

# TEST REPORT

Verified Code: 325720

<b>Report No.:</b>	E202101295124-2	<b>Application No.:</b>	E202101295124
<b>Client:</b>	DMAI,Inc.		
<b>Address:</b>	10940 Wilshire Blvd #1100, Los Angeles, CA 90024, USA		
<b>Sample Description:</b>	Education tablet,a preschool learning system		
<b>Model:</b>	X4C-US21		
<b>Test Specification:</b>	CFR 47, FCC Part 15 Subpart C RADIO FREQUENCY DEVICES: Subpart C—Intentional Radiators		
<b>Receipt Date:</b>	2021-02-20		
<b>Test Date:</b>	2021-03-04 to 2021-03-24		
<b>Issue Date:</b>	2021-05-17		
<b>Test Result:</b>	Pass		
<b>Prepared By:</b> Test Engineer  Xie Jang	<b>Reviewed By:</b> Technical Manager  Wu Haoting	<b>Approved By:</b> Manager  Johnson	
<b>Other Aspects:</b>			
Note: Note			
Abbreviations: ok / P = passed; fail / F = failed; n.a. / N = not applicable;			
The test result in this test report refers exclusively to the presented test sample. This report shall not be reproduced except in full, without the written approval of GRGT.			



### **DIRECTIONS OF TEST**

- 1. This station carries out test task according to the national regulation of verifications which can be traced to National Primary Standards and BIPM.**
- 2. The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.**
- 3. If there is any objection concerning the test, the client should inform the laboratory within 15 days from the date of receiving the test report.**

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## 1. TEST RESULT SUMMARY

Technical Requirements		
CFR 47, FCC Part 15 Subpart C (§15.247) KDB 558074 D01 15.247 measurement guidance v05r02		
Limit / Severity	Item	Result
§15.207	Conducted emission AC power port	Pass
§15.247(b)(1)	Conducted output power for FHSS	N/A
§15.247(b)(3)	Conducted output power for DTS	Pass
§15.247(e)	Power spectral density	Pass
§15.247(a)(2)	6dB bandwidth	Pass
§15.247(a)(1)	20dB Occupied bandwidth	N/A
--	99% Occupied Bandwidth	N/A
§15.247(a)(1)	Carrier frequency separation	N/A
§15.247(a)(1)(iii)	Number of hopping frequencies	N/A
§15.247(a)(1)(iii)	Dwell Time	N/A
§15.247(d)	Spurious RF conducted emissions	Pass
§15.247(d)	Band edge	Pass
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Pass
§15.203	Antenna requirement	Pass

The EUT has one antenna. The antenna is internal antenna.

The max gain of antenna is 2.8dBi.which accordance 15.203.is considered sufficient to comply with the provisions of this section.



## 2. GENERAL DESCRIPTION OF EUT

### 2.1. APPLICANT

Name: DMAI, Inc.  
Address: 10940 Wilshire Blvd #1100, Los Angeles, CA 90024, USA

### 2.2. MANUFACTURER

Name: DMAI, Inc.  
Address: 10940 Wilshire Blvd #1100, Los Angeles, CA 90024, USA

### 2.3. FACTORY

Name : Shenzhen Valley Ventures Inc  
Address : 9F-10F, Block 4, Cloud Park, Xuegang North Road, Bantian Street,  
Longgang district Shenzhen, 518129, China

### 2.4. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Education tablet, a preschool learning system

Model No.: X4C-US21

Adding Model: /

Trade Name: AILA Sit & Play™  
Animal Island Learning Adventure™  
DMAI™

FCC ID: 2AYDJ-X4C-US21

Power Supply: DC5V power supplied by adapter

Adapter Model: AS1201A-0502000USU  
Specification: Input: 100-240V~50/60Hz 0.35A Max  
Output: 5V --- 2000mA

Frequency Range: 2402 ~ 2480MHz

Transmit Power: GFSK for 1Mbps :-3.078dBm  
GFSK for 2Mbps :-3.516 dBm

Modulation type: GFSK for 1Mbps  
GFSK for 2Mbps

Channel space: 2MHz

Antenna Specification: FPC antenna 2.8dBi gain (Max.)

Temperature Range: 0°C ~ 40°C

Hardware Version: MT8168-P71-V1.1

Software Version: ys\_mssi\_t\_64\_userdebug\_10\_QP1A.190711.020mp3v4104 test-keys  
Sample No: E202101295124-0002  
Note: The adapter have two color of appearance: White,Green.

## 2.5. TEST OPERATION MODE

Mode No.	Description of the modes
1	Bluetooth fixed frequency transmitting (DH5+2DH5+3DH5)

## 2.6. LOCAL SUPPORTIVE

Name of Equipment	Manufacturer	Model	Serial Number	Note
/	/	/	/	/
Cable				
/	/	/	/	/

### Test software:

Software version	Test level
MT6631 software	Default

### 3. LABORATORY AND ACCREDITATIONS

#### 3.1. LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add : Address: No.1301 Guanguang Road Xinlan Community, Guanlan Street,  
Longhua District Shenzhen, 518110, People's Republic of China

P.C. : 518000

Tel : 0755-61180008

Fax : 0755-61180008

#### 3.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

**USA** A2LA(Certificate #:2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

**Canada** Industry Canada

**USA** FCC

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.grgtest.com>

#### 3.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement		Frequency	Uncertainty
Radiated Emission	Horizontal	30MHz~1000MHz	4.30dB
		1GHz~18GHz	5.60dB
		18GHz~26GHz	3.65dB
		26GHz~40GHz	4.00dB
	Vertical	30MHz~1000MHz	4.30dB
		1GHz~18GHz	5.60dB
		18GHz~26GHz	3.65dB
		26GHz~40GHz	4.00dB
Conduction Emission		9 kHz ~ 150 kHz	2.80dB
		150 kHz ~ 10 MHz	2.80dB
		10 MHz ~ 30 MHz	2.20dB

This uncertainty represents an expanded uncertainty factor of k=2.



**4. LIST OF USED TEST EQUIPMENT AT GRGT**

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conducted Emissions				
EMI TEST RECEIVER	R&S	ESCI	100783	2021-10-08
LISN(EUT)	R&S	ENV216	101543	2022-03-21
Test S/W	EZ	CCS-3A1-CE	/	/
Radiated Spurious Emission& Restricted bands of operation				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2021-05-16
Bilog Antenna	Schwarzbeck	VULB 9163	01279	2022-02-25
Horn Antenna	Schwarzbeck	BBHA 9120D(1201)	02143	2021-12-27
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2021-11-05
Amplifier	Tonscend	TAP9E6343	AP20E806065	2021-06-28
Amplifier	Tonscend	TAP01018048	AP20E8060075	2021-06-28
Amplifier	Tonscend	TAP184050	AP20E806071	2021-06-15
Test S/W	Tonscend	JS32-RE/2.5.2.4		
6 dB Bandwidth				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2021-05-16
Peak/AV Output Power				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2021-05-16
Conducted band edges and Spurious Emission				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2021-05-16
Peak Output Spectral Density Measurement				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2021-05-16

Note: The calibration interval of the above test instruments is 12 months.

## 5. CONDUCTED EMISSION MEASUREMENT

### 5.1. LIMITS

Frequency range	Limits (dB $\mu$ V)	
	Quasi-peak	Average
150kHz ~ 0.5MHz	66~56	56~46
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

**NOTE:** (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 150 kHz to 0.5MHz.

### 5.2. TEST PROCEDURES

#### Procedure of Preliminary Test

Test procedures follow ANSI C63.10:2013.

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

- Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. This is physically accomplished as follows:

- 1) place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or
- 2) place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane;

- All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;

- The EUT are placed on the floor that one side of the housings is 40 cm from the vertical reference ground plane and other metallic parts;

- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.

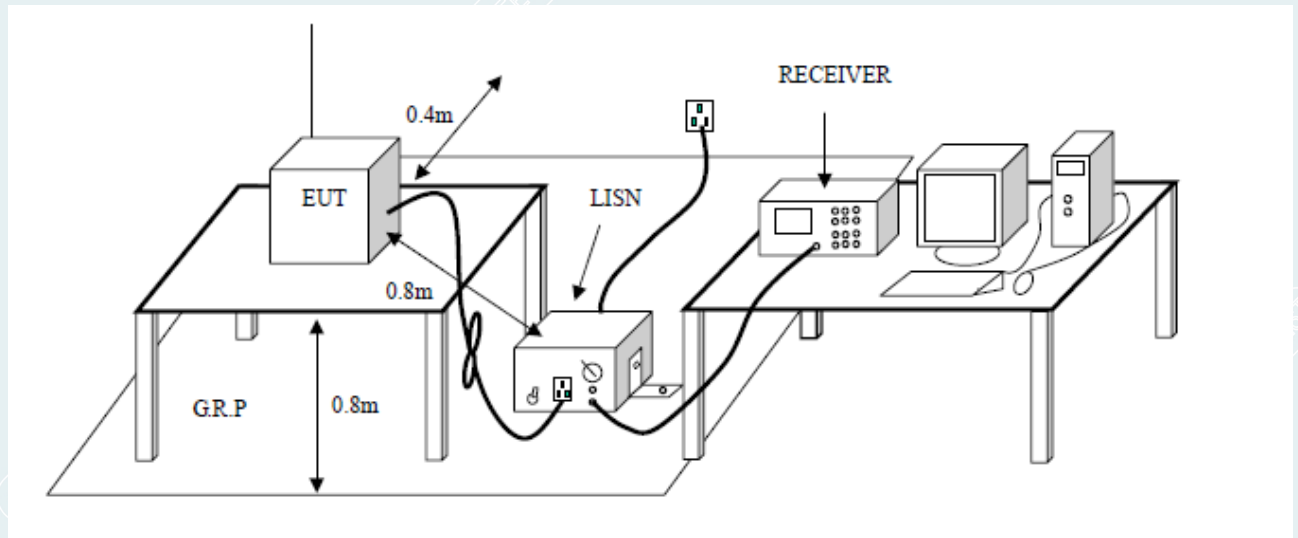
- I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

The test mode(s) described in Item 2.4 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.4 producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

#### Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

### 5.3. TEST SETUP



### 5.4. DATA SAMPLE

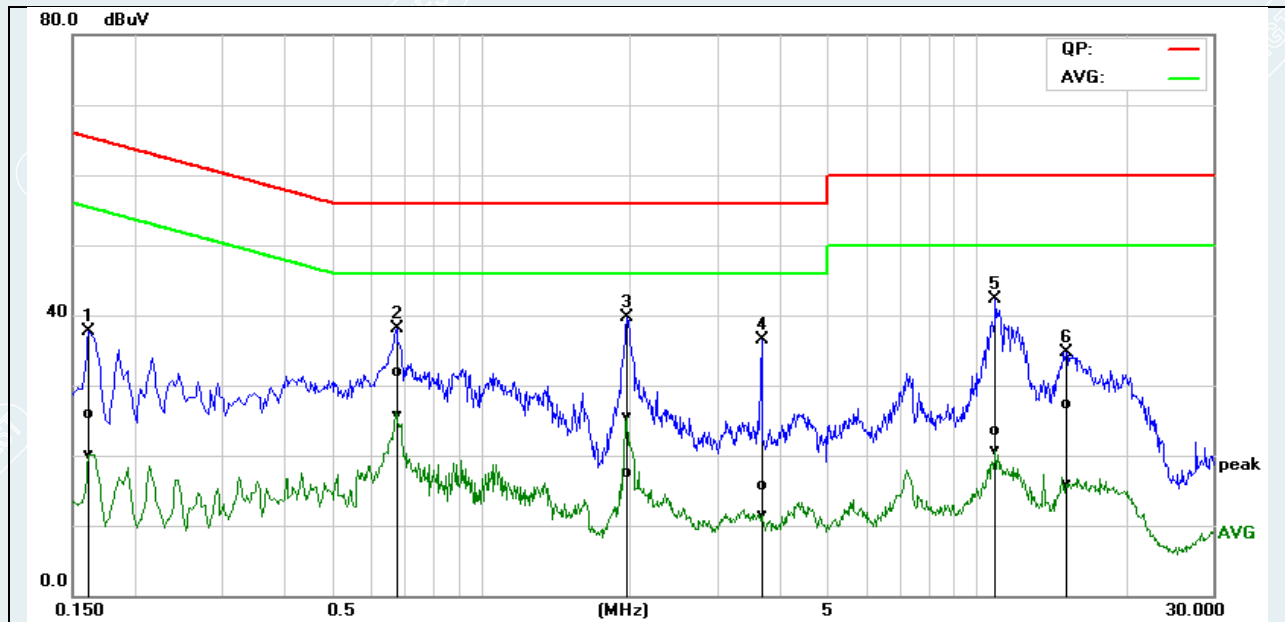
Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62	Pass

Factor = Insertion loss of LISN + Cable Loss  
 Result = Quasi-peak Reading/ Average Reading + Factor  
 Limit = Limit stated in standard  
 Margin = Result (dBuV) – Limit (dBuV)

## 5.5. TEST RESULTS

EUT Name	Education tablet,a preschool learning system	Model	X4C-US21
Environmental Conditions	24.6°C/54%RH	Test Mode	Mode 1
Power supply	AC120V/60Hz	Tested By	Chen Xiacong
Test Date	2021-03-15	Sample No.	E202101295124-0002

2402MHz



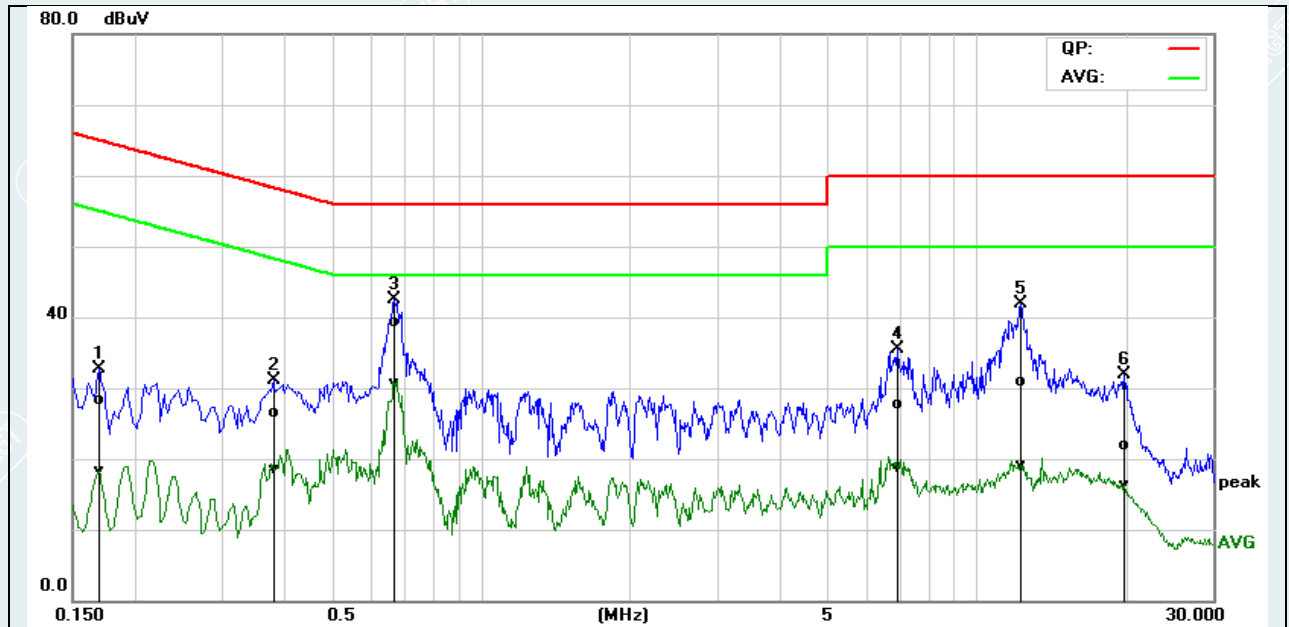
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1620	16.29	10.59	9.61	25.90	20.20	65.36	55.36	-39.46	-35.16	Pass
2*	0.6780	22.39	16.17	9.61	32.00	25.78	56.00	46.00	-24.00	-20.22	Pass
3	1.9740	7.88	15.89	9.62	17.50	25.51	56.00	46.00	-38.50	-20.49	Pass
4	3.6940	6.06	1.77	9.64	15.70	11.41	56.00	46.00	-40.30	-34.59	Pass
5	10.9500	13.76	11.03	9.74	23.50	20.77	60.00	50.00	-36.50	-29.23	Pass
6	15.2220	17.52	6.10	9.78	27.30	15.88	60.00	50.00	-32.70	-34.12	Pass

Note:

*L = Live Line*

EUT Name	Education tablet,a preschool learning system	Model	X4C-US21
Environmental Conditions	24.6°C/54%RH	Test Mode	Mode 1
Power supply	AC120V/60Hz	Tested By	Chen Xiacong
Test Date	2021-03-15	Sample No.	E202101295124-0002

2402MHz



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1700	18.70	8.72	9.60	28.30	18.32	64.96	54.96	-36.66	-36.64	Pass
2	0.3820	16.89	8.89	9.61	26.50	18.50	58.23	48.24	-31.73	-29.74	Pass
3*	0.6700	29.69	21.04	9.61	39.30	30.65	56.00	46.00	-16.70	-15.35	Pass
4	6.9340	18.11	8.99	9.69	27.80	18.68	60.00	50.00	-32.20	-31.32	Pass
5	12.3060	21.23	9.37	9.77	31.00	19.14	60.00	50.00	-29.00	-30.86	Pass
6	19.8900	12.06	6.37	9.84	21.90	16.21	60.00	50.00	-38.10	-33.79	Pass

Note:

N = Neutral Line.



## 6. RADIATED SPURIOUS EMISSIONS

### 6.1. LIMITS

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

Frequency (MHz)	Quasi-peak( $\mu$ V/m)	Measurement distance(m)	Quasi-peak(dB $\mu$ V/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	53.8~88.5
0.490-1.705	24000/F(kHz)	30	43~53.8
1.705-30.0	30	30	49.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

**NOTE:** (1) The lower limit shall apply at the transition frequencies.

### 6.2. TEST PROCEDURES (please refer to measurement standard)

#### 1) Sequence of testing 9 kHz to 30 MHz

##### Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

##### Pre measurement:

- The turntable rotates from 0 ° to 315 ° using 45 ° steps.
- The antenna height is 0.8 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

**Final measurement:**

- Identified emissions during the pre measurement the software maximizes by rotating the turntable position ( $0^{\circ}$  to  $360^{\circ}$ ) and by rotating the elevation axes ( $0^{\circ}$  to  $360^{\circ}$ ).
- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

**2) Sequence of testing 30 MHz to 1 GHz****Setup:**

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

**Pre measurement:**

- The turntable rotates from  $0^{\circ}$  to  $315^{\circ}$  using  $45^{\circ}$  steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 to 3 meter.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

**Final measurement:**

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ( $\pm 45^{\circ}$ ) and antenna movement between 1 and 4 meter.
- The final measurement will be done with QP detector with an EMI receiver.
- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

### 3) Sequence of testing 1 GHz to 18 GHz

#### Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

#### Pre measurement:

- The turntable rotates from 0 ° to 315 ° using 45 ° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 2.5 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

**Final measurement:**

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ( $\pm 45^\circ$ ) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement with marked maximum final measurements and the limit will be stored.

**4) Sequence of testing above 18 GHz****Setup:**

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 1 meter.
- The EUT was set into operation.

**Pre measurement:**

- The antenna is moved spherical over the EUT in different polarisations of the antenna.

**Final measurement:**

- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ( $10 \log(1/\text{duty cycle})$ ).



### 6.3. TEST SETUP

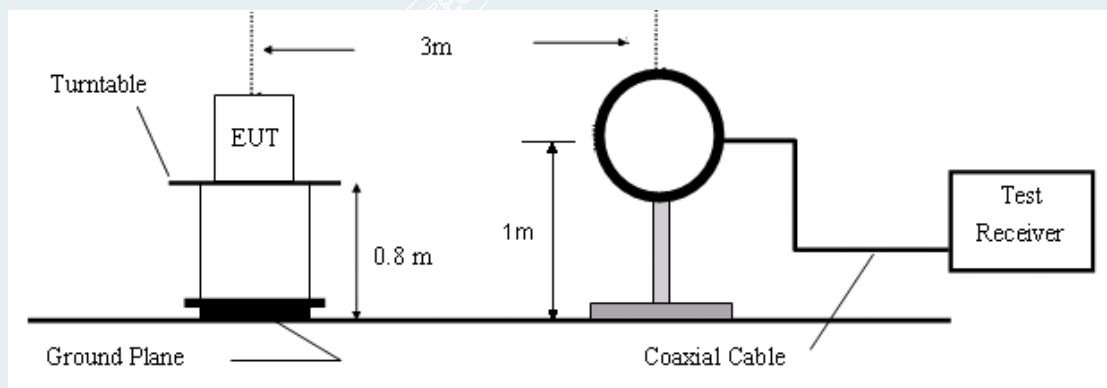


Figure 1. 9 KHz to 30MHz radiated emissions test configuration

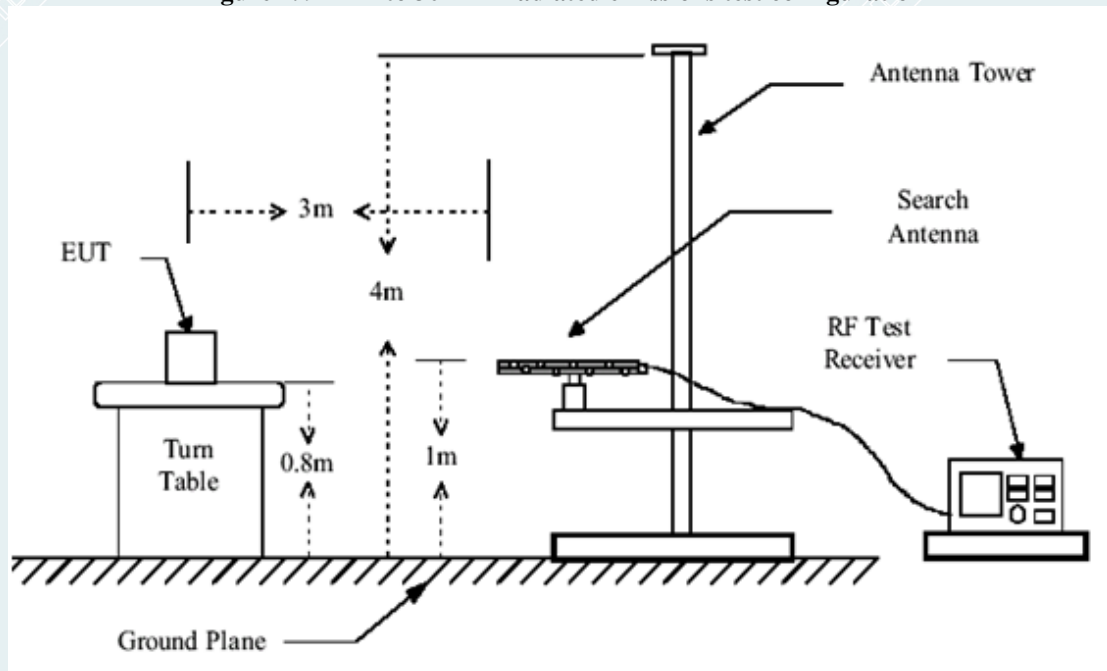


Figure 2. 30MHz to 1GHz radiated emissions test configuration

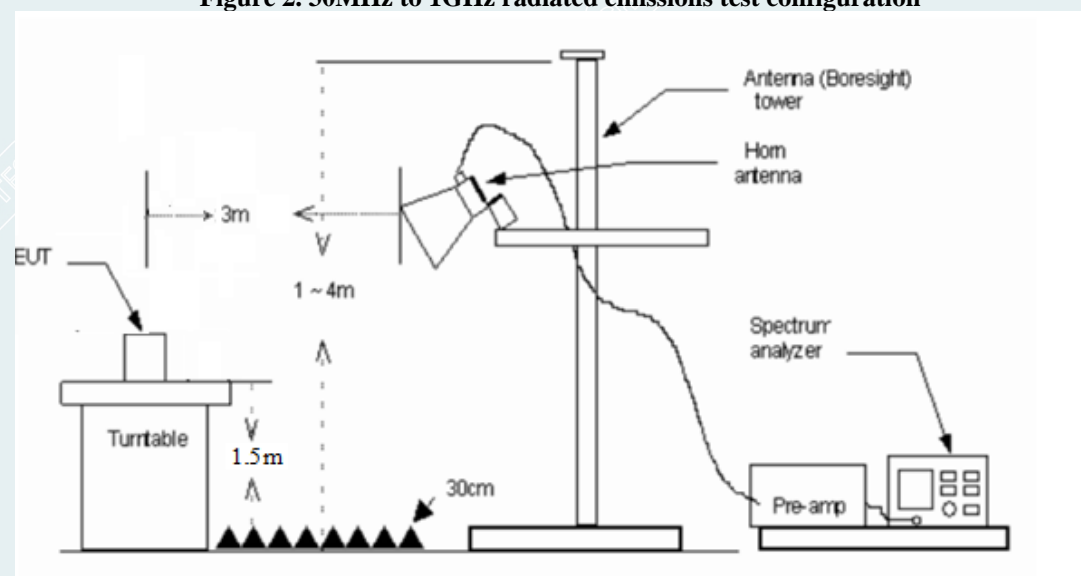


Figure 3. Above 1GHz radiated emissions test configuration



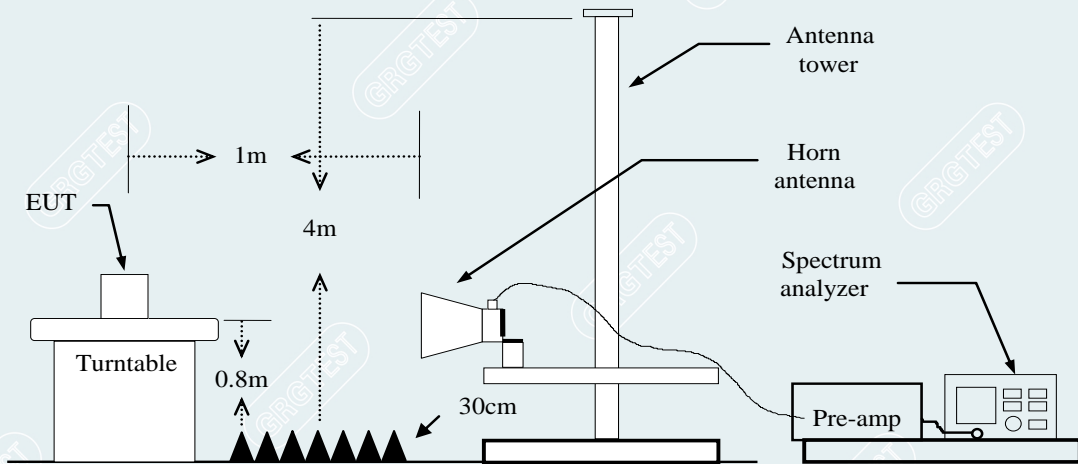


Figure 4. Above 18GHz radiated emissions test configuration

## 6.4. DATA SAMPLE

### 30MHz to 1GHz

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark	Pole
	(MHz)	(dBuV/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		
xxx	xxx	37.06	-15.48	21.58	40.00	-18.42	QP	Vertical

### Above 1 GHz

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark	Pole
	(MHz)	(dBuV/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		
xxx	xxx	65.45	-11.12	54.33	74.00	-19.67	Peak	Vertical
xxx	xxx	63.00	-11.12	51.88	54.00	-2.12	AVG	Vertical

### Above 18 GHz

No.	Frequency	Reading	Level	Factor	Limit	Margin	Remark	Pole
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		
xxx	xxx	59.22	58.58	-0.64	83.54	24.96	peak	Vertical
xxx	xxx	53.01	52.37	-0.64	63.54	11.17	AVG	Vertical

Frequency (MHz)

= Emission frequency in MHz

Ant.Pol. (H/V)

= Antenna polarization

Reading (dBuV)

= Uncorrected Analyzer / Receiver reading

Correction Factor (dB/m)

= Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m)

= Reading (dBuV) + Correction Factor (dB/m)

Limit (dBuV/m)

= Limit stated in standard

Margin (dB)

= Remark Result (dBuV/m) – Limit (dBuV/m)

Peak

= Peak Reading

QP

= Quasi-peak Reading

AVG

= Average Reading

## 6.5. TEST RESULTS

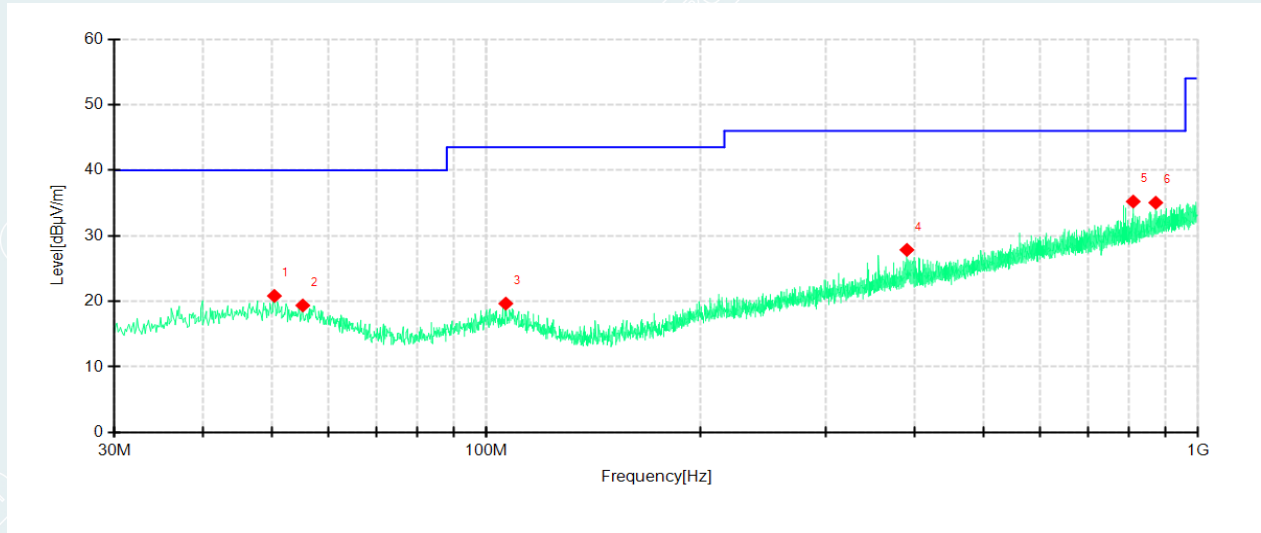
### 30MHz to 1GHz

Recorded the worst case results in this report (1Mbps)

Mode: TX/ 1Mbps

Lowest channel (2402MHz)

Date: 2021-03-24

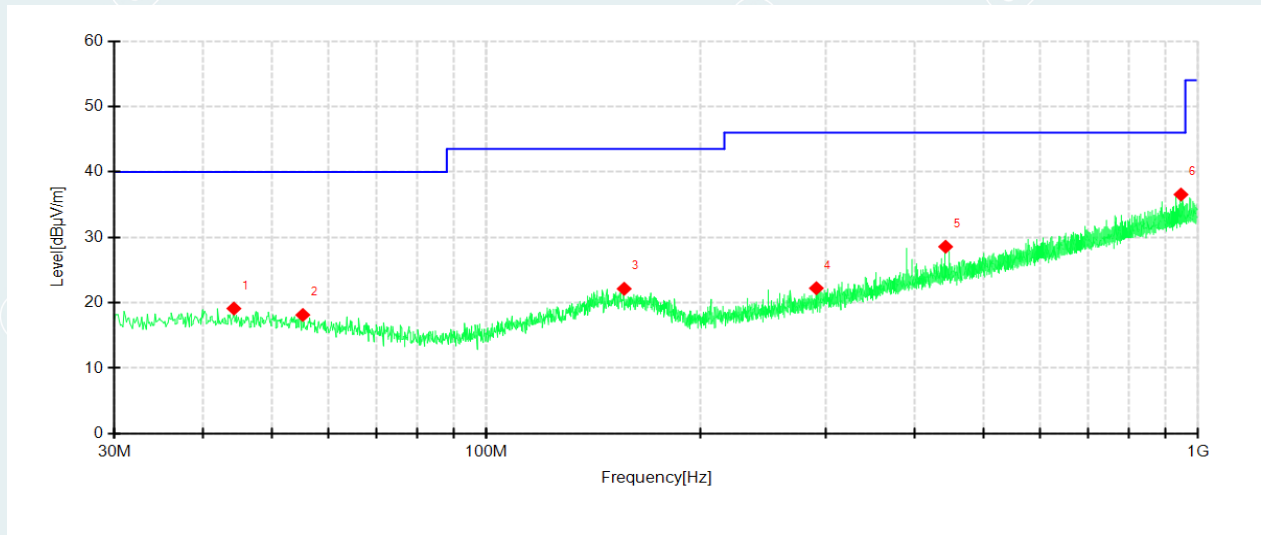


**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	50.3700	48.34	20.83	-27.51	40.00	19.17	100	296	Horizontal
2	55.2200	47.50	19.37	-28.13	40.00	20.63	200	257	Horizontal
3	106.5088	48.71	19.66	-29.05	43.50	23.84	100	256	Horizontal
4	389.9913	51.06	27.85	-23.21	46.00	18.15	100	276	Horizontal
5	811.0925	51.06	35.23	-15.83	46.00	10.77	100	296	Horizontal
6	872.4450	49.76	35.05	-14.71	46.00	10.95	100	356	Horizontal

Mode: TX/ 1Mbps  
Lowest channel (2402MHz)

Date: 2021-03-24



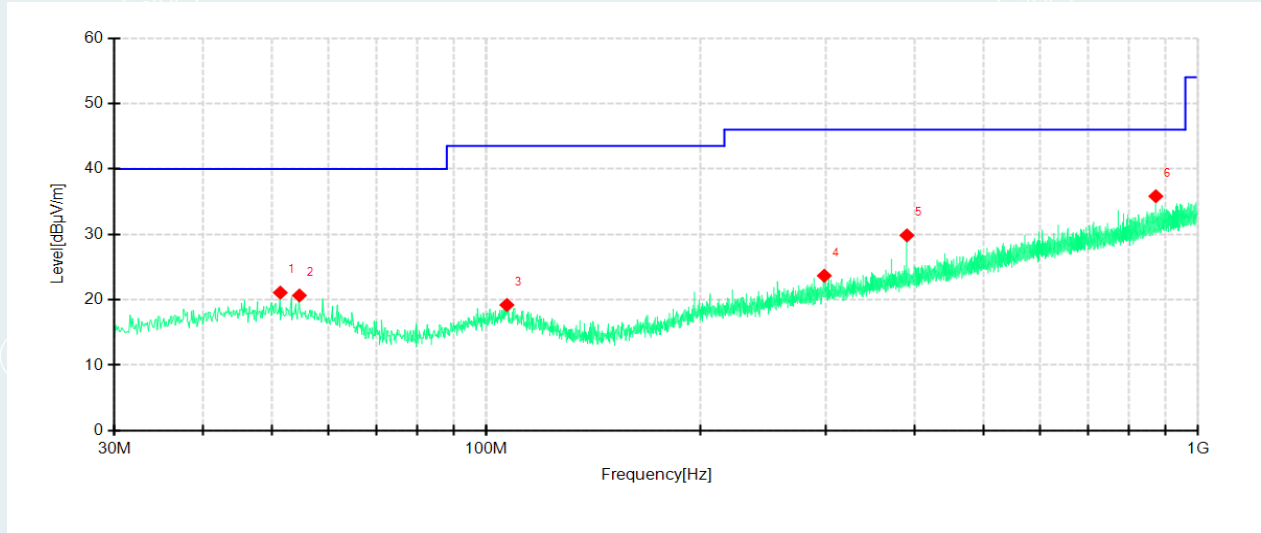
## Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.1863	47.83	19.12	-28.71	40.00	20.88	200	360	Vertical
2	55.2200	47.43	18.14	-29.29	40.00	21.86	100	352	Vertical
3	156.2213	48.06	22.14	-25.92	43.50	21.36	200	347	Vertical
4	290.9300	48.34	22.23	-26.11	46.00	23.77	100	129	Vertical
5	442.0075	50.64	28.57	-22.07	46.00	17.43	100	176	Vertical
6	946.6500	49.48	36.55	-12.93	46.00	9.45	100	339	Vertical

Mode: TX/ 1Mbps

Highest channel (2480MHz)

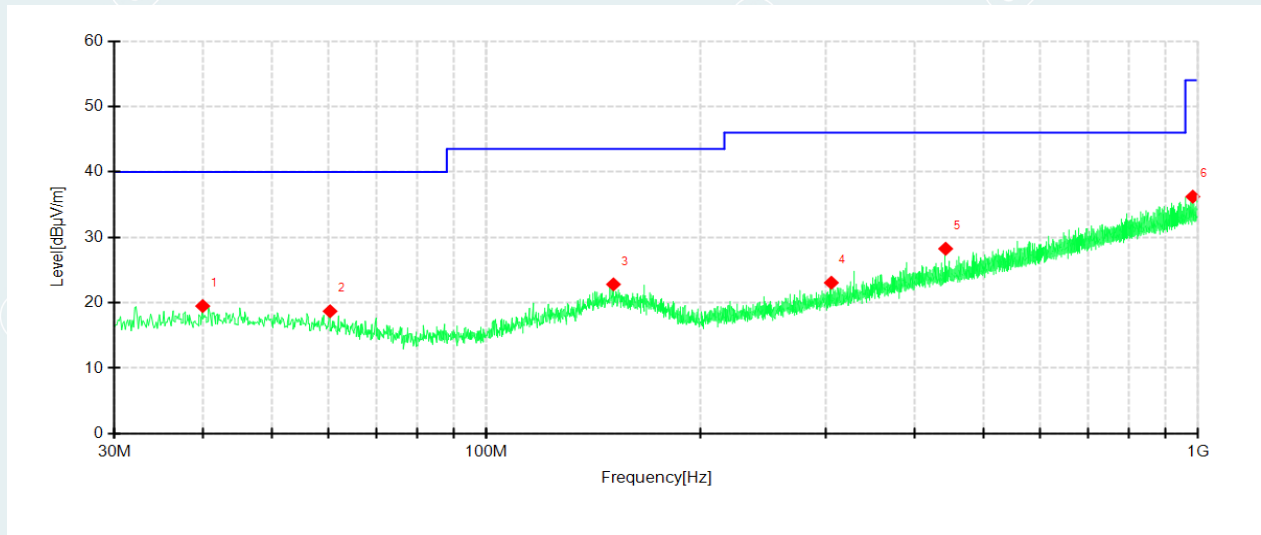
Date: 2021-03-24

**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.3400	48.72	21.09	-27.63	40.00	18.91	100	268	Horizontal
2	54.6138	48.72	20.66	-28.06	40.00	19.34	100	155	Horizontal
3	106.8725	48.26	19.21	-29.05	43.50	24.29	100	195	Horizontal
4	298.4475	48.90	23.68	-25.22	46.00	22.32	200	324	Horizontal
5	389.9913	53.06	29.85	-23.21	46.00	16.15	100	229	Horizontal
6	872.5663	50.54	35.83	-14.71	46.00	10.17	100	357	Horizontal

Mode: TX/ 1Mbps  
Highest channel (2480MHz)

Date: 2021-03-24



#### Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	39.9425	48.10	19.50	-28.60	40.00	20.50	100	208	Vertical
2	60.3125	48.42	18.71	-29.71	40.00	21.29	100	83	Vertical
3	150.8863	48.55	22.82	-25.73	43.50	20.68	100	122	Vertical
4	305.3588	48.84	23.07	-25.77	46.00	22.93	100	281	Vertical
5	442.0075	50.33	28.26	-22.07	46.00	17.74	100	176	Vertical
6	983.5100	48.70	36.22	-12.48	54.00	17.78	100	10	Vertical

#### Remark:

- 1 No emission found between lowest internal used/generated frequency to 30MHz.
- 2 Data of measurement within this frequency range in the table above the reading of PK detector are more 6dB than QP limit, therefore it's unnecessary to performed QP scan.
- 3 The IF bandwidth of Receiver between 30MHz to 1GHz was 120 kHz.



**Above 1GHz:**

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Mode: TX/ 1Mbps

Lowest channel (2402MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.0000	62.78	38.71	-24.07	74.00	35.29	100	105	Horizontal
2	1560.2500	59.58	36.54	-23.04	74.00	37.46	100	105	Horizontal
3	3958.5000	54.08	38.81	-15.27	74.00	35.19	100	163	Horizontal
4	5195.2500	51.68	40.72	-10.96	74.00	33.28	100	255	Horizontal
5	7150.5000	49.94	45.25	-4.69	74.00	28.75	200	55	Horizontal
6	8980.5000	48.33	47.11	-1.22	74.00	26.89	200	255	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1248.0000	61.71	37.44	-24.27	74.00	36.56	200	105	Vertical
2	1300.0000	62.61	38.54	-24.07	74.00	35.46	100	105	Vertical
3	3255.0000	56.28	38.84	-17.44	74.00	35.16	200	0	Vertical
4	5093.2500	51.92	41.13	-10.79	74.00	32.87	200	255	Vertical
5	7271.2500	51.06	45.71	-5.35	74.00	28.29	100	255	Vertical
6	7974.7500	50.04	46.89	-3.15	74.00	27.11	200	255	Vertical

Mode: TX/ 1Mbps  
Middle channel (2440MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.0000	62.21	38.14	-24.07	74.00	35.86	100	105	Horizontal
2	2967.7500	56.52	37.82	-18.70	74.00	36.18	100	282	Horizontal
3	3499.5000	54.84	38.57	-16.27	74.00	35.43	100	183	Horizontal
4	5198.2500	52.39	41.43	-10.96	74.00	32.57	100	110	Horizontal
5	6164.2500	51.10	43.04	-8.06	74.00	30.96	100	246	Horizontal
6	7269.0000	51.35	46.03	-5.32	74.00	27.97	100	255	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.0000	62.95	38.88	-24.07	74.00	35.12	100	105	Vertical
2	1351.7500	61.09	37.22	-23.87	74.00	36.78	100	360	Vertical
3	3868.5000	54.75	39.15	-15.60	74.00	34.85	200	236	Vertical
4	4865.2500	51.06	40.38	-10.68	74.00	33.62	100	128	Vertical
5	5308.5000	52.41	41.96	-10.45	74.00	32.04	200	34	Vertical
6	8178.7500	48.86	46.08	-2.78	74.00	27.92	100	109	Vertical

Mode: TX/ 1Mbps  
Highest channel (2480MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1248.0000	60.94	36.67	-24.27	74.00	37.33	100	105	Horizontal
2	1300.2500	62.12	38.05	-24.07	74.00	35.95	100	105	Horizontal
3	4706.2500	50.76	40.20	-10.56	74.00	33.80	200	183	Horizontal
4	5755.5000	51.37	41.80	-9.57	74.00	32.20	100	255	Horizontal
5	7743.7500	49.60	46.24	-3.36	74.00	27.76	100	27	Horizontal
6	9391.5000	47.30	47.53	0.23	74.00	26.47	200	75	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.0000	62.61	38.54	-24.07	74.00	35.46	100	105	Vertical
2	1762.7500	60.01	37.57	-22.44	74.00	36.43	200	345	Vertical
3	5000.2500	51.70	41.06	-10.64	74.00	32.94	100	255	Vertical
4	5687.2500	51.29	42.06	-9.23	74.00	31.94	200	255	Vertical
5	7148.2500	51.35	46.61	-4.74	74.00	27.39	100	125	Vertical
6	8184.7500	48.95	46.21	-2.74	74.00	27.79	200	164	Vertical

Mode: TX/ 2Mbps  
Lowest channel (2402MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.2500	62.14	38.07	-24.07	74.00	35.93	100	105	Horizontal
2	2866.2500	57.11	38.23	-18.88	74.00	35.77	100	186	Horizontal
3	3739.5000	54.34	38.74	-15.60	74.00	35.26	200	20	Horizontal
4	5181.0000	52.13	41.12	-11.01	74.00	32.88	100	65	Horizontal
5	7169.2500	50.07	45.45	-4.62	74.00	28.55	200	255	Horizontal
6	9387.7500	47.50	47.67	0.17	74.00	26.33	200	47	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1299.7500	62.66	38.59	-24.07	74.00	35.41	100	359	Vertical
2	2782.0000	57.68	38.33	-19.35	74.00	35.67	200	149	Vertical
3	4694.2500	50.43	39.77	-10.66	74.00	34.23	100	73	Vertical
4	5707.5000	50.80	41.61	-9.19	74.00	32.39	100	255	Vertical
5	7945.5000	49.43	45.95	-3.48	74.00	28.05	100	1	Vertical
6	8997.0000	48.03	46.97	-1.06	74.00	27.03	200	103	Vertical

Mode: TX/ 2Mbps  
Middle channel (2440MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1248.5000	60.97	36.70	-24.27	74.00	37.30	100	105	Horizontal
2	1300.2500	62.70	38.63	-24.07	74.00	35.37	100	105	Horizontal
3	3803.2500	54.22	38.97	-15.25	74.00	35.03	200	255	Horizontal
4	6155.2500	51.65	43.66	-7.99	74.00	30.34	200	1	Horizontal
5	8072.2500	49.11	45.78	-3.33	74.00	28.22	200	255	Horizontal
6	9372.7500	47.55	47.49	-0.06	74.00	26.51	100	255	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.0000	63.20	39.13	-24.07	74.00	34.87	100	105	Vertical
2	1352.2500	61.62	37.75	-23.87	74.00	36.25	100	105	Vertical
3	3875.2500	54.29	38.74	-15.55	74.00	35.26	200	127	Vertical
4	4641.0000	51.53	40.11	-11.42	74.00	33.89	200	255	Vertical
5	7134.7500	51.49	46.34	-5.15	74.00	27.66	200	255	Vertical
6	7590.7500	49.61	45.96	-3.65	74.00	28.04	200	61	Vertical

Mode: TX/ 2Mbps  
Highest channel (2480MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1248.2500	60.62	36.35	-24.27	74.00	37.65	100	105	Horizontal
2	1300.2500	62.12	38.05	-24.07	74.00	35.95	100	105	Horizontal
3	3716.2500	54.32	38.61	-15.71	74.00	35.39	100	26	Horizontal
4	5085.0000	51.97	41.10	-10.87	74.00	32.90	100	173	Horizontal
5	7780.5000	50.09	46.88	-3.21	74.00	27.12	100	118	Horizontal
6	9809.2500	46.95	47.45	0.50	74.00	26.55	100	173	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1300.2500	62.10	38.03	-24.07	74.00	35.97	100	105	Vertical
2	1819.5000	58.88	36.82	-22.06	74.00	37.18	100	359	Vertical
3	3910.5000	54.29	38.99	-15.30	74.00	35.01	200	255	Vertical
4	5097.0000	52.43	41.67	-10.76	74.00	32.33	200	175	Vertical
5	5687.2500	51.87	42.64	-9.23	74.00	31.36	100	17	Vertical
6	7977.0000	49.44	46.31	-3.13	74.00	27.69	200	255	Vertical

**Remark:**

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
- 3 Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4 Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



**Above 18GHz:**

Recorded the worst case results in this report (1Mbps)

Mode: TX/ 1Mbps

Lowest channel (2402MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18320.0250	57.44	45.88	-11.56	83.50	37.62	100	210	Horizontal
2	19010.6500	57.48	46.39	-11.09	83.50	37.11	100	121	Horizontal
3	20302.6500	56.30	45.67	-10.63	83.50	37.83	100	159	Horizontal
4	21579.3500	55.85	45.91	-9.94	83.50	37.59	100	197	Horizontal
5	23372.8500	55.28	46.51	-8.77	83.50	36.99	100	335	Horizontal
6	24352.0500	54.89	46.72	-8.17	83.50	36.78	100	59	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18356.5750	57.79	46.25	-11.54	83.50	37.25	100	22	Vertical
2	18647.7000	58.14	46.76	-11.38	83.50	36.74	100	138	Vertical
3	19575.0500	57.06	46.18	-10.88	83.50	37.32	100	353	Vertical
4	20556.8000	56.24	45.78	-10.46	83.50	37.72	100	329	Vertical
5	21530.0500	56.74	46.76	-9.98	83.50	36.74	100	22	Vertical
6	23713.2750	55.28	46.73	-8.55	83.50	36.77	100	278	Vertical

Mode: TX/ 1Mbps

Lowest channel (2480MHz)

Date: 2021-03-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18308.9750	58.20	46.64	-11.56	83.50	36.86	100	88	Horizontal
2	20465.0000	56.96	46.45	-10.51	83.50	37.05	100	61	Horizontal
3	21675.8250	55.99	46.06	-9.93	83.50	37.44	100	226	Horizontal
4	22890.9000	55.44	46.43	-9.01	83.50	37.07	100	290	Horizontal
5	23744.7250	55.18	46.66	-8.52	83.50	36.84	100	329	Horizontal
6	26425.6250	55.06	47.58	-7.48	83.50	35.92	100	359	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18431.3750	57.85	46.34	-11.51	83.50	37.16	100	297	Vertical
2	19489.2000	56.70	45.77	-10.93	83.50	37.73	100	145	Vertical
3	21218.9500	55.99	45.73	-10.26	83.50	37.77	100	349	Vertical
4	23267.4500	55.19	46.38	-8.81	83.50	37.12	100	297	Vertical
5	24408.1500	55.14	46.98	-8.16	83.50	36.52	100	186	Vertical
6	26497.4500	54.82	47.29	-7.53	83.50	36.21	100	349	Vertical



## 7. 6dB BANDWIDTH

### 7.1. LIMITS

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.

### 7.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Set resolution bandwidth (RBW) = 100kHz. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW. Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize, record 6dB bandwidth value.
- 3) Repeat above procedures until all frequencies measured were complete.

### 7.3. TEST SETUP



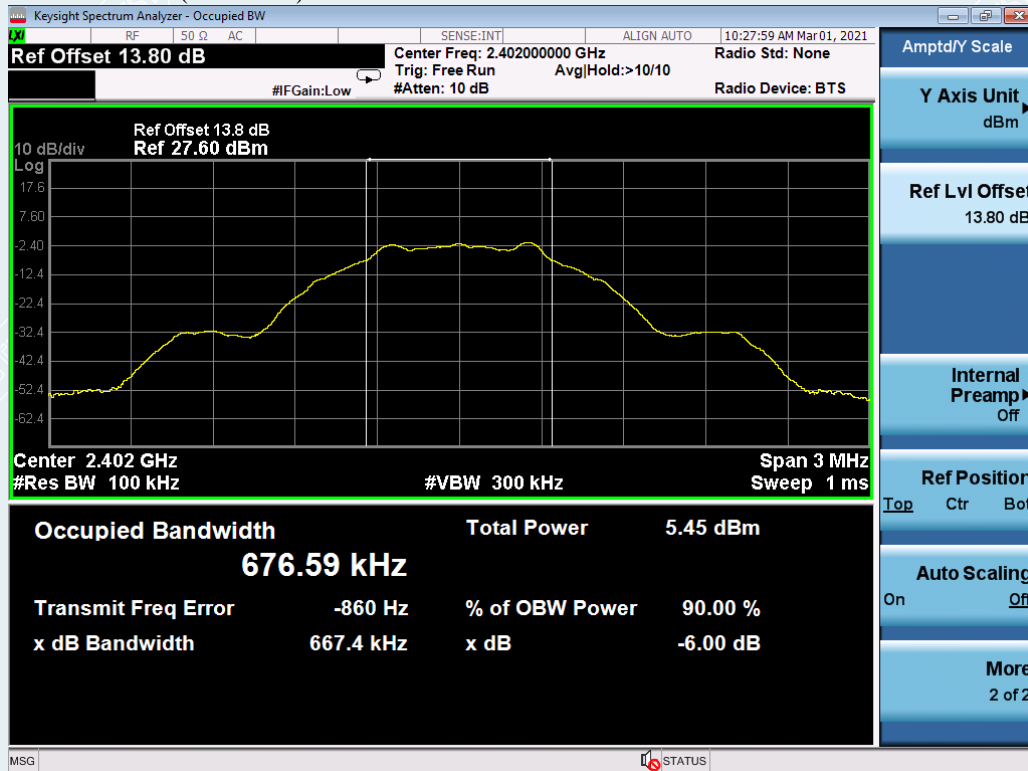
### 7.4. TEST RESULTS

For 1Mbps

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Test Result
Lowest	2402	667.4	>500	PASS
Middle	2440	667.8		PASS
Highest	2480	667.3		PASS

For 2Mbps

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Test Result
Lowest	2402	1151.0	>500	PASS
Middle	2440	1173.0		PASS
Highest	2480	1165.0		PASS

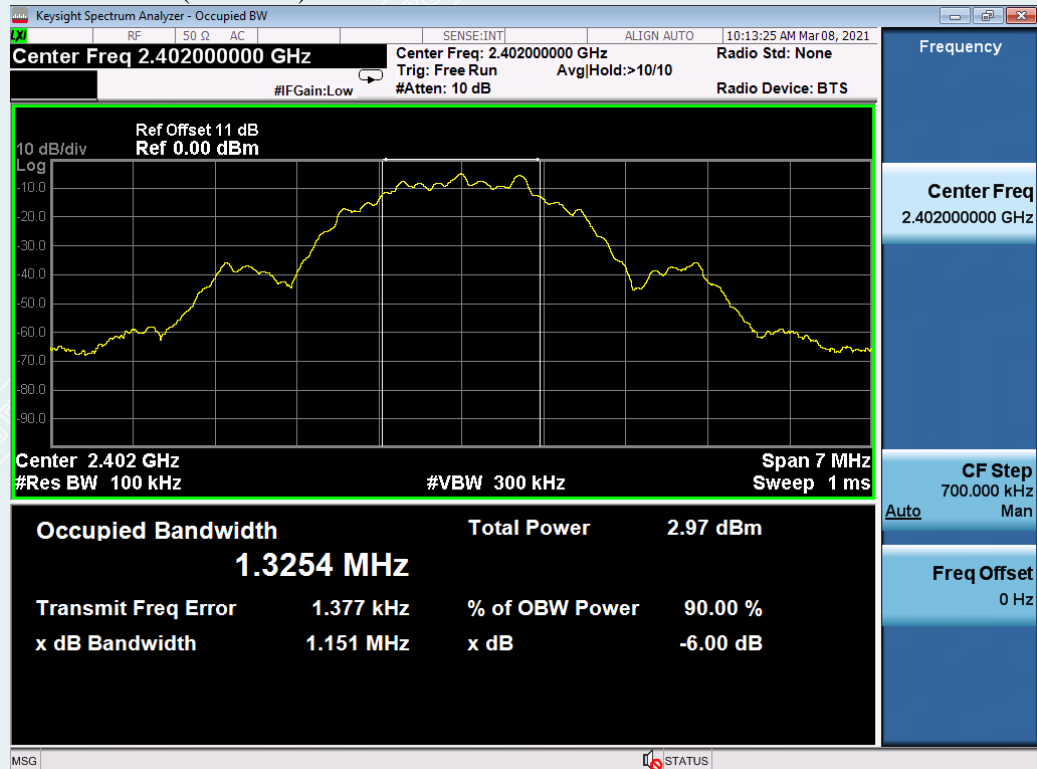
**For 1Mbps****Lowest channel (2402MHz)****Middle channel (2440 MHz)**

## Highest channel (2480MHz)

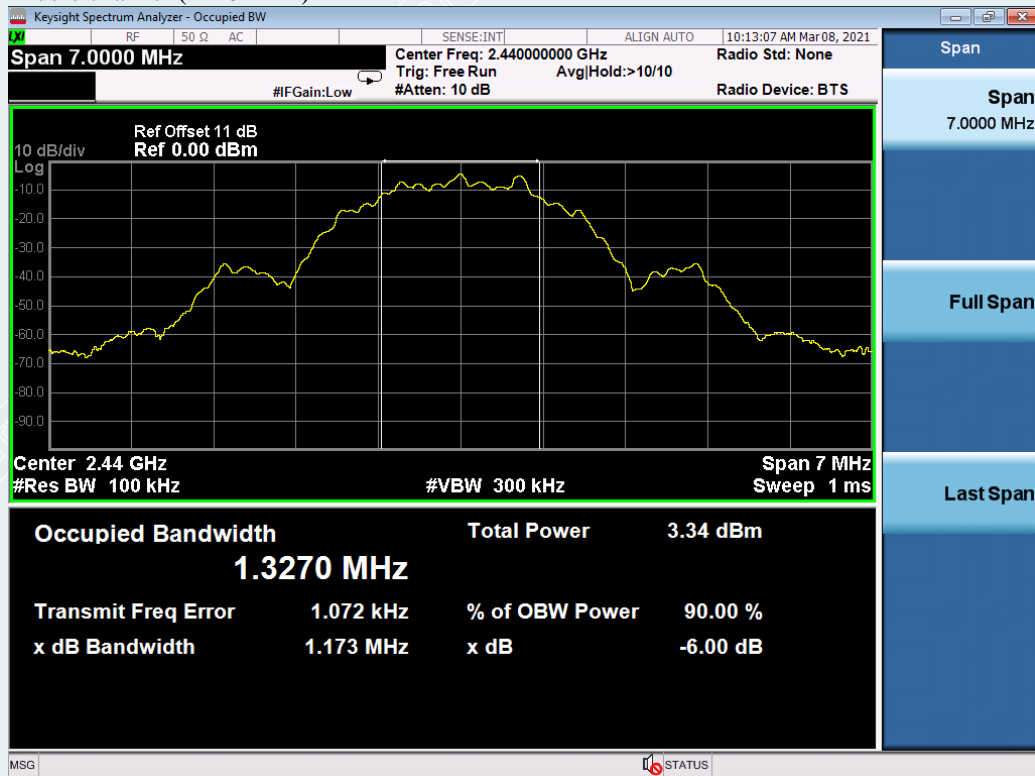


## For 2Mbps

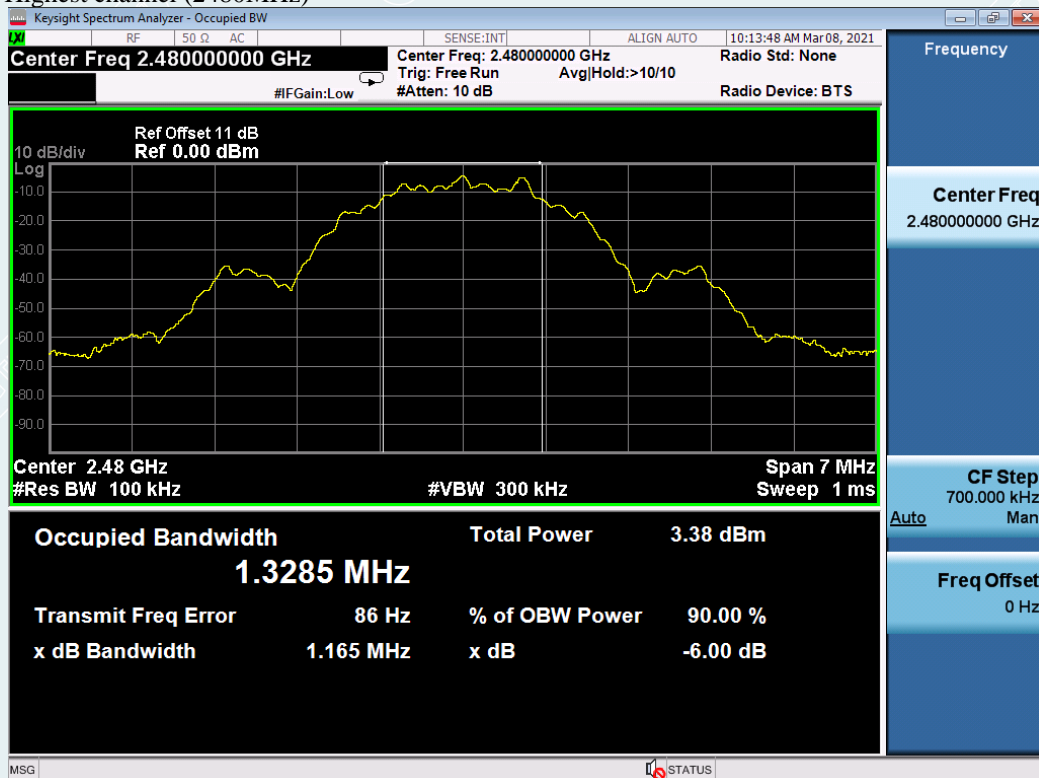
## Lowest channel (2402MHz)



## Middle channel (2440 MHz)



## Highest channel (2480MHz)



## 8. MAXIMUM PEAK OUTPUT POWER

### 8.1. LIMITS

The maximum Peak output power measurement is 1W

### 8.2. TEST PROCEDURES

- 1) Place the EUT on a bench and set it in transmitting mode.
- 2) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

### 8.3. TEST SETUP



### 8.4. TEST RESULTS

For 1Mbps

Channel	Frequency (MHz)	Measured Channel Power (dBm)	Limit	Peak/Average	Result
Lowest	2402	-3.963	1W (30dBm)	Peak	Pass
Middle	2440	-3.078			Pass
Highest	2480	-3.438			Pass

For 2Mbps

Channel	Frequency (MHz)	Measured Channel Power (dBm)	Limit	Peak/Average	Result
Lowest	2402	-4.021	1W (30dBm)	Peak	Pass
Middle	2440	-3.613			Pass
Highest	2480	-3.516			Pass



## 9. POWER SPECTRAL DENSITY

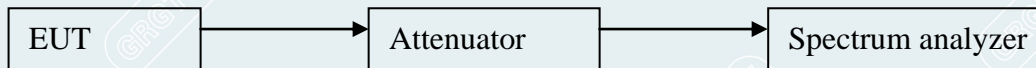
### 9.1. LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### 9.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3) Set the analyzer span to 1.5 times the DTS bandwidth. Set the RBW = 3 kHz. Set the VBW  $\geq 3$  RBW. Detector = peak. Ensure that the number of measurement points in the sweep  $\geq 2 \times$  span/RBW (use of a greater number of measurement points than this minimum requirement is recommended).
- 4) Repeat above procedures until all frequencies measured were complete.

### 9.3. TEST SETUP



### 9.4. TEST RESULTS

#### For 1Mbps

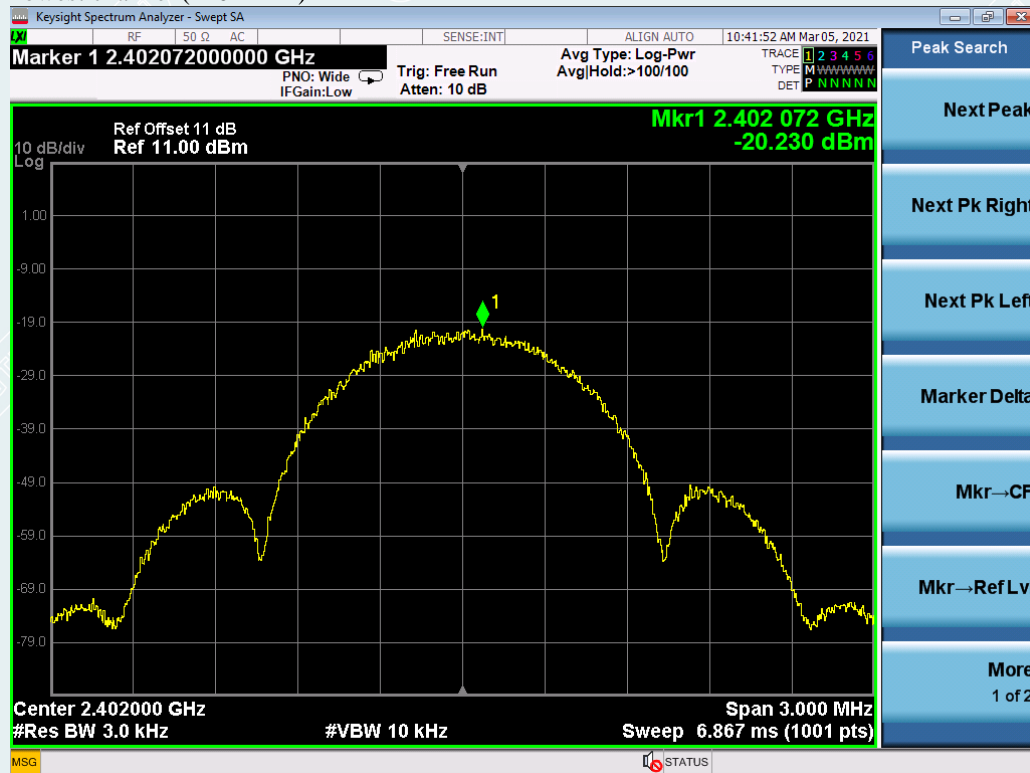
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm/3kHz)	Test Result
Lowest	2402	-20.230	8	PASS
Middle	2440	-19.497		PASS
Highest	2480	-19.915		PASS

#### For 2Mbps

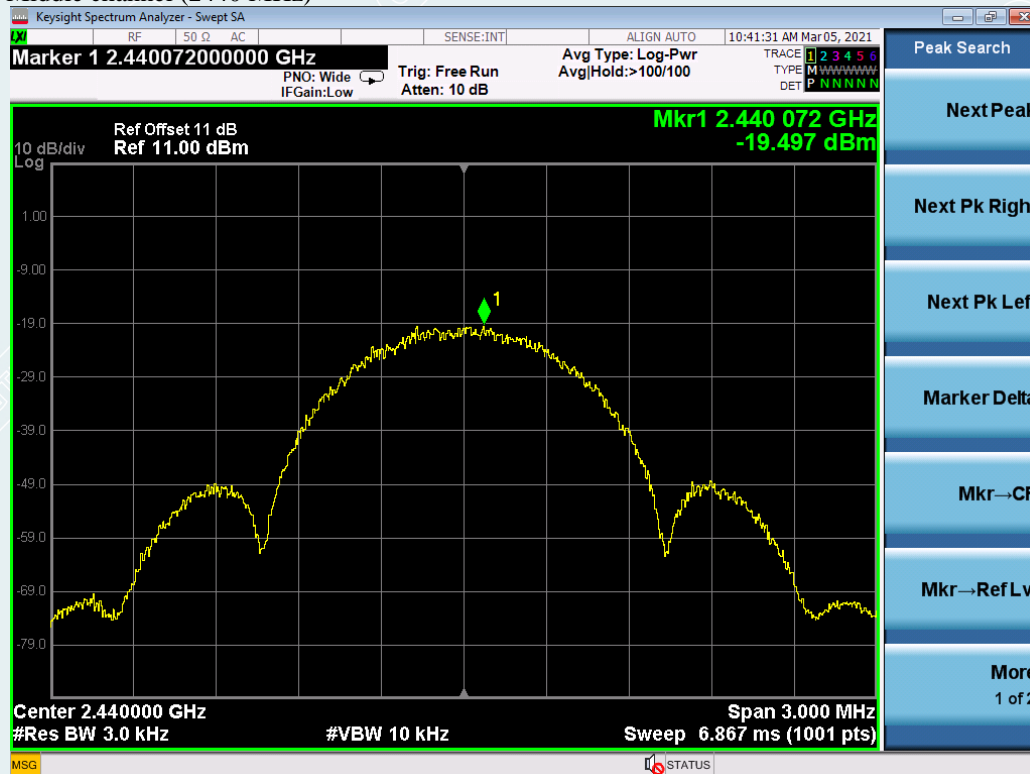
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm/3kHz)	Test Result
Lowest	2402	-22.590	8	PASS
Middle	2440	-22.088		PASS
Highest	2480	-22.134		PASS

## For 1Mbps

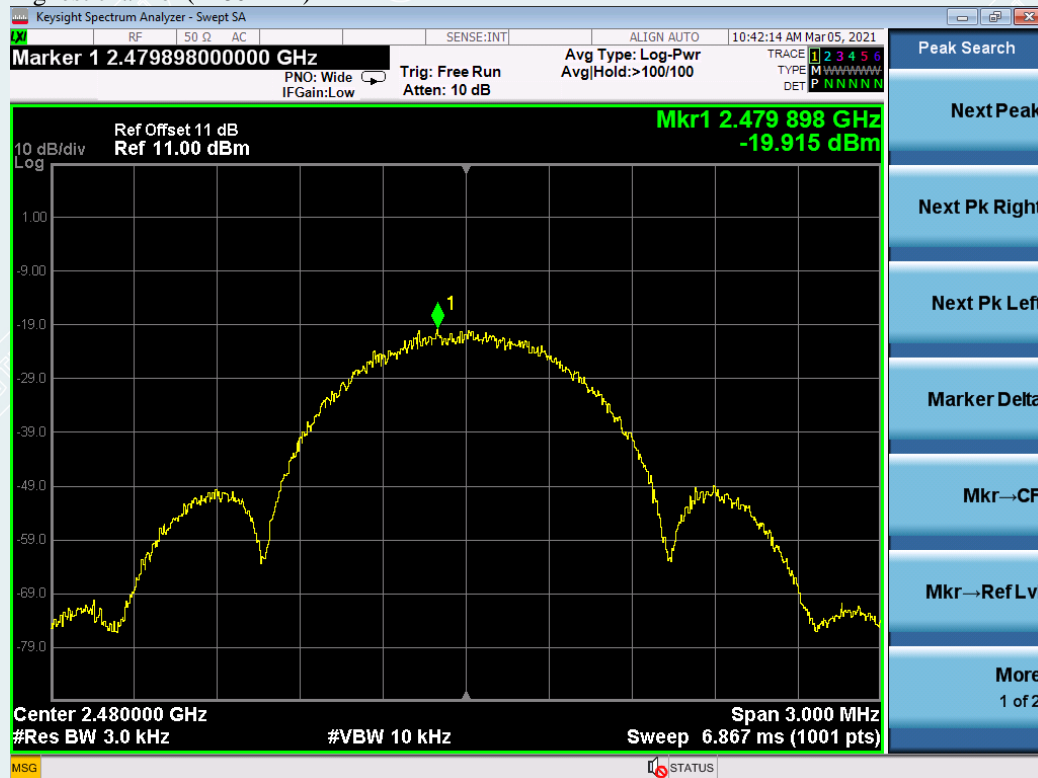
## Lowest channel (2402MHz)



## Middle channel (2440 MHz)

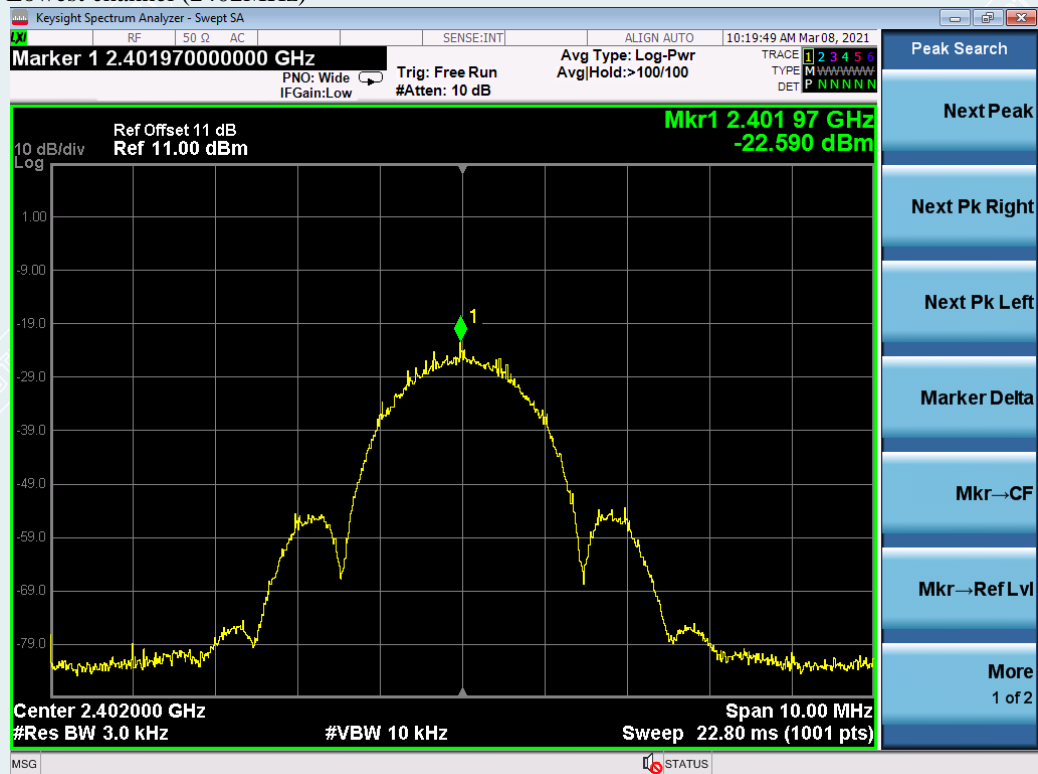


## Highest channel (2480MHz)

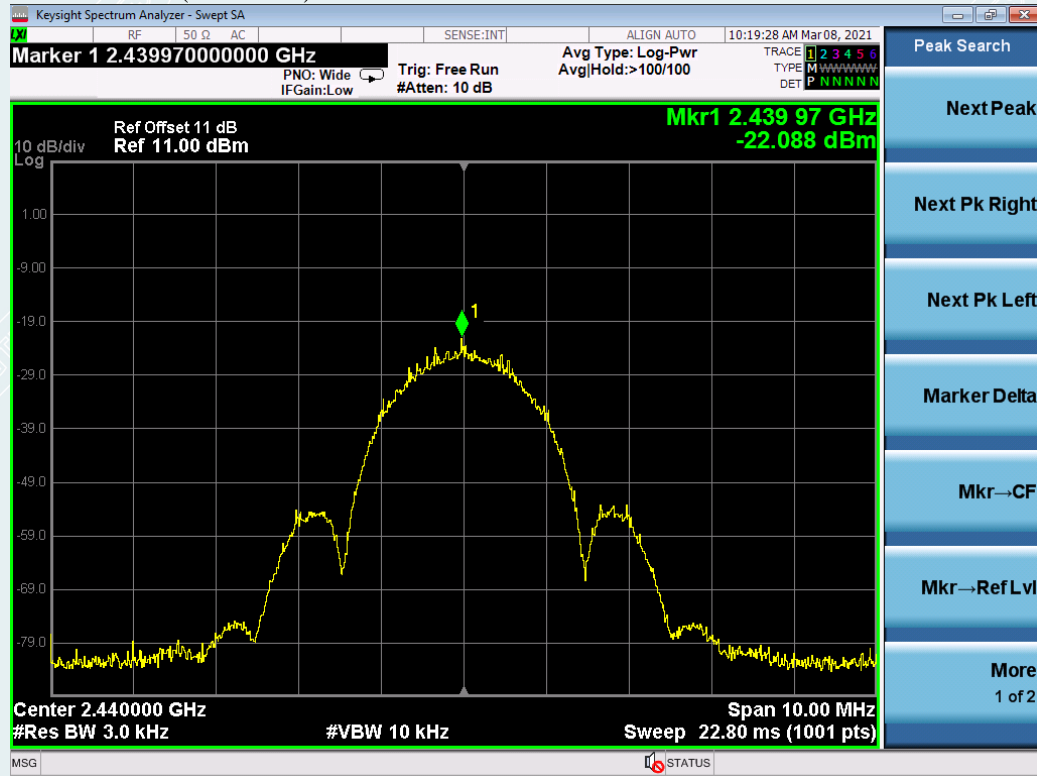


## For 2Mbps

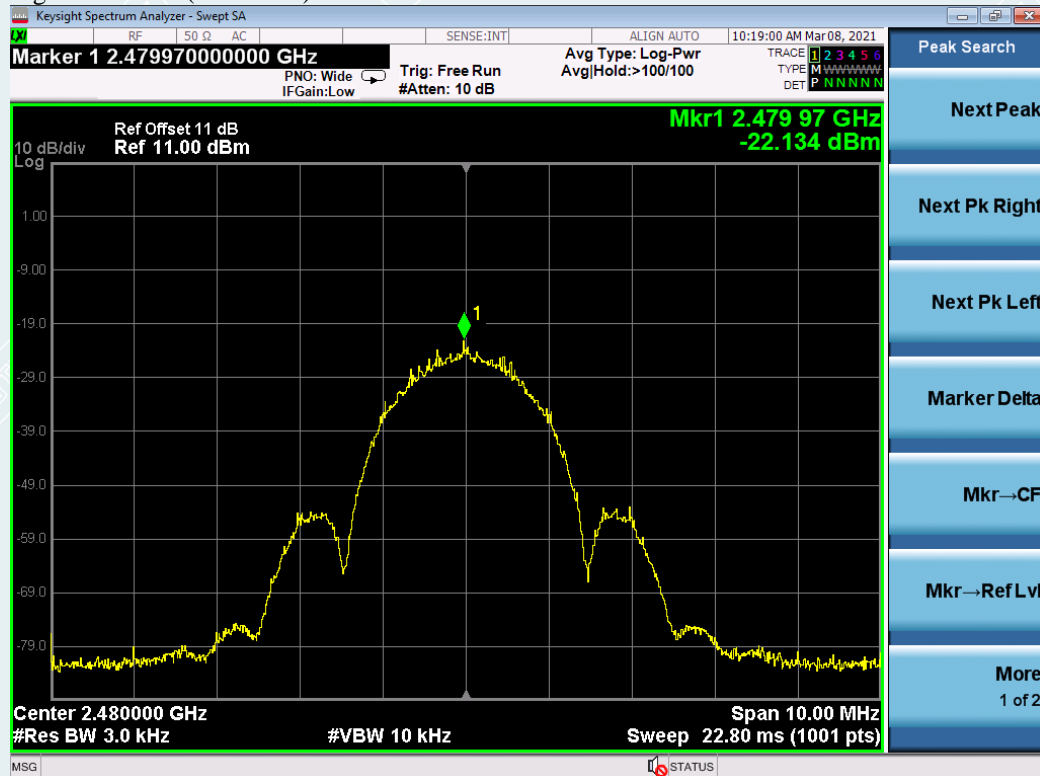
## Lowest channel (2402MHz)



## Middle channel (2440 MHz)



## Highest channel (2480MHz)



## 10. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

### 10.1. LIMITS

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### 10.2. TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v05r02.

Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW = 100KHz; VBW = 300KHz, Span = 10MHz to 26GHz; Sweep = auto; Detector Function = Peak. Trace = Max, hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 5) Measurements are made over the 9 kHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels. No emission found between lowest internal used/generated frequency to 10MHz, it is only recorded 10MHz to 26GHz.

### 10.3. TEST SETUP



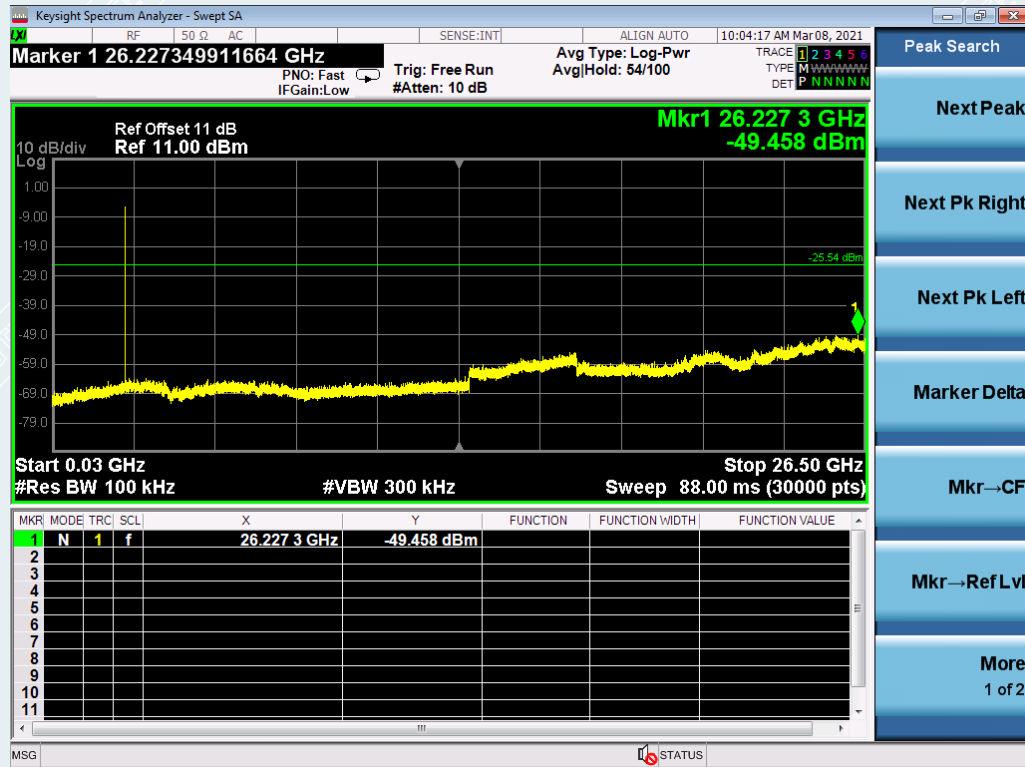


## 10.4. TEST RESULTS

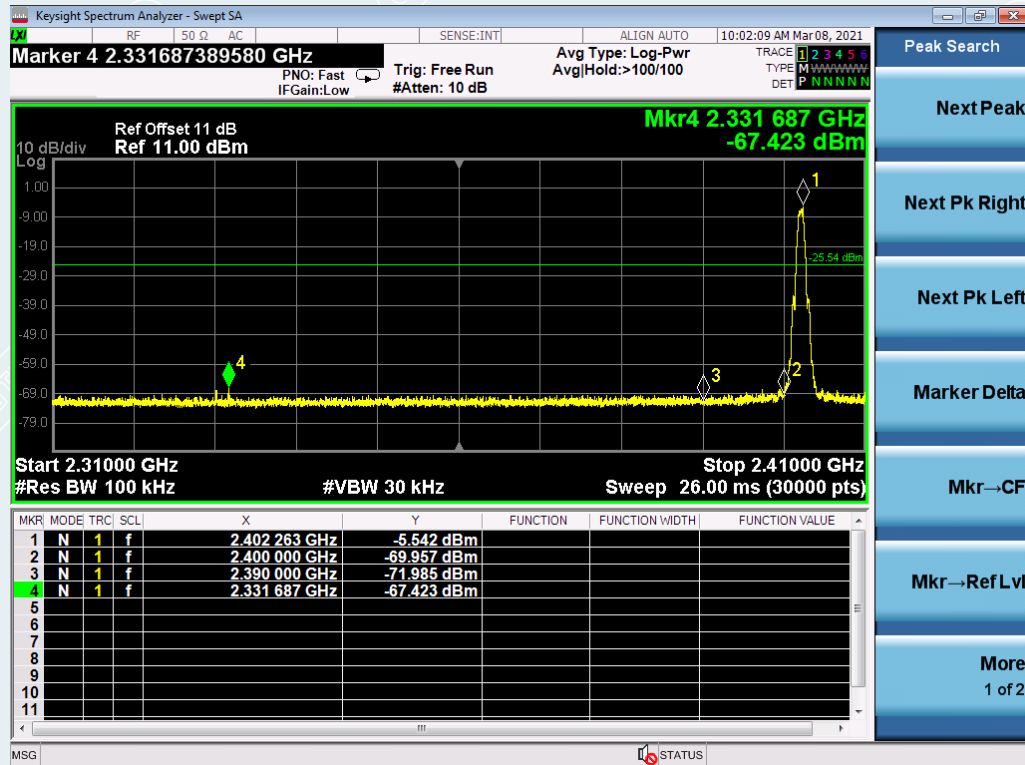
### For 1Mbps

Lowest channel (2402MHz)

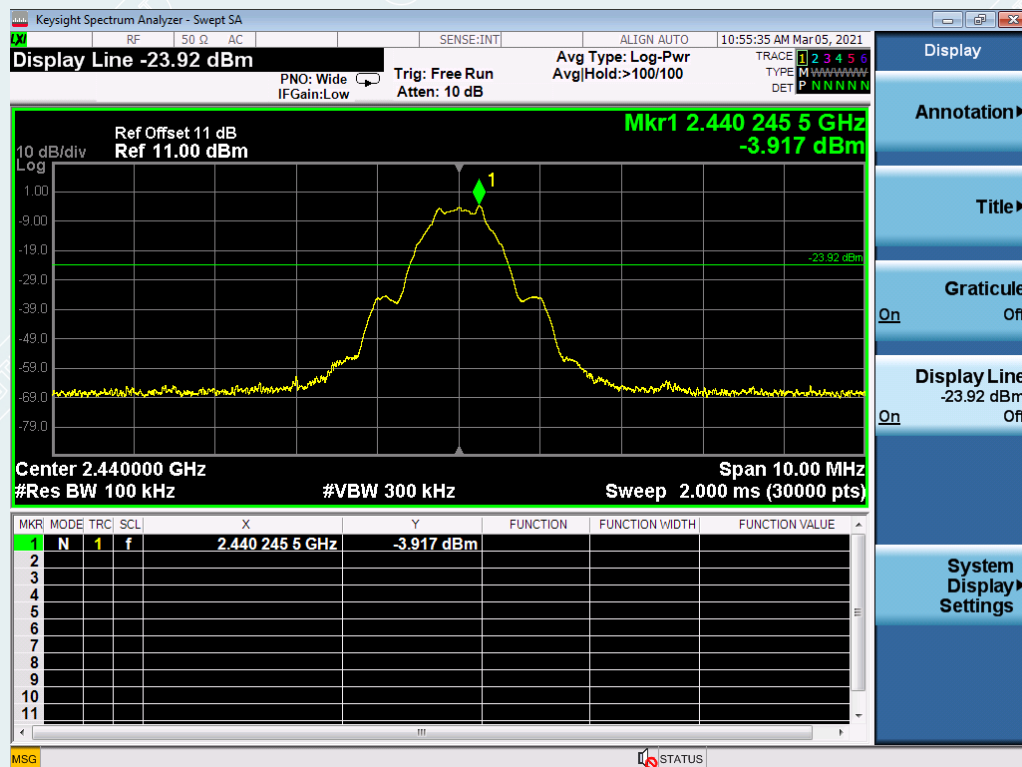
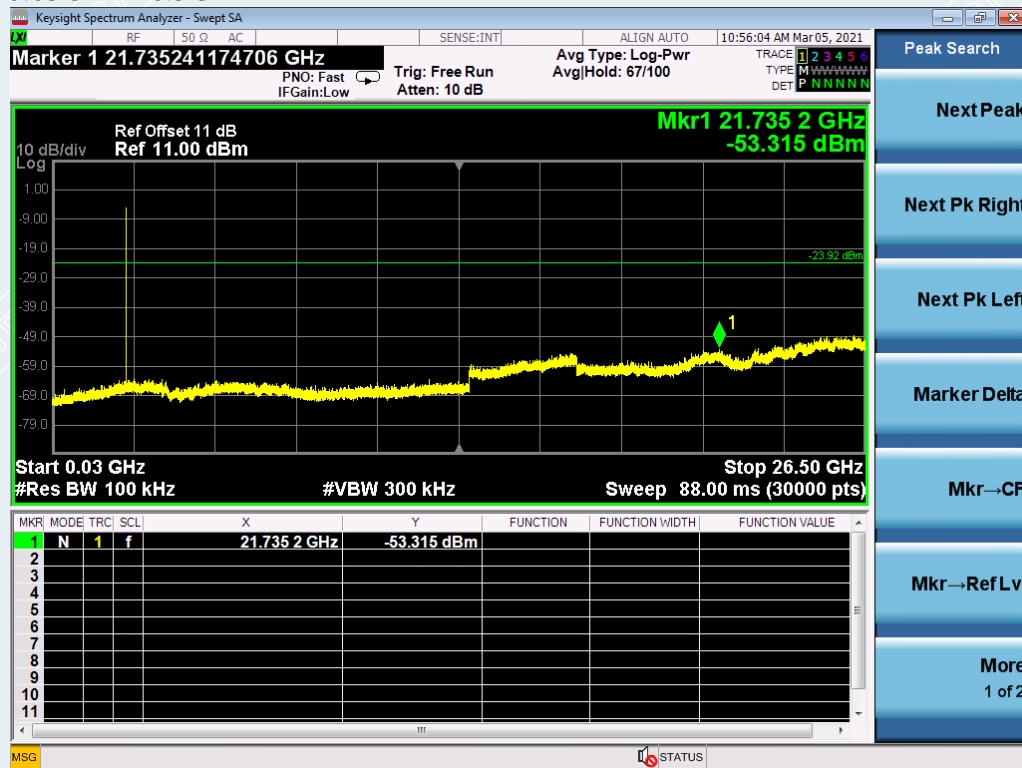
0.03GHz-26.5GHz



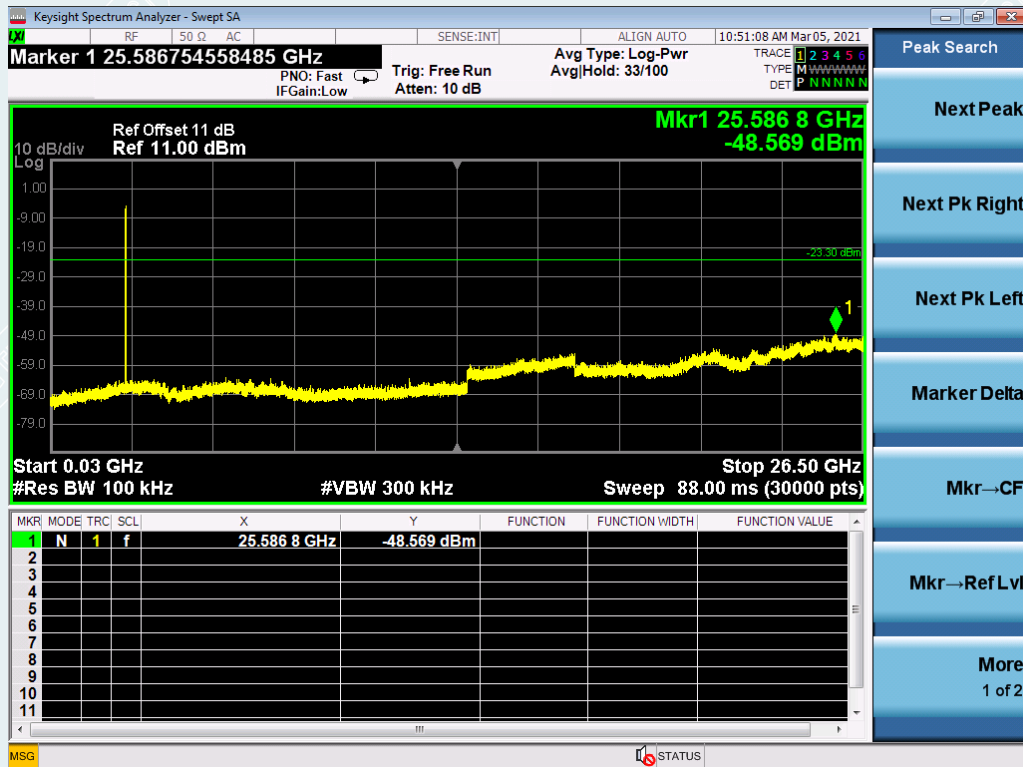
2.31GHz-2.41GHz



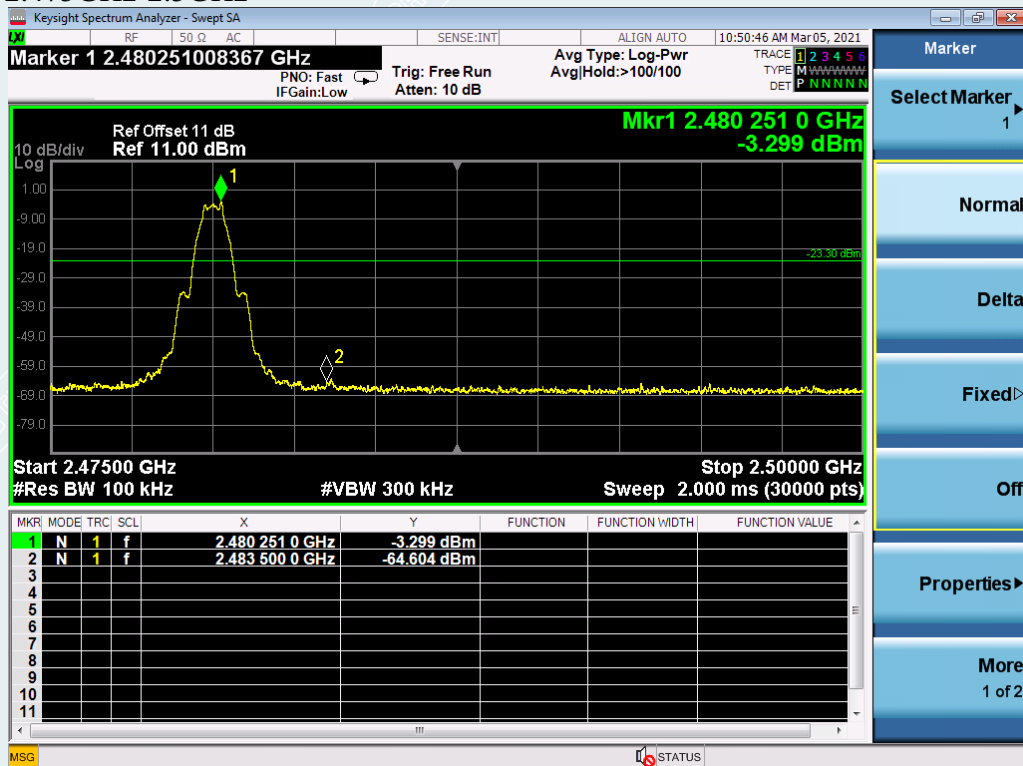
Middle channel (2440 MHz)  
0.03GHz-26.5GHz



### Highest channel (2480MHz) 0.03GHz-26.5GHz



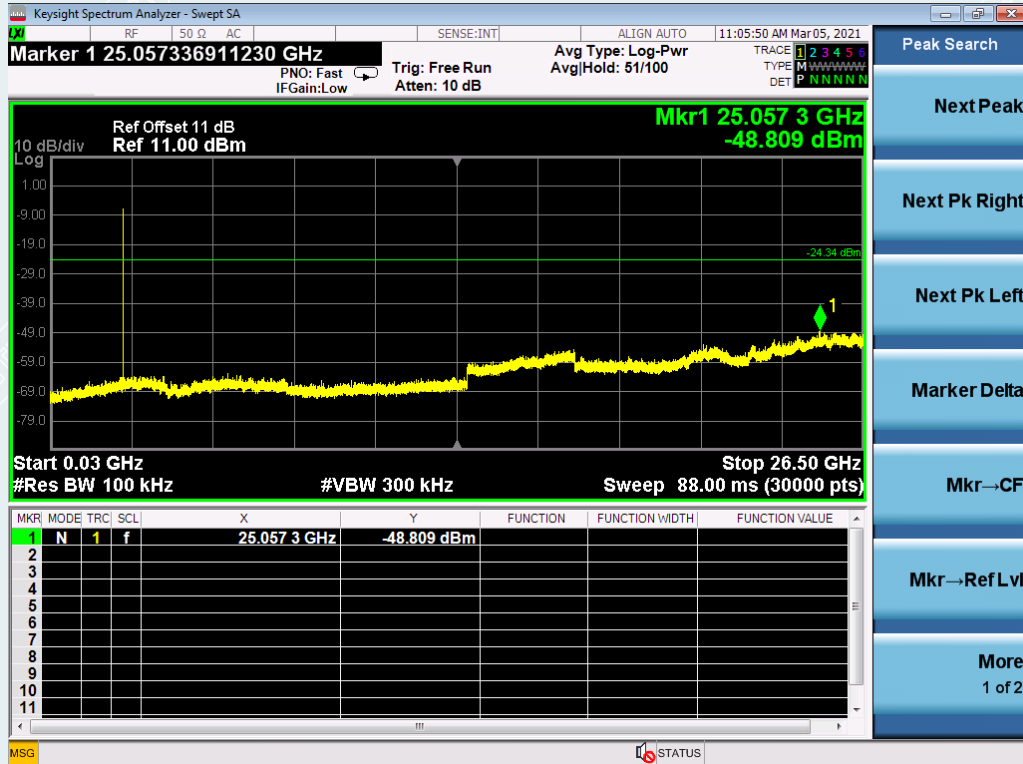
### 2.475GHz-2.5GHz



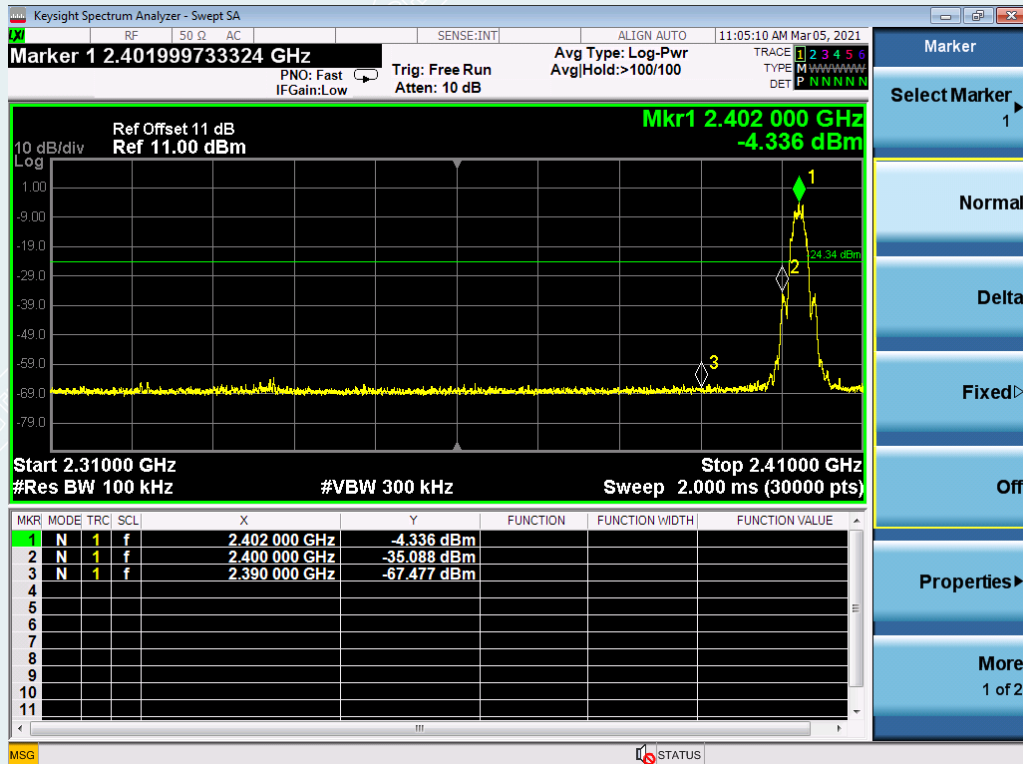
**For 2Mbps**

Lowest channel (2402MHz)

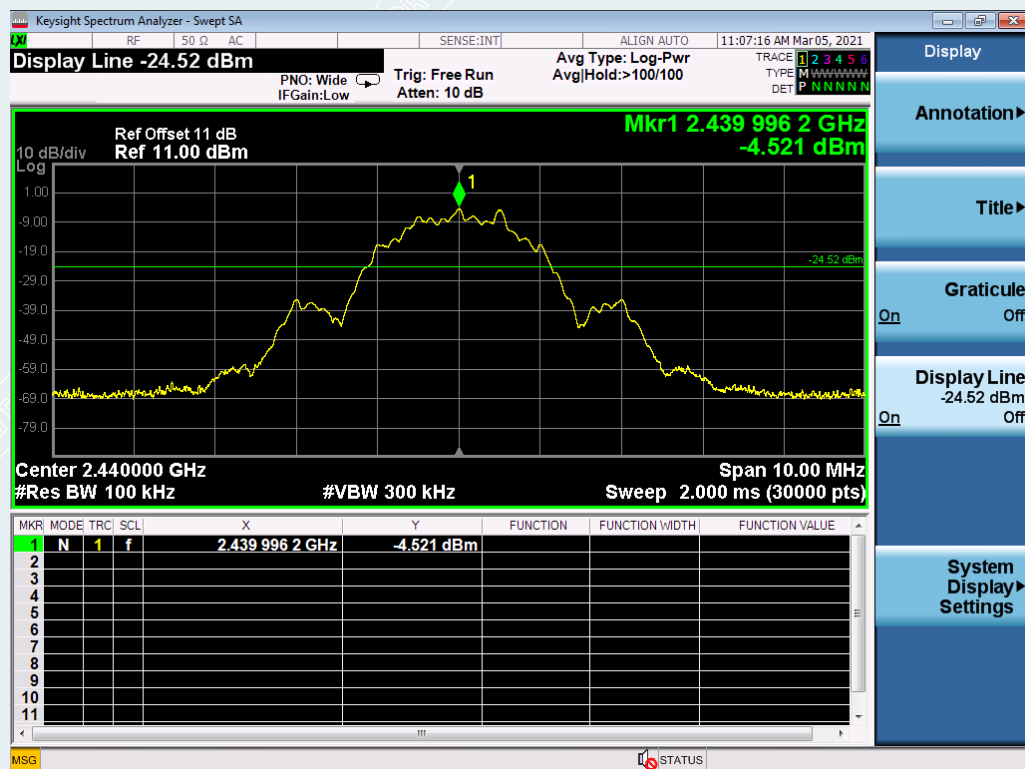
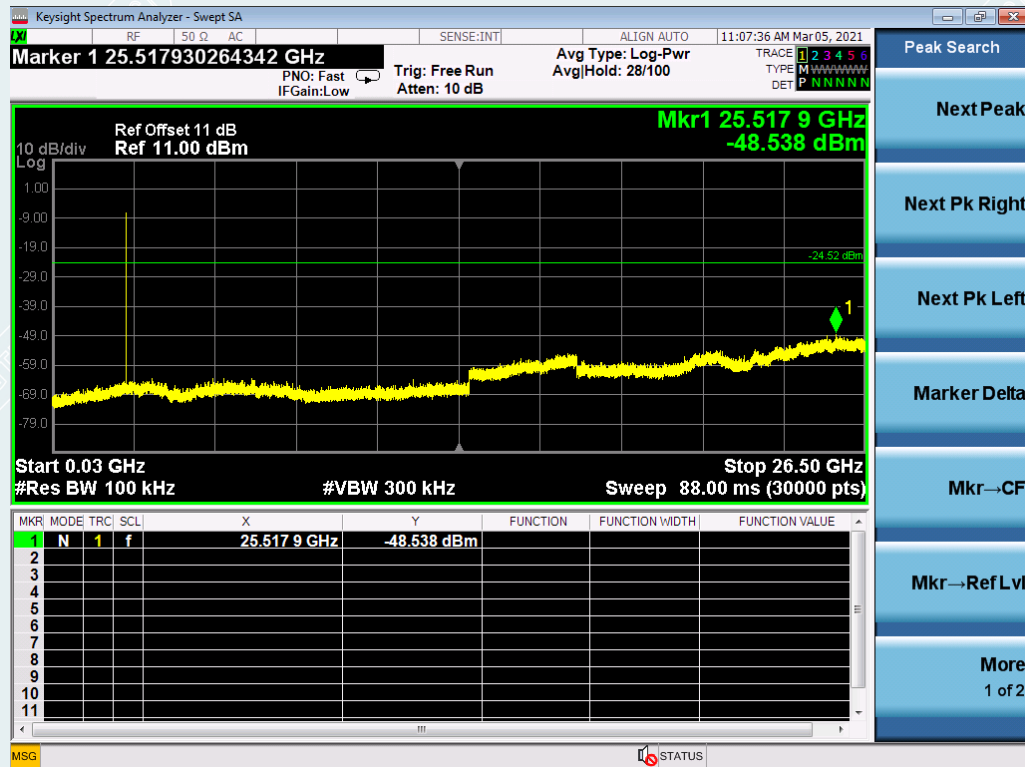
0.03GHz-26.5GHz



2.31GHz-2.41GHz

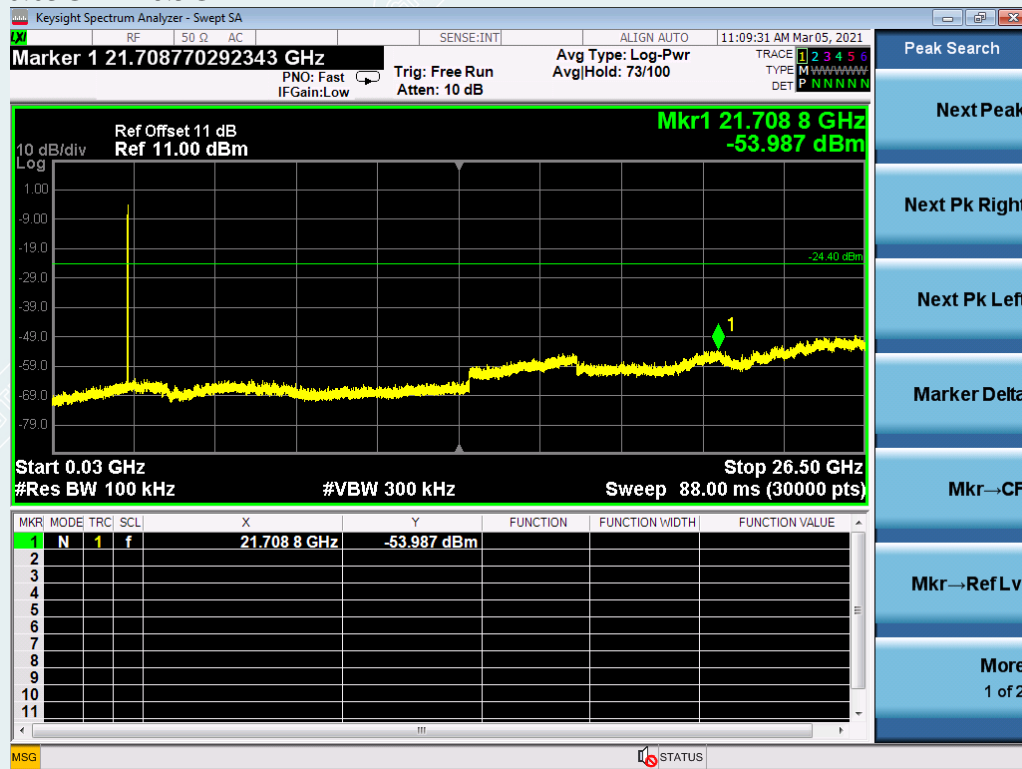


Middle channel (2440 MHz)  
0.03GHz-26.5GHz

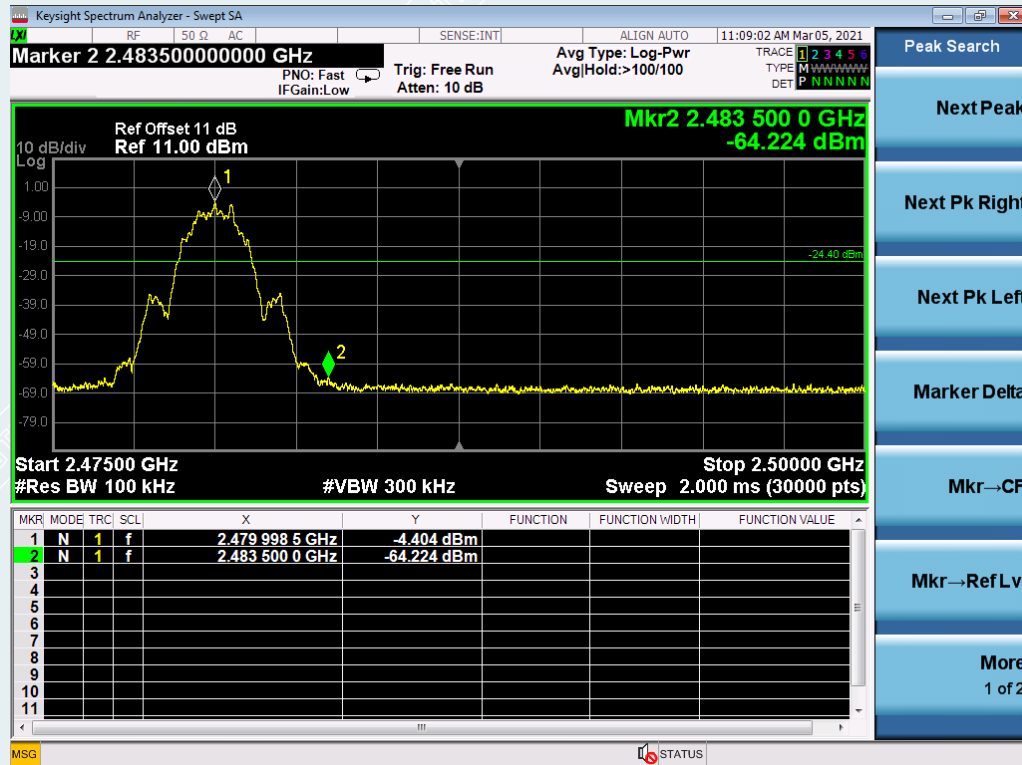




### Highest channel (2480MHz) 0.03GHz-26.5GHz



### 2.475GHz-2.5GHz



## 11. RESTRICTED BANDS OF OPERATION

### 11.1. LIMITS

Section 15.247(d) In addition, Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

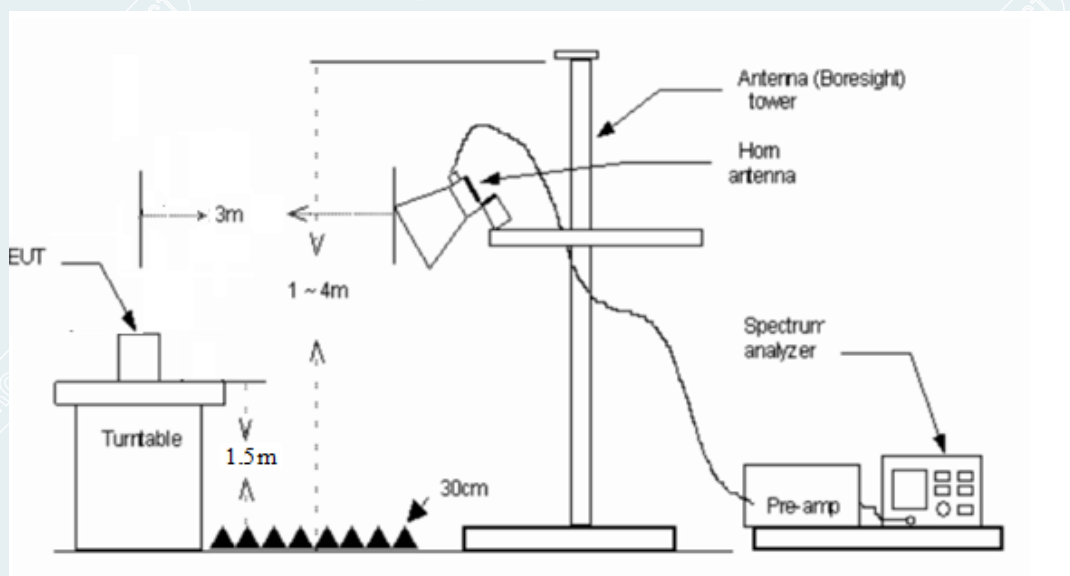
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 -	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.69525	960 - 1240	7.25 - 7.75
4.125 - 4.128	16.80425 -	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	16.80475	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	25.5 - 25.67	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	37.5 - 38.25	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	73 - 74.6	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	74.8 - 75.2	2200 - 2300	14.47 - 14.5
8.291 - 8.294	108 - 121.94	2310 - 2390	15.35 - 16.2
8.362 - 8.366	123 - 138	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	149.9 - 150.05	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.52475 -	3260 - 3267	23.6 - 24.0
12.29 - 12.293	156.52525	3332 - 3339	31.2 - 31.8
12.51975 -	156.7 - 156.9	3345.8 - 3358	36.43 - 36.5
12.52025	162.0125 - 167.17	3600 - 4400	
12.57675 -	167.72 - 173.2		
12.57725	240 - 285		
13.36 - 13.41	322 - 335.4		

### 11.2. TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Meas Guidance v03r01.

- 1) The EUT is placed on a turntable, which is 1.5m above the ground plane.
- 2) The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4) Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - a) PEAK: RBW=1MHz / VBW=1MHz / Sweep=AUTO
  - b) AVERAGE: RBW=1MHz / VBW=1/T / Sweep=AUTO
- 5) Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

### 11.3. TEST SETUP



## 11.4. TEST RESULTS

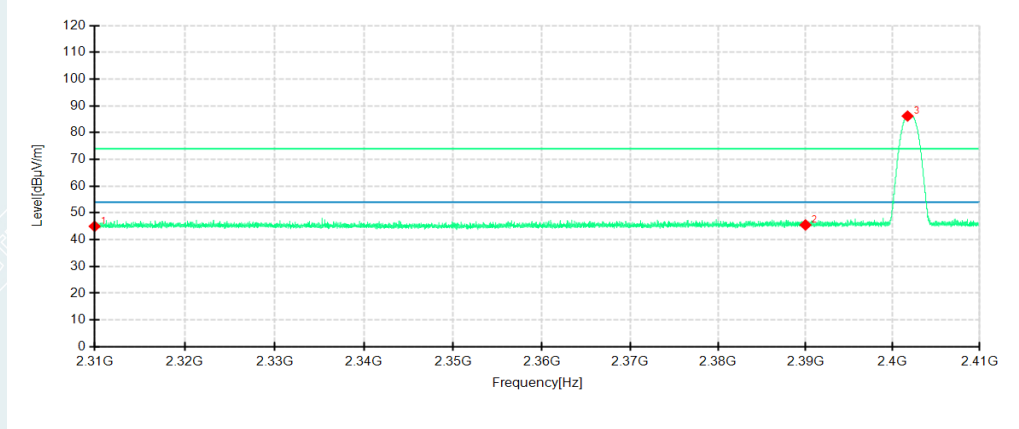
### For 1Mbps

#### Lowest Channel

Channel 2402MHz

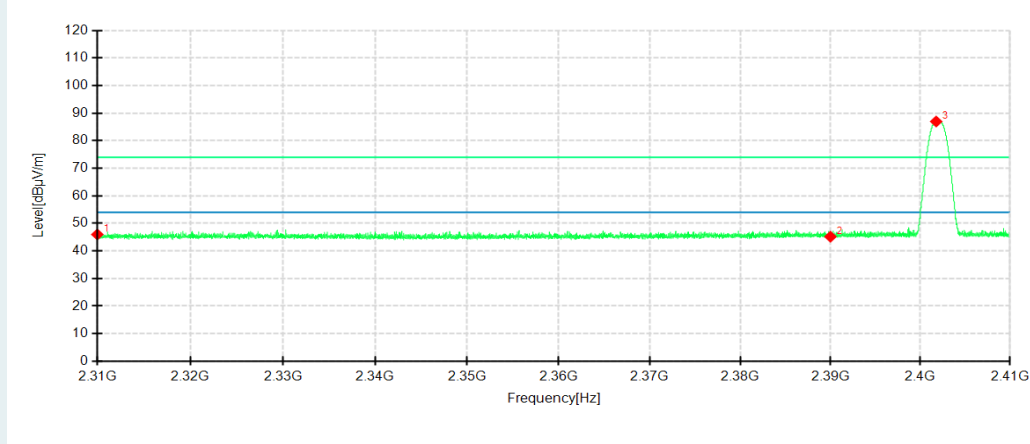
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



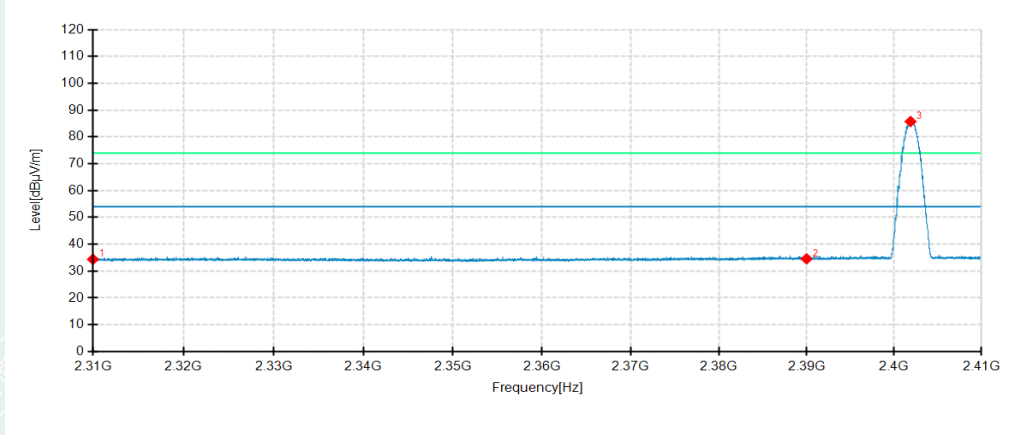
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	42.01	45.00	2.99	74.00	29.00	200	138	Horizontal	/
2	2390.0000	42.32	45.51	3.19	74.00	28.49	200	193	Horizontal	/
3	2401.7125	82.83	86.18	3.35	74.00	-12.18	100	222	Horizontal	No limit
1	2310.0000	42.99	45.98	2.99	74.00	28.02	100	351	Vertical	/
2	2390.0000	41.99	45.18	3.19	74.00	28.82	200	294	Vertical	/
3	2401.7625	83.60	86.95	3.35	74.00	-12.95	200	253	Vertical	No limit

**Lowest Channel**

Channel 2402MHz

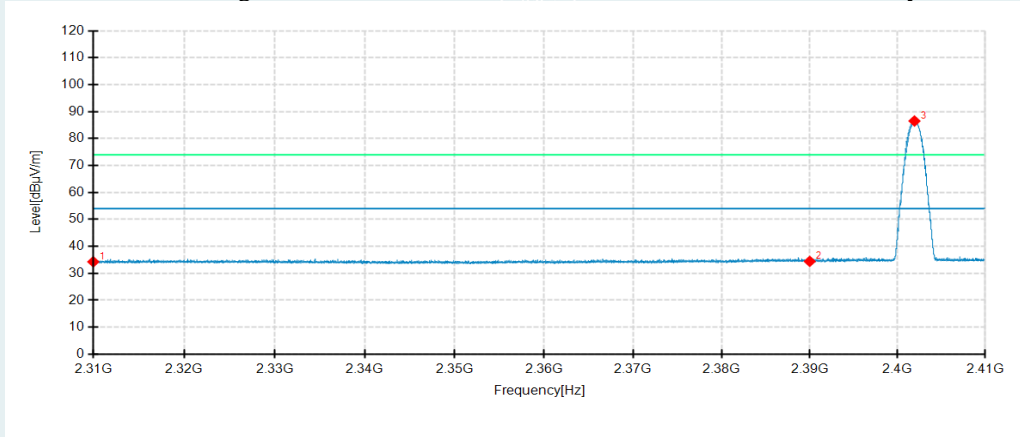
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	31.39	34.38	2.99	54.00	19.62	200	281	Horizontal	/
2	2390.0000	31.37	34.56	3.19	54.00	19.44	100	79	Horizontal	/
3	2401.8750	82.39	85.74	3.35	54.00	-31.74	100	222	Horizontal	No limit
1	2310.0000	31.28	34.27	2.99	54.00	19.73	100	18	Vertical	/
2	2390.0000	31.25	34.44	3.19	54.00	19.56	200	158	Vertical	/
3	2401.9250	83.15	86.50	3.35	54.00	-32.50	200	247	Vertical	No limit

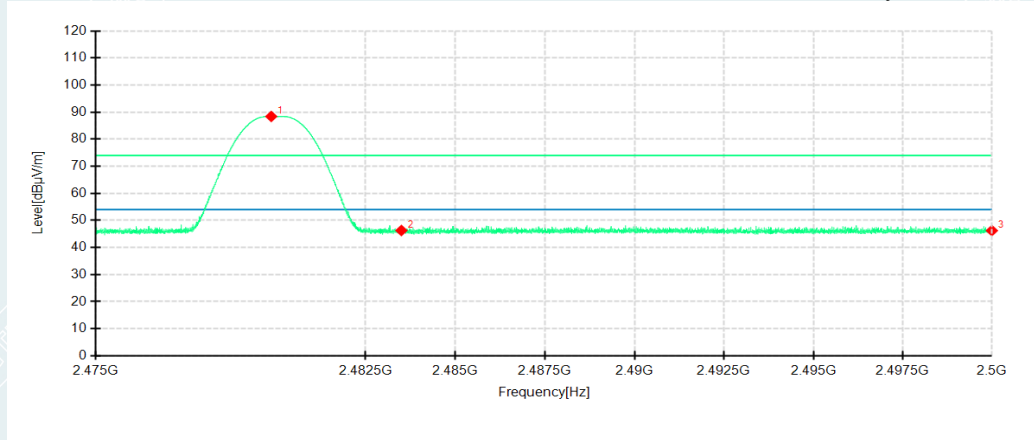


**Highest Channel**

Channel 2480MHz

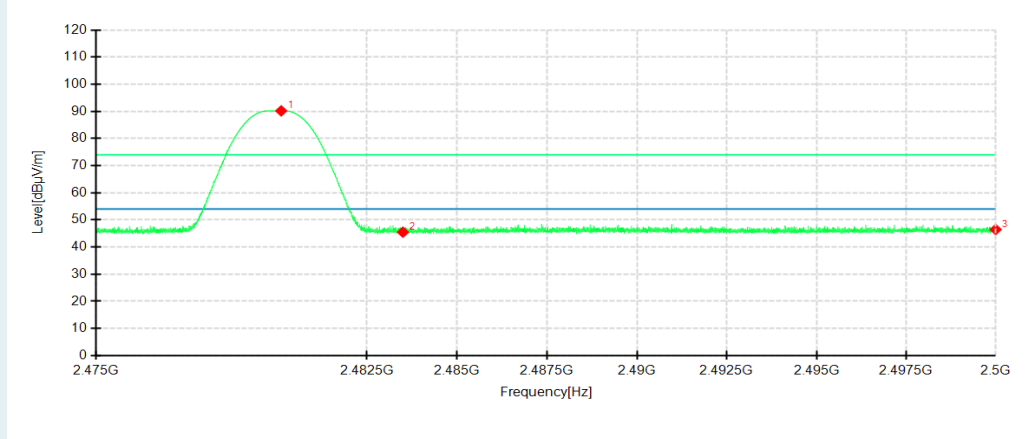
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



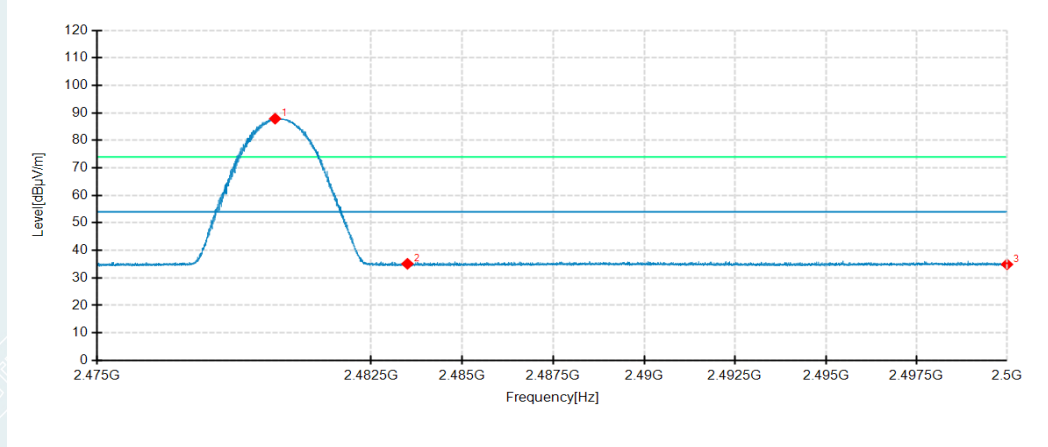
No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2479.8781	84.84	88.39	3.55	74.00	-14.39	100	223	Horizontal	No limit
2	2483.5000	42.72	46.28	3.56	74.00	27.72	100	24	Horizontal	/
3	2500.0000	42.65	46.23	3.58	74.00	27.77	100	277	Horizontal	
1	2480.1250	86.63	90.18	3.55	74.00	-16.18	200	240	Vertical	No limit
2	2483.5000	41.91	45.47	3.56	74.00	28.53	100	114	Vertical	/
3	2500.0000	42.87	46.45	3.58	74.00	27.55	100	216	Vertical	/

**Highest Channel**

Channel 2480MHz

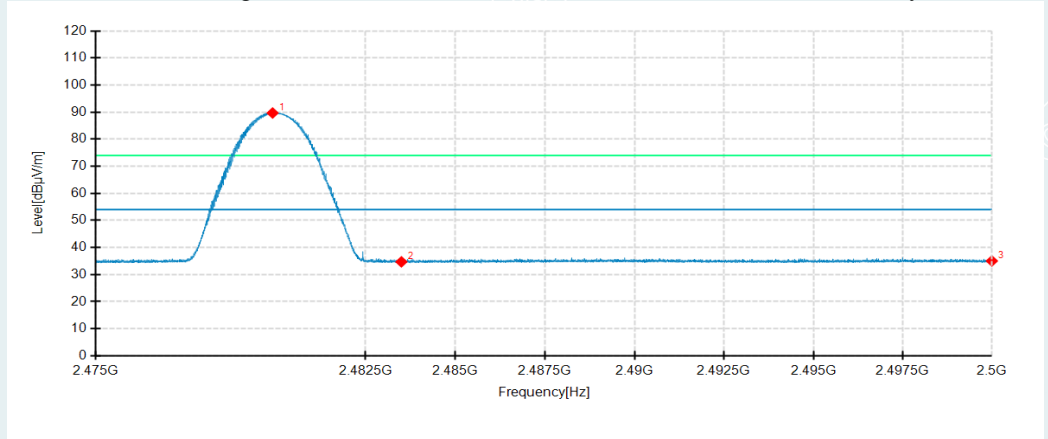
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



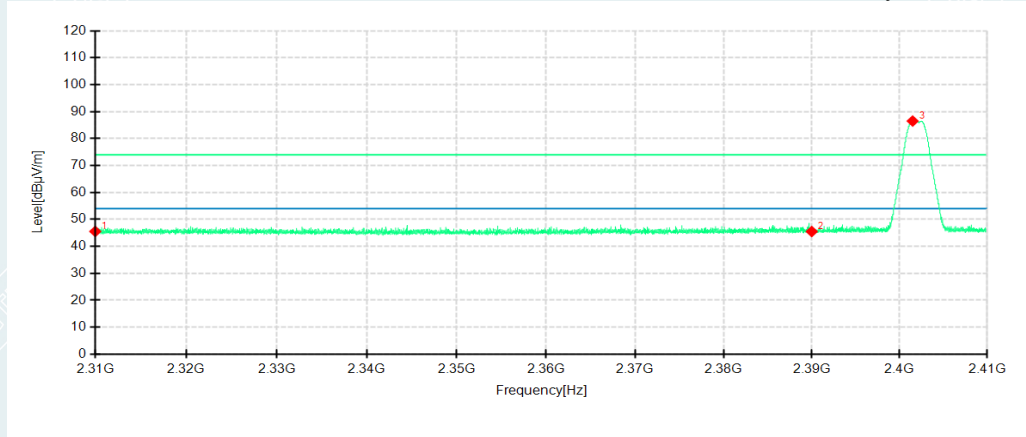
No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2479.8719	84.32	87.87	3.55	54.00	-33.87	100	228	Horizontal	No limit
2	2483.5000	31.56	35.12	3.56	54.00	18.88	100	79	Horizontal	/
3	2500.0000	31.32	34.90	3.58	54.00	19.10	200	0	Horizontal	/
1	2479.9156	86.12	89.67	3.55	54.00	-35.67	200	246	Vertical	No limit
2	2483.5000	31.14	34.70	3.56	54.00	19.30	100	346	Vertical	/
3	2500.0000	31.45	35.03	3.58	54.00	18.97	100	161	Vertical	/

**For 2Mbps****Lowest Channel**

Channel 2402MHz

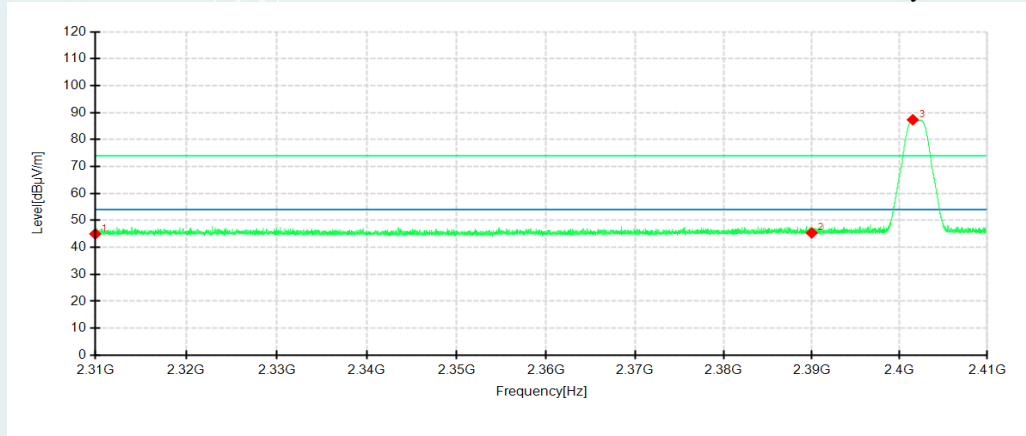
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



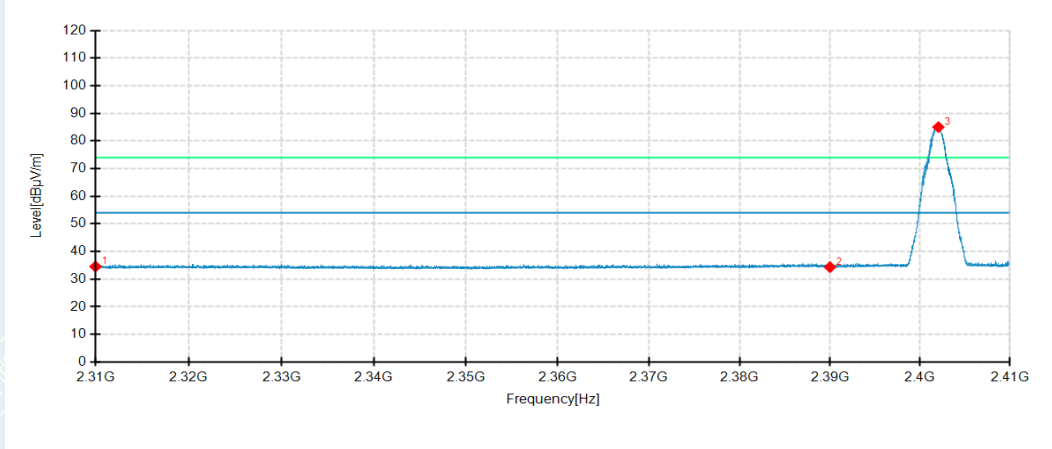
No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	42.55	45.54	2.99	74.00	28.46	200	90	Horizontal	/
2	2390.0000	42.32	45.51	3.19	74.00	28.49	100	107	Horizontal	/
3	2401.4875	83.14	86.49	3.35	74.00	-12.49	100	224	Horizontal	No limit
1	2310.0000	42.00	44.99	2.99	74.00	29.01	200	184	Vertical	/
2	2390.0000	42.16	45.35	3.19	74.00	28.65	200	75	Vertical	/
3	2401.5125	83.98	87.33	3.35	74.00	-13.33	200	252	Vertical	No limit

**Lowest Channel**

Channel 2402MHz

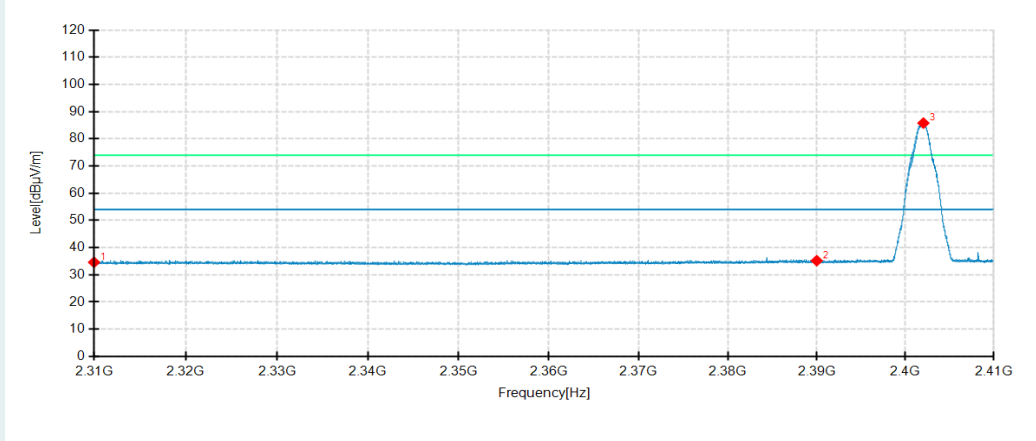
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



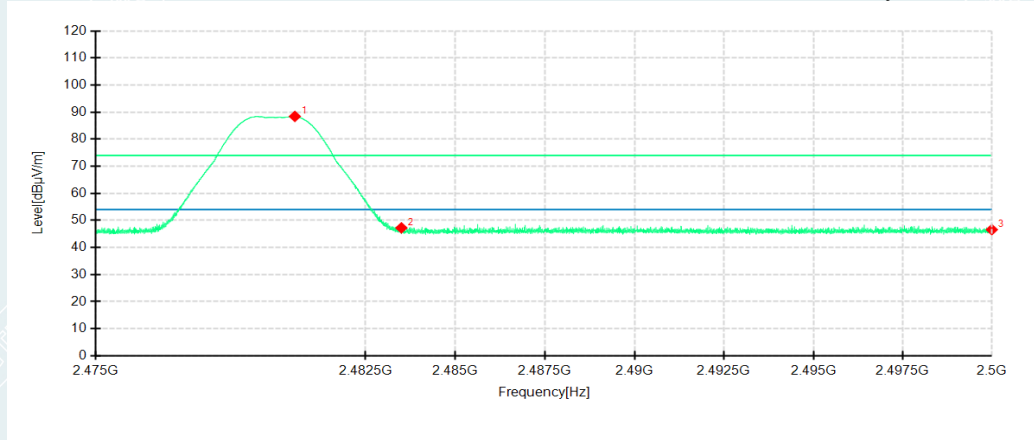
No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	31.56	34.55	2.99	54.00	19.45	200	349	Horizontal	/
2	2390.0000	31.14	34.33	3.19	54.00	19.67	100	304	Horizontal	/
3	2402.0375	81.67	85.02	3.35	54.00	-31.02	100	222	Horizontal	No limit
1	2310.0000	31.61	34.60	2.99	54.00	19.40	200	69	Vertical	/
2	2390.0000	32.00	35.19	3.19	54.00	18.81	100	113	Vertical	/
3	2402.0375	82.43	85.78	3.35	54.00	-31.78	200	247	Vertical	No limit

**Highest Channel**

Channel 2480MHz

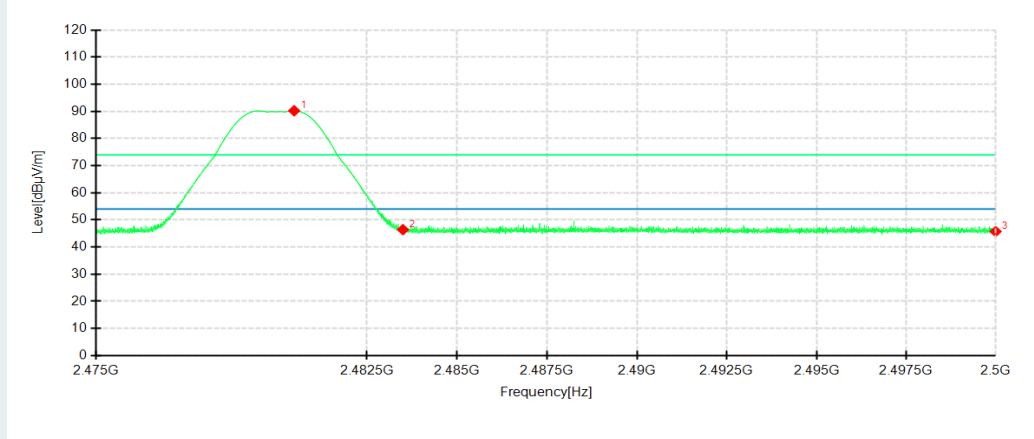
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2480.5344	84.86	88.41	3.55	74.00	-14.41	100	224	Horizontal	No limit
2	2483.5000	43.68	47.24	3.56	74.00	26.76	200	349	Horizontal	/
3	2500.0000	43.00	46.58	3.58	74.00	27.42	200	1	Horizontal	/
1	2480.4844	86.66	90.21	3.55	74.00	-16.21	200	240	Vertical	No limit
2	2483.5000	42.84	46.40	3.56	74.00	27.60	200	89	Vertical	/
3	2500.0000	42.14	45.72	3.58	74.00	28.28	200	247	Vertical	/

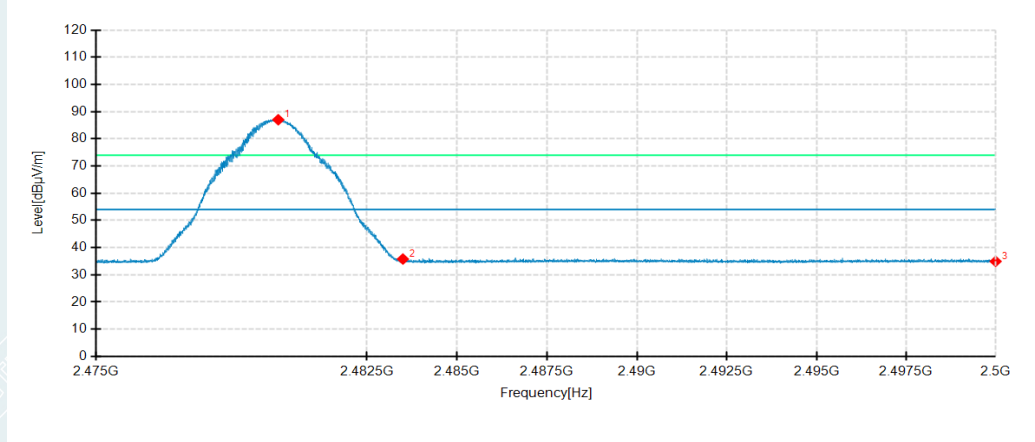


**Highest Channel**

Channel 2480MHz

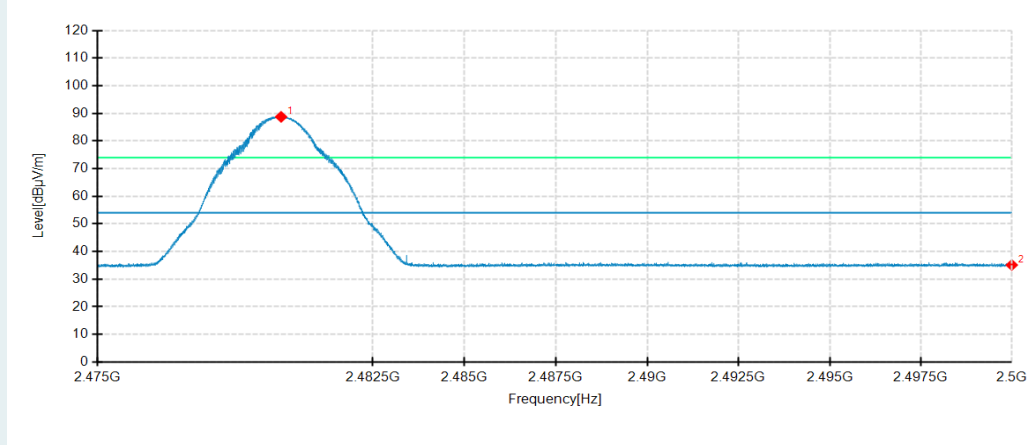
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2480.0438	83.45	87.00	3.55	54.00	-33.00	100	224	Horizontal	No limit
2	2483.5000	32.23	35.79	3.56	54.00	18.21	100	217	Horizontal	/
3	2500.0000	31.35	34.93	3.58	54.00	19.07	200	301	Horizontal	/
1	2480.0000	85.18	88.73	3.55	54.00	-34.73	200	239	Vertical	No limit
2	2500.0000	31.53	35.11	3.58	54.00	18.89	200	225	Vertical	/

Remark: Max field strength in 3m distance. No any other emission which falls in restricted bands can be detected and be reported.

-----This is the last page of the report. -----