



FCC Test Report

FCC Part 15.247 for DSSS systems

For

Psion Teklogix Inc.

Psion Teklogix Handheld Computer

Model Number: PX750BT8

FCC ID: GM3PX750BT8

IC ID: 2739D-PX750BT8

TEST REPORT #: EMC_PSION_004_15_247_DSSS_PX750BT8

DATE: 2008-6-15



FCC Listed A2LA
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IC recognized #
3462B

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1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Part 15.247 of the Code of Federal Regulations.

Company	Description	Model #
Psion Teklogix Inc.	Psion Teklogix Handheld Computer	PX750BT8

Technical responsibility for area of testing:

2008-6-15	EMC & Radio	Val Tankov (EMC Project Engineer)	
Date	Section	Name	Signature

This report is prepared by:

2008-6-15	EMC & Radio	Peter Mu (EMC Project Engineer)	
Date	Section	Name	Signature

The test results of this test report relate exclusively to the test item specified in Identification of the Equipment under Test. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations 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.



2 Administrative Data

2.1 Identification of the Testing Laboratory

Company Name:	CETECOM Inc.
Department:	EMC
Address:	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Responsible Test Lab Manager:	Lothar Schmidt

2.2 Identification of the Client

Applicant's Name:	Psion Teklogix Inc
Address Line 1:	2100 Meadowvale Boulevard
Address Line 2:	
City/ Zip Code	Mississauga, Ontario, L5N 7J9
Country:	Canada
Contact Person:	Sada Dharwarkar
Phone No.:	905-812-6200 ex 3358
Fax:	905-812-6301
e-mail:	Sada.dharwarkar@psionteklogix.com

2.3 Identification of the Manufacturer

Same as above applicant

3 Equipment under Test (EUT)

3.1 Specification of the Equipment under Test

Product Type	Handheld Device
Marketing Name:	Psion Teklogix Handheld Computer
Model No:	PX750BT8
HW Version:	A
SW Version :	A
Min/Nominal/Max Voltage:	3.3V/ 3.7V/ 4.2V
Type(s) of Modulation:	CCK, OFDM
Antenna Gain:	2dBi
	Radiated:
	19.87dBm (0.097W) EIRP WLAN 802.11b
	16.82 dBm (0.041W) EIRP WLAN 802.11g
Output Power:	Conducted
	17.87dBm (0.061W) WLAN 802.11b
	14.82 dBm (0.030W) WLAN 802.11g

3.2 Identification of the Equipment under Test (EUT)

EUT #	TYPE	MANF.	MODEL	SERIAL #
1	EUT	Psion	PX750BT8	07
2	EUT	Psion	PX750BT8	09

3.3 Identification of Accessory equipment

AE #	TYPE	MANF.	MODEL	SERIAL #
1	Internal Battery	Psion	WA3006	WA7AC8083508

4 Subject Of Investigation

All testing was performed on the product referred to in Section 3 as EUT. The EUT WLAN module model that supports the following mode and frequency bands:

2400-2483.5MHz: 802.11b, 802.11g

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT operating under 802.11b/g mode in the 2400-2483.5MHz range as specified by requirements listed in FCC rules Part 15.247 of Title 47 of the Code of Federal Regulations. Measurement maximization of portable equipment is conducted in accordance with ANSI C63.4

5 Radiated Measurements

5.1 MAXIMUM PEAK OUTPUT POWER(RADIATED)

EIRP:

EIRP = Conducted Peak Power + Antenna Gain (2dBi)

TEST CONDITIONS			MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)			2412	2437	2462
802.11b	$T_{\text{nom}}(23)^{\circ}_{\text{C}}$	V_{nom}	19.70	19.87	18.90
802.11g	$T_{\text{nom}}(23)^{\circ}_{\text{C}}$	V_{nom}	16.82	16.43	16.29
Measurement uncertainty			$\pm 0.5\text{dBm}$		

5.2 RESTRICTED BAND EDGE COMPLIANCE RADIATED §15.247/15.205

5.2.1 LIMITS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

***PEAK LIMIT= 74dBuV/m**

***AVG. LIMIT= 54dBuV/m**

Notes:

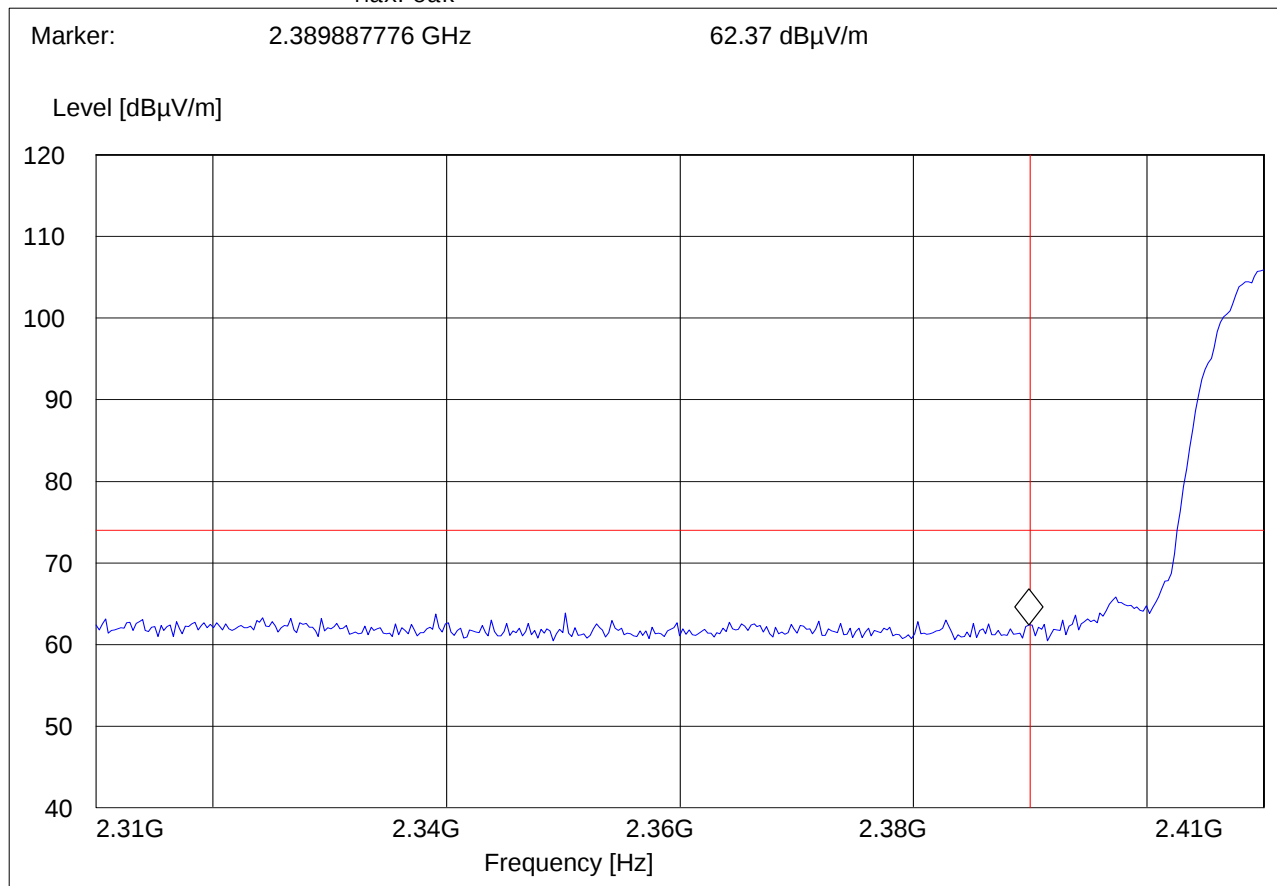
1. Radiated emissions are maximized by rotating the EUT 360° at 0.5 meter height increments between 1 and 4 meters.
2. Measurements were performed with the EUT in X, Y and Z orientations with the measurement antenna in both horizontal and vertical polarity. The plots below show the results of the worst case orientation and polarity.

**5.2.2 Results Lower Restricted Band 2310 MHz to 2390 MHz
802.11b (2412MHz) PEAK**

EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 LBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.3 GHz	2.4 GHz	MaxPeak MaxPeak	Coupled	1 MHz	#326horn_AF_vert



802.11b (2412MHz) AVG

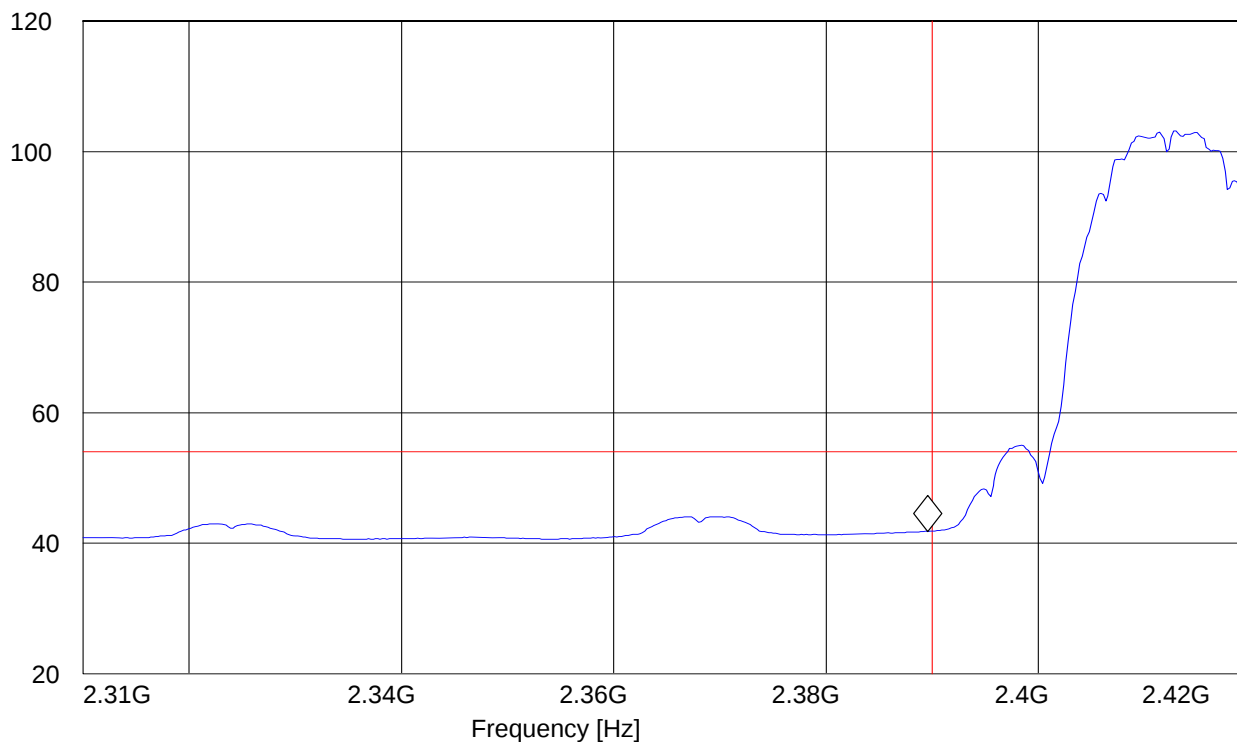
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 LBE_AVG"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.3 GHz	2.4 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.389579158 GHz 41.82 dB μ V/m

Level [dB μ V/m]



802.11g (2412MHz) PEAK

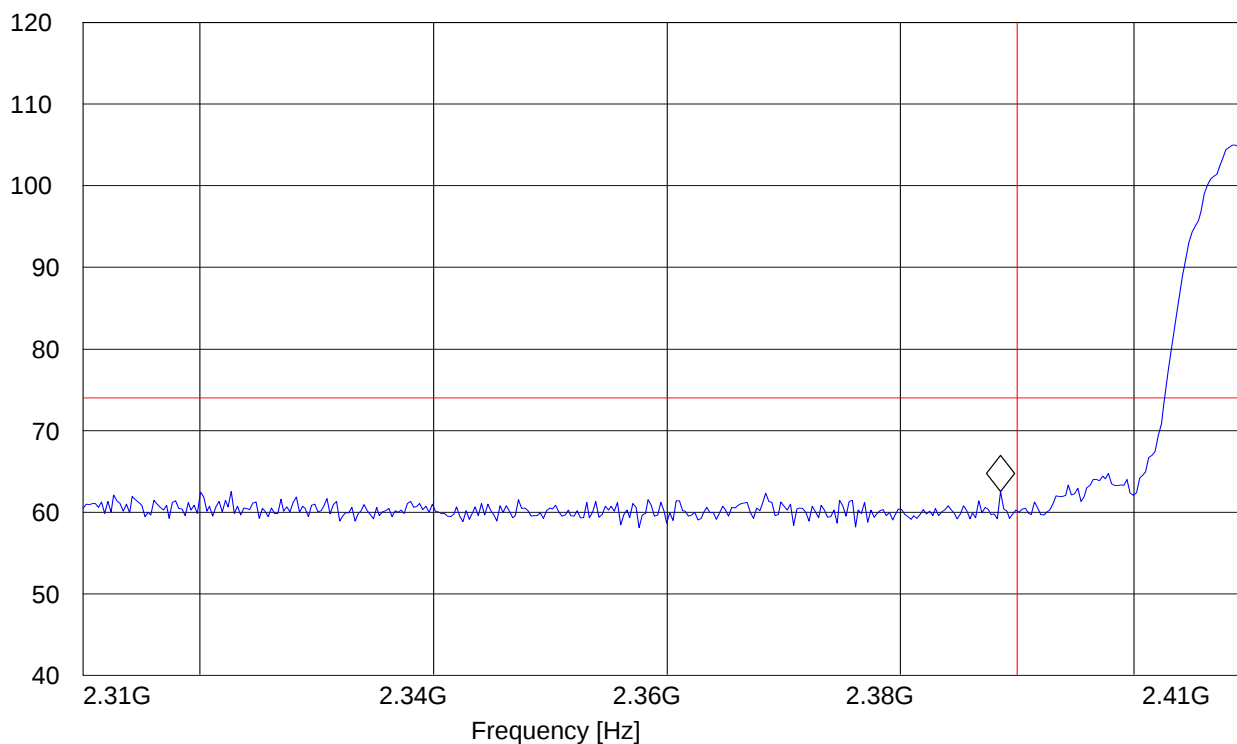
EUT: PX750
Customer:: PSION
Test Mode: 802.11g CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 LBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.3 GHz	2.4 GHz	MaxPeak MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.38856513 GHz 62.55 dB μ V/m

Level [dB μ V/m]



802.11g (2412MHz) AVG

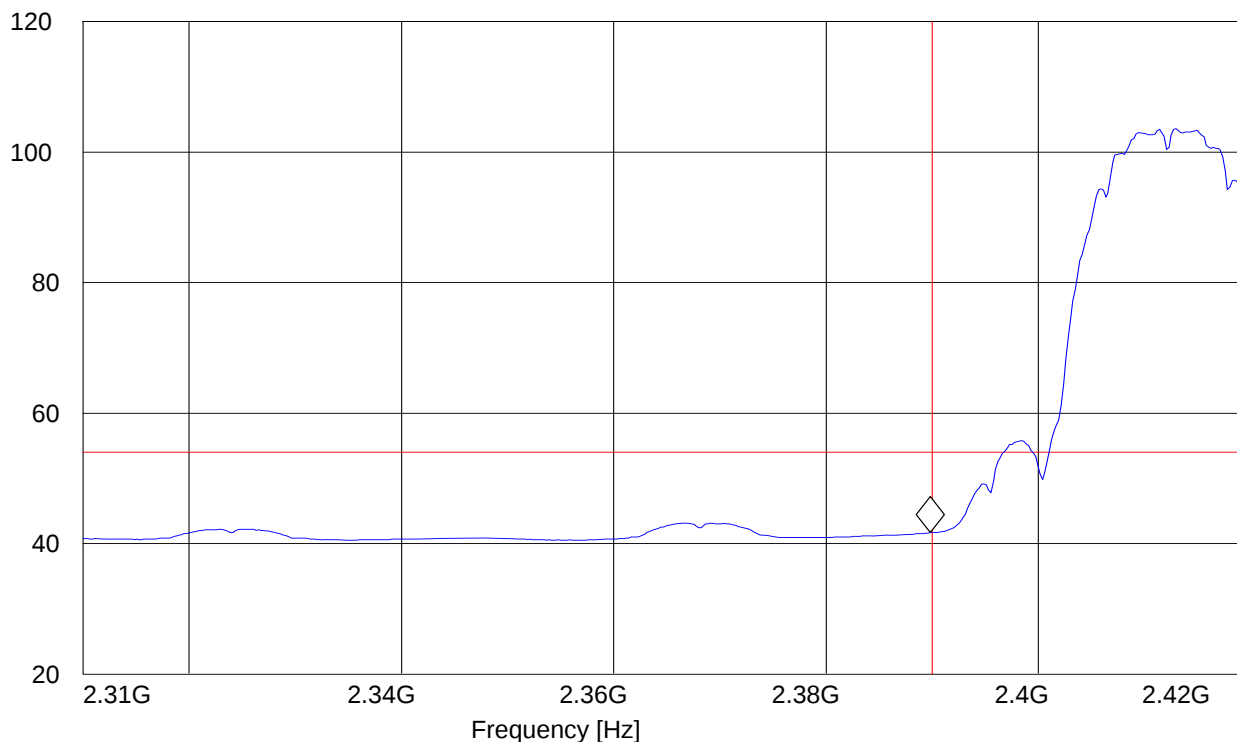
EUT: PX750
Customer:: PSION
Test Mode: 802.11g CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 LBE_AVG"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.3 GHz	2.4 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.389799599 GHz 41.7 dBμV/m

Level [dBμV/m]

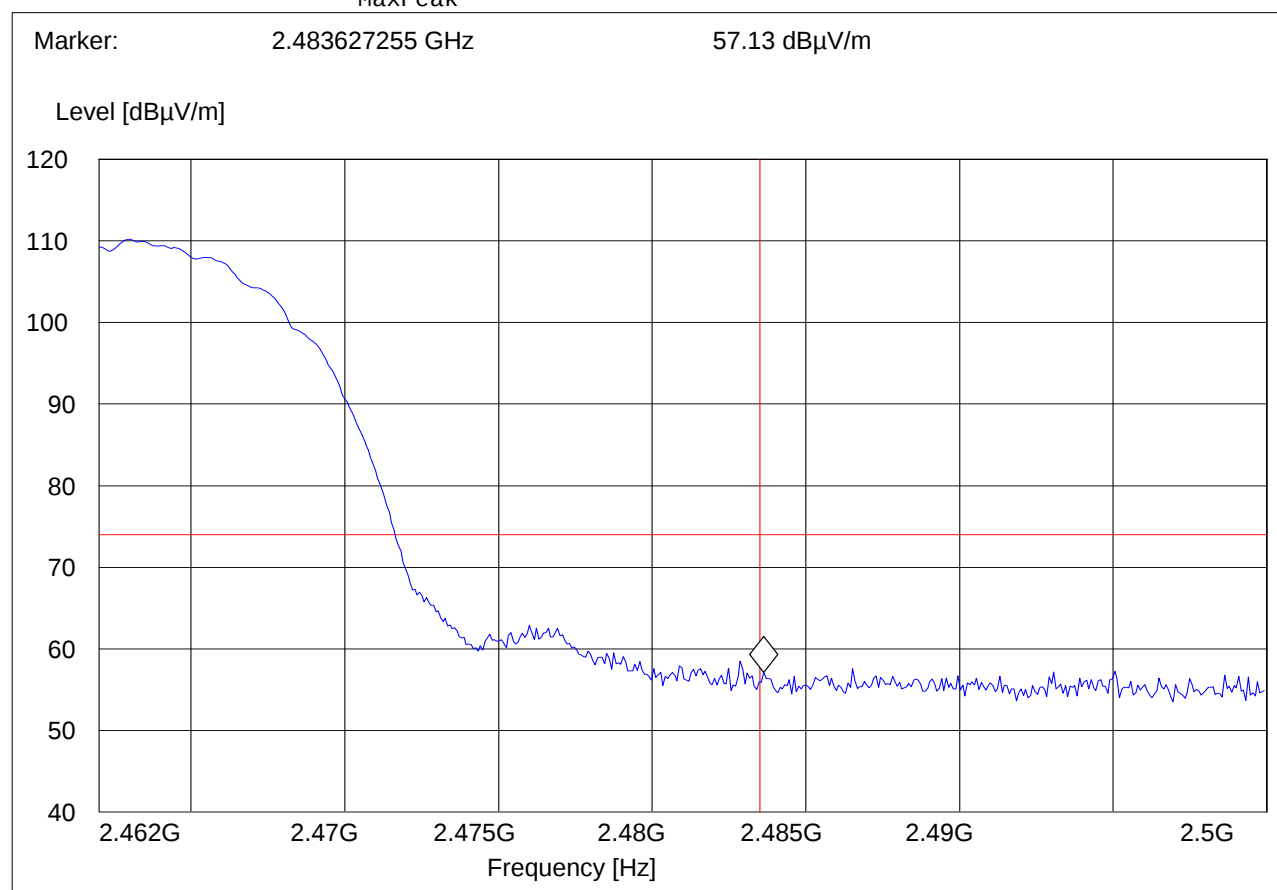


**5.2.3 Results Upper Restricted Band 2483.5 MHz to 2500 MHz
802.11b (2462MHz) PEAK**

EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 HBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak MaxPeak	Coupled	1 MHz	#326horn_AF_vert



802.11b (2462MHz) AVG

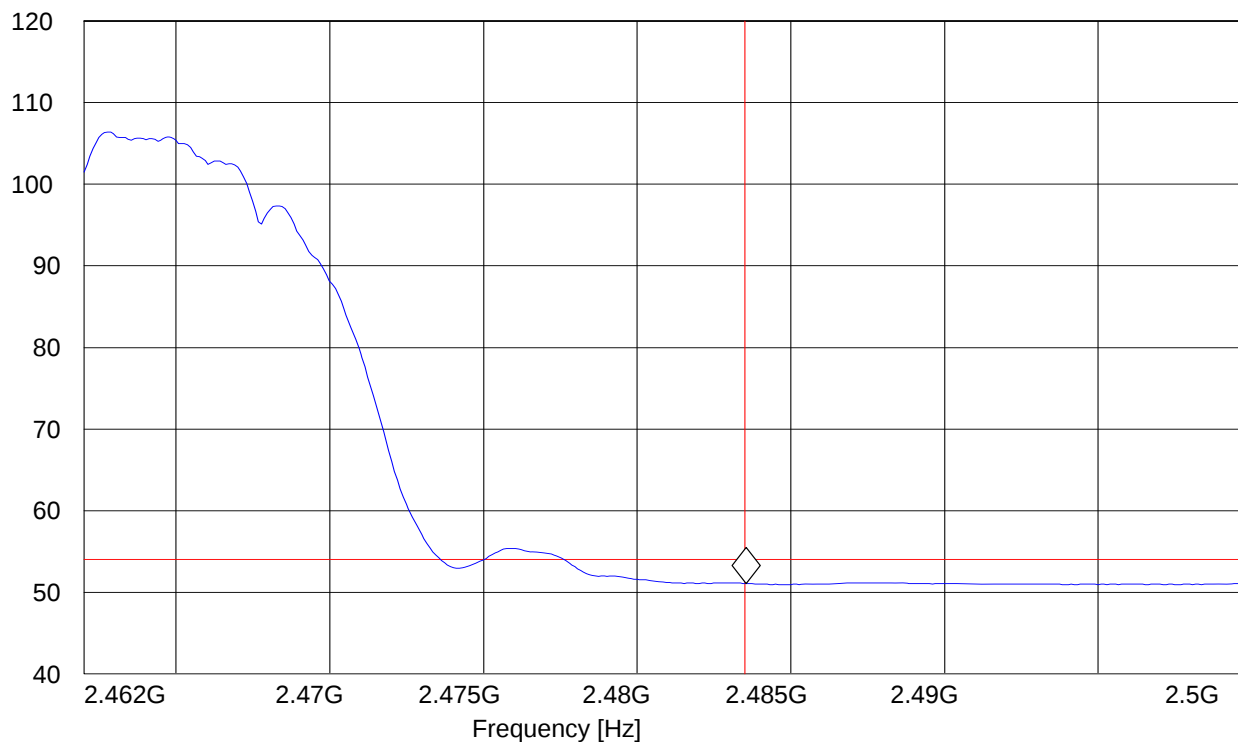
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 HBE_AVG"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_horz

Marker: 2.483547094 GHz 51.05 dBμV/m

Level [dBμV/m]



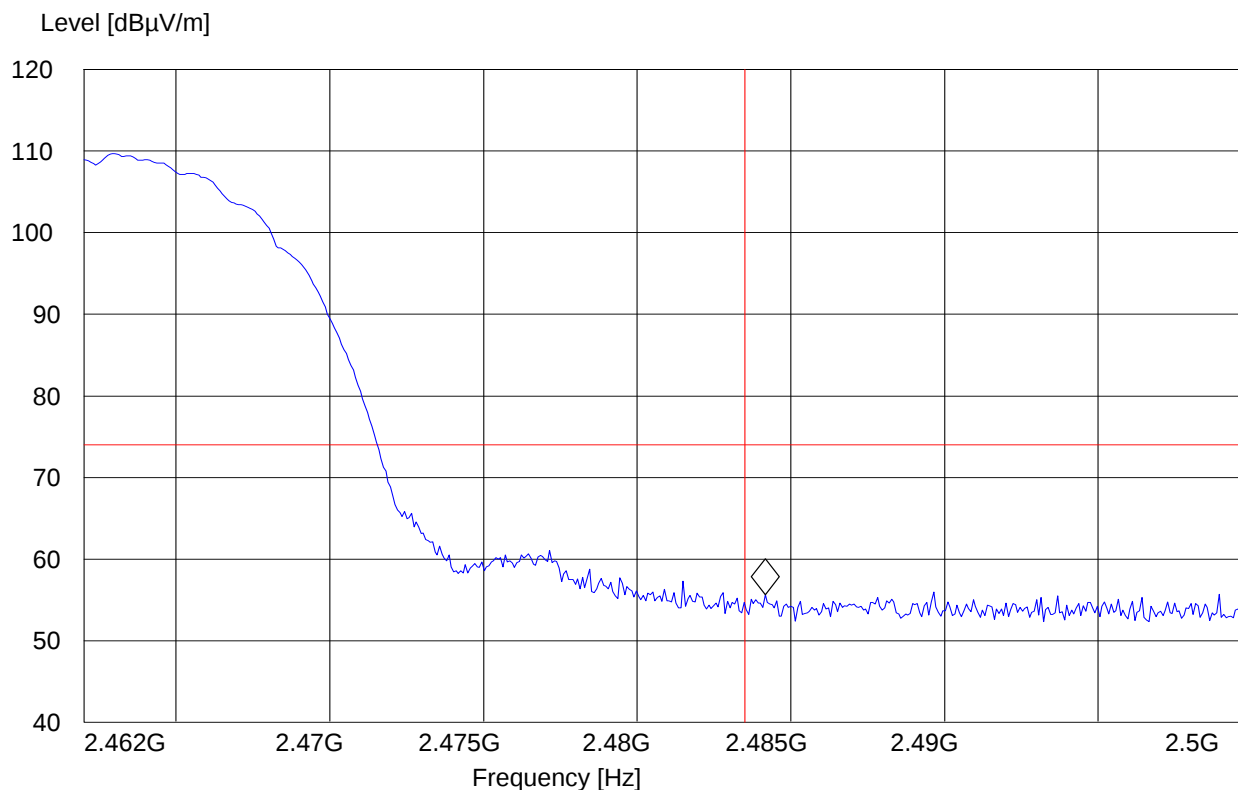
802.11g (2462MHz) PEAK

EUT: PX750
Customer:: PSION
Test Mode: 802.11g CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 HBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.484160321 GHz 55.61 dB μ V/m



802.11g (2462MHz) AVG

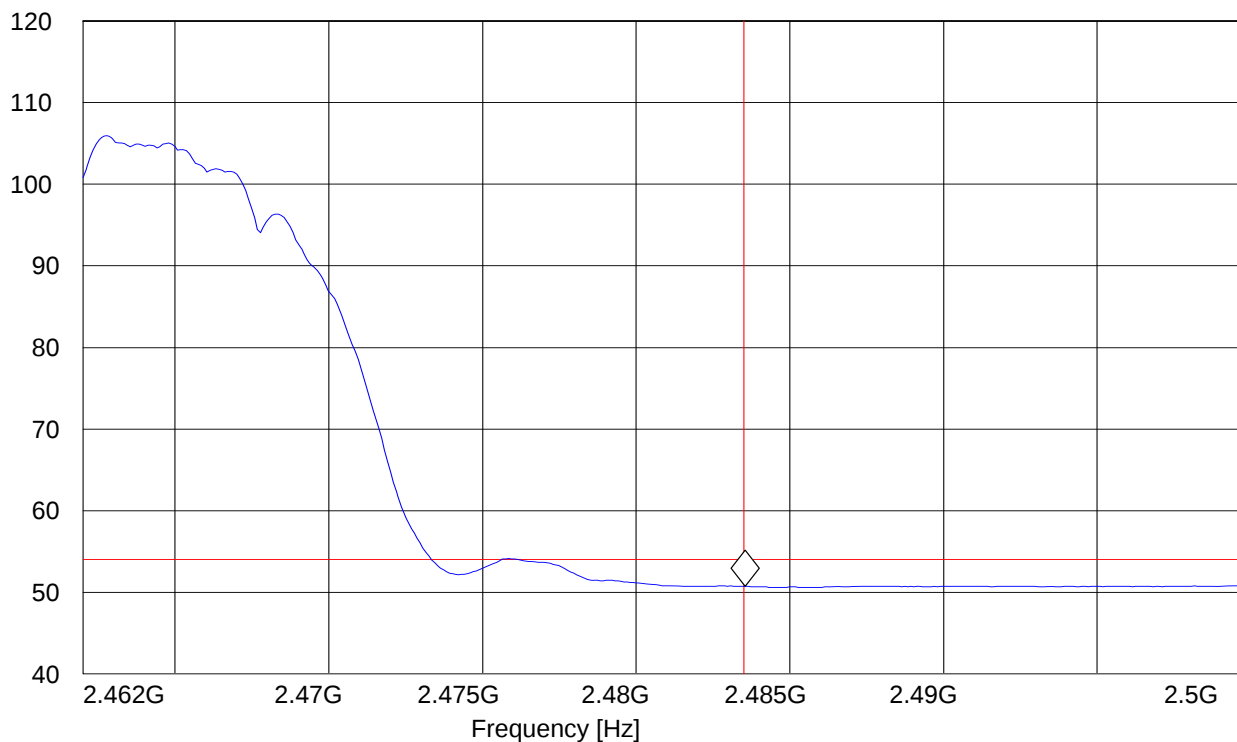
EUT: PX750
Customer:: PSION
Test Mode: 802.11g CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247 HBE_AVG"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_horz

Marker: 2.483547094 GHz 50.7 dB μ V/m

Level [dB μ V/m]



5.3 TRANSMITTER SPURIOUS EMISSIONS RADIATED § 15.247/15.205/15.209

5.3.1 LIMITS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

***PEAK LIMIT= 74dBuV/m AVG. LIMIT= 54dBuV/m**

Notes:

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 are done in peak mode using an average limit , unless specified with the plots.
3. Radiated emissions are maximized by rotating the EUT 360° at 0.5 meter height increments between 1 and 4 meters.
4. Measurements were performed with the EUT in X, Y and Z orientations with the measurement antenna in both horizontal and vertical polarity. The plots below show the results of the worst case orientation and polarity
5. After maximization it is determined that 802.11g mode has worse case emission and only this mode is reported here.

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

5.3.2 RESULTS

30MHz – 1GHz Antenna: vertical

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

Note: Peak measurement against Quasipeak limit. See Quasipeak measurements below.

Customer::

Test Mode:

ANT Orientation: V

EUT Orientation: v

Test Engineer:

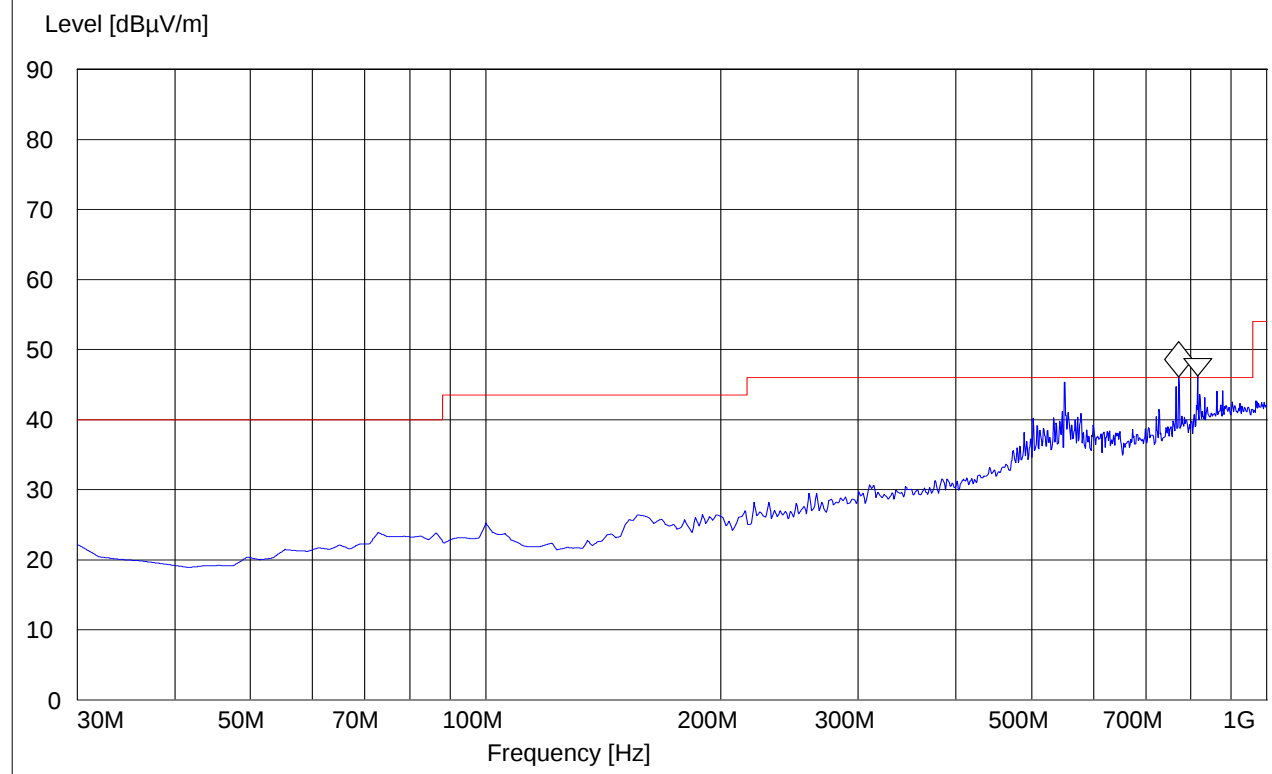
Voltage: battery

Comments:

SWEEP TABLE: "FCC15.247_30M-1G_Ver"

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

Marker:	770.621242 MHz	46.09 dB μ V/m
Delta Mk:	44.709419 MHz	0.12 dB



FREQ	PEAK	QP
550.961924	46.10dB μ V/m	40.10dB μ V/m
770.621242	47.09dB μ V/m	41.79dB μ V/m
815.330661	46.01dB μ V/m	40.59dB μ V/m

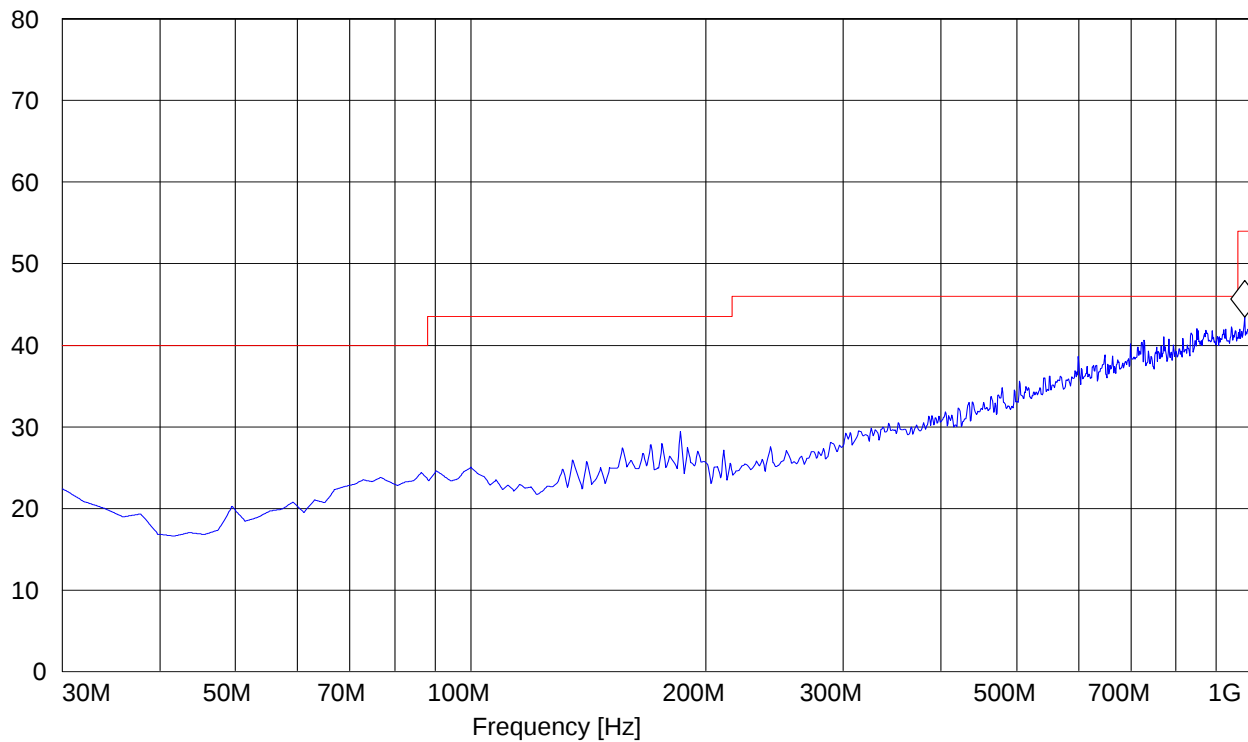
30MHz – 1GHz Antenna: horizontal**Note: This plot is valid for low, mid, high channels (worst-case plot)****Note: Peak measurement against Quasipeak limit.**

EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 6
ANT Orientation: H
EUT Orientation: V
Test Engineer: Chris
Voltage: Battery
Comments:

SWEEP TABLE: "FCC15.247_30M-1G_Hor"

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

Marker: 978.617234 MHz 43.45 dB μ V/m

Level [dB μ V/m]

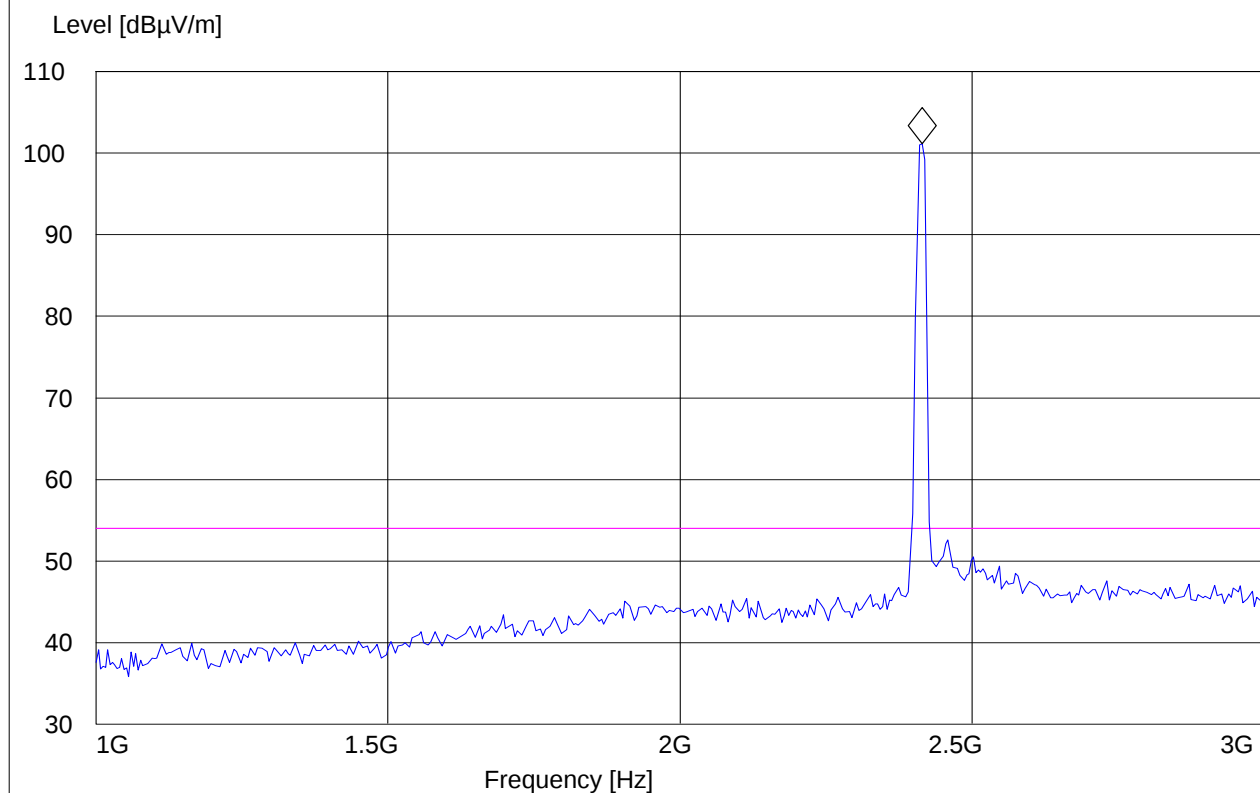
1-3GHz (2412MHz)

EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.414829659 GHz 101.12 dB μ V/m



1-3GHz (2437MHz)

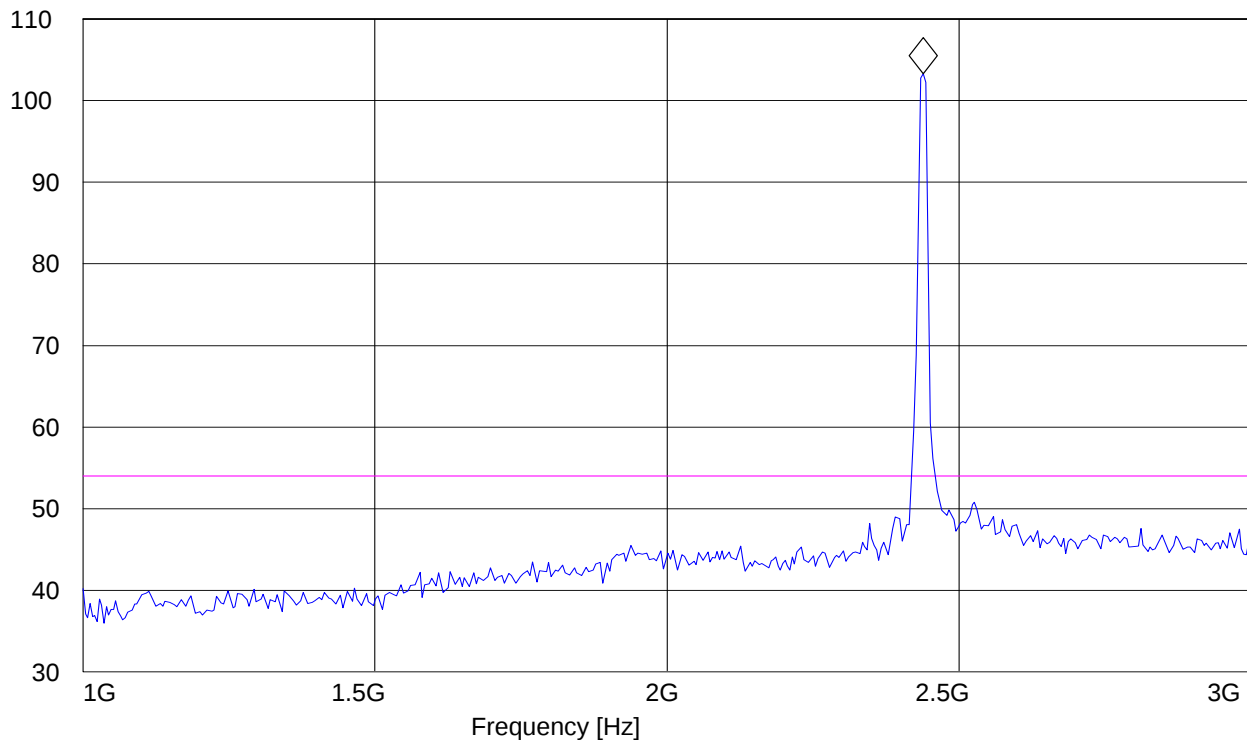
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 6
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.438877756 GHz 103.31 dBμV/m

Level [dBμV/m]



1-3GHz (2462MHz)

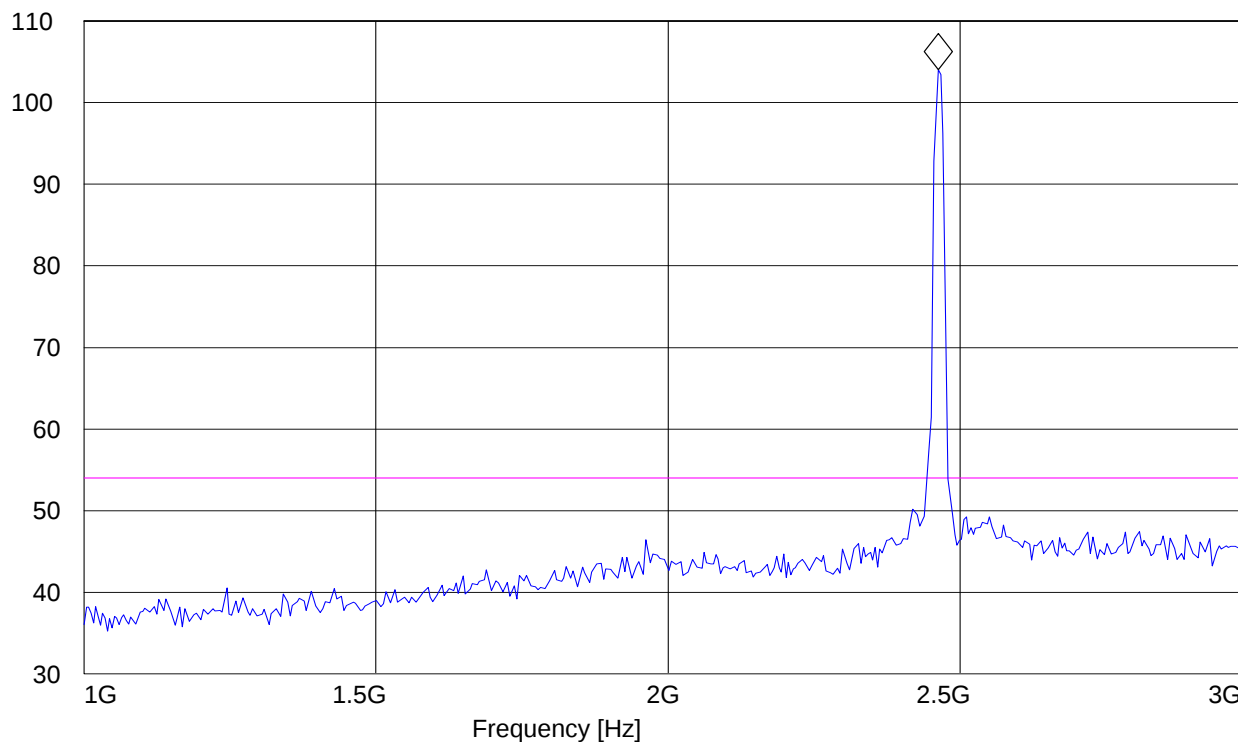
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.462925852 GHz 104.04 dB μ V/m

Level [dB μ V/m]



3-18GHz (2412MHz)

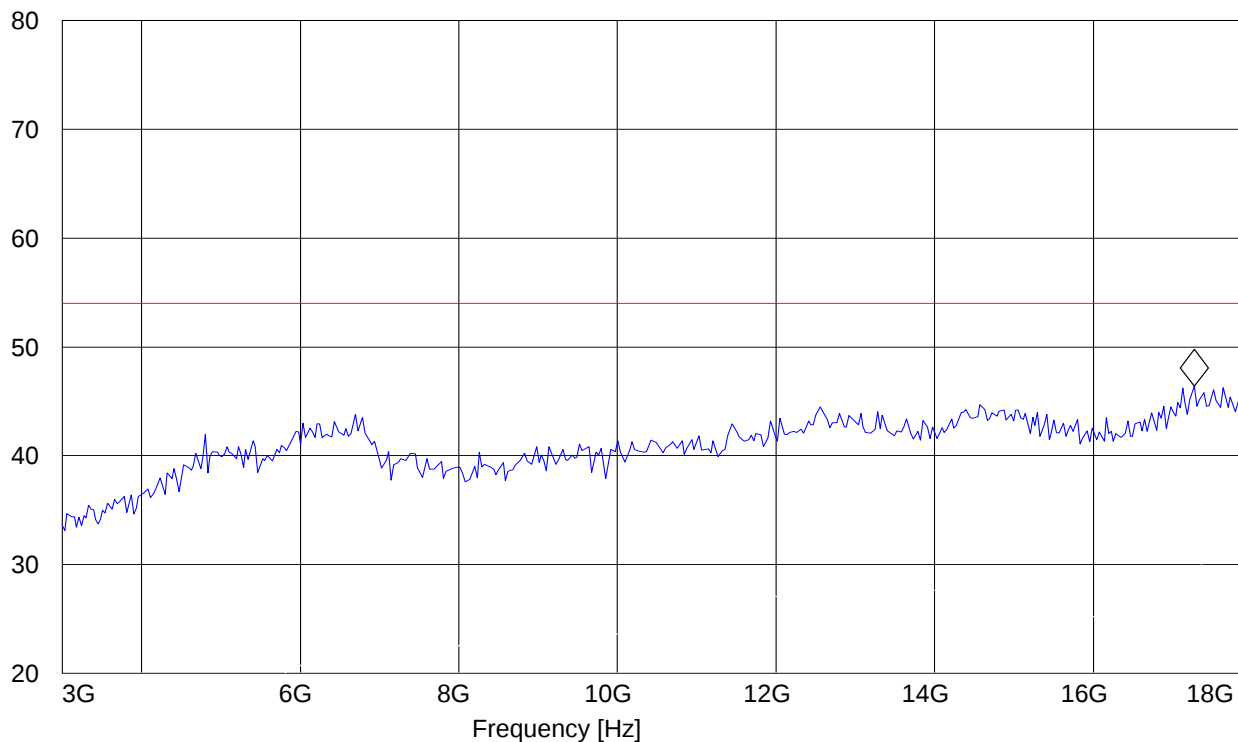
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 1
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments: With 2.4GHz notch filter

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.278557114 GHz 46.41 dBμV/m

Level [dBμV/m]



3-18GHz (2437MHz)

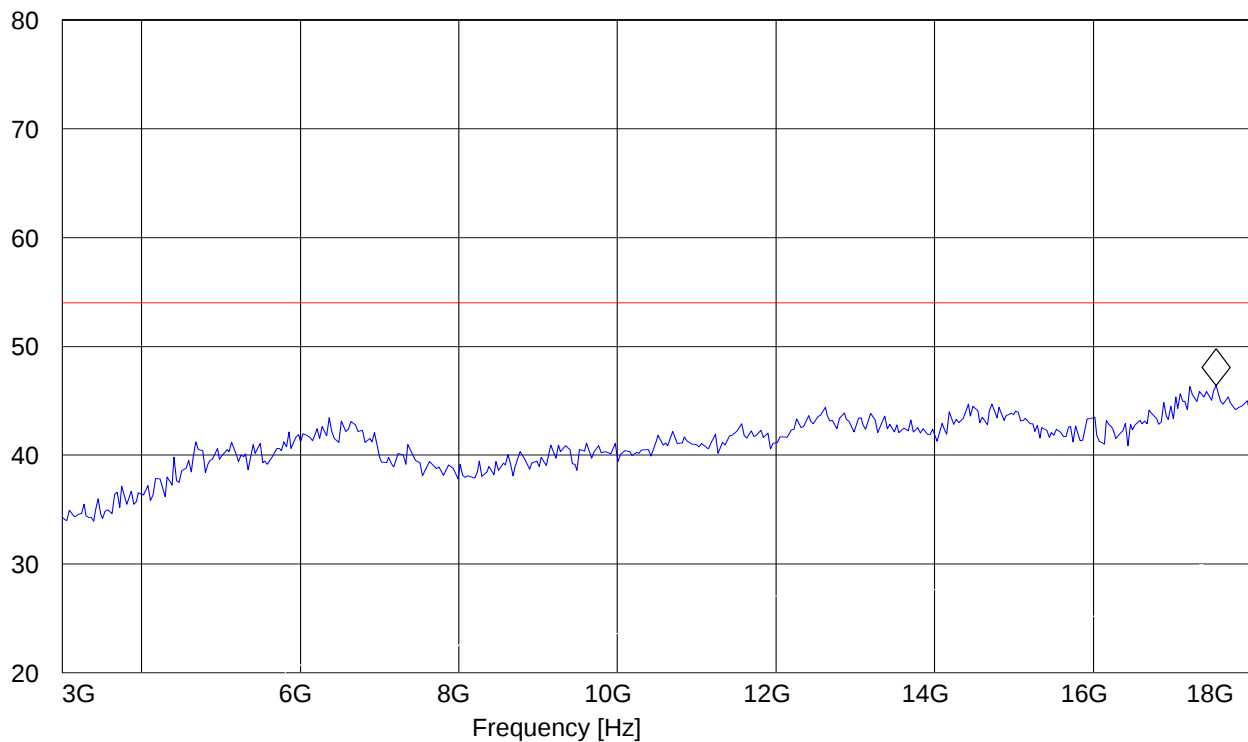
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 6
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments: With 2.4GHz notch filter

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.549098196 GHz 46.42 dB μ V/m

Level [dB μ V/m]



3-18GHz (2462MHz)

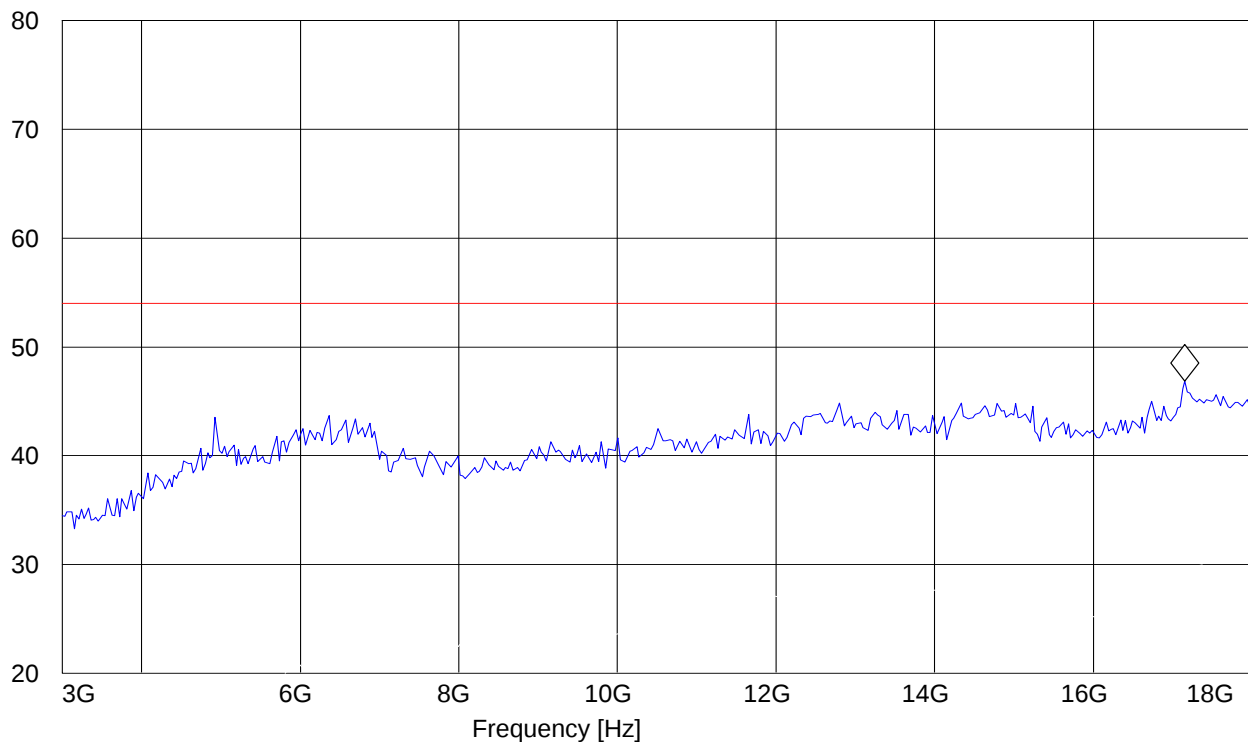
EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 11
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments: With 2.4GHz notch filter

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.158316633 GHz 46.84 dB μ V/m

Level [dB μ V/m]



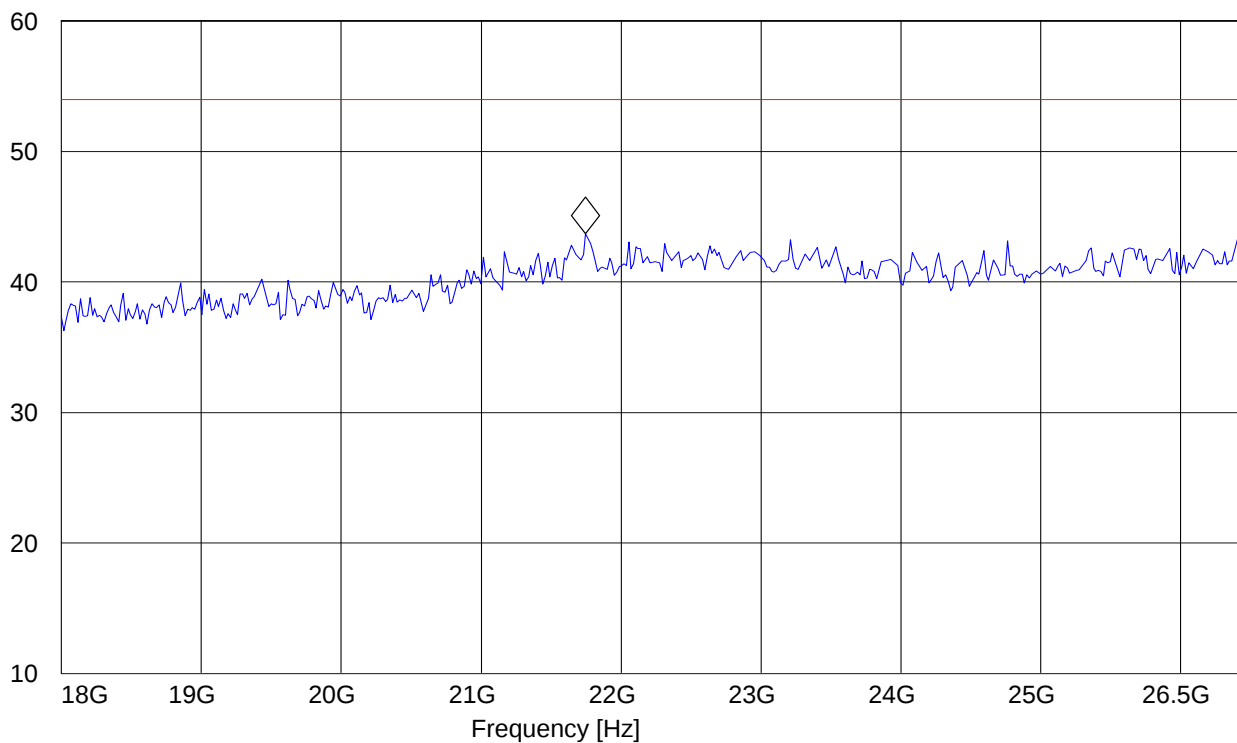
18-25GHz**Note: This plot is valid for low, mid, high channels (worst-case plot)****Note: Peak Reading vs. Average limit**

EUT: PX750
Customer:: PSION
Test Mode: 802.11b CH 6
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_18-26.5G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
18.0 GHz	26.5 GHz	MaxPeak MaxPeak	Coupled	100 kHz	Horn # 3116_18-40G

Marker: 21.74749499 GHz 43.68 dB μ V/m

Level [dB μ V/m]

5.4 RECEIVER SPURIOUS RADIATION RSS-Gen(4.10)

5.4.1 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 are done in peak mode using an average limit, unless specified with the plots.

5.4.2 Results

30MHz – 1GHz Antenna: Vertical.

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

Note: Peak measurement against Quasipeak limits. See below for QP measurements.

EUT: PX750
Customer:: PSION
Test Mode: RX
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

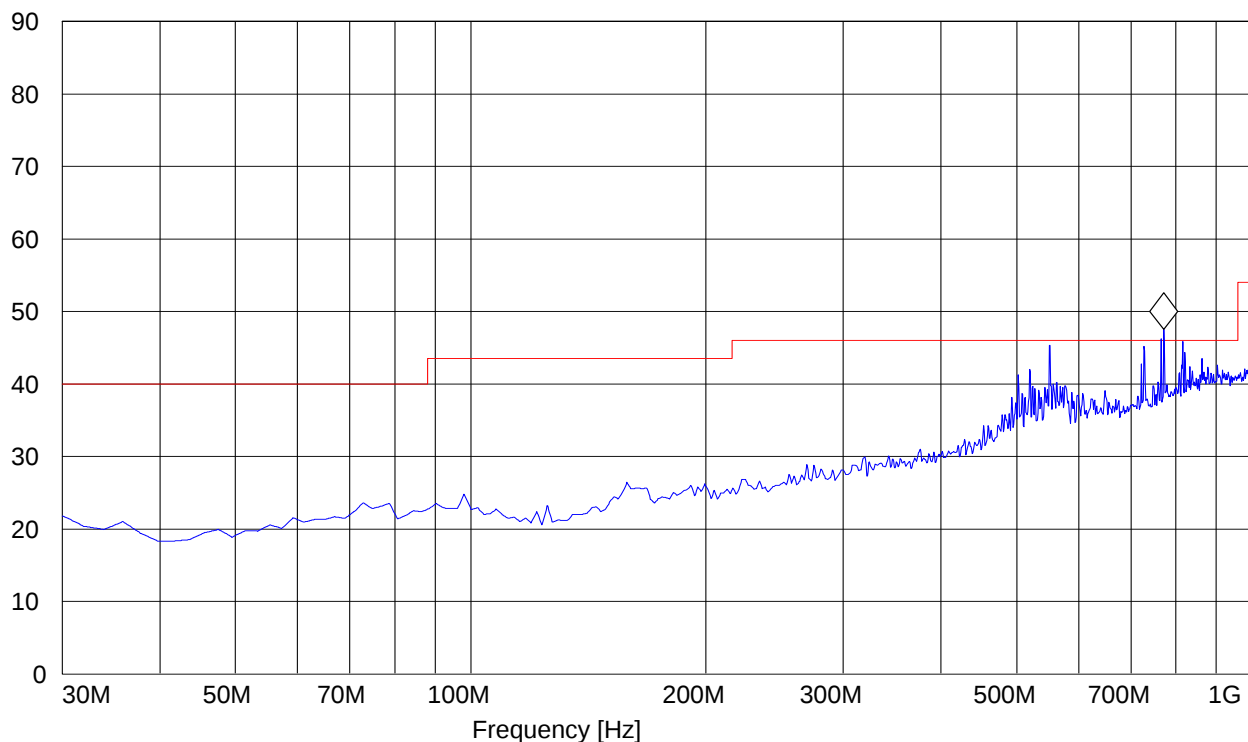
SWEEP TABLE: "FCC15.247_30M-1G_Ver"

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

Marker: 770.621242 MHz

47.52 dB μ V/m

Level [dB μ V/m]



550.961924	45.80dB μ V/m	39.80dB μ V/m
770.621242	47.09dB μ V/m	41.79dB μ V/m
815.330661	46.00dB μ V/m	40.58dB μ V/m

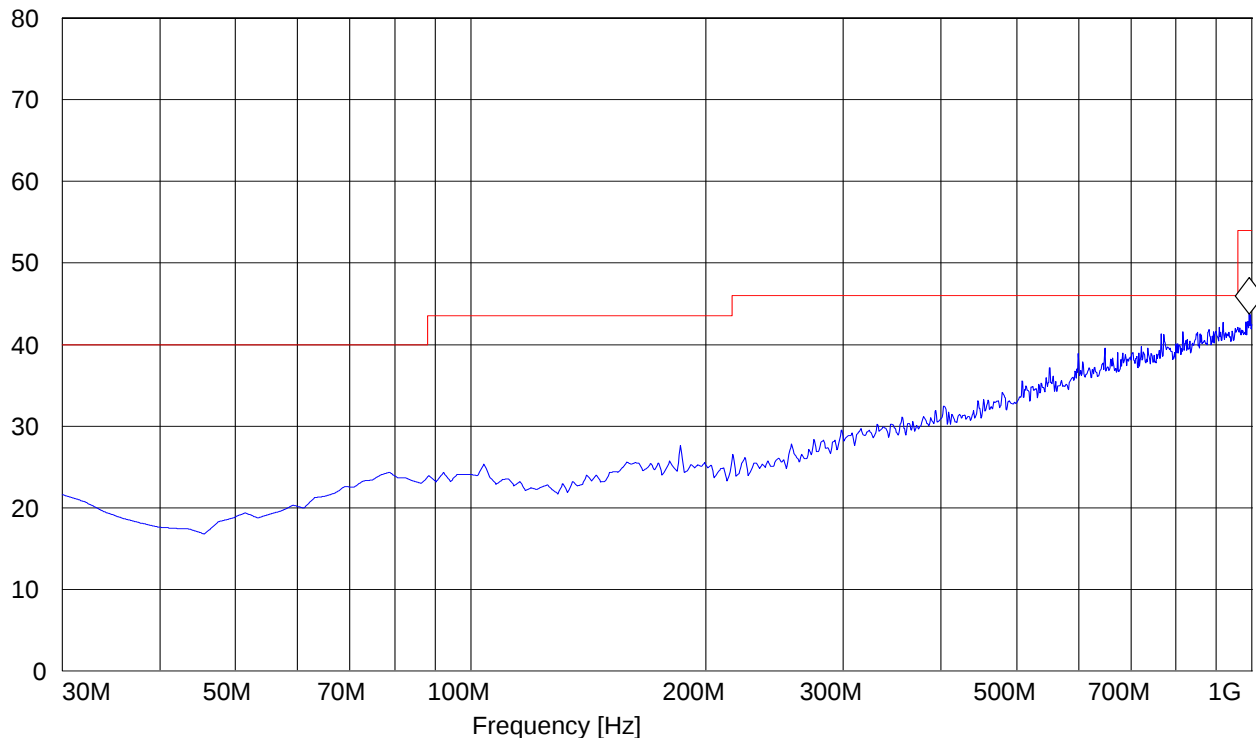
30MHz – 1GHz Antenna: horizontal.

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

EUT: PX750
Customer:: PSION
Test Mode: RX
ANT Orientation: H
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_30M-1G_Hor"

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

Marker: 992.224449 MHz 43.75 dB μ V/mLevel [dB μ V/m]

1-3GHz

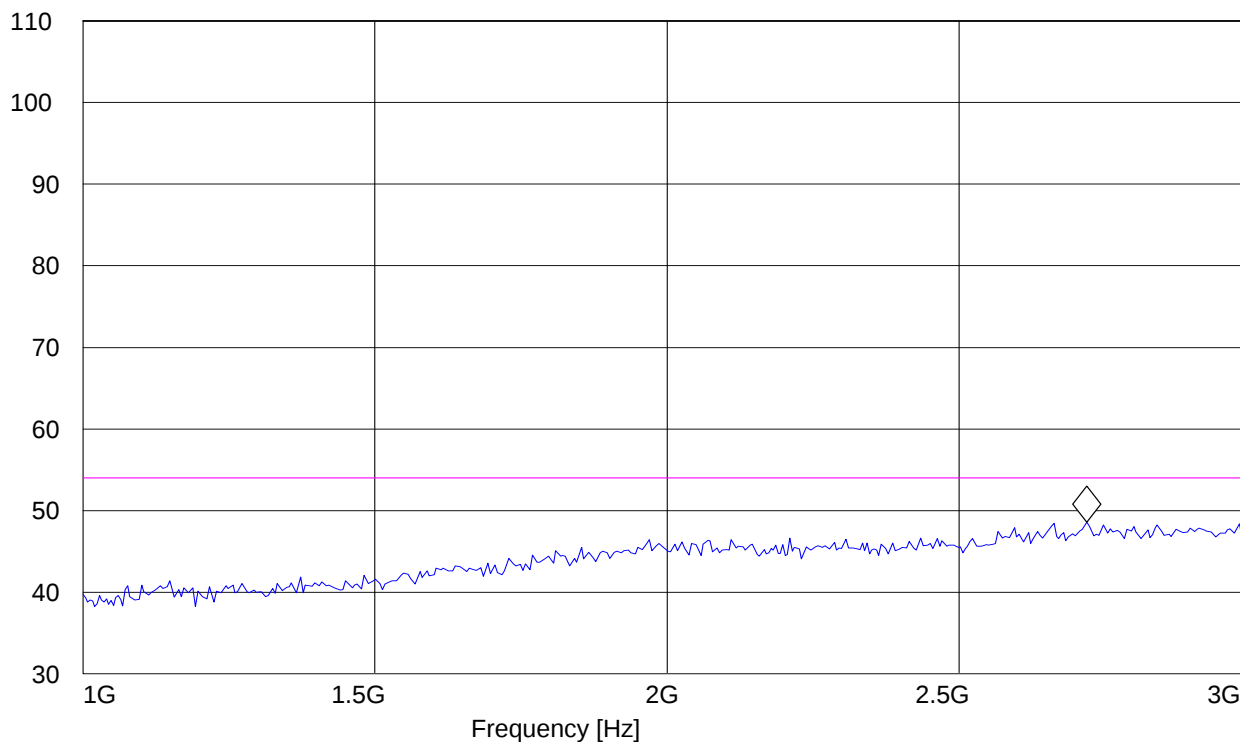
EUT: PX750
Customer:: PSION
Test Mode: RX
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.719438878 GHz 48.54 dB μ V/m

Level [dB μ V/m]



3-18GHz

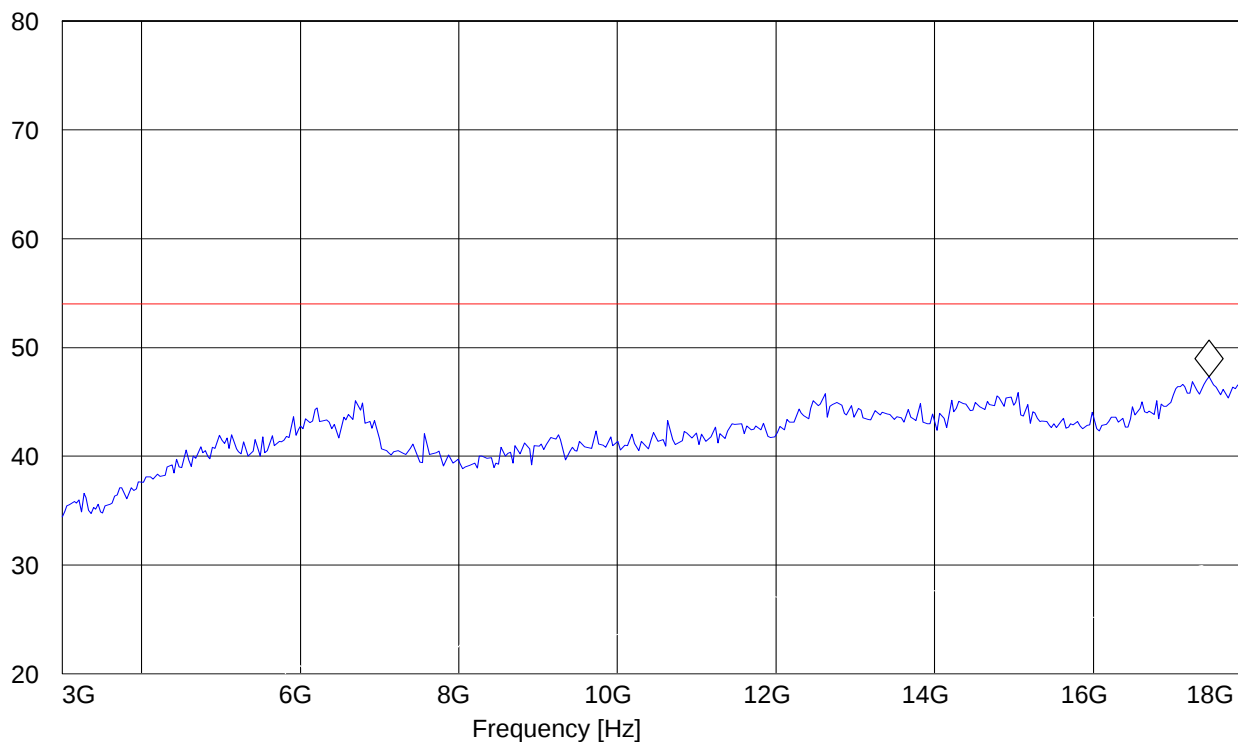
EUT: PX750
Customer:: PSION
Test Mode: RX
ANT Orientation: V
EUT Orientation: V
Test Engineer: Chris
Voltage: BATTERY
Comments:

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
3.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.458917836 GHz 47.29 dB μ V/m

Level [dB μ V/m]



6 Conducted Measurements**7 Measurements (CONDUCTED)****7.1 MAXIMUM OUTPUT POWER § 15.247 (CONDUCTED)****7.1.1 LIMIT SUB CLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz	30dBm

*limit is based upon antenna gain of less than or equal to 6dBi.

7.1.2 RESULTS:

TEST CONDITIONS	MAXIMUM OUTPUT POWER (dBm)		
Frequency (MHz)	2412 MHz	2437 MHz	2462 MHz
802.11b	17.70	17.87	16.90
802.11g	14.82	14.43	14.29

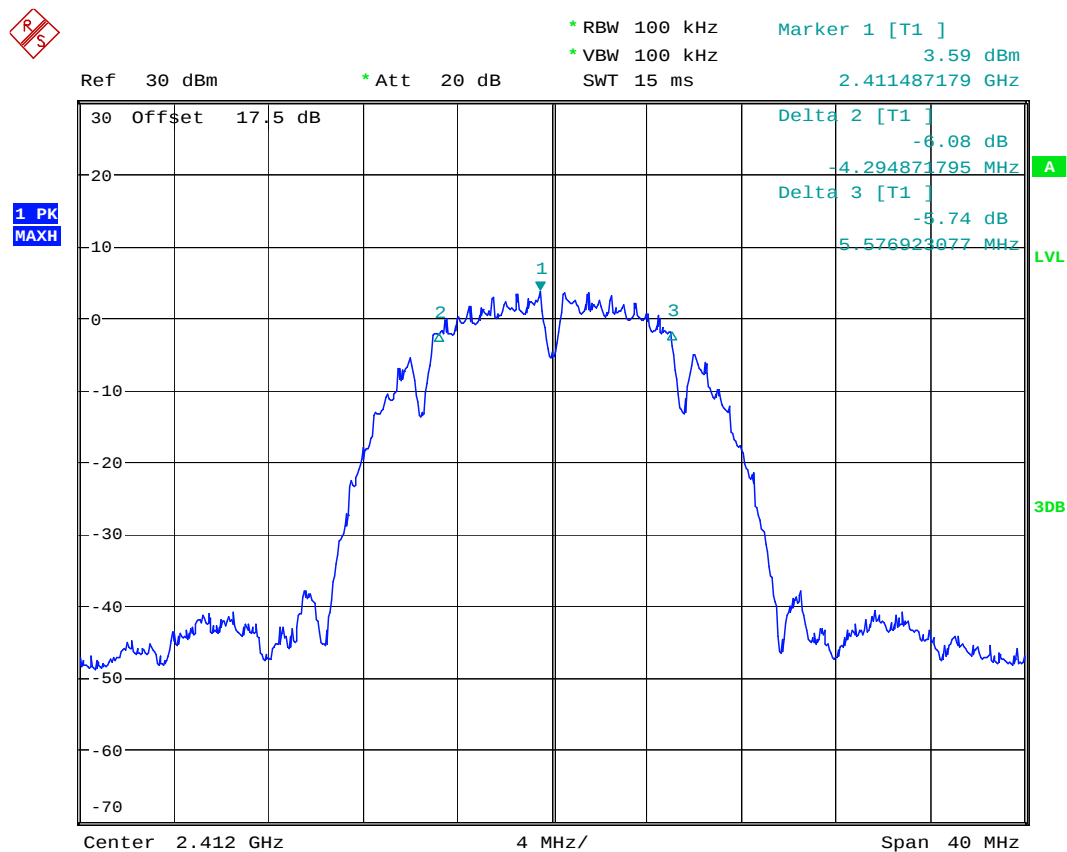
7.2 6dB BANDWIDTH

7.2.1 LIMIT SUB CLAUSE § 15.247 (a) (2)

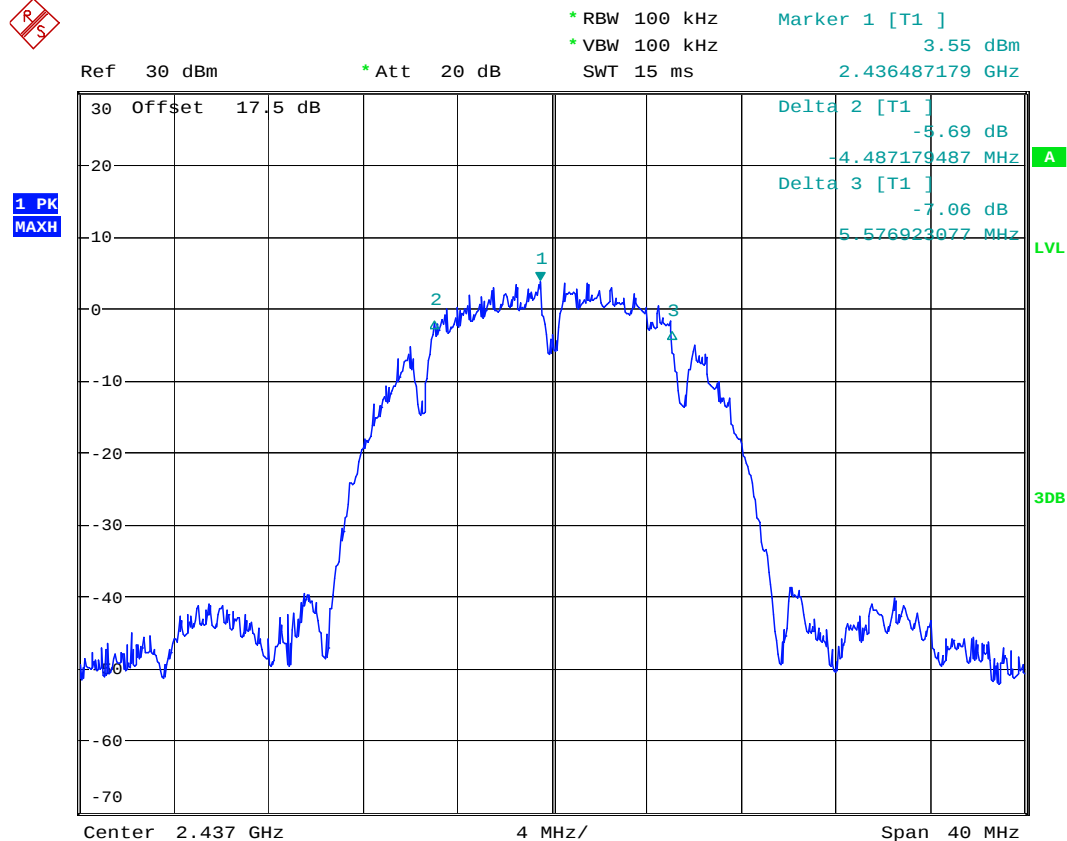
(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Frequency range	6dB Band width
2400-2483.5 MHz	500kHz

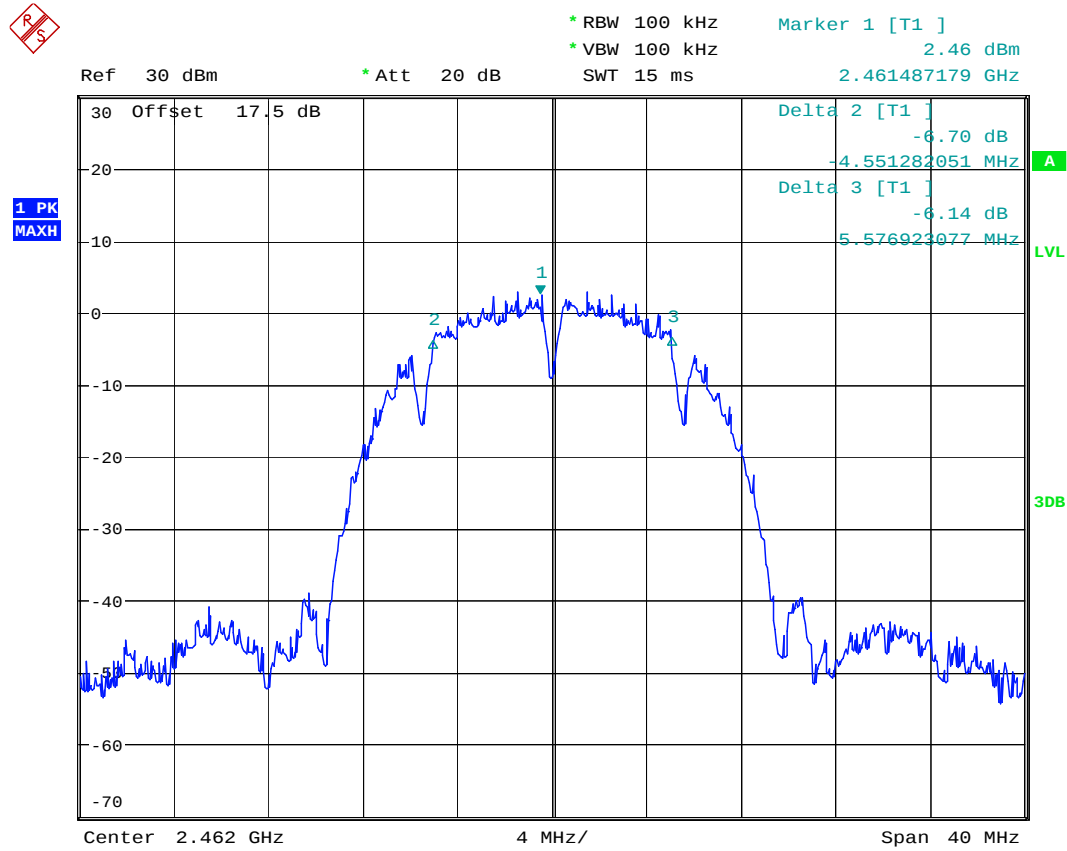
TEST CONDITIONS Frequency (MHz)	6dB BANDWIDTH (MHz)		
	2412 MHz	2437 MHz	2462 MHz
802.11b	9.80	10.05	10.13
802.11g	16.60	16.66	16.53

(2412 MHz) 802.11b 6dB BW

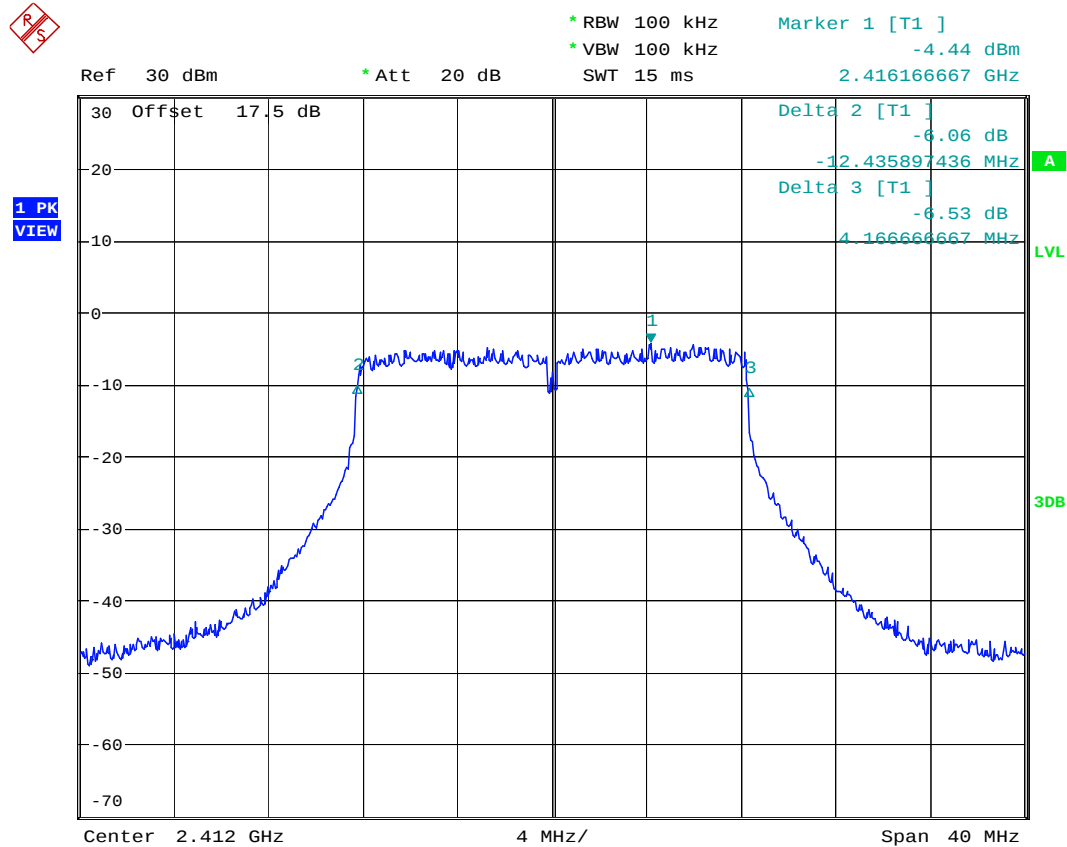
Date: 2.JUN.2008 13:46:05

(2437 MHz) 802.11b 6dB BW

Date: 2.JUN.2008 13:47:57

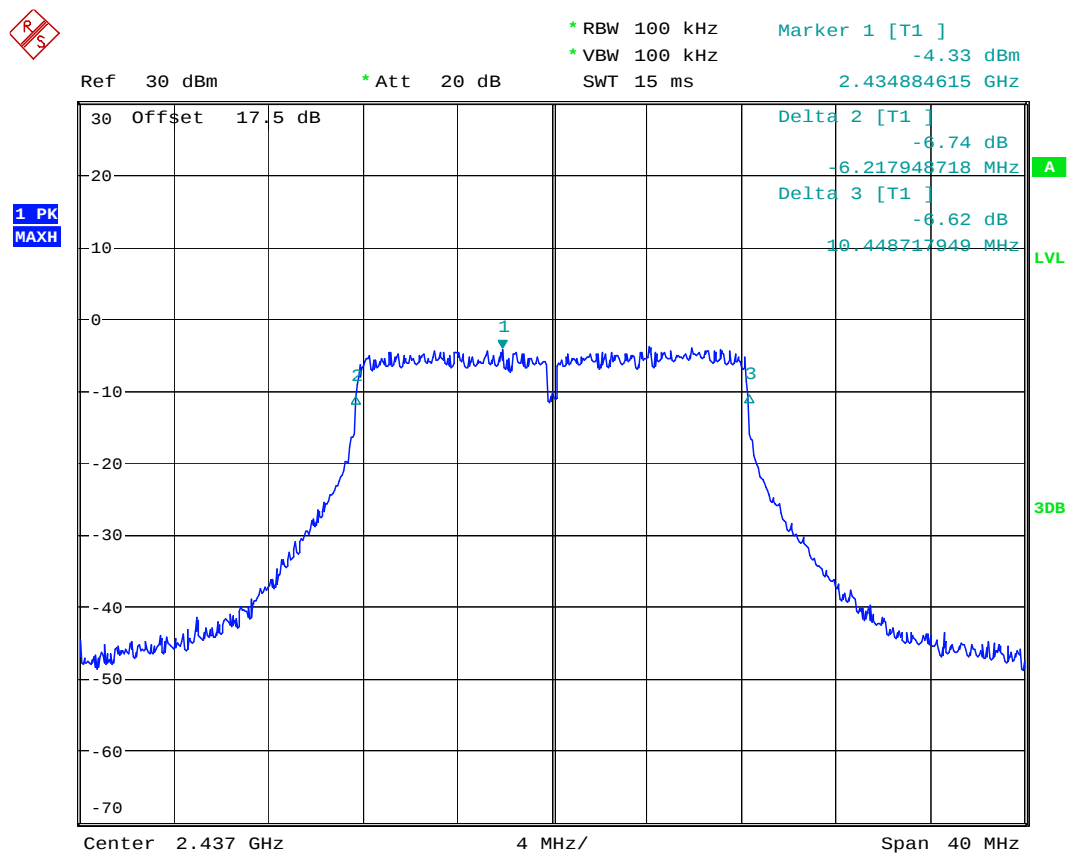
(2462 MHz) 802.11b 6dB BW

Date: 2.JUN.2008 13:50:12

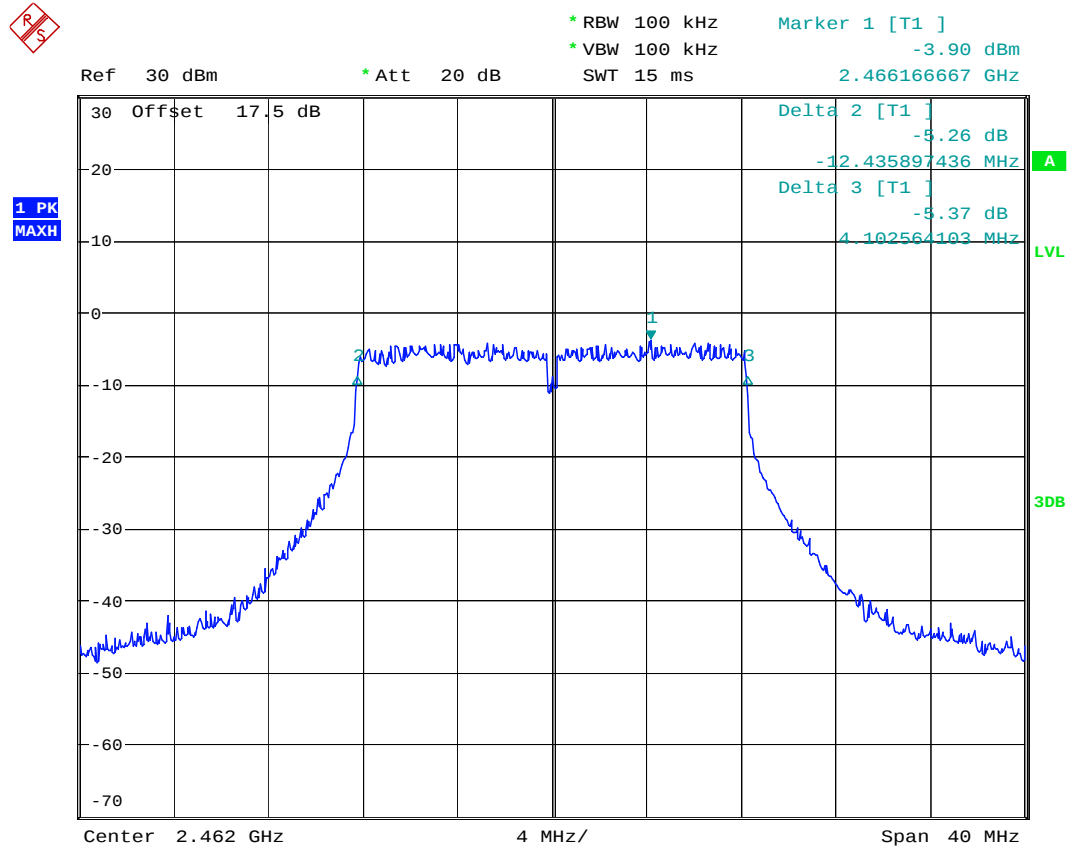
(2412 MHz) 802.11g 6dB BW

Date: 2.JUN.2008 13:43:53

(2437 MHz) 802.11g 6dB BW



Date: 2.JUN.2008 13:48:55

(2462 MHz) 802.11g 6dB BW

Date: 2.JUN.2008 13:51:17

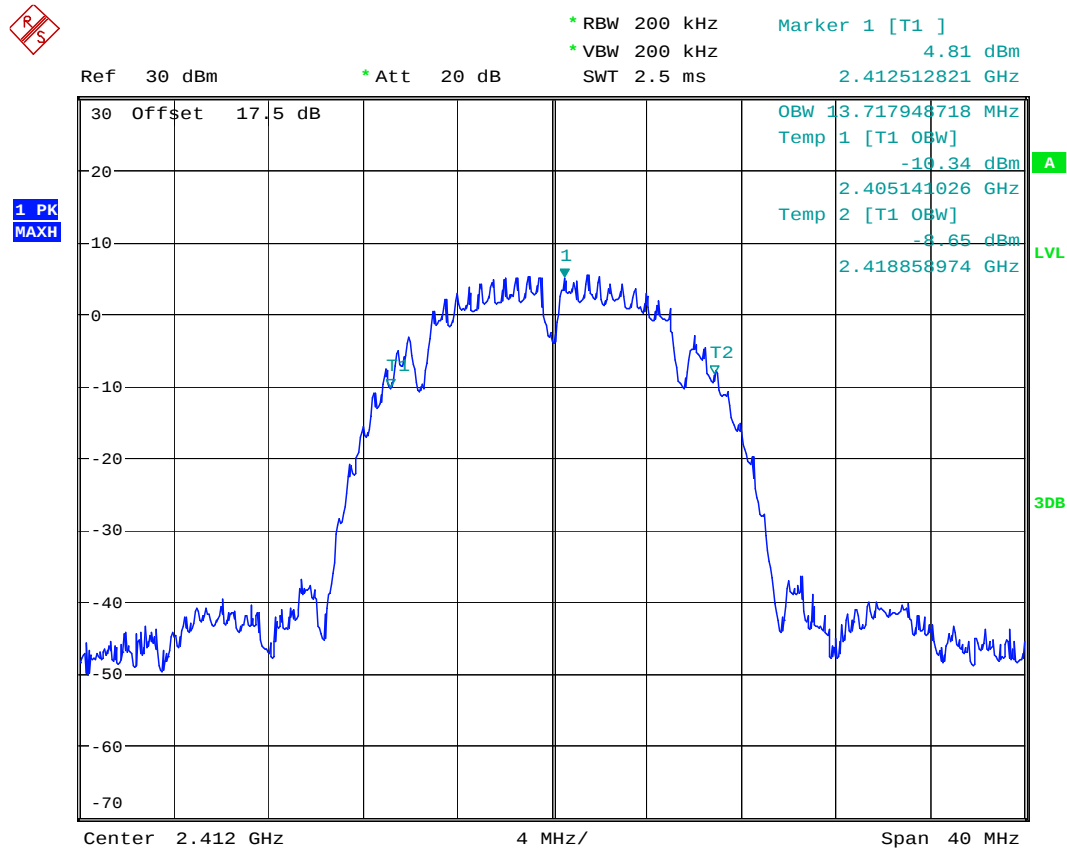
7.3 99% BANDWIDTH

7.3.1 LIMIT SUB CLAUSE § RSS-210 (A8.2)(a)

99% BW shall be at least 500kHz

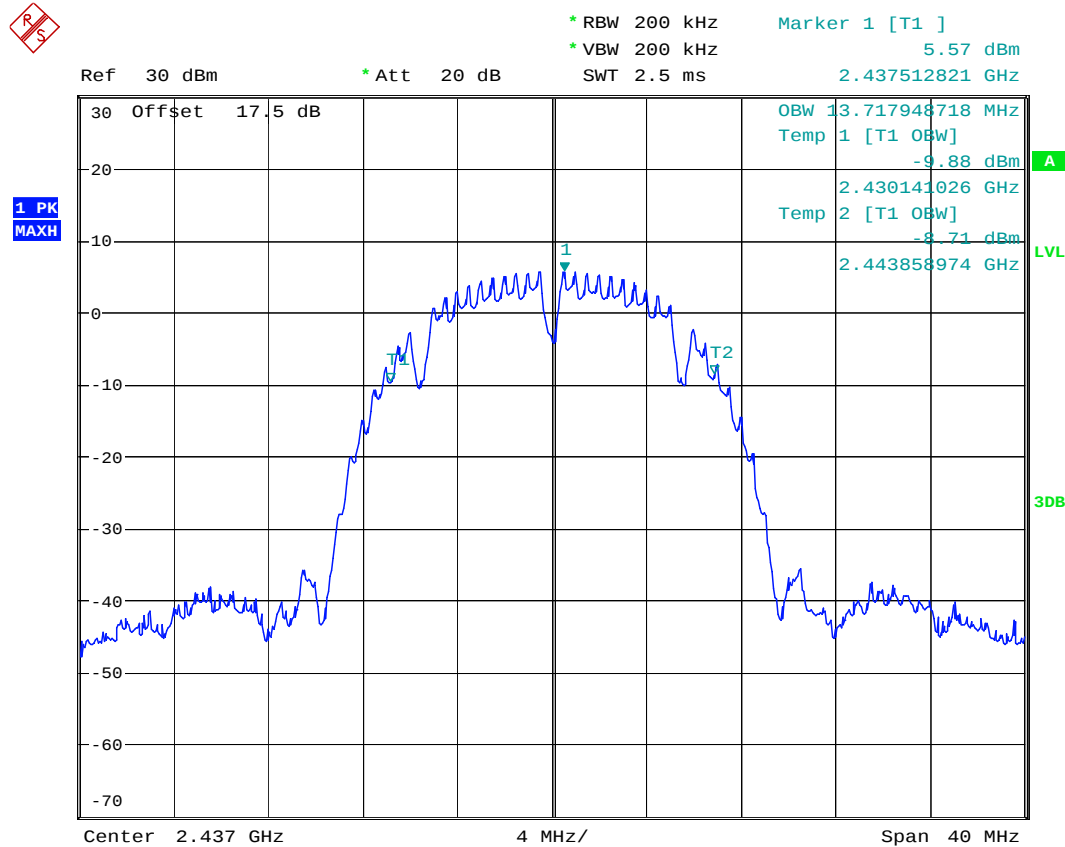
Frequency range	99% Band width
2400-2483.5 MHz	500kHz

TEST CONDITIONS	99% BANDWIDTH (MHz)		
Frequency (MHz)	2412 MHz	2437 MHz	2462 MHz
802.11b	13.72	13.72	13.78
802.11g	16.67	16.60	16.73

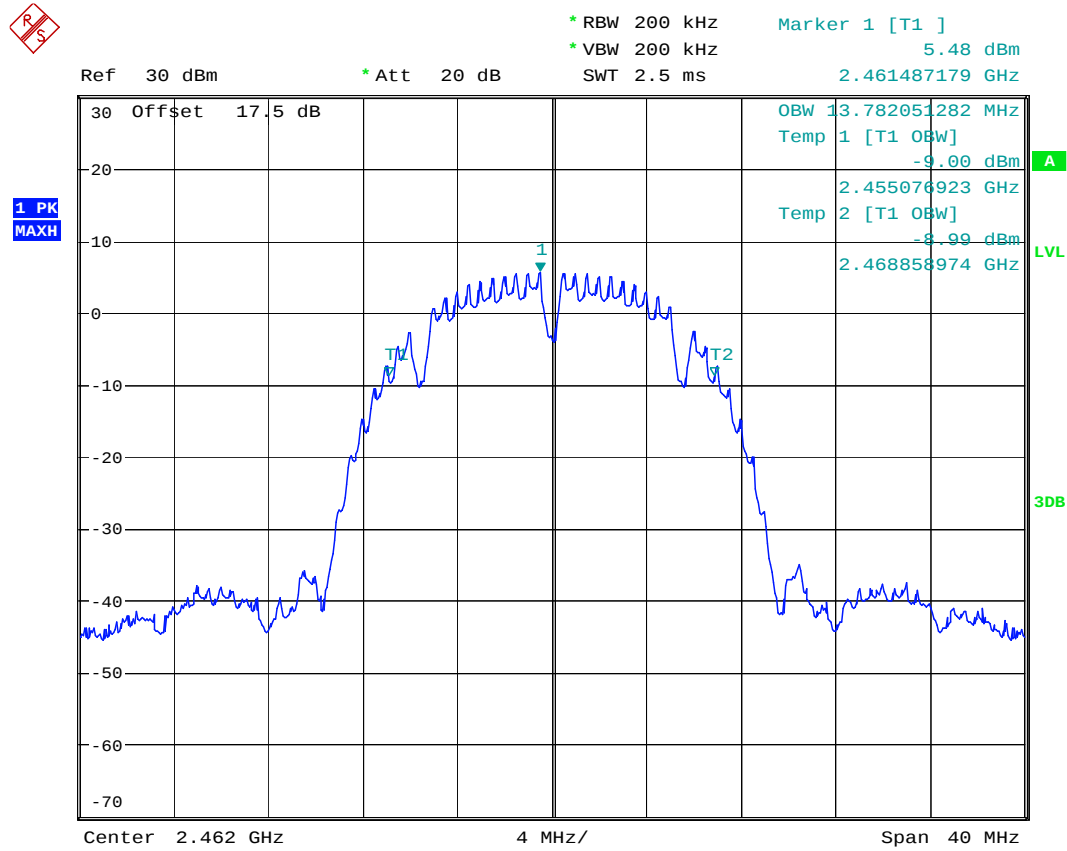
(2412 MHz) 802.11b 99% BW

Date: 2.JUN.2008 14:05:22

(2437 MHz) 802.11b 99% BW



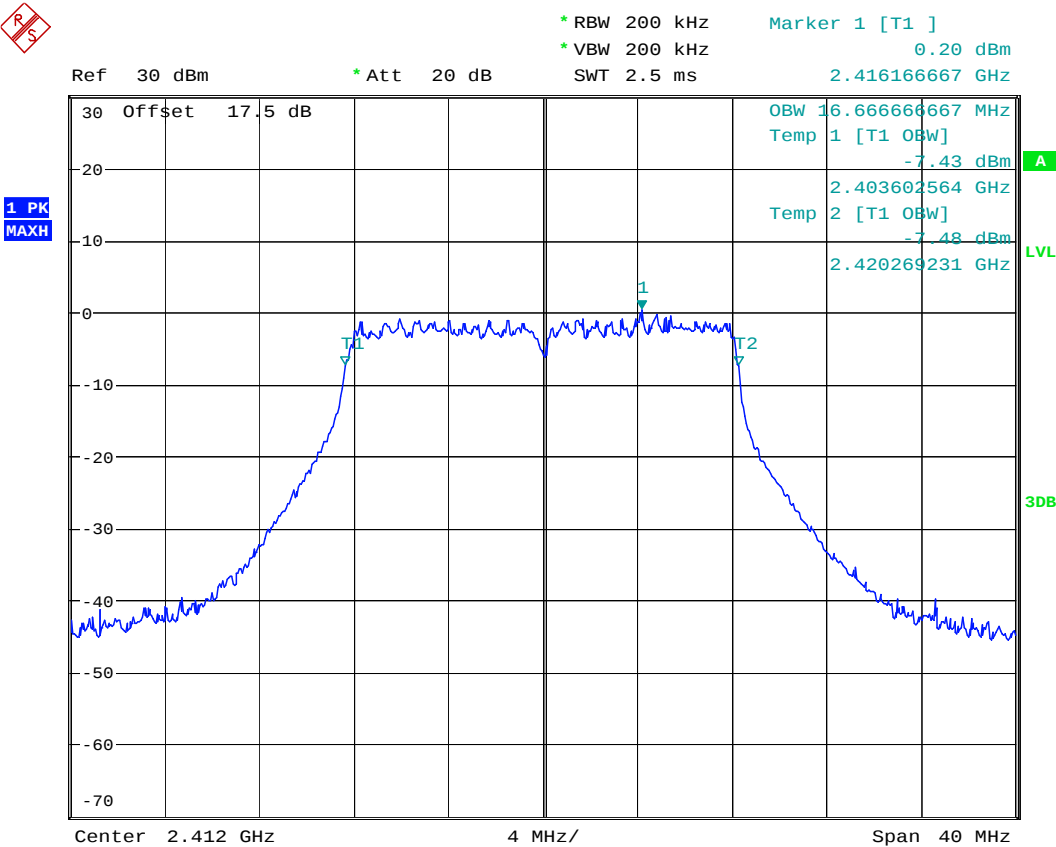
Date: 2.JUN.2008 13:58:09

(2462 MHz) 802.11b 99% BW

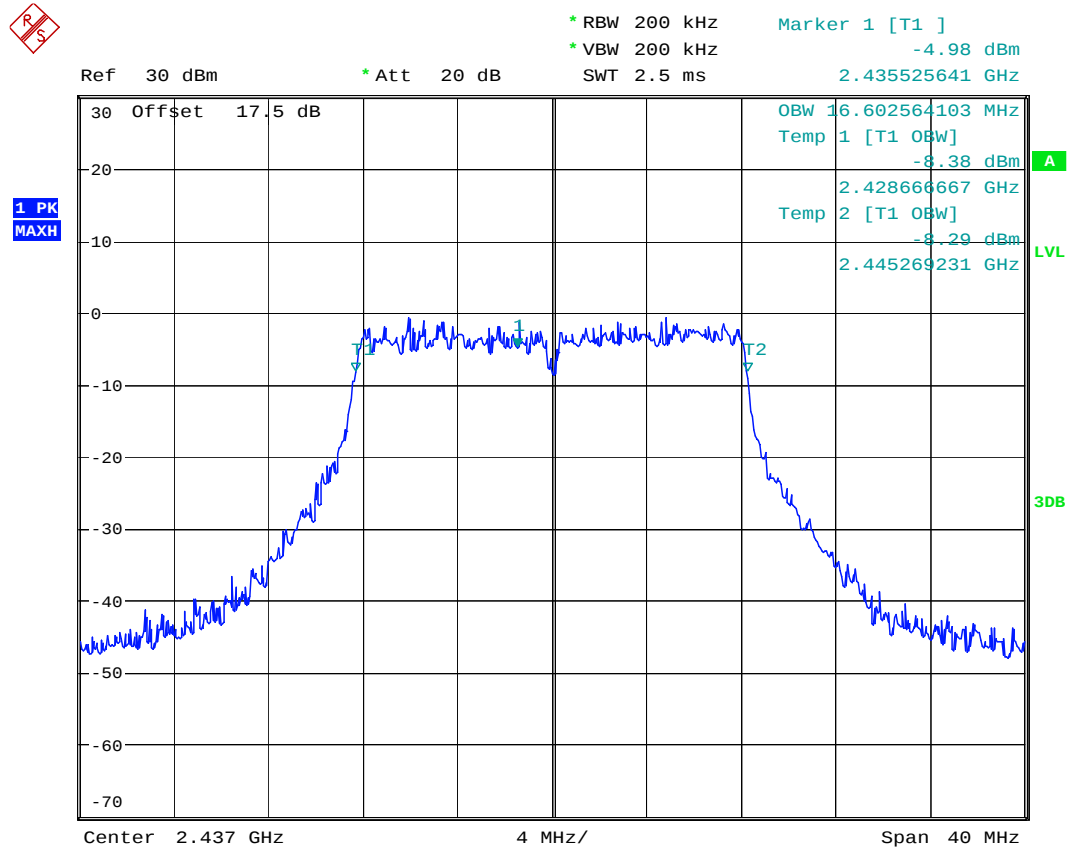
Date: 2.JUN.2008 13:56:22



(2412 MHz) 802.11g 99% BW



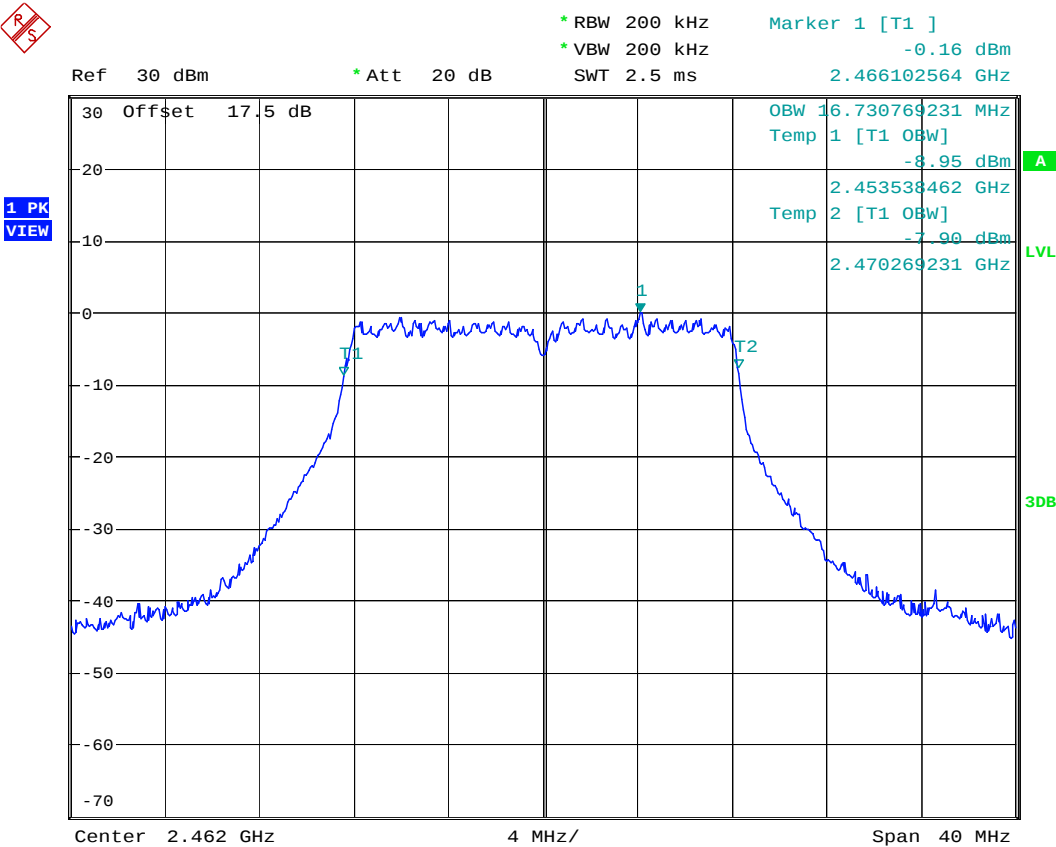
Date: 2.JUN.2008 14:06:10

(2437 MHz) 802.11g 99% BW

Date: 2.JUN.2008 13:57:17



(2462 MHz) 802.11g 99% BW



7.4 POWER SPECTRAL DENSITY**7.4.1 LIMIT SUB CLAUSE § 15.247 5 (d)**

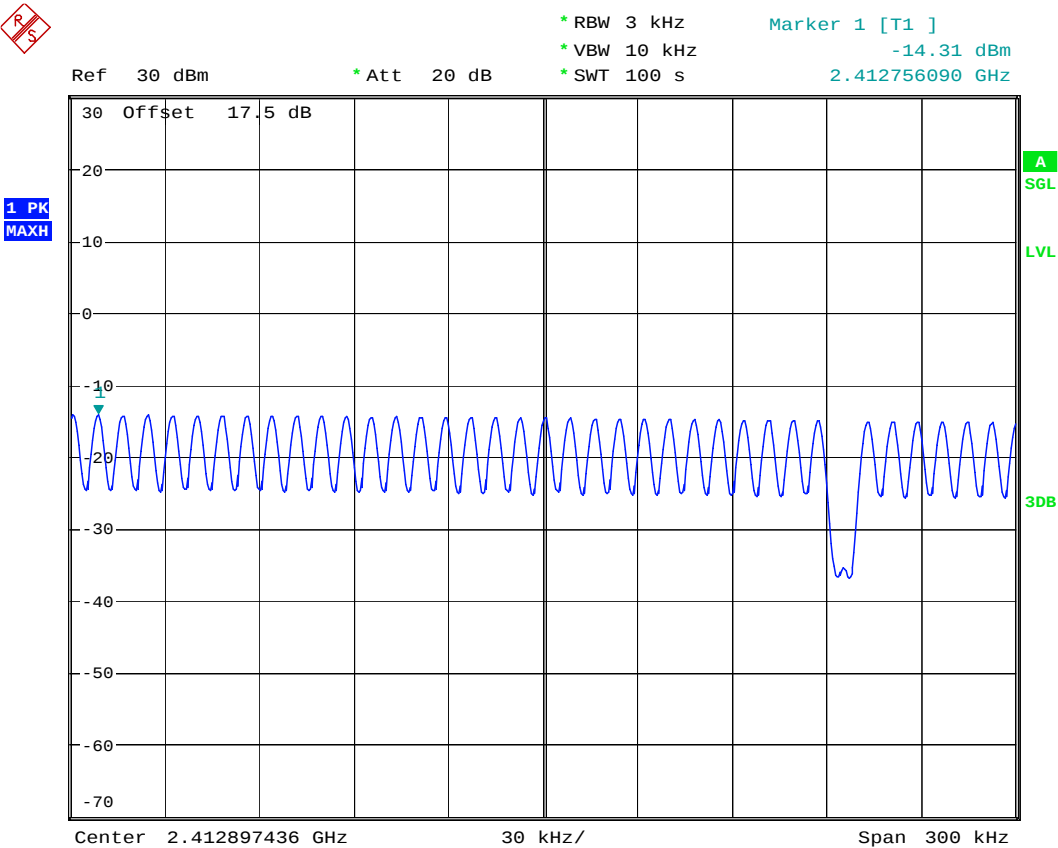
FREQUENCY RANGE	limit
2400-2483.5	8dBm (in 3kHz BW)

7.4.2 RESULTS:

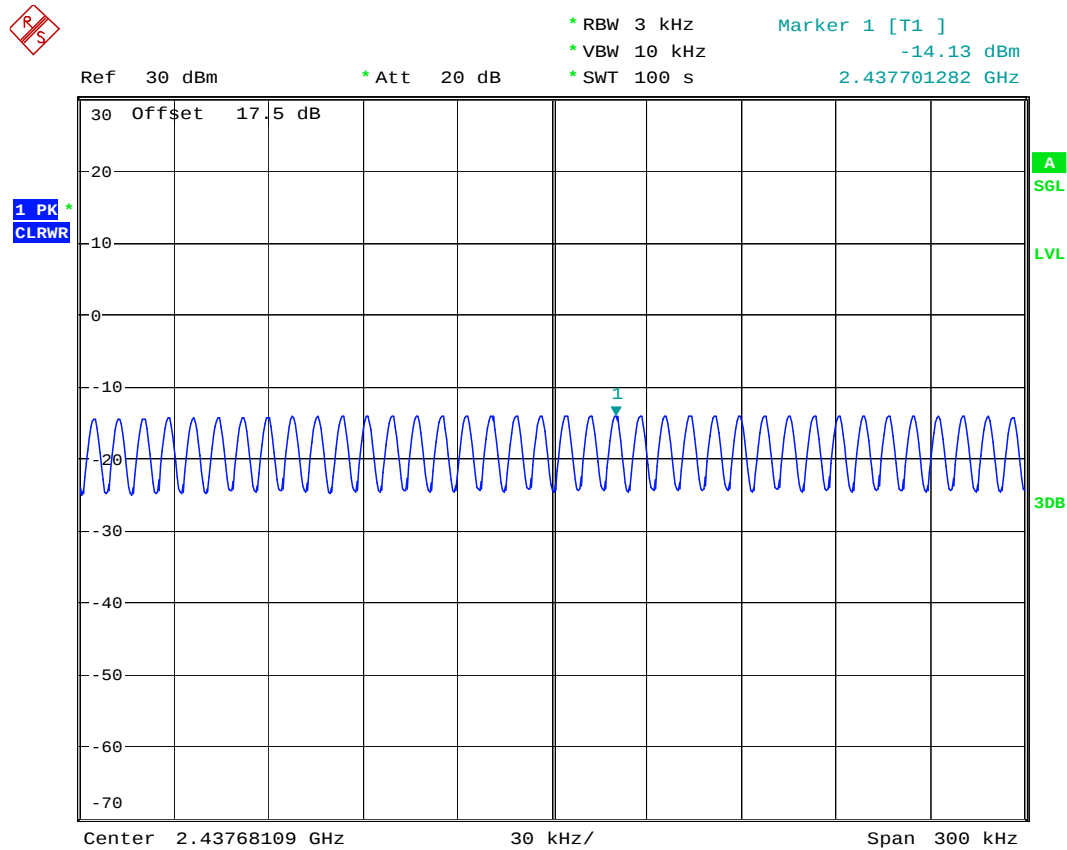
TEST CONDITIONS Frequency (MHz)	POWER SPECTRAL DENSITY (dBm)		
	2412 MHz	2437 MHz	2462 MHz
802.11b	-14.31	-14.13	-14.42
802.11g	-18.82	-18.04	-18.44



(2412 MHz) 802.11b POWER SPECTRAL DENSITY



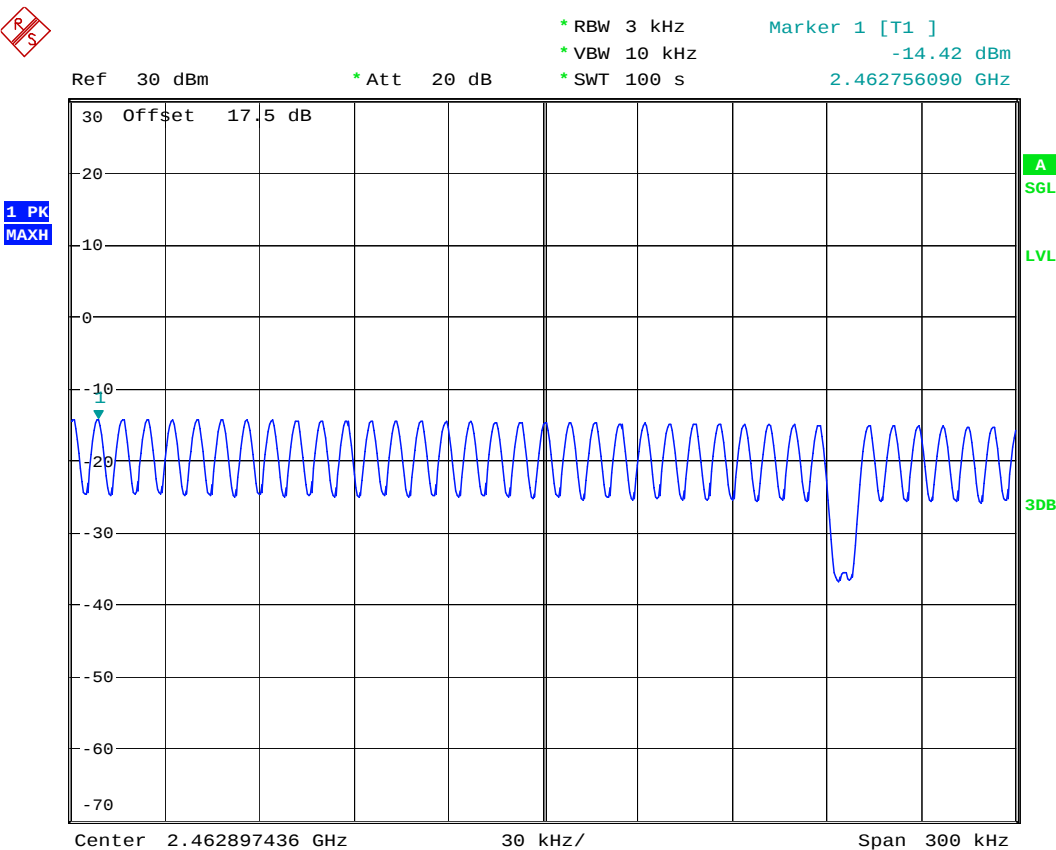
Date: 2.JUN.2008 14:27:32

(2437 MHz) 802.11b POWER SPECTRAL DENSITY

Date: 2.JUN.2008 14:32:12

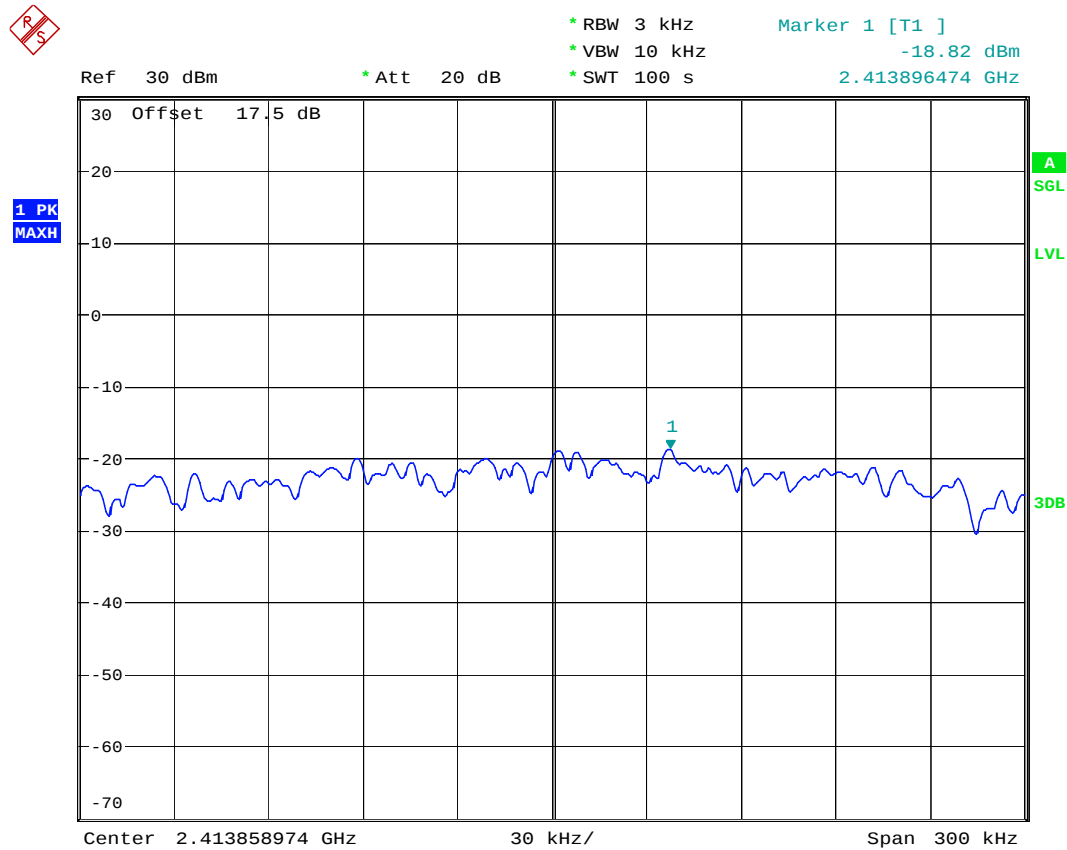


(2462 MHz) 802.11b POWER SPECTRAL DENSITY



Date: 2. JUN. 2008 14:43:20

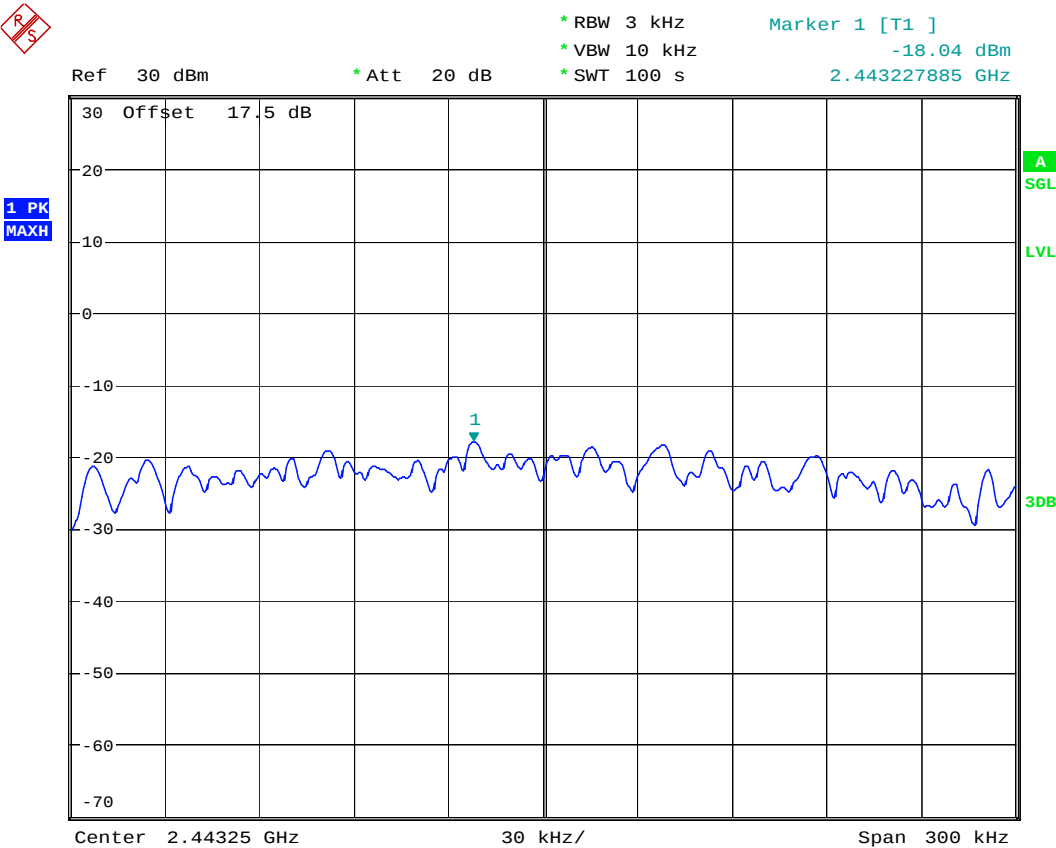
(2412 MHz) 802.11g POWER SPECTRAL DENSITY



Date: 2.JUN.2008 14:23:17

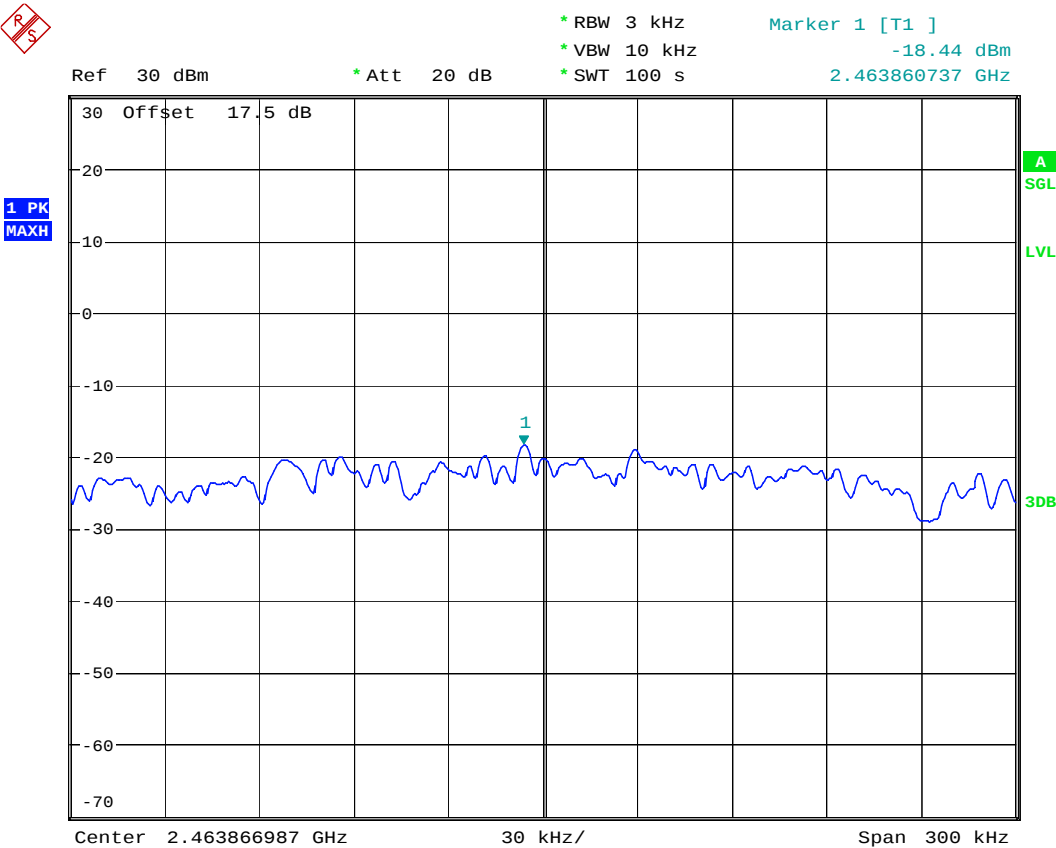


(2437 MHz) 802.11g POWER SPECTRAL DENSITY





(2462 MHz) 802.11g POWER SPECTRAL DENSITY



Date: 2.JUN.2008 14:39:31

7.5 CONDUCTED SPURIOUS EMISSION

7.5.1 LIMIT SUB CLAUSE § 15.247 (d)

FREQUENCY RANGE	limit
30M-25GHz	-20dBc

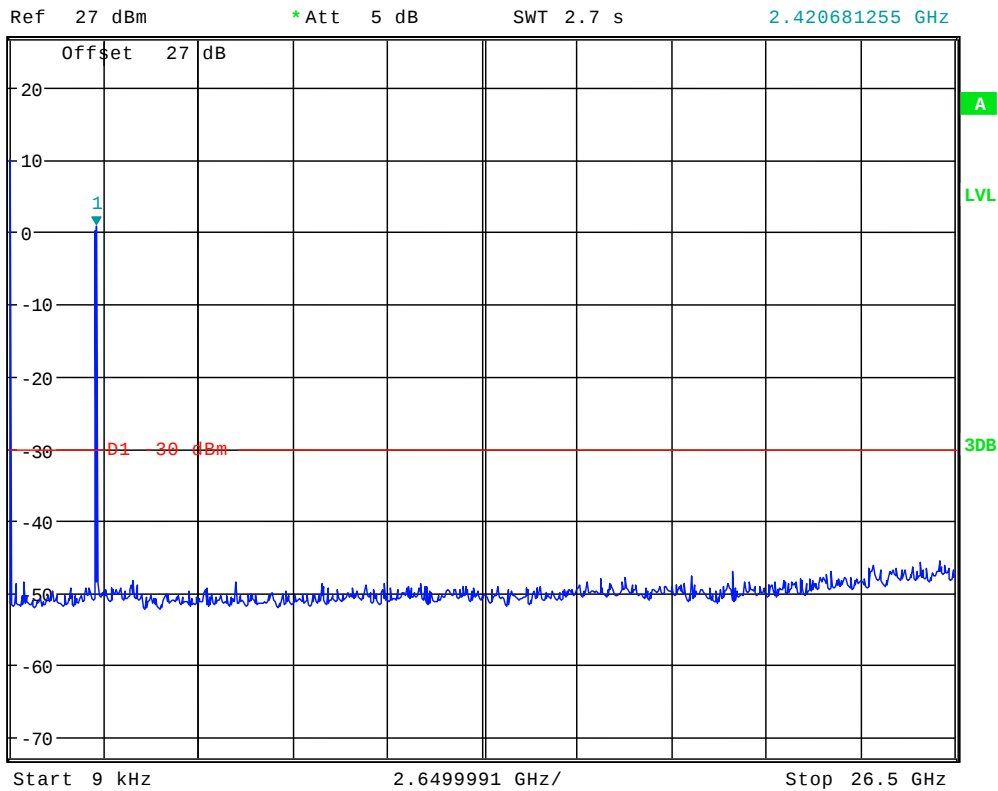
7.5.2 RESULTS: Tnom(23)°C VnomVDC

(2412MHz) 802.11b



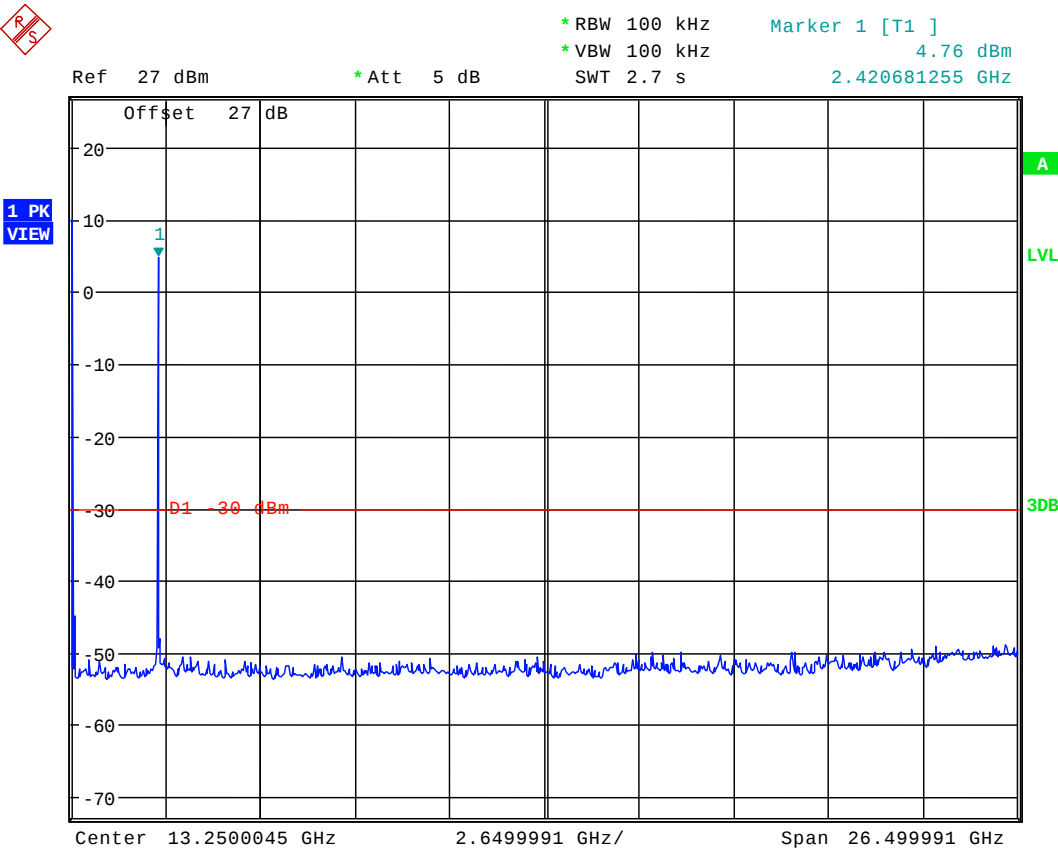
* RBW 100 kHz
* VBW 100 kHz
SWT 2.7 s

Marker 1 [T1]
0.75 dBm
2.420681255 GHz



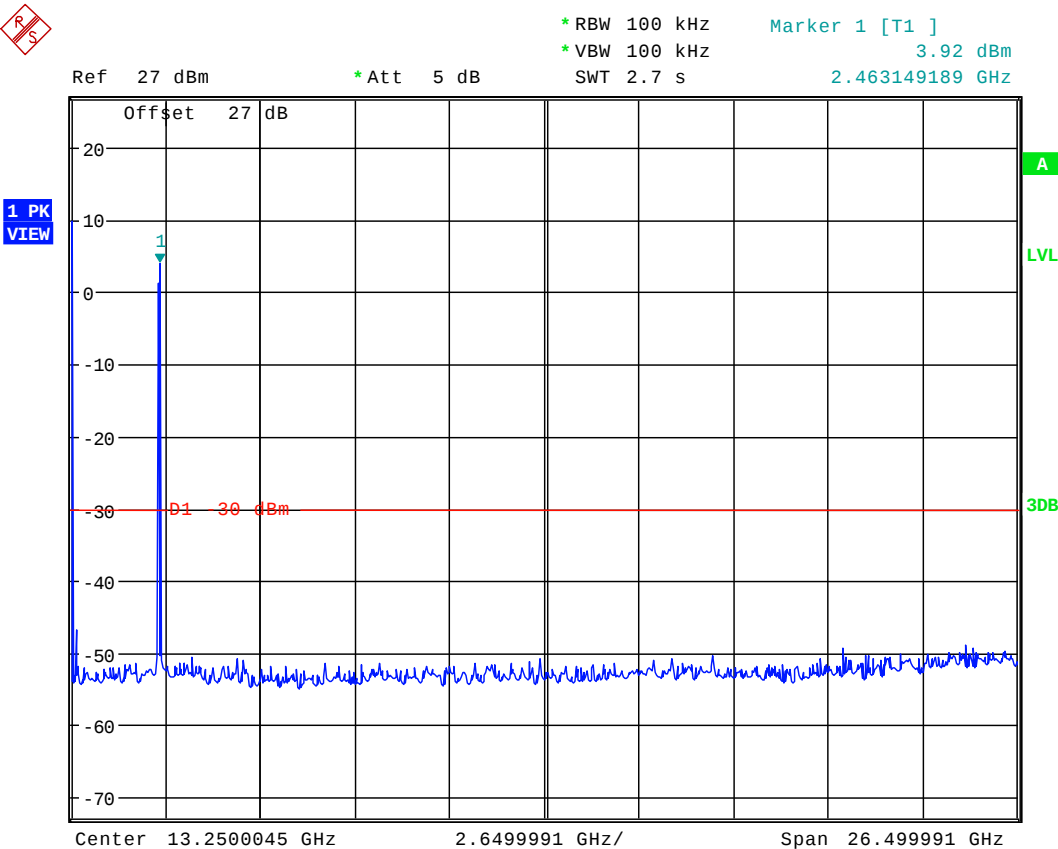


(2437MHz) 802.11b



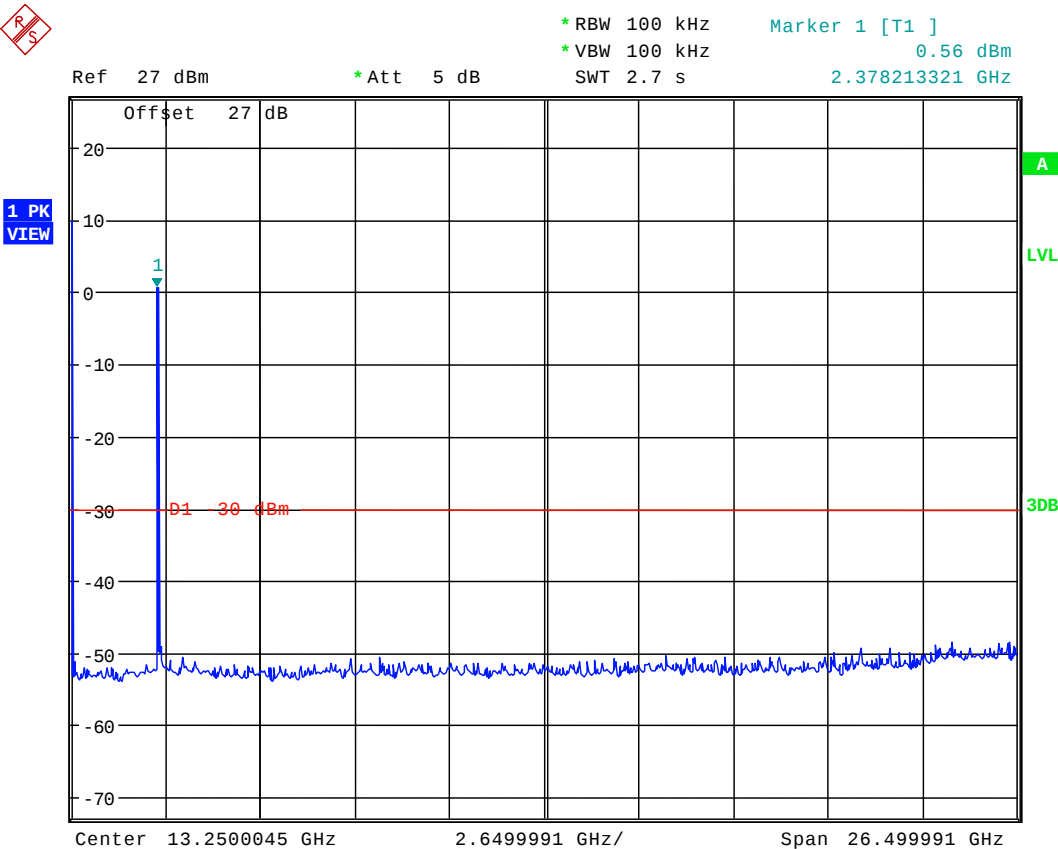


(2462MHz) 802.11b



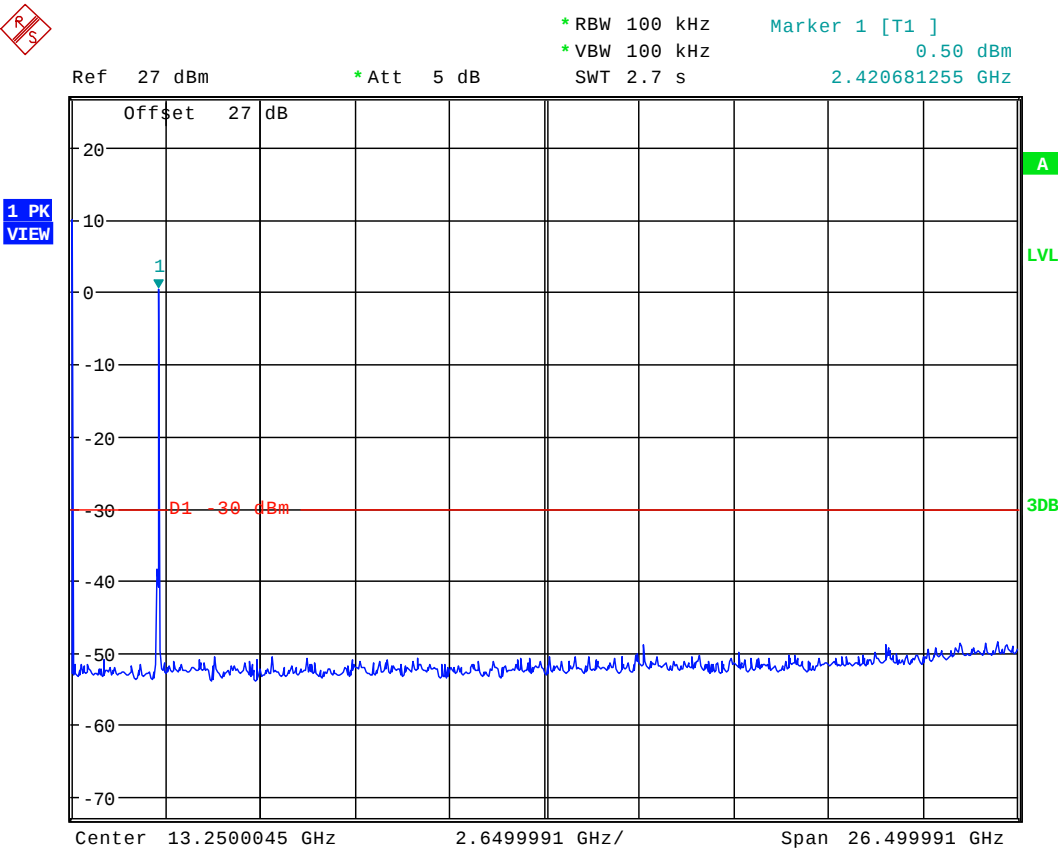


(2412MHz) 802.11g



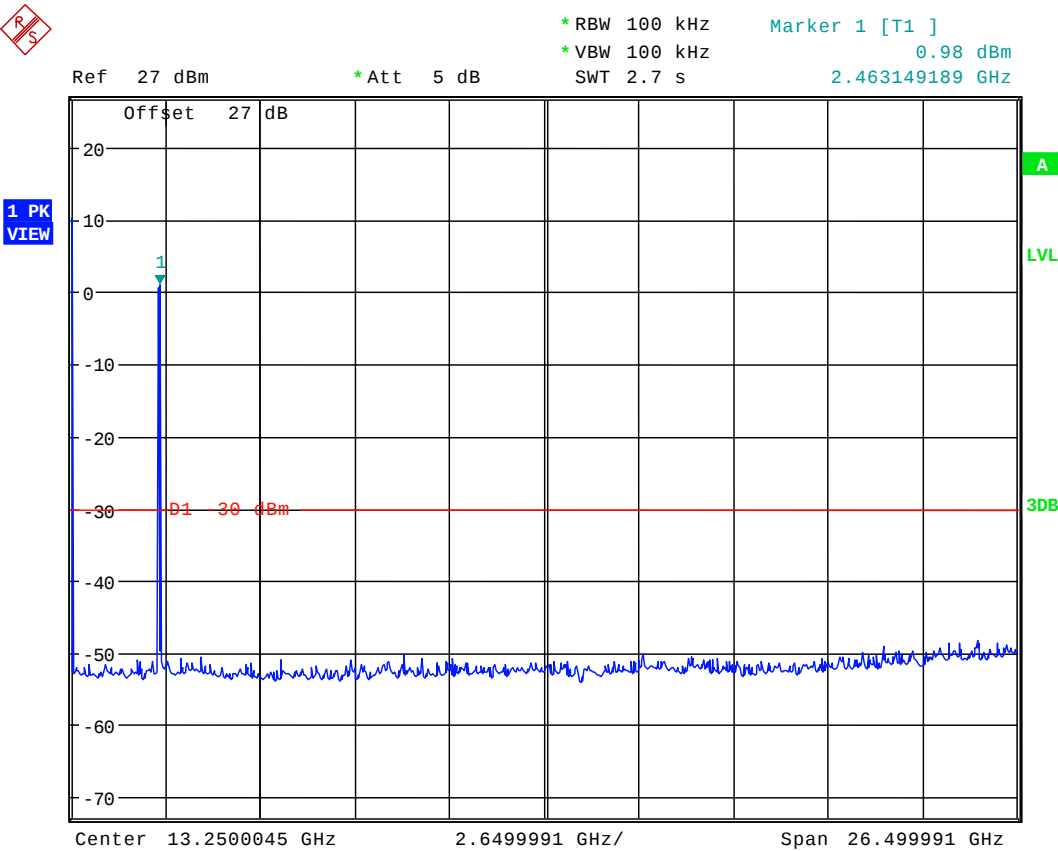


(2437MHz) 802.11g





(2462MHz) 802.11g



7.6 AC POWER LINE CONDUCTED EMISSIONS § 15.107/207

7.6.1 Limits

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

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

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**

7.6.2 Test Results

Test not conducted. The EUT is a battery operated device only.

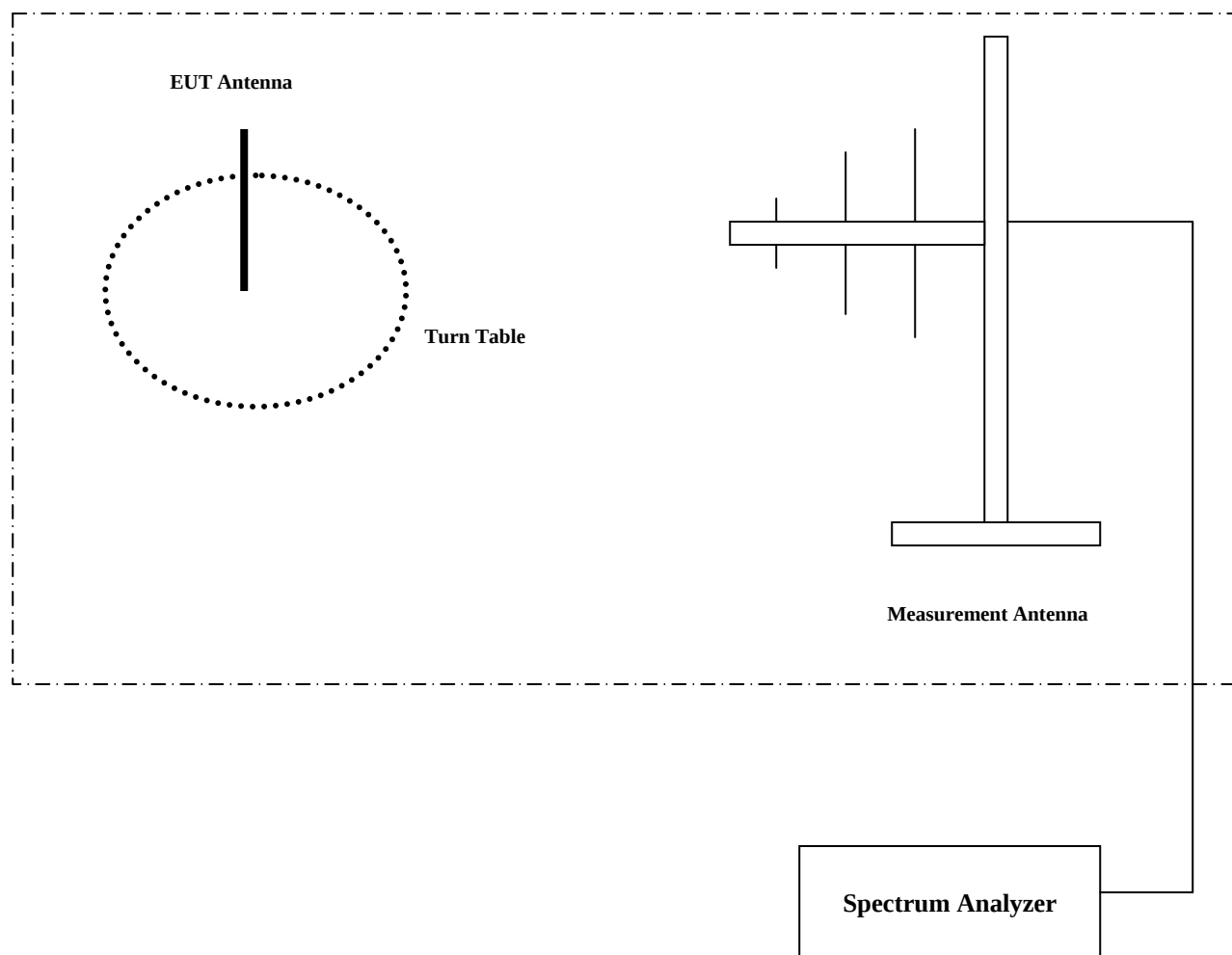
8 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2008	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	August 2008	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2008	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2008	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2008	1 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2008	1 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2008	1 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	Climatic Chamber	VT4004	Voltsch	G1115	May 2008	1 year
10	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
11	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
12	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2008	1 year
13	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2008	1 year
14	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2008	1 year
15	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2008	1 year
16	LISN	ESH3-Z5	Rohde & Schwarz	836679/003	May 2008	1 year
17	Loop Antenna	6512	EMCO	00049838	July 2008	2 years

9 BLOCK DIAGRAMS

Radiated Testing

ANECHOIC CHAMBER





10 Revision History

2008-6-15: First issue.