

# FCC TEST REPORT

For

**LTE Digital Mobile Phone**

**Model Number: NX629J**

**FCC ID: 2AHJO-NX629J**

**Report Number : WT198004685**

Test Laboratory : Shenzhen Academy of Metrology and Quality Inspection  
Site Location : NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China  
Tel : 0086-755-86928965  
Fax : 0086-755-86009898-31396  
Web : [www.smq.com.cn](http://www.smq.com.cn)  
E-mail : [emcrf@smq.com.cn](mailto:emcrf@smq.com.cn)

## TEST REPORT DECLARATION

Applicant : Nubia Technology Co., Ltd.  
Address : 10/F, Tower A, Hans Innovation Mansion, North Ring Rd.,  
No.9018,High-Tech Park, Nanshan District, Shenzhen, China.  
Manufacturer : Nubia Technology Co., Ltd.  
Address : 10/F, Tower A, Hans Innovation Mansion, North Ring Rd.,  
No.9018,High-Tech Park, Nanshan District, Shenzhen, China.  
EUT Description : LTE Digital Mobile Phone  
Model No : NX629J  
Trade mark : nubia  
Serial Number : /  
FCC ID : 2AHJO-NX629J

Test Standards:

**FCC Part 15 15.209, 15.247 (2018)**

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with FCC Rules Part 15.209, 15.247.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	 _____ (Chen Silin 陈司林)	Date:	<u>Sep.03, 2019</u>
Checked by:	 _____ (Lin Yixiang 林奕翔)	Date:	<u>Sep.03, 2019</u>
Approved by:	 _____ (Lin Bin 林斌)	Date:	<u>Sep.03, 2019</u>

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## 1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
Radiated Bandedge and Spurious	15.247 (d) & 15.209 15.205	Pass

Remark: "N/A" means "Not applicable."

## **2. GENERAL INFORMATION**

### **2.1. Report information**

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

### **2.2. Laboratory Accreditation and Relationship to Customer**

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

### 2.3.Measurement Uncertainty

Radiated Emission

30MHz~1000MHz 4.5dB

1GHz~26.5GHz 4.6dB

26.5GHz~40GHz 4.6dB

### 3. PRODUCT DESCRIPTION

#### 3.1.EUT Description

Description : LTE Digital Mobile Phone

Manufacturer : Nubia Technology Co., Ltd.

Model Number : NX629J

Operate Frequency : 802.11b/g/n HT20 :2.412GHz~2.462GHz  
802.11n HT 40: 2.422GHz~2.452GHz

Modulation : DSSS: BPSK/QPSK/CCK  
OFDM:BPSK/QPSK/16QAM/64QAM

Antenna Type : Internal antenna

Antenna Gain : Antenna(0): 1.5dBi  
Antenna(1): 1.5dBi

Remark: This is a derivative report based on original reports SET2019-02849. The model NX629J changes the Air Inlet, and the APP processor chip is changed from qualcomm 855 to qualcomm 855 pro. All other parts of the product, including the circuit theory, electrical design and the Critical Components are the same .Considering above changes, full test are performed of RSE in this report.

WiFi :

Table 2 Working Frequency List (802.11b, 802.11g,802.11n HT20)

Channel	Frequency	Channel	Frequency
1	2412MHz	8	2447MHz
2	2417MHz	9	2452MHz
3	2422MHz	10	2457MHz
4	2427MHz	11	2462MHz
5	2432MHz	---	---
6	2437MHz	---	---
7	2442MHz	---	---

Table 3 Working Frequency List (802.11n HT40)

Channel	Frequency	Channel	Frequency
3	2422MHz	8	2447MHz
4	2427MHz	9	2452MHz
5	2432MHz	---	---
6	2437MHz	---	---
7	2442MHz	---	---

### 3.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **2AHJO-NX629J** filing to comply with Section 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

### 3.3. Block Diagram of EUT Configuration



Figure 1 EUT setup

### 3.4. Operating Condition of EUT

The Radiated spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission (X plane).

Worst-case mode and channel used for 30-1000 MHz radiated and power line conducted emissions was the mode and channel with the highest output power.

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20 mode: MCS0

802.11n HT40 mode: MCS0

802.11b and 802.11g operates in SISO mode. For SISO conducted measurements, the modes tested in this report will be considered as a worst case mode.

802.11n operate in MIMO mode. For MIMO conducted measurements, the modes tested in this report will be considered as a worst case mode.

The EUT support a WIFI MIMO function.

Antenna	Single(TX)	Two(TX)
IEEE 802.11b	support	No support
IEEE 802.11g	support	No support
IEEE 802.11n HT20	support	support
IEEE 802.11n HT40	support	support

case mode.

### 3.5. Directional Antenna Gain

Directional gain need NOT to be considered.



### 3.6. Support Equipment List

Table 4 Support Equipment List

Name	Model No	S/N	Manufacturer
Adapter for EUT	CYNBY090200-A00	--	JIANGSU CHENYANG ELECTRON Co.,LTD

### 3.7. Test Conditions

Date of test : Aug.26, 2019 - Aug.31, 2019

Date of EUT Receive : Aug.20, 2019

Temperature: 20 ~ 22 °C

Relative Humidity: 47-52%

### 3.8. Special Accessories

Not available for this EUT intended for grant.

### 3.9. Equipment Modifications

Not available for this EUT intended for grant.

#### 4. TEST EQUIPMENT USED

Table 5 Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
SB9054/04	EMI Test Receiver	Rohde & Schwarz	ESU8	Sep.03, 2018	1 Year
SB8501/09	EMI Test Receiver	Rohde & Schwarz	ESU40	Mar.11, 2019	1 Year
SB8501/04	Bilog Antenna	Schwarzbeck	VULB9163	Jun.01, 2019	1 Year
SB5472/02	Bilog Antenna	Schwarzbeck	VULB9163	Jun.01, 2019	1 Year
SB3435	Horn Antenna	Rohde & Schwarz	HF906	Jan.01, 2018	1 Year
SB8501/11	Horn Antenna	ETS-Lindgren	3160-09	Jan.21,2017	3 Years
SB12724/11	Loop Antenna	Rohde & Schwarz	HFH2-Z2	Jun.26, 2019	1 Year
SB8501/17	Preamplifier	Rohde & Schwarz	SCU-18	Feb.20, 2019	1 Year
SB8501/16	Preamplifier	Rohde & Schwarz	SCU-26	Feb.18, 2019	1 Year
SB8501/14	Preamplifier	Rohde & Schwarz	SCU-03	Feb.20, 2019	1 Year
--	Radiated Test Software	Rohde & Schwarz	EMC 32 8.50.0	--	--

## 5. RADIATED BANDEDGE AND SPURIOUS MEASUREMENT

### 5.1. LIMITS OF Radiated Bandedge and Spurious Measurement

Table 6 Radiation Emission Test Limit for FCC (9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
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
960~1000	500	3

Table 7 Radiation Emission Test Limit for FCC (Above 1G)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

\* The lower limit shall apply at the transition frequency.

\* The test distance is 3m.

### 5.2. TEST PROCEDURE

ANSI C63.10-2013 Clause 11.12

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. For measurement below 1GHz, the EUT was placed on a turntable with 0.8 meter, above ground. For measurement above 1 GHz, test at FAR, the EUT is placed on a non-conductive table, which is 1.5 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector

function = peak; Trace = max hold;  
 (3) Set RBW = 1 MHz, VBW= 3MHz for f > 1 GHz for peak measurement.  
 Set RBW = 1 MHz, and 1/T (on time) for average measurement.

### 5.3. TEST DATA

#### 9kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

Table 8 Radiated Emission Test Data 9k Hz-30MHz

Frequency MHz	Cable Loss(dB)	Antenna Factor(dB)	Readings(dB $\mu$ V/m)	Level(dB $\mu$ V/m)	Polarity(H/V)	Turntable Angle(deg)	Antenna Height(m)	Limits(dB $\mu$ V/m)	Margin(dB)
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
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#### 30MHz-1GHz

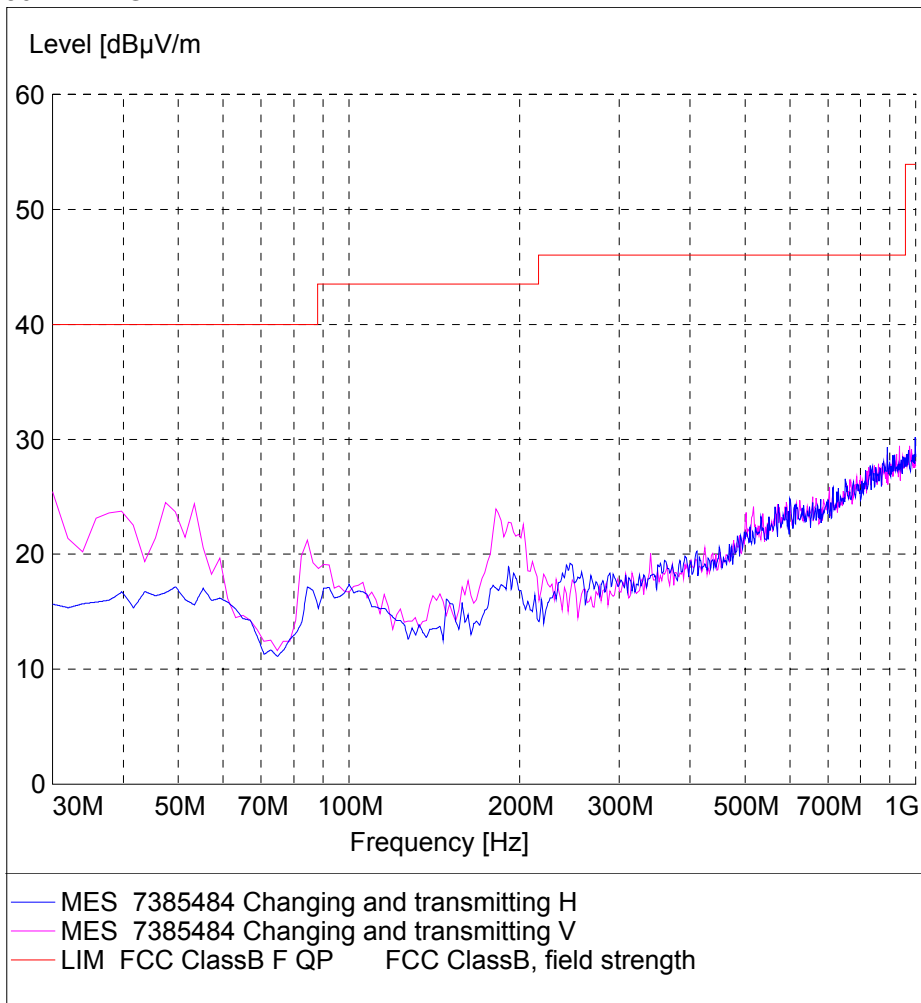
Worst case is shown below for 30MHz-1GHz only.

The emissions don't show in following result tables are more than 20dB below the limits.

Table 9 Radiated Emission Test Data 30MHz-1GHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Readings (dB $\mu$ V/m)	Level (dB $\mu$ V/m)	Polarity (H/V)	Limits (dB $\mu$ V/m)	Margin (dB)	Note
39.719	0.6	12.3	1.0	13.9	H	40.0	26.1	QP
55.27	0.8	13.0	2.3	16.1	H	40.0	23.9	QP
84.428	0.9	8.5	7.3	16.7	H	40.0	23.3	QP
99.979	1.1	12.8	2.3	16.2	H	43.5	27.3	QP
191.342	1.6	10.6	4.7	16.9	H	43.5	26.6	QP
245.771	1.8	12.1	4.2	18.1	H	46.0	27.9	QP
30.109	0.6	12.3	10.5	23.4	V	40	16.6	QP
39.719	0.6	12.3	7.8	20.7	V	40	19.3	QP
47.494	0.8	13.6	7.1	21.5	V	40	18.5	QP
53.326	0.7	13.3	7.4	21.4	V	40	18.6	QP
84.428	0.9	8.5	9.8	19.2	V	40	20.8	QP
181.623	1.6	9.7	8.9	20.2	V	43.5	23.3	QP

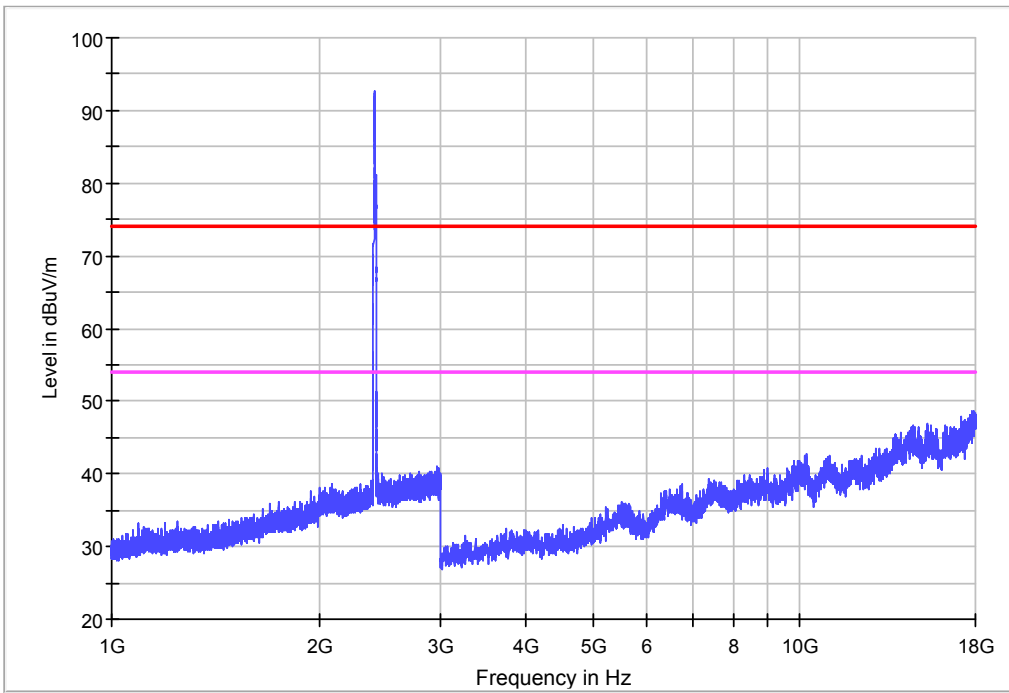
30MHz~1GHz:



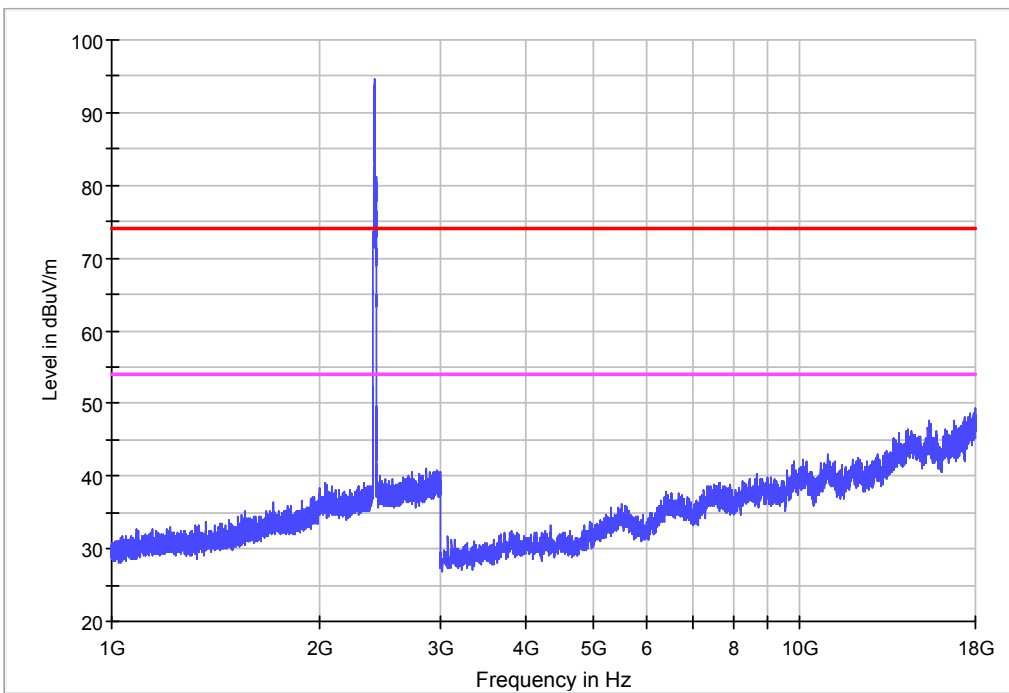
1-18G

11b

Ch1



Horizontal

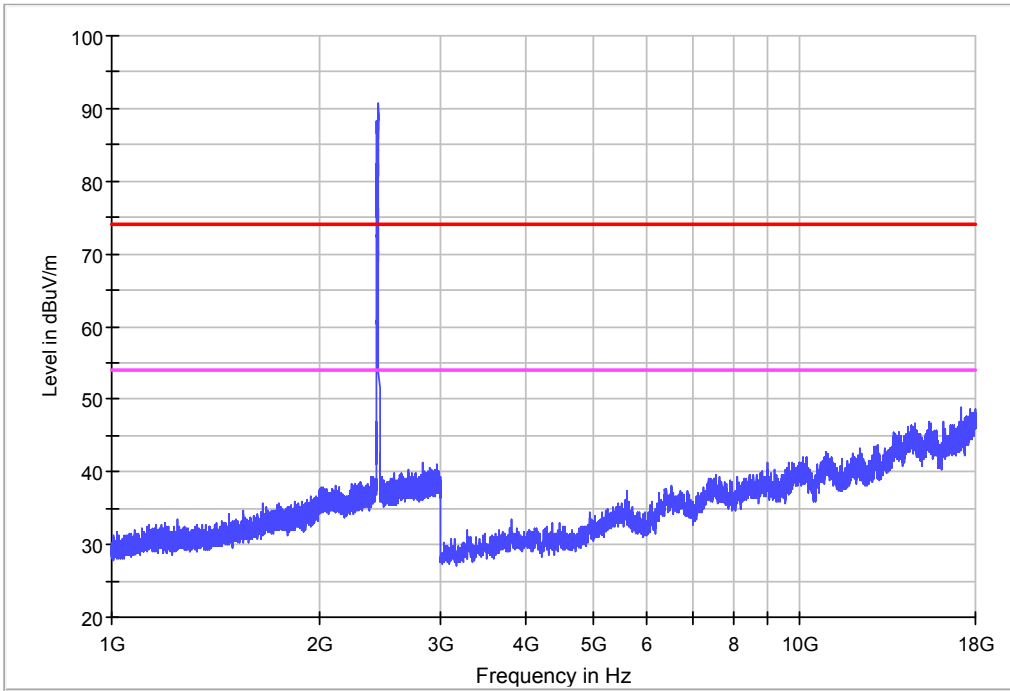


Vertical

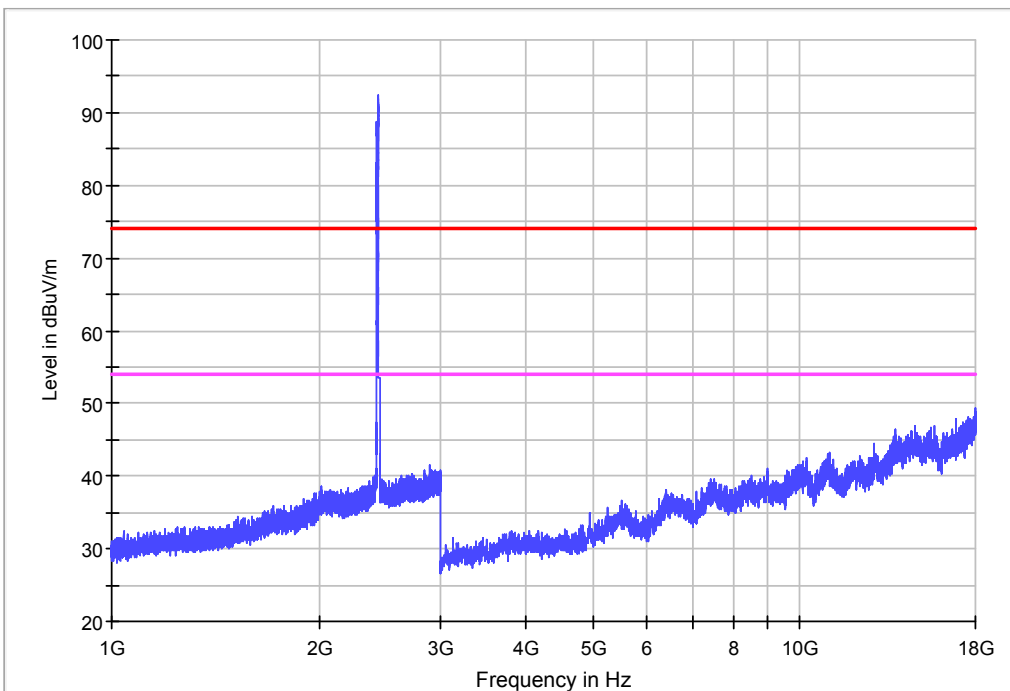
1-18G

11b

Ch6



Horizontal

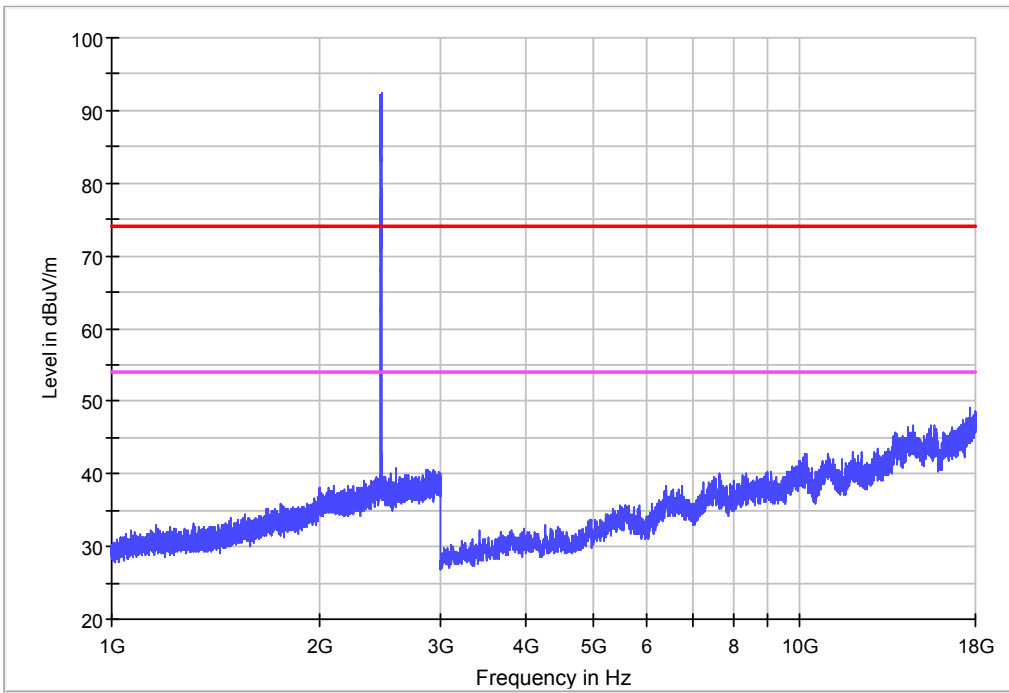


Vertical

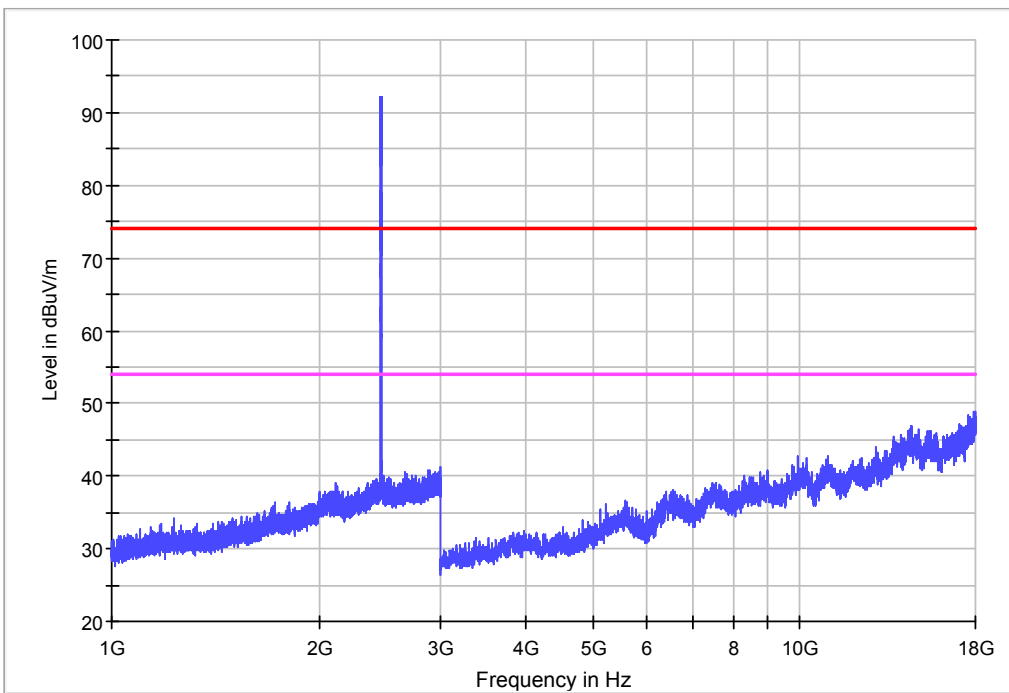
1-18G

11b

Ch11



Horizontal



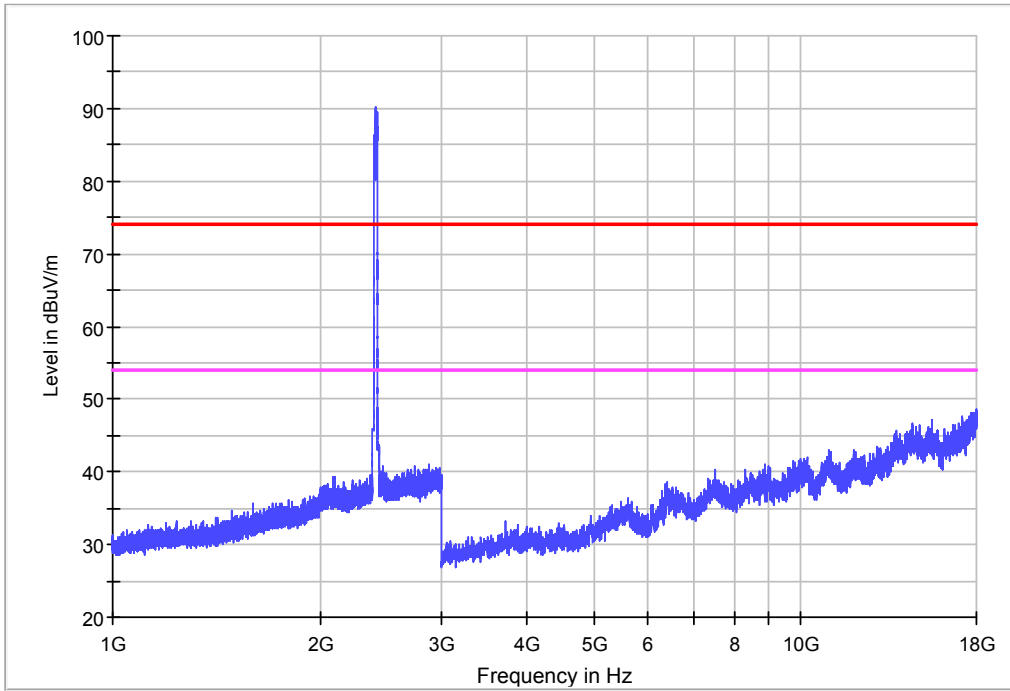
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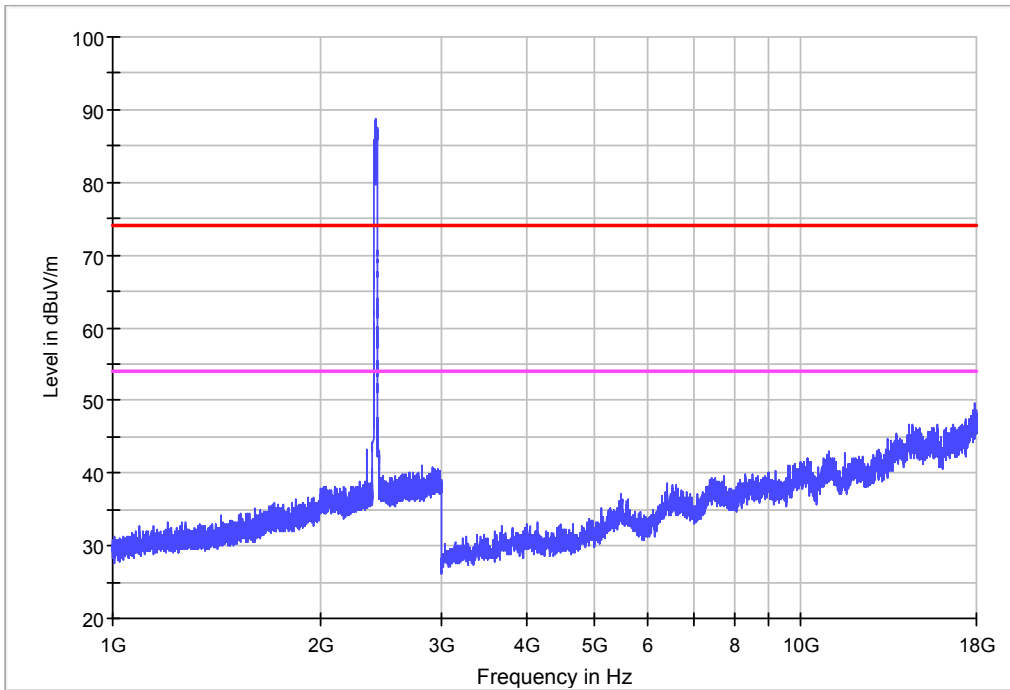
1-18G

11g

Ch1



Horizontal

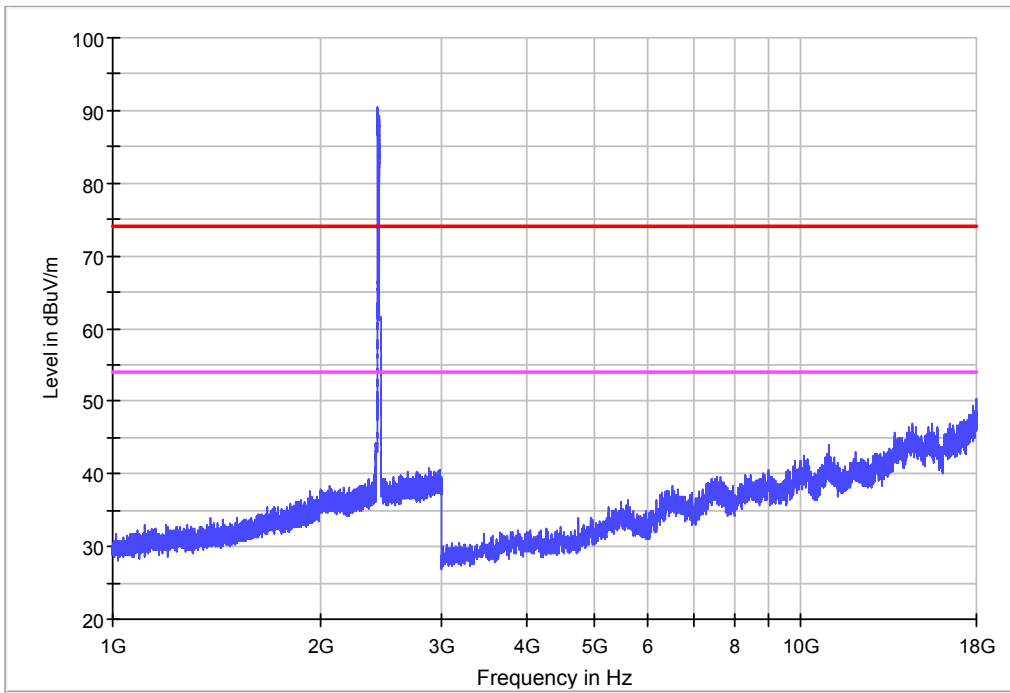


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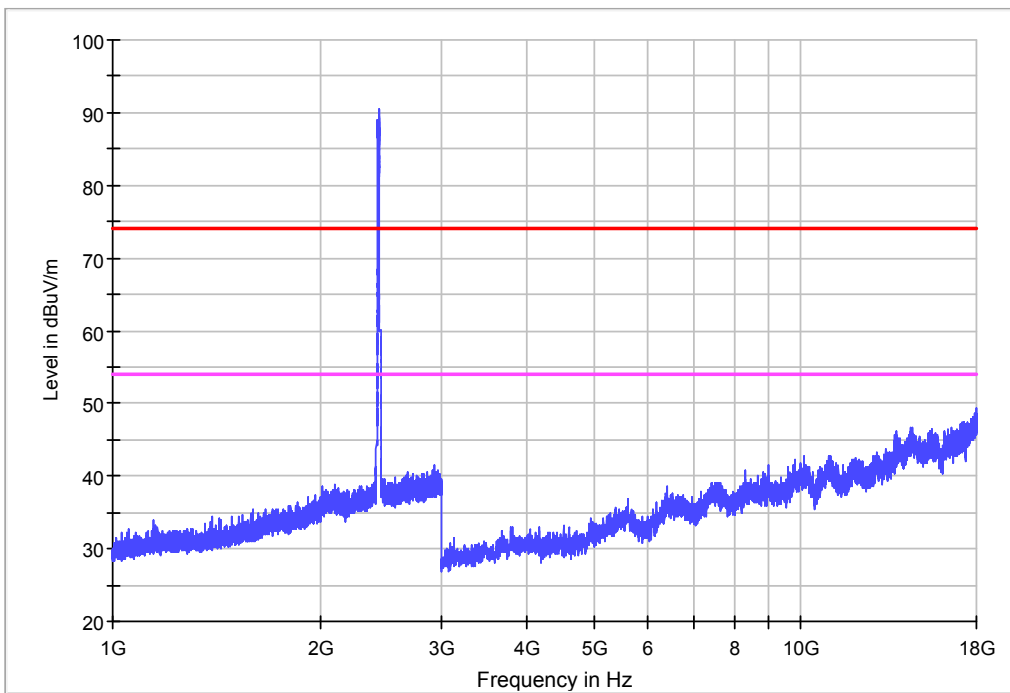
1-18G

11g

Ch6



Horizontal

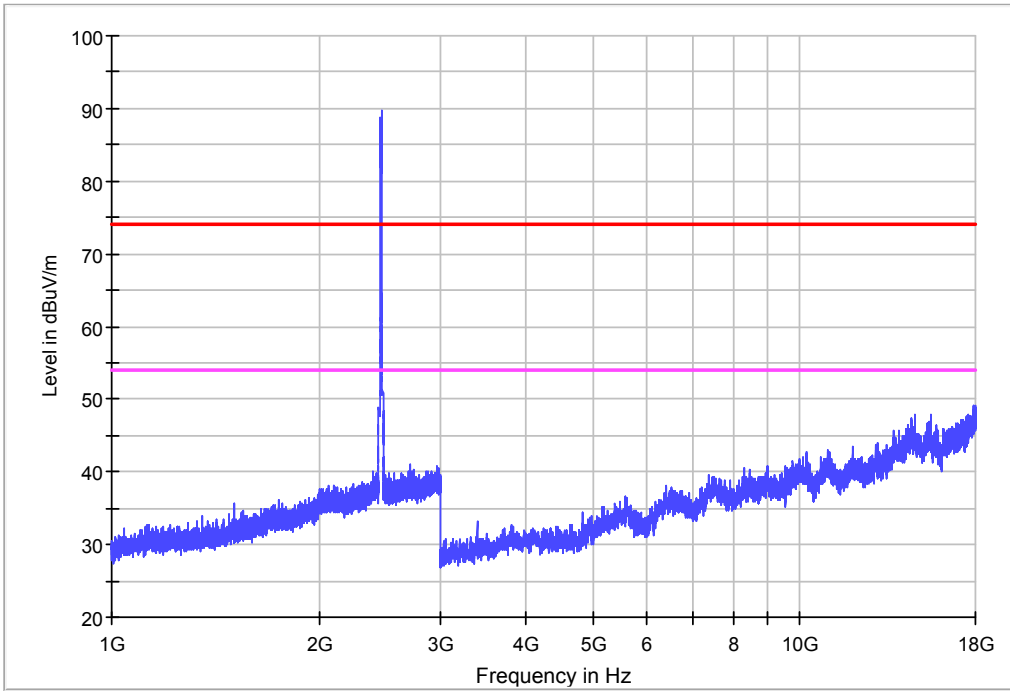


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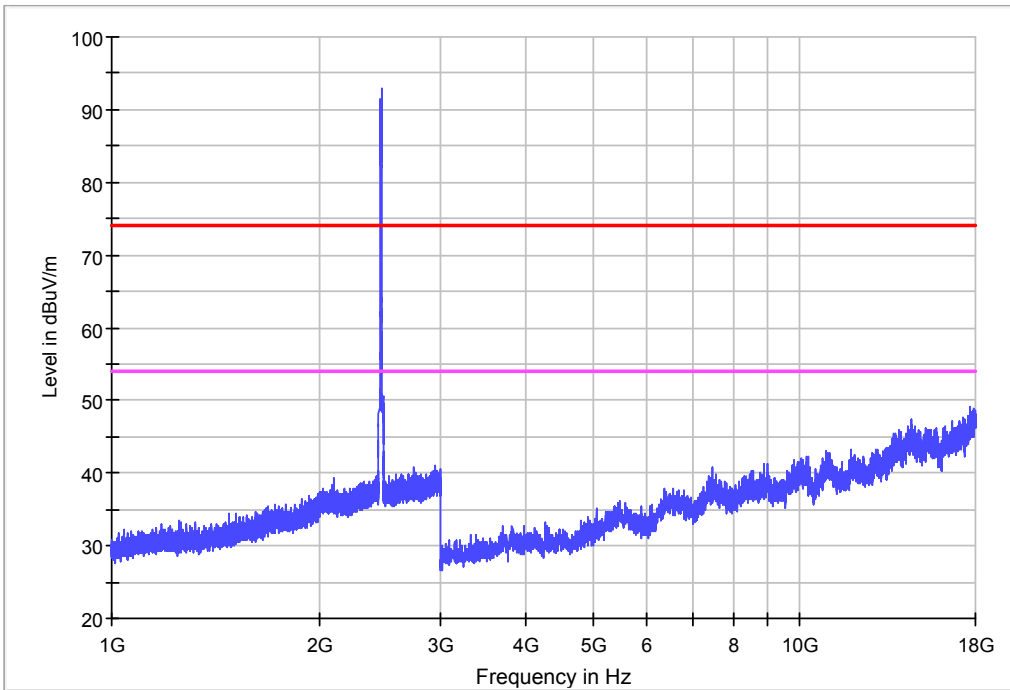
1-18G

11g

Ch11

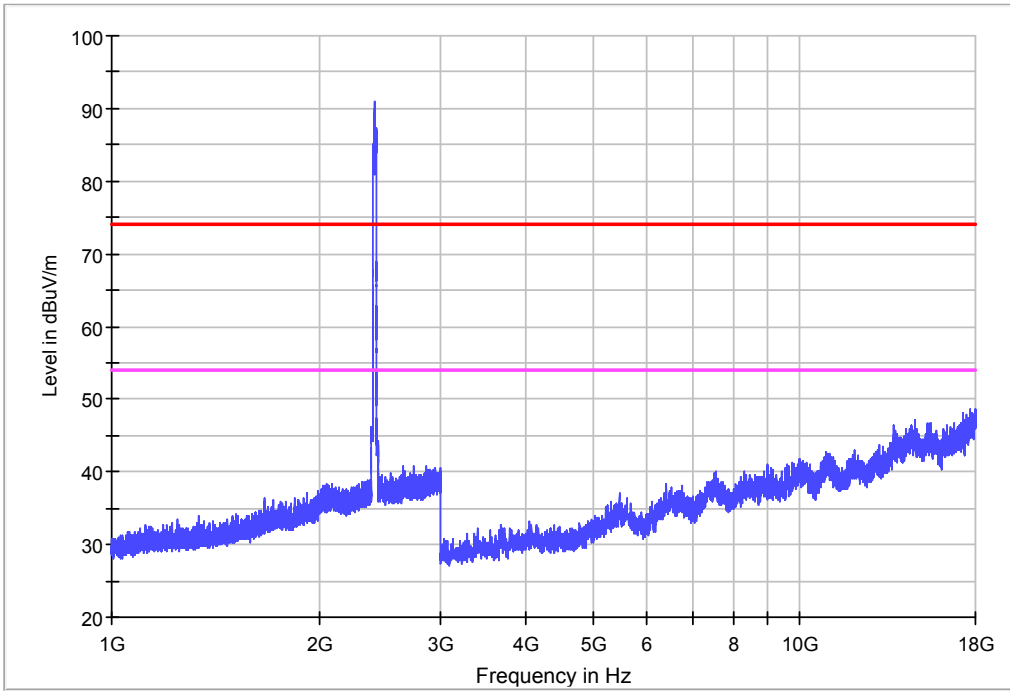


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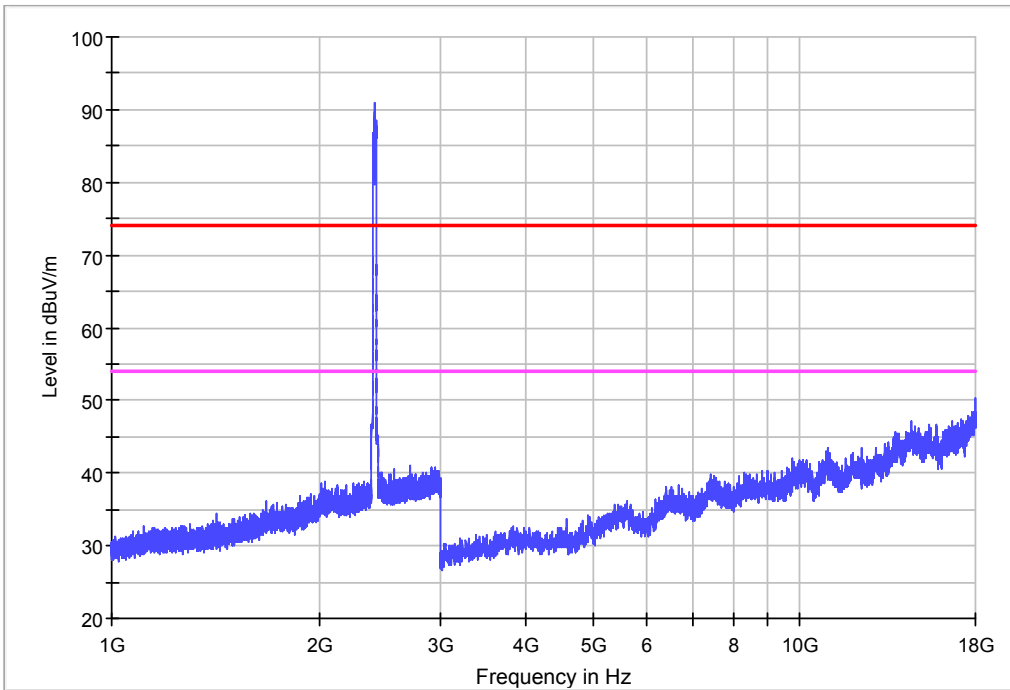


Vertical

1-18G  
11n HT20  
Ch1

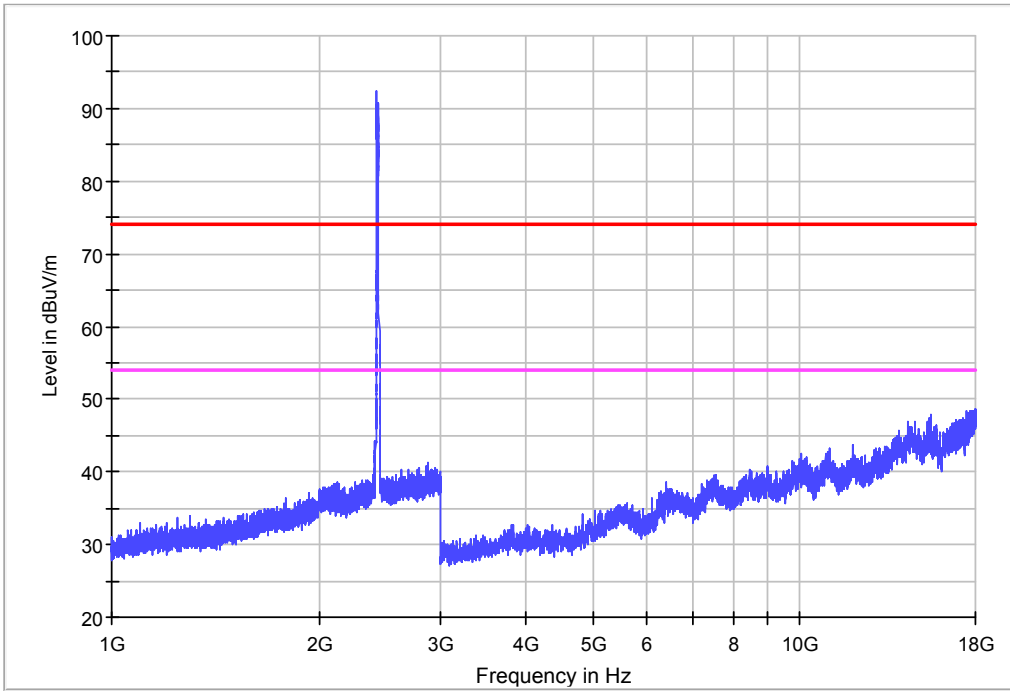


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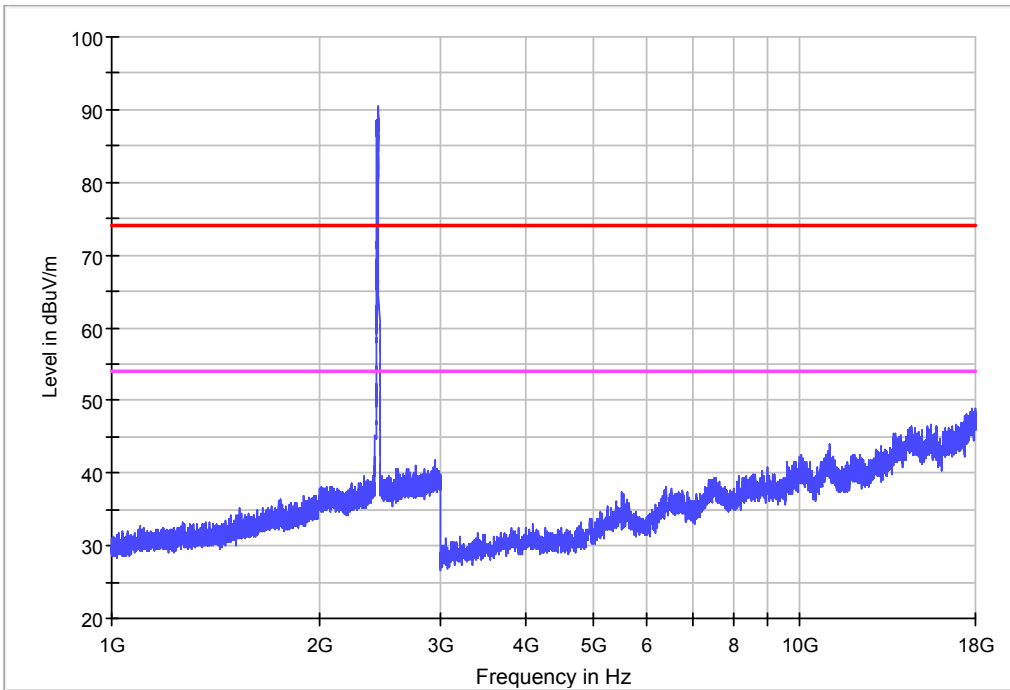


Vertical

1-18G  
11n HT20  
Ch6

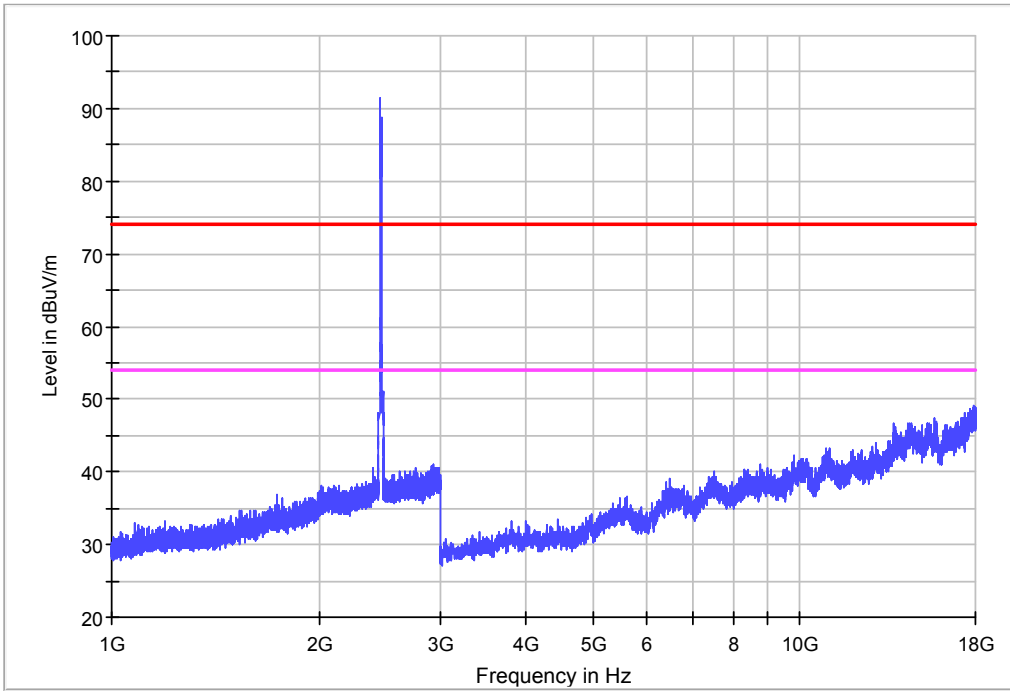


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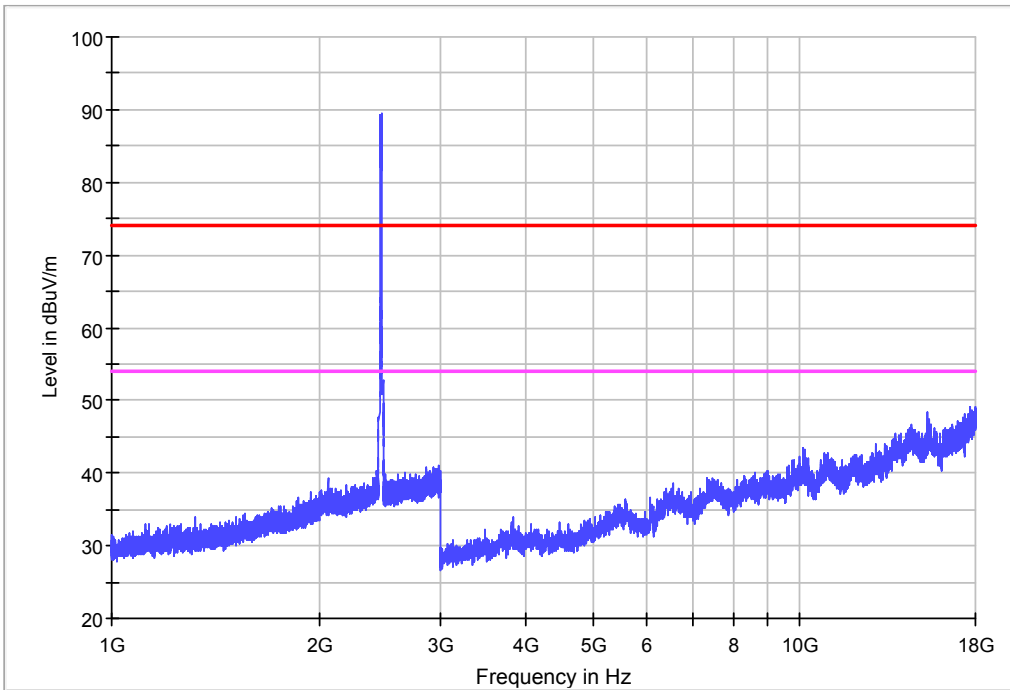


Vertical

1-18G  
11n HT20  
Ch11

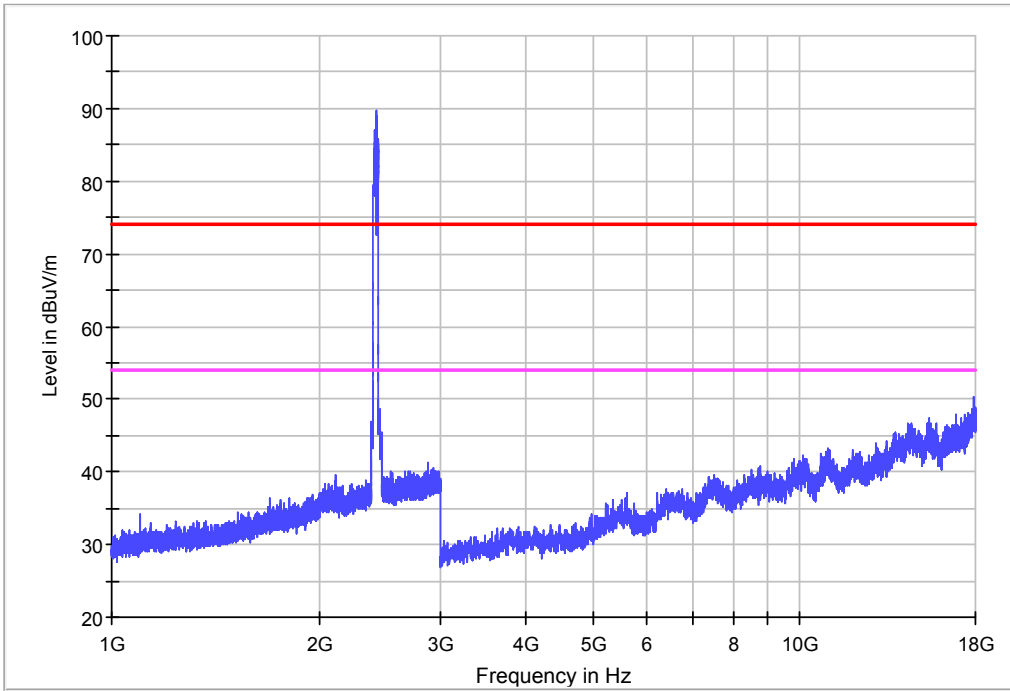


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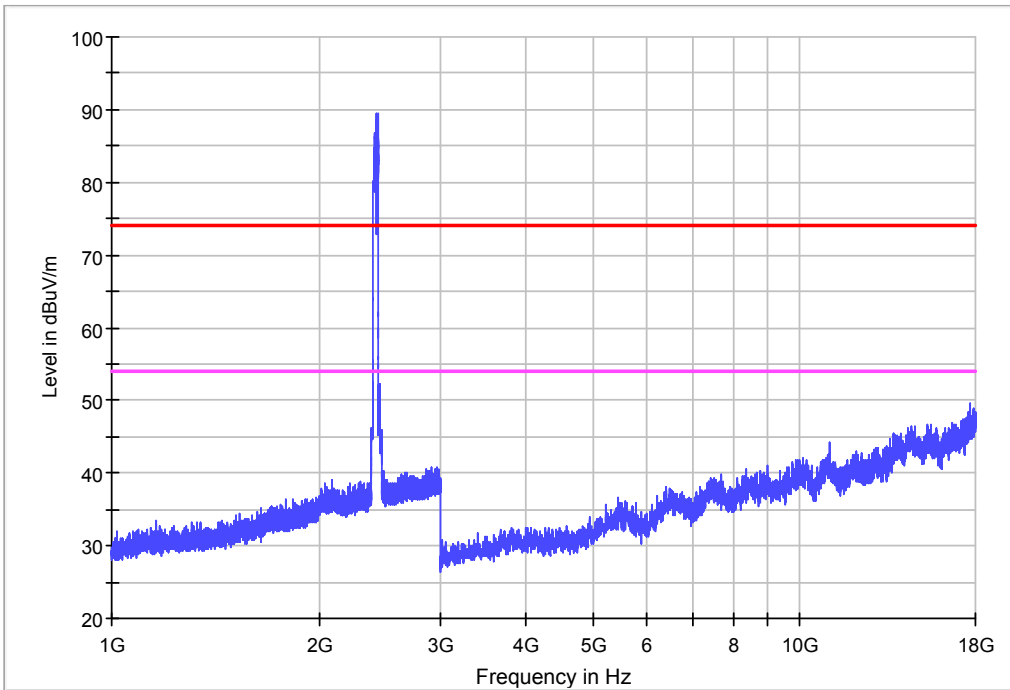


Vertical

1-18G  
11n HT40  
Ch3

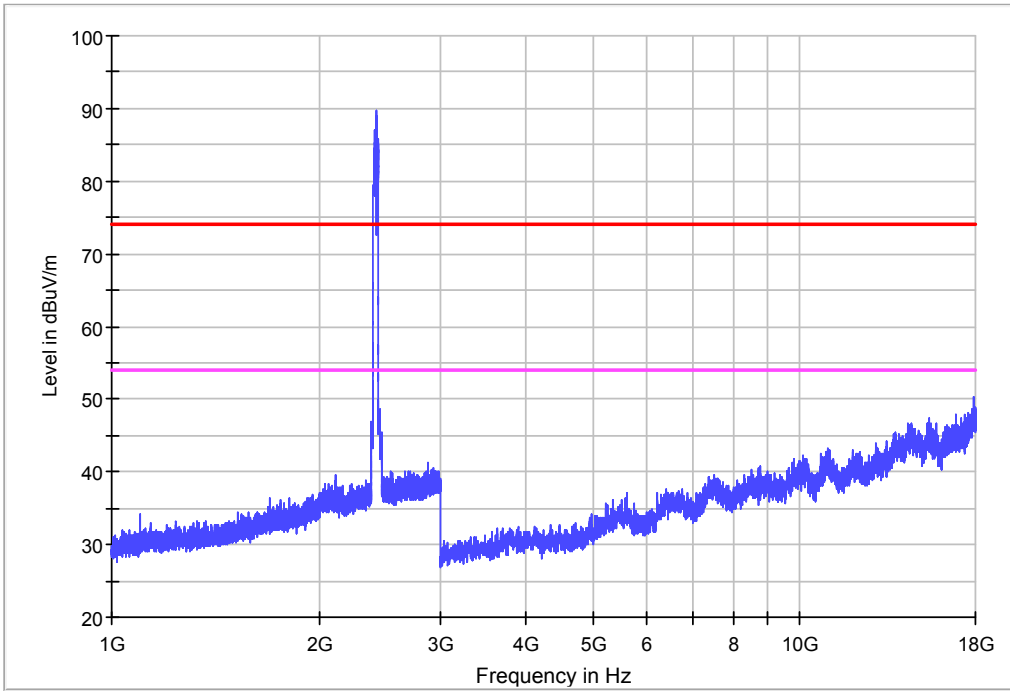


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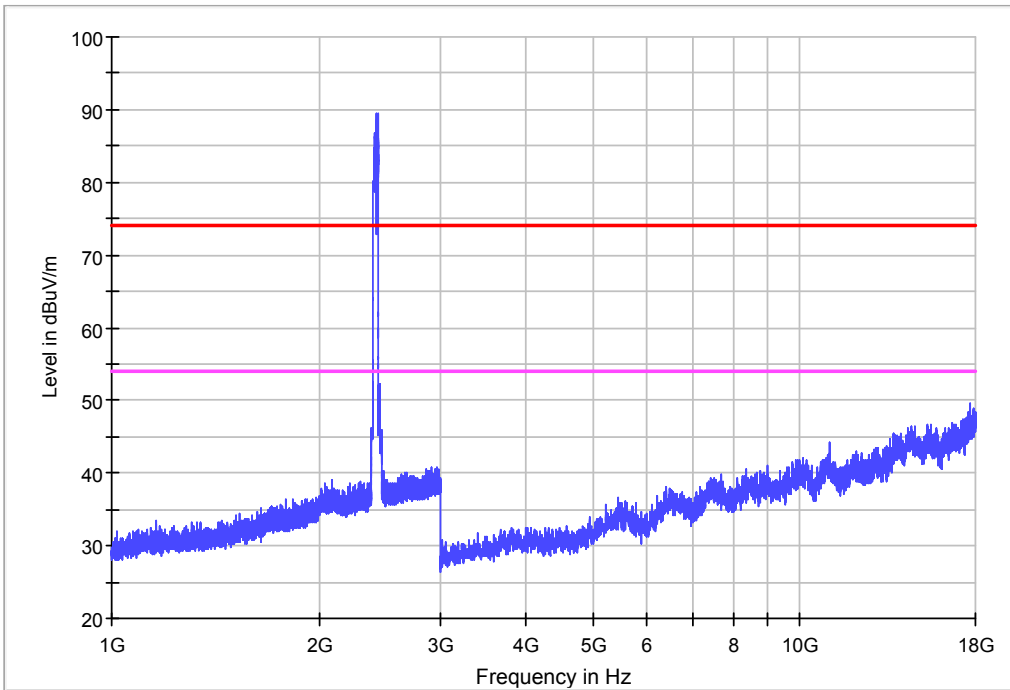


Vertical

1-18G  
11n HT40  
Ch3



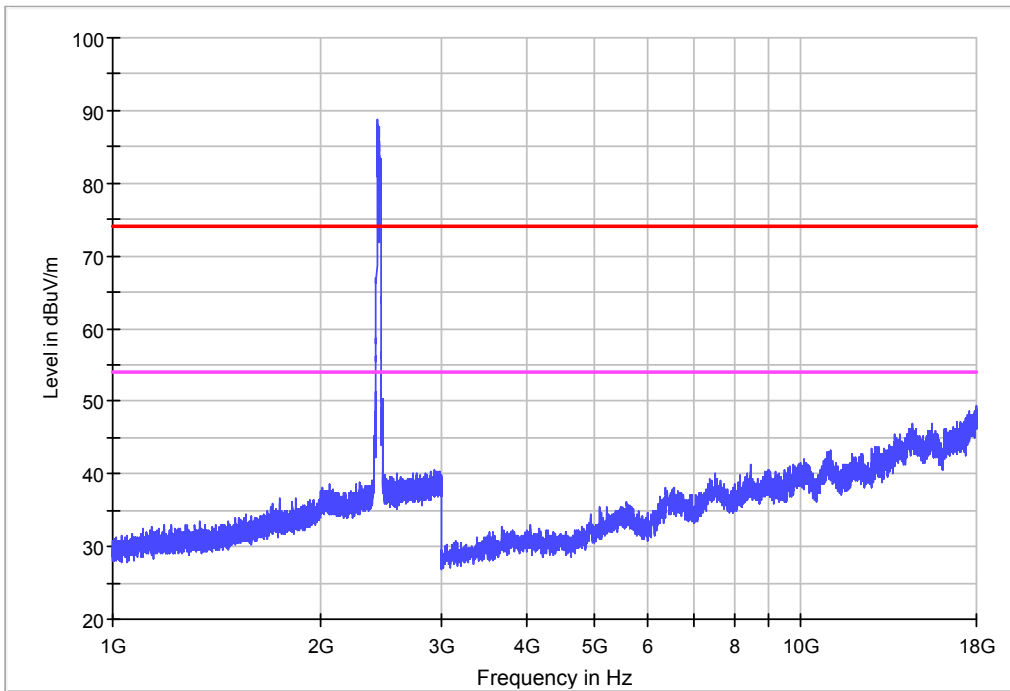
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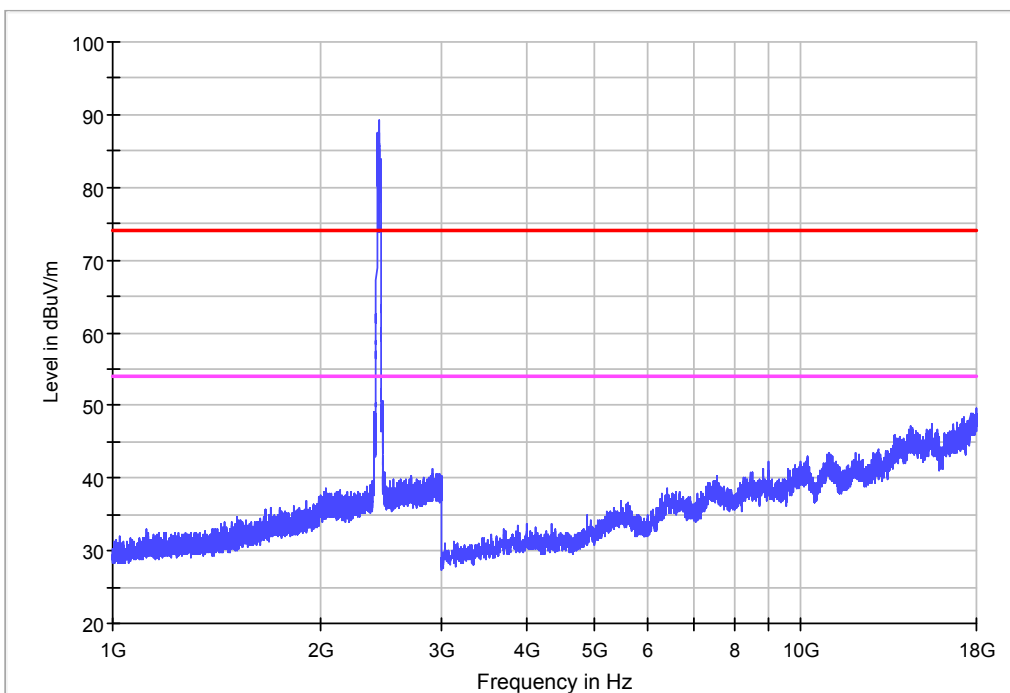
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1-18G  
11n HT40  
Ch6

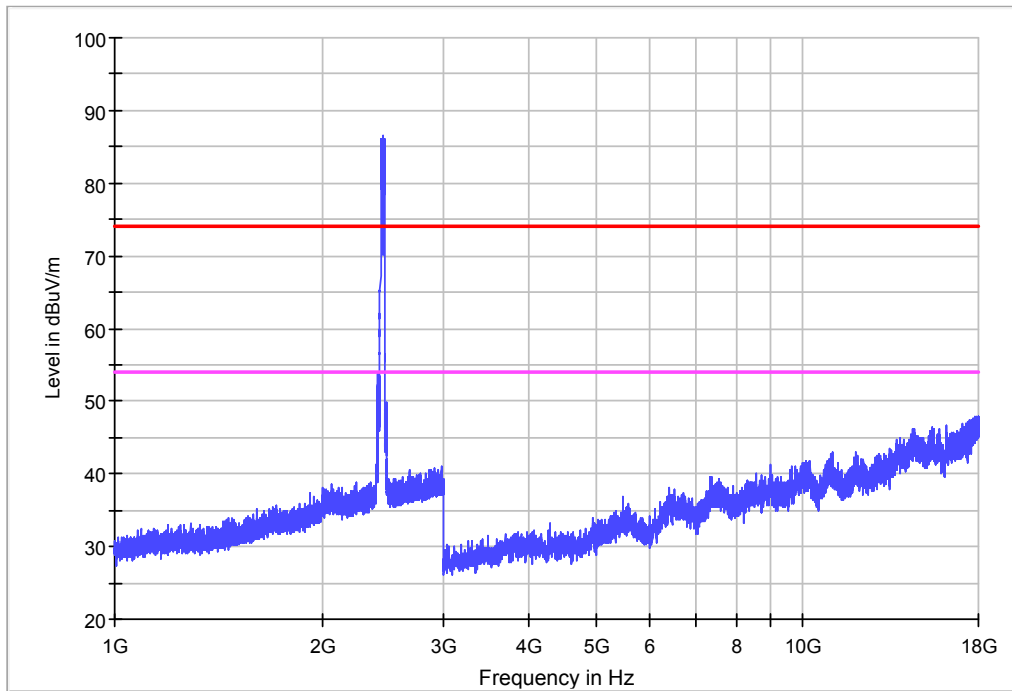


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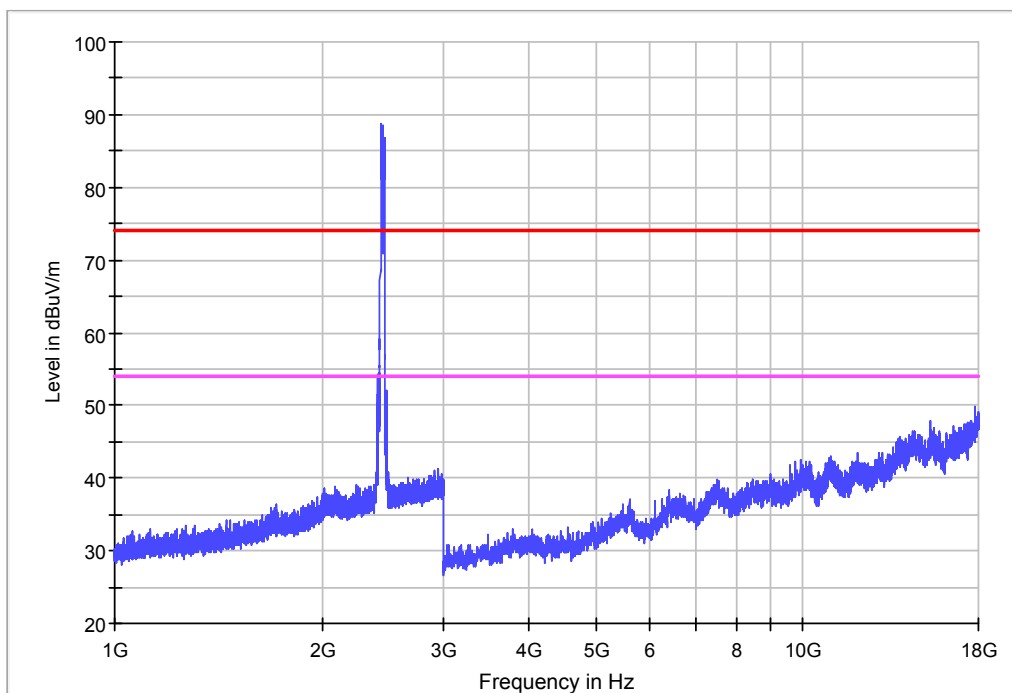


Vertical

1-18G  
11n HT40  
Ch9

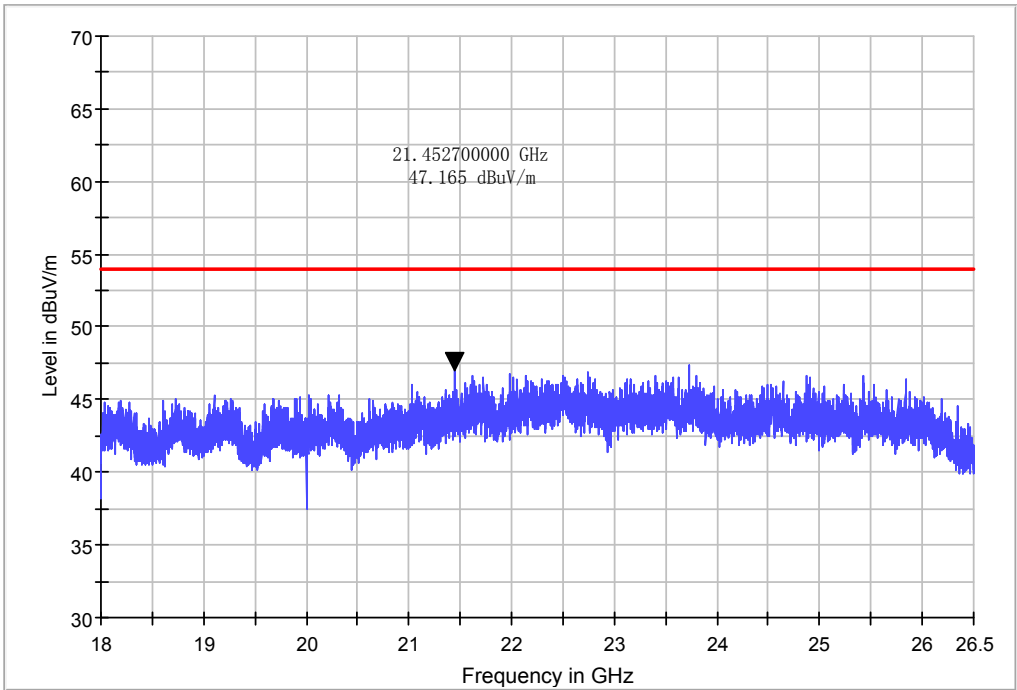


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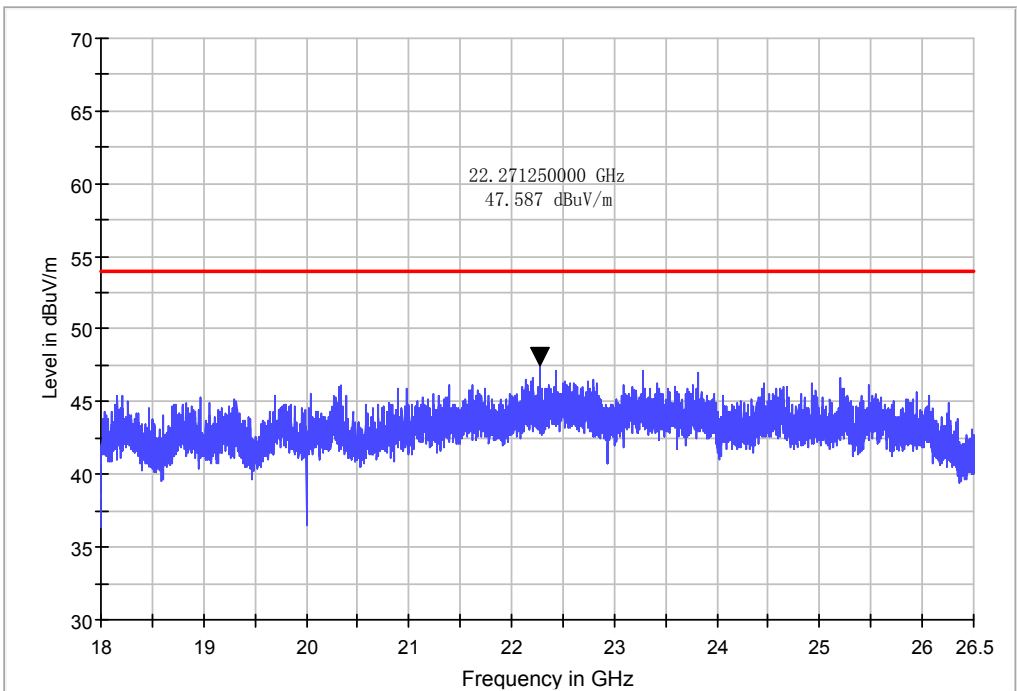


Vertical

18-26.5G  
Worst Case



Horizontal



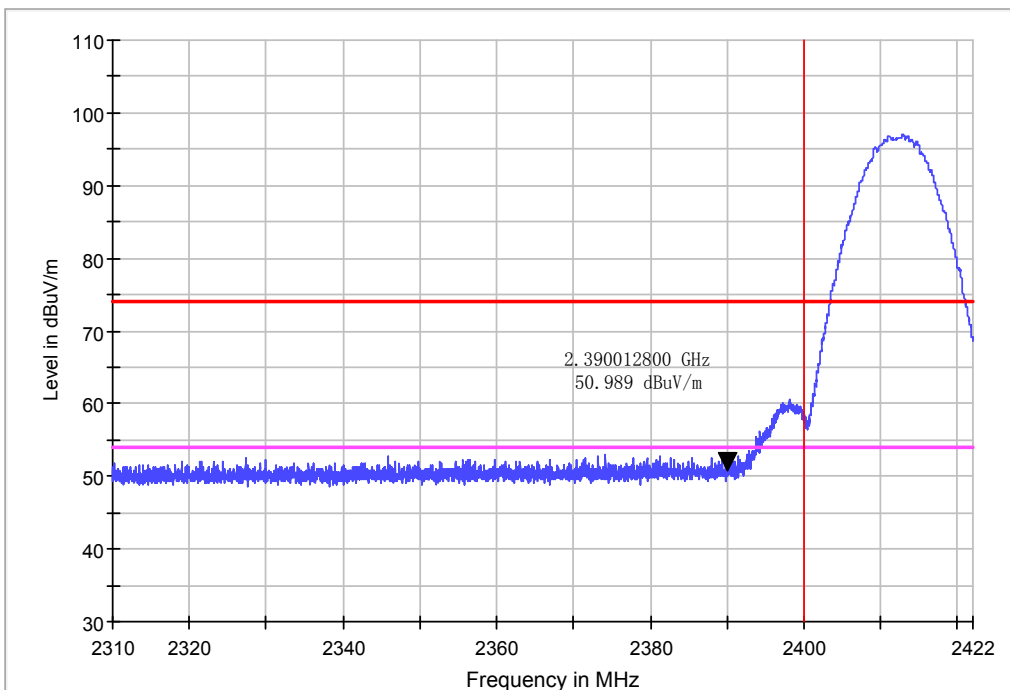
Vertical

Band edge

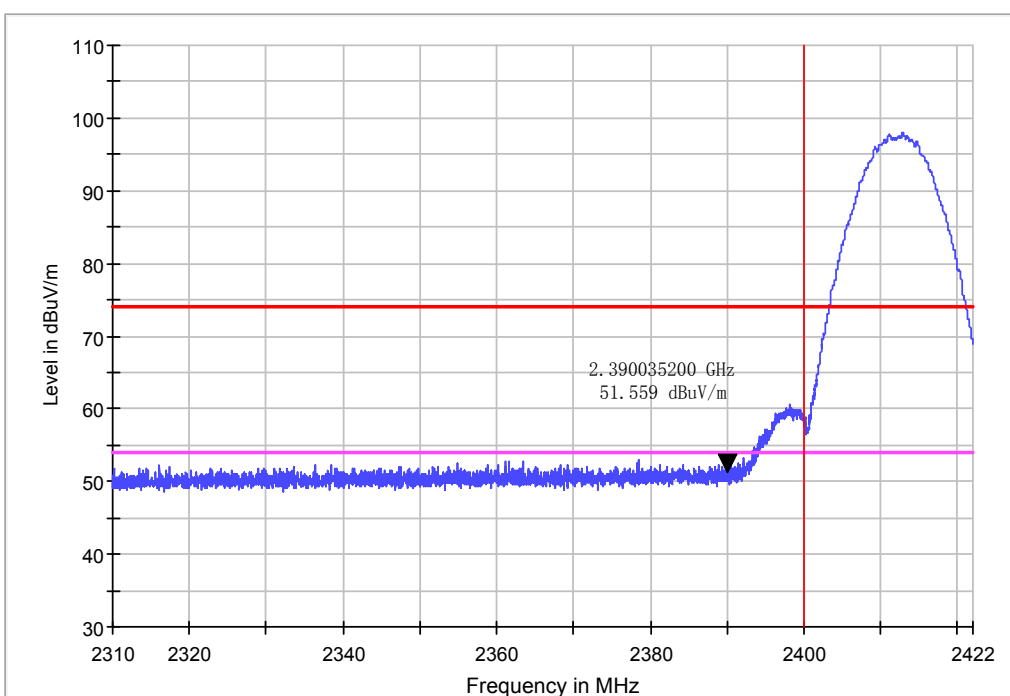
11b

CH1

PK



Horizontal



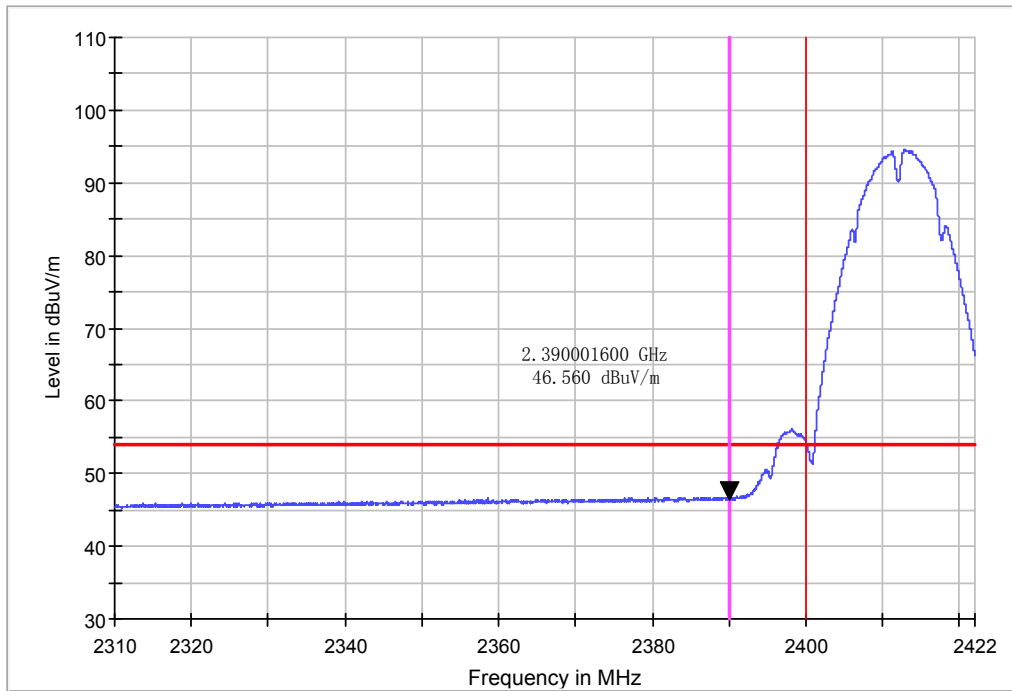
Vertical

Band edge

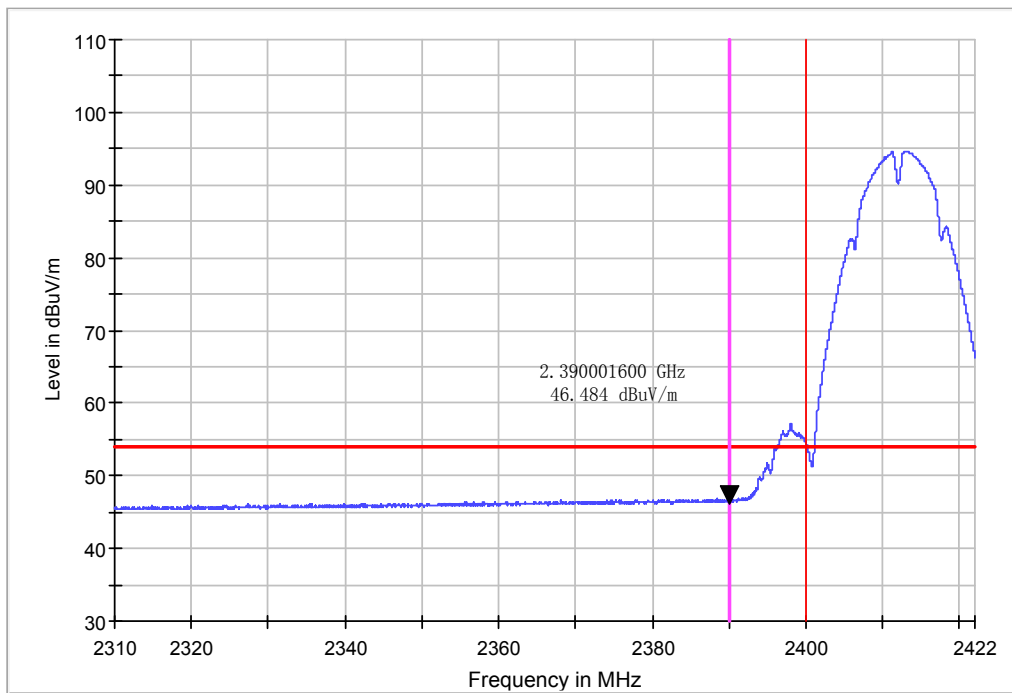
11b

CH1

AV



Horizontal



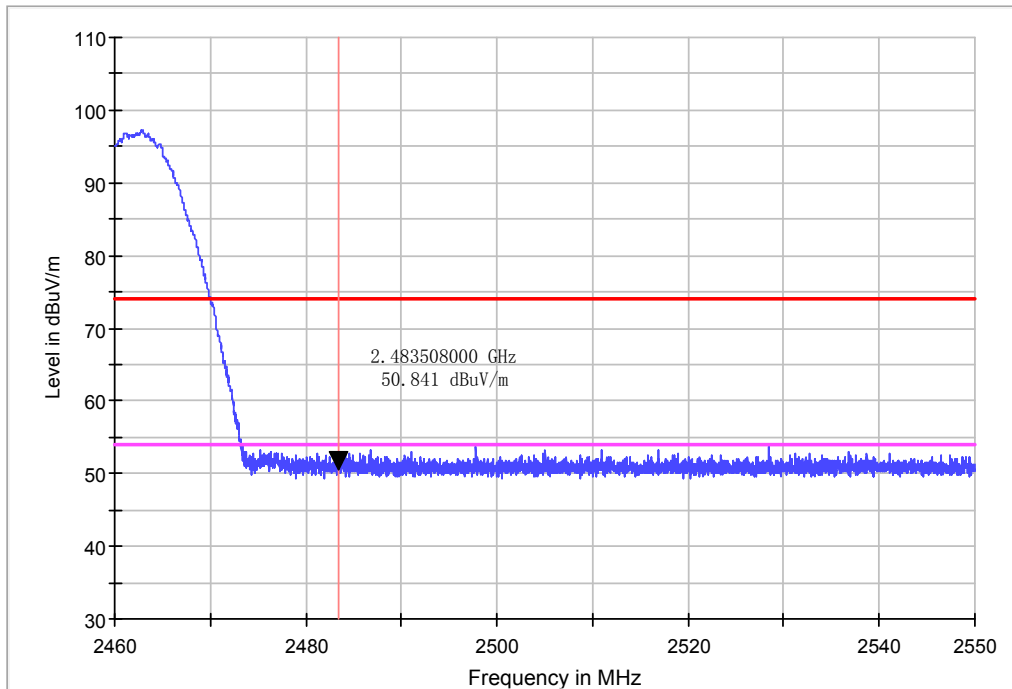
Vertical

Band edge

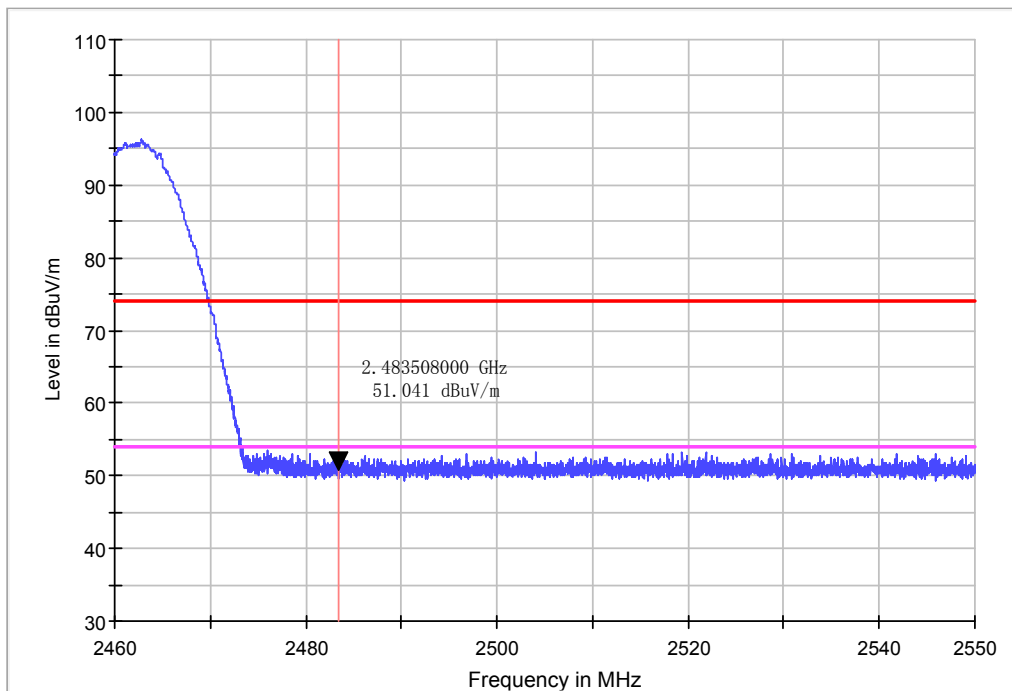
11b

CH11

PK



Horizontal



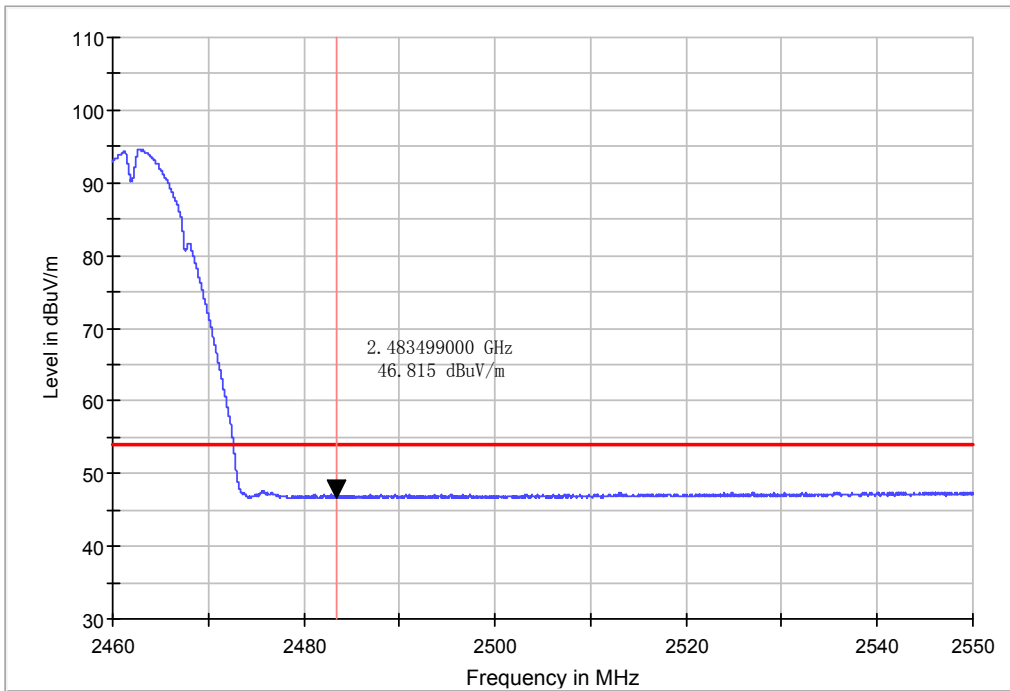
Vertical

Band edge

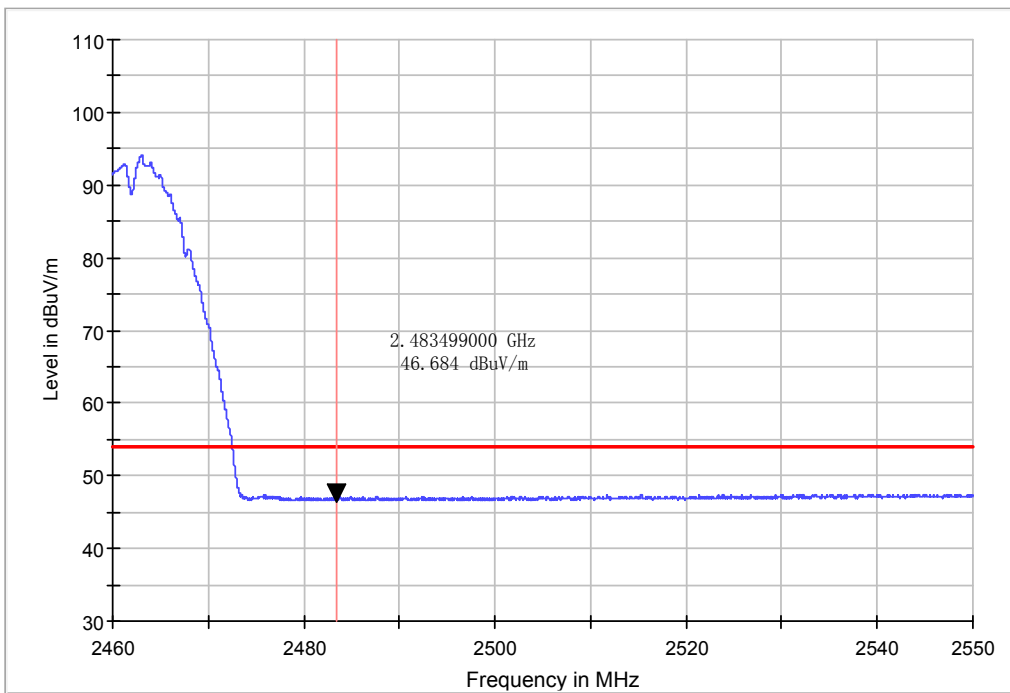
11b

CH11

AV



Horizontal



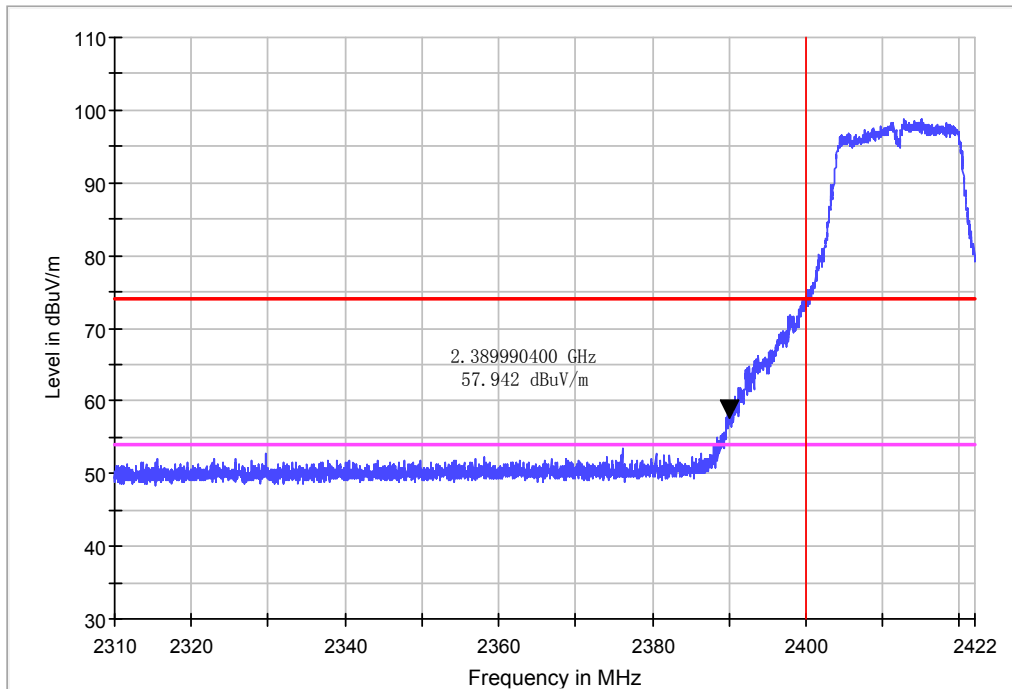
Vertical

Band edge

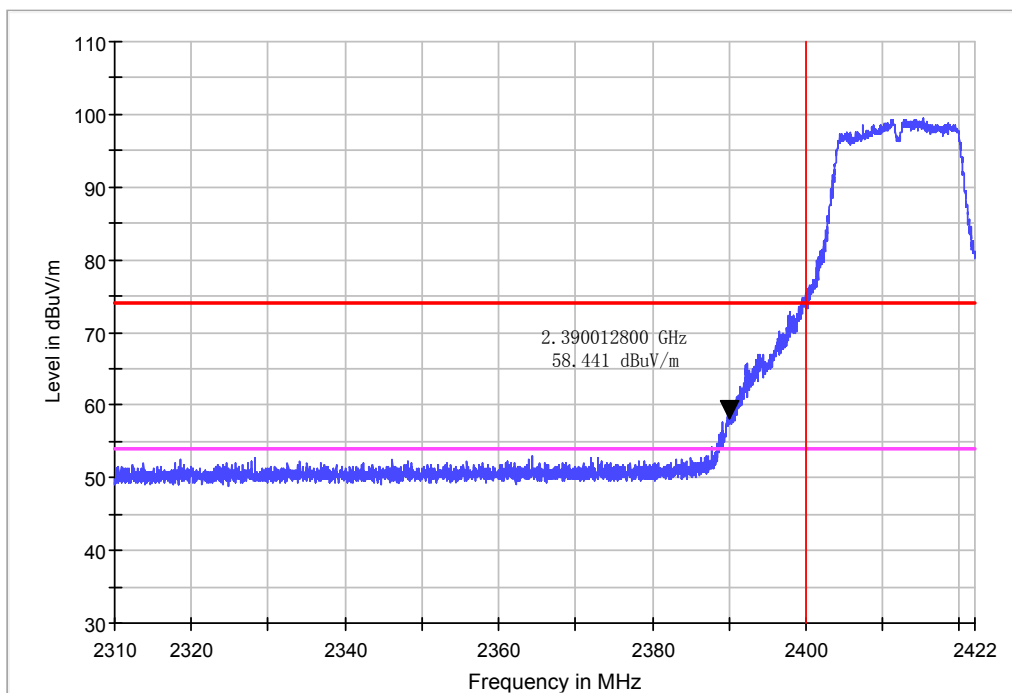
11g

CH1

PK



Horizontal



Vertical

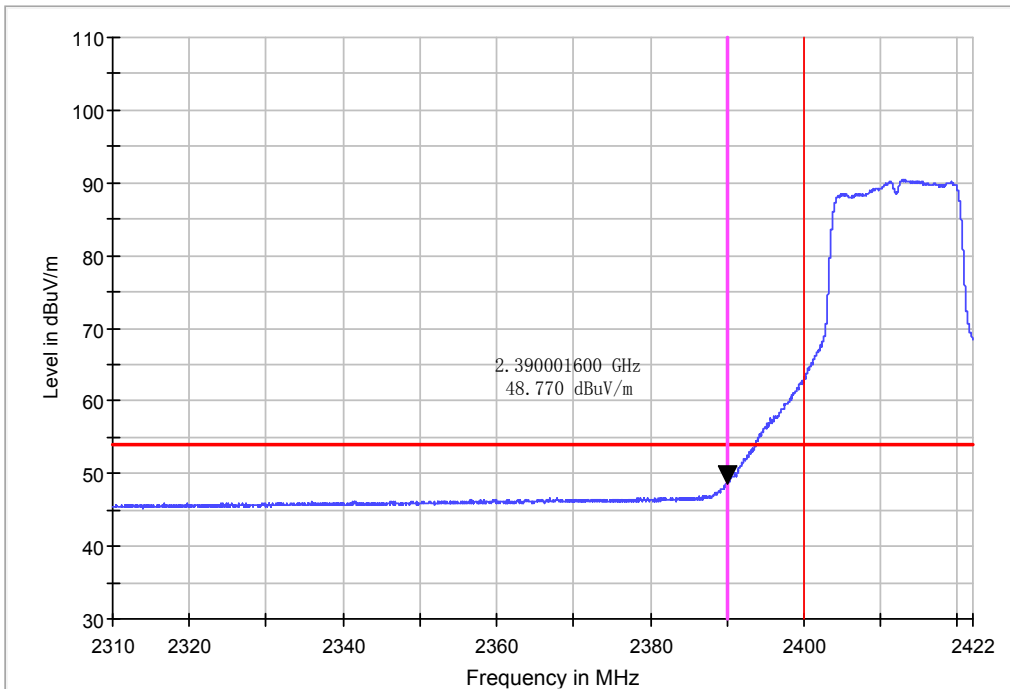


Band edge

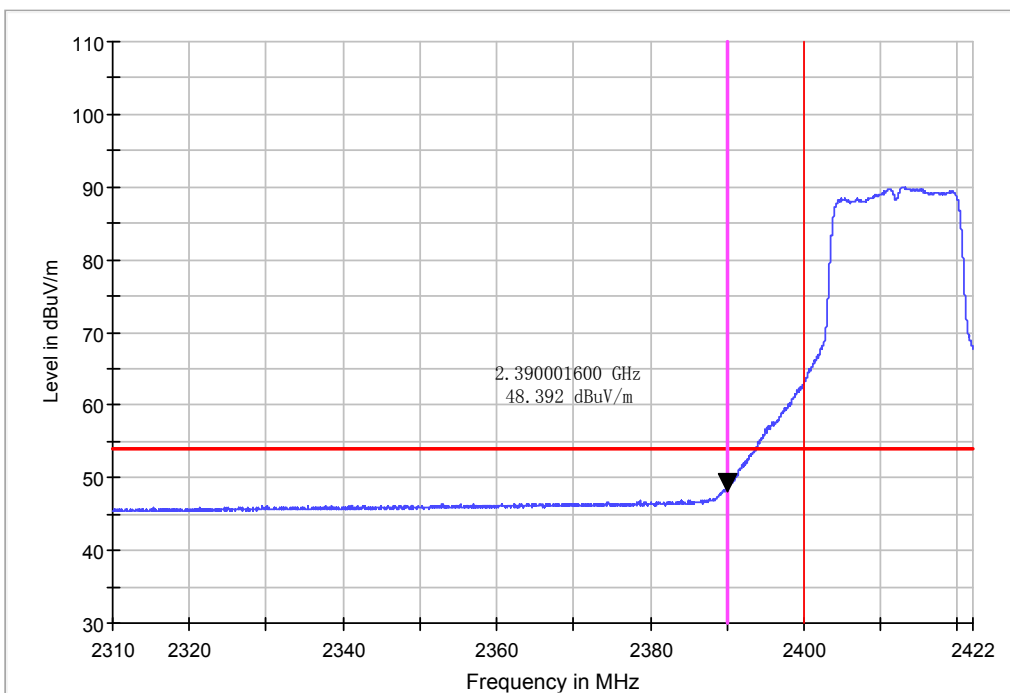
11g

CH1

AV



Horizontal



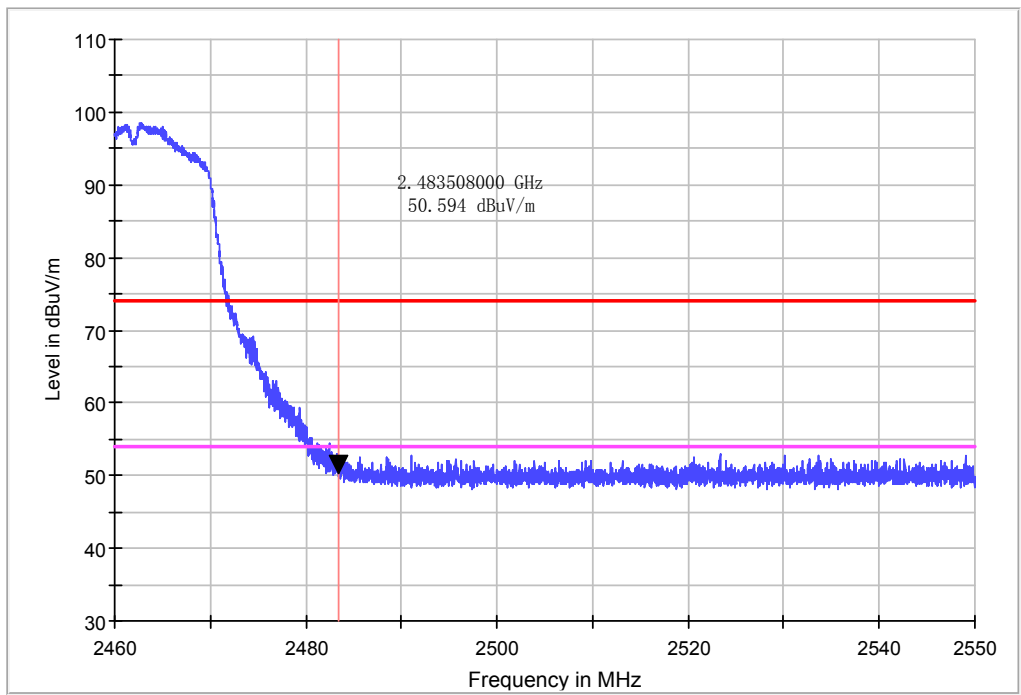
Vertical

Band edge

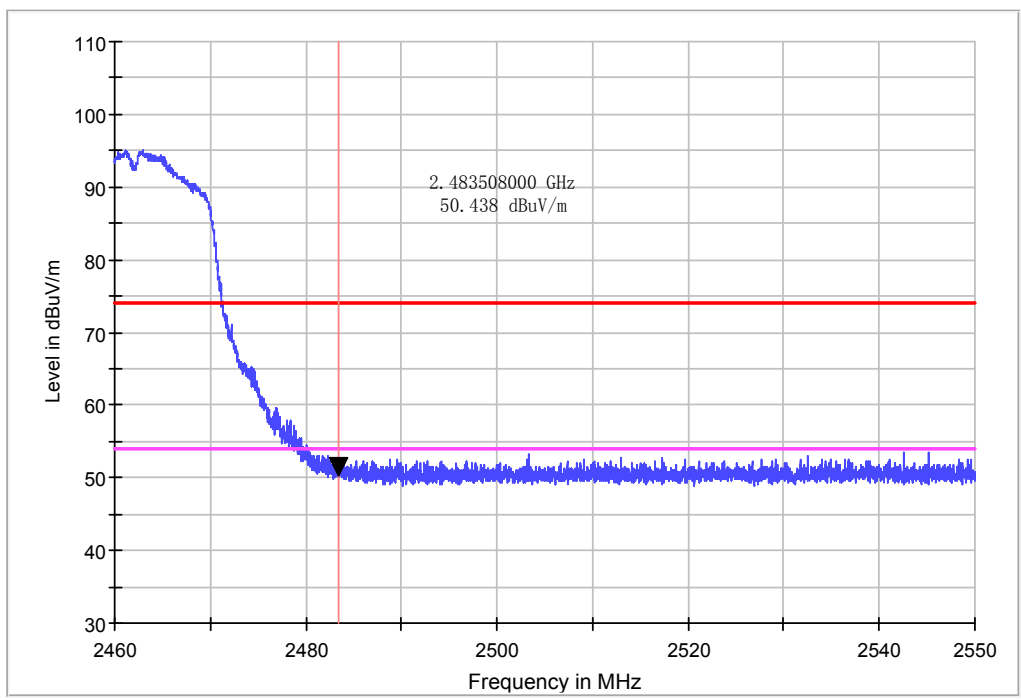
11g

CH11

PK



Horizontal



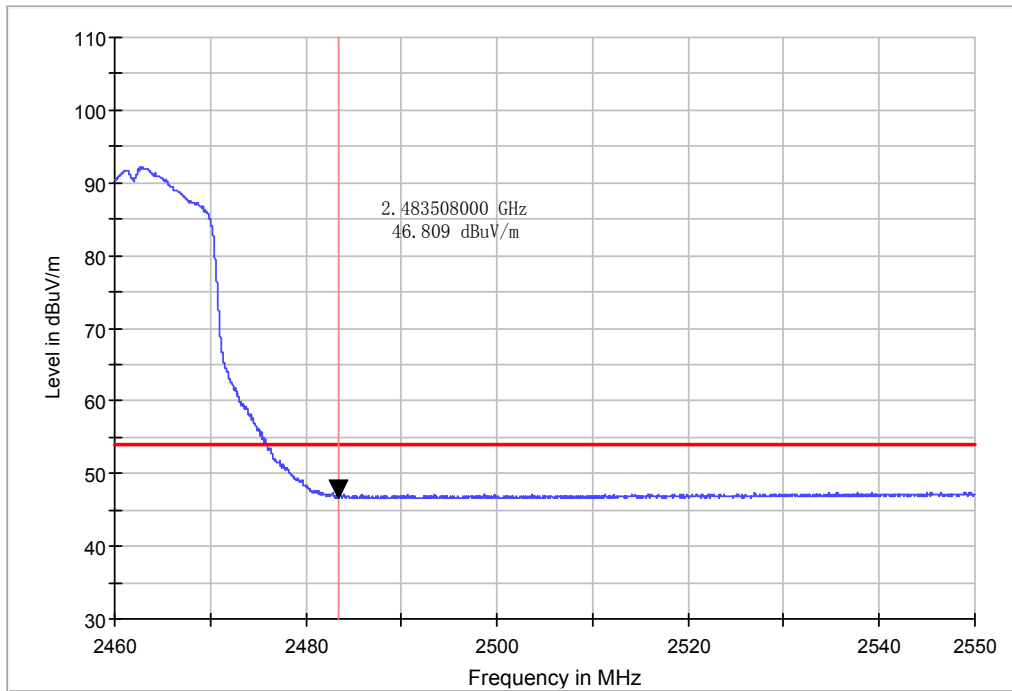
Vertical

Band edge

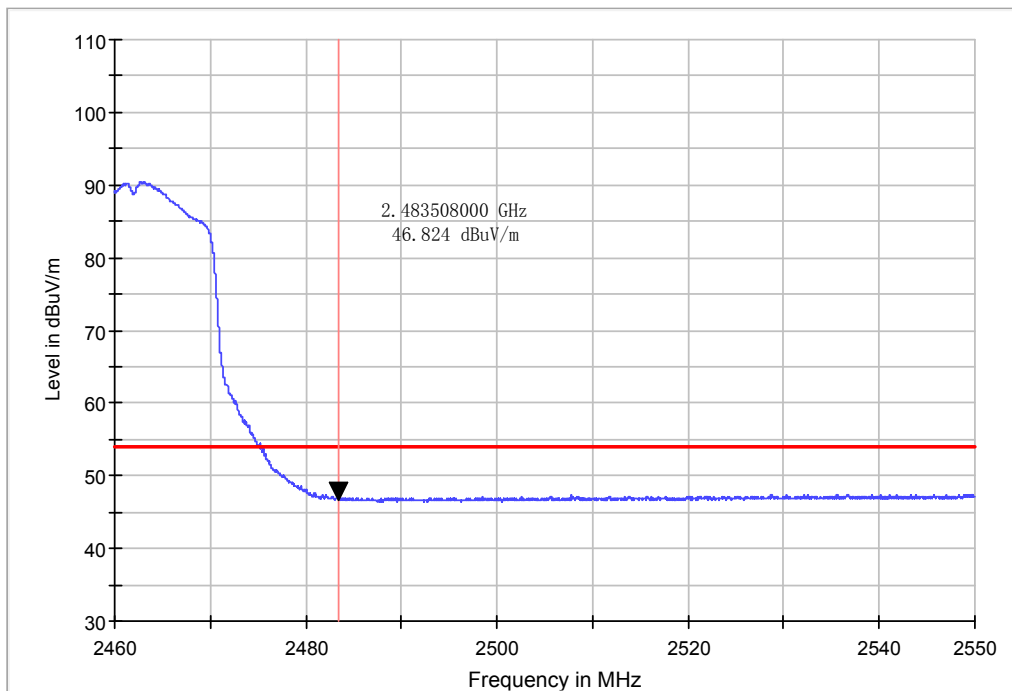
11g

CH11

AV



Horizontal



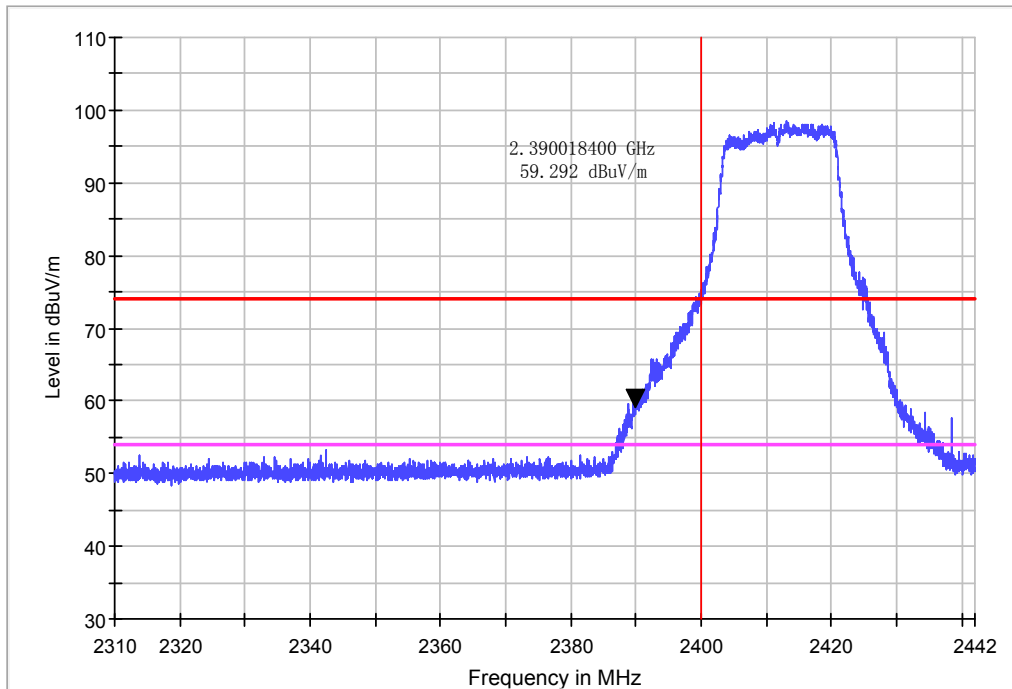
Vertical

Band edge

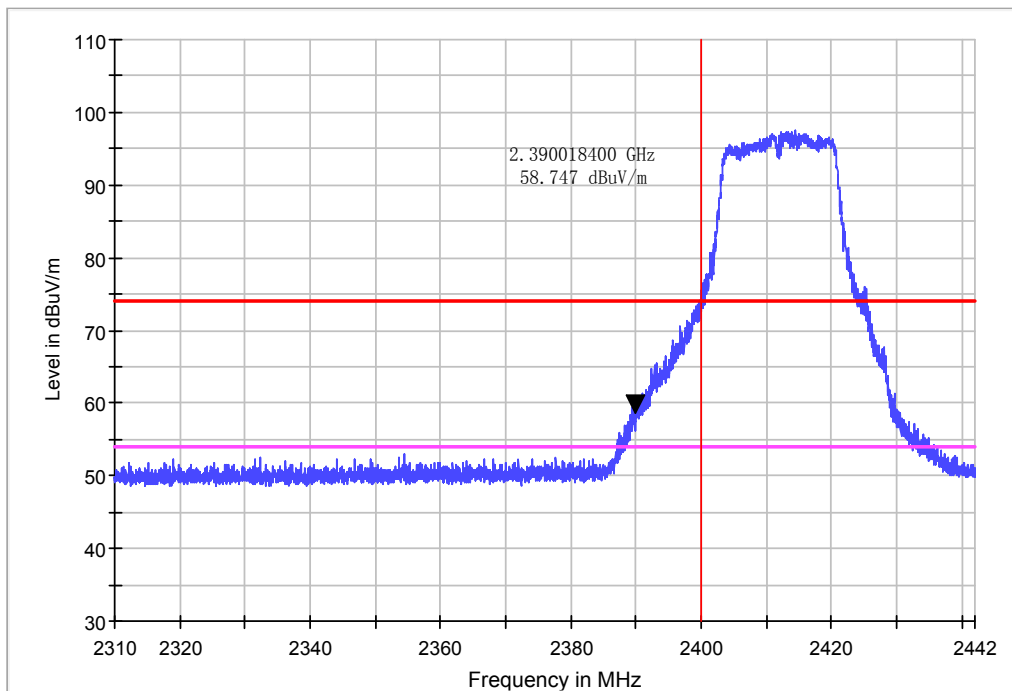
11n HT20

CH1

PK



Horizontal



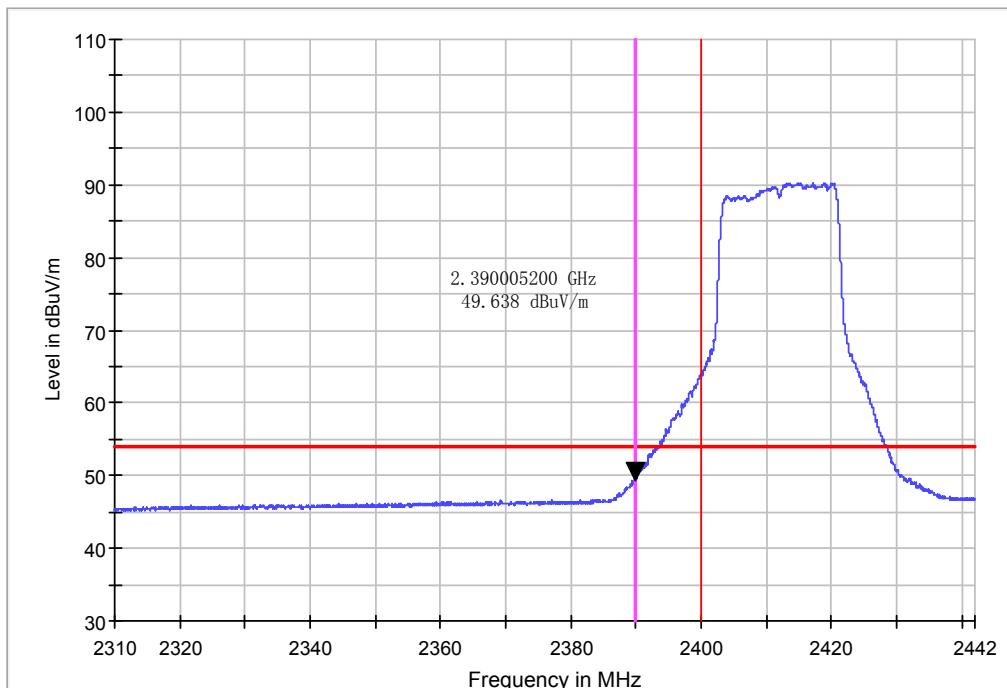
Vertical

Band edge

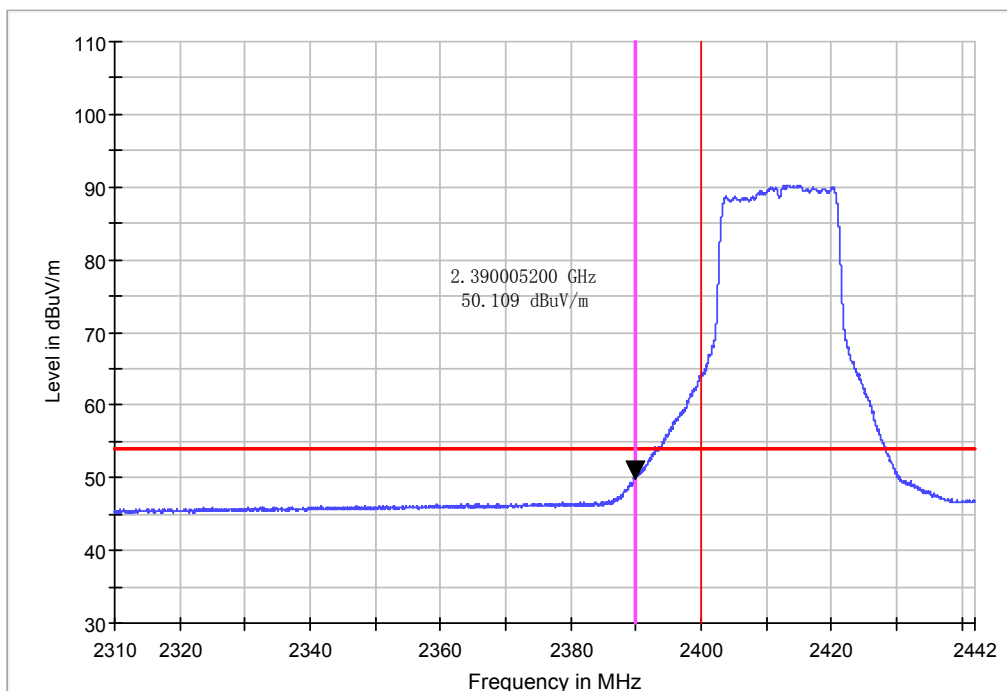
11n HT20

CH1

AV



Horizontal



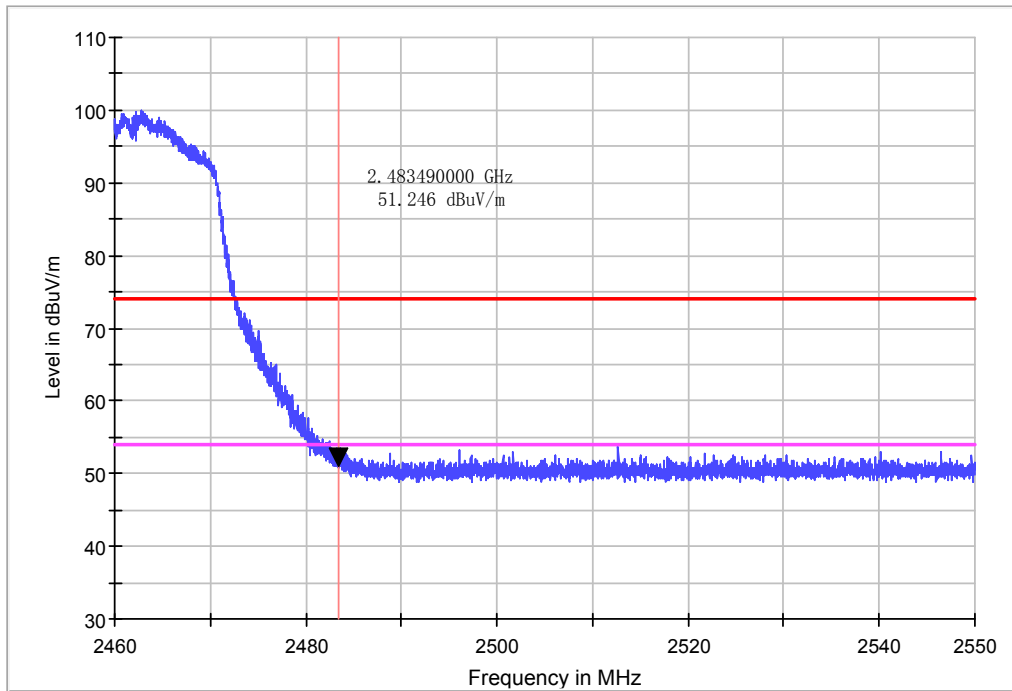
Vertical

Band edge

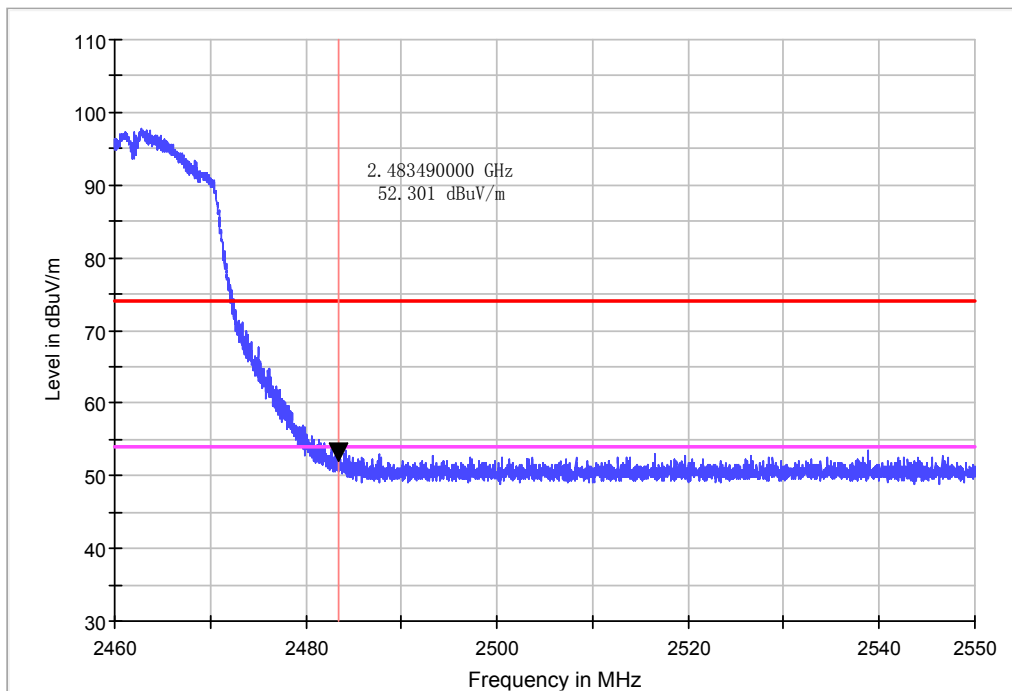
11n HT20

CH11

PK



Horizontal



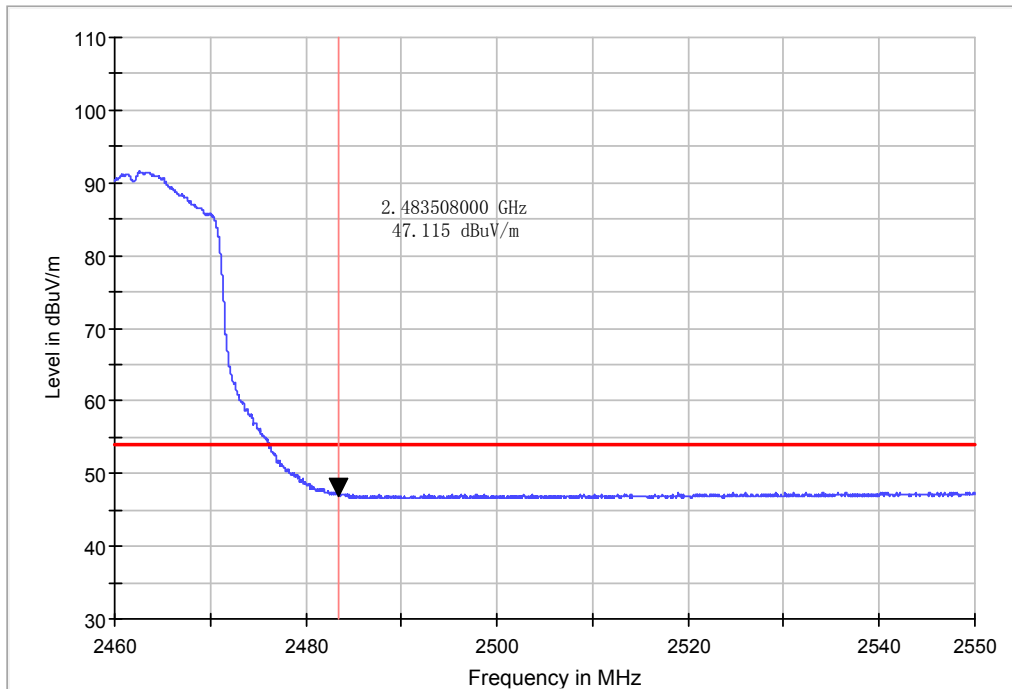
Vertical

Band edge

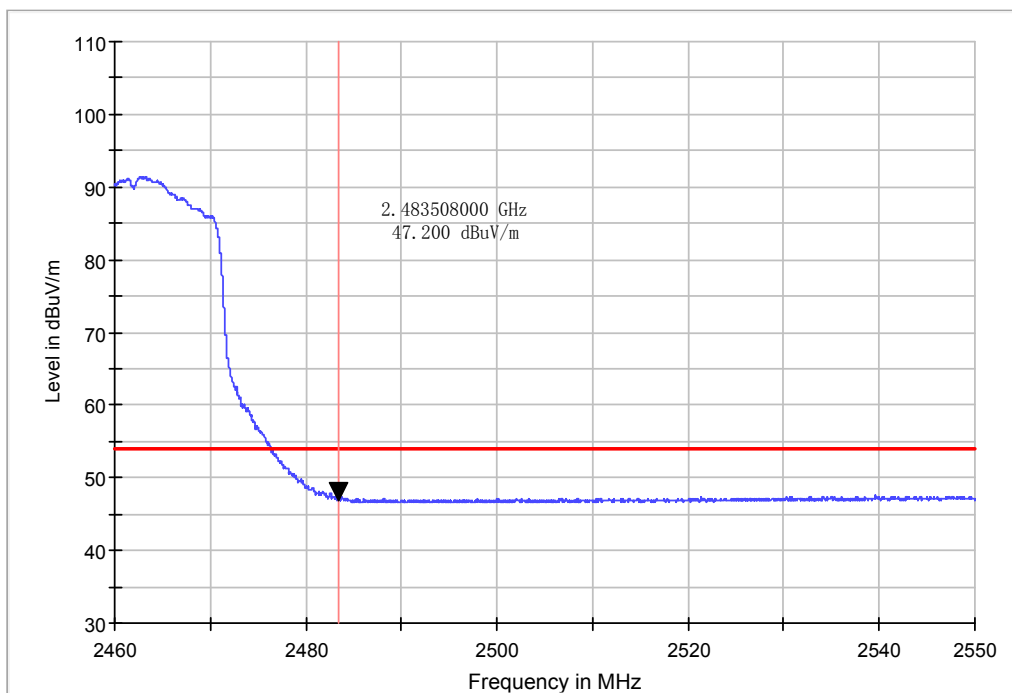
11n HT20

CH11

AV



Horizontal



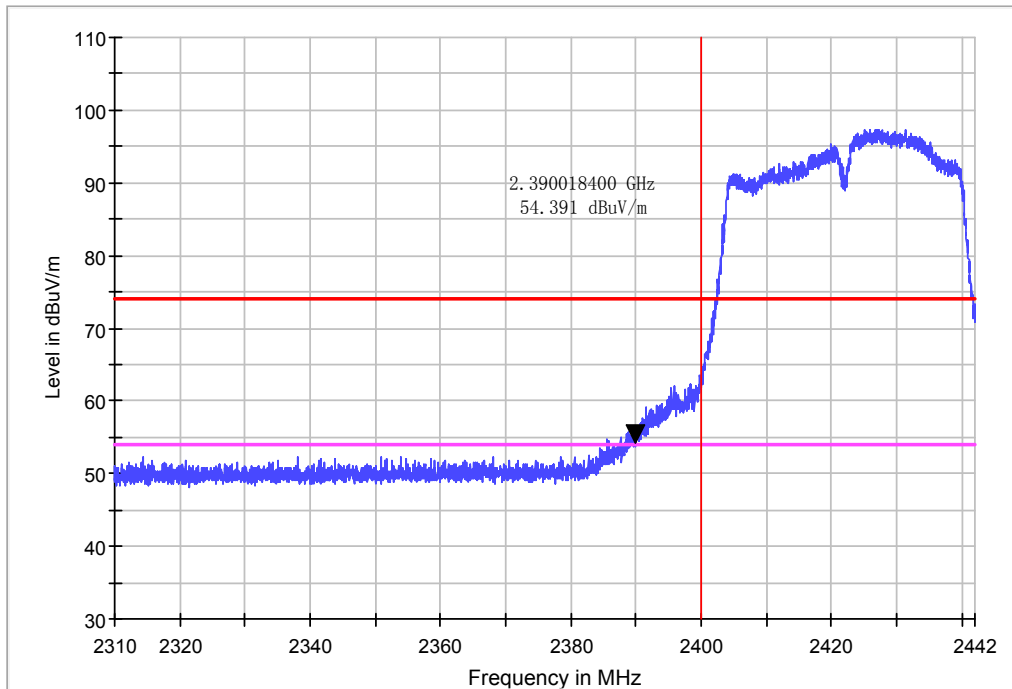
Vertical

Band edge

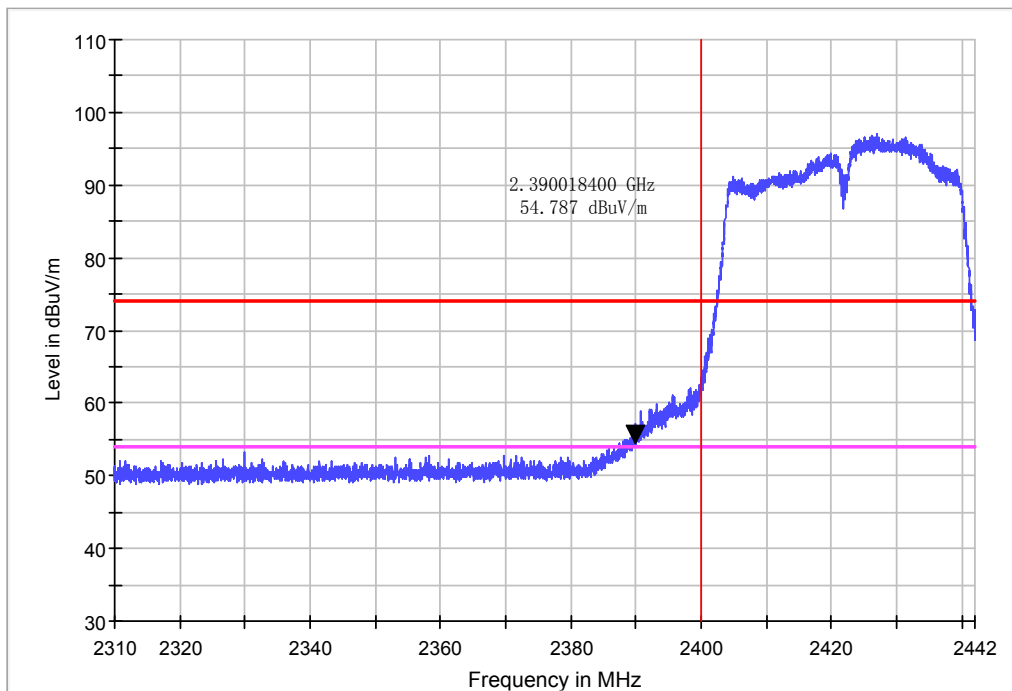
11n HT40

CH3

PK



Horizontal



Vertical

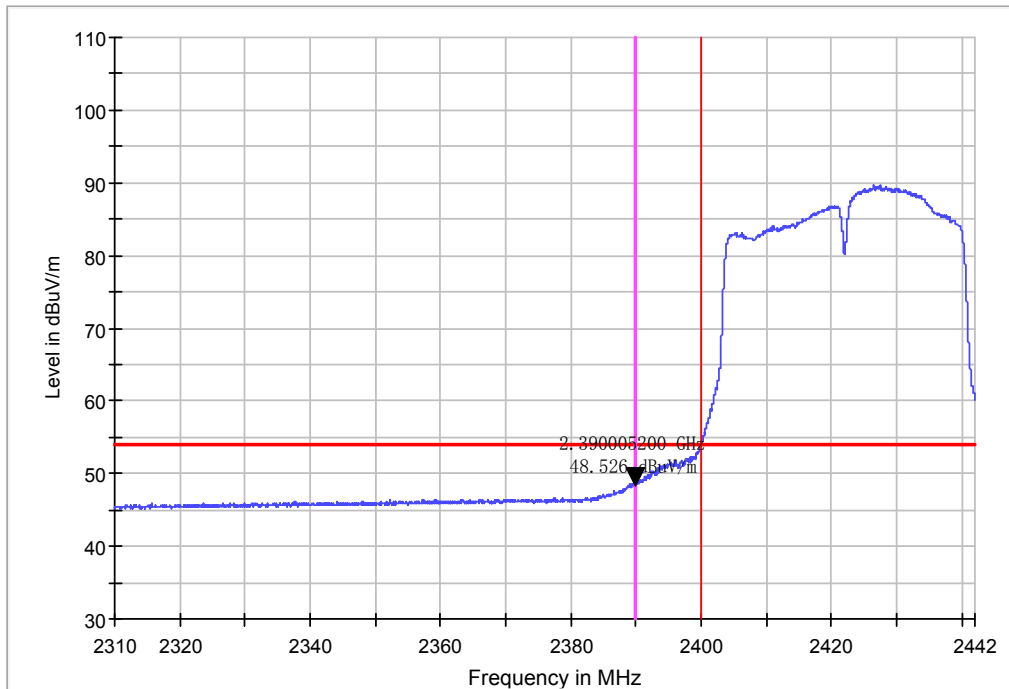


Band edge

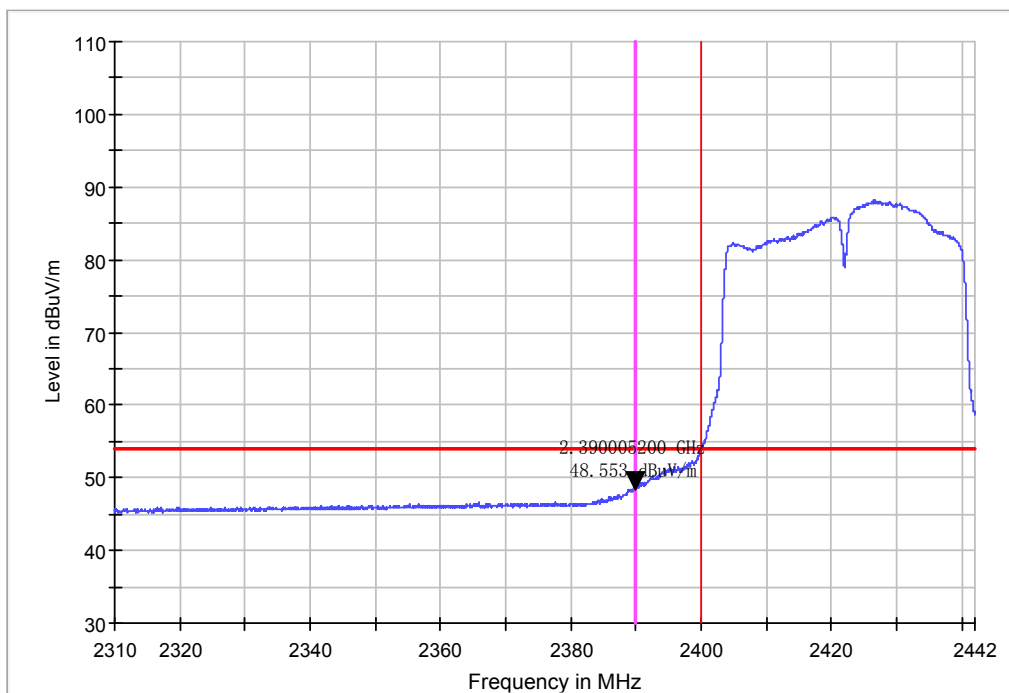
11n HT40

CH3

AV



Horizontal



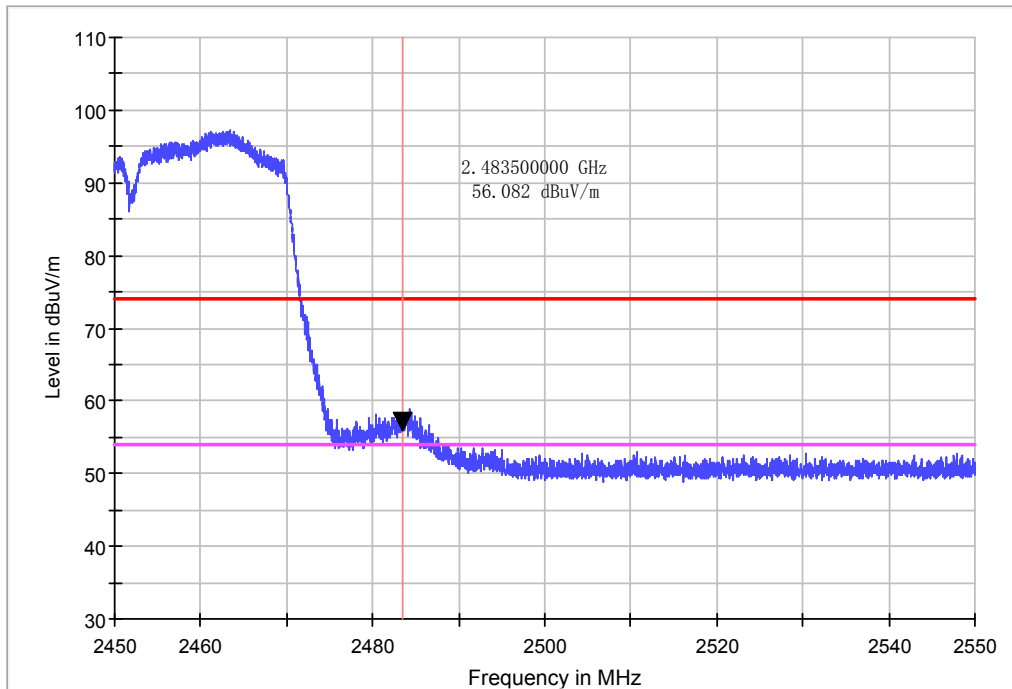
Vertical

Band edge

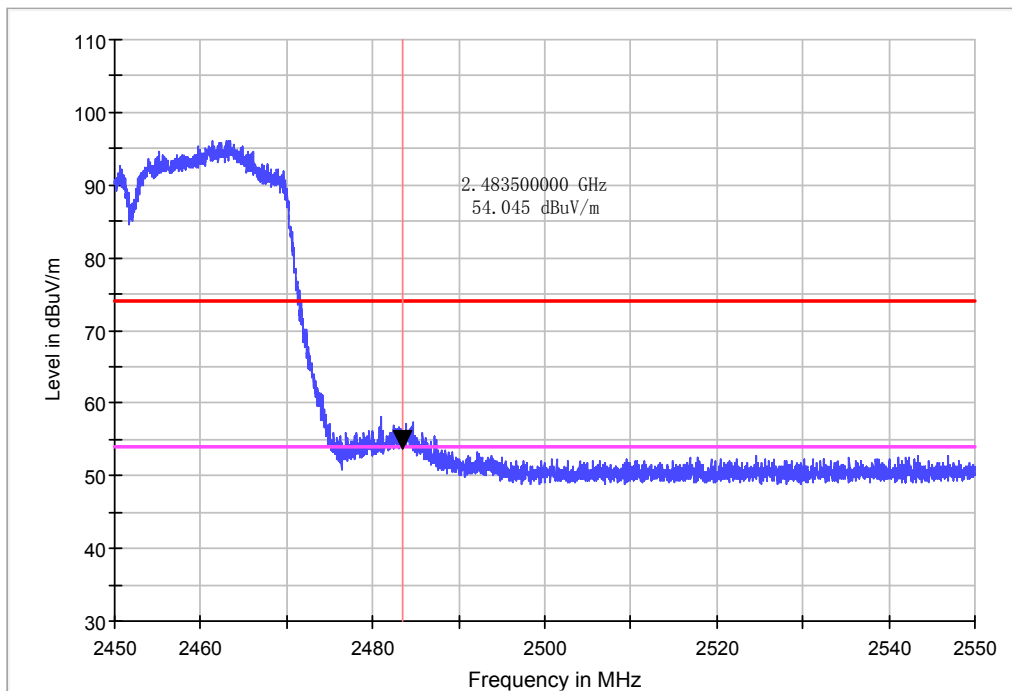
11n HT40

CH9

PK



Horizontal



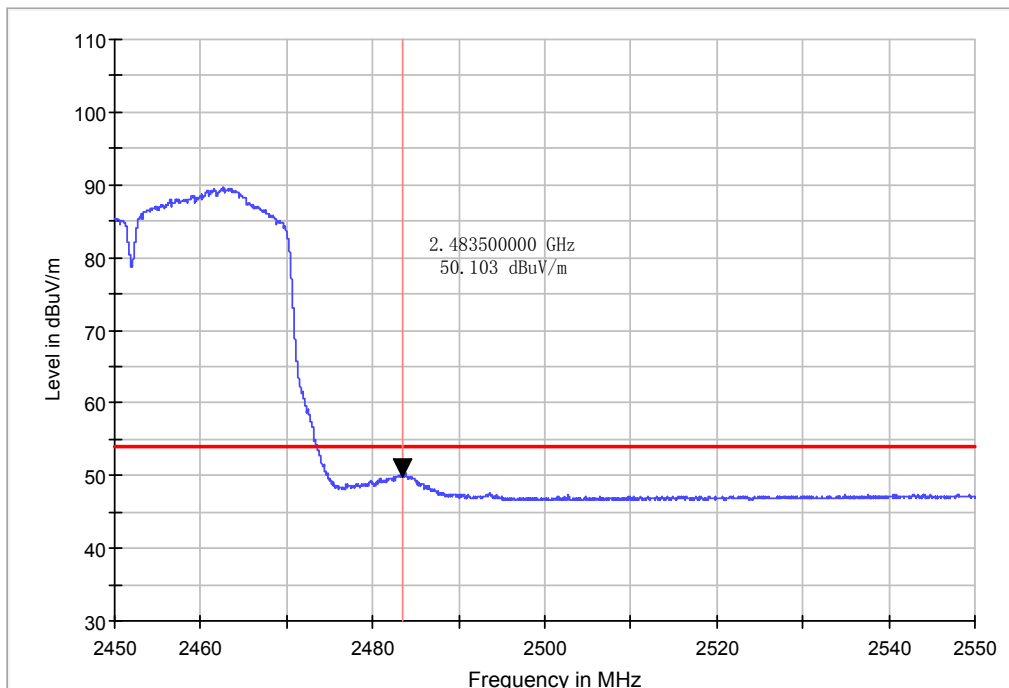
Vertical

Band edge

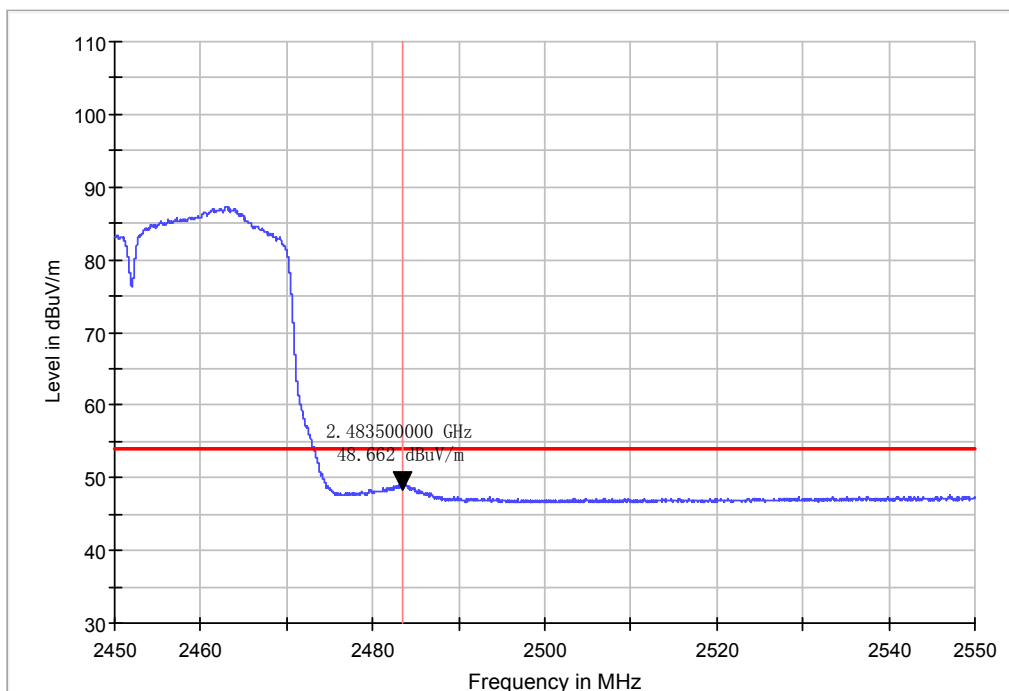
11n HT40

CH9

AV



Horizontal



Vertical

END OF REPORT