FCC
CLASS II Permissive Change Test Report

FCC Part 15.247 for DSSS systems/ CANADA RSS-210

FOR:

WLAN DUAL BAND MINI PCI CARD

MODEL #: BCM94318MPAGH

BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086
U.S.A

FCC ID: QDS-BRCM1017
IC ID: 4324A-BRCM1017

TEST REPORT #: EMC_1099_2005_WLAN
DATE: DECEMBER 12, 2005

Deutscher Akkreditierungs Rat DAR
TTI-P-G 081/94-A0
Accredited according to **ISO/IEC 17025**

Bluetooth
Bluetooth Qualification Test Facility (BQTF)

CTIA Authorized Test Lab
LAB CODE 20020328-00

FCC listed # 101450

IC recognized # 3925

***CETECOM* Inc.**
411 Dixon Landing Road ◆ Milpitas, CA 95035 ◆ U.S.A.
Phone: + 1 (408) 586 6200 ◆ Fax: + 1 (408) 586 6299 ◆ E-mail: info@cetecomusa.com ◆ http://www.cetecom.com
CETECOM Inc. is a Delaware Corporation with Corporation number: 2113686
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 and in compliance with the applicable criteria specified in Industry Canada rules RSS210.

Company	Description	Model #
BROADCOM CORP	**WLAN DUAL BAND MINI PCI CARD**	**BCM94318MPAGH**

2005-12-12
Neelesh Raj
Project Leader

2005-12-12
Lothar Schmidt
Test Lab Manager

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

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
Responsible Project Leader:	Neelesh Raj
Date of test:	2005-11-28 to 2005-11-30

2.2 Identification of the Client

Applicant's Name:	**Broadcom Corporation**
Street Address:	**190 Mathilda Place**
City/Zip Code	**Sunnyvale, CA 94086**
Country	**USA**
Contact Person:	**Daniel Lawless**
Phone No.	**408 922 5870**
Fax:	**408 543 3399**
e-mail:	**dlawless@broadcom.com**

2.3 Identification of the Manufacturer

Manufacturer's Name:	**Broadcom Corporation**
Manufacturers Address:	**190 Mathilda Place**
City/Zip Code	**Sunnyvale, CA 94086**
Country	**USA**

3 Equipment under Test (EUT)

3.1 Identification of the Equipment under Test

Description:	**WLAN Dual Band Mini PCI card**
Model No:	**BCM94318MPAGH**
FCC ID:	**QDS-BRCM1017**
IC ID:	**4324A-BRCM1017**
Frequency Range:	2412MHz – 2472MHz for 2.4GHz band 5180MHz – 5320MHz for 5GHz band 5745MHz – 5825MHz for 5GHz band
Type(s) of Modulation:	**DSSS, OFDM**
Number of Channels:	**13**
Antenna Type:	**STAMPED METAL, 3.9dBi (new antenna**
Output Power:	**0.358 W EIRP@2437MHz OFDM**

4 Subject Of Investigation

The Class II change on BCM94318MPAGH is the antenna gain related to the 2400-2483.5MHz band. The previous antenna gain for this band was 3.24dBi and the new antenna gain is 3.9dBi, conducted output power from the module remains the same as per the previous submission.

All testing was performed on the BCM94318MPAGH using the worst case data rates as follows:

b MODE	DATE RATE
PEAK	11 Mbps
AVERAGE	1 Mbps

g MODE	DATE RATE
PEAK	54 Mbps
AVERAGE	6 Mbps

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT as specified by requirements listed in FCC rules Part 15.247 of Title 47 of the Code of Federal Regulations and Industry Canada rules RSS210.

Antenna Manufacturer	Antenna Type	Model	Peak gain @ 2400-2483.5MHz	Peak gain 5150-5350MHz	Peak gain @ 5725-5850
Wistron NeWeb	Metal sheet inverted F antenna	EBB-Q	1.51	2.51(Main)	4.49 (Aux)
Phycomp	Stamped Metal	CAN4313 384 012501B	Main 0.57 (H) white	3.74 (Main)	Main 3.56 (V) white
WNC	PIFA	81.ED415.002	3.24dBi (Main)	1.51dBi (Main)	Main -0.35dBi
Hitachi	FPC	HFT17-DL04	Main 2.1 (H) White	4.3 (aux)	Aux 3.6 (V) Black
Hitachi	FPC	HFT17-DL03	Main 1.5 (H)	Main 5.1 (V)	Main 5.7 (V+H)
Hitachi	PIFA	HMT05/HFT17-DL07	3.9 (Aux)	Main 5.1 (V)	Main 5.7 (V+H)
Wistron NeWeb	PIFA	WNC P/N: 81.EBC15.020	Main 3.38	Main 1.53 (V)	Aux 1.37 (V)

The measurements for **HMT05/HFT17-DL07** were limited to the 2.4 GHz range since the antenna was improved only in the 2.4GHz range. The 5 GHz range gain remained the same as **HFT17-DL03**. The actual measured EIRP values are the max values and differ slightly from the calculated gain.

Measurements

4.1 MAXIMUM PEAK OUTPUT POWER § 15.247 (RADIATED)

4.1.1 LIMIT SUB CLAUSE § 15.247 (b) (1) (2) (3) (4)

Frequency range	RF power output
2400-2483.5 MHz	36dBm EIRP

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

4.1.2 EIRP b MODE:

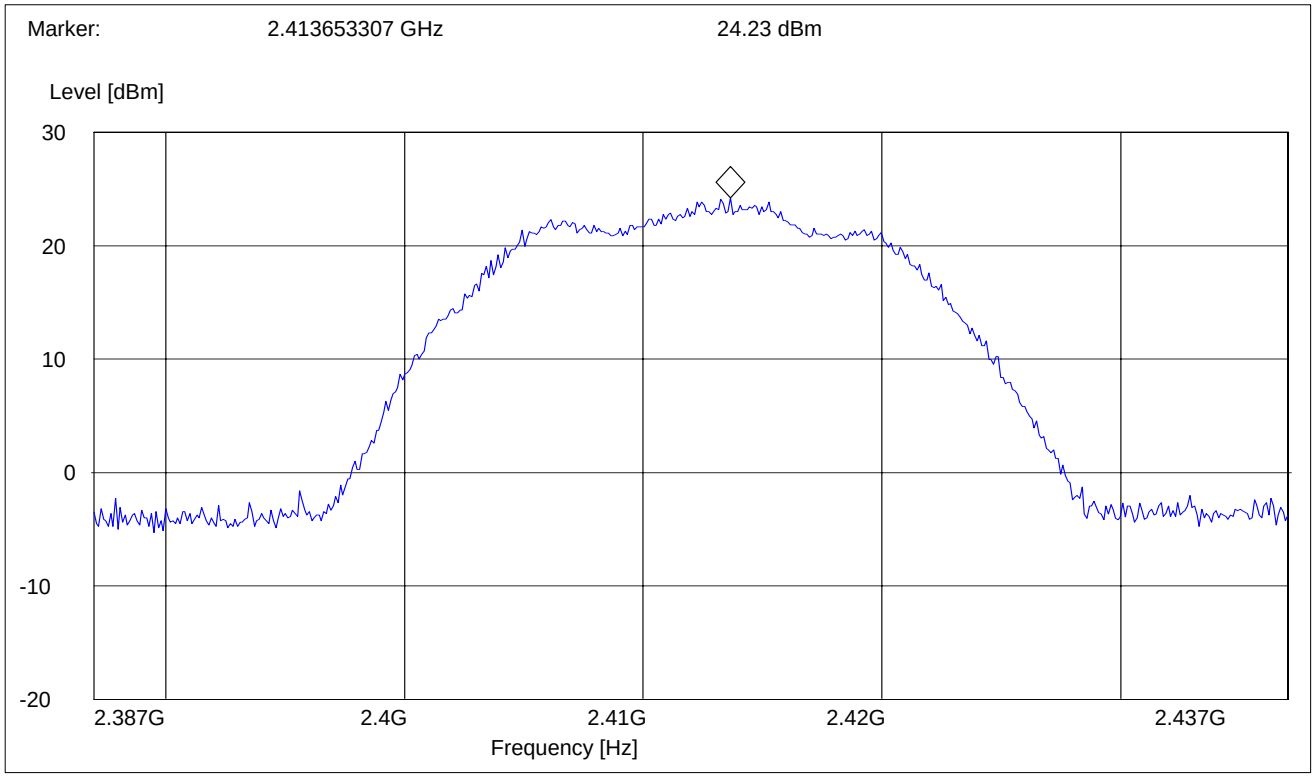
TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2412	2437	2462
T_{nom}(23)°C	V_{nom}VDC	24.23	24.12	23.8
Measurement uncertainty		±0.5dBm		

4.1.3 EIRP g MODE:

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2412	2437	2462
T_{nom}(23)°C	V_{nom}VDC	24.98	25.54	21.23
Measurement uncertainty		±0.5dBm		

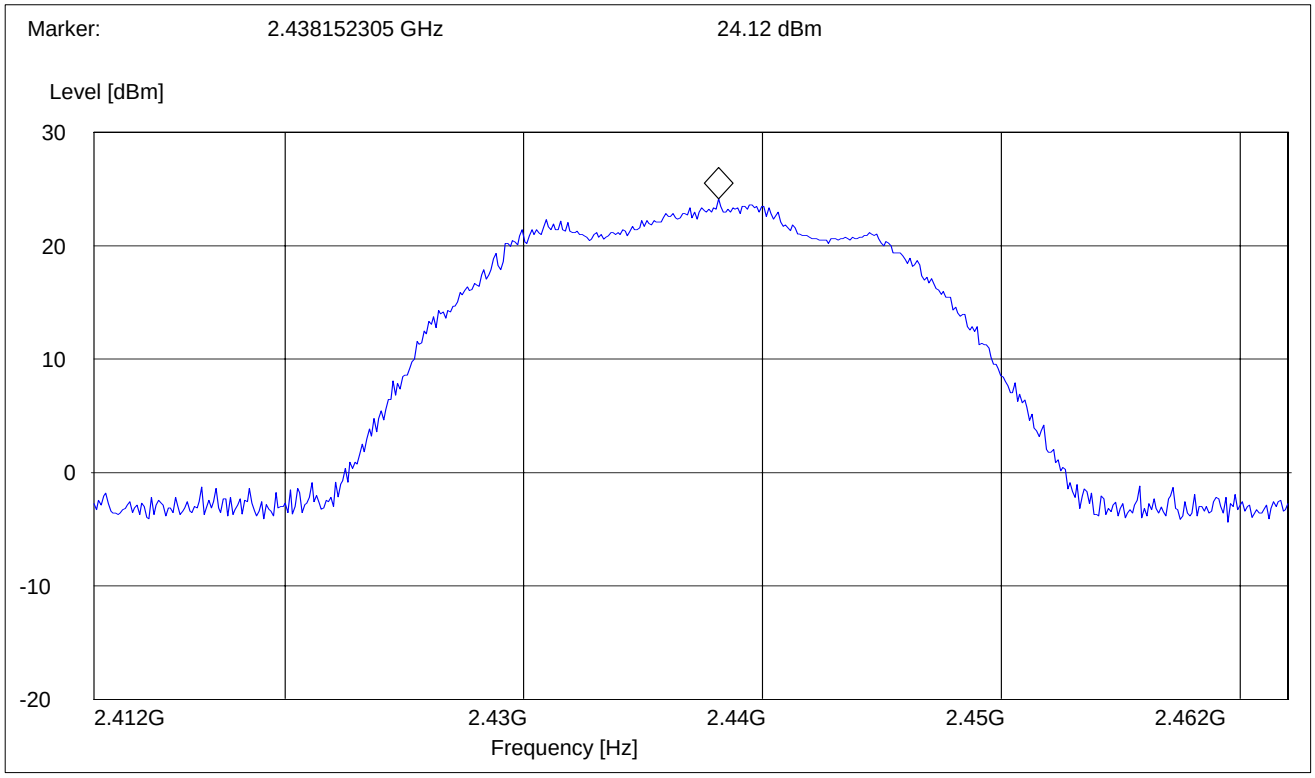
EIRP b Mode (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2387 MHz	2437 MHz	Max Peak	Coupled	10 MHz



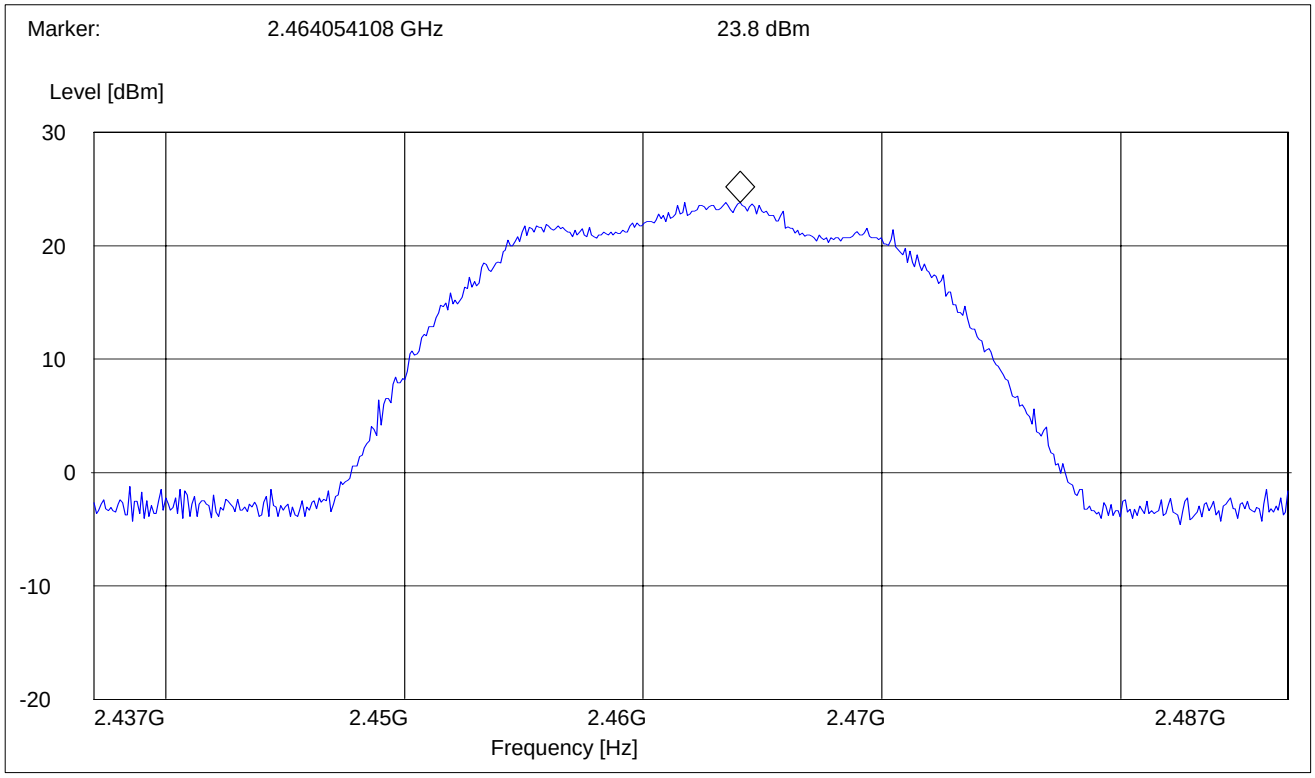
EIRP b Mode (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2312 MHz	2462 MHz	Max Peak	Coupled	10 MHz



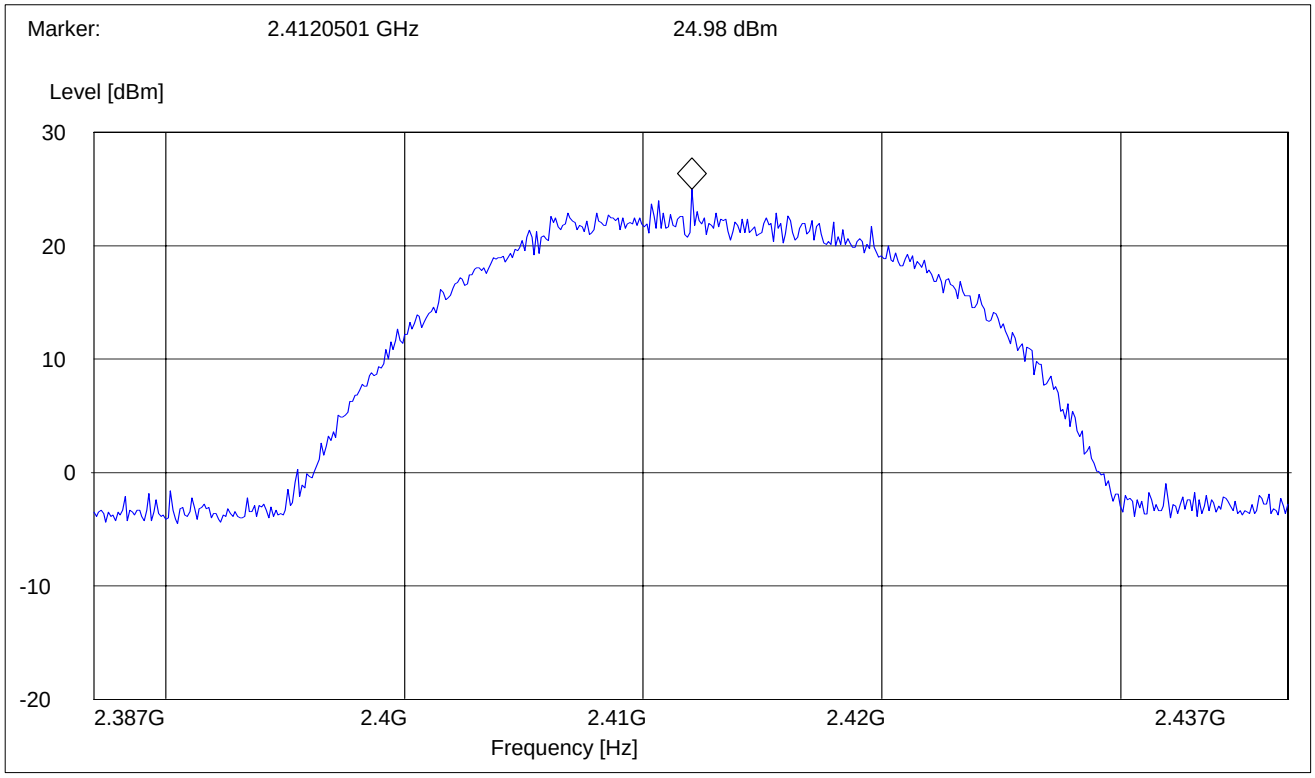
EIRP b Mode (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2437 MHz	2487 MHz	Max Peak	Coupled	10 MHz



EIRP g Mode (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2387 MHz	2437 MHz	Max Peak	Coupled	10 MHz



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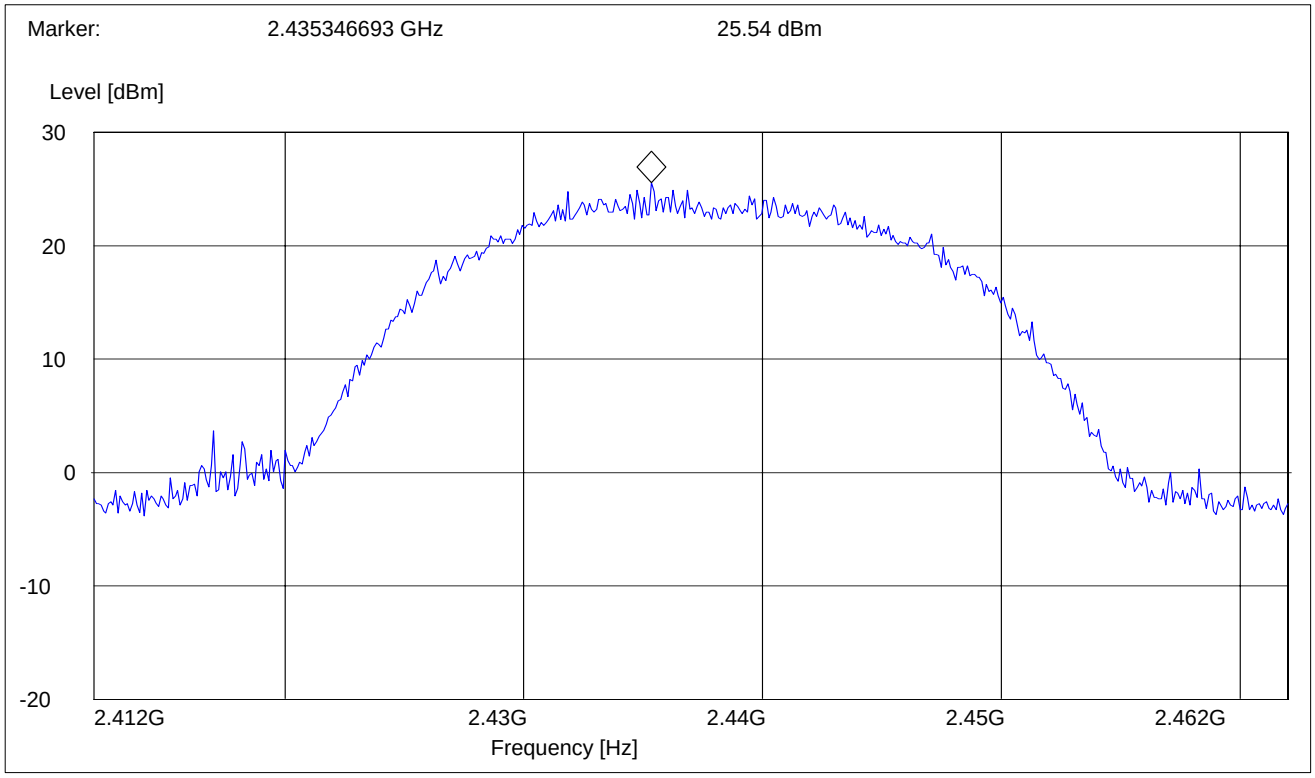
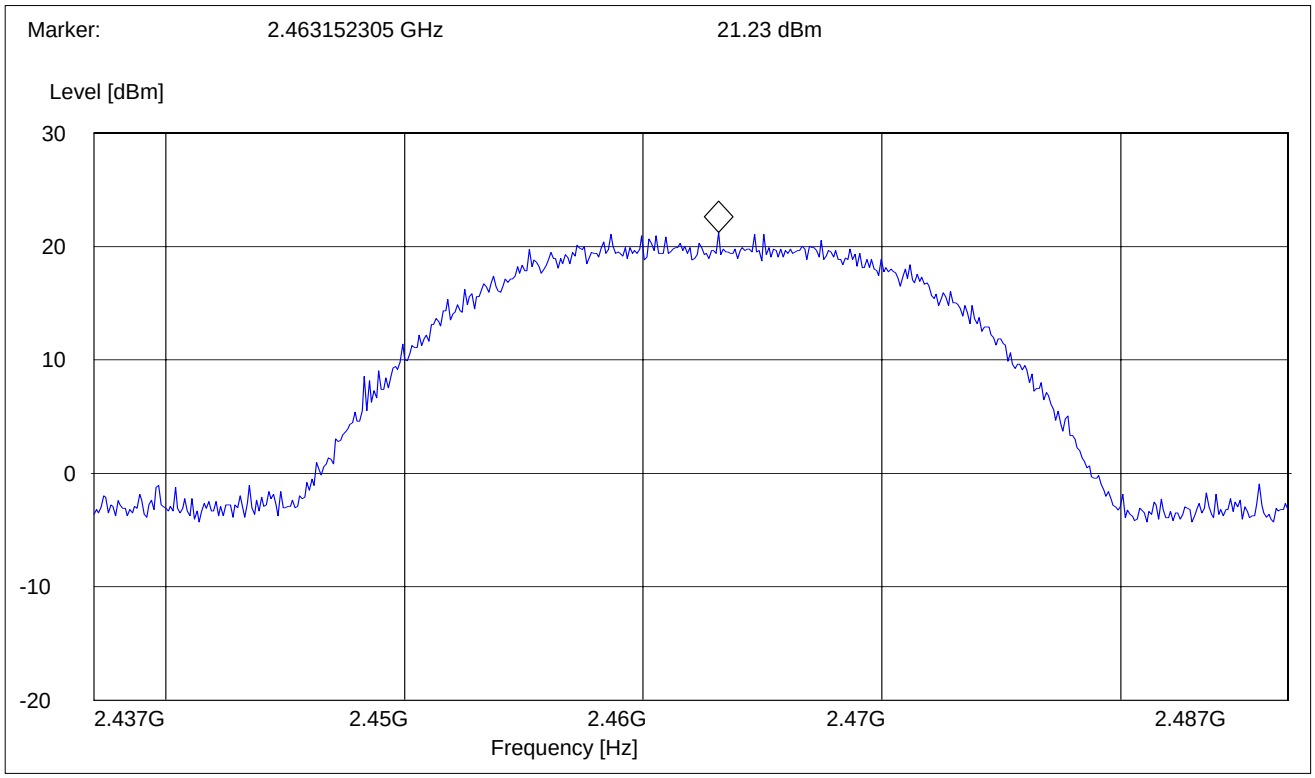
Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2312 MHz	2462 MHz	Max Peak	Coupled	10 MHz



EIRP g Mode (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
2437 MHz	2487 MHz	Max Peak	Coupled	10 MHz



4.2 RESTRICTED BAND EDGE COMPLIANCE RADIATED §15.247/15.205

4.2.1 LIMITS

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

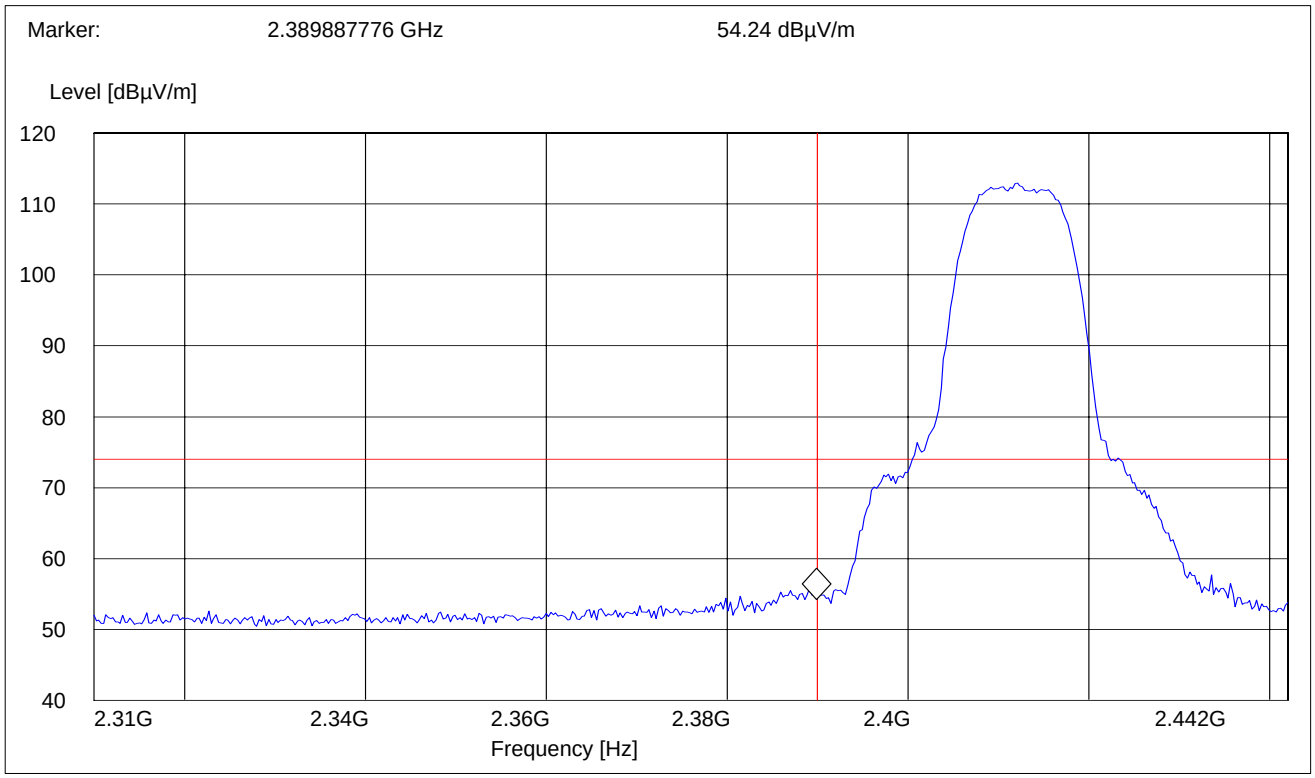
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 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**
***AVG. LIMIT= 54dBuV**

4.2.2 b MODE (2412MHz)

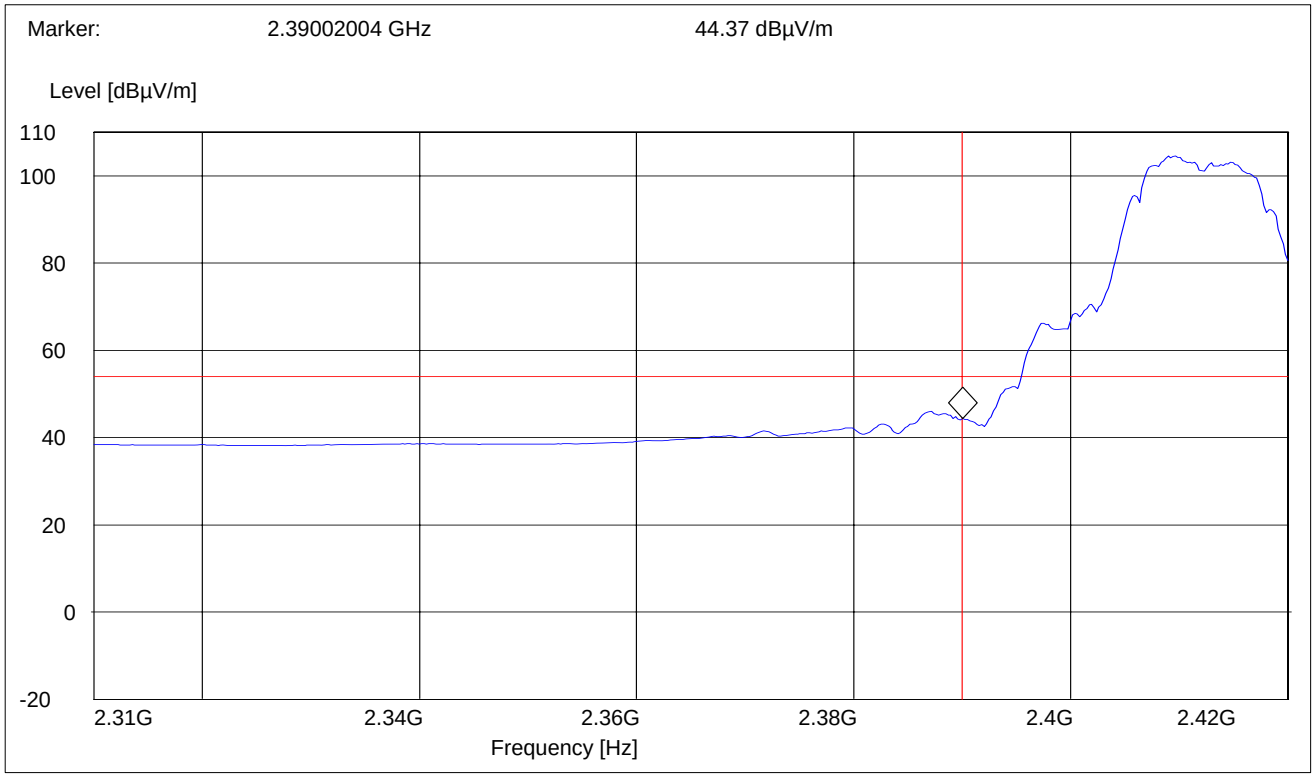
PEAK

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2310 MHz	2412 MHz	Max Peak	Coupled	1 MHz	1 MHz



AVG

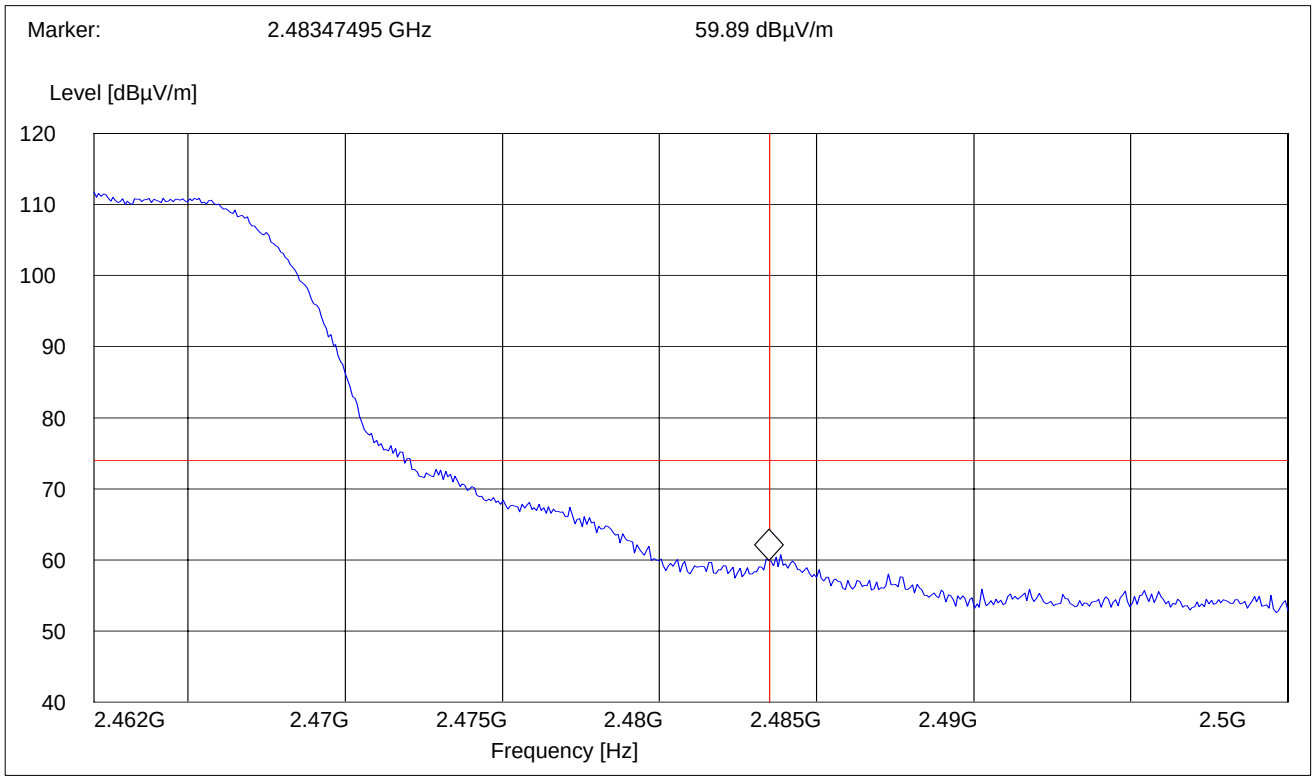
Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2310 MHz	2412 MHz	Max Peak	Coupled	1 MHz	10 Hz



4.2.3 b MODE (2462MHz)

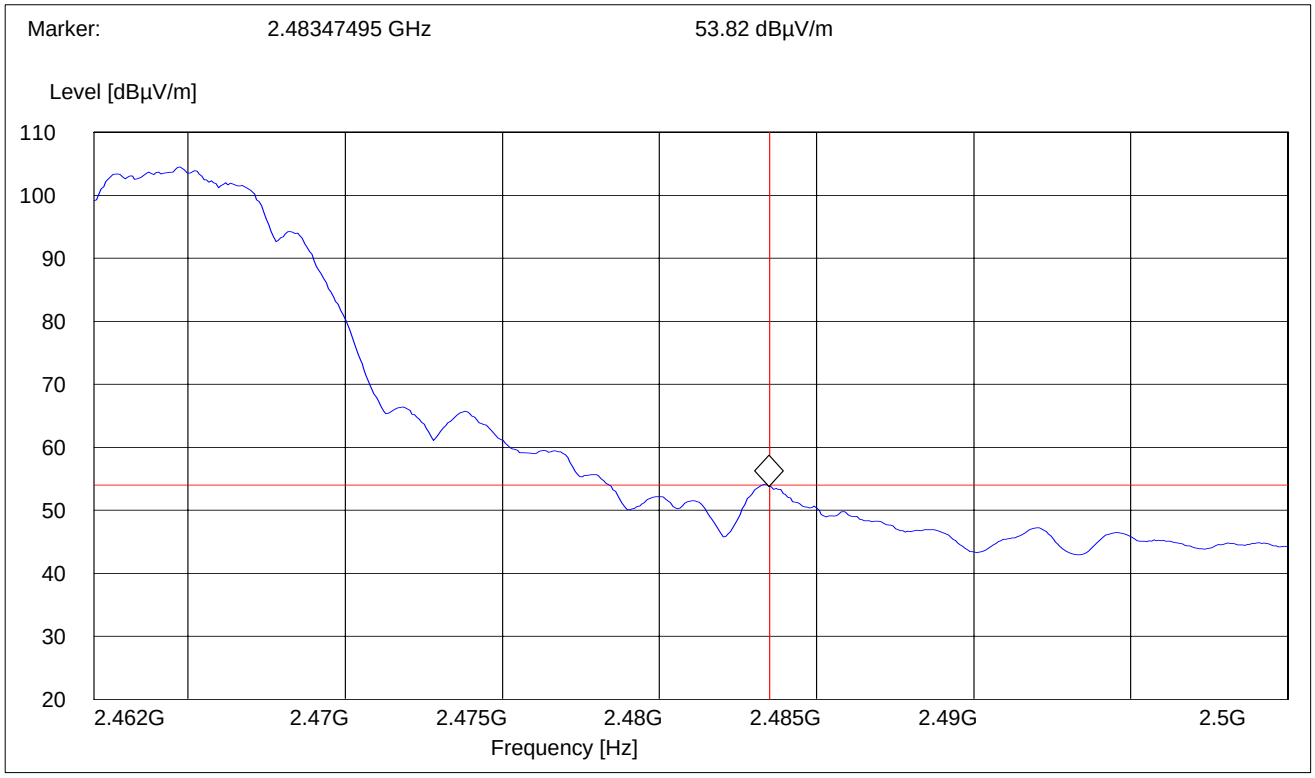
PEAK

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2462 MHz	2500 MHz	Max Peak	Coupled	1 MHz	1 MHz



AVG

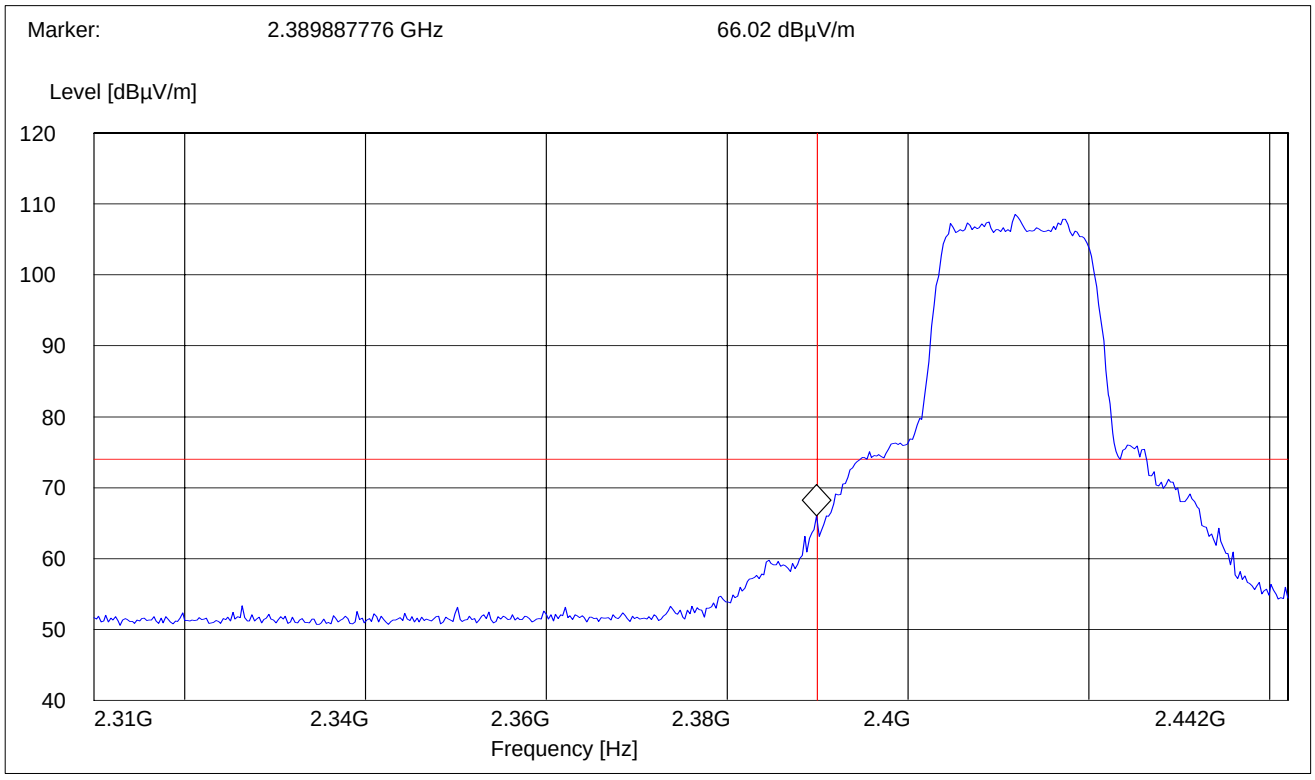
Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2462 MHz	2500 MHz	Max Peak	Coupled	1 MHz	10 Hz



4.2.4 g MODE (2412MHz)

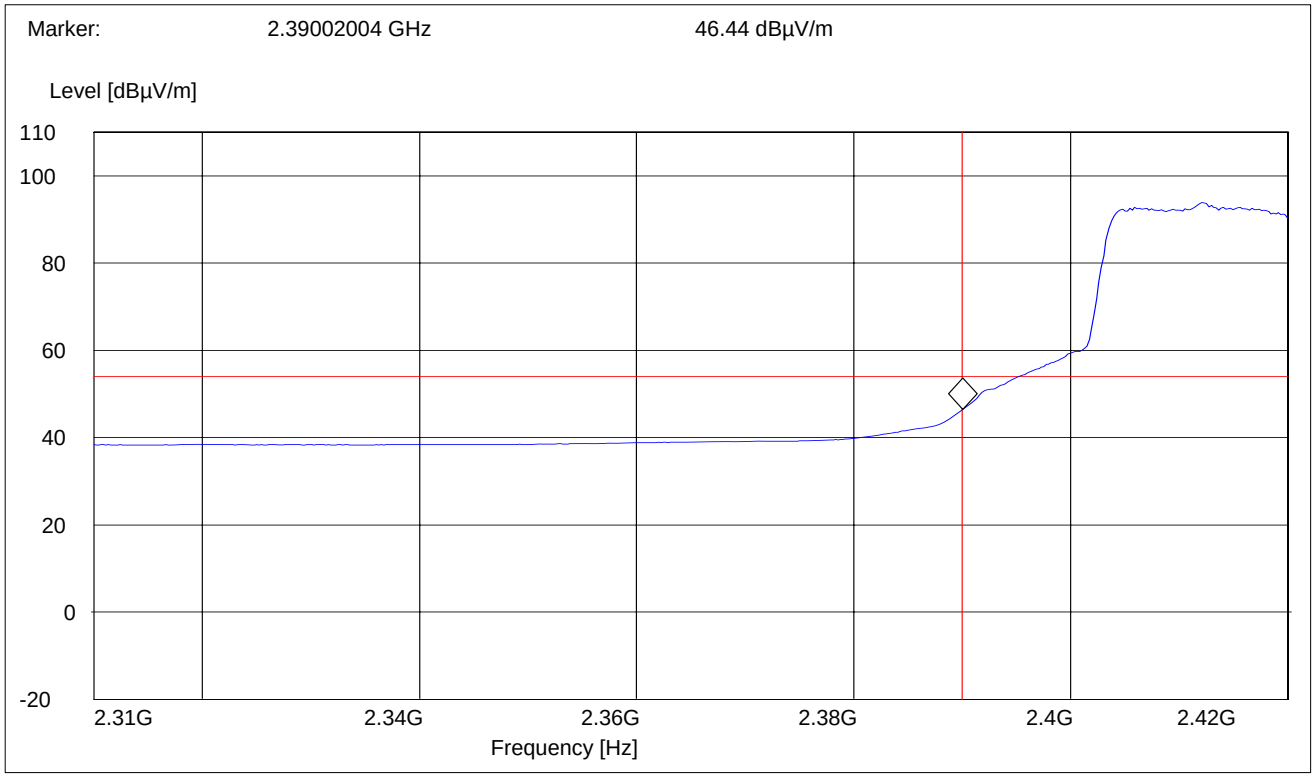
PEAK

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2310 MHz	2412 MHz	Max Peak	Coupled	1 MHz	1 MHz



AVG

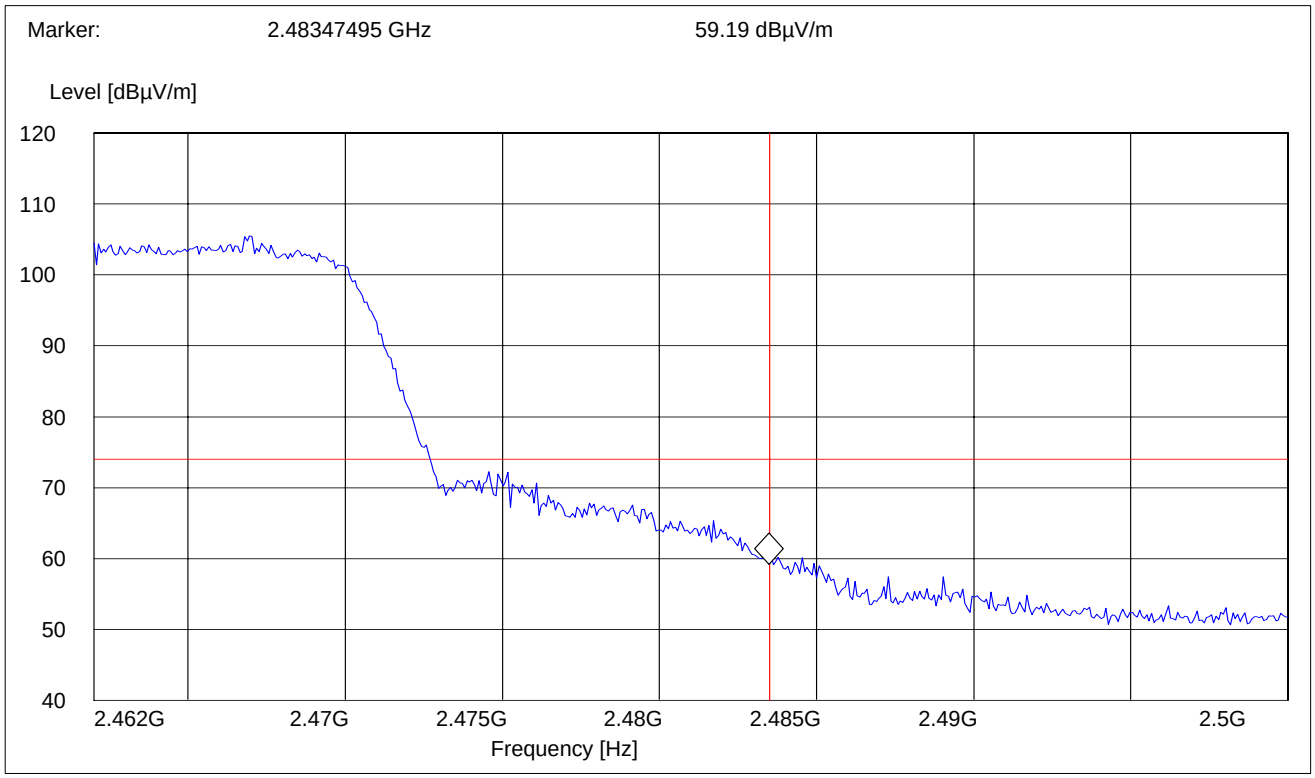
Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2310 MHz	2412 MHz	Max Peak	Coupled	1 MHz	10 Hz



4.2.5 g MODE (2462MHz)

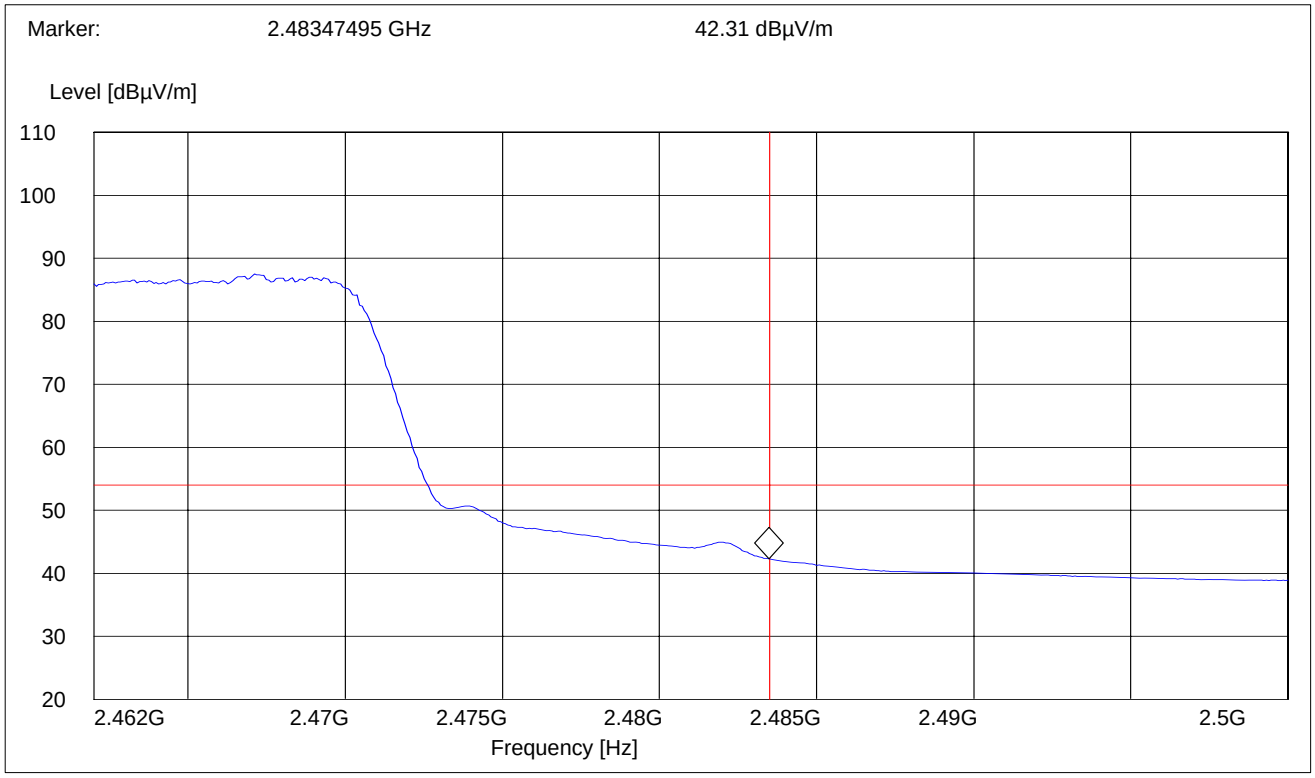
PEAK

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2462 MHz	2500 MHz	Max Peak	Coupled	1 MHz	1 MHz



AVG

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
2462 MHz	2500 MHz	Max Peak	Coupled	1 MHz	10 Hz



4.3 TRANSMITTER SPURIOUS EMISSIONS RADIATED § 15.247/15.205/15.209

4.3.1 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
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6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
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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**
***AVG. LIMIT= 54dBuV**

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.

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

4.3.2 RESULTS b MODE

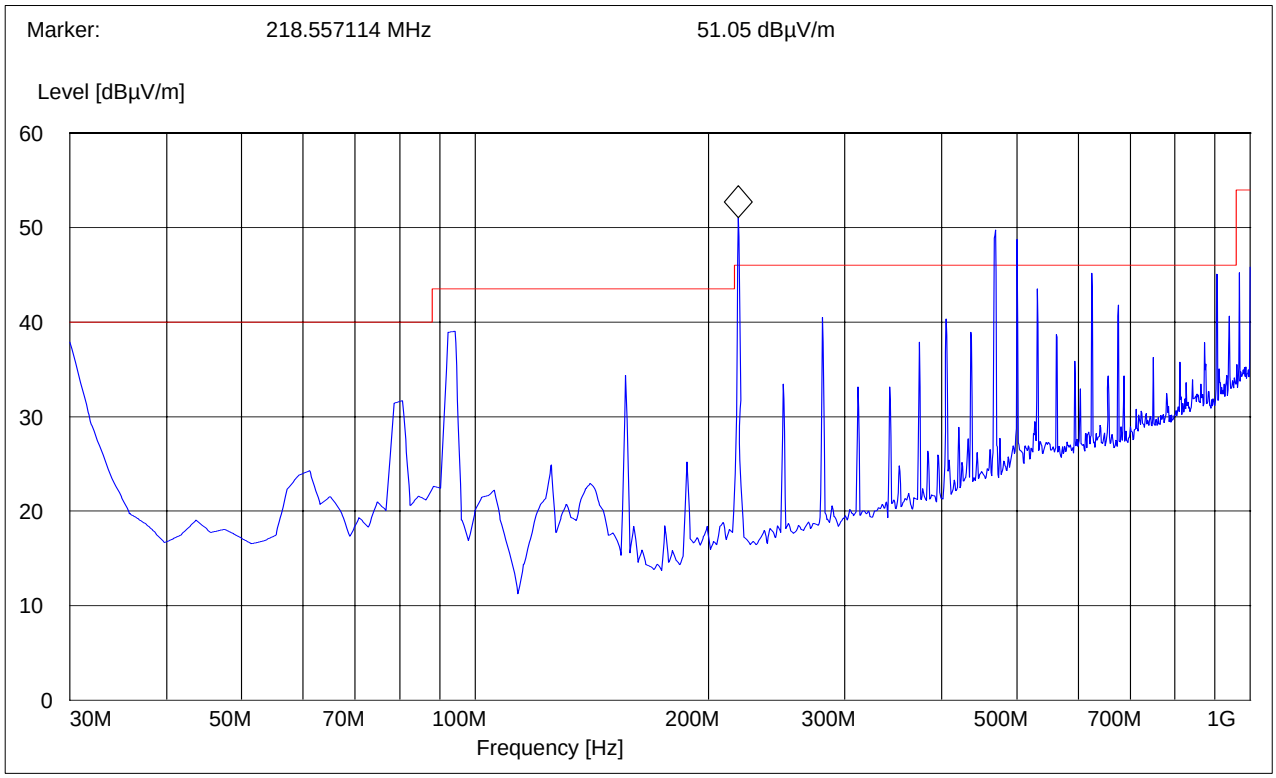
****please note 30MHz-1GHz was done in two configs, to show emissions are radiated from the testjig and "not" the EUT;**

1. **EUT in testjig**
2. **testjig standalone power on**

30MHz – 1GHz
Antenna: vertical *(EUT in testjig)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

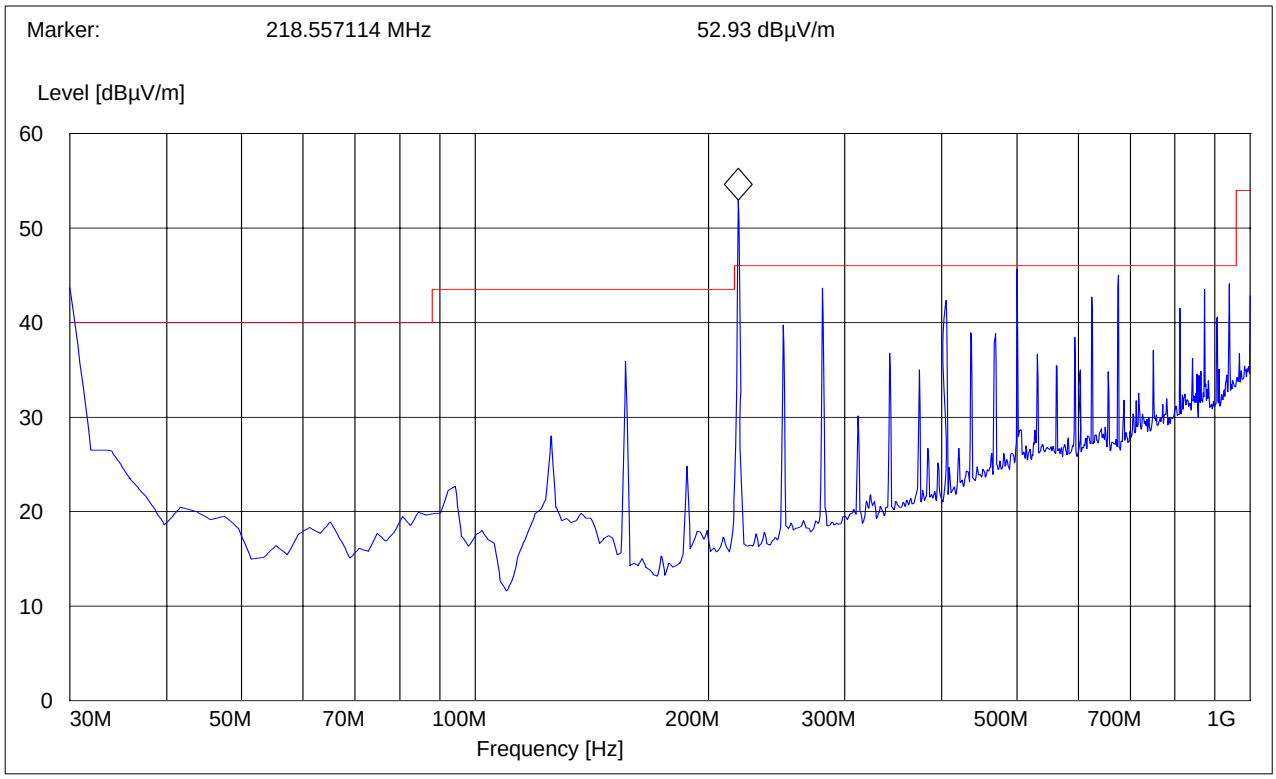
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: vertical *(testjig standalone)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

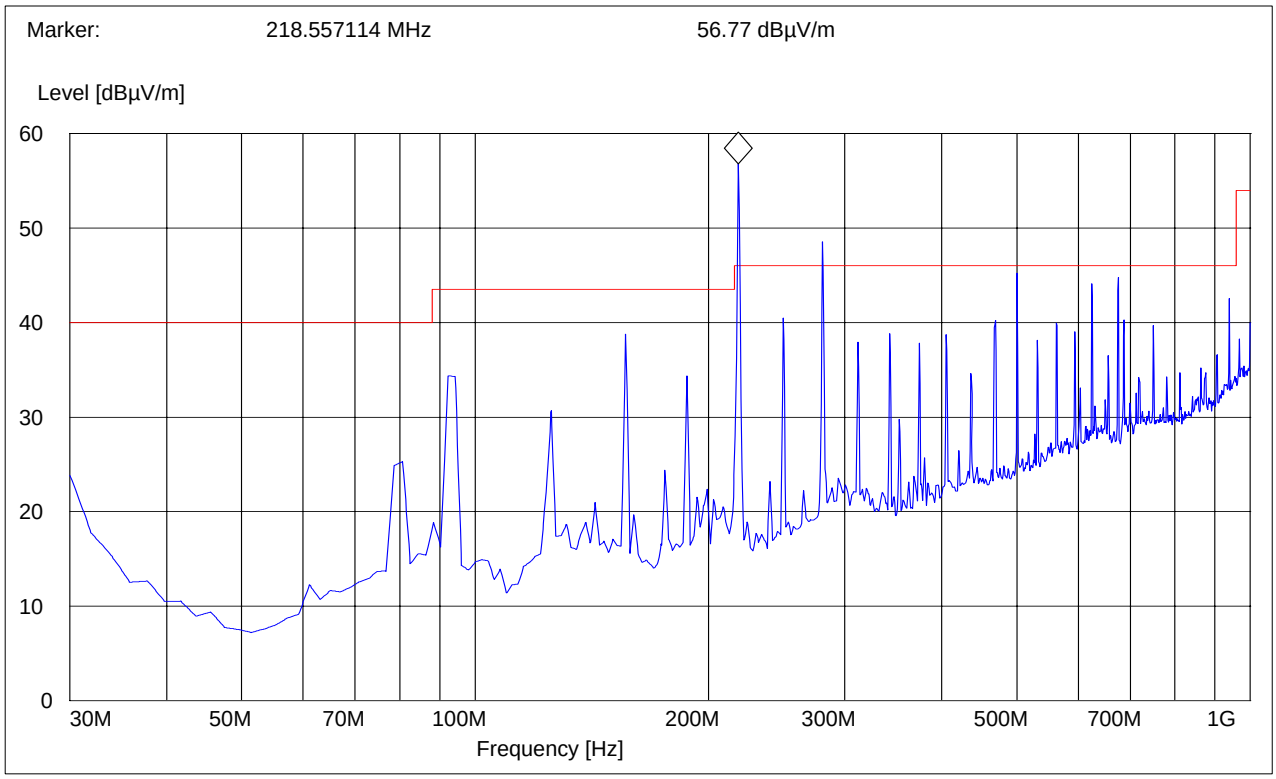
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: horizontal*(EUT in testjig)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

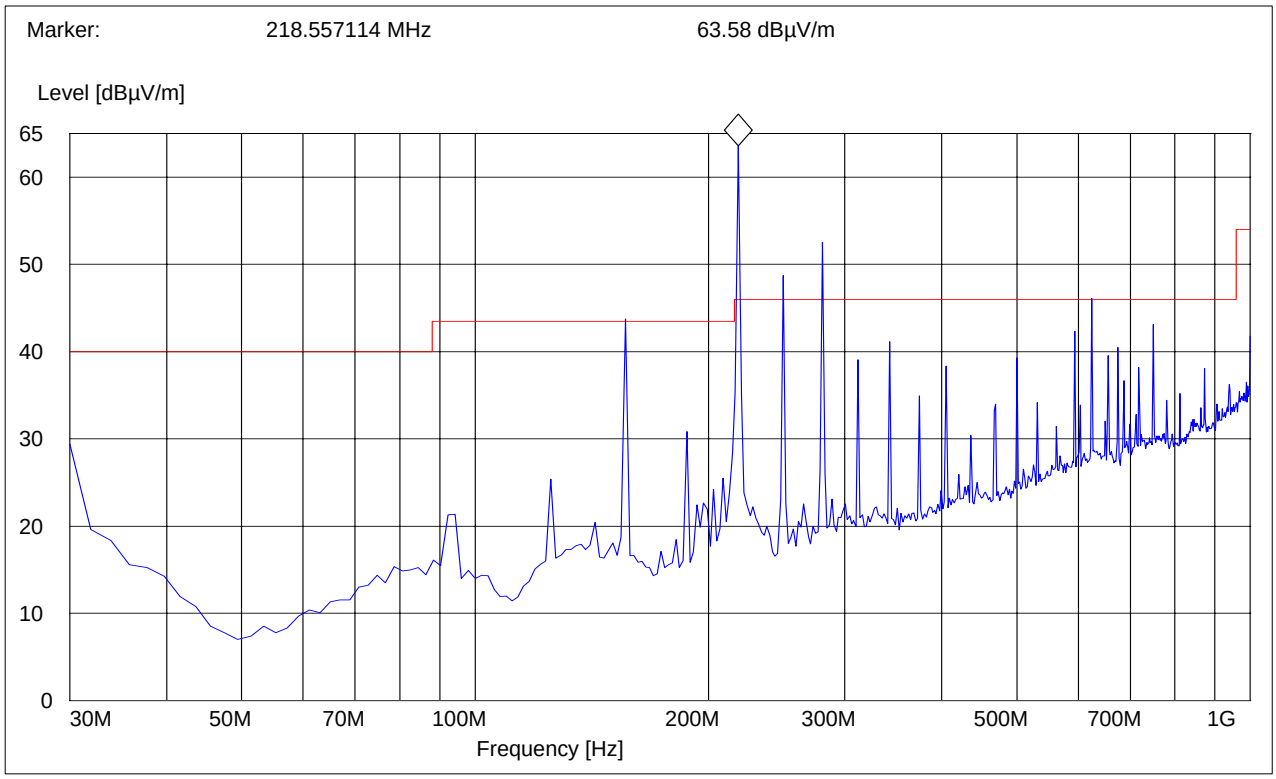
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: horizontal*(testjig standalone)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

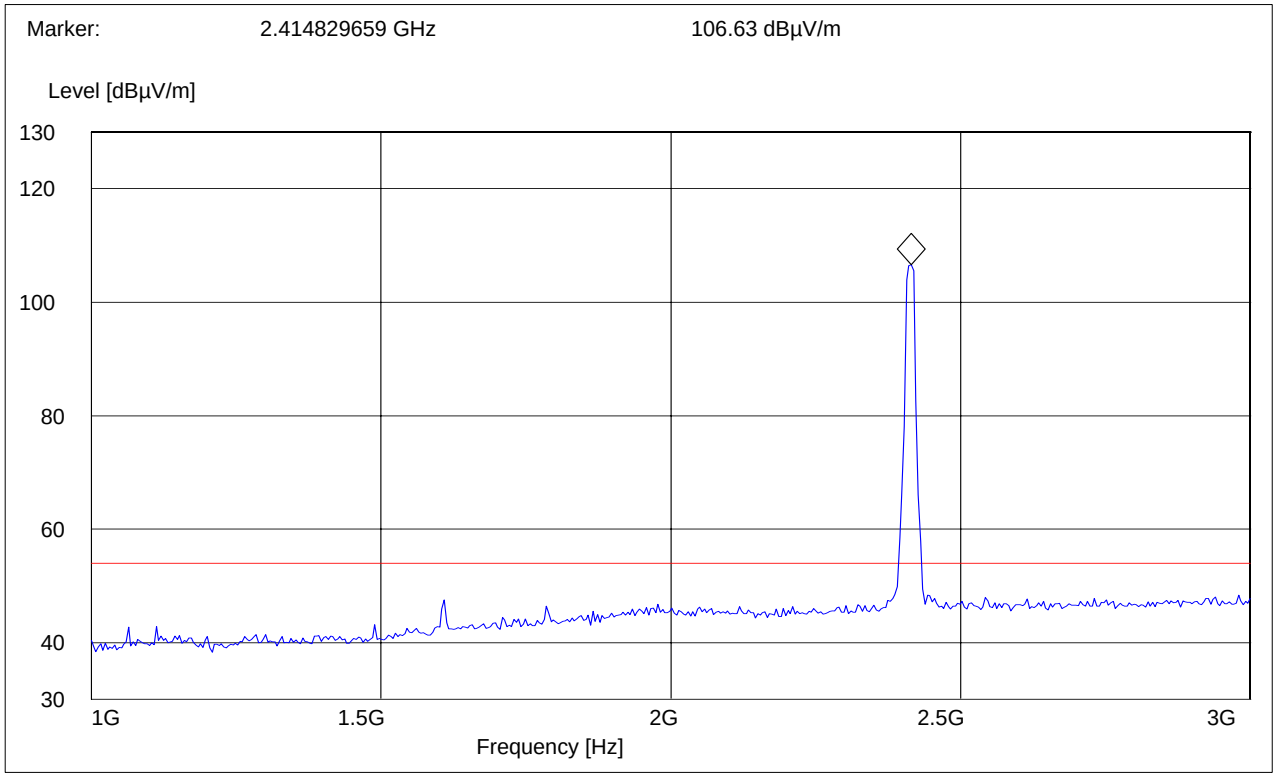
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



1-3GHz (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

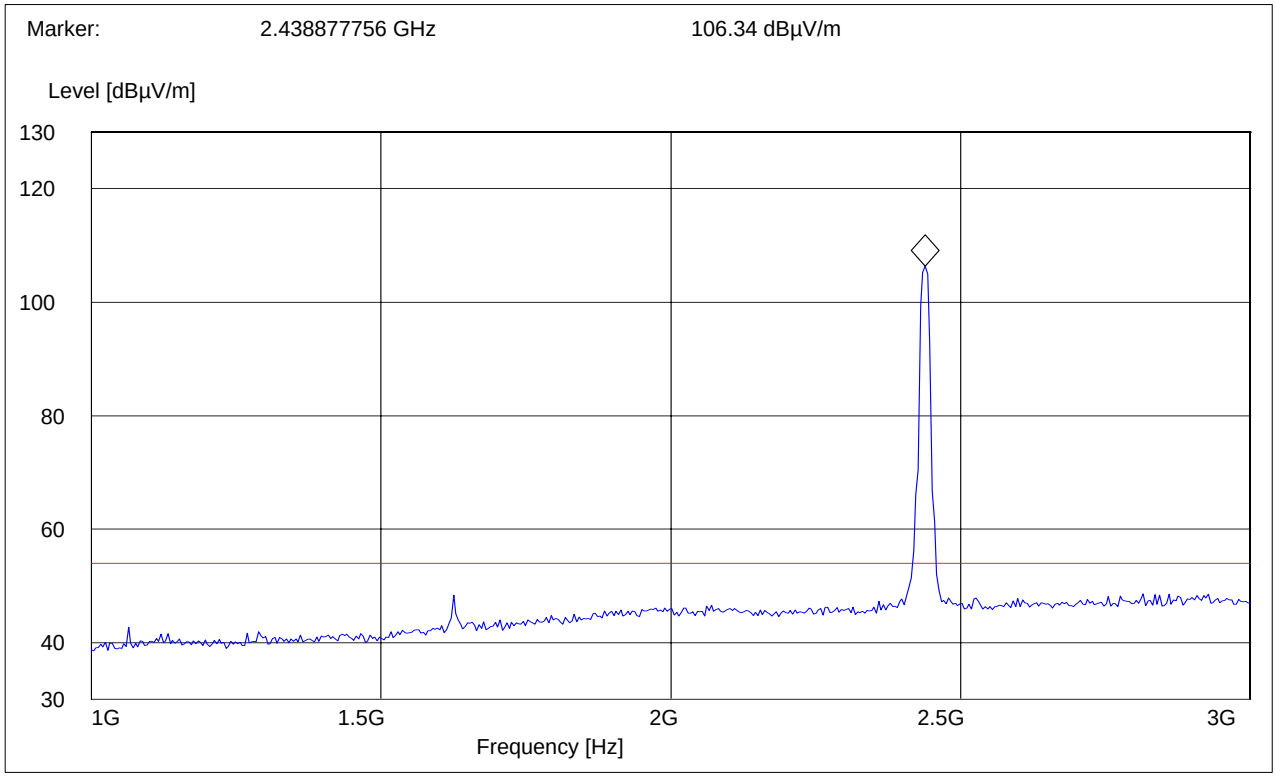
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



1-3GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

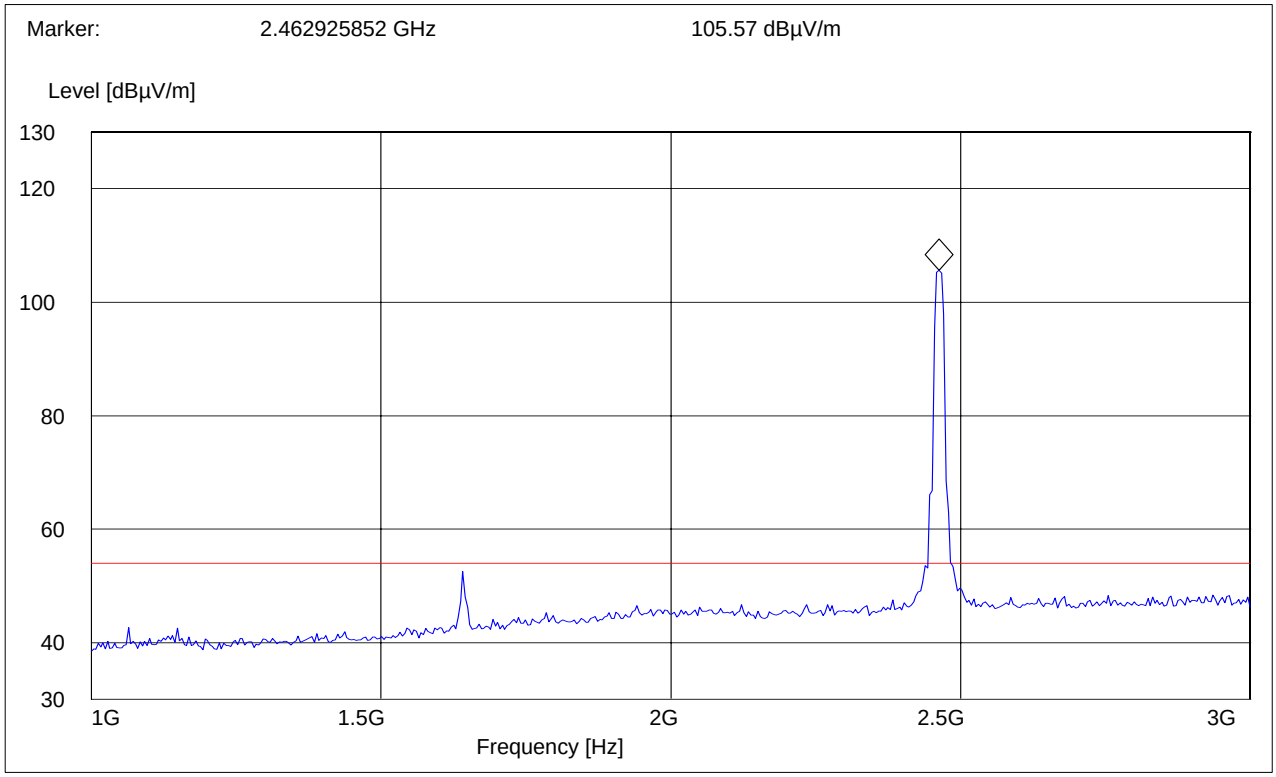
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



1-3GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

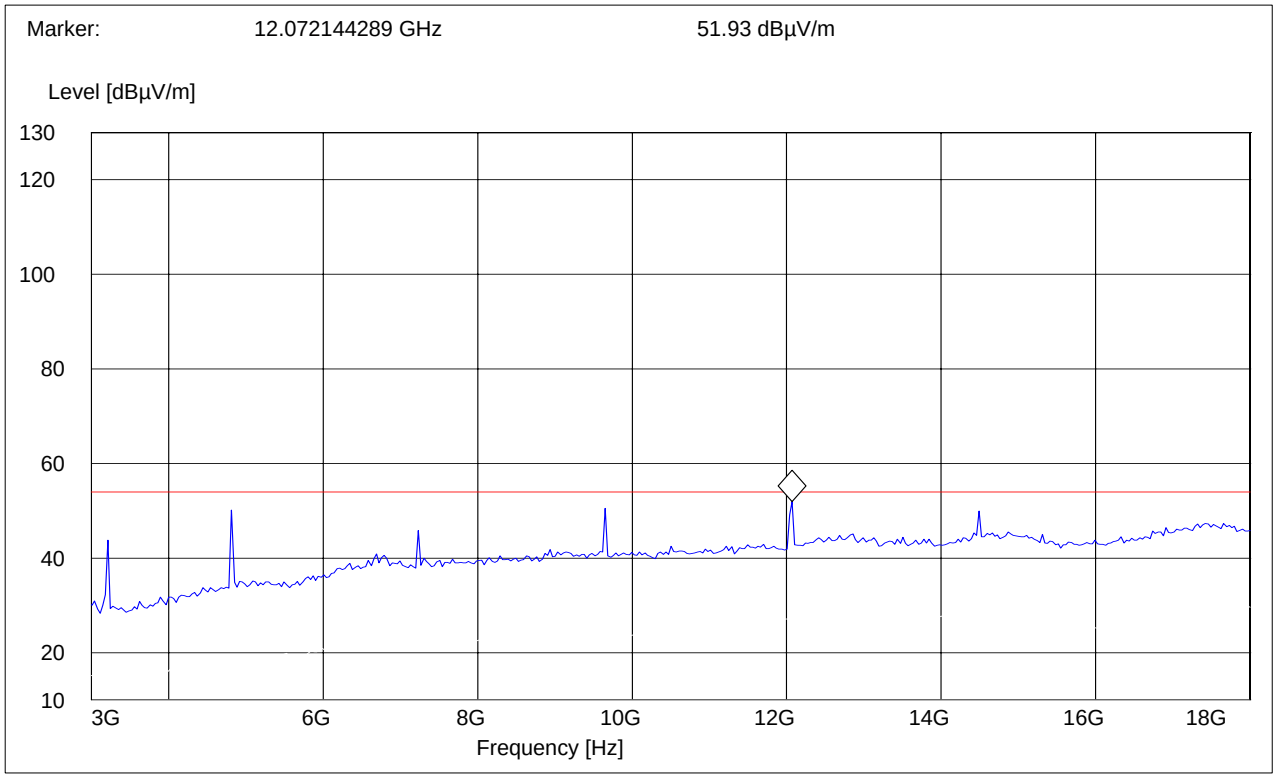
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



3-18GHz (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

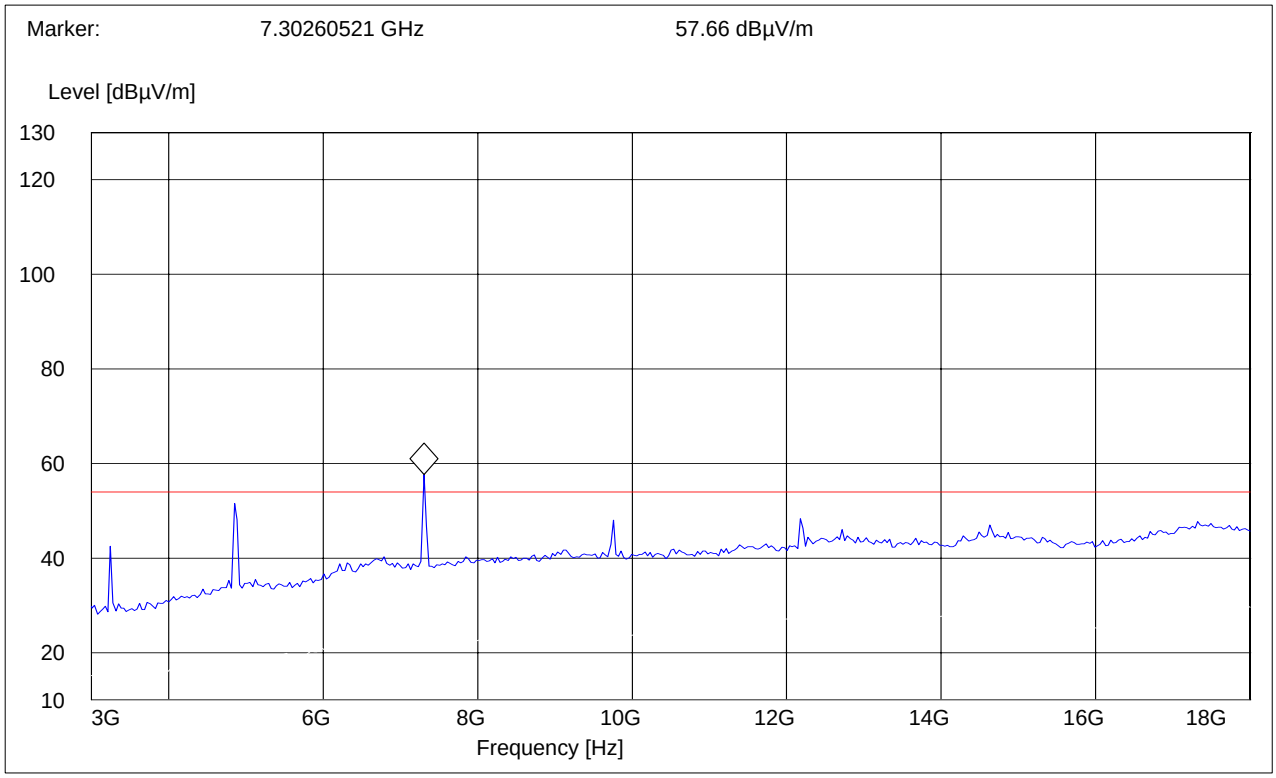
Note: Peak Reading vs. Average limit



3-18GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

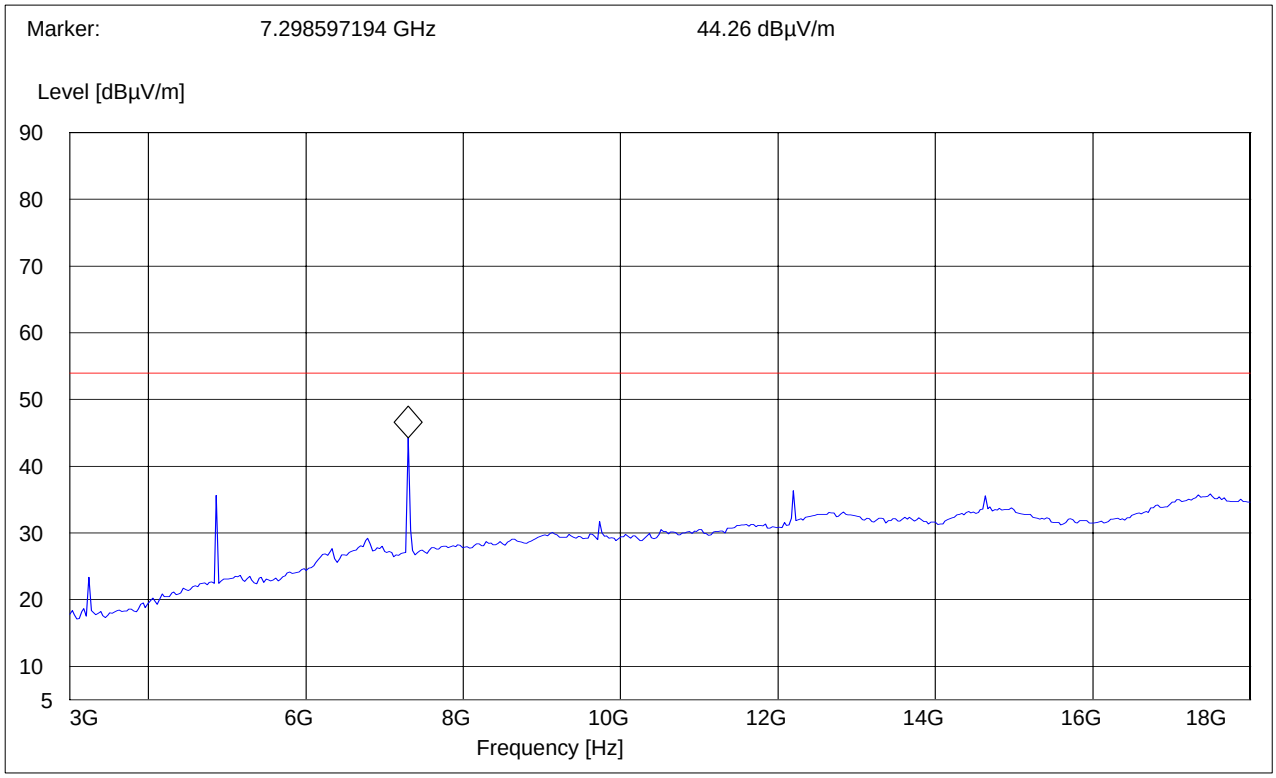
Note: Peak Reading vs. Average limit, see next page for Average Reading vs. Average limit



3-18GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	10Hz

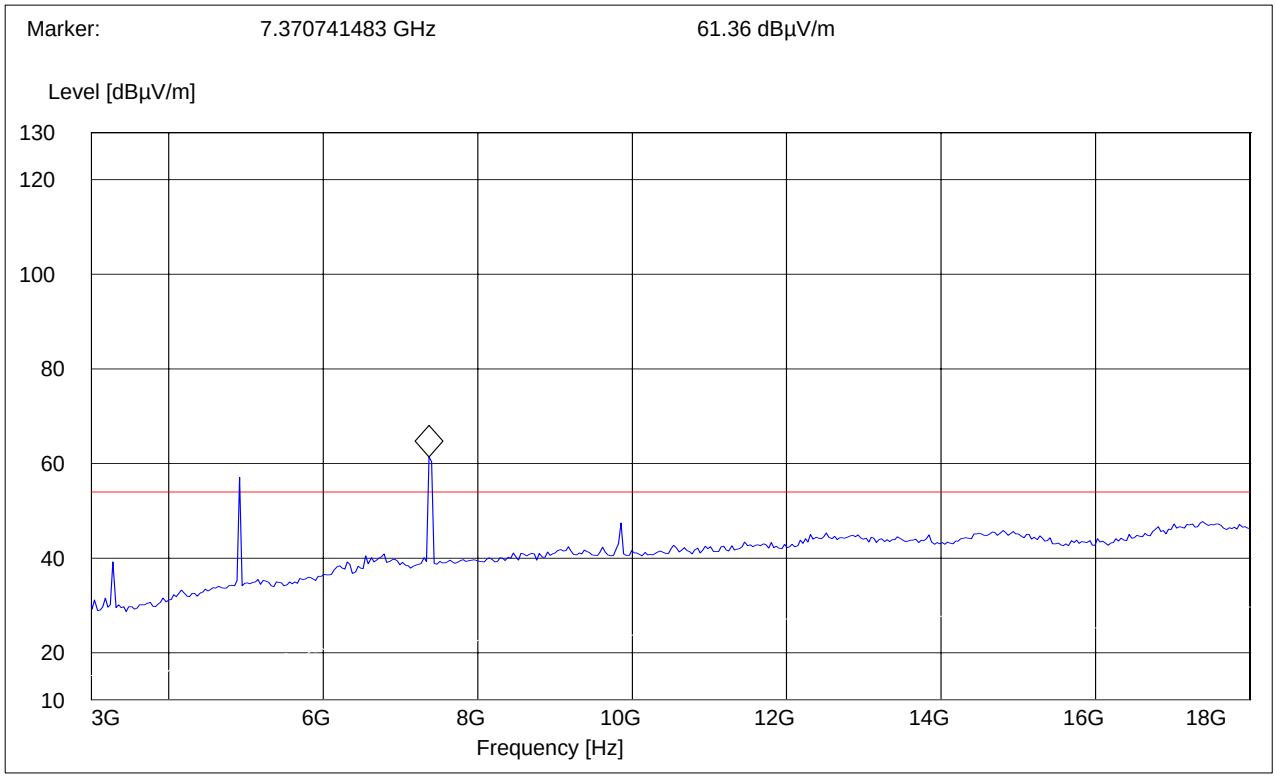
Note: Average Reading vs. Average limit



3-18GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

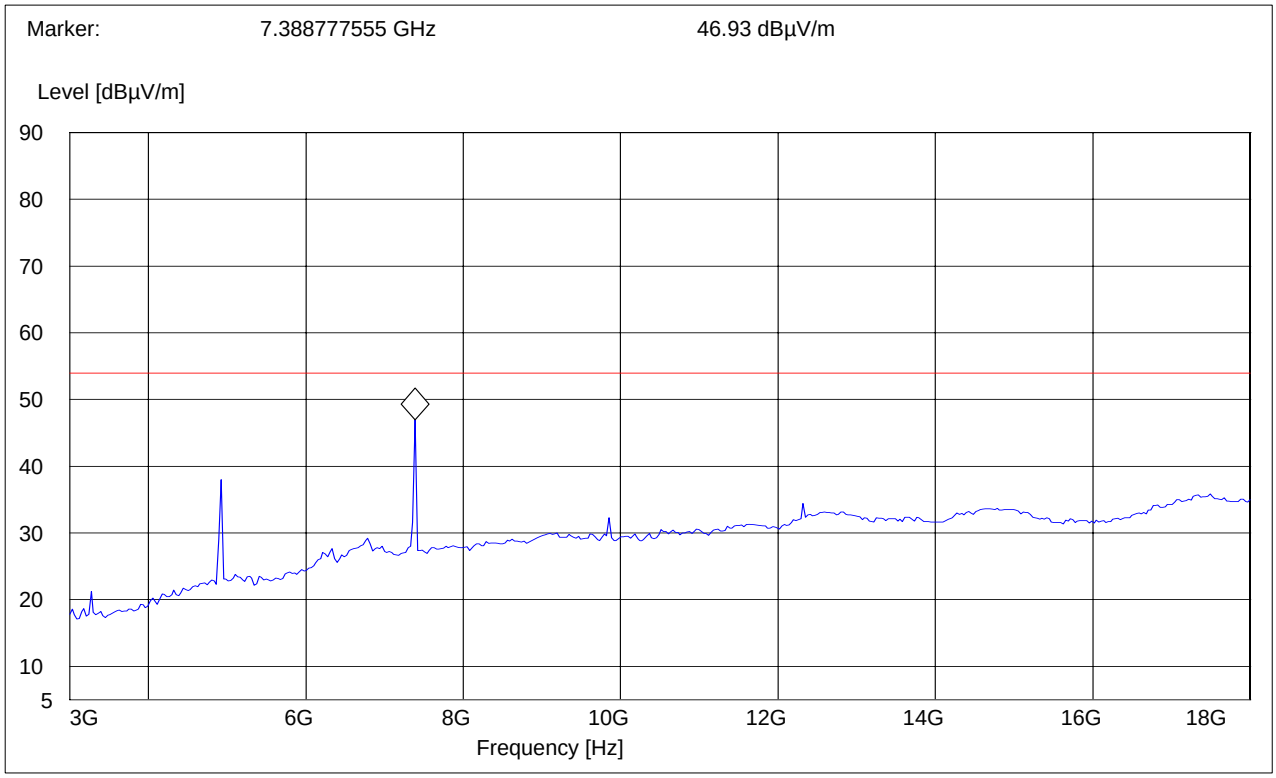
Note: Peak Reading vs. Average limit, see next page for Average Reading vs. Average limit



3-18GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	10Hz

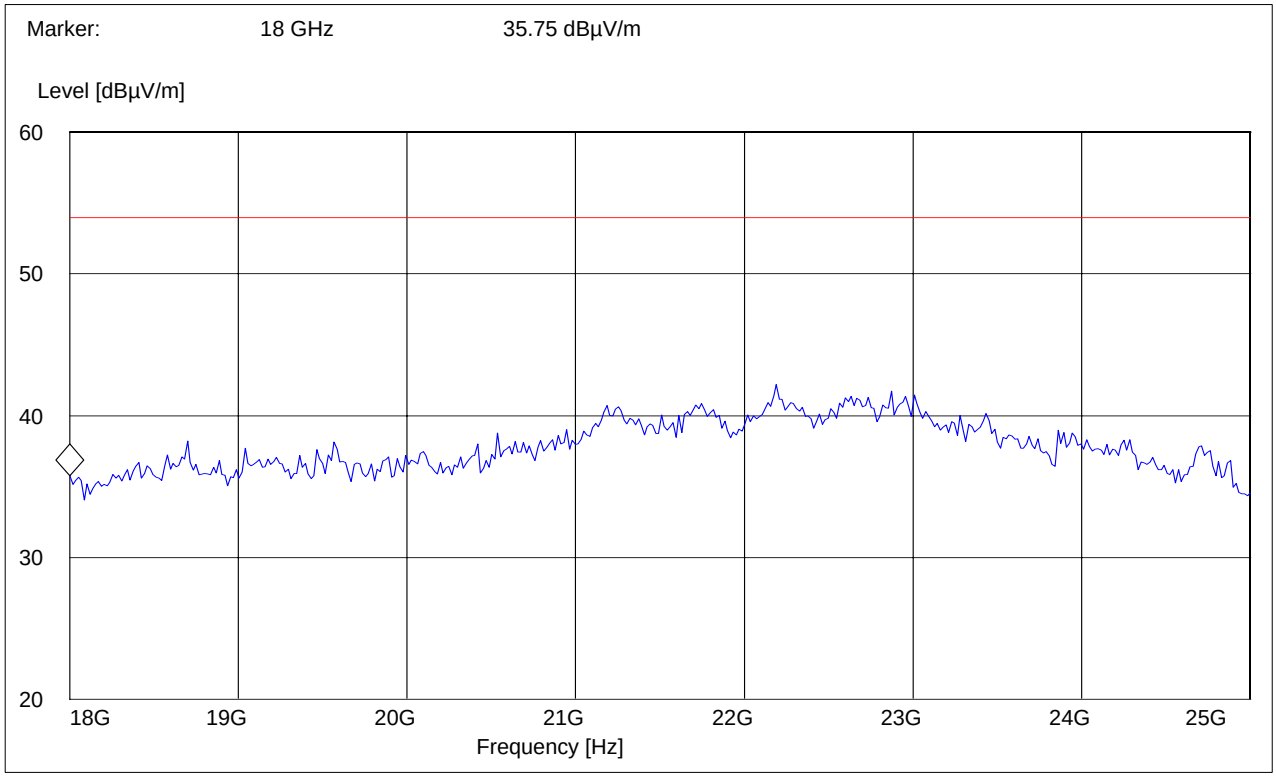
Note: Average Reading vs. Average limit



18-25GHz

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	25GHz	Max Peak	Coupled	1 MHz	1 MHz

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



4.3.3 RESULTS g MODE

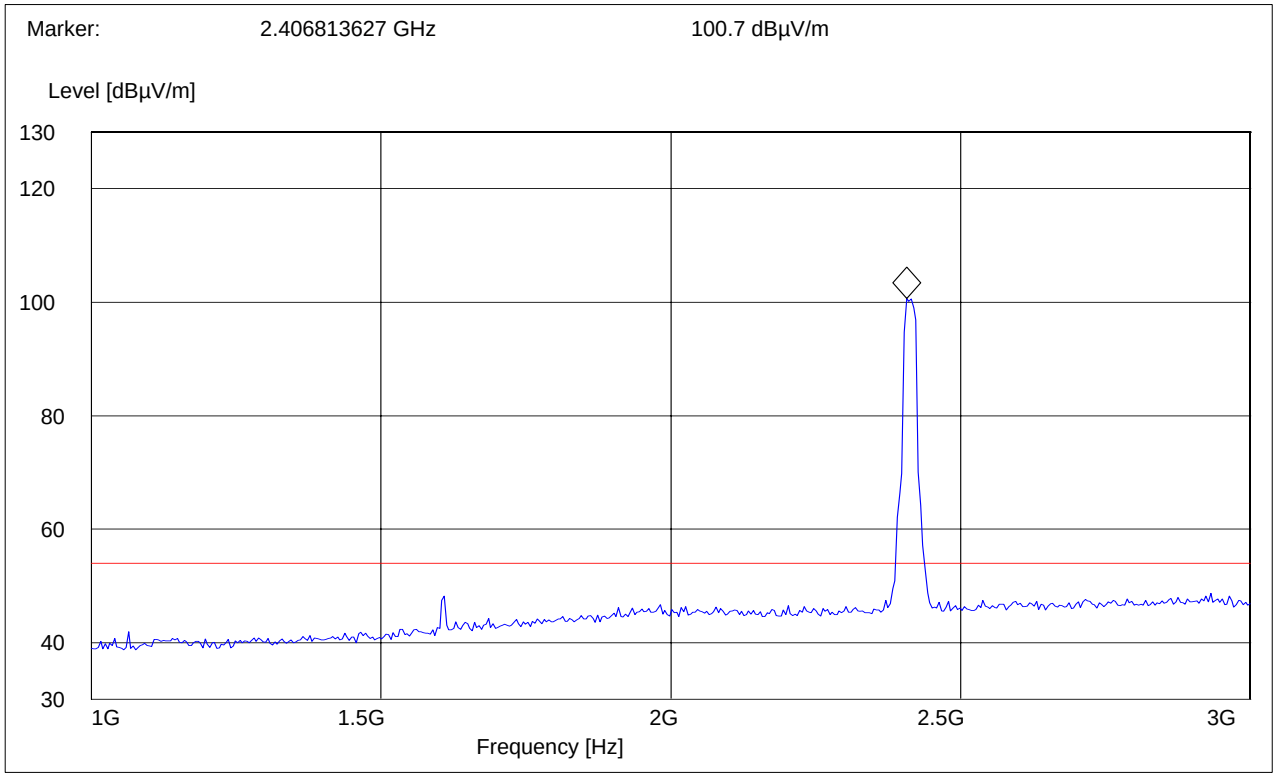
30MHz – 1GHz

See b mode results (worst case)

1-3GHz (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

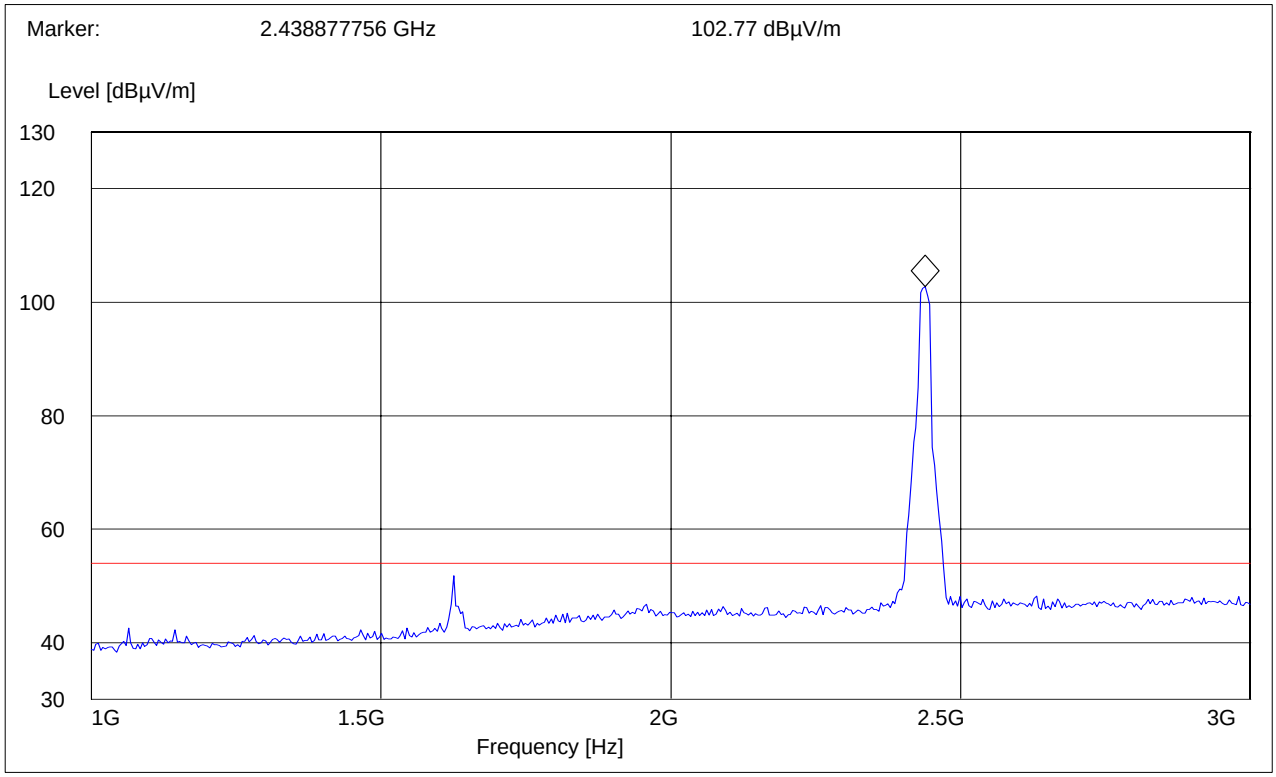
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



1-3GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

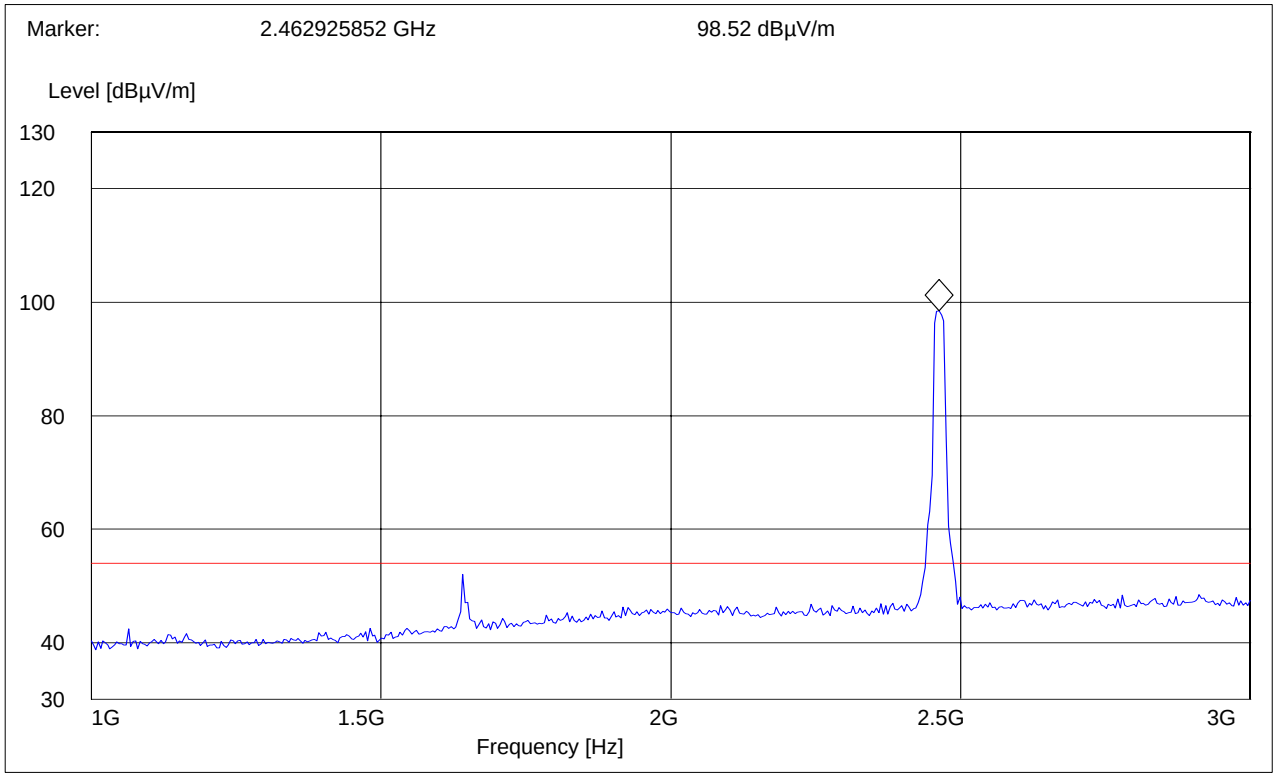
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



1-3GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

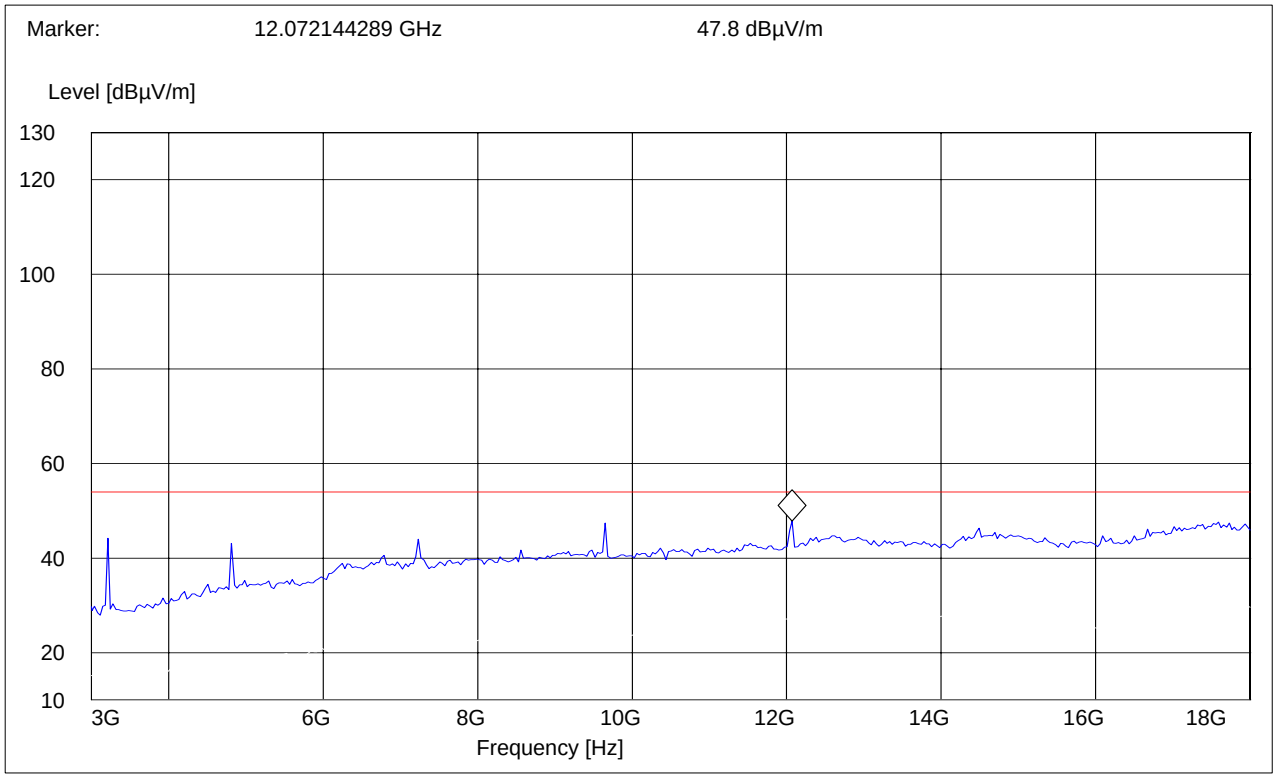
Note: The peaks above the limit line is the carrier freq.
Note: Peak Reading vs. Average limit



3-18GHz (2412MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

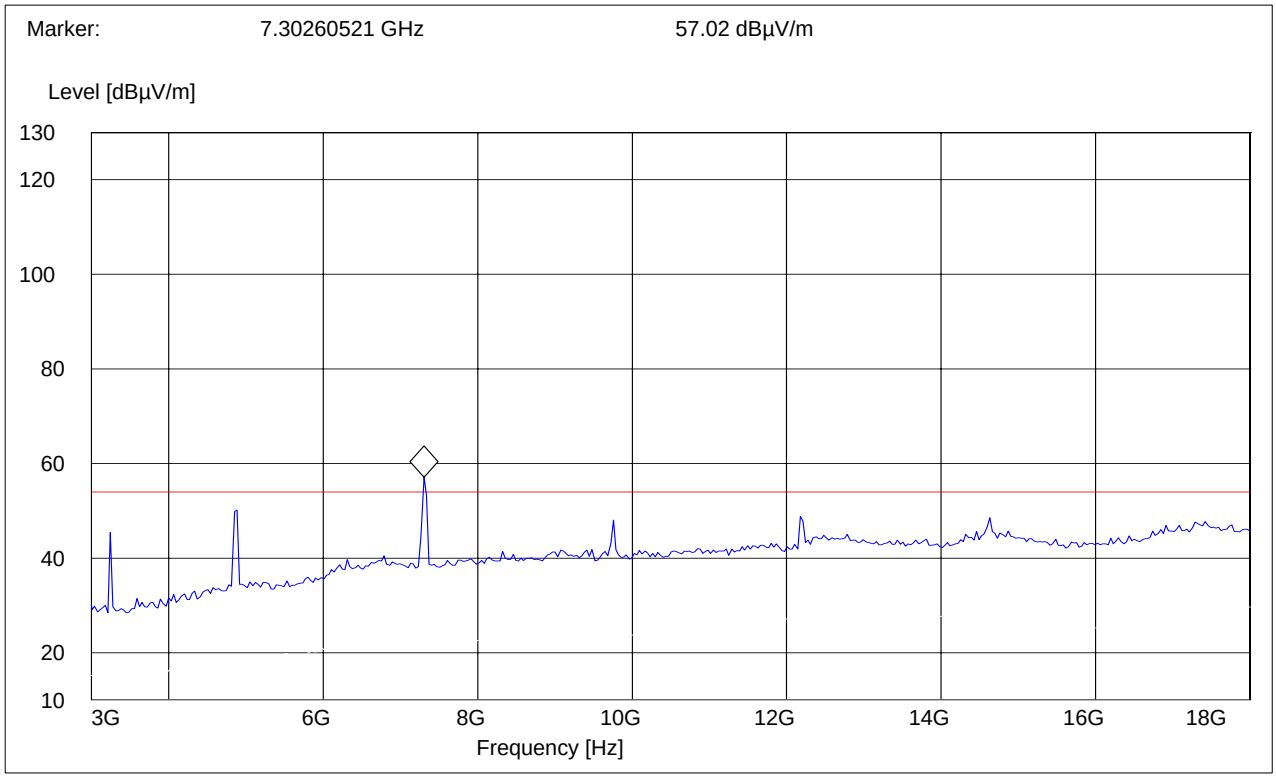
Note: Peak Reading vs. Average limit



3-18GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

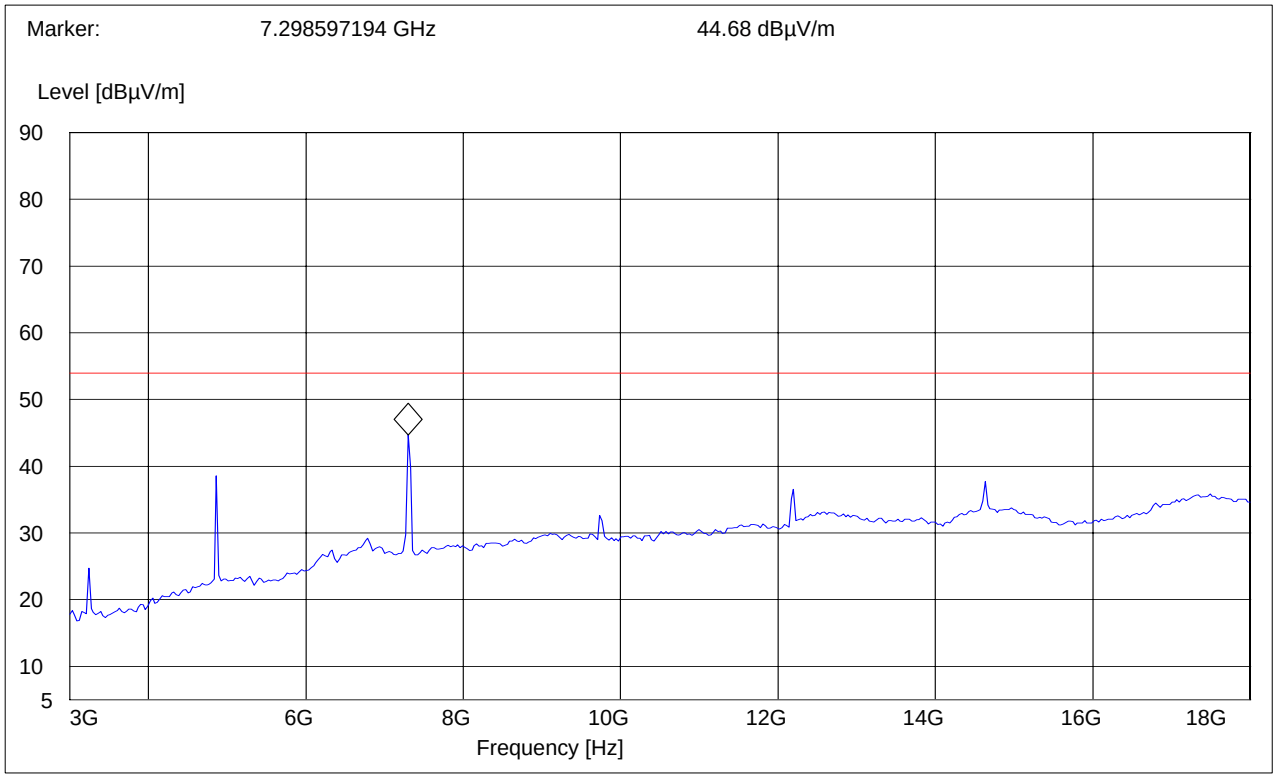
Note: Peak Reading vs. Average limit, see next page for Average Reading vs. Average limit



3-18GHz (2437MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	10Hz

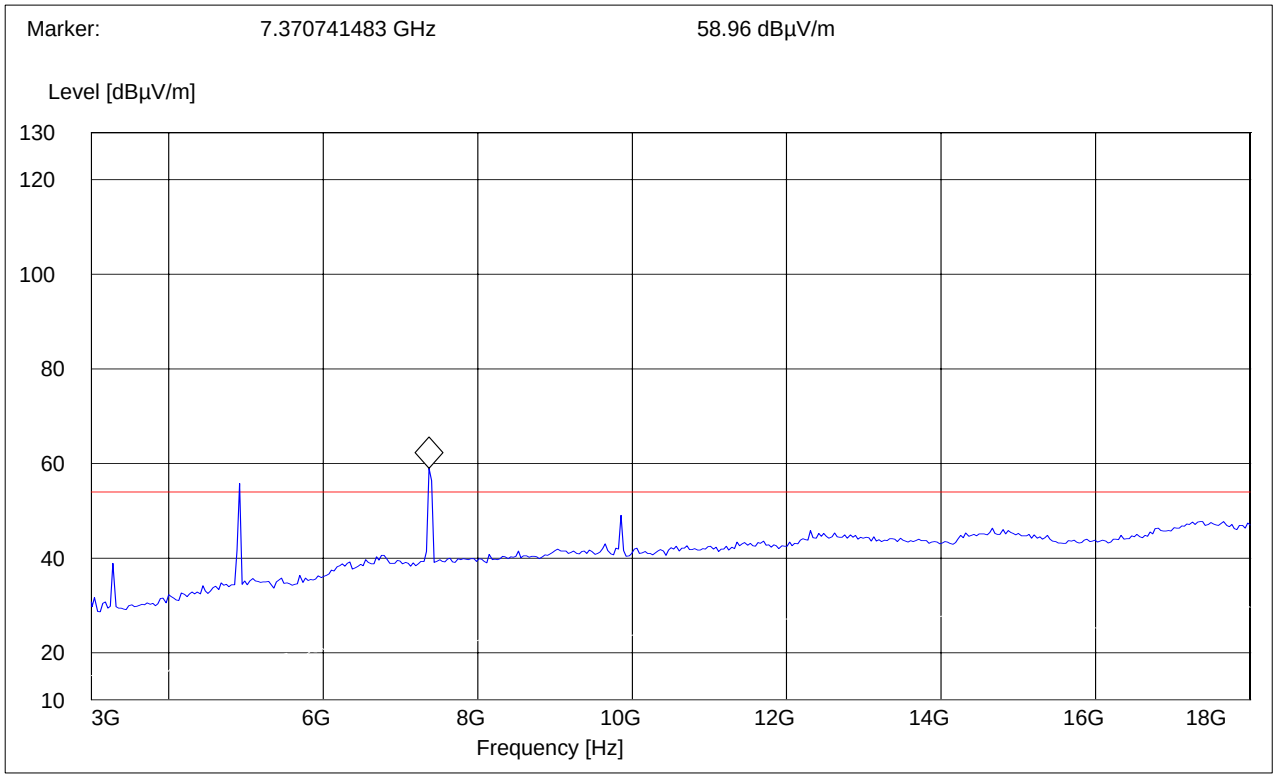
Note: Average Reading vs. Average limit



3-18GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

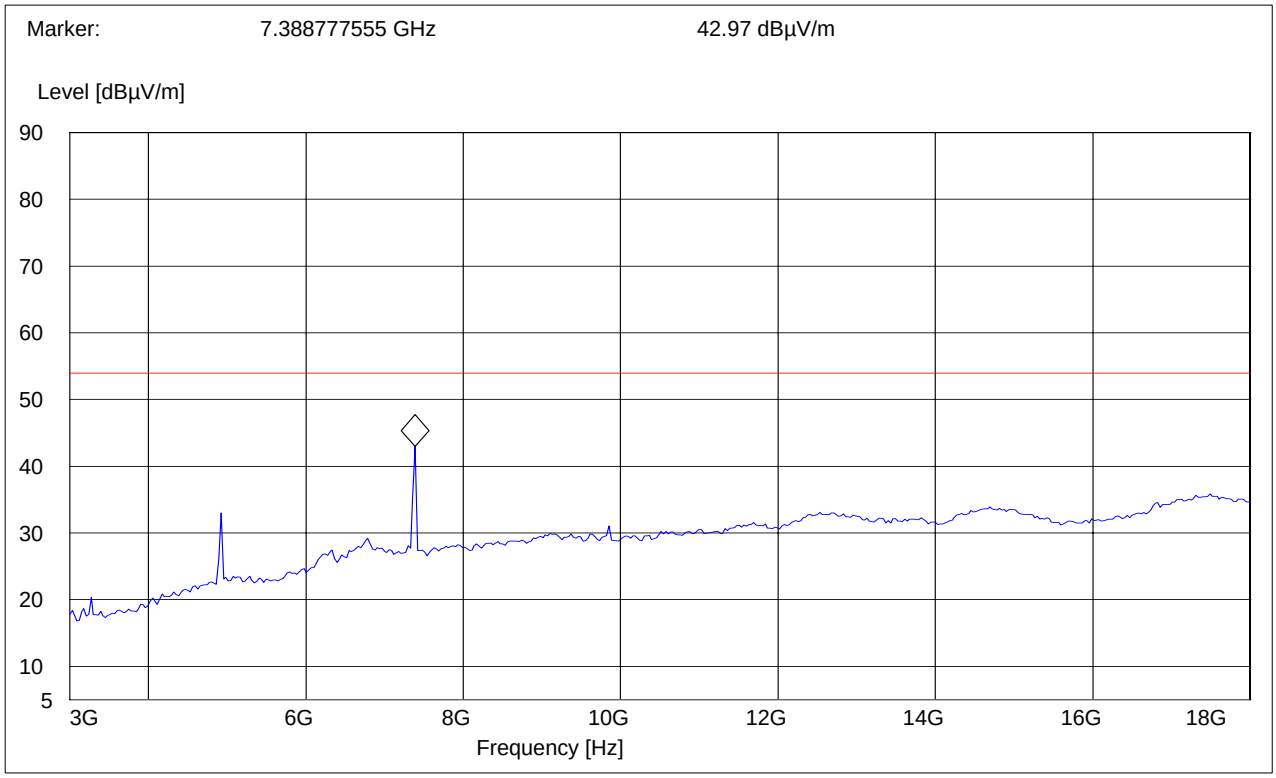
Note: Peak Reading vs. Average limit, see next page for Average Reading vs. Average limit



3-18GHz (2462MHz)

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	10 Hz

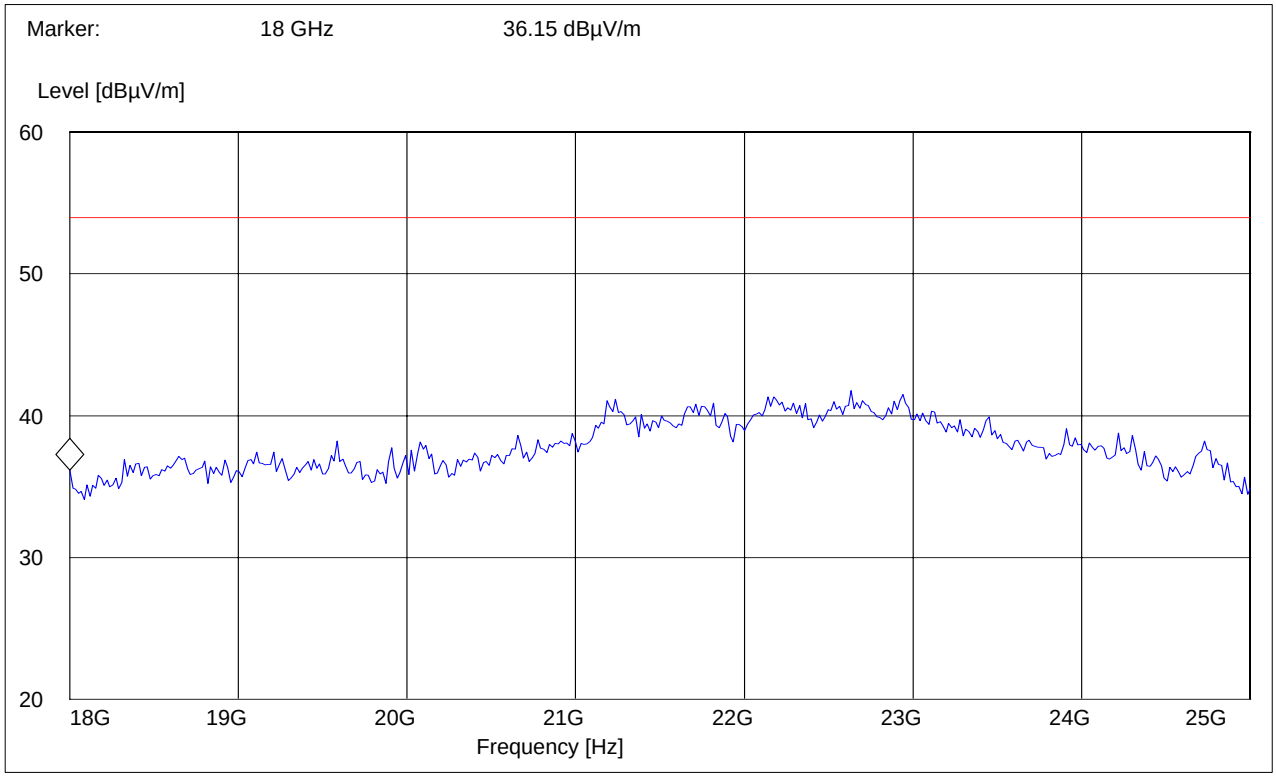
Note: Average Reading vs. Average limit



18-25GHz

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	25GHz	Max Peak	Coupled	1 MHz	1 MHz

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



4.4 RECEIVER SPURIOUS RADIATION § 15.209/RSS210

4.4.1 LIMITS

Frequency (MHz)	Field strength (µV/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.

4.4.2 RESULTS

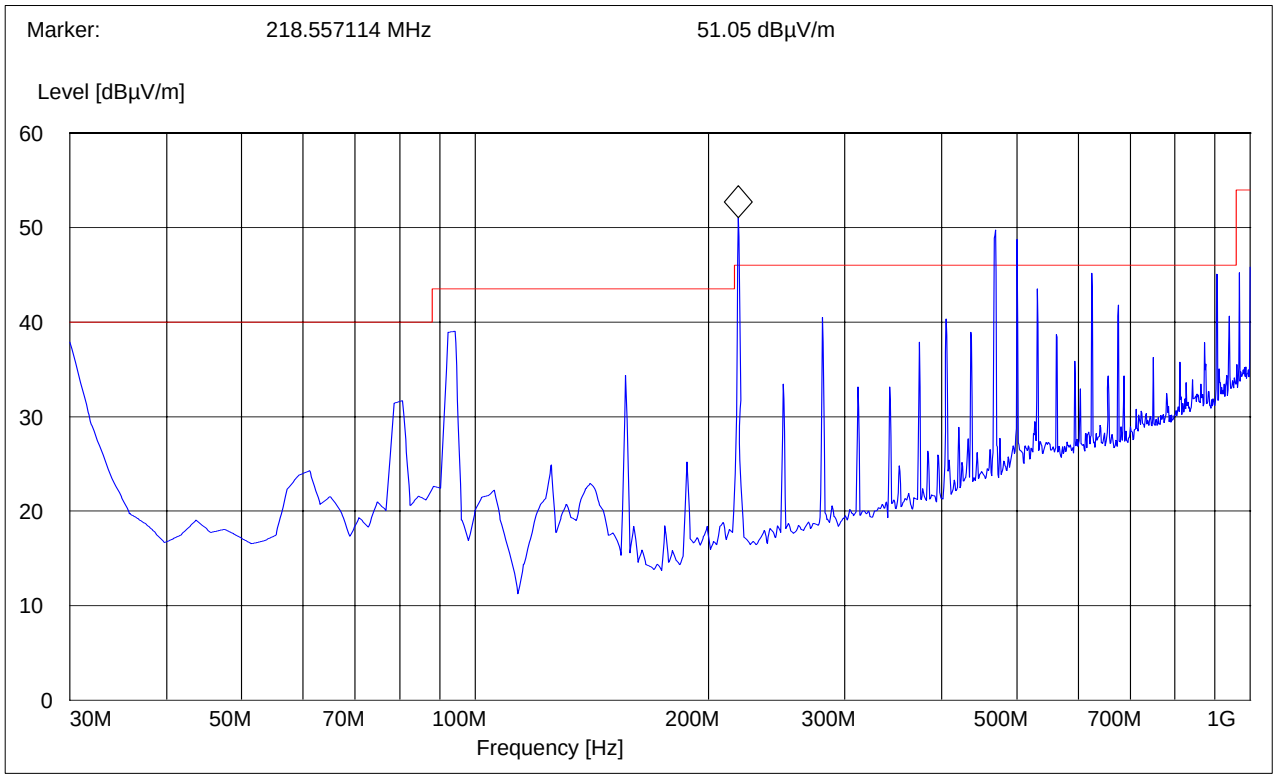
****please note 30MHz-1GHz was done in two configs, to show emissions are radiated from the testjig and "not" the EUT;**

1. **EUT in testjig**
2. **testjig standalone power on**

30MHz – 1GHz
Antenna: vertical *(EUT in testjig)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

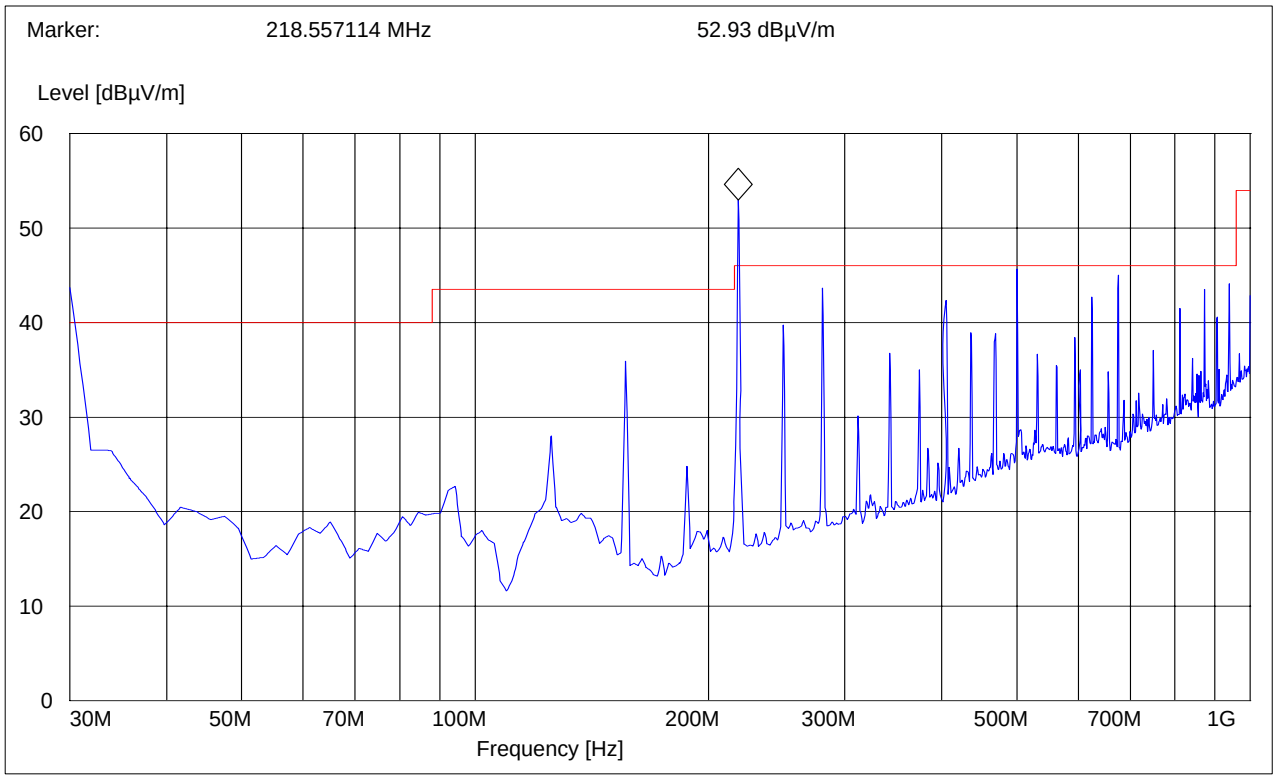
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: vertical *(testjig standalone)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

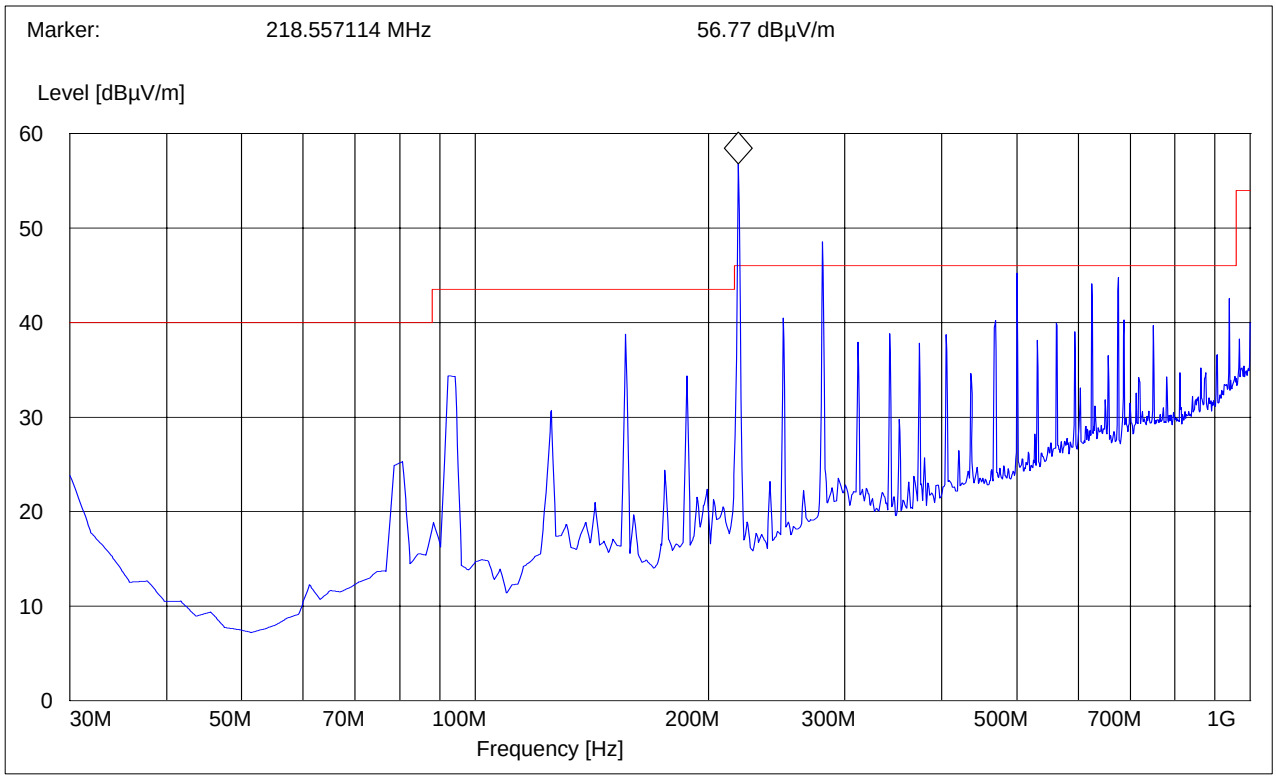
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: horizontal*(EUT in testjig)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

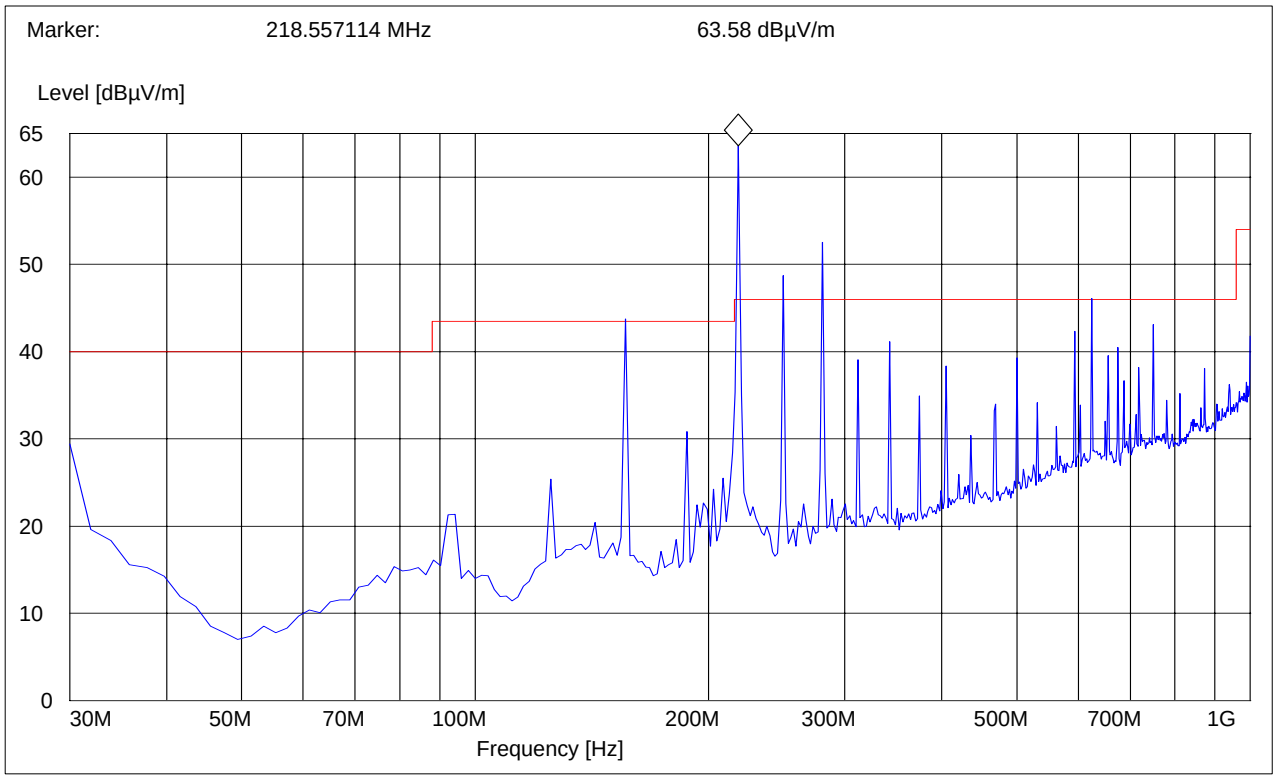
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



30MHz – 1GHz
Antenna: horizontal*(testjig standalone)*

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

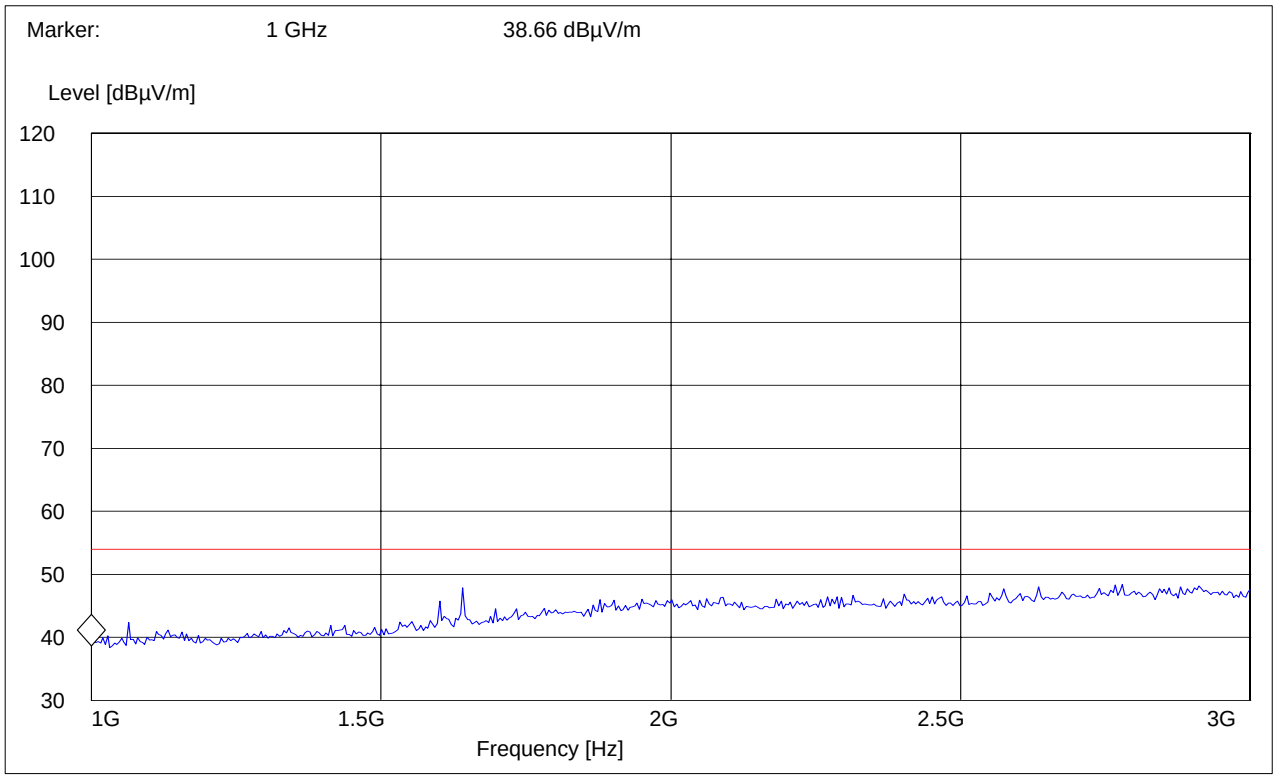
Note: This plot is valid for low, mid, high channels (worst-case plot)
Note: Peak reading vs. Quasi-peak limit



1-3GHz

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

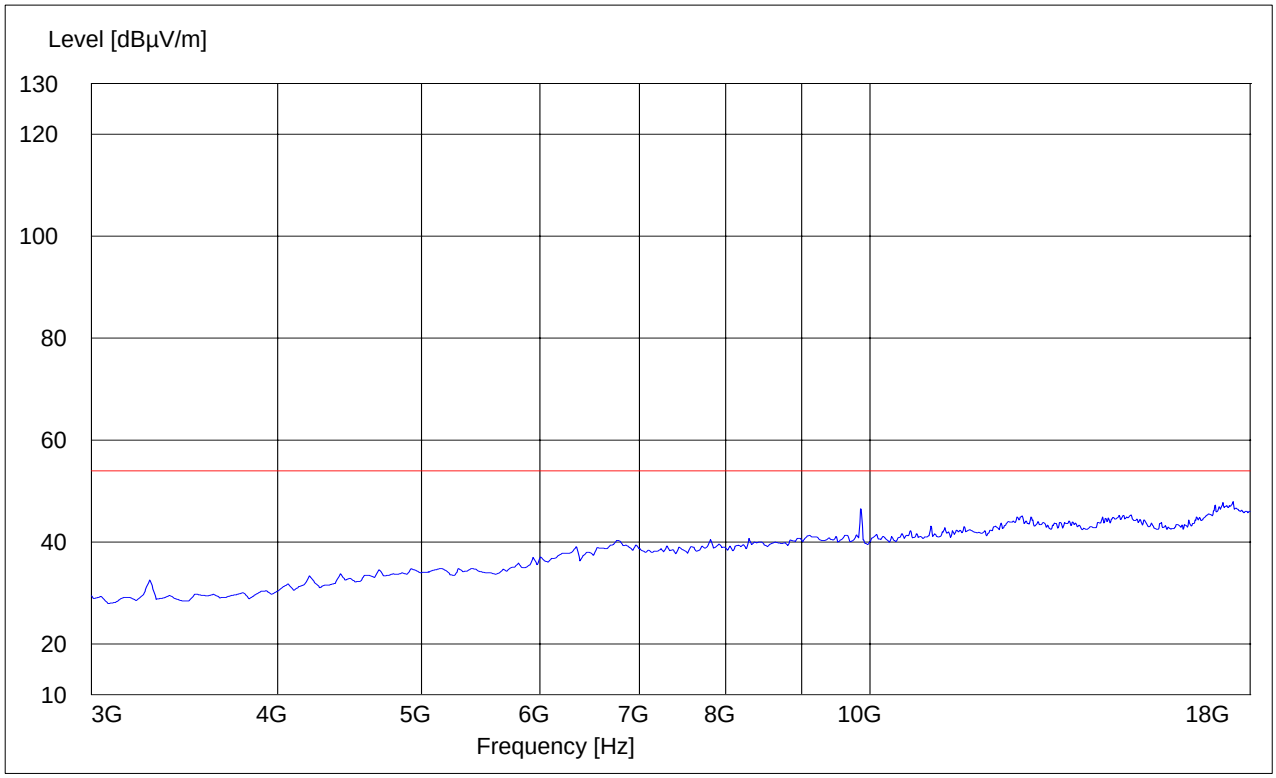
Note: Peak Reading vs. Average limit



3-18GHz

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

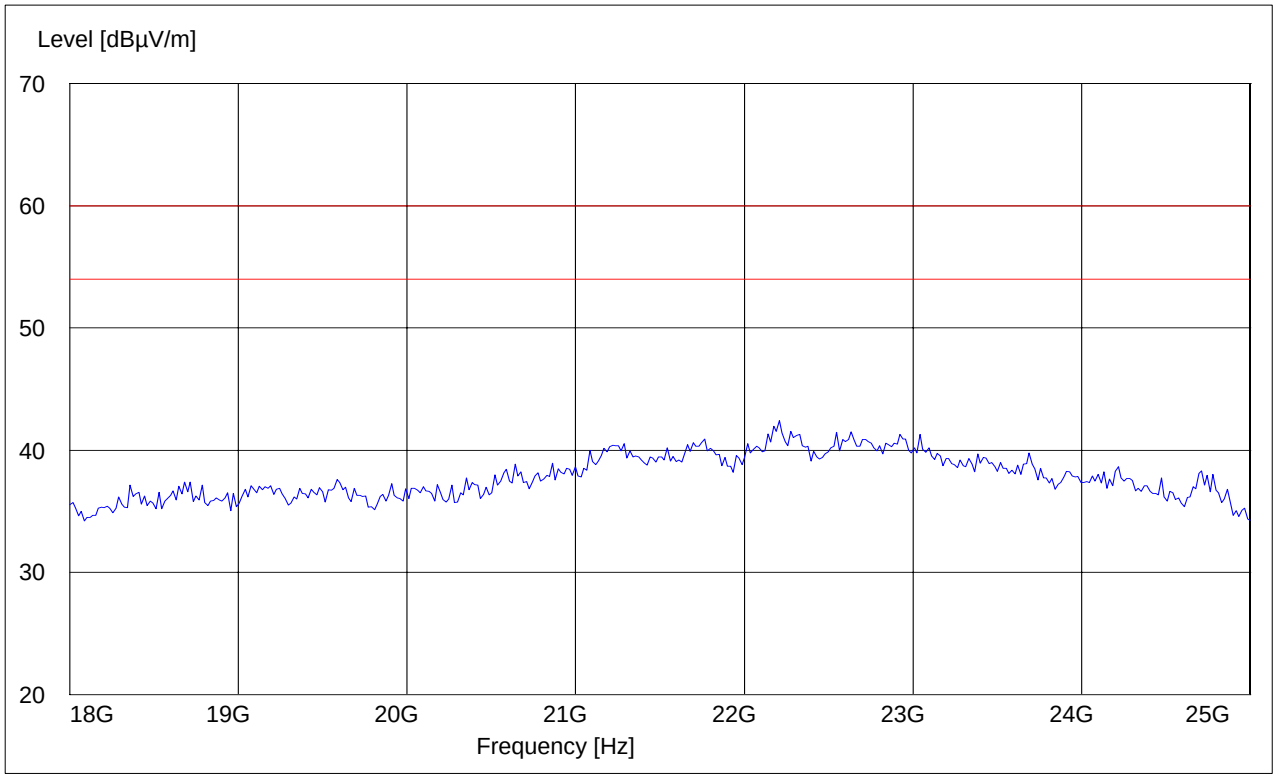
Note: Peak Reading vs. Average limit



18-25GHz

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	25GHz	Max Peak	Coupled	1 MHz	1 MHz

Note: Peak Reading vs. Average limit



4.5 AC POWER LINE CONDUCTED EMISSIONS § 15.107/207

4.5.1 LIMITS

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

4.5.2 RESULTS

All measurements were performed with EUT in testjig

LISN

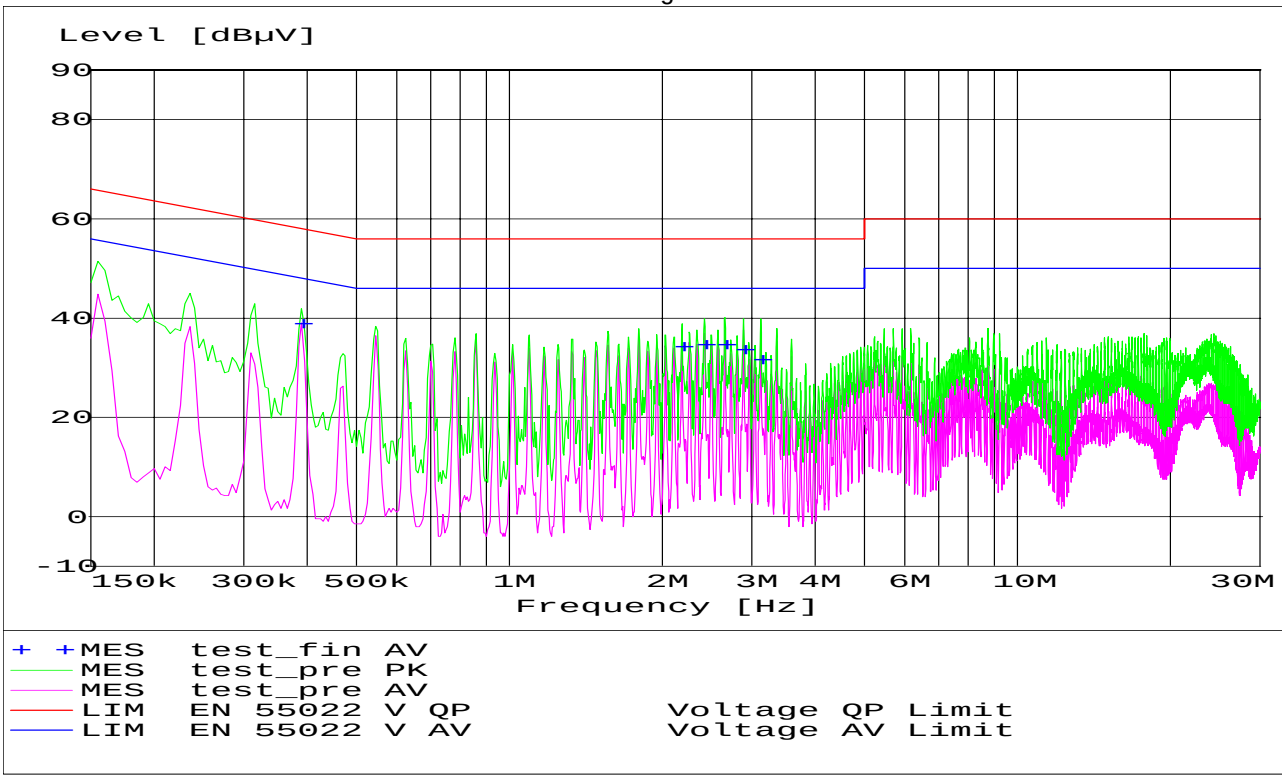
411 Dixon Landing Road, CA 95035

```
EUT / Description: BCM94318MPAGH
Manufacturer:      Broadcom
Test mode:         TX@2412MHz  B-mode (11Mbps peak)
Test Engineer:     Mark
Phase:             L & N
Comment:           110 volt

Start of Test:     12/1/2005 / 6:59:15PM
```

SCAN TABLE: "EN 55022 Voltage"

```
Short Description:                EN 55022 Voltage
Start      Stop       Step       Detector  Meas.     IF       Transducer
Frequency  Frequency  Width                Time      Bandw.
150.0 kHz  30.0 MHz   5.0 kHz    MaxPeak   10.0 ms   9 kHz    None
                                 Average
```



MEASUREMENT RESULT: "test_fin AV"

12/1/2005 7:02PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.390000	38.70	0.0	48	9.4	N	GND
2.185000	34.20	0.0	46	11.8	L1	GND
2.420000	34.60	0.0	46	11.4	N	GND
2.655000	34.50	0.0	46	11.5	N	GND
2.890000	33.50	0.0	46	12.5	L1	GND
3.125000	31.60	0.0	46	14.4	N	GND

4.6 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

4.7 BLOCK DIAGRAMS

Radiated Testing