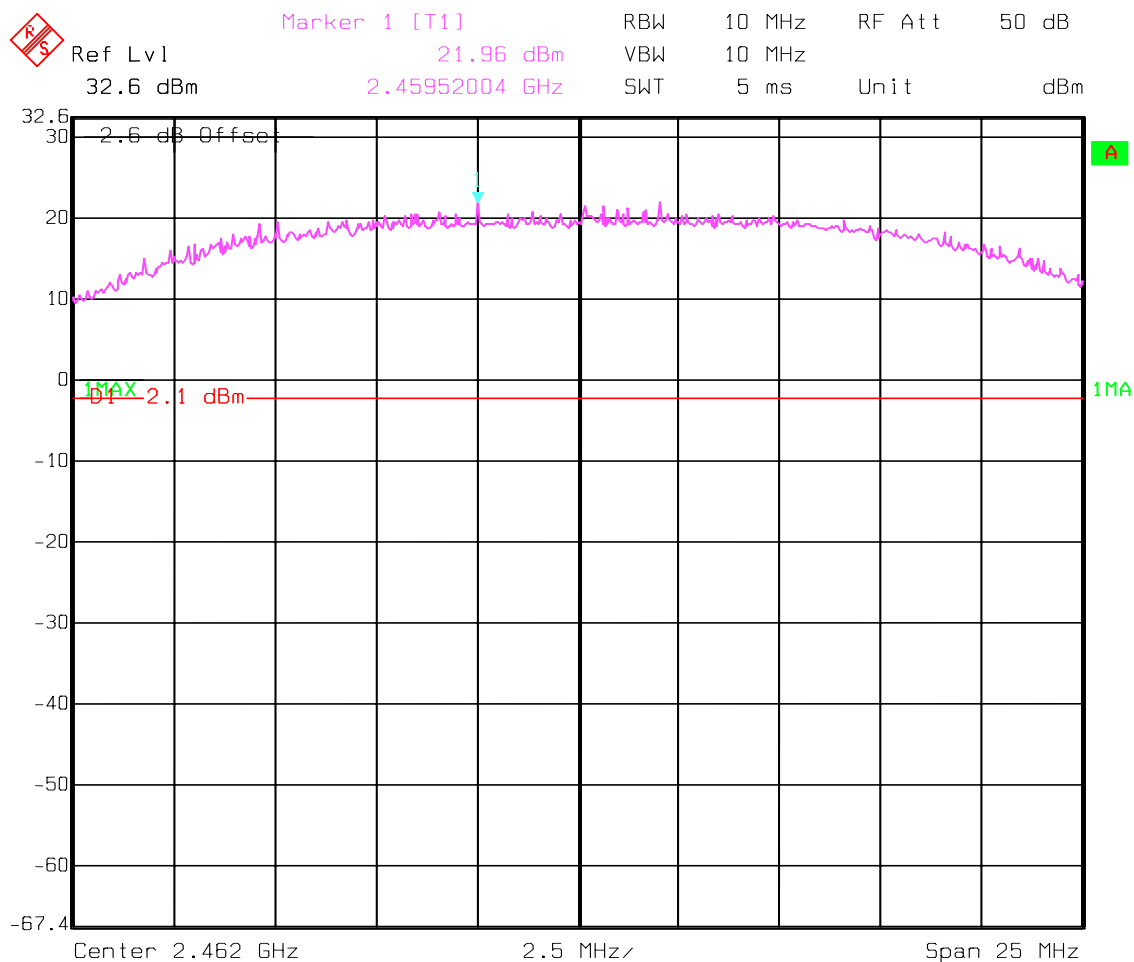
Mid Channel: 2437MHz



PEAK OUTPUT POWER (CONDUCTED)

§15.247 (b)

Highest Channel: 2462MHz



Date: 21.NOV.2002 10:56:52

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

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2412	2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	28.55	27.48	27.11
Measurement uncertainty		±0.5dBm		

RBW/VBW : 10MHz

NOTE: EIRP is calculated based upon 3dBi antenna gain**LIMIT****SUBCLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz	30dBm on Conducted

SOURCE-BASED TIME-AVERAGED OUTPUT

$$T_{x\ on} = 140.2\ \mu s$$

$$T_{x\ on} + T_{x\ off} = 661.32\ \mu s$$

$$\text{Duty factor} = T_{x\ on} / T_{x\ on} + T_{x\ off} = 140.2 / 661.32 = 0.21$$

Therefore;

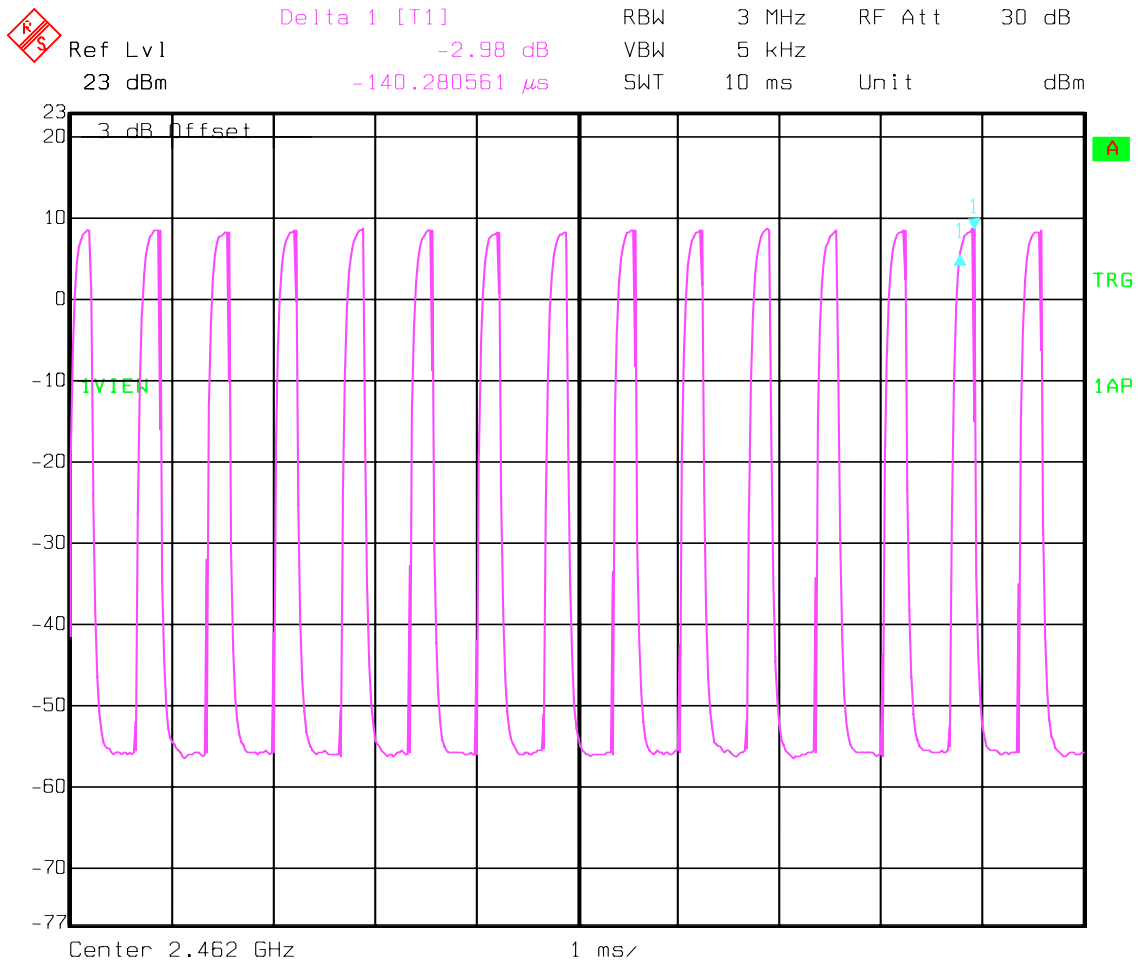
(Example for Low channel)

$$\begin{aligned} \text{Source-based time averaged output} &= \text{Max. EIRP} + 10\log(\text{duty factor}) \\ &= 28.55 - 6.77 = \mathbf{21.78dBm} \end{aligned}$$

TEST CONDITIONS		SOURCE-BASED TIME AVERAGED OUTPUT (dBm)		
Frequency (MHz)		2412	2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	21.78dBm	20.71dBm	20.34dBm

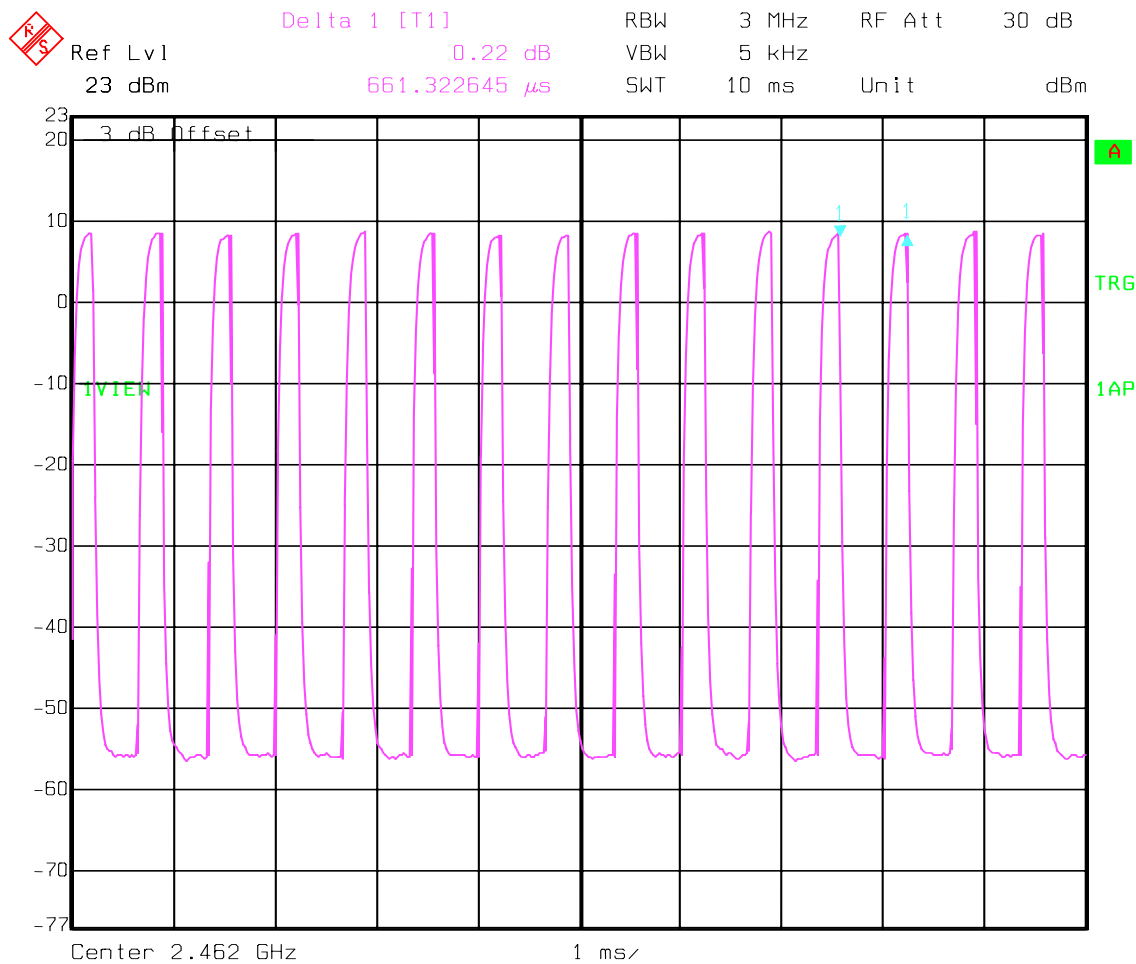
Please refer to the plots on next pages

Transmitter ON time – Tx_{on}



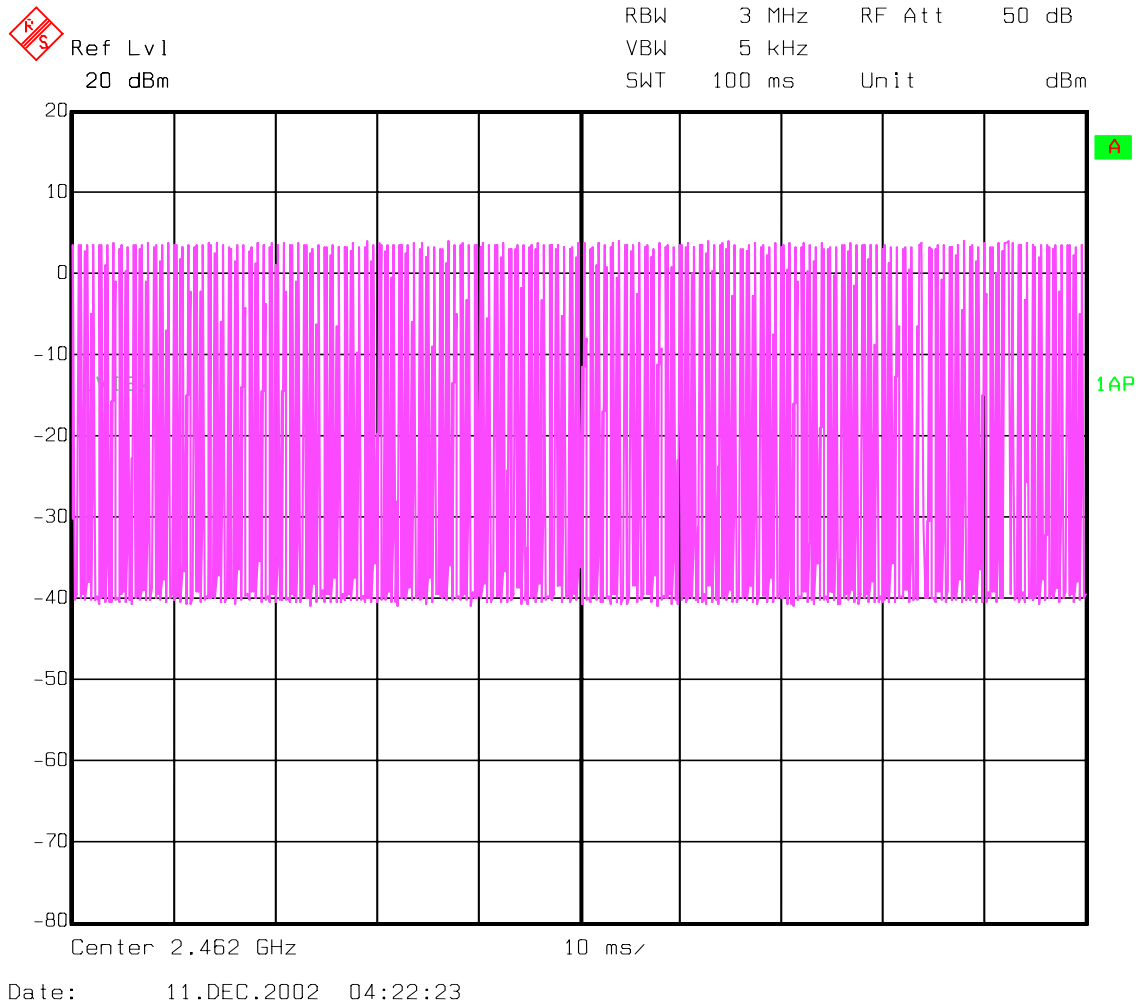
Date: 11.DEC.2002 03:43:11

Transmitter ON+OFF time – $T_{x_{on}}$ + $T_{x_{off}}$



Date: 11.DEC.2002 03:45:09

100ms plot – to show repetition of pattern



POWER SPECTRAL DENSITY**§15.247 (d)**

TEST CONDITIONS		POWER SPECTRAL DENSITY (dBm)		
Frequency (MHz)		2412	2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	-0.99	-5.15	-3.72

LIMIT**SUBCLAUSE §15.247(d)**

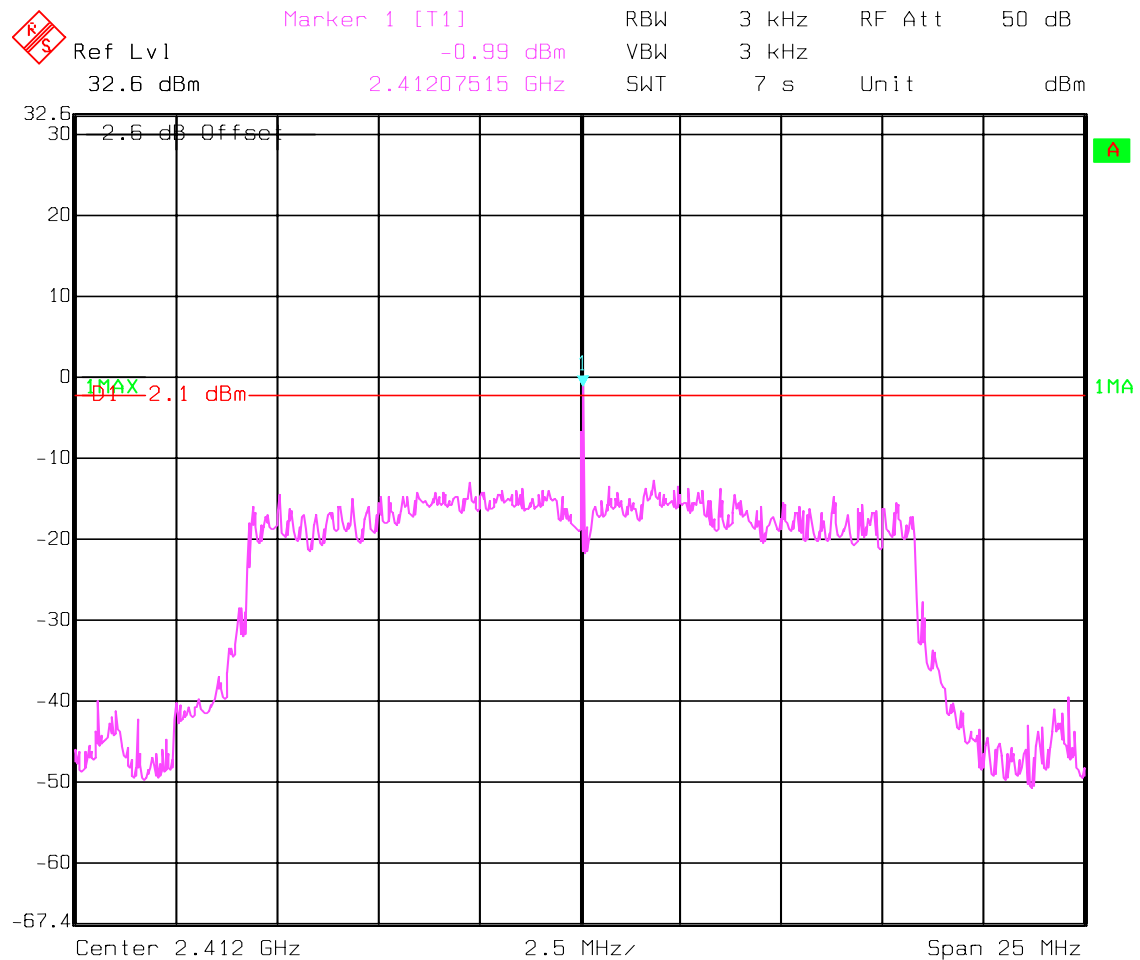
The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band

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

POWER SPECTRAL DENSITY

§15.247(d)

Lowest Channel: 2412MHz

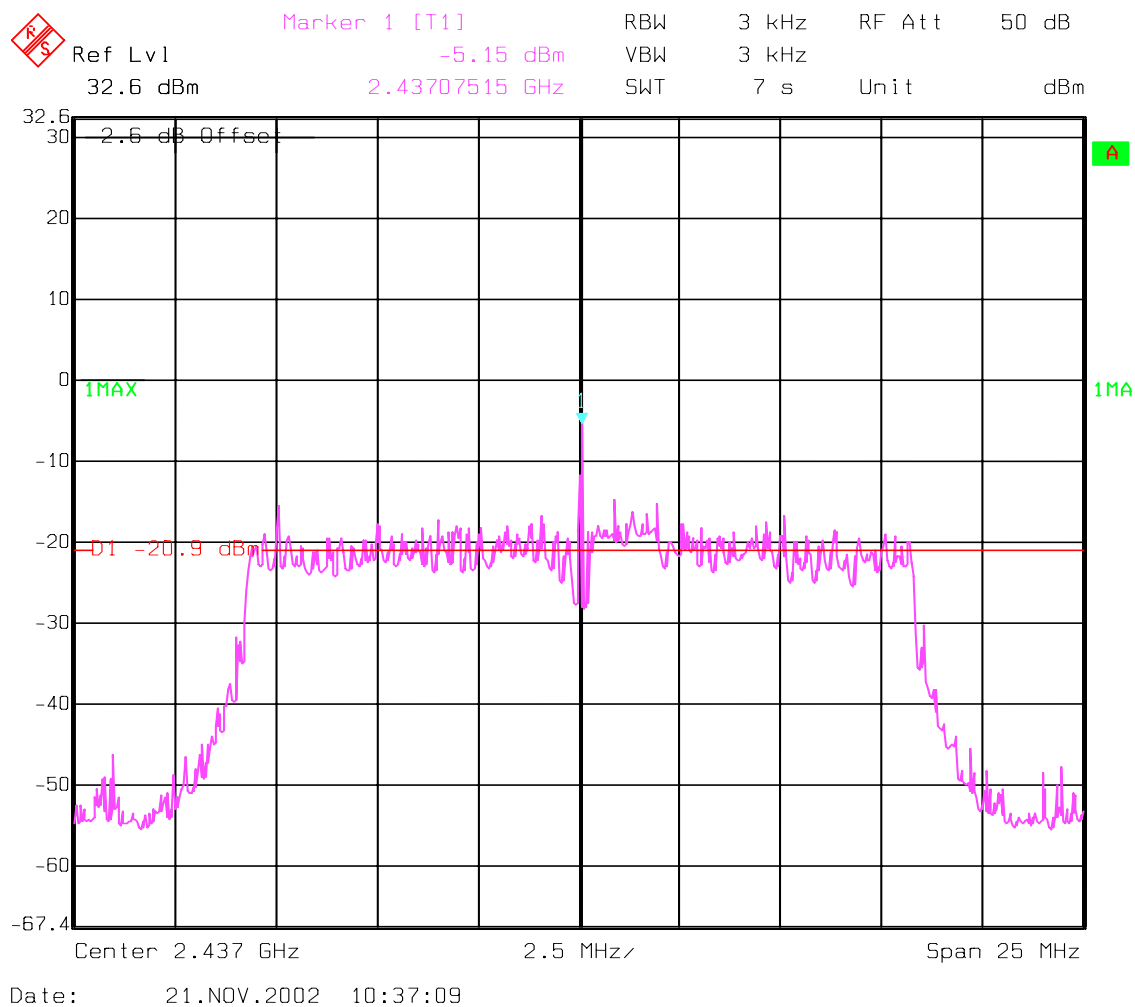


Date: 21.NOV.2002 10:48:55

POWER SPECTRAL DENSITY

§15.247(d)

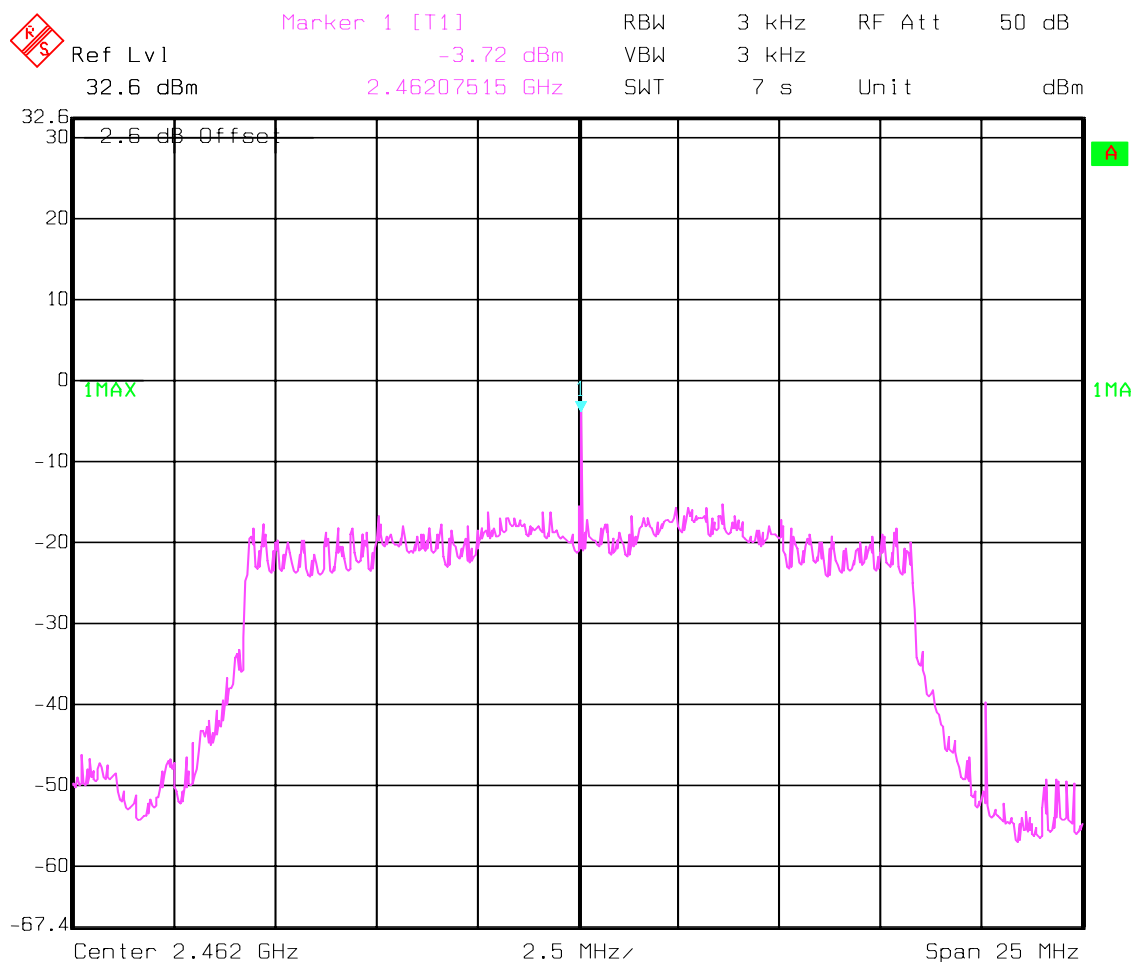
Mid Channel: 2437MHz



POWER SPECTRAL DENSITY

§15.247(d)

Highest Channel: 2462MHz



Date: 21.NOV.2002 11:07:24

POWER SPECTRAL DENSITY**RSS-210**

TEST CONDITIONS		POWER SPECTRAL DENSITY (dBm/MHz)		
Frequency (MHz)		2412	2437	2462
T _{nom} (23)°C	V _{nom} (3.3)VDC	*11.77	*8.91	*8.57

*Correction factor of 60dBm is added to convert measured values from dBm/Hz to dBm/MHz

LIMIT**RSS-210**

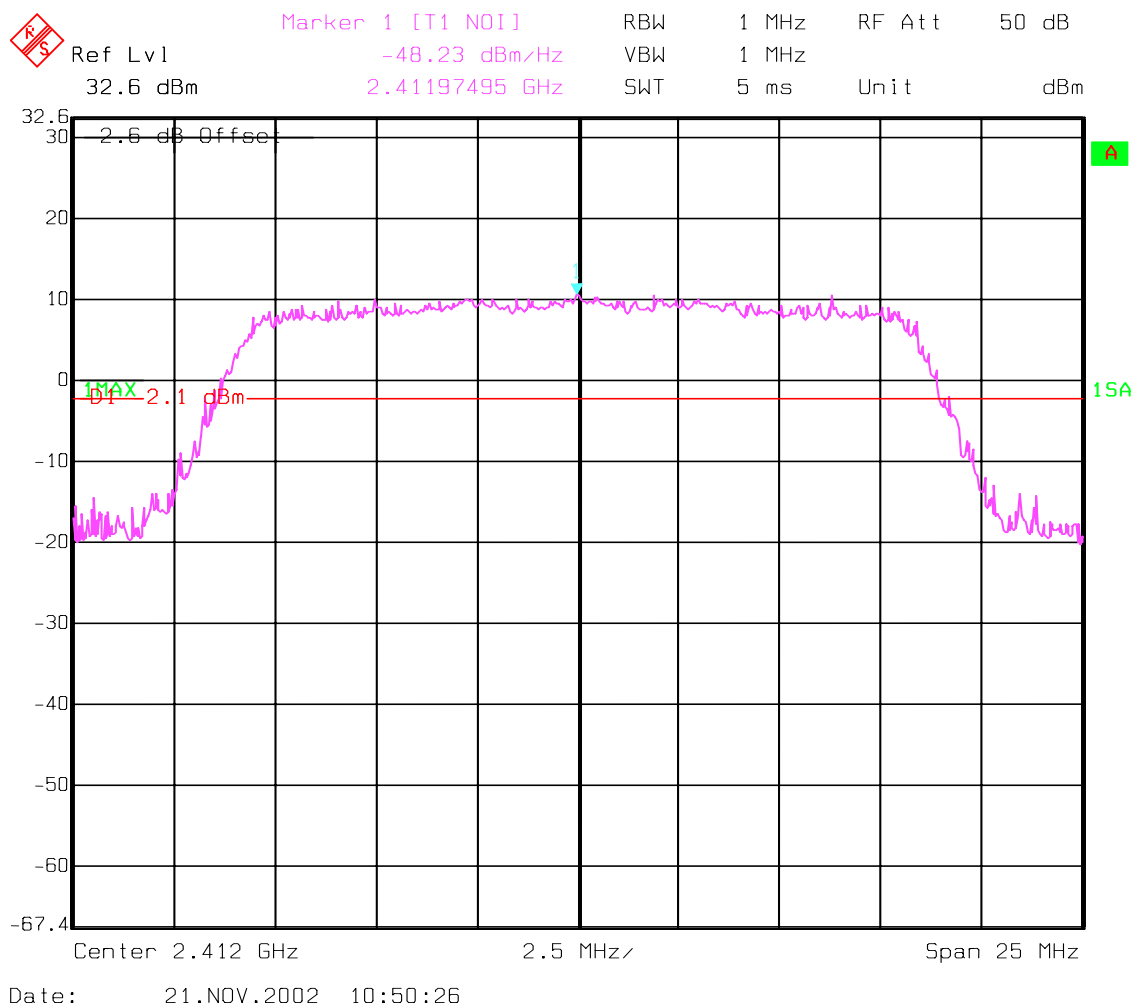
The peak power spectral density shall be $\leq 50\text{mW/MHz}$ (17dBm/MHz)

ANALYZER SETTINGS: RBW=1MHz, VBW=1MHz

POWER SPECTRAL DENSITY

RSS-210

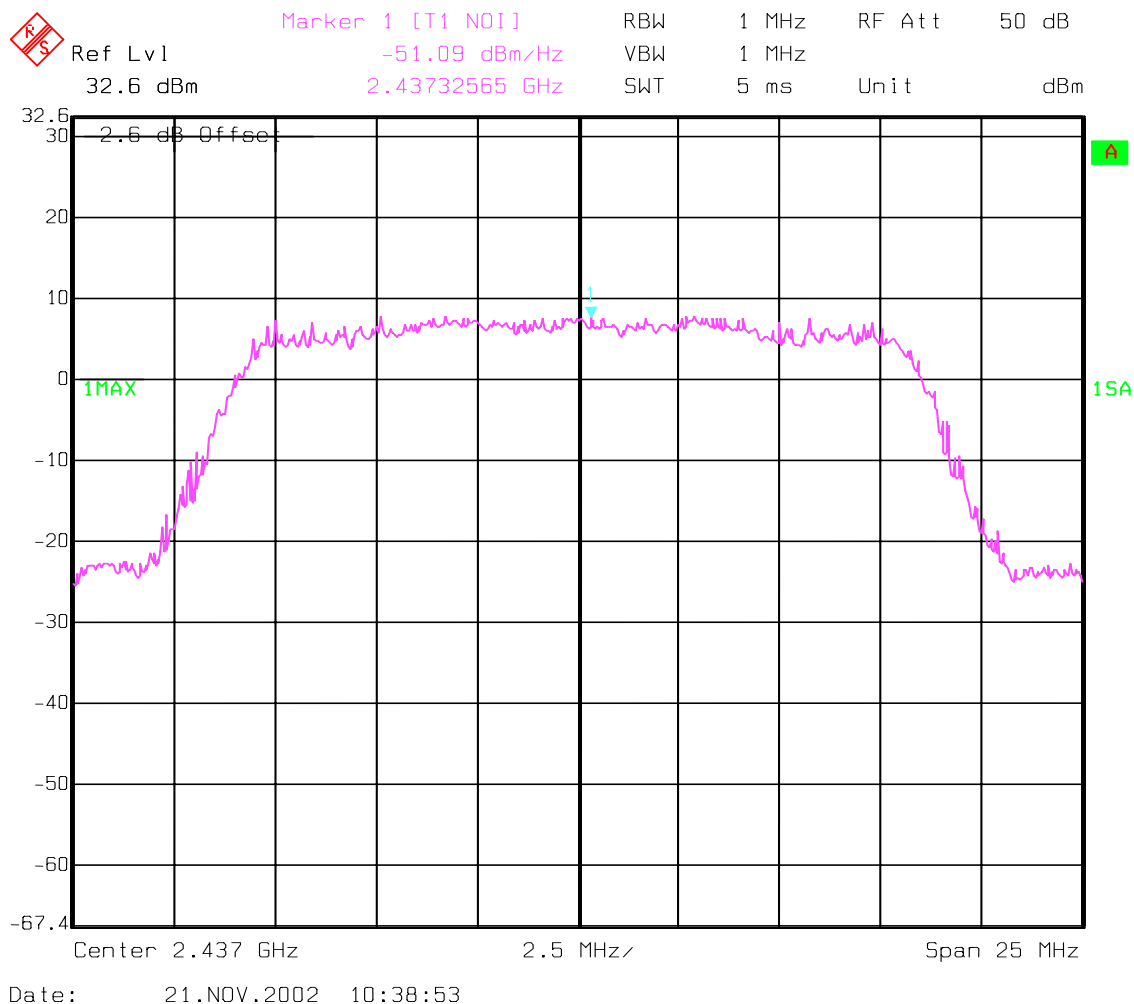
Lowest Channel: 2412MHz



POWER SPECTRAL DENSITY

RSS-210

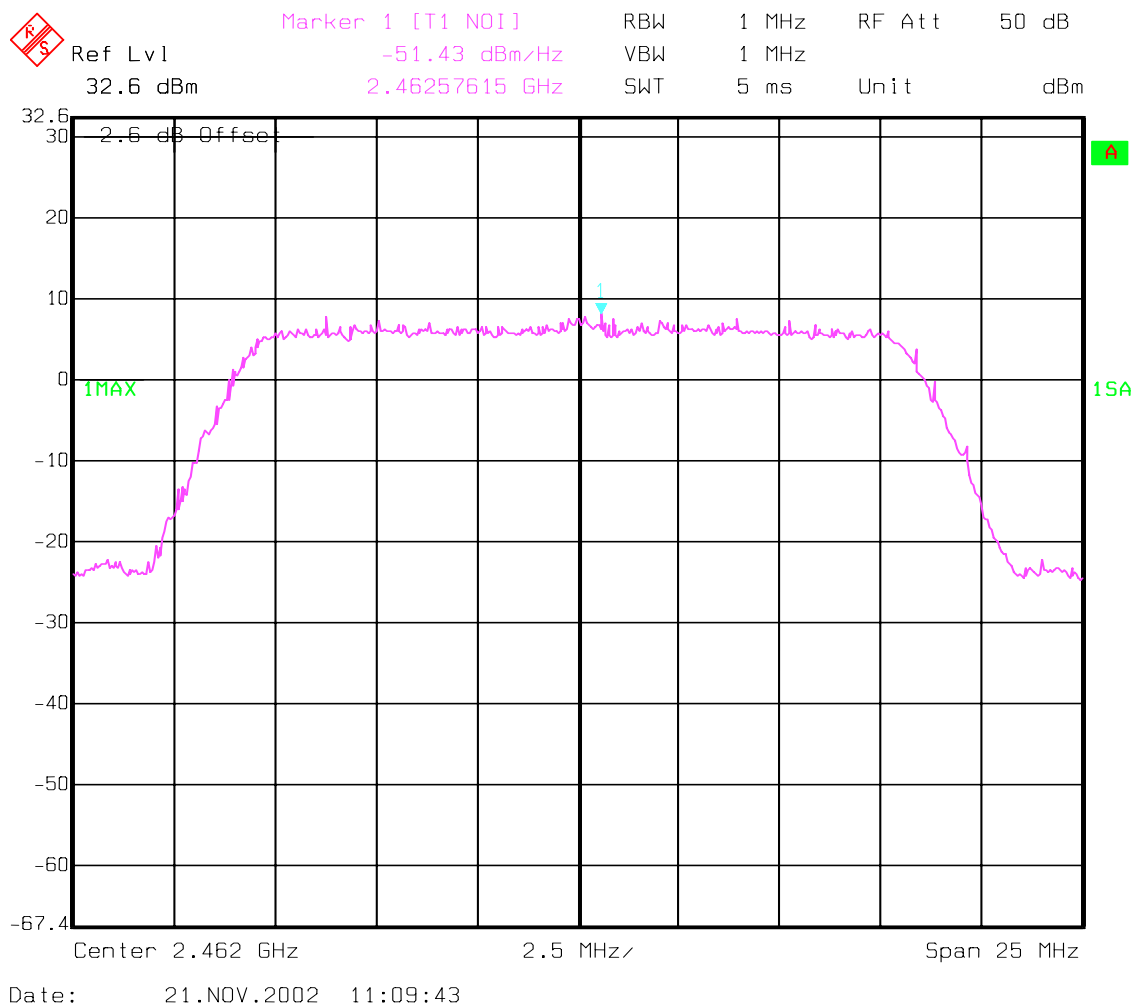
Mid Channel: 2437MHz



POWER SPECTRAL DENSITY

RSS-210

Highest Channel: 2462MHz



BAND EDGE COMPLIANCE

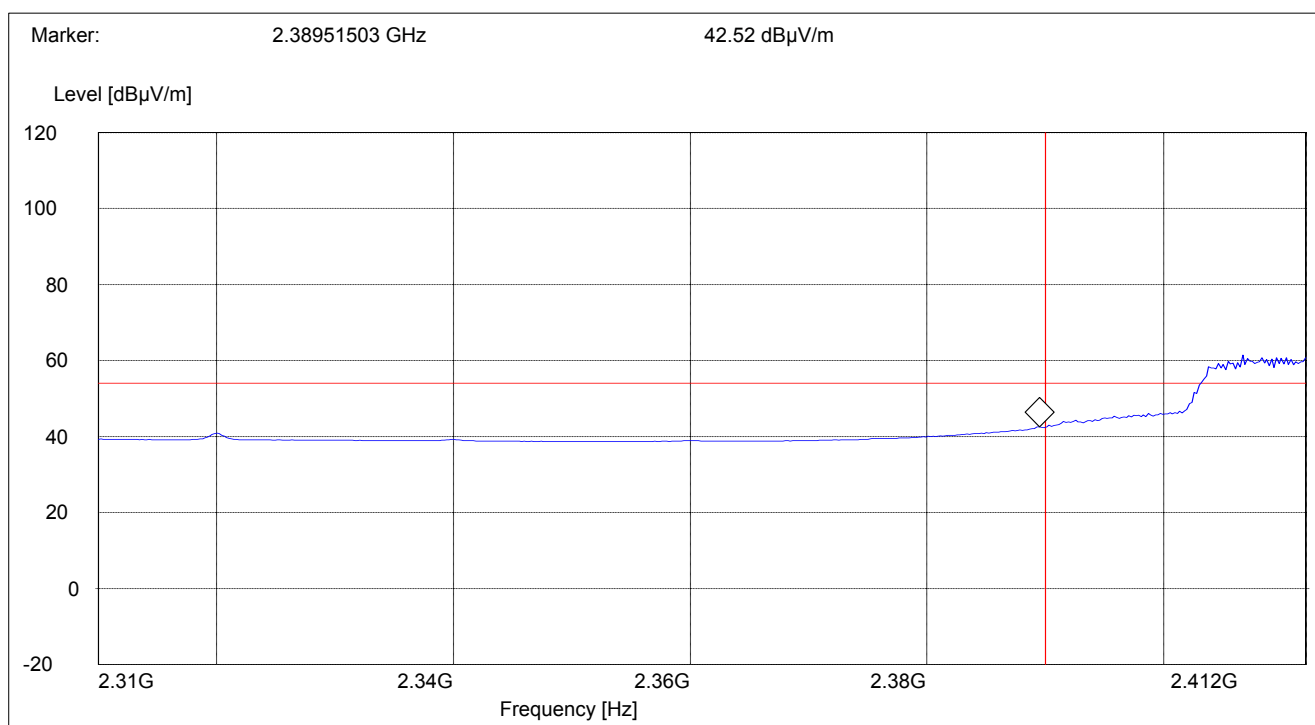
§15.247 (c)

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

(Average measurement)

Operating condition : Tx at 2412MHz
 SWEEP TABLE : "FCC15.247 LBE_AVG"
 Limit Line : 54dBμV

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



BAND EDGE COMPLIANCE

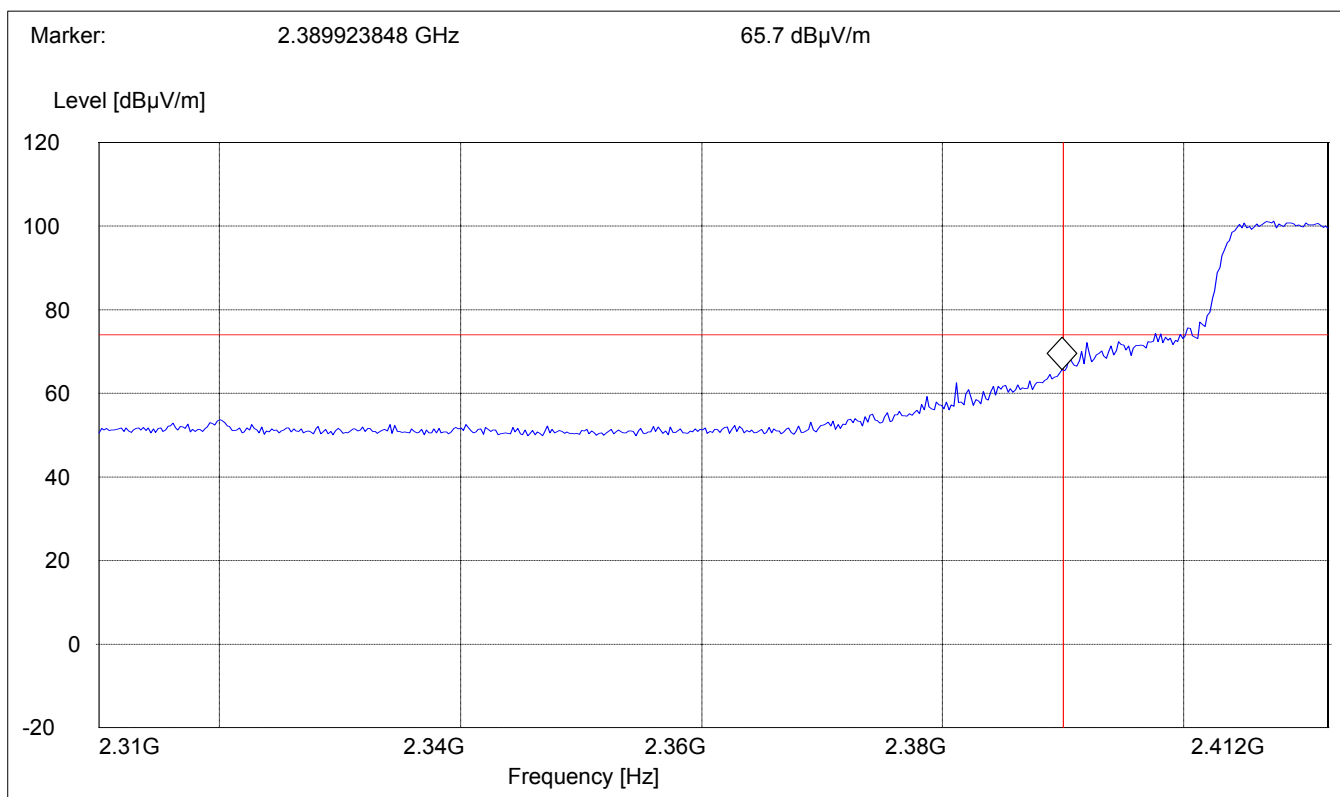
§15.247 (c)

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

(Peak measurement)

Operating condition : Tx at 2412MHz
 SWEEP TABLE : "FCC15.247 LBE_Pk"
 Limit Line : 74dBμV

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



BAND EDGE COMPLIANCE

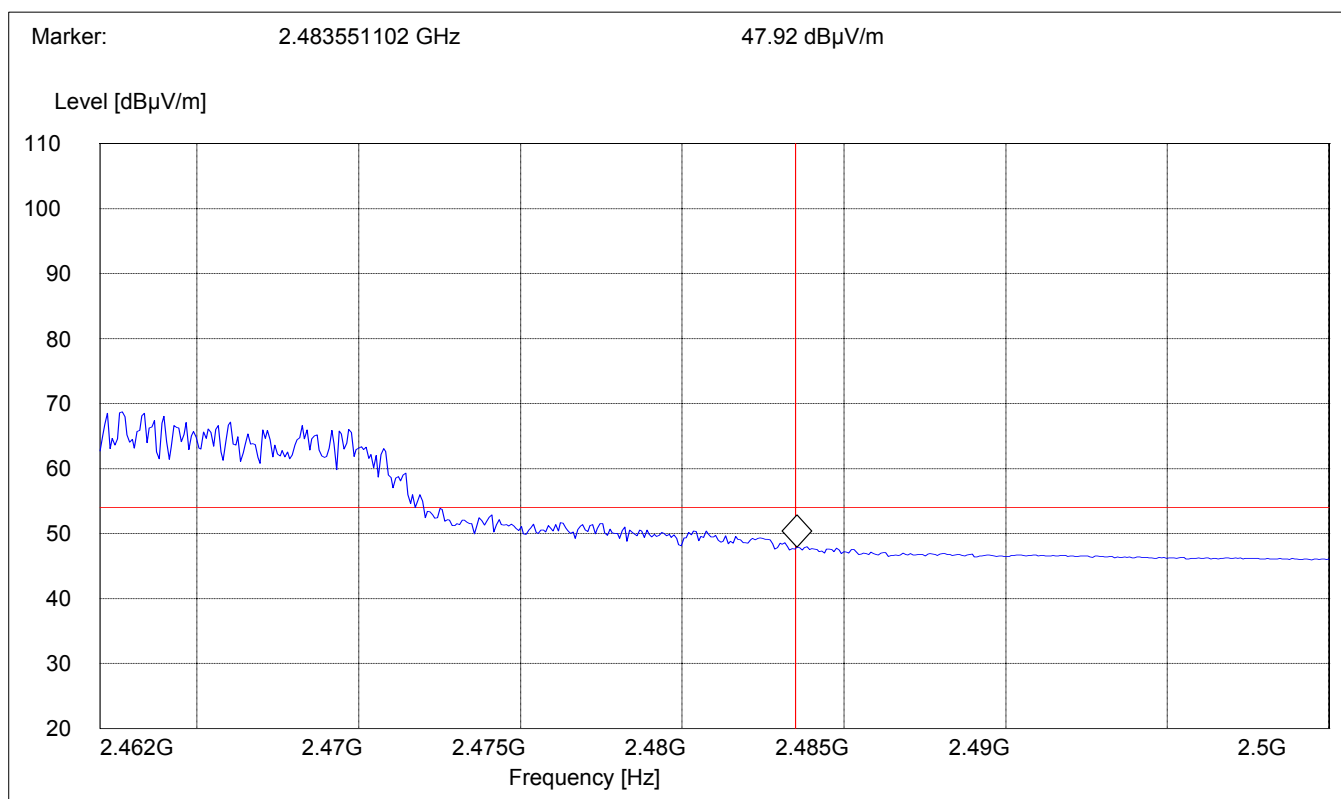
§15.247 (c)

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

(Average measurement)

Operating condition : Tx at 2462MHz
 SWEEP TABLE : "FCC15.247 HBE_AVG"
 Limit Line : 54dBμV

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



BAND EDGE COMPLIANCE

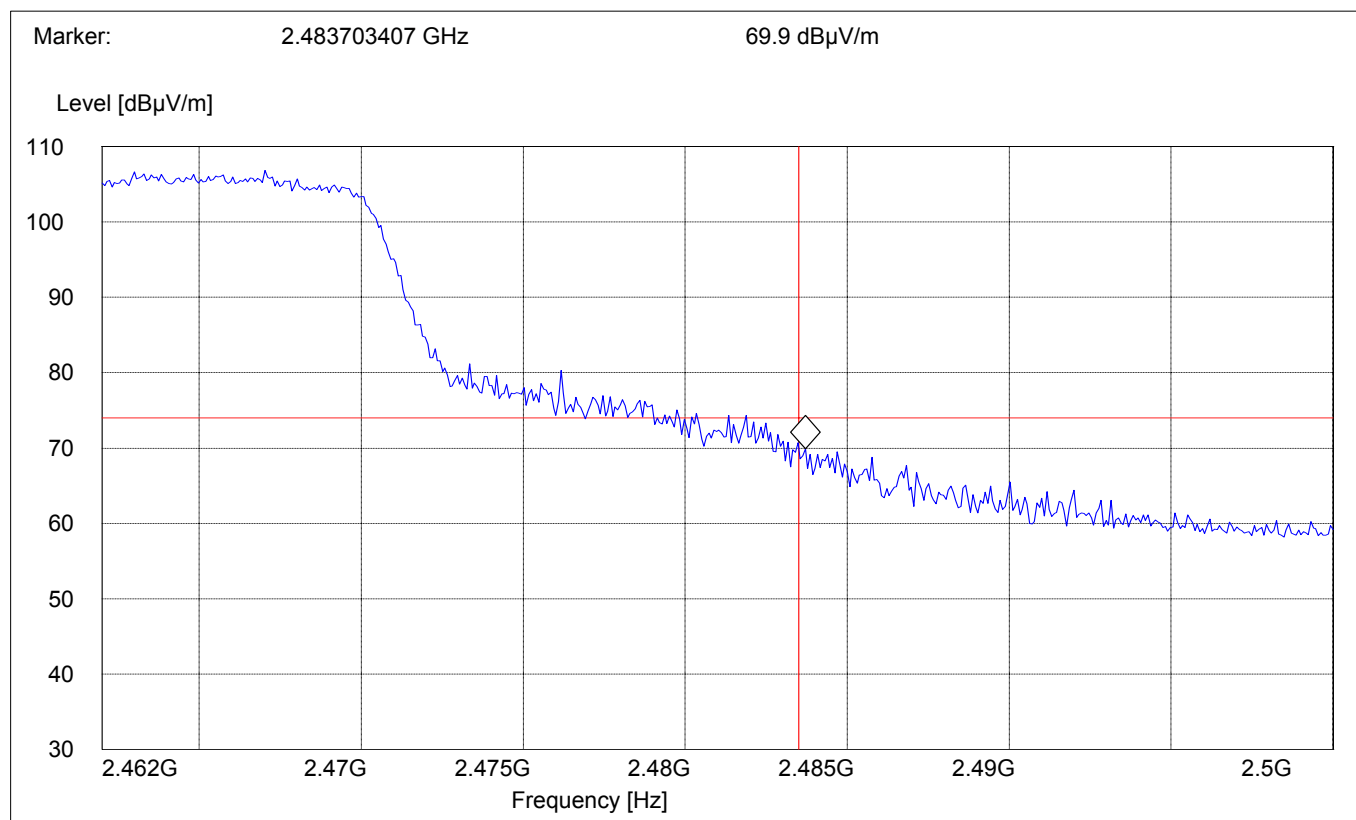
§15.247 (c)

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

(Peak measurement)

Operating condition : Tx at 2462MHz
 SWEEP TABLE : "FCC15.247 HBE_PK"
 Limit Line : 74dBμV

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)**

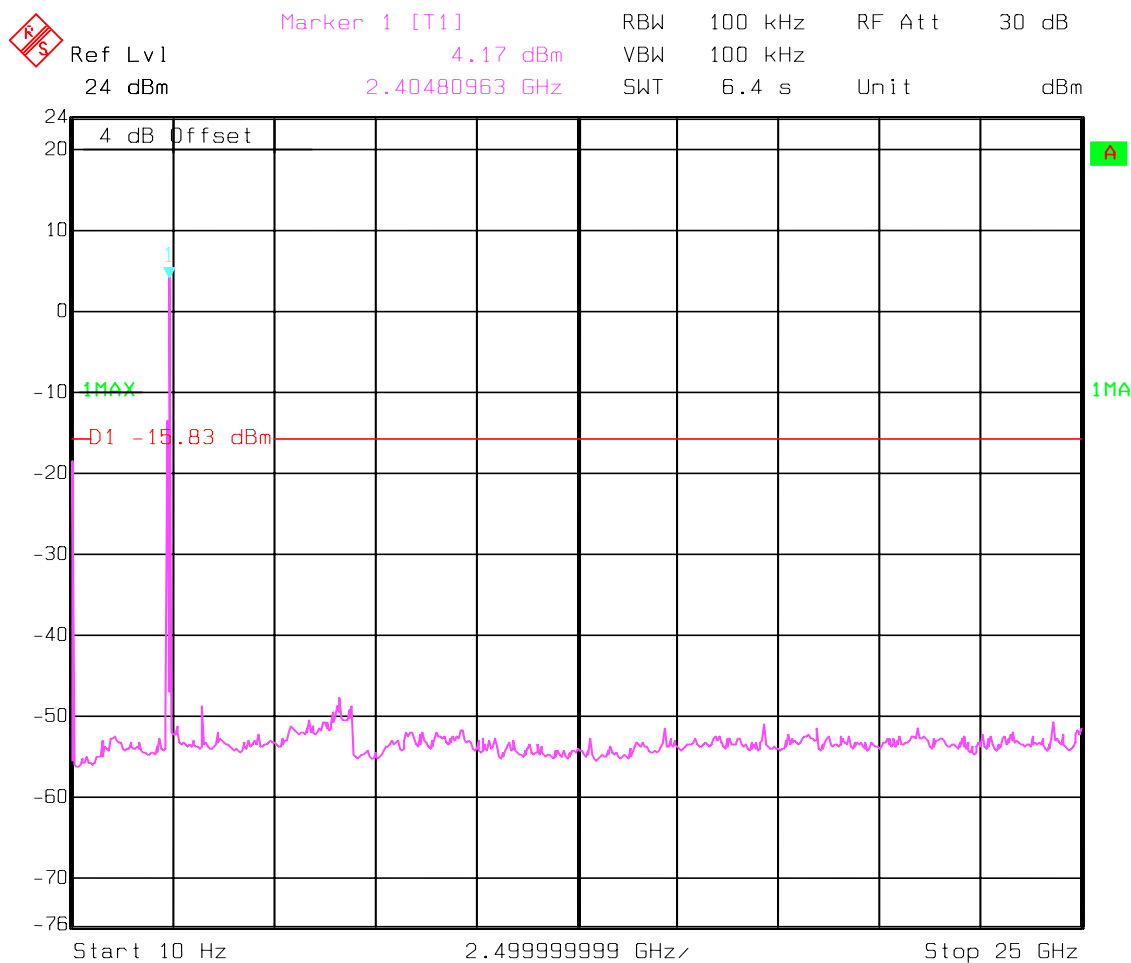
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Lowest Channel(2412MHz): 10Hz - 25GHz

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



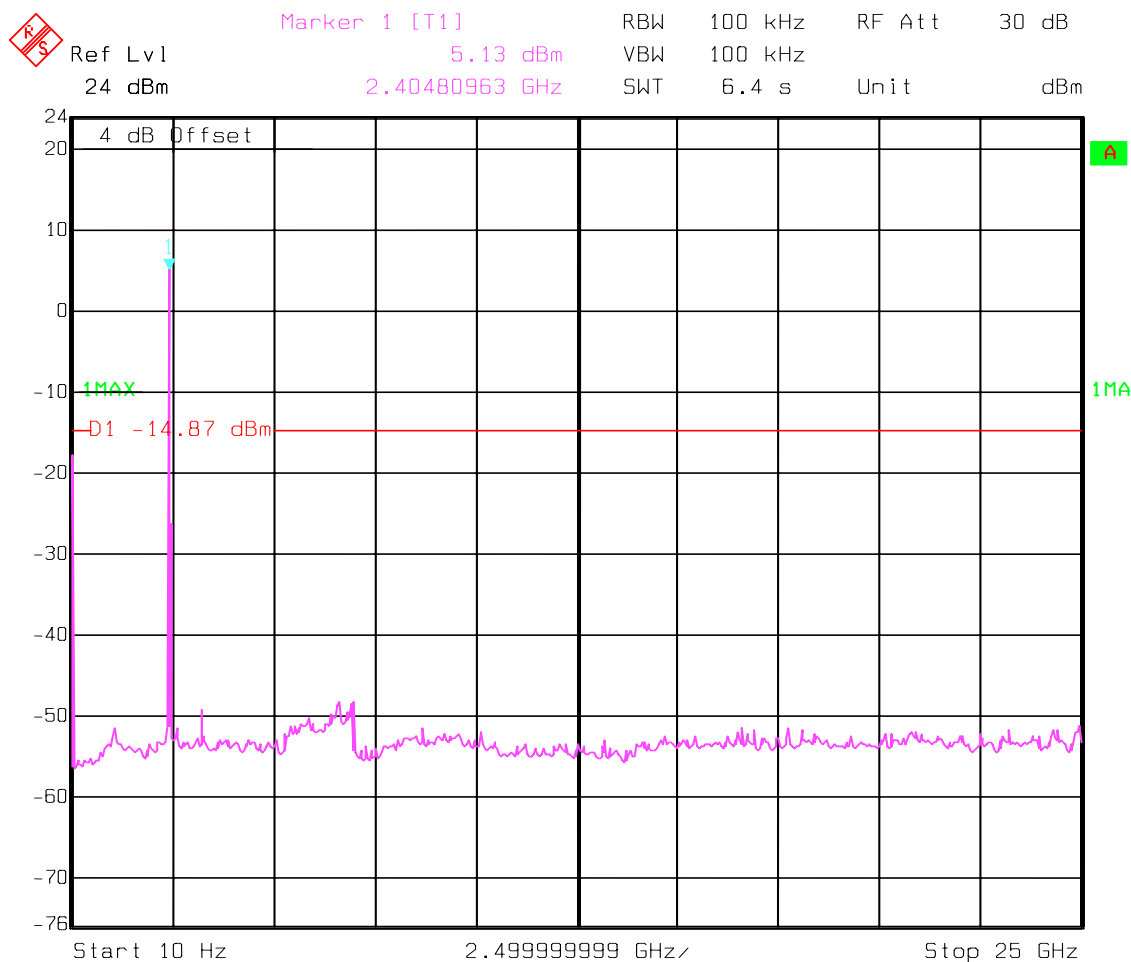
Date: 02.JAN.2003 12:12:48

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Mid Channel(2437MHz): 10Hz - 25GHz

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



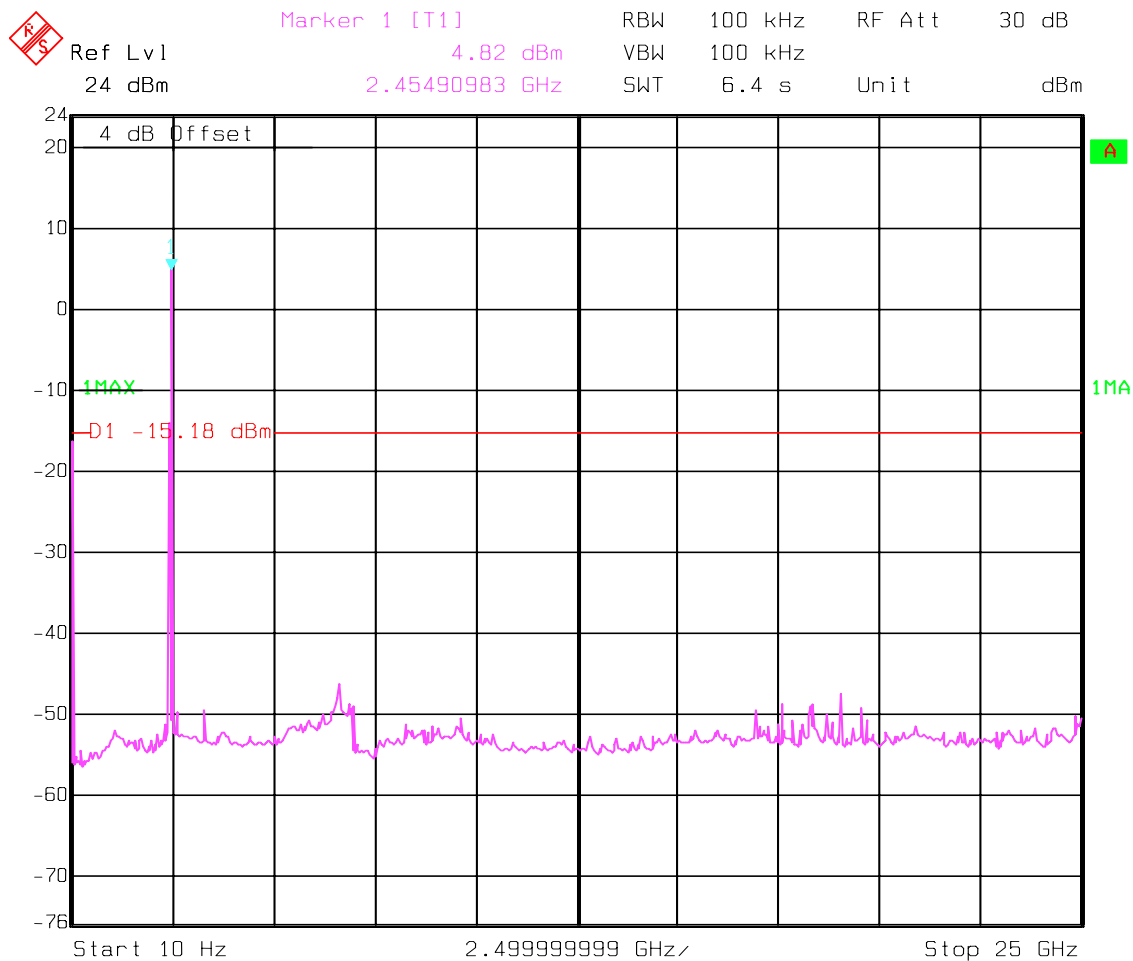
Date: 02.JAN.2003 12:11:18

EMISSION LIMITATIONS - Conducted (Transmitter)

§ 15.247 (c) (1)

Highest Channel(2462MHz): 10Hz - 25GHz

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



Date: 02.JAN.2003 12:09:39

EMISSION LIMITATIONS

§ 15.247 (c) (1)

Transmitter (Radiated)**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 3 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.
3. All measurements were carried out in peak mode unless specified with the plots.

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.

Tx ch-Low 2412 MHz			Tx ch-Mid 2437 MHz		Tx ch-High 2462 MHz	
Freq.(MHz)	Level (dBμV/m)		Freq.(MHz)	Level (dBμV/m)	Freq.(MHz)	Level (dBμV/m)
	Pk	QPk				
249.65	39.96					
280.76	41.12	37.12				
300.2	53.20	38.20				
374.06	42.99	37.39				
399.33	41.32	36.88				
3214	46.07		3248	49.26	3282	48.62
4815	37.16		4849	37.47	4917	38.44
7234	42.85		7302	47.99	7370	49.49
12070	45.45		9755	41.78	12310	43.29
			12170	43.99		

EMISSION LIMITATIONS - Radiated (Transmitter)

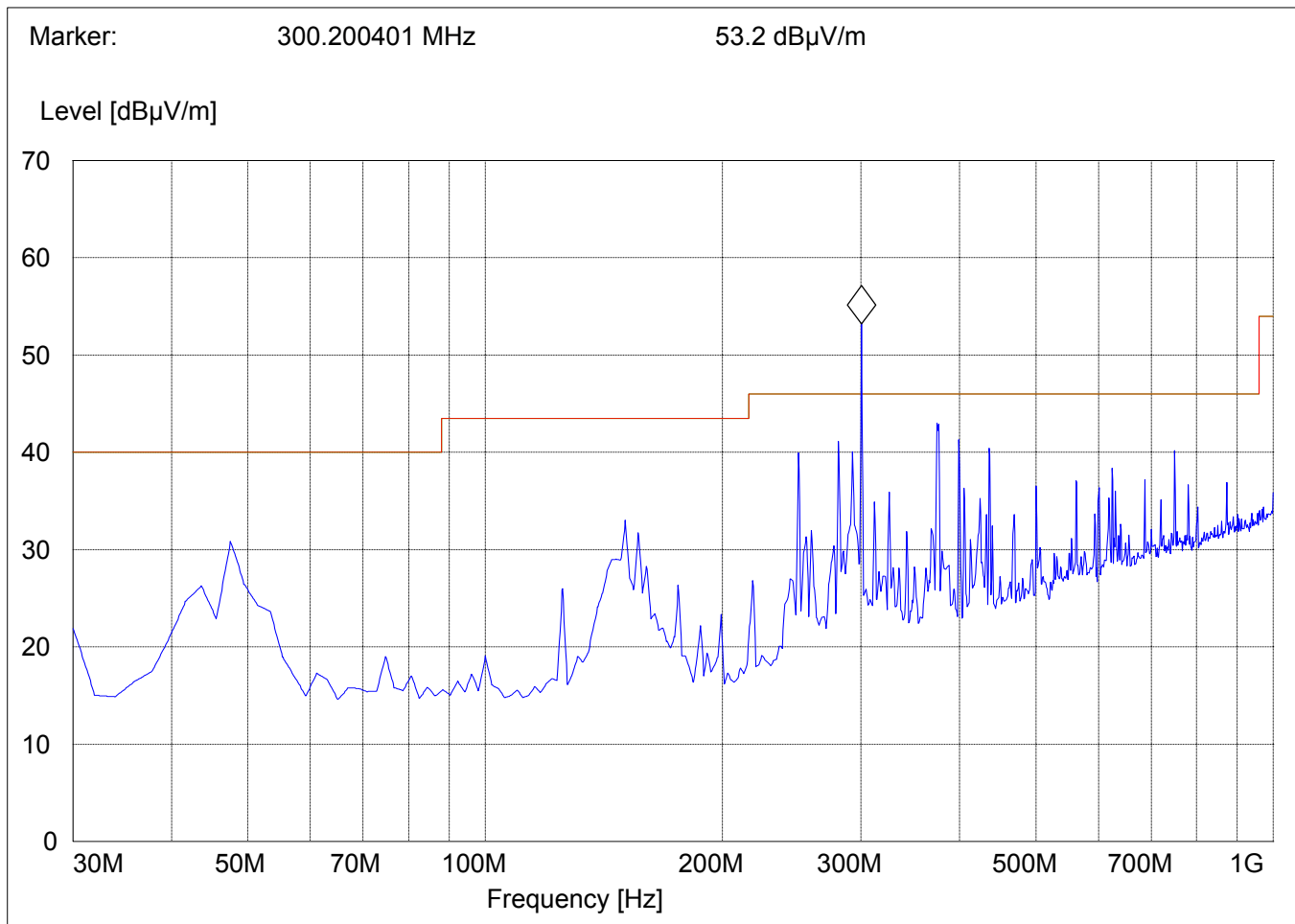
§ 15.247 (c) (1)

Lowest Channel(2412MHz): 30MHz – 1GHz

Note: This plot is valid for low,mid & high channels (worst-case plot)

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

<u>Freq (MHz)</u>	<u>Pk (dBμV/m)</u>	<u>QPk (dBμV/m)</u>
280.76	41.12	37.12
300.2	53.2	38.2
374.06	42.99	37.39
399.33	41.32	36.88



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Lowest Channel(2412MHz): 1GHz – 3GHz

SWEEP TABLE:

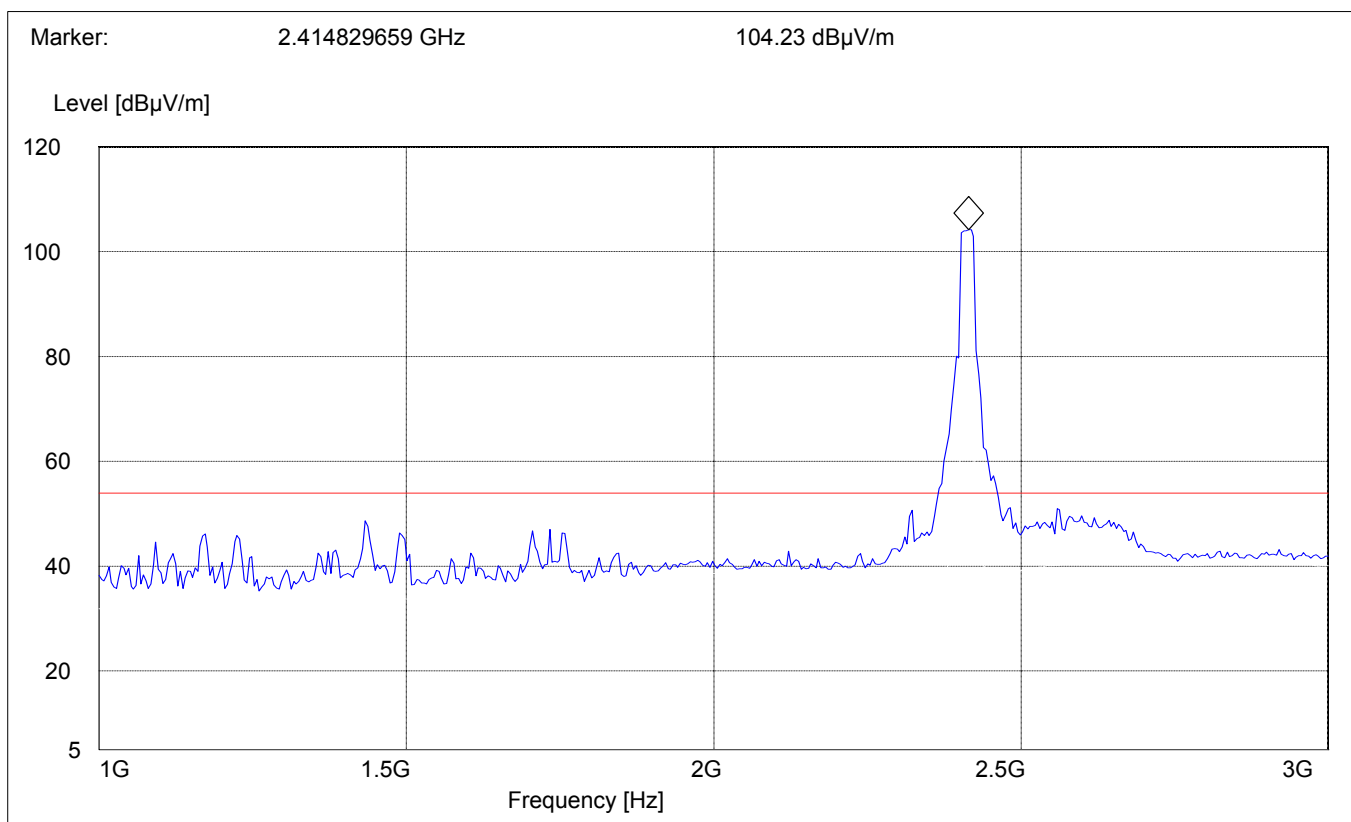
"WLAN Spuri hi 1-3G"

Short Description:

WLAN Spurious 1-3 GHz

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

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



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Lowest Channel(2412MHz): 3GHz – 18GHz

SWEEP TABLE:

" WLAN Spuri hi 3-18G"

Short Description:

WLAN Spurious 3-18 GHz

Start Stop

Detector

Meas.

RBW

Transducer

Frequency

Frequency

Time

Bandw.

VBW

3.0 GHz

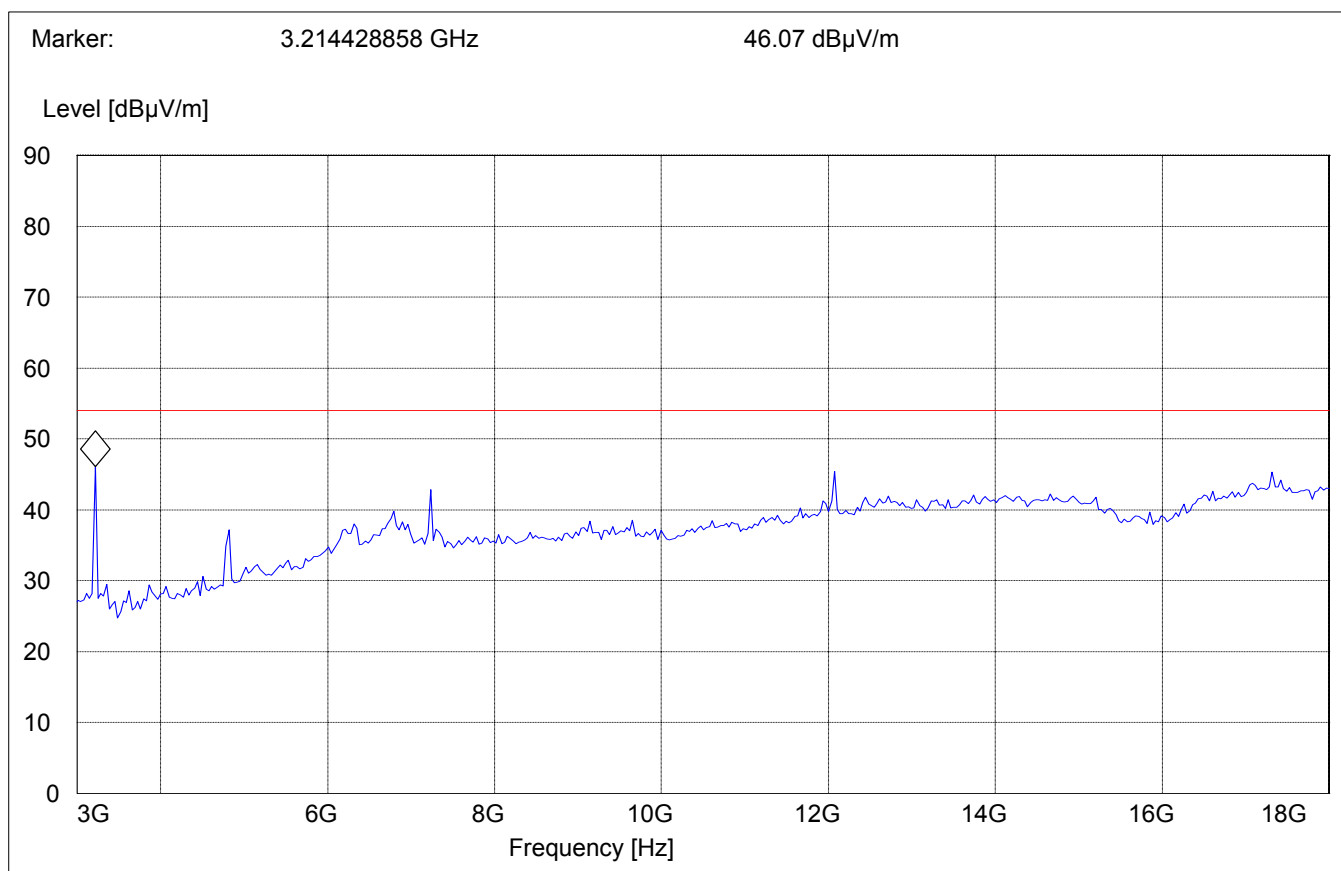
18.0 GHz

MaxPeak

Coupled

1 MHz

#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Lowest Channel(2412MHz): 18GHz – 25GHz

Note: This plot is valid for low,mid & high channels (worst-case plot)

SWEEP TABLE:

" WLAN Spuri hi 18-25G"

Short Description:

WLAN Spurious 18-25 GHz

Start Stop

Detector

Meas.

RBW

Transducer

Frequency Frequency

Time

Bandw.

VBW

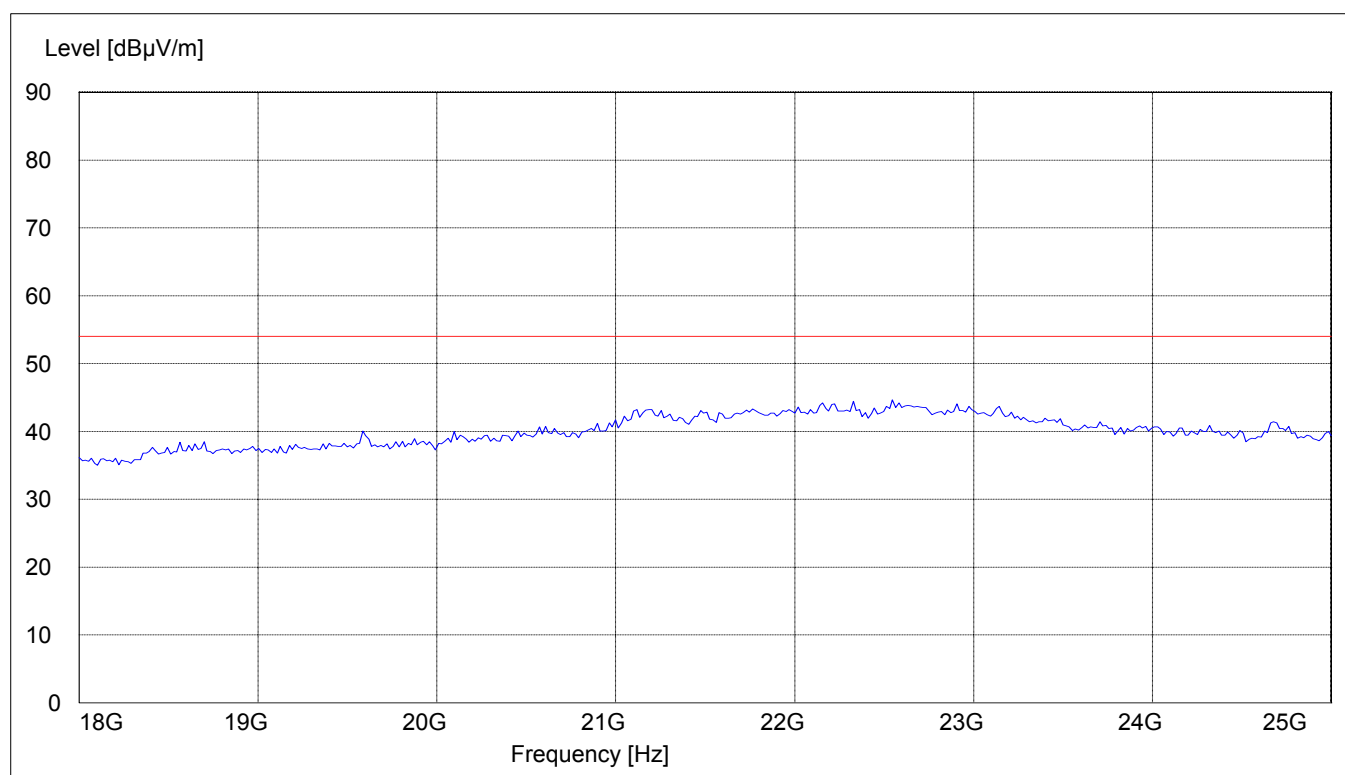
18.0 GHz 25 GHz

MaxPeak

Coupled

1 MHz

#326 horn (dBi)



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Middle Channel(2437MHz): 1GHz – 3GHz

SWEEP TABLE:

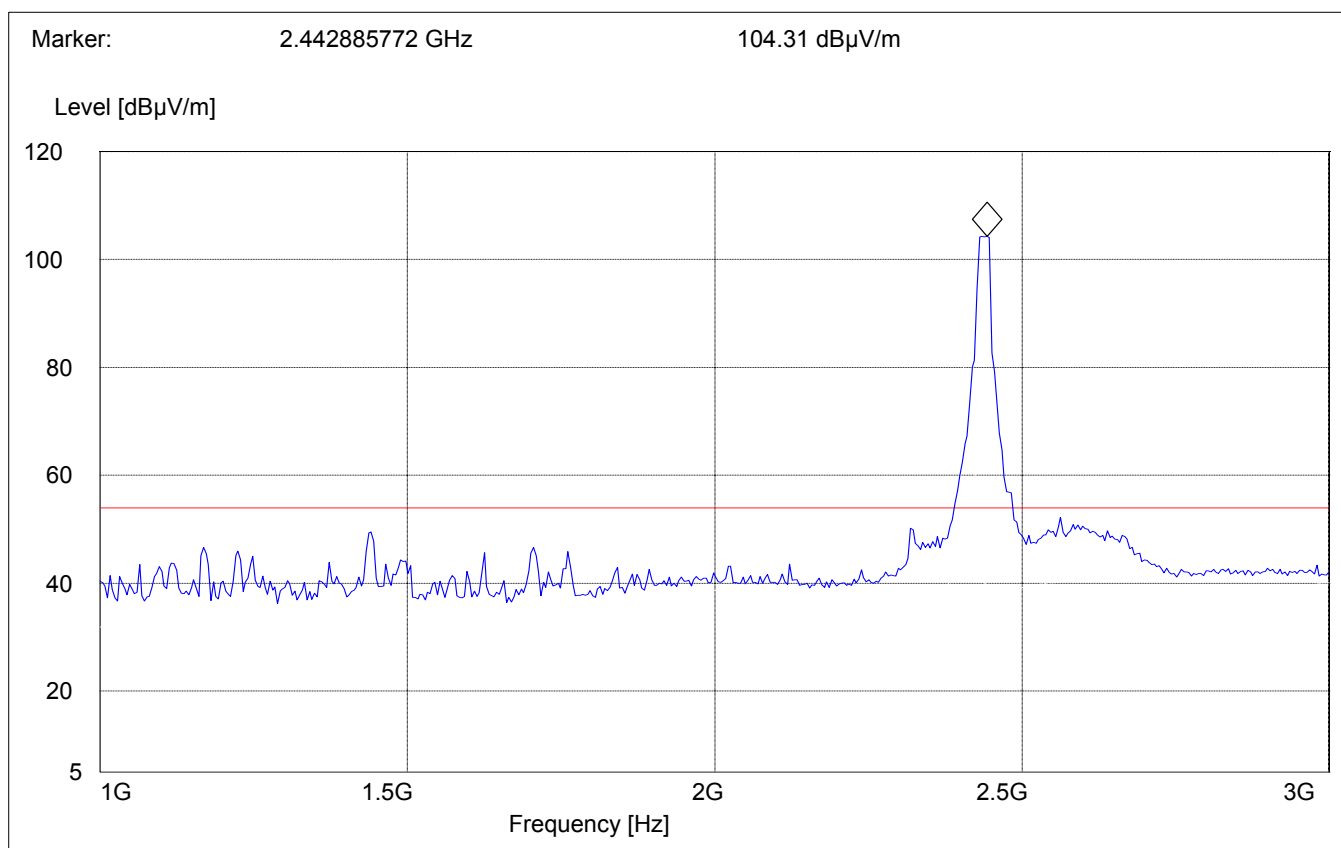
" WLAN Spuri hi 1-3G"

Short Description:

WLAN Spurious 1-3 GHz

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

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



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Middle Channel(2437MHz): 3GHz – 18GHz

SWEEP TABLE:

Short Description:

" WLAN Spuri hi 3-18G"

WLAN Spurious 3-18 GHz

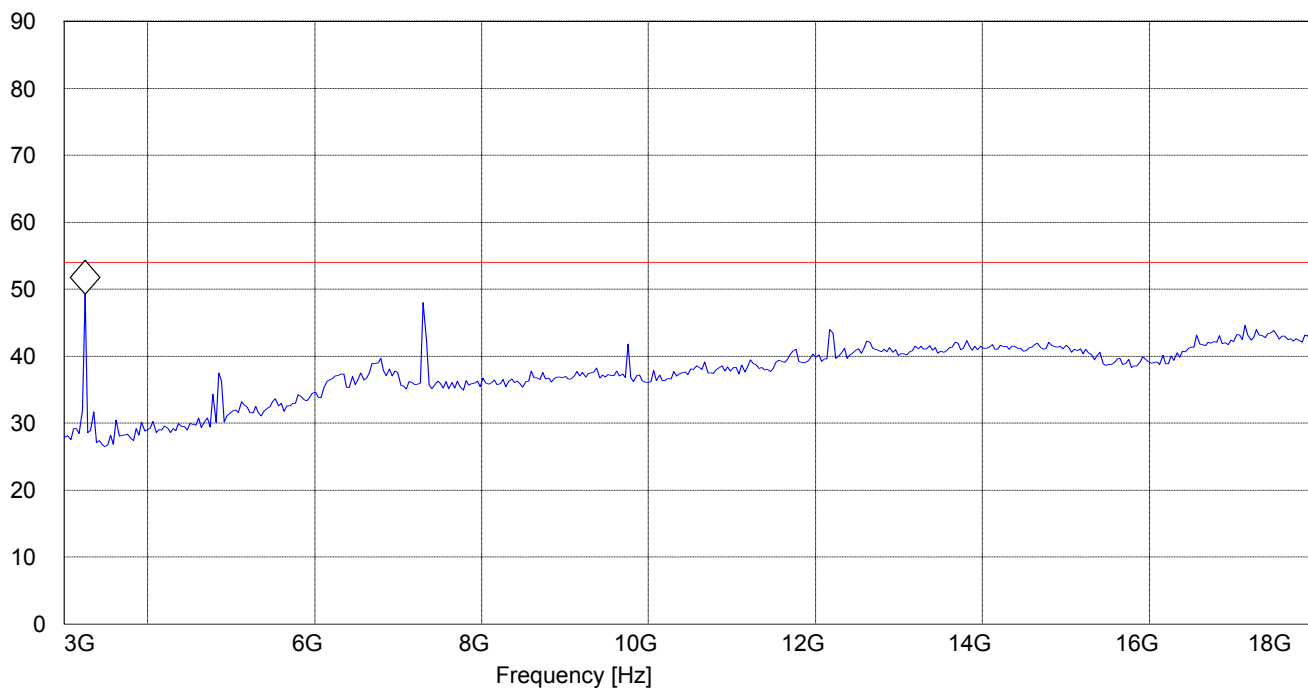
Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)

Marker:

3.248496994 GHz

49.26 dBμV/m

Level [dBμV/m]



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Highest Channel(2462MHz): 1GHz – 3GHz

SWEEP TABLE:

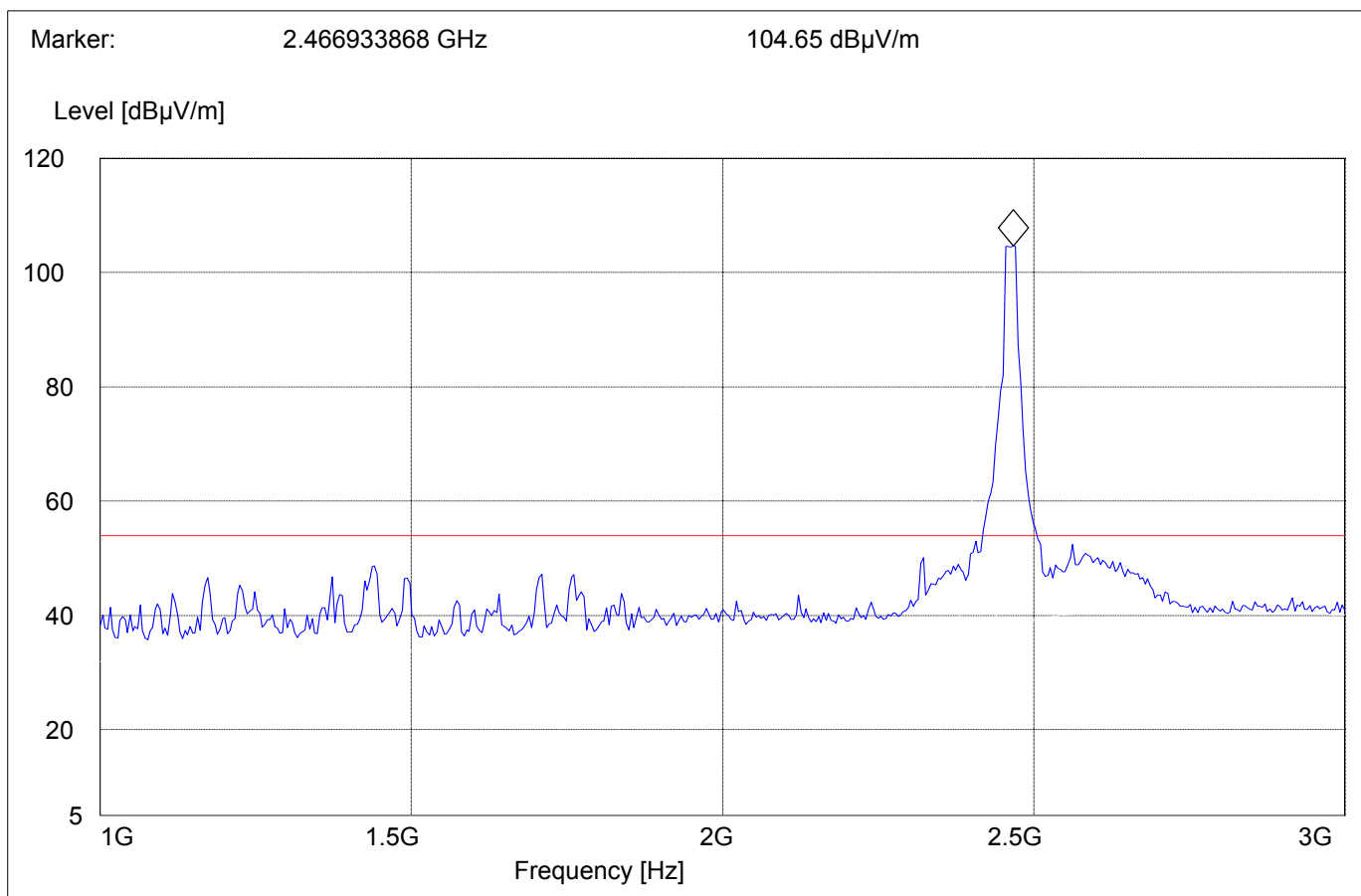
" WLAN Spuri hi 1-3G"

Short Description:

WLAN Spurious 1-3 GHz

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

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



EMISSION LIMITATIONS - Radiated (Transmitter)

§ 15.247 (c) (1)

Highest Channel(2462MHz): 3GHz – 18GHz

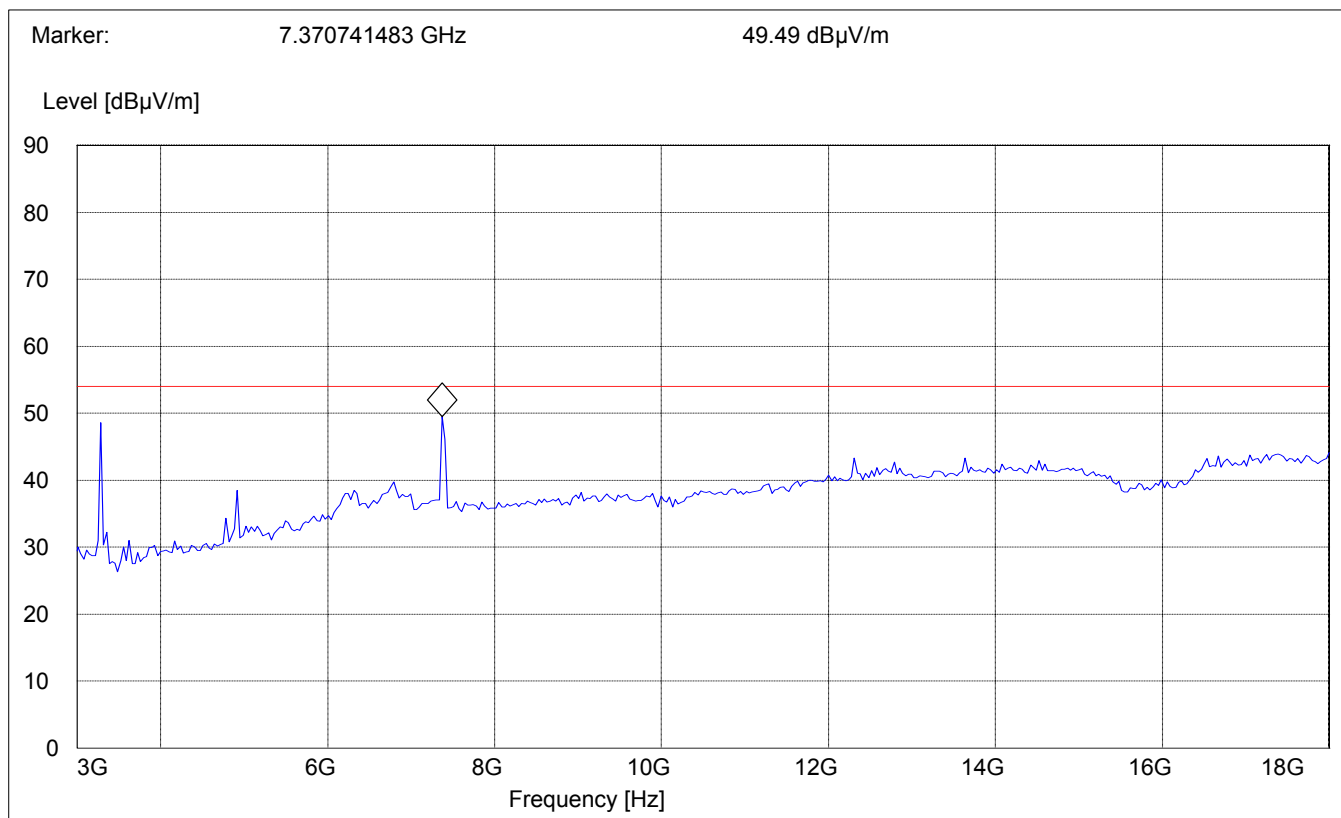
SWEEP TABLE:

Short Description:

" WLAN Spuri hi 3-18G"

WLAN Spurious 3-18GHz

Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



CONDUCTED EMISSIONS

§ 15.107/207

Measured with AC/DC power adapter

SWEEP TABLE: "55022 cond"

Short Description: EN 55022 for 150KHz-30MHz

Start	Stop	Detector	Meas	IF	Transducer
Frequency	Frequency		Time	Bandw.	
150.0 kHz	30.0 MHz	MaxPeak	Coupled	10 kHz	None

Technical specification : 15.107 / 15.207 (Revised as of August 20, 2002)

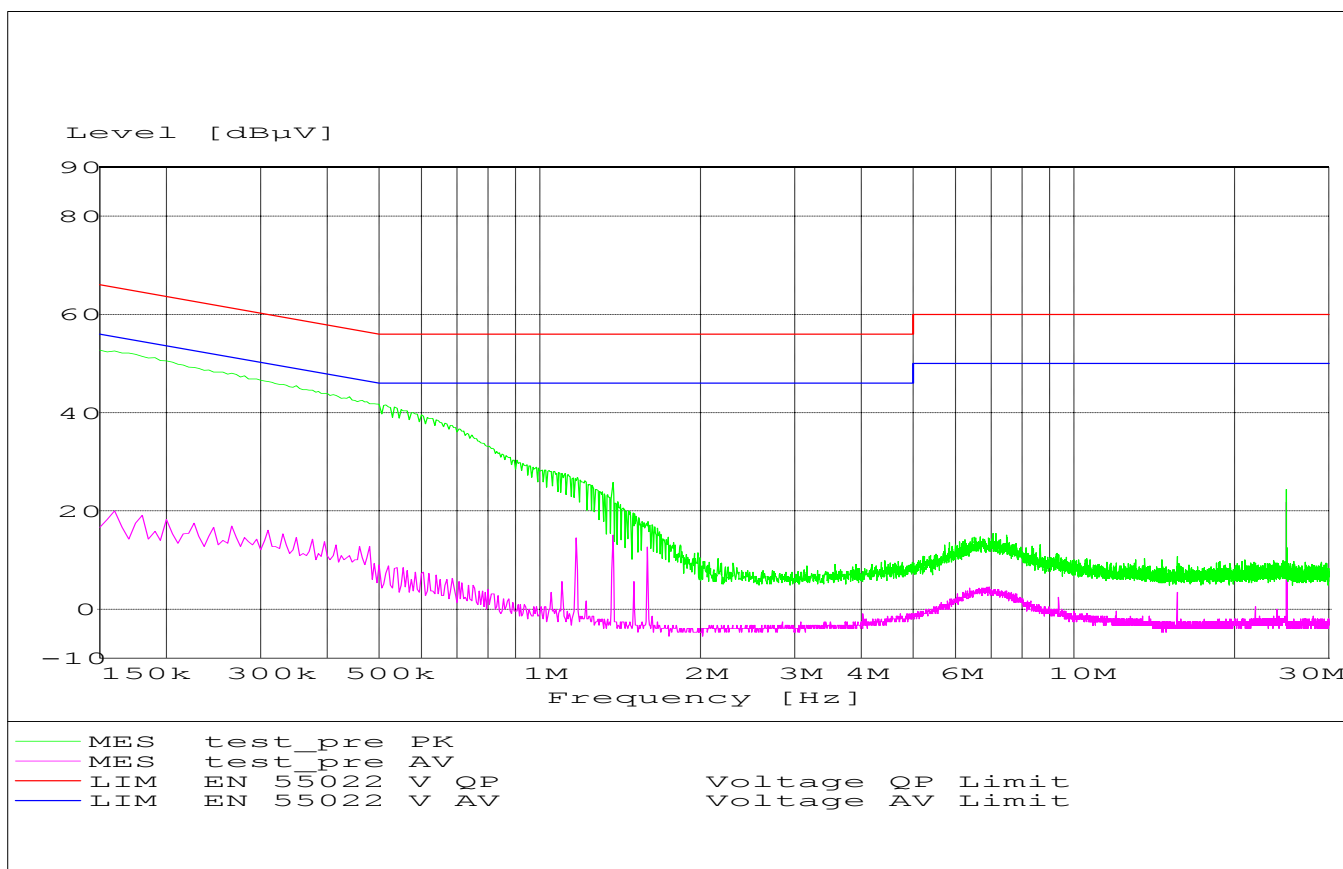
Limit

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

* Decreases with logarithm of the frequency

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 3 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.
2. All measurements were carried out in peak mode unless specified with the plots.

RECEIVER SPURIOUS RADIATION

§ 15.209

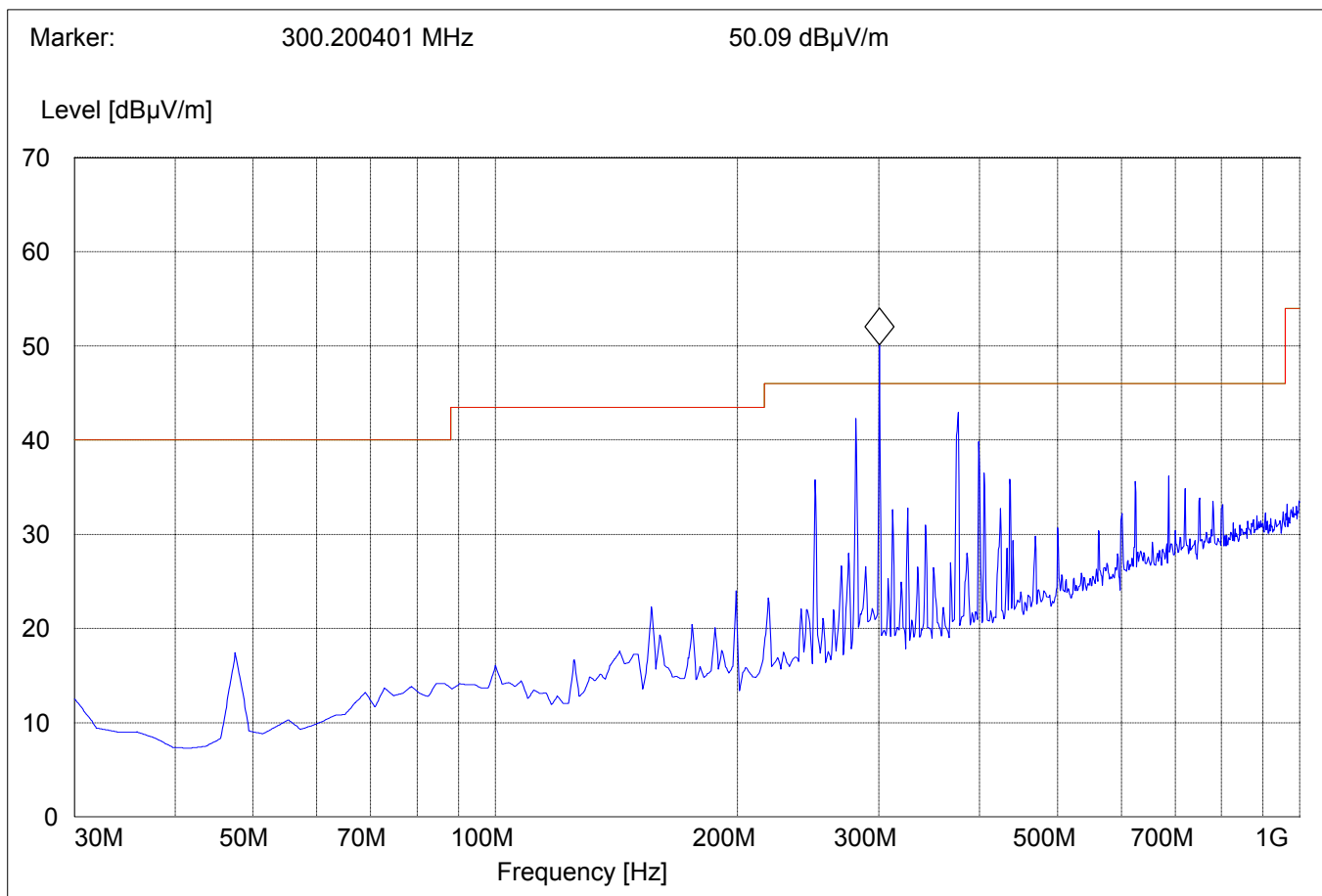
30MHz – 1GHz

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

Short Description: WLAN 30MHz-1GHz

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

<u>Freq (MHz)</u>	<u>Pk (dBμV/m)</u>	<u>QPk (dBμV/m)</u>
280.76	42.32	38.90
300.2	50.09	37.49
376.01	42.14	37.02
399.33	39.82	



RECEIVER SPURIOUS RADIATION

§ 15.209

1GHz – 3GHz

SWEEP TABLE:

" WLAN Spuri hi 1-3G"

Short Description:

WLAN Spurious 1-3 GHz

Start Stop

Detector

Meas.

RBW

Transducer

Frequency

Frequency

Time

Bandw.

VBW

1.0 GHz

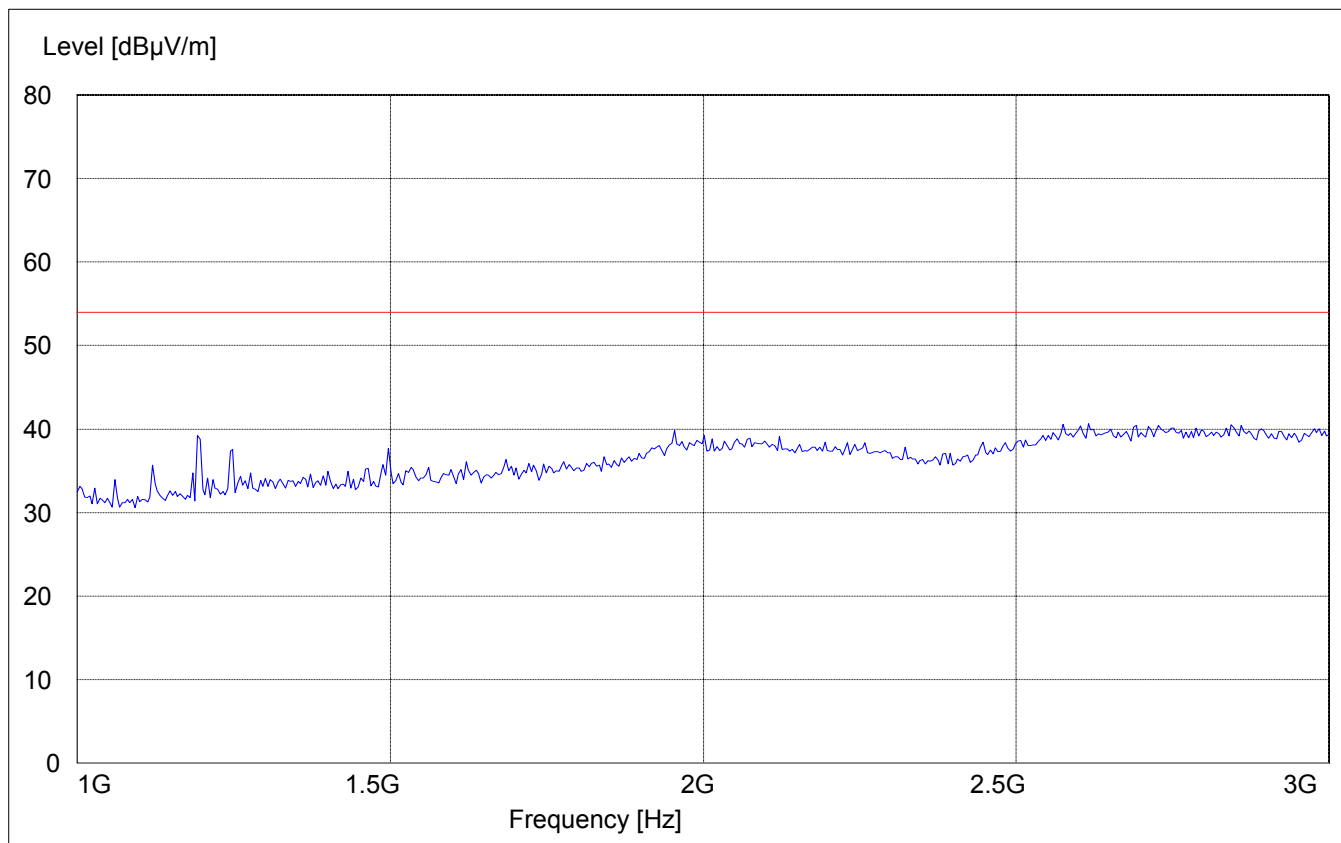
3.0 GHz

MaxPeak

Coupled

1 MHz

#326 horn (dBi)



RECEIVER SPURIOUS RADIATION

§ 15.209

3GHz – 18GHz

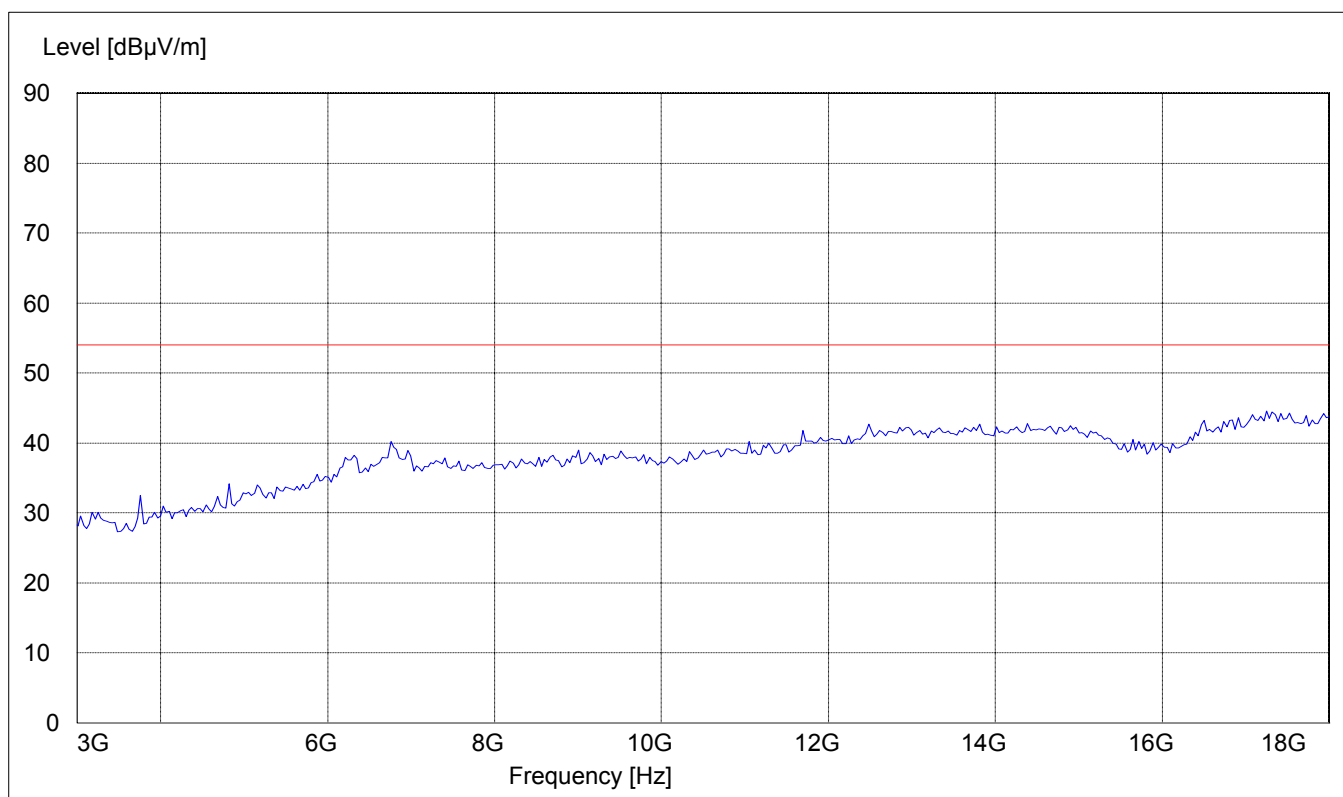
SWEEP TABLE:

" WLAN Spuri hi 3-18G"

Short Description:

WLAN Spurious 3-18 GHz

Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)



RECEIVER SPURIOUS RADIATION

§ 15.209

18GHz – 25GHz

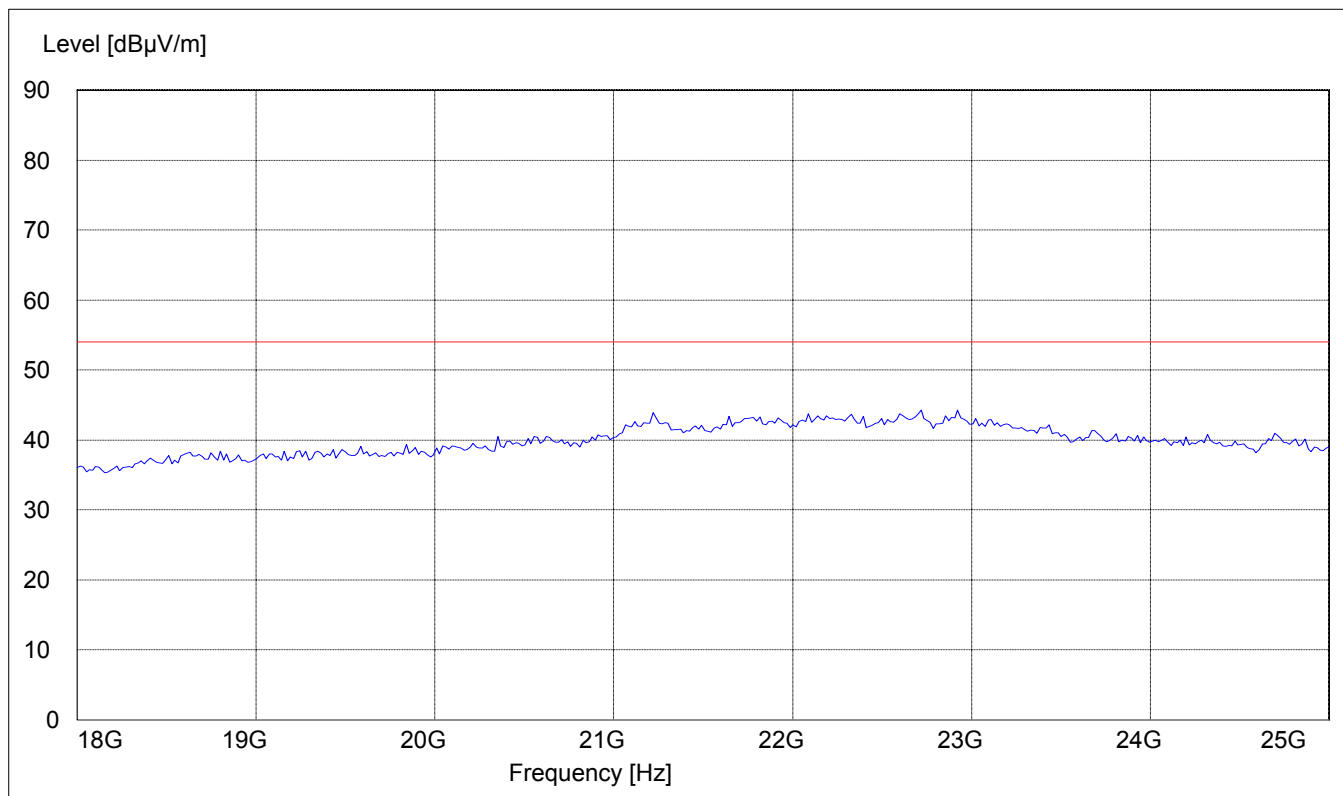
SWEEP TABLE:

" WLAN Spuri hi 18-25G"

Short Description:

WLAN Spurious 18-25GHz

Start	Stop	Detector	Meas.	RBW	Transducer
Frequency	Frequency	Time	Bandw.	VBW	
18.0 GHz	25 GHz	MaxPeak	Coupled	1 MHz	#326 horn (dBi)

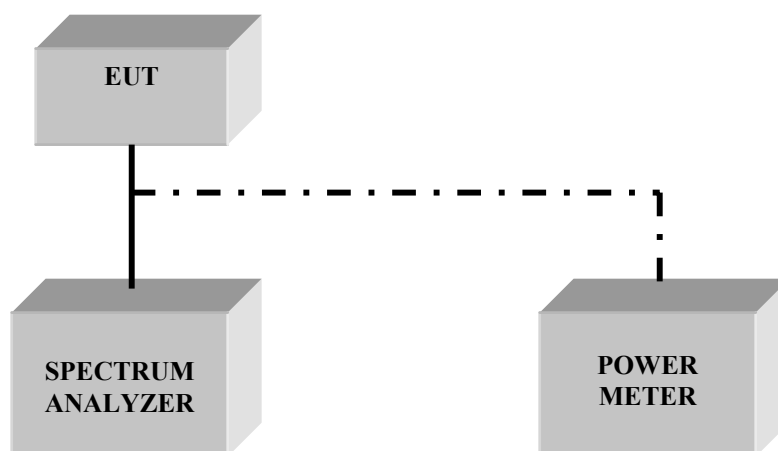


TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

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	Biconilog Antenna	3141	EMCO	0005-1186
04	Horn Antenna (700M-18GHz)	SAS-200/571	AH Systems	325
05	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240
06	2-3GHz Band reject filter	BRM50701	Microtronics	6
07	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02
08	Pre-Amplifier	TS-ANA	Rohde & Schwarz	--
09	Pre-Amplifier	JS4-00102600	Miteq	00616

BLOCK DIAGRAMS

Conducted Testing



Radiated Testing

ANECHOIC CHAMBER

