



# FCC Test Report

## FCC Part 15.247 for DSSS systems

For

**Psion Teklogix Inc.**

**Handheld Computer**

**Model Number: 7505-BTSDCM**

**FCC ID: GM37505BTSDCMCF10**

**TEST REPORT #: EMC\_PSION\_001\_07502\_FCC15\_247\_  
GM37505BTSDCMCF10**

**DATE: 2007-11-21**



FCC Listed A2LA  
Accredited

IC recognized #  
3462B

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Board of Directors: Dr. Harald Ansorge, Dr. Klaus Matkey, Hans Peter May



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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	Handheld Computer	7505-BTSDCM

Technical responsibility for area of testing:

**Lothar Schmidt**  
(Director Regulatory and  
Antenna Services)

**2007-11-21 EMC & Radio**

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Date	Section	Name	Signature
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This report is prepared by:

**Peter Mu**  
(EMC Project Engineer)

**2007-11-21 EMC & Radio**

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Date	Section	Name	Signature
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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 Computer
Marketing Name:	Handheld Computer
Model No:	7505-BTSDCM
HW Version:	A
SW Version :	A
Min/Nominal/Max Voltage:	3.2V/ 3.7V/ 4.2V
Type(s) of Modulation:	OFDM
Antenna Type:	Slot / 2.1dBi
Output Power:	<b>16.99</b> dBm (0.050W) EIRP WLAN 802.11b <b>23.42</b> dBm (0.220W) EIRP WLAN 802.11g



#### **4 Subject Of Investigation**

All testing was performed on the product referred to in Section 3 as EUT. The EUT contains an FCC approved WLAN module model SDC-MCF10G and FCC ID: TWG-SDMCF10G 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 Measurements**

**5.1.1 MAXIMUM PEAK OUTPUT POWER  
(RADIATED)**

§ 15.247 (b) (1)

**EIRP:**

TEST CONDITIONS			MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)			2412	2437	2462
802.11b	T <sub>nom</sub> (23) <sup>°</sup> C	V <sub>nom</sub>	16.99	16.84	15.62
802.11g	T <sub>nom</sub> (23) <sup>°</sup> C	V <sub>nom</sub>	23.42	22.06	21.09
Measurement uncertainty			±0.5dBm		

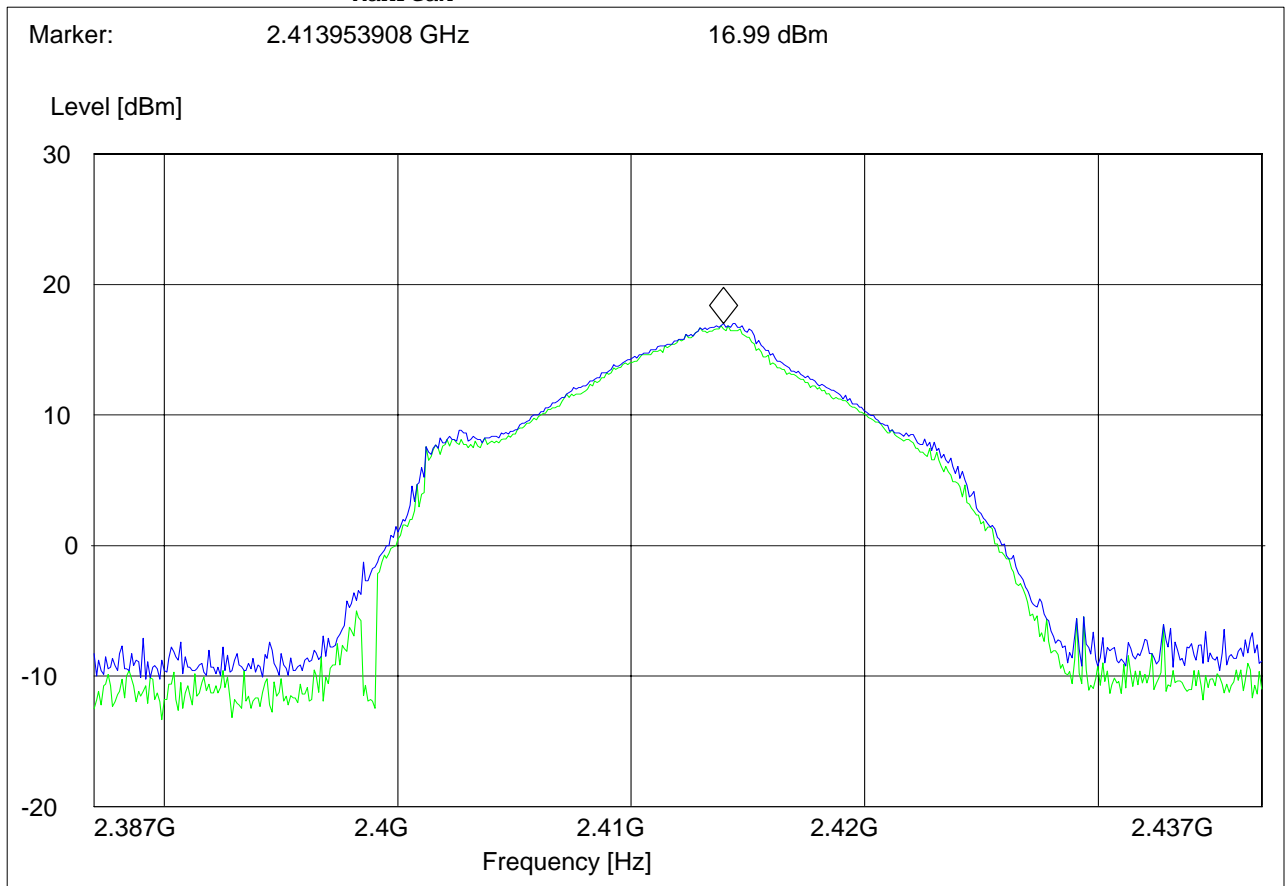


**EIRP: 2412MHz (802.11b)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11B  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP WLAN CH1"**

Short Description:		EIRP WLAN channel-2412 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.4 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			







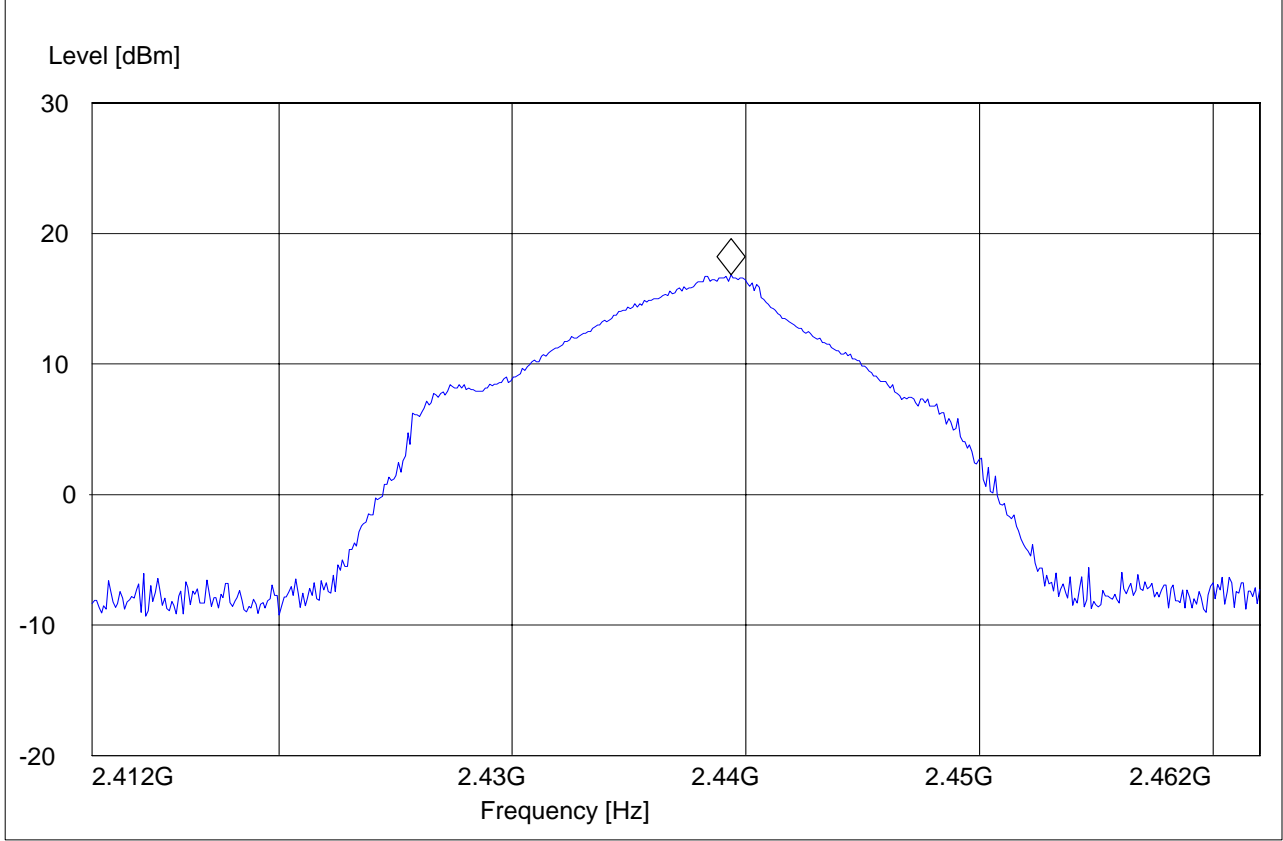
**EIRP: 2437MHz (802.11b)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11B  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP RLAN CH6"**

Short Description:		EIRP RLAN channel-2437 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.5 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			

Marker: 2.439354709 GHz 16.84 dBm



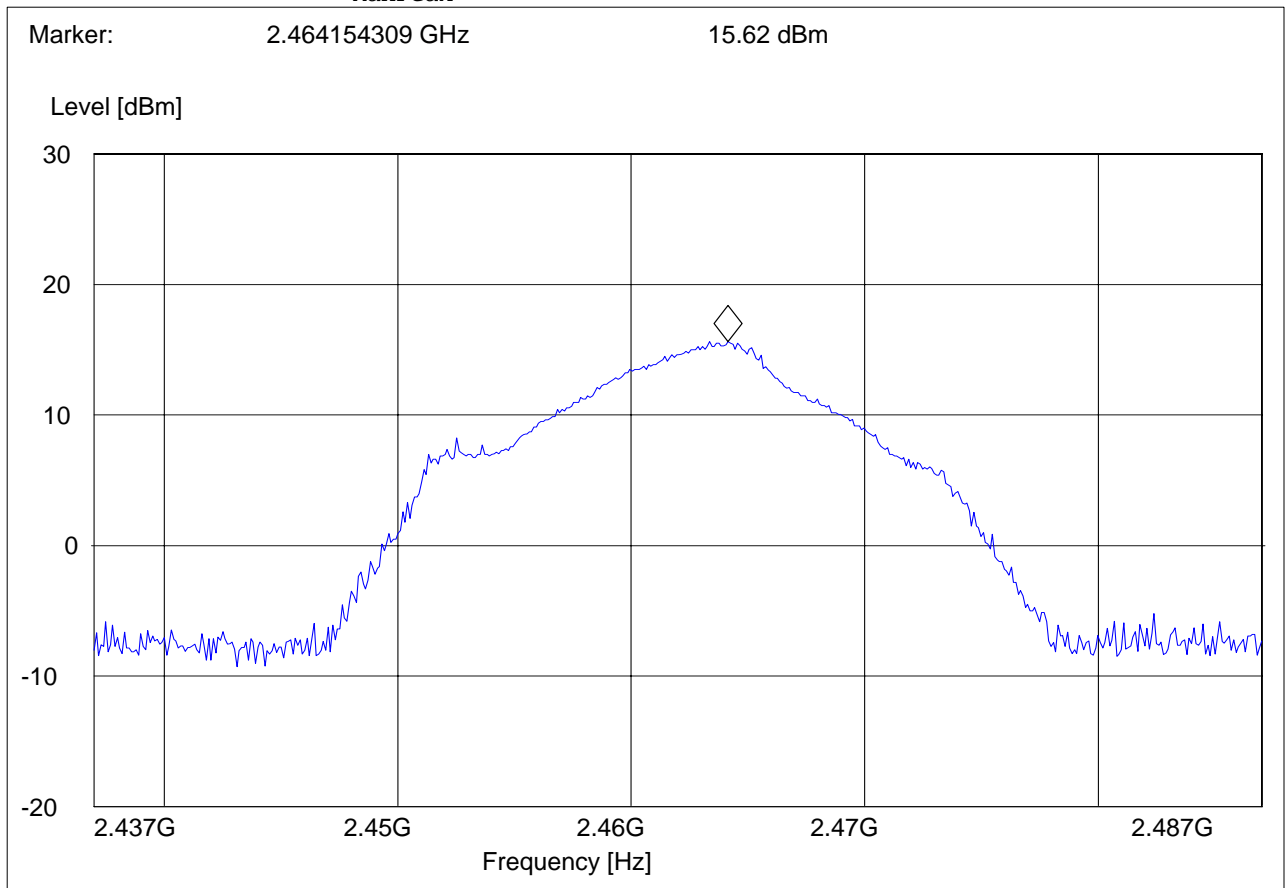


**EIRP: 2462MHz (802.11b)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11B  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP WLAN CH11"**

Short Description:		EIRP WLAN channel-2462 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.5 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			



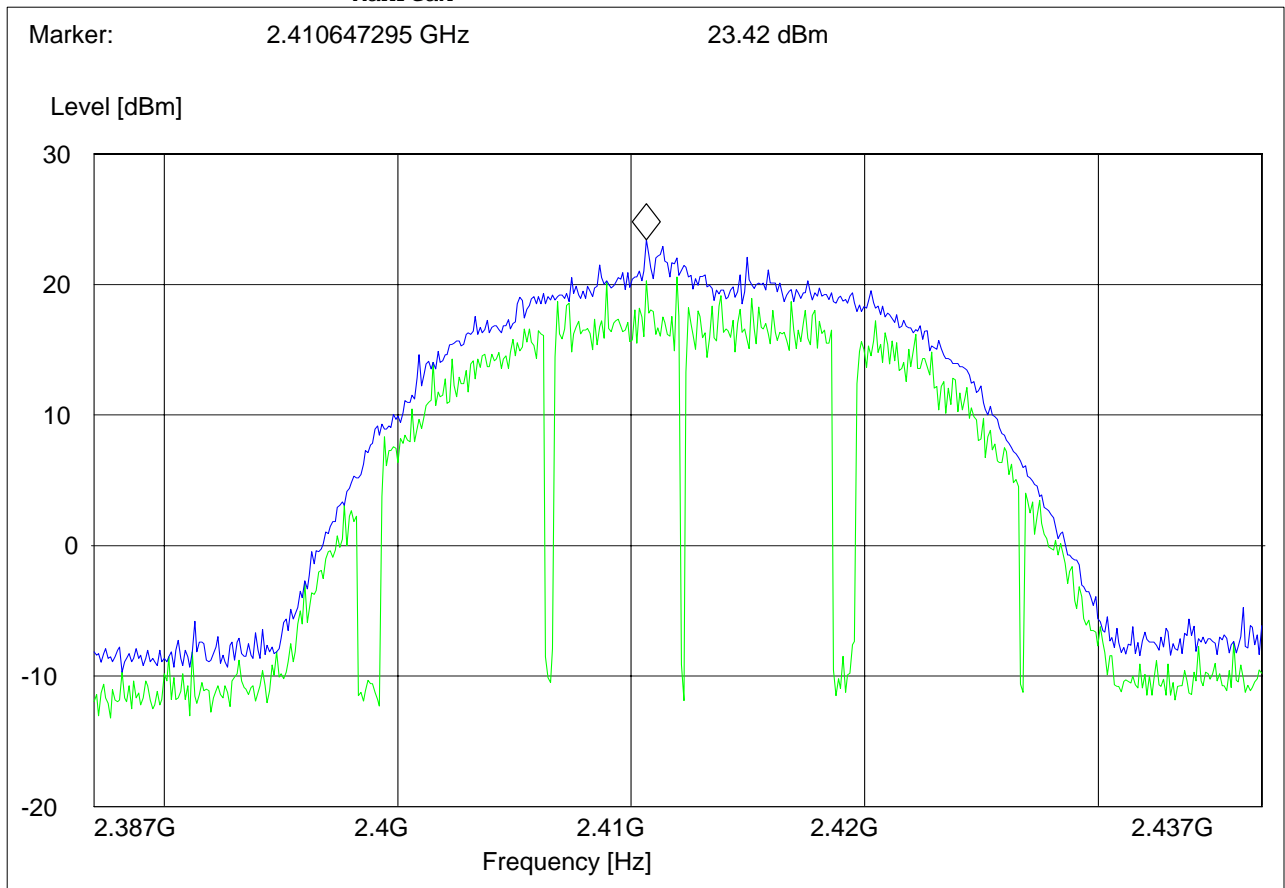


**EIRP: 2412MHz (802.11g)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11G  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP WLAN CH1"**

Short Description:		EIRP WLAN channel-2412 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.4 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			



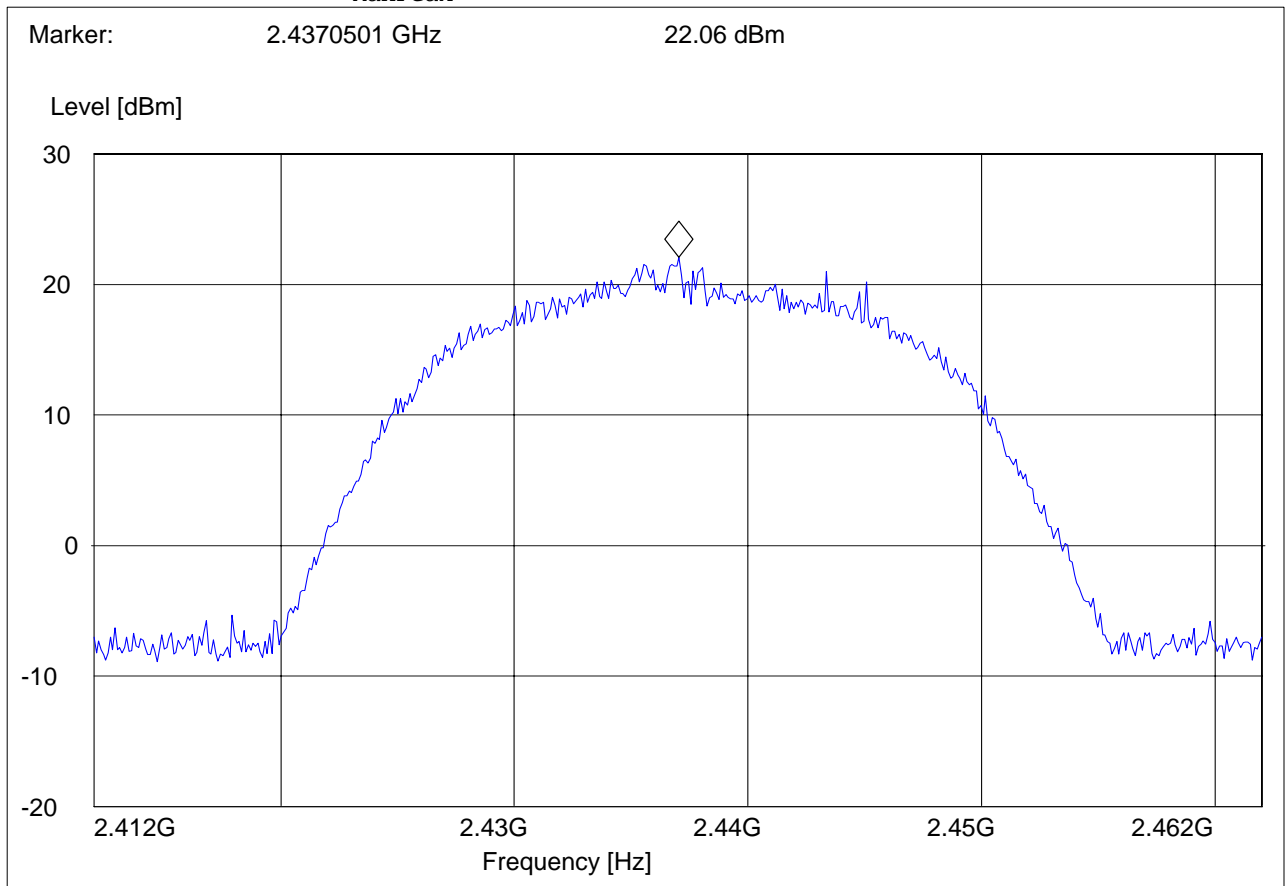


**EIRP: 2437MHz (802.11g)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11G  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP WLAN CH6"**

Short Description:		EIRP WLAN channel-2437 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.5 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			



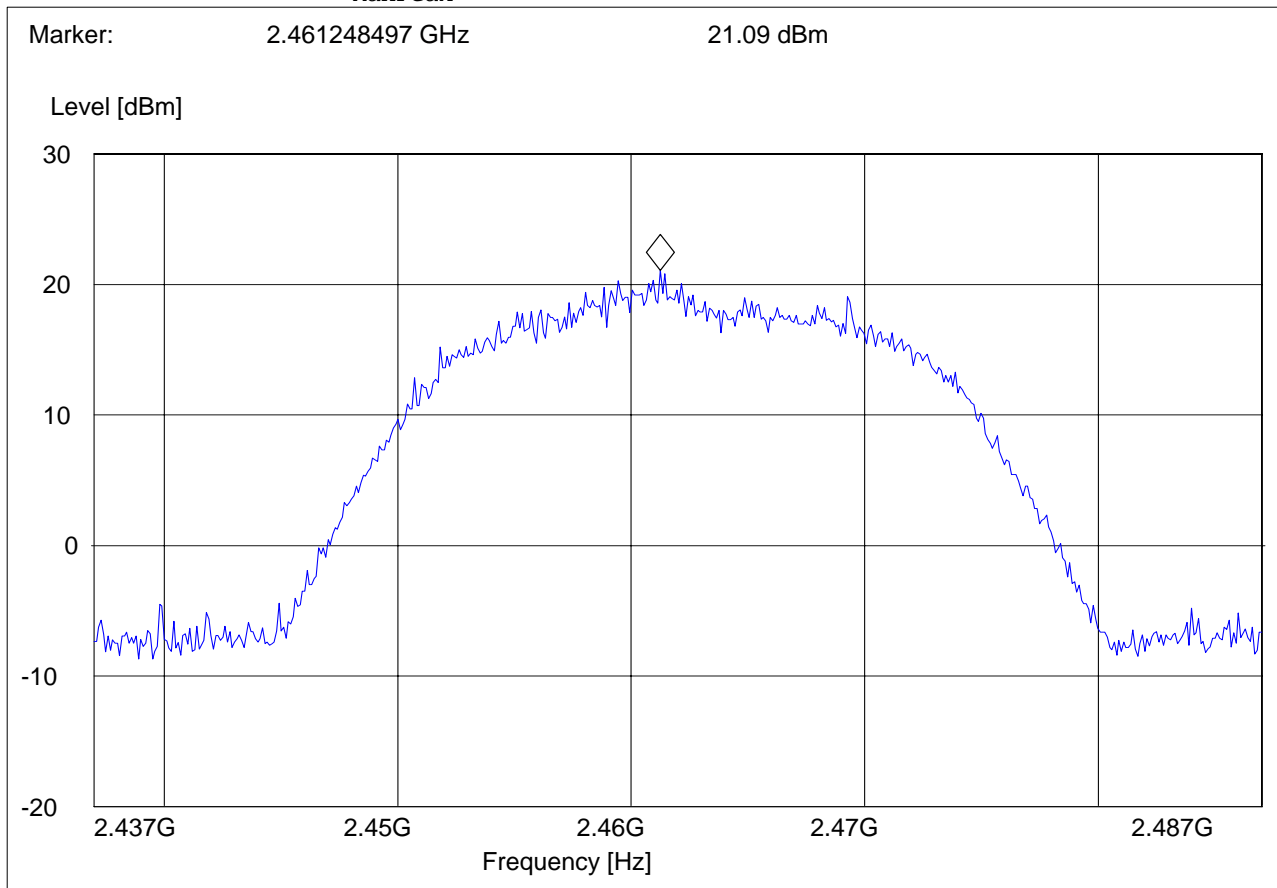


**EIRP: 2462MHz (802.11g)**

EUT: 7505  
 Customer:: Psion Teklogix Inc  
 Test Mode: WLAN 802.11G  
 ANT Orientation: H  
 EUT Orientation: H  
 Test Engineer: PETER  
 Voltage: Battery  
 Comments: TT34°

**SWEEP TABLE: "EIRP RLAN CH11"**

Short Description:		EIRP RLAN channel-2462 MHz			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
2.4 GHz	2.5 GHz	MaxPeak	Coupled	10 MHz	DUMMY-DBM
		MaxPeak			



**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
<sup>1</sup> 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	( <sup>2</sup> )
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**

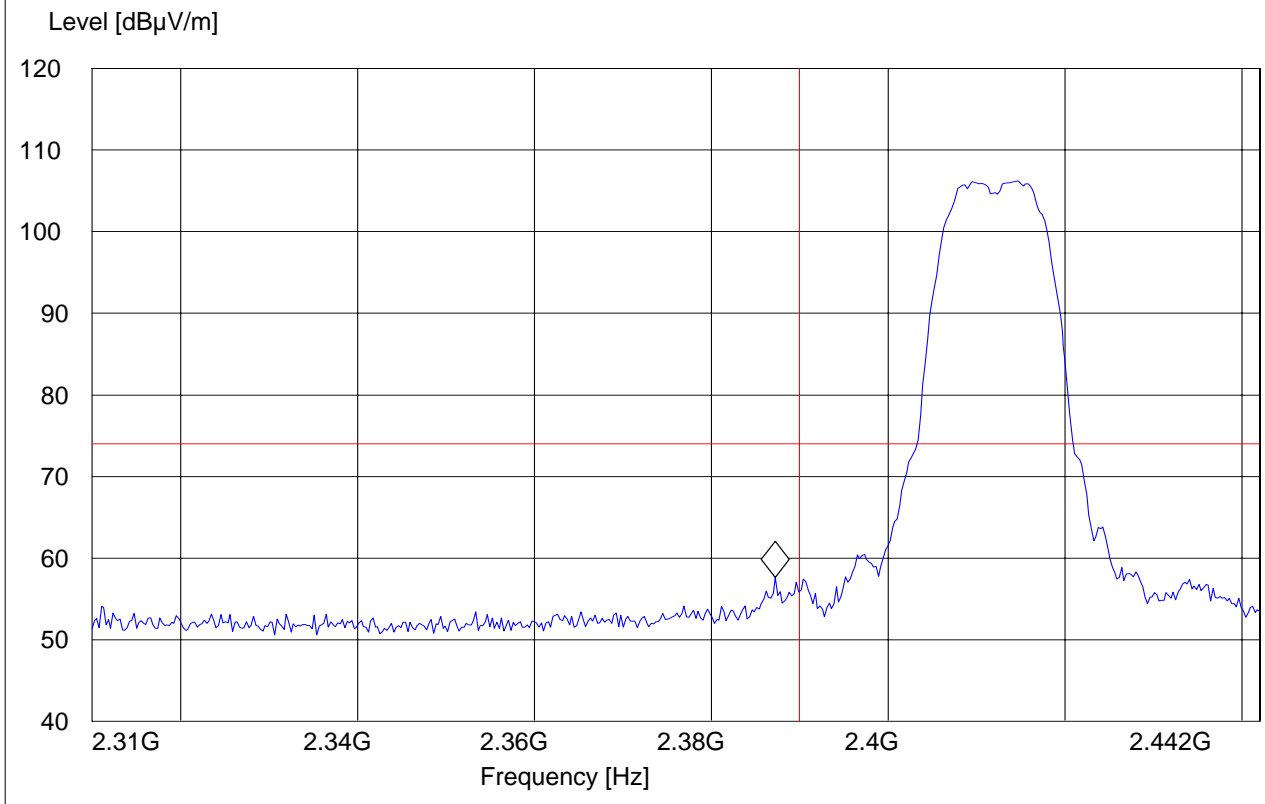
**802.11b (2412MHz) PEAK**

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11B  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

**SWEEP TABLE: "FCC15.247 LBE\_PK"**

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

Marker: 2.387242485 GHz 57.62 dBµV/m





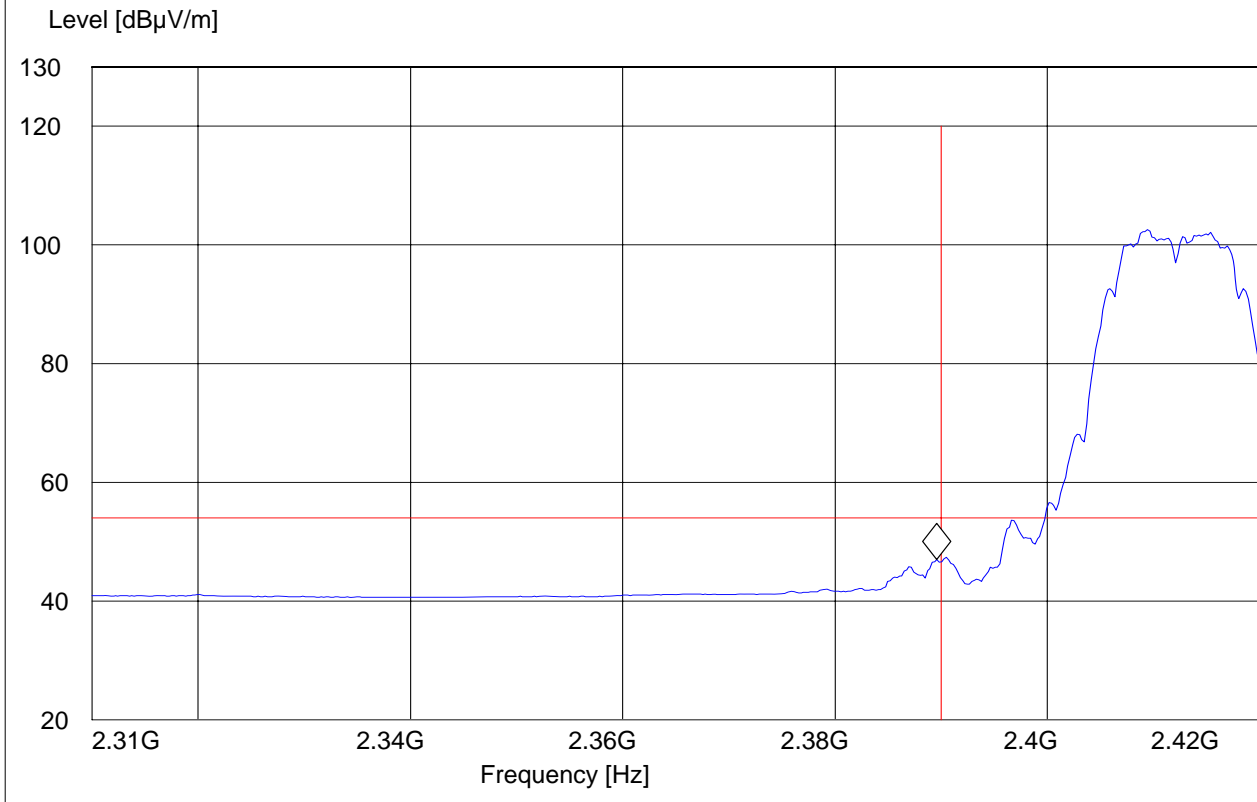
**802.11b (2412MHz) AVG**

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11B  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

***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 46.99 dBµV/m







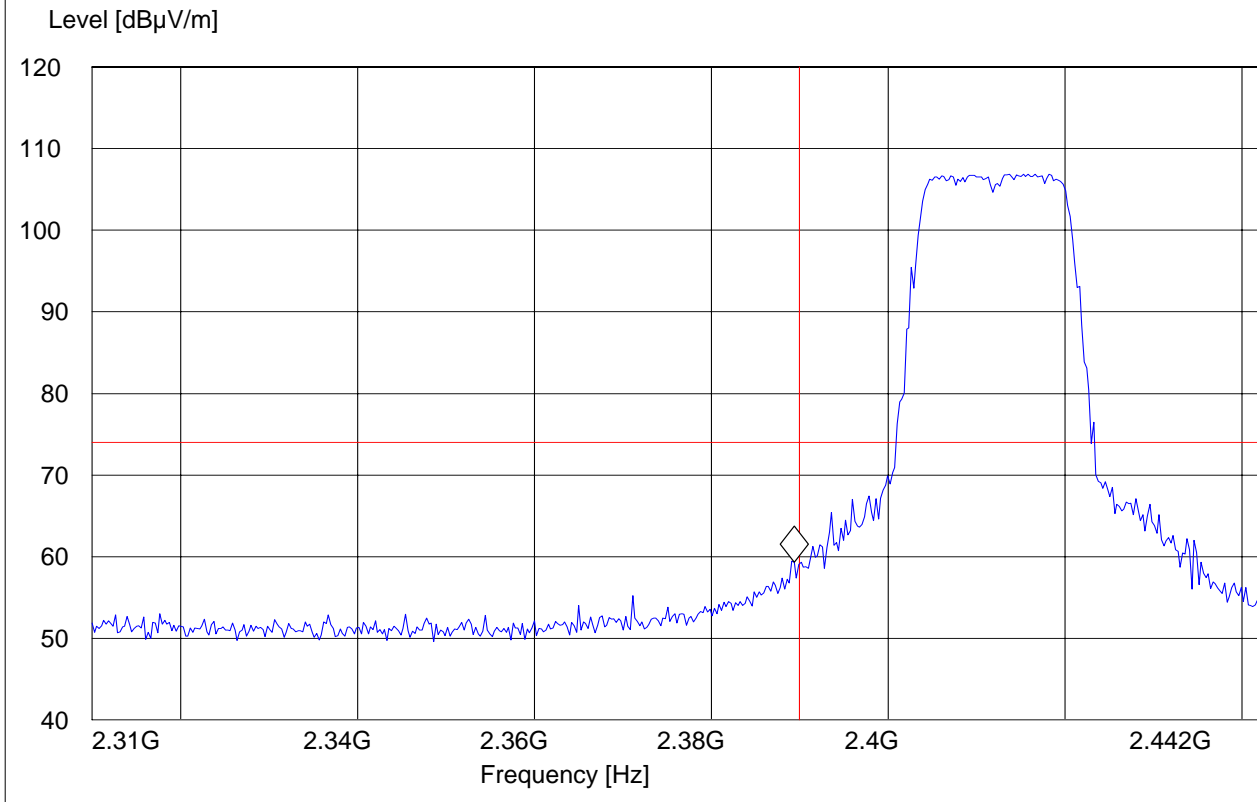
**802.11g (2412MHz) PEAK**

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11G  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

***SWEEP TABLE: "FCC15.247 LBE\_PK"***

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

Marker: 2.389358717 GHz 59.35 dBµV/m



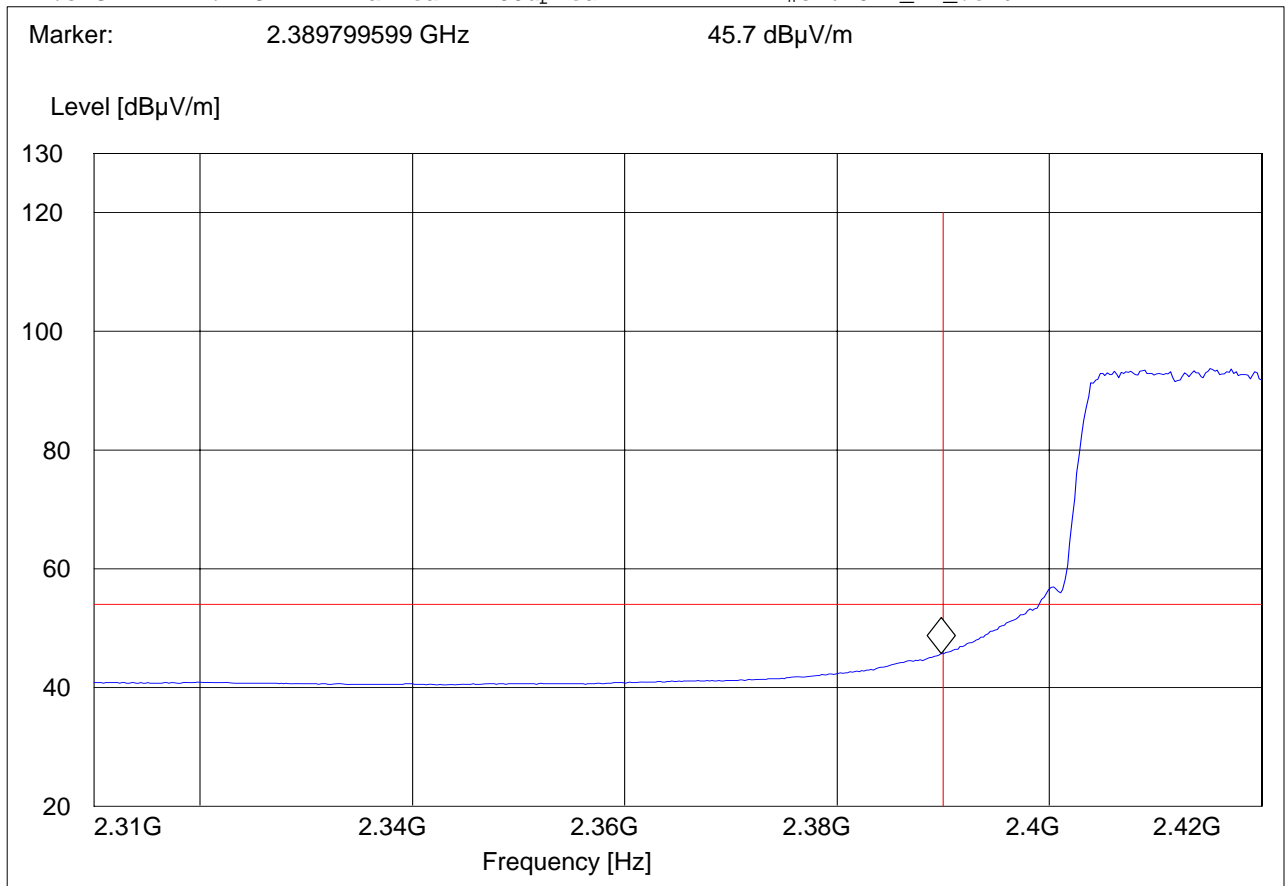


### 802.11g (2412MHz) AVG

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11G  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

***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



### 5.2.3 Results Upper Restricted Band 2483.5 MHz to 2500 MHz

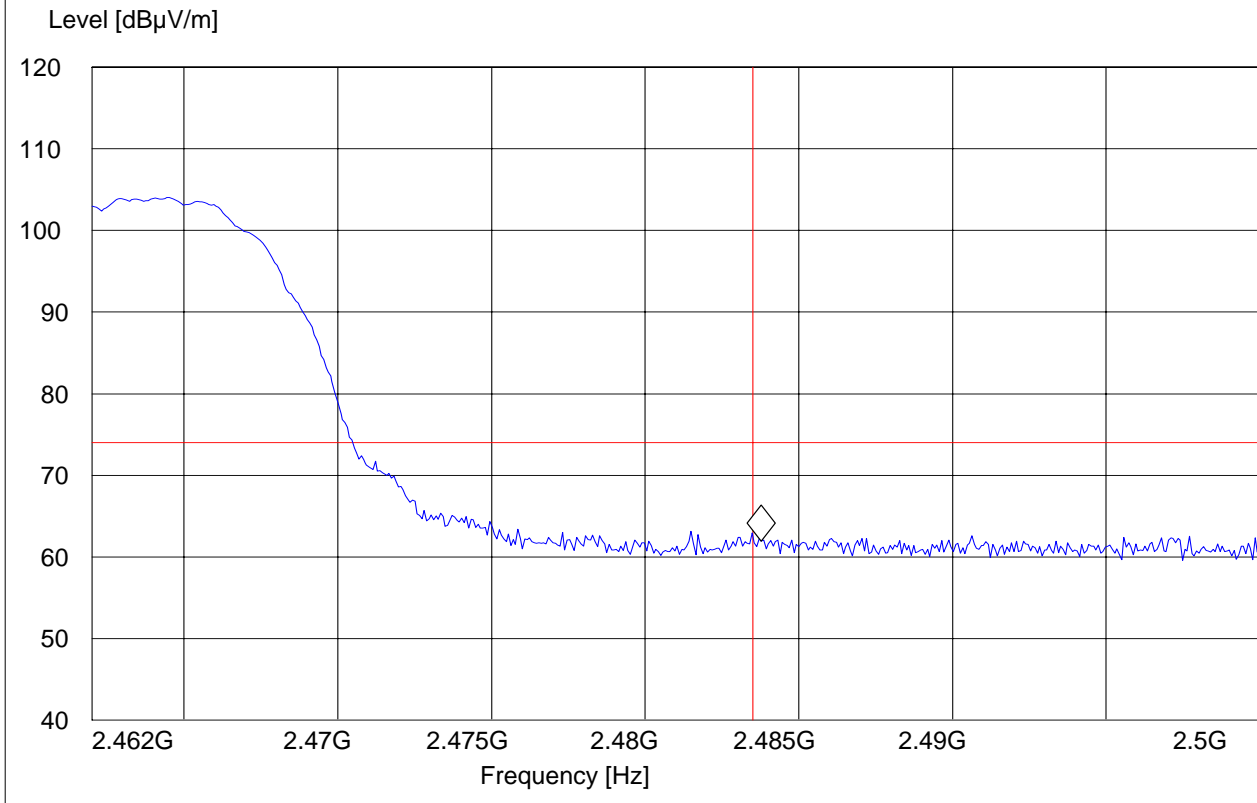
#### 802.11b (2462MHz) PEAK

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11B  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

**SWEEP TABLE: "FCC15.247 HBE\_PK"**

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

Marker: 2.483779559 GHz 61.96 dB $\mu$ V/m





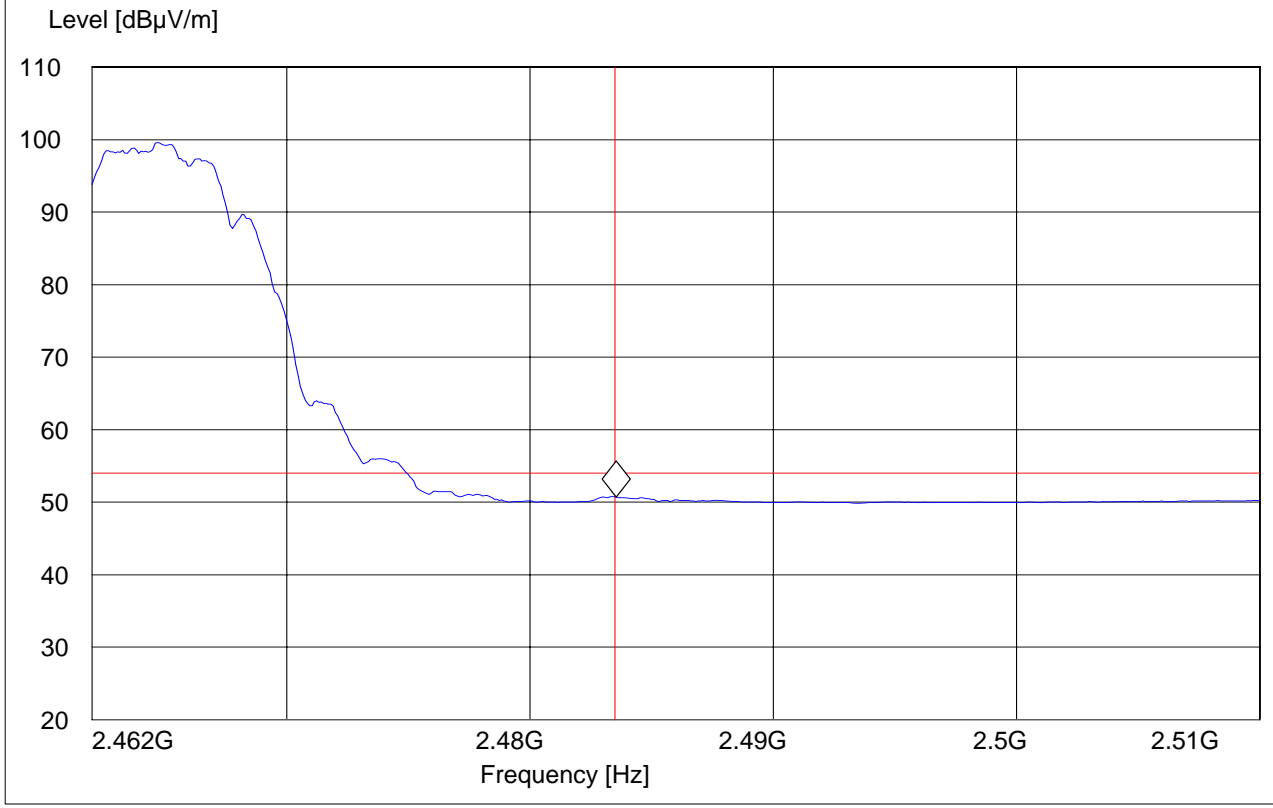
**802.11b (2462MHz) AVG**

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11B  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

***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 dBµV/m



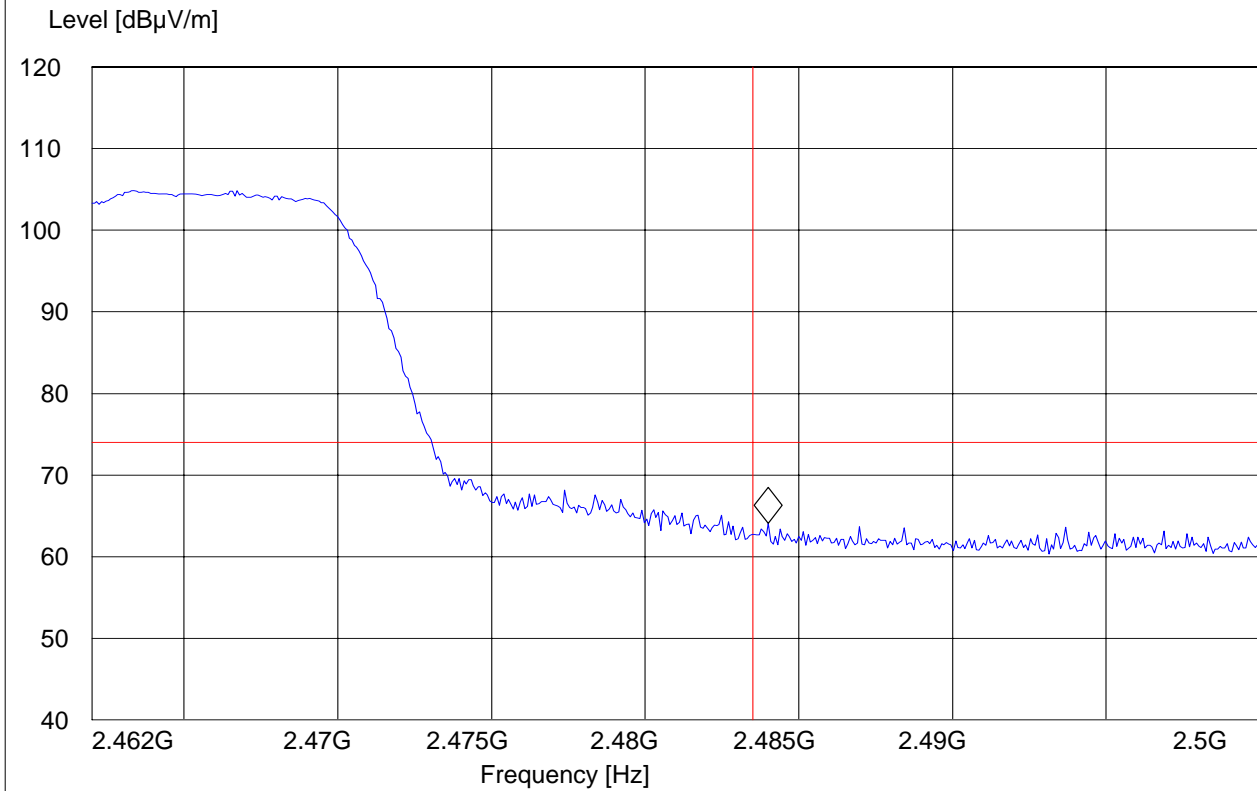
### 802.11g (2462MHz) PEAK

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11G  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

#### ***SWEEP TABLE: "FCC15.247 HBE\_PK"***

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

Marker: 2.484008016 GHz 64.11 dB $\mu$ V/m





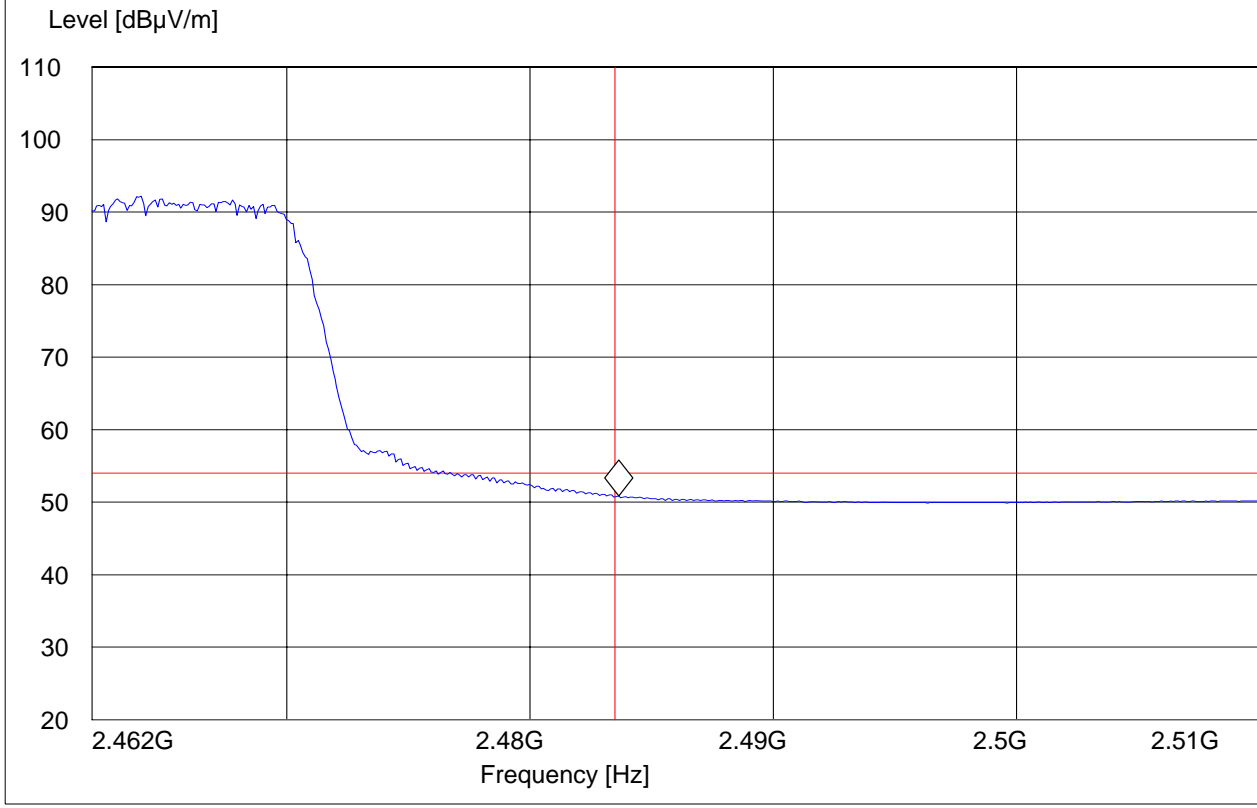
**802.11g (2462MHz) AVG**

EUT: 7505  
Customer:: Psion Teklogix Inc  
Test Mode: WLAN 802.11G  
ANT Orientation: H  
EUT Orientation: H  
Test Engineer: PETER  
Voltage: Battery  
Comments: TT34°

***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: 2.483643287 GHz 50.86 dBµV/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
<sup>1</sup> 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	( <sup>2</sup> )
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

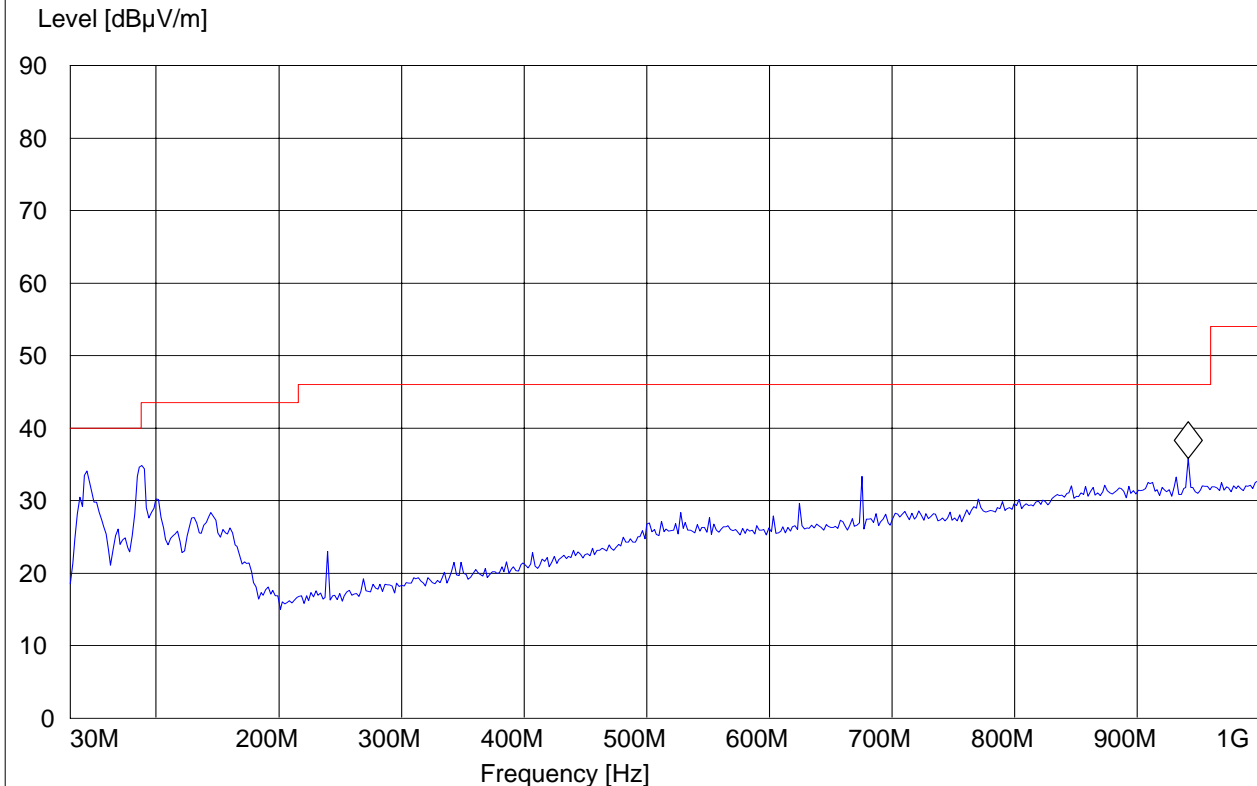
Note: This plot is valid for low, mid, high channels (worst-case plot)

EUT: MC75  
Customer:: PSION  
Test Mode: WLAN CH 6  
ANT Orientation: V  
EUT Orientation: V  
Test Engineer: SAM  
Voltage: AC Adapter  
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: 941.683367 MHz 35.84 dB $\mu$ V/m







**30MHz – 1GHz Antenna: horizontal**

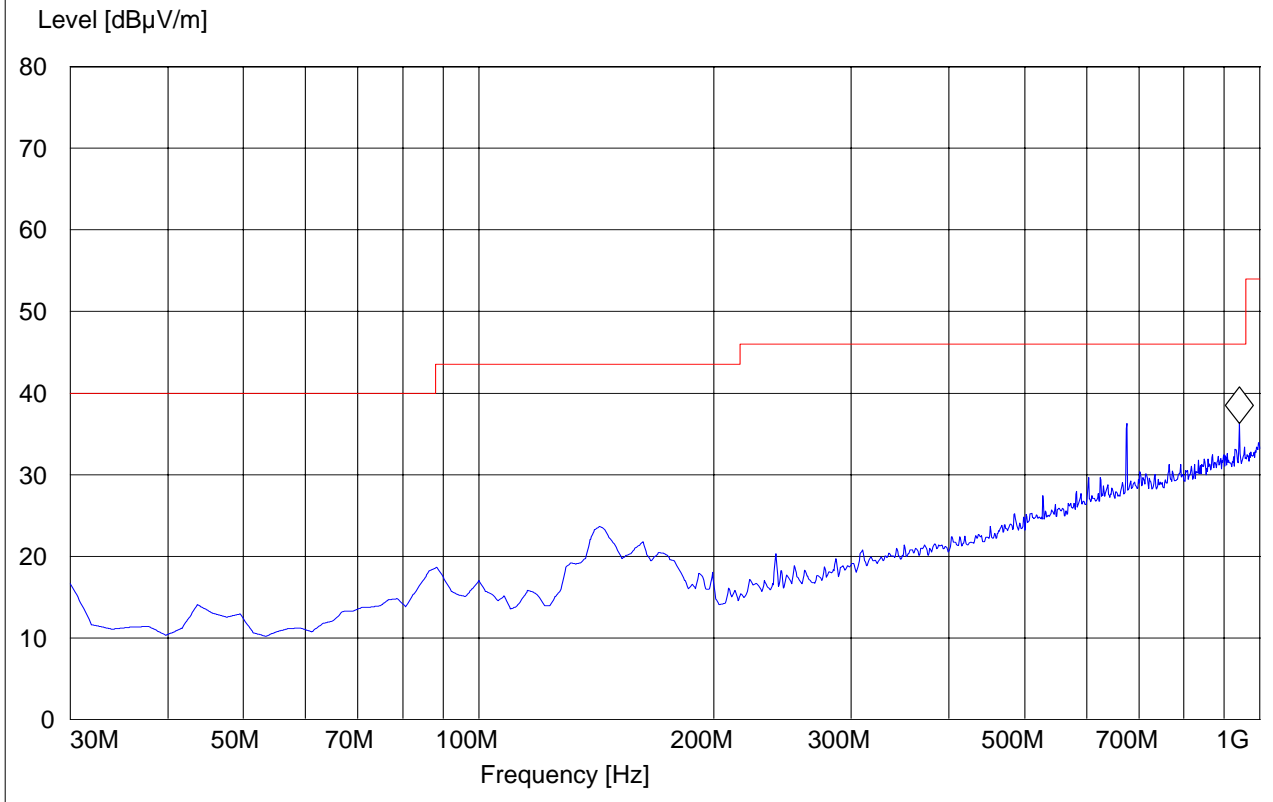
**Note: This plot is valid for low, mid, high channels (worst-case plot)**

Customer:: PSION  
Test Mode: WLAN CH 11  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: SAM  
Voltage: AC Adapter  
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: 941.683367 MHz 36.28 dB $\mu$ V/m





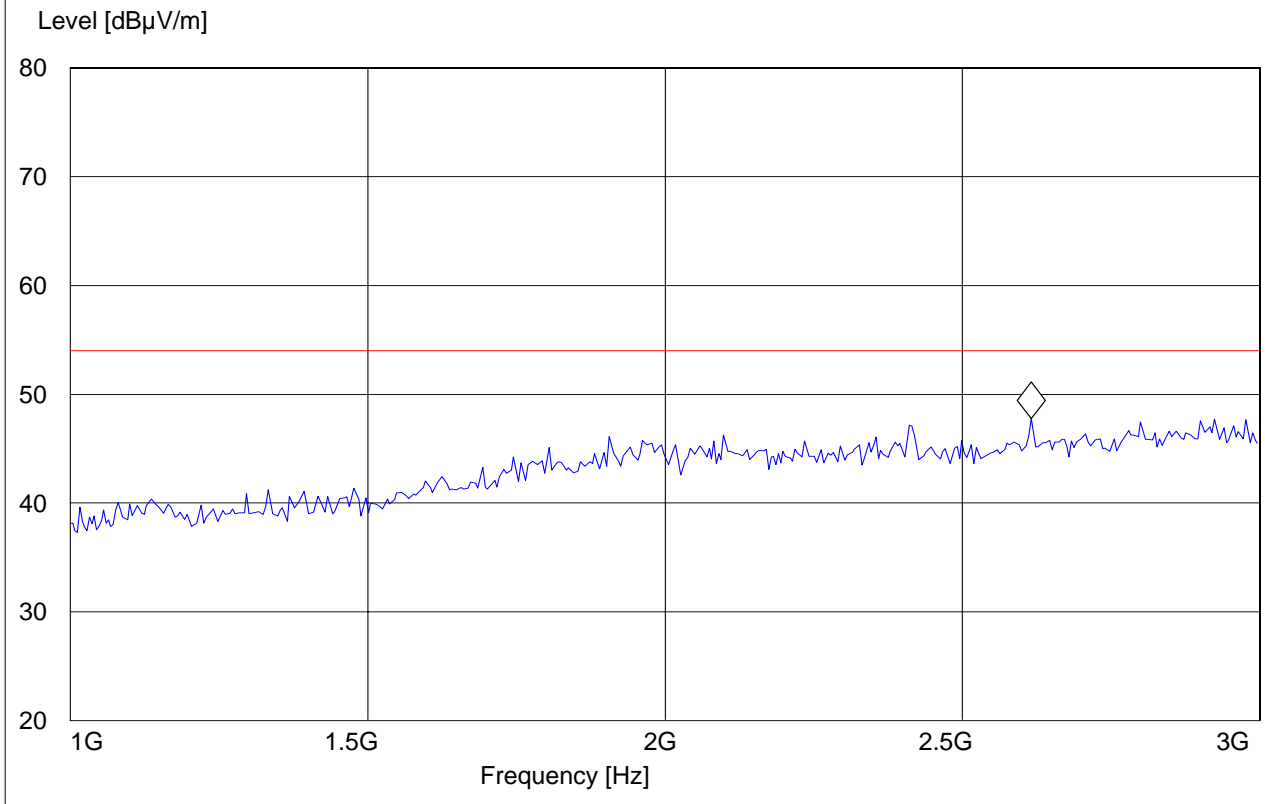
**1-3GHz (2412MHz)**

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.1  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz notch filter

**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: 2.615230461 GHz 47.77 dBµV/m





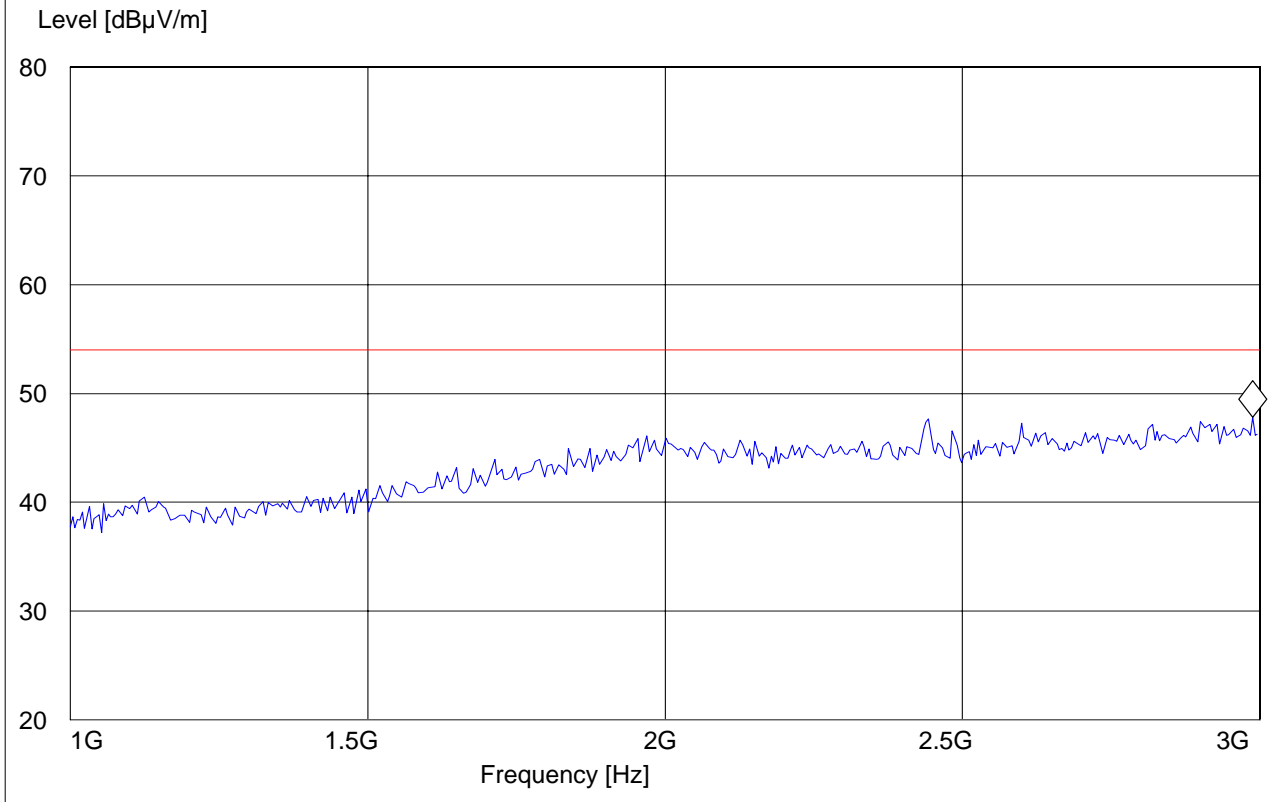
**1-3GHz (2437MHz)**

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.6  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz notch filter

**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: 2.987975952 GHz 47.79 dBµV/m





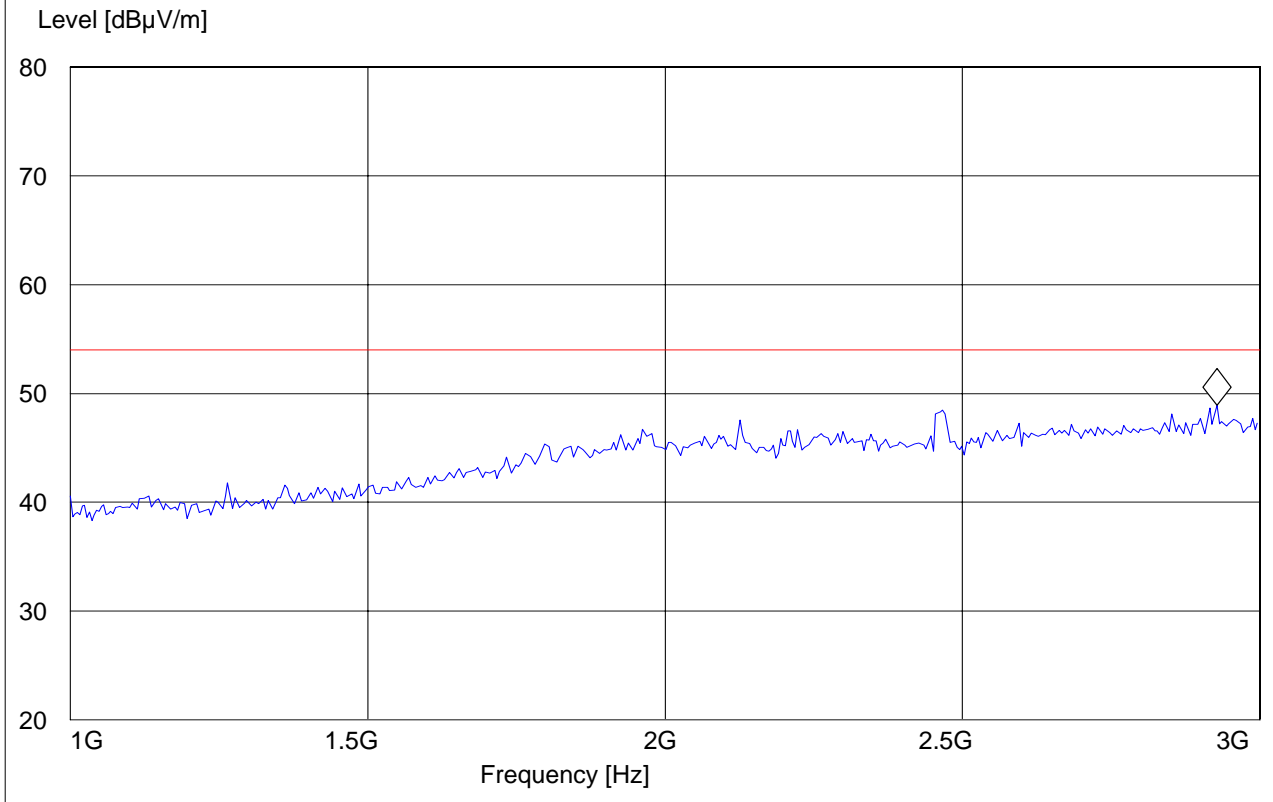
**1-3GHz (2462MHz)**

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.11  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz notch filter

**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: 2.927855711 GHz 48.91 dBμV/m





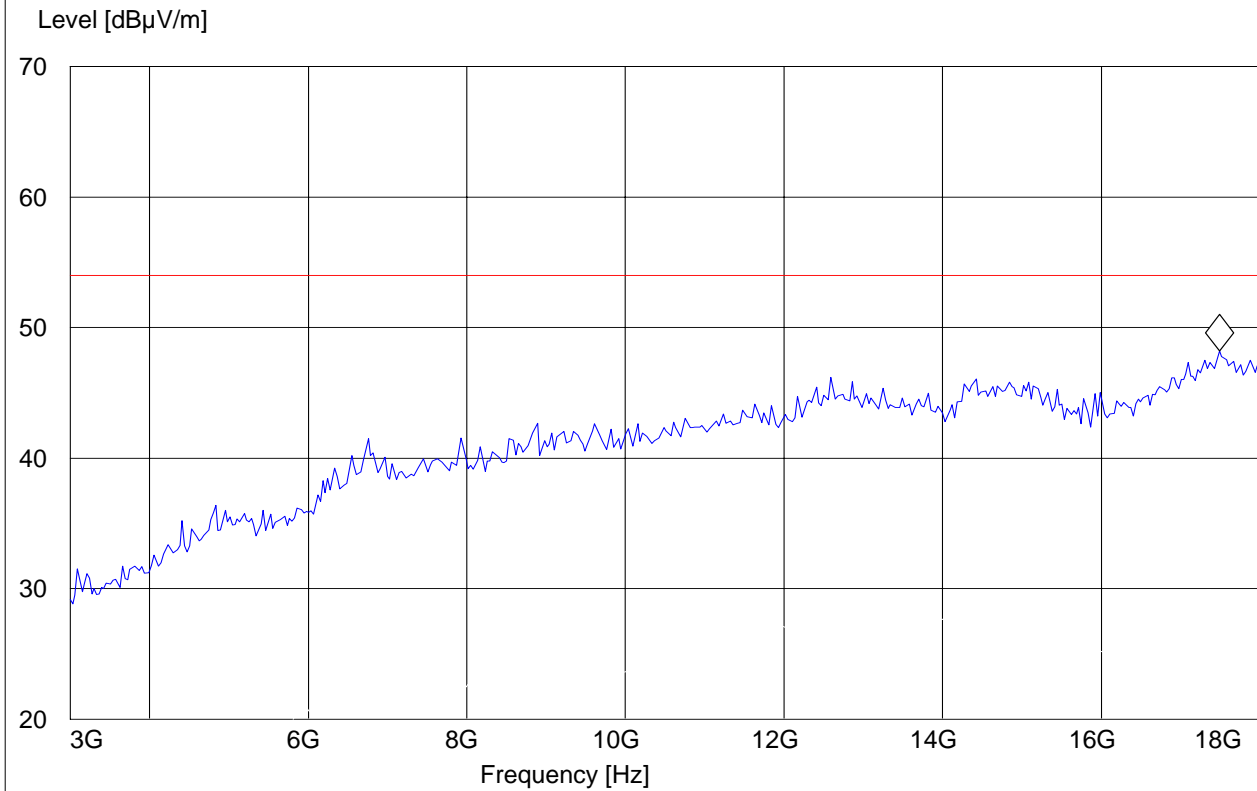
### 3-18GHz (2412MHz)

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.1  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz 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: 17.488977956 GHz 48.2 dB $\mu$ V/m





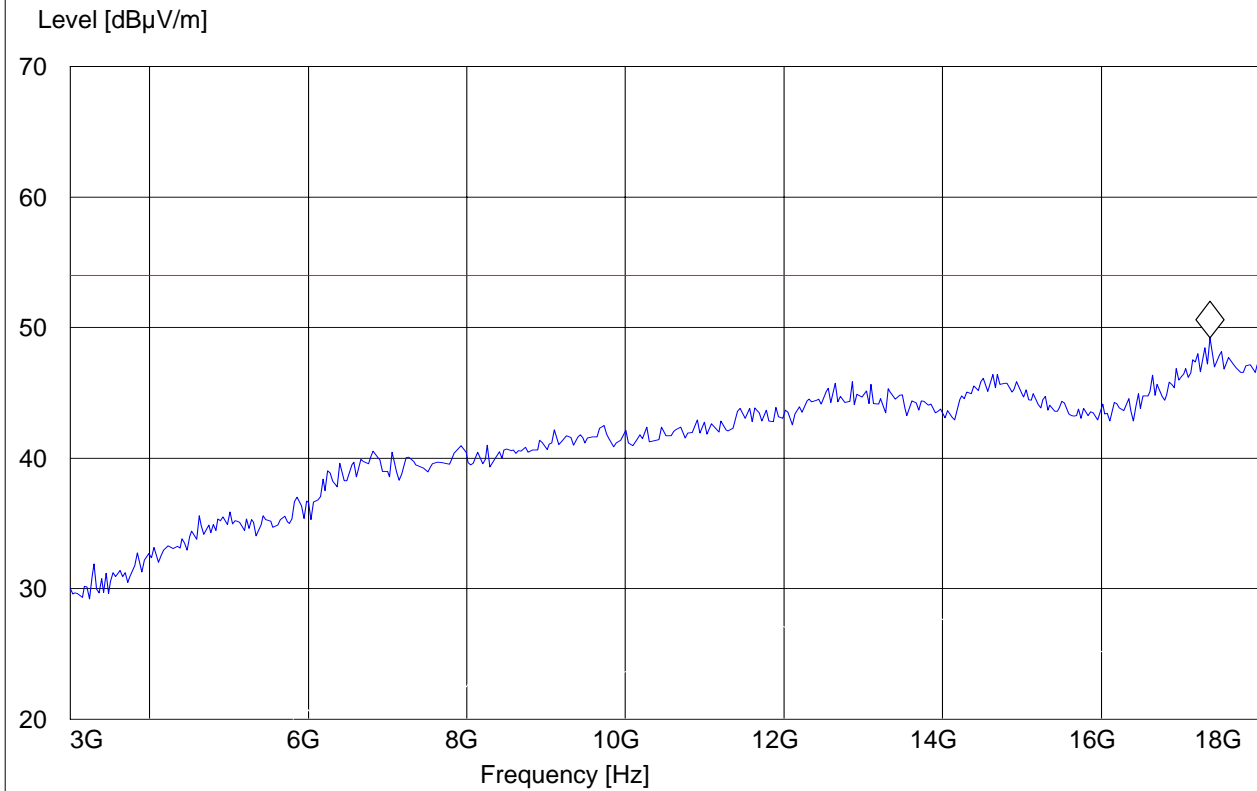
**3-18GHz (2437MHz)**

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.6  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz 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: 17.368737475 GHz 49.23 dB $\mu$ V/m





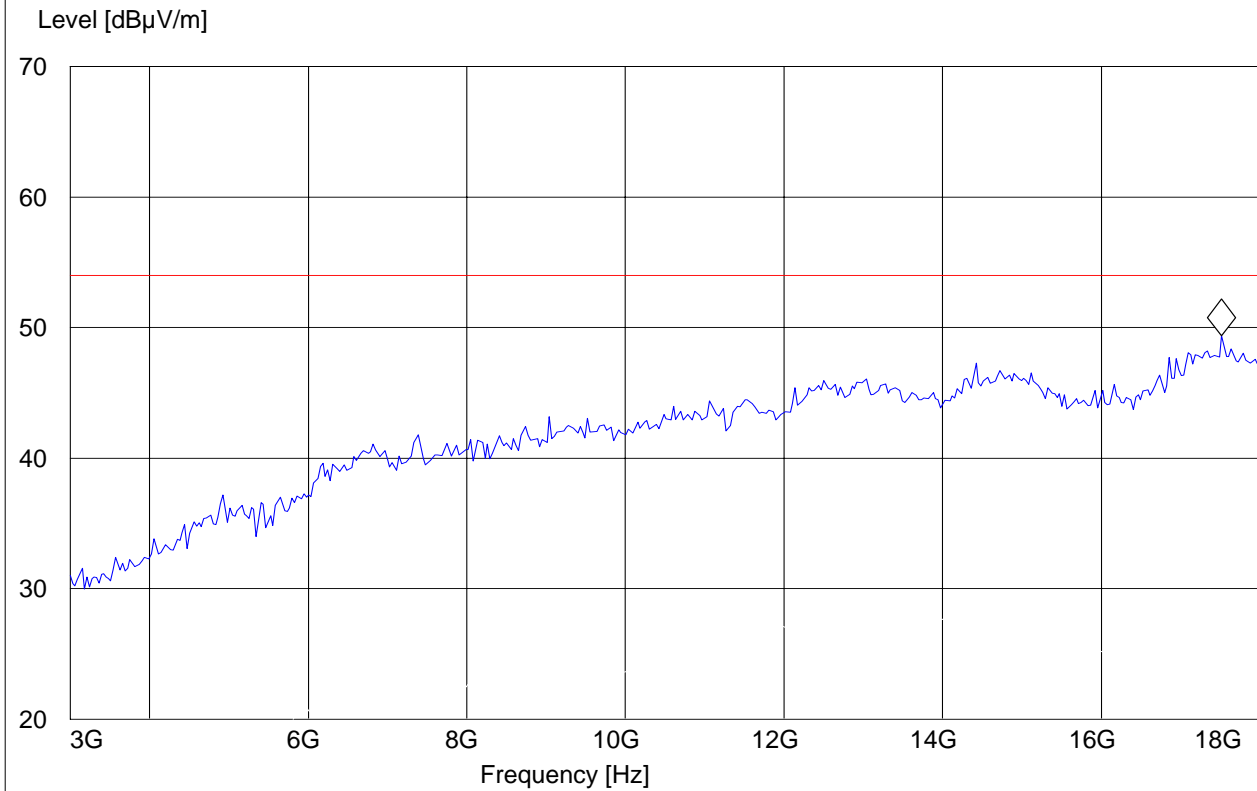
**3-18GHz (2462MHz)**

EUT: 7505  
Customer:: Psion  
Test Mode: RLAN ch.11  
ANT Orientation: H  
EUT Orientation: V  
Test Engineer: CHRIS  
Voltage: AC ADAPTER  
Comments: 802.11G w/ 2.4 GHz 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: 17.519038076 GHz 49.37 dBµV/m





**18-25GHz**

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

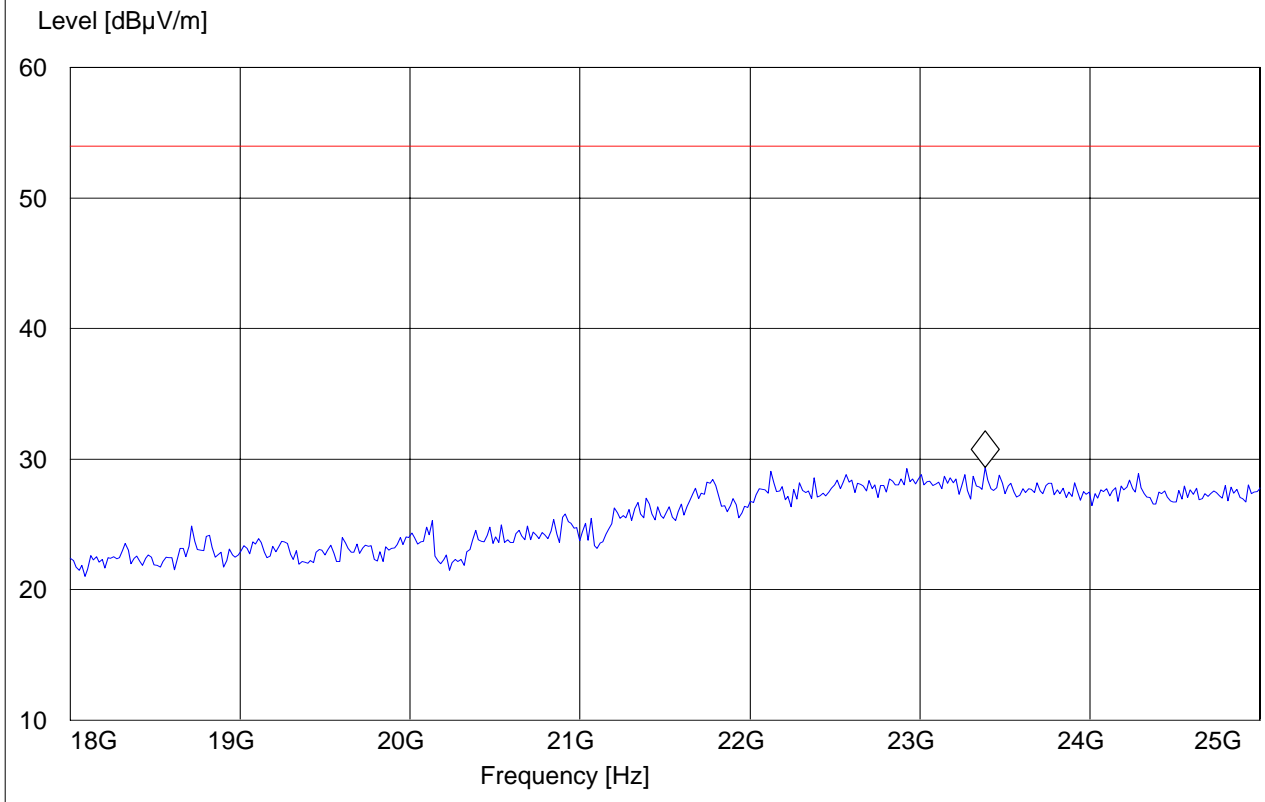
**Average limit**

EUT: MC75  
 Customer:: PSION  
 Test Mode: WLAN CH 1  
 ANT Orientation: H  
 EUT Orientation: V  
 Test Engineer: SAM  
 Voltage: AC Adapter  
 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	Coupled	1 MHz	#572 horn AF

Marker: 23.38276531 GHz 29.38 dBµV/m







**5.4 AC POWER LINE CONDUCTED EMISSIONS § 15.107/207**

**5.4.1 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

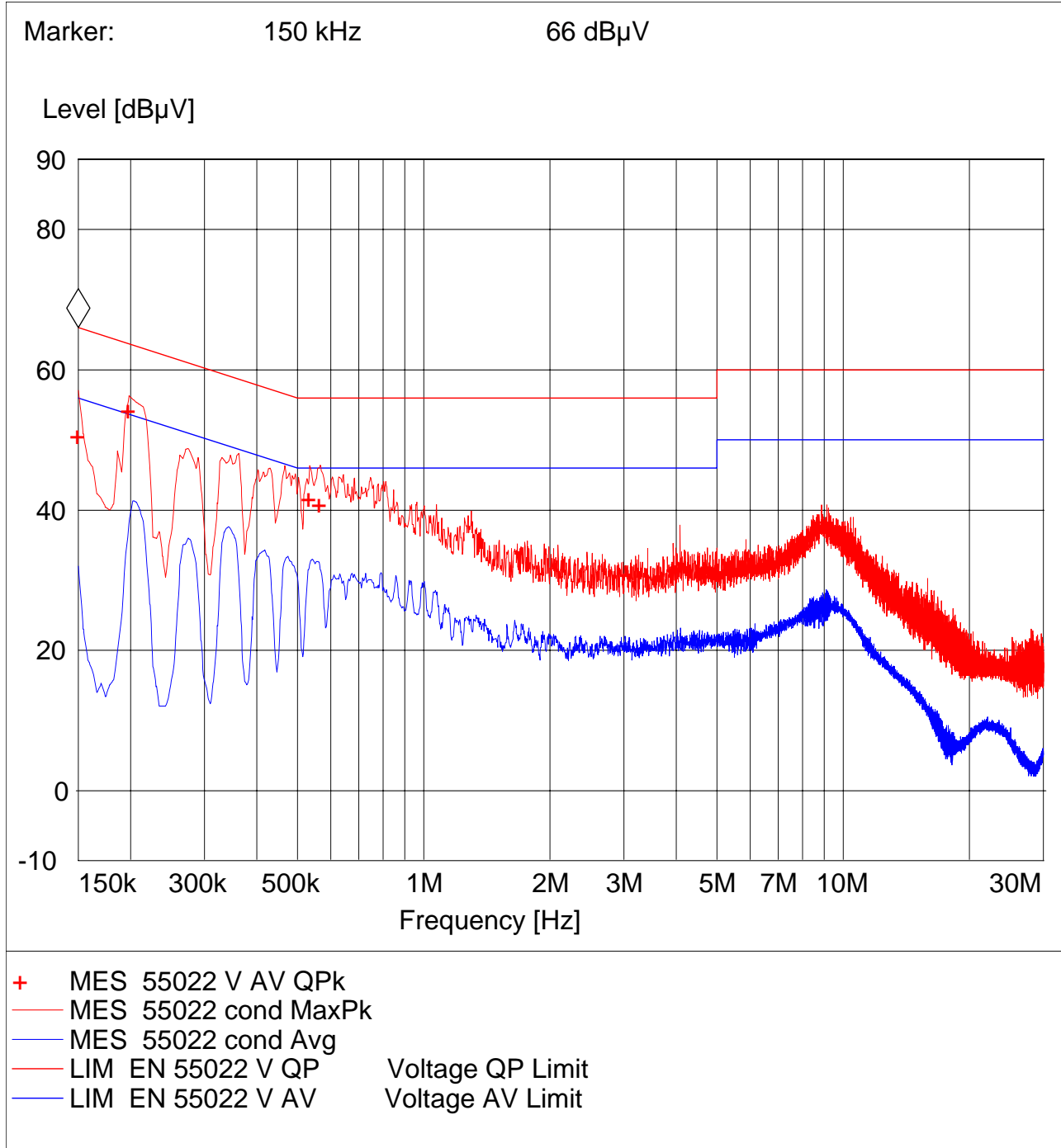
\* Decreases with logarithm of the frequency

**ANALYZER SETTINGS: RBW = 10KHz**

**VBW = 10KHz**

**5.4.2 Results, TX Transmit Line:**

EUT: 7505  
 Manufacturer: PSION  
 Operating Condition: GSM 850 Ch 190; WLAN CH 11; BT 2480MHz  
 ANT Orientation:: Conducted  
 EUT Orientation:: H  
 Test Engineer:: Marc  
 Power Supply: : AC Adapter  
 Comments: : Line





**MEASUREMENT RESULT: "55022 V AV QPk"**

11/26/2007 10:57AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150000	50.60	0.0	66	15.4	---	---
0.198000	54.30	0.0	64	9.4	---	---
0.534000	41.70	0.0	56	14.3	---	---
0.566000	40.90	0.0	56	15.1	---	---

**LIMIT LINE: "EN 55022 V AV"**

Short Description: Voltage AV Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	56.00
0.500000	46.00
5.000000	46.00
5.000000	50.00
30.000000	50.00

**LIMIT LINE: "EN 55022 V QP"**

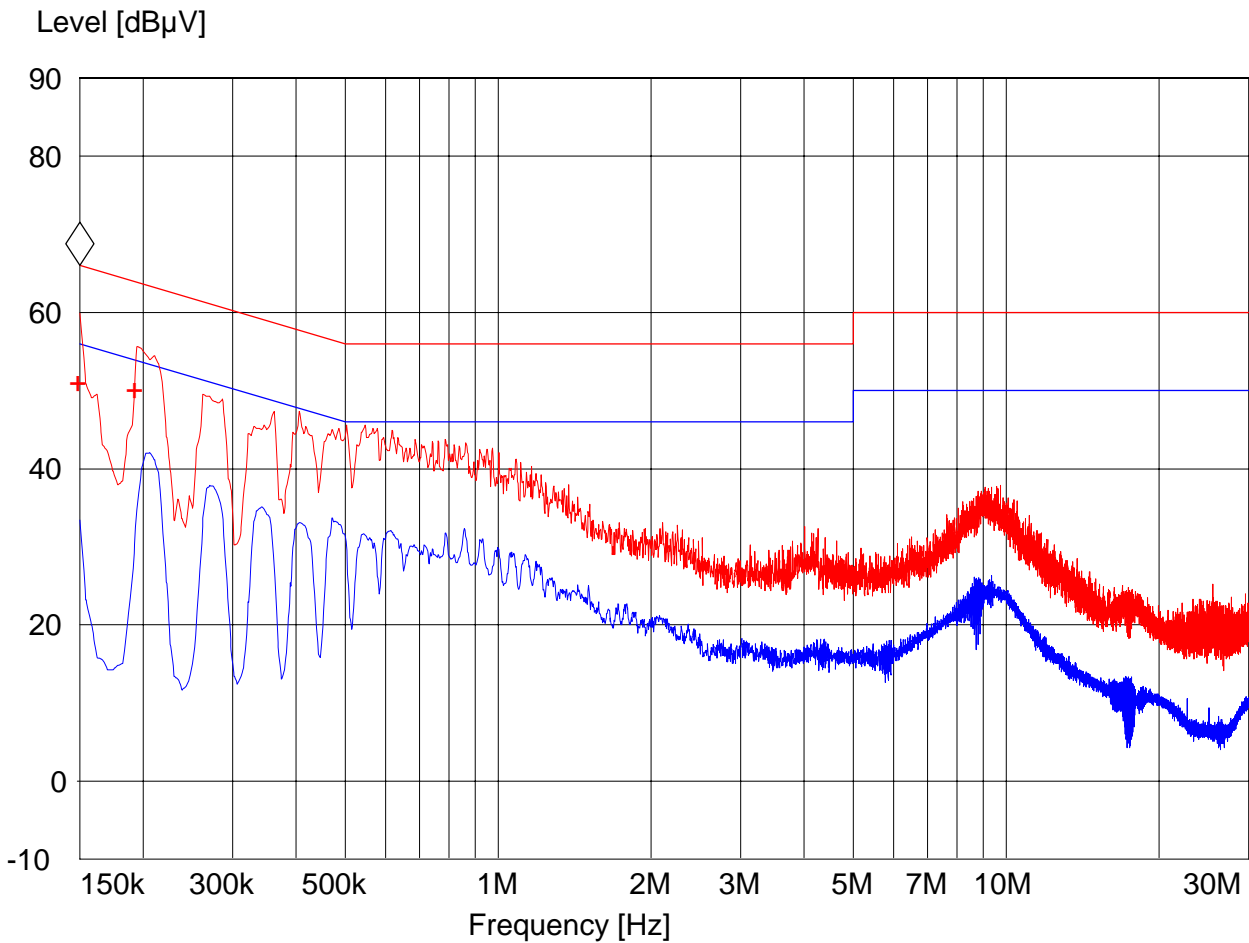
Short Description: Voltage QP Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	66.00
0.500000	56.00
5.000000	56.00
5.000000	60.00
30.000000	60.00

### 5.4.3 TX Transmit Neutral:

EUT: 7505  
Manufacturer: PSION  
Operating Condition: GSM 850 Ch 190; WLAN CH 11; BT 2480MHz  
ANT Orientation:: Conducted  
EUT Orientation:: H  
Test Engineer:: Marc  
Power Supply: : AC Adapter  
Comments: : N

Marker: 150 kHz 66 dB $\mu$ V



+ MES 55022 V AV QPk  
— MES 55022 cond MaxPk  
— MES 55022 cond Avg  
— LIM EN 55022 V QP Voltage QP Limit  
— LIM EN 55022 V AV Voltage AV Limit



**MEASUREMENT RESULT: "55022 V AV QPk"**

11/26/2007 10:50AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150000	51.10	0.0	66	14.9	---	---
0.194000	50.30	0.0	64	13.5	---	---

**LIMIT LINE: "EN 55022 V AV"**

Short Description: Voltage AV Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	56.00
0.500000	46.00
5.000000	46.00
5.000000	50.00
30.000000	50.00

**LIMIT LINE: "EN 55022 V QP"**

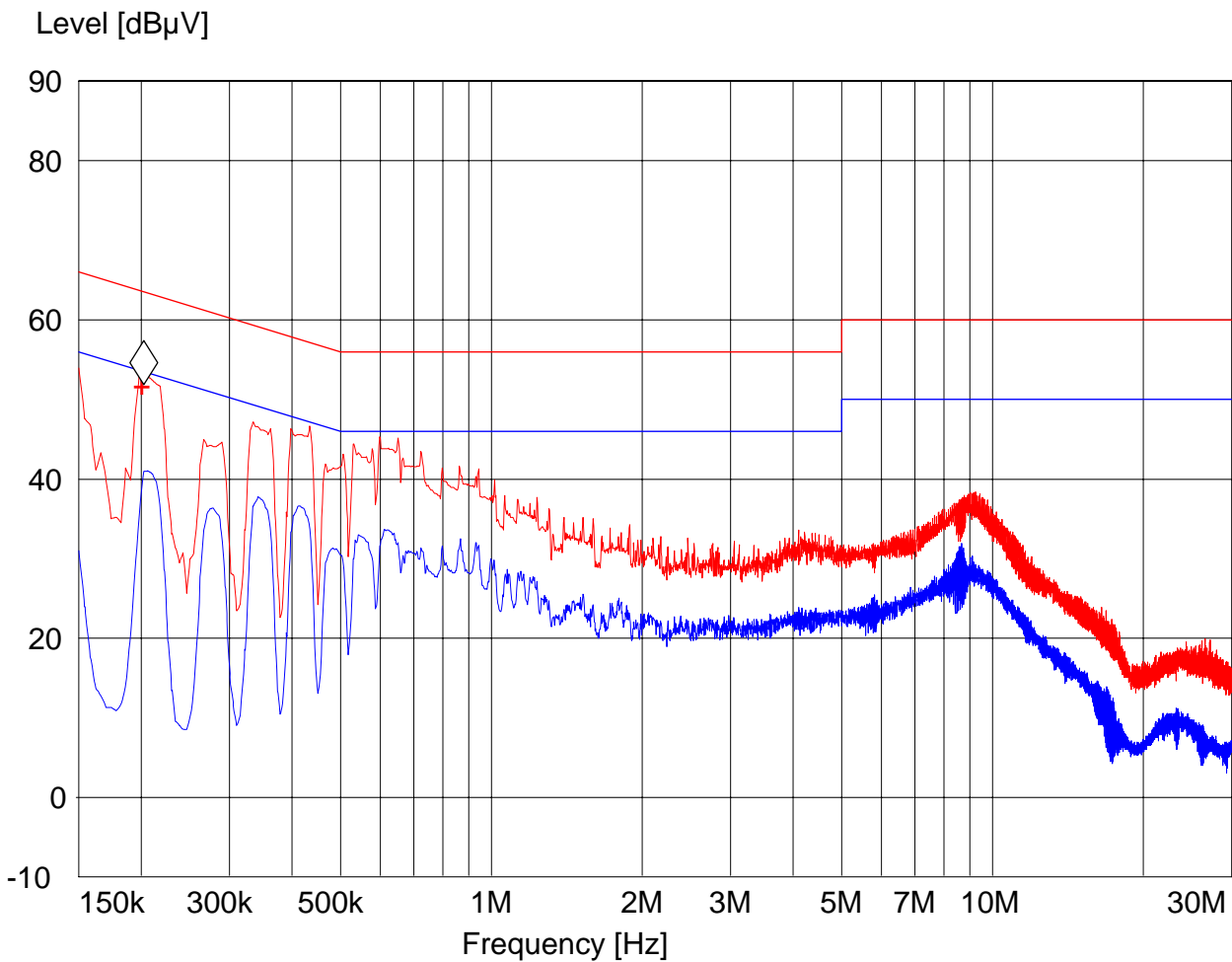
Short Description: Voltage QP Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	66.00
0.500000	56.00
5.000000	56.00
5.000000	60.00
30.000000	60.00

**5.4.4 Results, Idle Line:**

EUT: 7505  
Manufacturer: PSION  
Operating Condition: IDLE  
ANT Orientation:: Conducted  
EUT Orientation:: H  
Test Engineer:: Marc  
Power Supply: : AC Adapter  
Comments: : line; idle

Marker: 202 kHz 51.9 dB $\mu$ V



- + MES 55022 V AV QPk
- MES 55022 cond MaxPk
- MES 55022 cond Avg
- LIM EN 55022 V QP Voltage QP Limit
- LIM EN 55022 V AV Voltage AV Limit



**MEASUREMENT RESULT: "55022 V AV QPk"**

11/26/2007 12:32PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.202000	51.90	0.0	64	11.6	---	---

**LIMIT LINE: "EN 55022 V AV"**

Short Description: Voltage AV Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	56.00
0.500000	46.00
5.000000	46.00
5.000000	50.00
30.000000	50.00

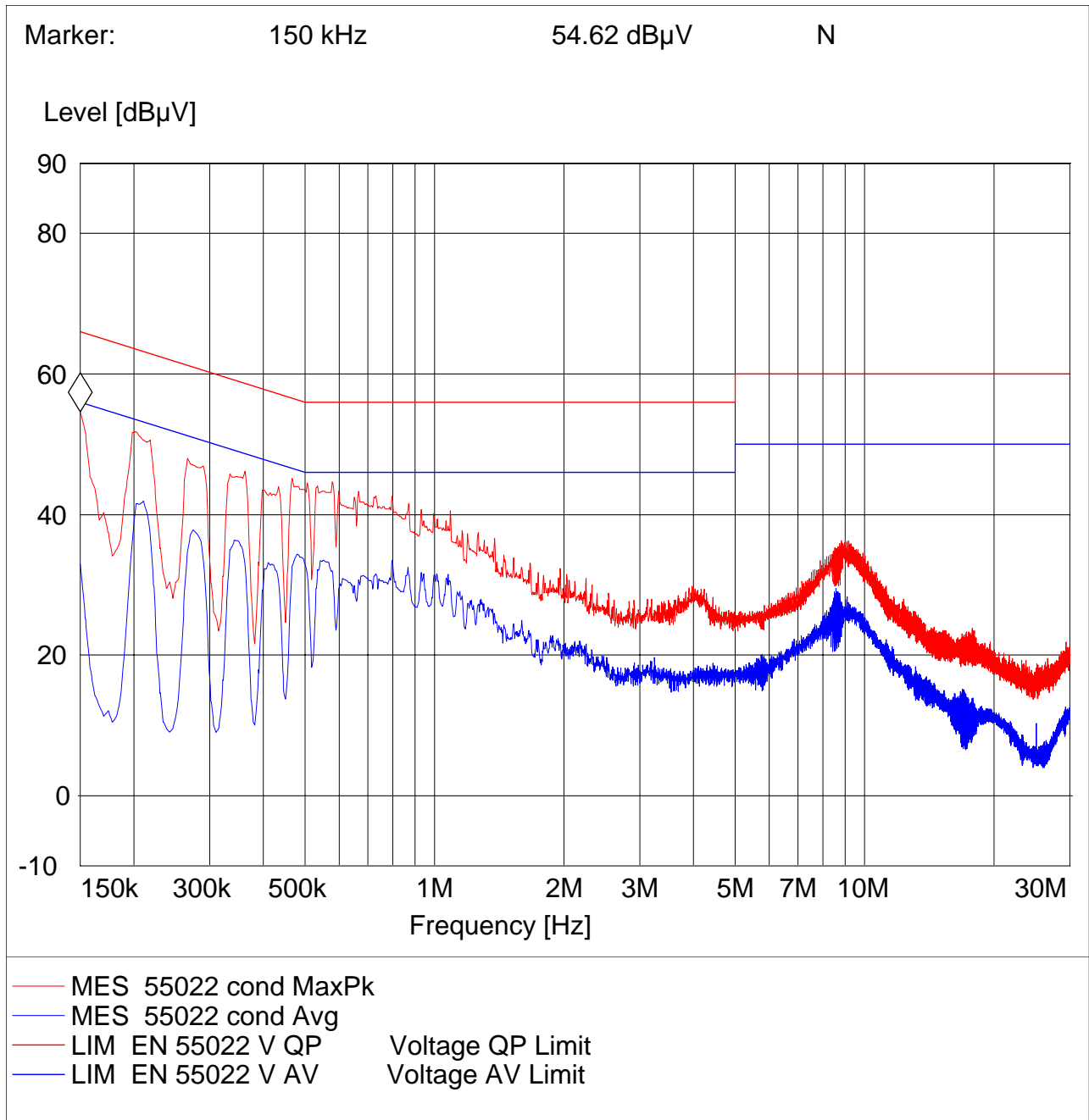
**LIMIT LINE: "EN 55022 V QP"**

Short Description: Voltage QP Limit  
4/27/1998 2:24PM

Frequency MHz	Level dBµV
0.150000	66.00
0.500000	56.00
5.000000	56.00
5.000000	60.00
30.000000	60.00

**5.4.5 TX Idle Neutral:**

EUT: 7505  
 Manufacturer: PSION  
 Operating Condition: IDLE  
 ANT Orientation:: Conducted  
 EUT Orientation:: H  
 Test Engineer:: Marc  
 Power Supply: : AC Adapter  
 Comments: : neutral; idle







**LIMIT LINE: "EN 55022 V AV"**

Short Description:		Voltage AV Limit
4/27/1998 2:24PM		
Frequency	Level	
MHz	dBµV	
0.150000	56.00	
0.500000	46.00	
5.000000	46.00	
5.000000	50.00	
30.000000	50.00	

**LIMIT LINE: "EN 55022 V QP"**

Short Description:		Voltage QP Limit
4/27/1998 2:24PM		
Frequency	Level	
MHz	dBµV	
0.150000	66.00	
0.500000	56.00	
5.000000	56.00	
5.000000	60.00	
30.000000	60.00	

**6 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

## 7 BLOCK DIAGRAMS

### Radiated Testing

#### ANECHOIC CHAMBER

