

NCC RADIO TEST REPORT

Product name

Projector

Applicant

遠寬電信股份有限公司

Manufacture

成都極米科技股份有限公司

Rating(s)

100-240V~ 50/60Hz 3.5A

Trademark

XGIMI

Model and/or type reference

XM03A

Standard

LP0002:2020

Test Result

PASS

Date of receipt : 05-28-2021

Date of Issue : 07-23-2021

signature :



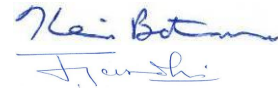
NCC RADIO TEST REPORT

Report Reference No. : M210723N5-01

Compiled by (+ signature)..... Kevin Bothmann

Approved by (+ signature)..... Jay Gandhi

Date of issue : 2021-07-23



Applicant's name : 遠寬電信股份有限公司

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Manufacture's Name : 成都極米科技股份有限公司

Address : 中國(四川)自由貿易試驗區成都高新區世紀城路 1129 號 A 區 4 棟

Test specification:

Standard : LP0002: 2020

Test procedure : EIA 603 、 ANSI 、 FCC/47 CFR/2.1046 、 2.1047 、 2.1049 、 2.1051 、 2.1053 and 2.1055

Non-standard test method..... N/A

Test item description

Product name : Projector

Trademark..... XGIMI

Model and/or type reference : XM03A

Rating(s) : 100-240V~ 50/60Hz 3.5A

Testing Laboratory information:

Testing Laboratory Name : Electro Magnetic Test, Inc.

Address : 1547 Plymouth Street, Mountain View, CA 94043

CAB Identifier Number : US0036

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Testing

Date of receipt of test item : Mar. 28, 2021

Date (s) of performance of tests : Mar. 28, 2021~ July 05, 2021

Date of Issue : July 23, 2021

Test Result..... **Pass**

GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Electro Magnetic Test, Inc., which is an independent testing and consulting firm. The test report is based on testing performed Electro Magnetic Test, Inc. personnel according to the measurement procedure described in the test specification given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Federal Government.

Electro Magnetic Test, Inc. is recognized by the following agencies for performing EMI/EMC testing:

COUNTRY	AGENCY	IDENTIFYING #
USA	Federal Communications Commission (FCC) (EMT's test site is recognized by the FCC)	Registration Number: 90576
USA, Canada, Taiwan, Australia/New Zealand, European Community	National Voluntary Lab Accreditation Program (NVLAP) (EMT is accredited by NVLAP. A copy of the NVLAP Scope Of Accreditation is available upon request.)	Lab Code: 200147-0
Canada	Industry Canada	File No.: IC 2804
Japan	Voluntary Control Council For Interference (VCCI)	See Below
	Open Field Test Site "A"	R-589
	Mains Conducted Emissions Test Site "A"	C-604
	Telecom Conducted Emissions Test Site "A"	T-1655
	3 Meter Semi-Anechoic Chamber Site "E"	R-3227
	3 Meter Semi-Anechoic Chamber Site "E" (1GHz – 6GHz)	G-219
	Mains Conducted Emissions Test Site "E"	C-35793
	Telecom Conducted Emissions Test Site "E"	T-1715
Korea	Ministry of Information and Communication's Radio Research Laboratory (RRL) under the Asia Pacific Economic Cooperation (APEC) Mutual Recognition Arrangement (A copy of the Scope Of Accreditation is available upon request)	US0036
Taiwan	Bureau Of Standards, Metrology and Inspection (BSMI)	Reference Number: SL2-IN-E-1024
Australia / New Zealand	Australian Communications Authority (AUSTEL)	*

***THESE AGENCIES DO NOT ISSUE AN IDENTIFYING NUMBER TO TEST LABS.**

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

LP0002 : 2020			
Standard Section	Test Item	Judgment	Remark
3.3	Conducted Emission	PASS	None
4.10.1.5/3.6	Radiated Spurious Emission	PASS	None
4.10.1.2	Peak Output Power	PASS	None
4.10.1.6	6dB Occupied Bandwidth	PASS	None
4.10.1.6	Power Density	PASS	None
4.10.1.5/3.6	Restricted Bands	PASS	None
4.10.1.5/3.6	Antenna Conducted Spurious Emission	PASS	None
4.10.1.3	Antenna Requirement	PASS	None
4.10.1.5/3.3/3.6	Receiver Emissions	PASS	None

NOTE:

(1) "N/A" denotes test is not applicable in this test report.

1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	Conducted Emission Test	1.38dB
2	Radiated Emission Test	3.17dB
3	RF power,conducted	0.16dB
4	Spurious emissions,conducted	0.21dB
5	All emissions,radiated(<1G)	4.68dB
6	All emissions,radiated(>1G)	4.89dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Projector	
Trade Name	XGIMI	
Model Name	XM03A	
Serial Model Name	N/A	
Product Description	The EUT is a Projector	
	Operation Frequency:	802.11b/g/n (20MHz): 2412~2462MHz 802.11n (40MHz):2422~2452MHz
	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM
	Bit Rate of Transmitter	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 75Mbps
	Number Of Channel	Please see Note 2.
	Antenna Designation:	Please see Note 3.
	Antenna Gain(Peak)	Please see Note 3.
	Output Power:	802.11b: 19.68dBm 802.11g: 21.20dBm 802.11n20: 23.89dBm 802.11n40: 23.02dBm
Channel List	Please refer to the Note 2.	
Rating	Input: 100-240V~ 50/60Hz 3.5A	
Connecting I/O Port(s)	Please refer to the User's Manual	
Products Covered	N/A	
EUT Modification(s)	N/A	
Model difference	N/A	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Operation Frequency of channel			
802.11b/g/n(20MHz)		Channel List for 802.11n(40MHz)	
Channel	Frequency	Channel	Frequency
01	2412	03	2422
02	2417	04	2427
03	2422	05	2432
04	2427	06	2437
05	2432	07	2442
06	2437	08	2447
07	2442	09	2452
08	2447		
09	2452		
10	2457		
11	2462		

3.

Table for Filed Antenna

Ant	Trade Name	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	Shenzhen Zhongtian Xun Communication Technology Shares Co.,Ltd.	ZTX-AX01-WIFI-1-V3.0	PIFA antenna	N/A	ANT A: 3.57dBi	MIMO: 6.58dBi
2		ZTX-AX01-WIFI-2-V3.0	PIFA antenna	N/A	ANT B: 3.57dBi	

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11b: All Rate
Mode 2	802.11g: All Rate
Mode 3	802.11n(20MHz): All Rate
Mode 4	802.11n(40MHz): All Rate
Mode 5	RX
Mode 6	Working

For Conducted Emission	
Final Test Mode	Description
Mode 3	TX(worst case)

For Radiated Emission	
Final Test Mode	Description
Mode 3	TX(worst case)
Mode 5	RX(worst case)
Mode 6	Working

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

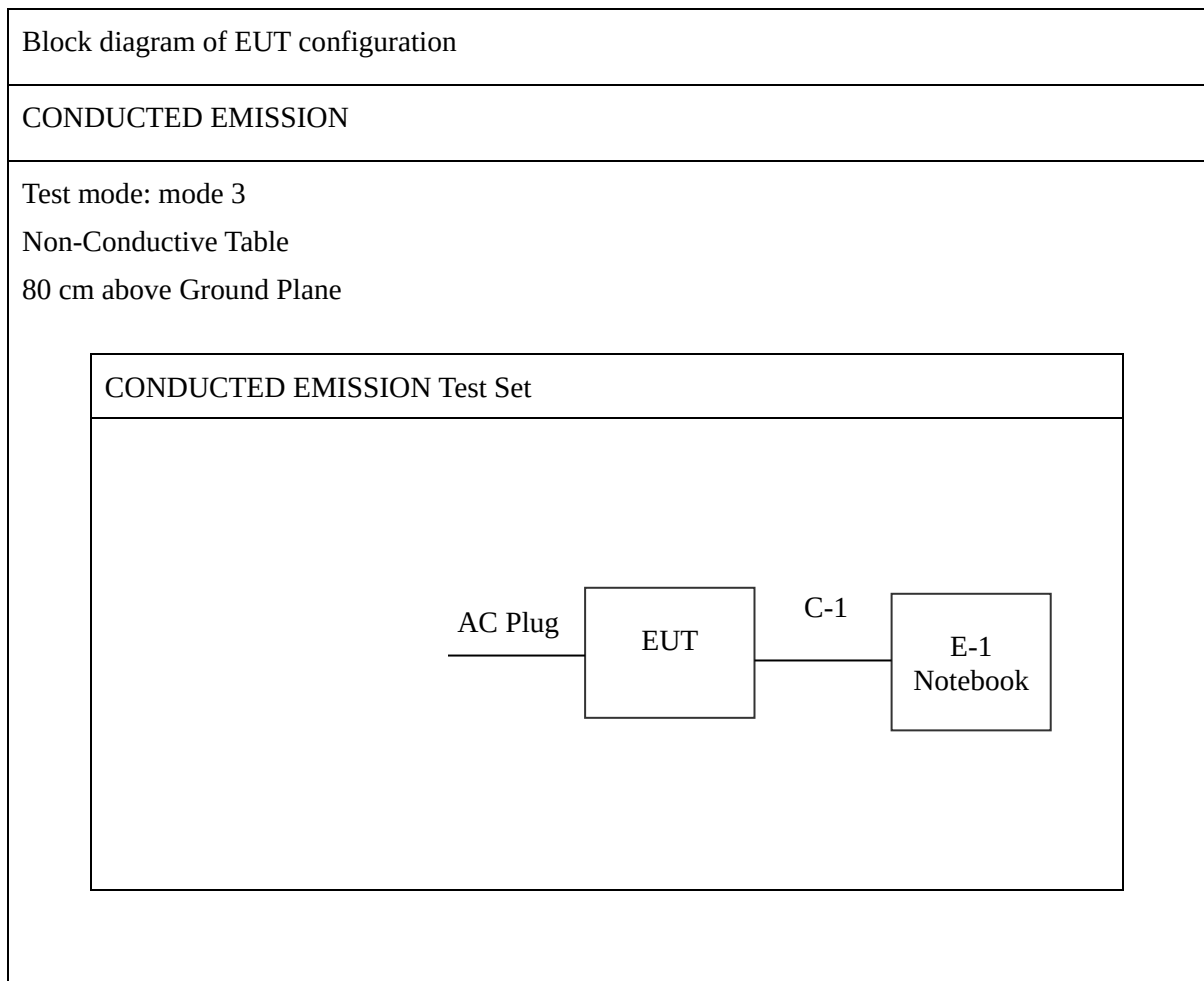
2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	ANT_A Power Class	ANT_B Power Class	Test Software
WIFI(2.4G)	2.4G WIFI	802.11b	ANT A: 3.57 ANT B: 3.57 MIMO A+B: 6.58	18	18	QATool_Dbg 0.0.1.88
		802.11g		15	15	
		802.11n(HT20)		15	15	
		802.11n(HT40)		12	15	

1. Connect the computer with USB ports.
2. Open the “QATool_Dbg” test software.
3. Set the commands and click "ENTER" transmitter.

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



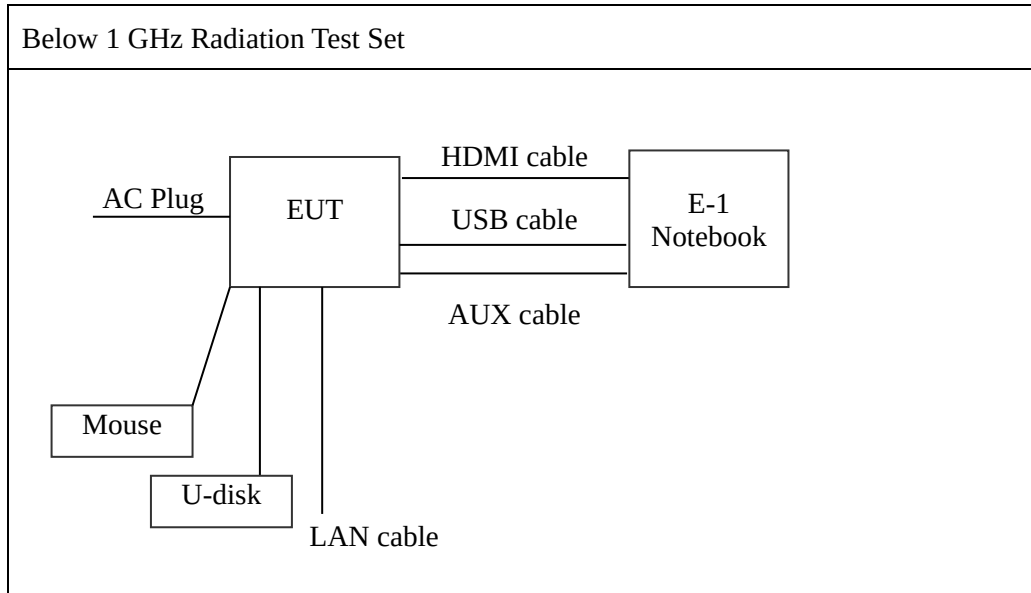
Block diagram of EUT configuration

RADIATED EMISSION

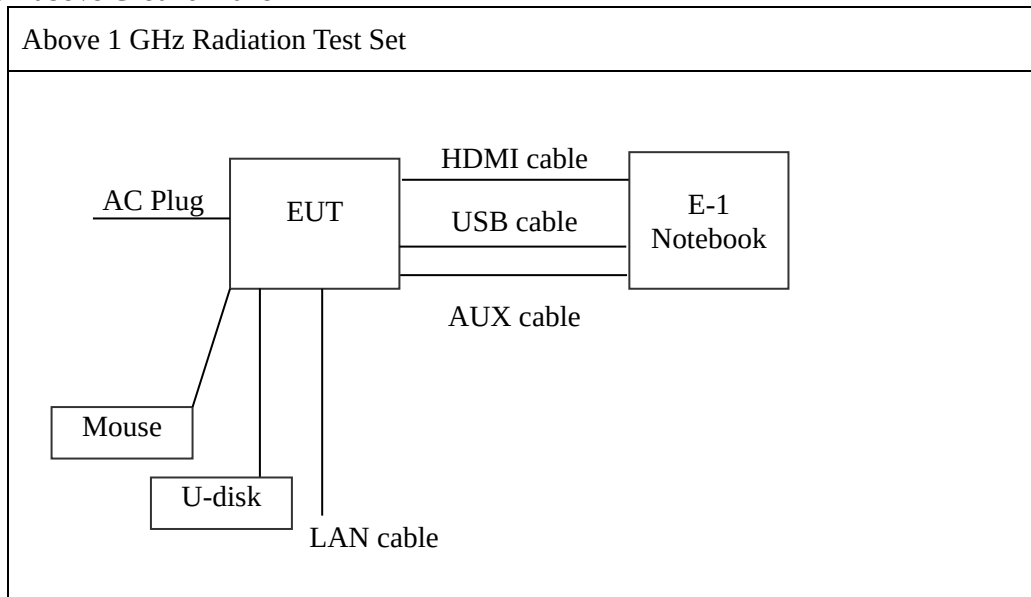
Test mode: mode 1, 2, 3 ,4 ,5, 6

Non-Conductive Table

80 cm above Ground Plane



150 cm above Ground Plane



2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
/	AC Cable	ASAP	246445	N/A	N/A	necessary accessories
/	Remote control	XGIMI	B981C	N/A	N/A	
E-1	Personal computer	DELL	VOSTRO.3800	N/A	N/A	support units.*
C-1	USB Cable	UGREEN	10368	N/A	N/A	
/	Mouse	HP	MODGUO	N/A	N/A	
/	HDMI Cable	SONY	20276	N/A	N/A	
/	AUX Cable	UGREEN	AV175	N/A	N/A	
/	U Disk	Kingston	DTKN/128GB	N/A	N/A	
/	LAN Cable	SAMZHE	283M	N/A	N/A	

Item	Equipment	Mfr/Brand	Model/Type No.	Note
N/A	N/A	N/A	N/A	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” means “shielded” or “with ferrite core”; “NO” means “unshielded” or “without ferrite core”
- (4) “*”: In this report, the applicant did not provide the accompanying accessories with the equipment. The accessories were provided by the laboratory (or the applicant) and inspected simultaneously.

2.5.1 EQUIPMENTS LIST FOR ALL TEST ITEMS

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Spectrum Analyzer	Keysight	N9020A	MY53300466	April 29, 2021	1 Year
RF Preselector	Hewlett Packard	85685A	3010A01157	April 29, 2021	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650	2521A00584	April 29, 2021	1 Year
Preamplifier	Com Power	PA-102	1482	April 29, 2021	1 Year
RF Attenuator	Mini-Circuits	CAT-10	Asset #1000	December 08, 2020	1 Year
LISN	Com Power	LI-200	12012	September 09, 2020	1 Year
LISN	Com Power	LI-200	12214	September 09, 2020	1 Year
LISN	Com Power	LI-200	1767	September 09, 2020	1 Year
LISN	Com Power	LI-200	1768	September 09, 2020	1 Year
Biconical Antenna	Com Power	AB-100	01557	December 29, 2020	1 Year
Log Periodic Antenna	Com Power	AL-100	16037	December 22, 2020	1 Year
Horn Antenna	Com Power	AHA-118	711054	December 22, 2020	1 Year
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Dell, Inc.	DHS	DNSV641	N/A	N/A

EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
EMI Receiver	Rohde & Schwarz	ESU40	100127	June 12, 2021	1 Year
BiConiLog Antenna	ETS-Lindgren	3142D	00102183	August 13, 2020	1 Year
Horn Antenna (1GHz-18GHz)	ETS-Lindgren	3117	00109294	May 6, 2021	1 Year
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	May 6, 2021	1 Year
Preamplifier	Rohde & Schwarz	TS-PR18	100056	June 12, 2021	1 Year
Pre-Amplifier	Agilent	8449B	3008A00409	June 12, 2021	1 Year
Antenna Mast	ETS-Lindgren	2175	00095727	N/A	N/A
Turntable	ETS-Lindgren	2187-3.0	00118231	N/A	N/A
Computer	Acer	Aspire 8930	85100050123	N/A	N/A
Multi-Function Controller	ETS-Lindgren	2090	00102270	N/A	N/A
Loop Antenna	ARA	PLA-1030/B	1029	May 19, 2021	1 Year

3. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

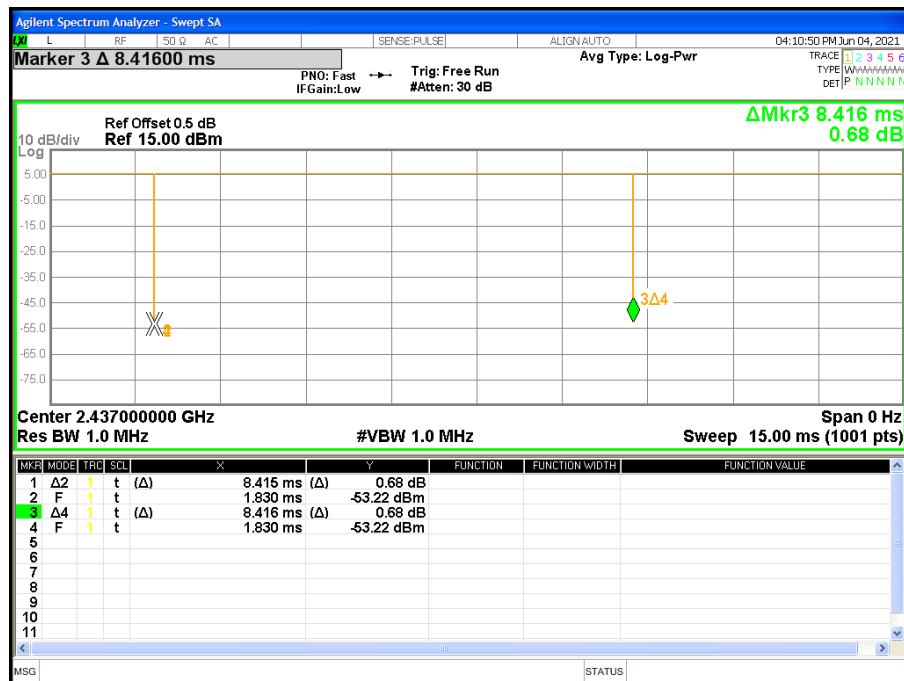
3.1 LIMITS

None; for reporting purposes only.

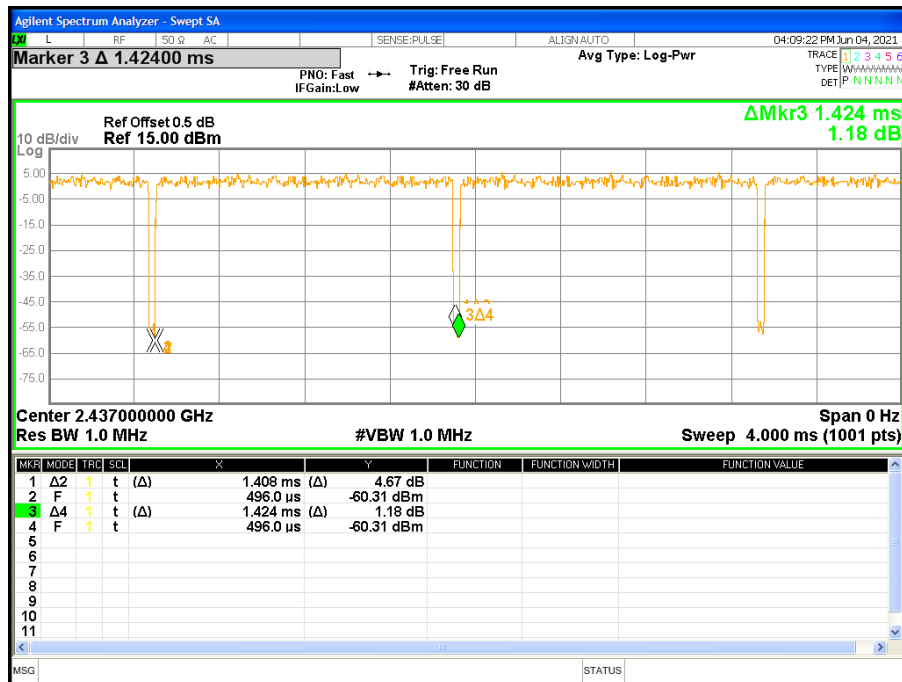
3.2 ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	10log(1/x)Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11B	8.415	8.416	1.000	99.99%	0.001	0.119
802.11G	1.408	1.424	0.989	98.88%	0.049	0.710
802.11N20(MHz)	1.308	1.335	0.980	97.98%	0.089	0.765
802.11N40(MHz)	0.656	0.684	0.959	95.91%	0.182	1.524

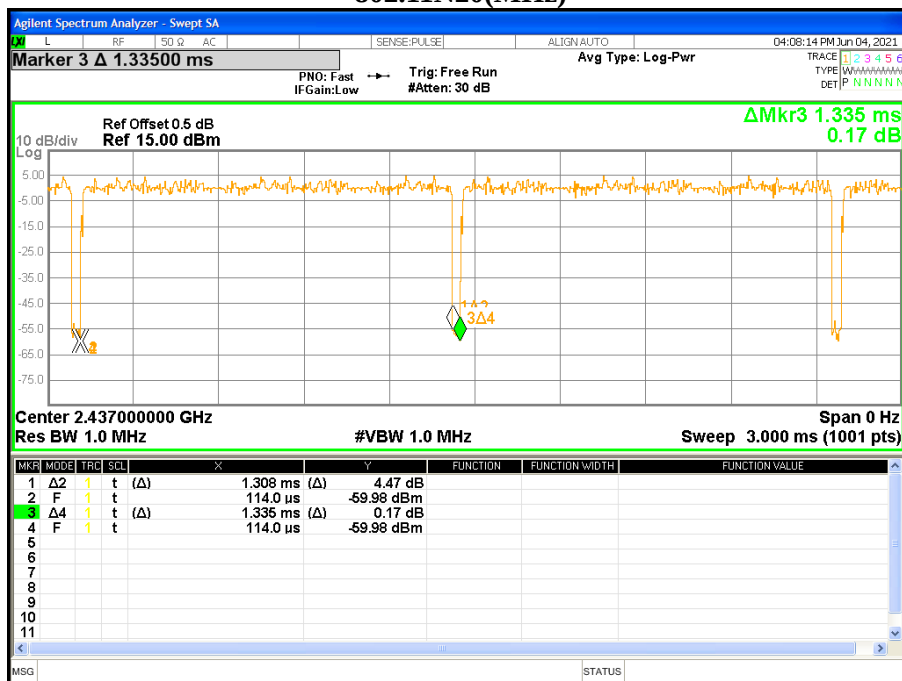
802.11B



802.11G



802.11N20(MHz)



Agilent Spectrum Analyzer - Swept SA

RL 50 Ω AC SENSE:PULSE ALIGN: AUTO 04:06:47 PM Jun 04, 2021

Marker 3 Δ 684.000 μ s PNO: Fast Trg: Free Run Avg Type: Log-Pwr
IF Gain: Low #Atten: 30 dB TRACE 1 2 3 4 5 6
TYPE W W W W W W W W
DET P N N N N N N

Ref Offset 0.5 dB
Ref 10.00 dBm

Δ Mkr3 684.0 μ s
1.73 dB

Center 2.437000000 GHz Span 0 Hz
Res BW 1.0 MHz #VBW 1.0 MHz Sweep 2.000 ms (1001 pts)

MKR	MODE	TRG	SCL		X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	1	t	(Δ)	656.0 μ s	-1.17 dB			
2	F	1	t		358.0 μ s	-58.86 dBm			
3	Δ 4	1	t	(Δ)	684.0 μ s	1.73 dB			
4	F	1	t		358.0 μ s	-58.86 dBm			
5									
6									
7									
8									
9									
10									
11									

MSG STATUS

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150kHz-30MHz)

FREQUENCY (MHz)	Class B (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	LP0002
0.50 -5.0	56.00	46.00	LP0002
5.0 -30.0	60.00	50.00	LP0002

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

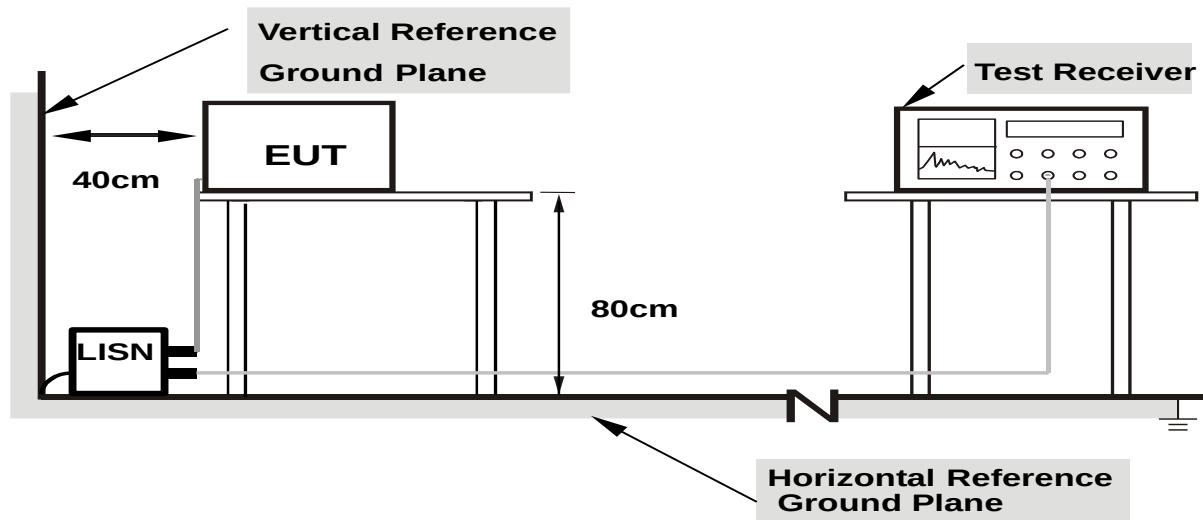
4.1.2 TEST PROCEDURE

- The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

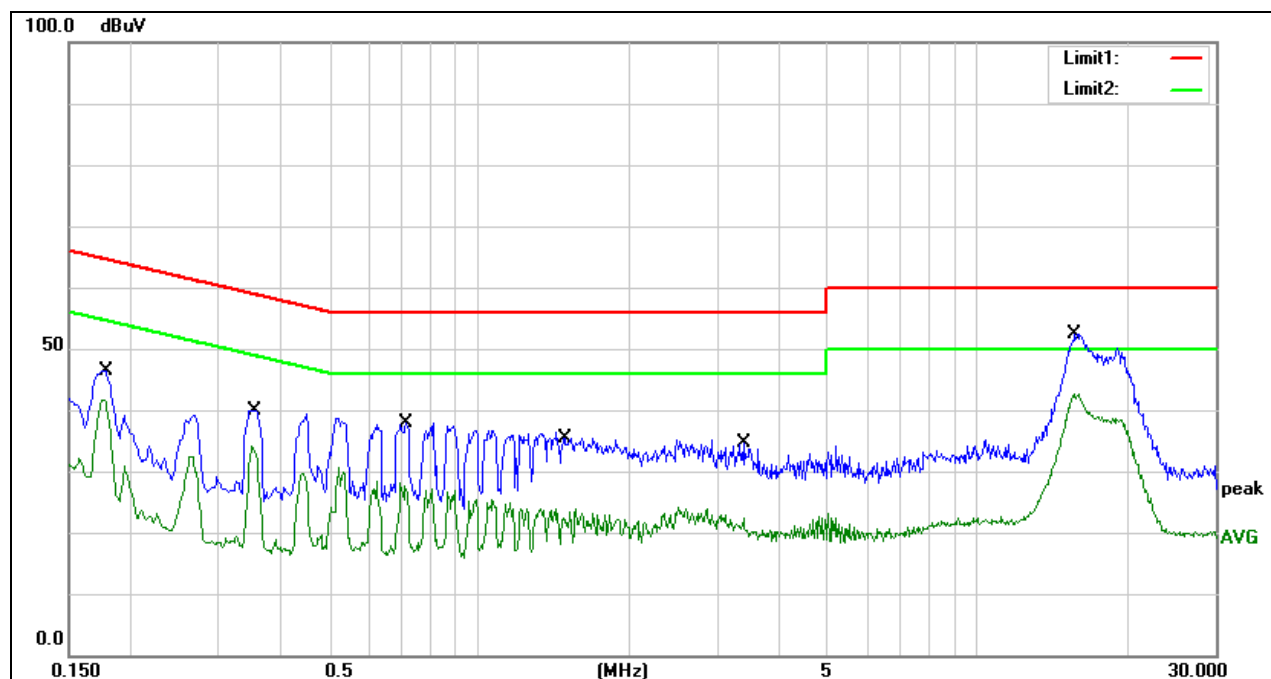
4.1.4 TEST SETUP



- Note:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 TEST RESULTS

EUT :	Projector	Model Name. :	XM03A
Temperature :	26.0 °C	Relative Humidity :	59%
Pressure :	1010hPa	Test Date :	2021-06-03
Test Mode :	TX(worst case)	Phase :	L
Test Voltage :	AC 110V/60Hz		

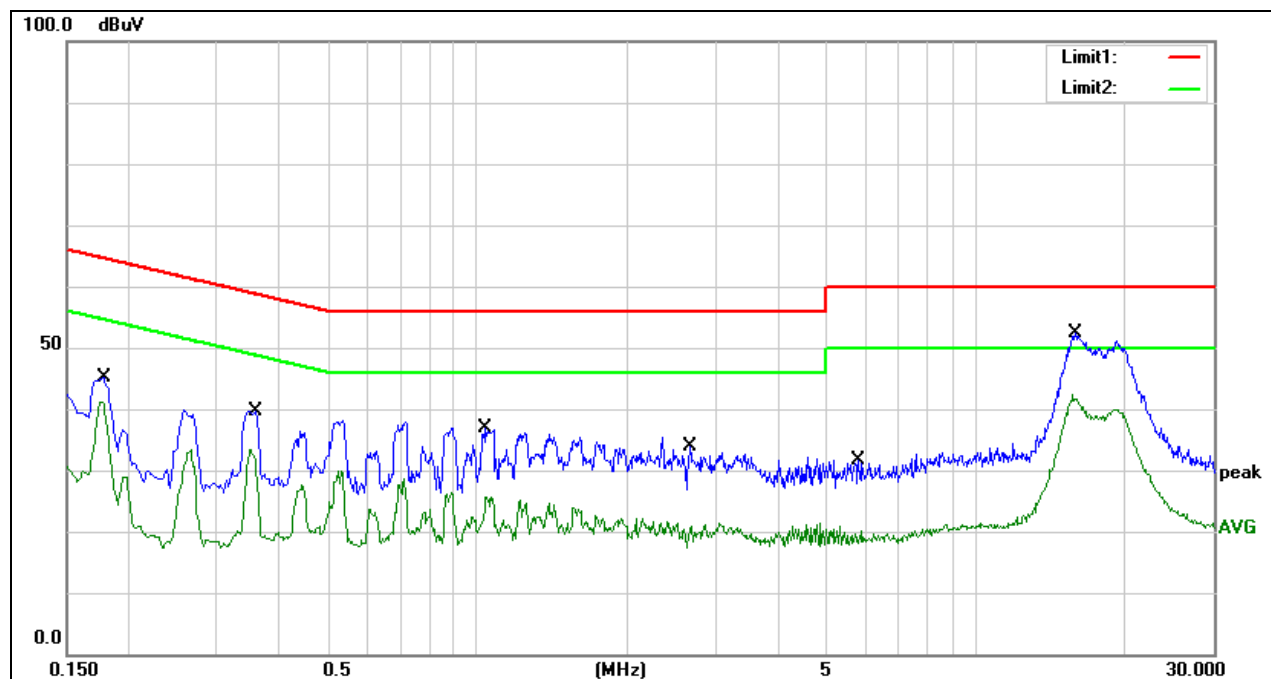


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = LISN factor + Cable Loss + Pulse limiter.

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1780	26.13	20.31	46.44	64.58	-18.14	QP
2	0.1780	21.20	20.31	41.51	54.58	-13.07	AVG
3	0.3540	19.36	20.64	40.00	58.87	-18.87	QP
4	0.3540	9.30	20.64	29.94	48.87	-18.93	AVG
5	0.7140	17.56	20.35	37.91	56.00	-18.09	QP
6	0.7140	6.70	20.35	27.05	46.00	-18.95	AVG
7	1.4860	15.19	20.30	35.49	56.00	-20.51	QP
8	1.4860	0.96	20.30	21.26	46.00	-24.74	AVG
9	3.3820	14.24	20.37	34.61	56.00	-21.39	QP
10	3.3820	0.10	20.37	20.47	46.00	-25.53	AVG
11	15.6780	30.43	21.89	52.32	60.00	-7.68	QP
12	15.6780	20.71	21.89	42.60	50.00	-7.40	AVG

EUT :	Projector	Model Name. :	XM03A
Temperature :	26.0 °C	Relative Humidity :	59%
Pressure :	1010hPa	Test Date :	2021-06-03
Test Mode :	TX(worst case)	Phase :	N
Test Voltage :	AC 110V/60Hz		



Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = LISN factor + Cable Loss + Pulse limiter.

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1780	24.79	20.31	45.10	64.58	-19.48	QP
2	0.1780	20.74	20.31	41.05	54.58	-13.53	AVG
3	0.3580	18.98	20.63	39.61	58.77	-19.16	QP
4	0.3580	9.74	20.63	30.37	48.77	-18.40	AVG
5	1.0380	16.68	20.30	36.98	56.00	-19.02	QP
6	1.0380	5.41	20.30	25.71	46.00	-20.29	AVG
7	2.6660	13.51	20.33	33.84	56.00	-22.16	QP
8	2.6660	0.43	20.33	20.76	46.00	-25.24	AVG
9	5.8220	11.13	20.51	31.64	60.00	-28.36	QP
10	5.8220	-1.24	20.51	19.27	50.00	-30.73	AVG
11	15.8100	30.45	21.92	52.37	60.00	-7.63	QP
12	15.8100	20.44	21.92	42.36	50.00	-7.64	AVG

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 3.5, then the 3.6 limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to LP0002.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Frequency measurement range:

1 The spectrum shall be measured from the lowest radio frequency signal generated in the device (without going below 9 kHz), and the upper limit of the measurement range shall be decided according to the maximum operating frequency.

1.1 Maximum operating frequency less than 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

1.2 Maximum operating frequency between 10 GHz~30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

1.3 Maximum operating frequency over 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower.

2 Particular attention should be paid to harmonics and subharmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.

Spectrum Parameter		Setting	
Attenuation		Auto	
Start Frequency		1000 MHz	
Stop Frequency		10th carrier harmonic	
Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3MHz
AV	$\geq 98\%$	1MHz	10Hz
	$< 98\%$	1MHz	1/T

NOTE: KDB 558074 Zero-Span Spectrum Analyzer Method.

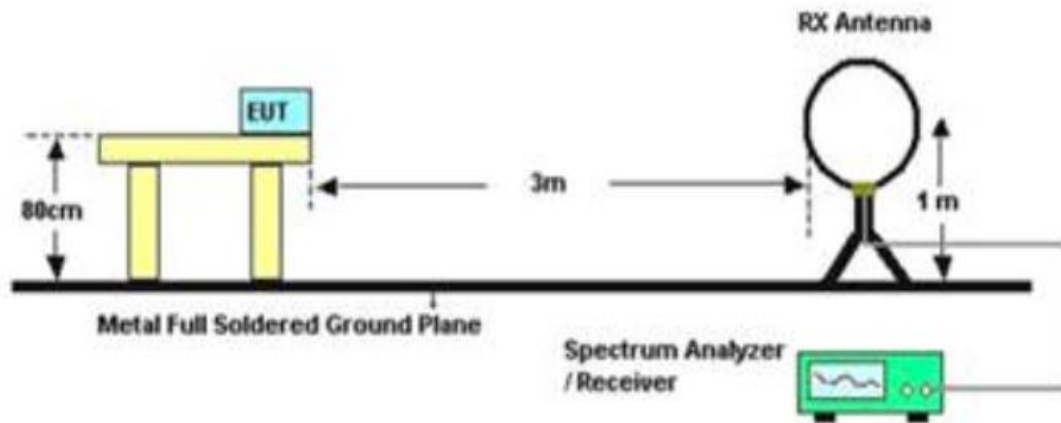
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.2 TEST PROCEDURE

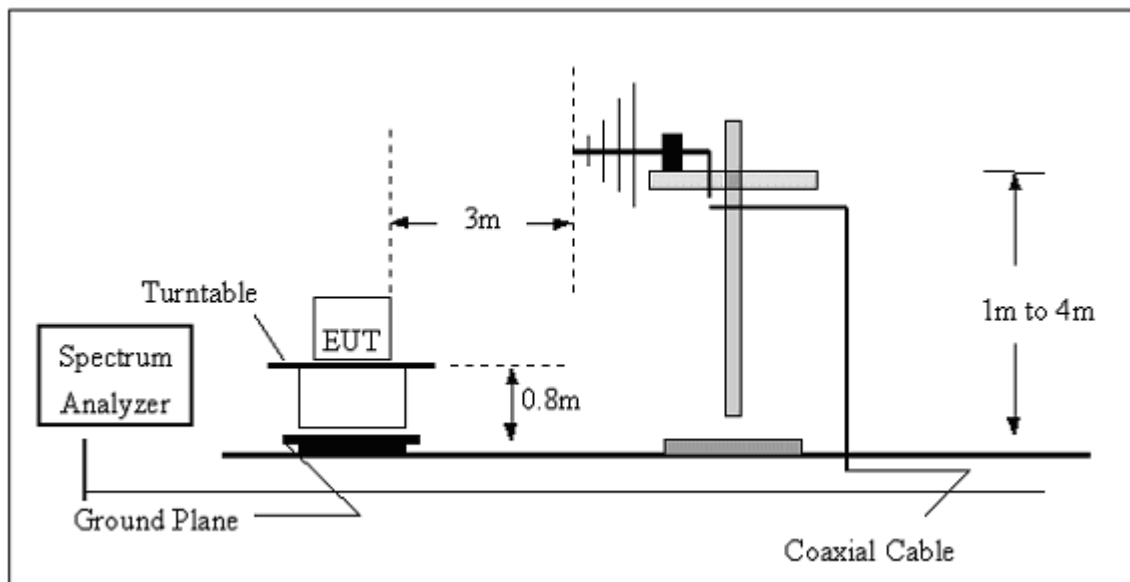
- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 TEST SETUP

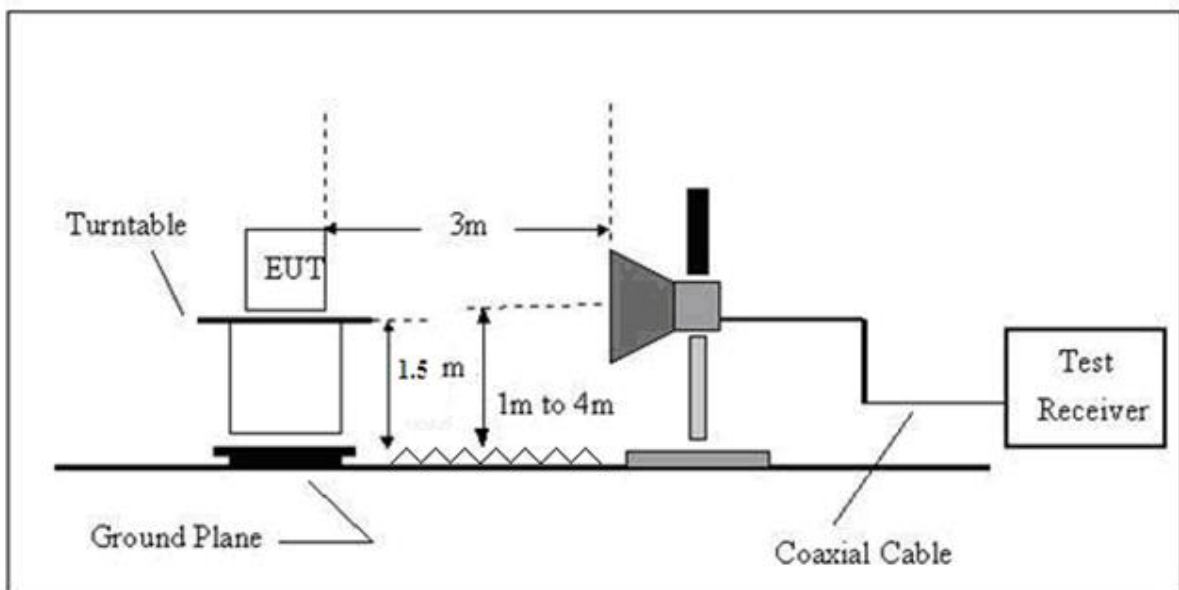
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.5 TEST RESULTS

Between 9KHz – 30 MHz

EUT :	Projector	Model Name. :	XM03A
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	N/A
--	--	--	--	N/A

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

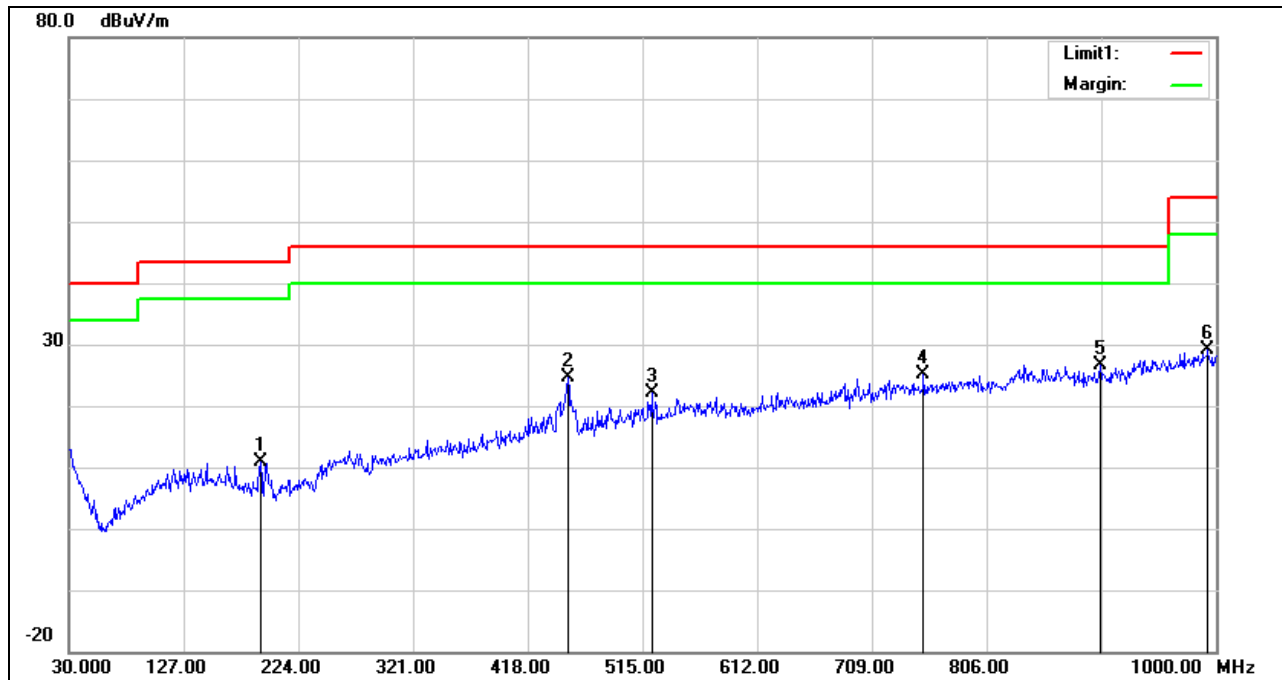
Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

BETWEEN 30 – 1000 MHZ

Note: Pre-scan both the SISO and MIMO mode, only the worst-case results were reported.

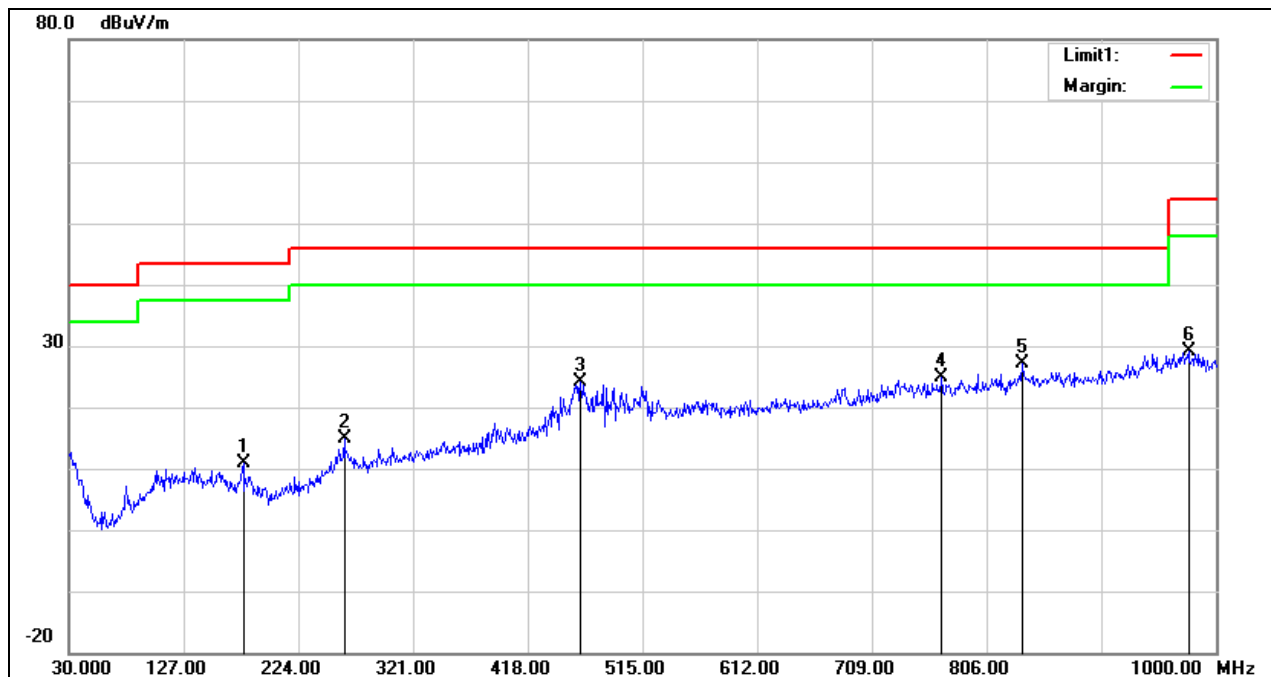
EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX 802.11n20/ANT B(Worst Case)	Polarization :	Horizontal
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	191.9900	31.95	-21.04	10.91	43.50	-32.59	QP
2	451.9500	34.19	-9.62	24.57	46.00	-21.43	QP
3	522.7600	29.80	-7.72	22.08	46.00	-23.92	QP
4	752.6500	27.25	-2.16	25.09	46.00	-20.91	QP
5	902.0300	27.06	-0.40	26.66	46.00	-19.34	QP
6	993.2100	27.18	2.05	29.23	54.00	-24.77	QP

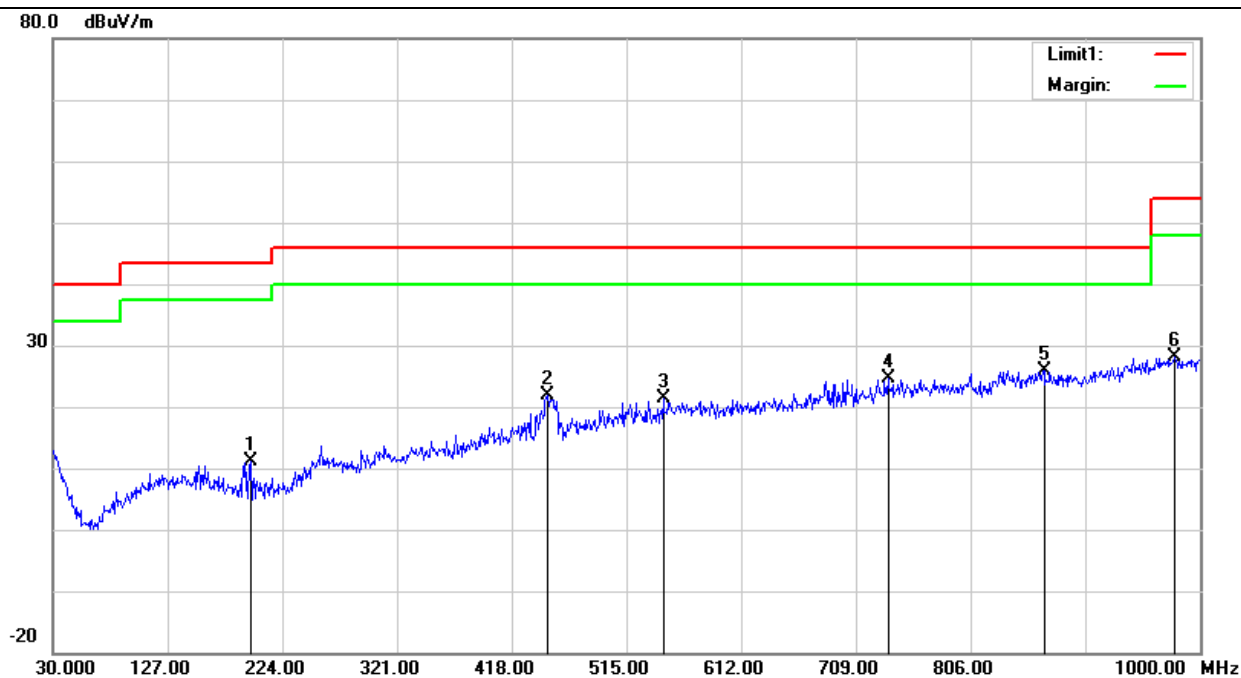
EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX 802.11n20/ANT B(Worst Case)	Polarization :	Vertical
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	177.4400	30.98	-20.03	10.95	43.50	-32.55	QP
2	262.8000	29.55	-14.76	14.79	46.00	-31.21	QP
3	462.6200	33.45	-9.34	24.11	46.00	-21.89	QP
4	768.1700	27.10	-2.30	24.80	46.00	-21.20	QP
5	836.0700	27.56	-0.50	27.06	46.00	-18.94	QP
6	976.7200	26.72	2.45	29.17	54.00	-24.83	QP

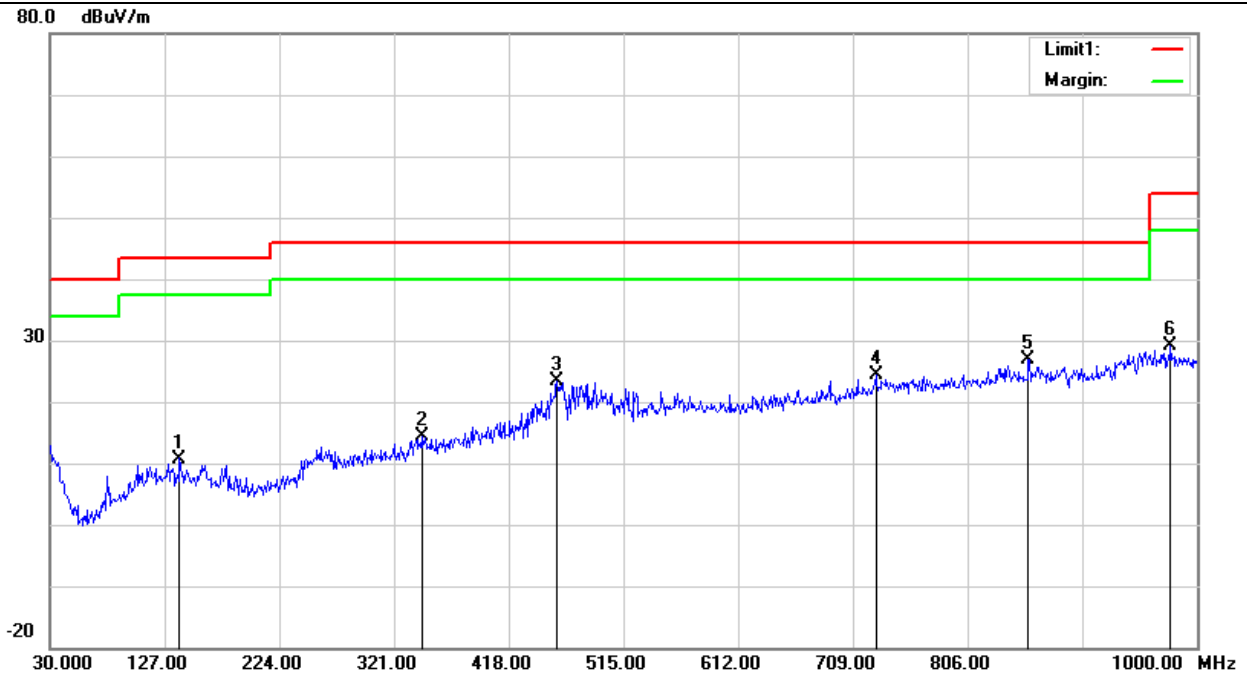
EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	RX(Worst Case)	Polarization :	Horizontal
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	197.8100	32.37	-21.12	11.25	43.50	-32.25	QP
2	448.0700	31.64	-9.76	21.88	46.00	-24.12	QP
3	546.0400	27.53	-6.20	21.33	46.00	-24.67	QP
4	736.1600	26.87	-2.25	24.62	46.00	-21.38	QP
5	868.0800	26.46	-0.51	25.95	46.00	-20.05	QP
6	978.6600	25.49	2.58	28.07	54.00	-25.93	QP

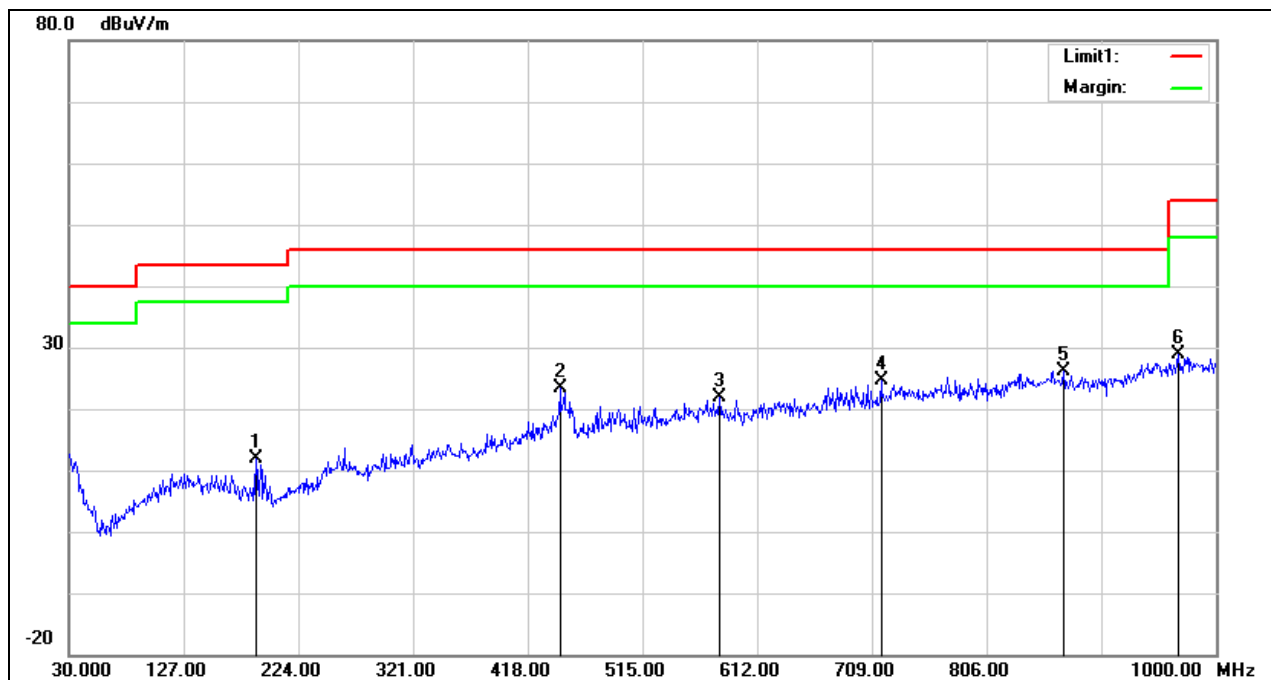
EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	RX(Worst Case)	Polarization :	Vertical
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	139.6100	28.77	-18.02	10.75	43.50	-32.75	QP
2	344.2800	27.58	-13.26	14.32	46.00	-31.68	QP
3	458.7400	32.98	-9.48	23.50	46.00	-22.50	QP
4	728.4000	27.08	-2.60	24.48	46.00	-21.52	QP
5	857.4100	27.29	-0.50	26.79	46.00	-19.21	QP
6	977.6900	26.63	2.52	29.15	54.00	-24.85	QP

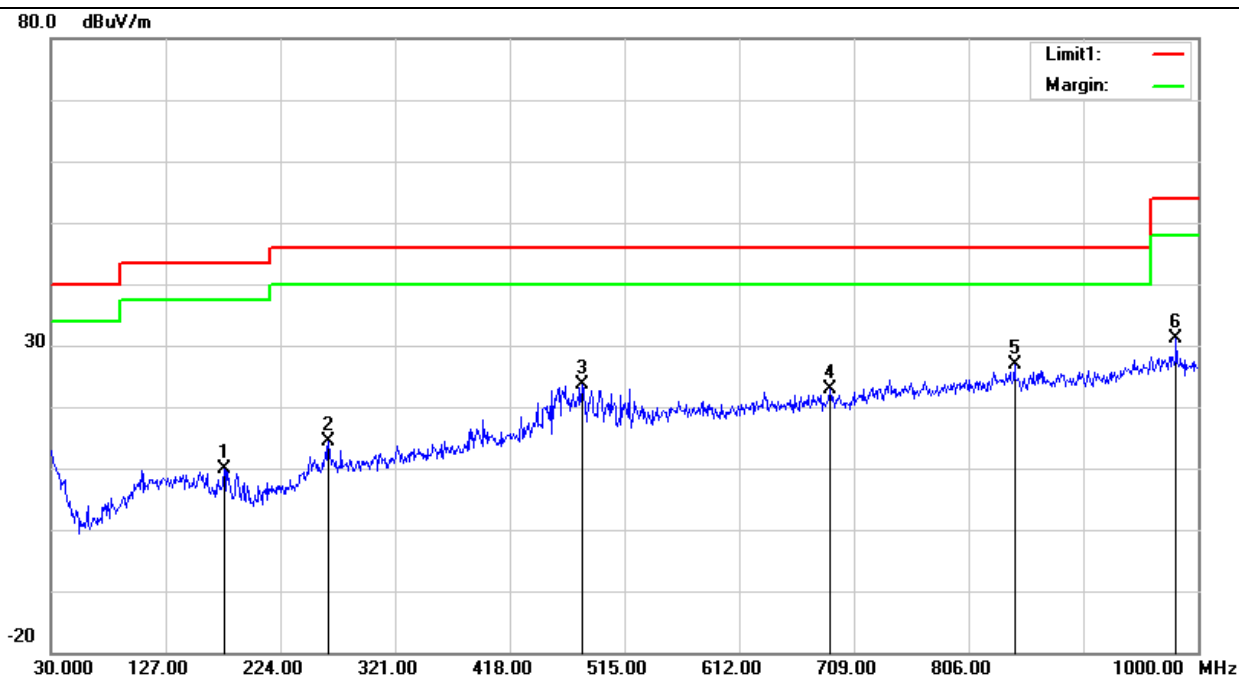
EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	Working	Polarization :	Horizontal
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	188.1100	32.54	-20.76	11.78	43.50	-31.72	QP
2	445.1600	33.13	-9.87	23.26	46.00	-22.74	QP
3	579.9900	27.53	-5.76	21.77	46.00	-24.23	QP
4	716.7600	28.06	-3.44	24.62	46.00	-21.38	QP
5	870.9900	26.75	-0.55	26.20	46.00	-19.80	QP
6	967.9900	26.91	1.95	28.86	54.00	-25.14	QP

EUT :	Projector	Model Name. :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	Working	Polarization :	Vertical
Test Power :	AC 110V/60Hz		



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	176.4700	29.97	-20.04	9.93	43.50	-33.57	QP
2	264.7400	29.19	-14.75	14.44	46.00	-31.56	QP
3	479.1100	32.20	-8.68	23.52	46.00	-22.48	QP
4	688.6300	27.16	-4.33	22.83	46.00	-23.17	QP
5	844.8000	27.30	-0.53	26.77	46.00	-19.23	QP
6	981.5700	28.52	2.57	31.09	54.00	-22.91	QP

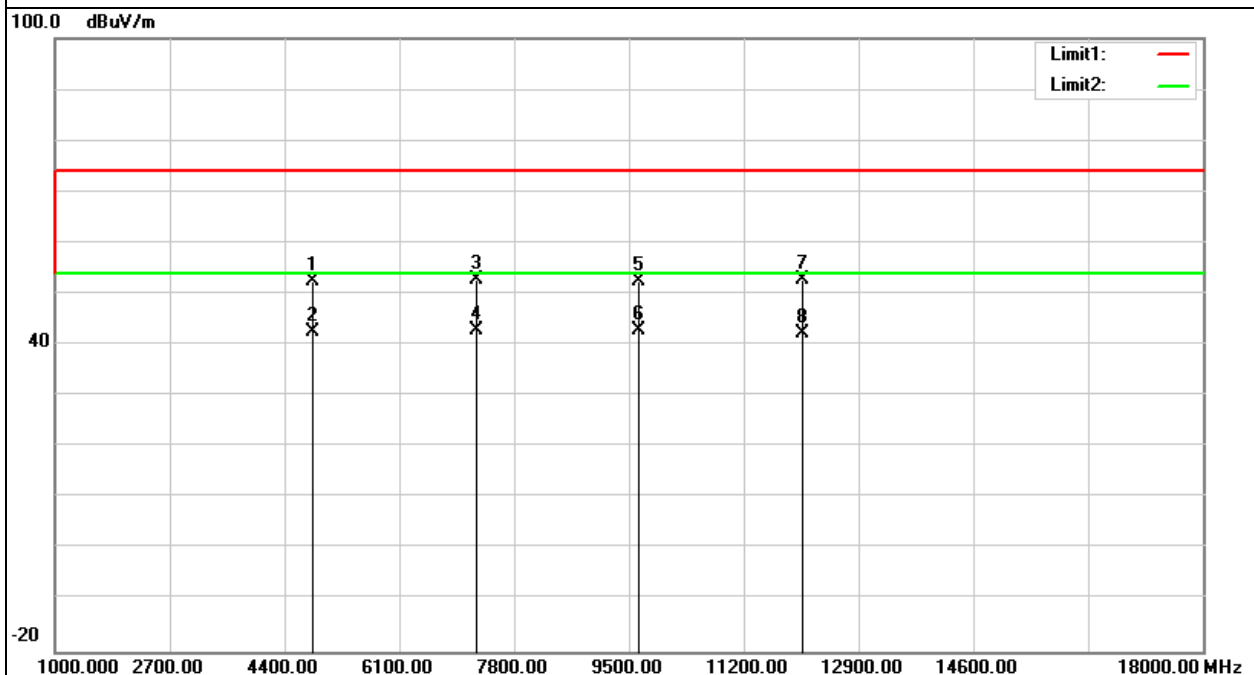
4.2.6 TEST RESULTS (ABOVE 1000 MHZ)

Note: Pre-scan both the SISO and MIMO mode, only the worst-case results were reported

EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH03 (802.11n20 : Rate 6.5Mbps)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4826.000	59.48	-7.12	52.36	74.00	-21.64	peak
4826.000	49.71	-7.12	42.59	54.00	-11.41	AVG
7236.000	51.98	0.66	52.64	74.00	-21.36	peak
7236.000	42.31	0.66	42.97	54.00	-11.03	AVG
9648.000	49.14	3.20	52.34	74.00	-21.66	peak
9648.000	39.77	3.20	42.97	54.00	-11.03	AVG
12066.000	46.90	5.80	52.70	74.00	-21.30	peak
12066.000	36.39	5.80	42.19	54.00	-11.81	AVG

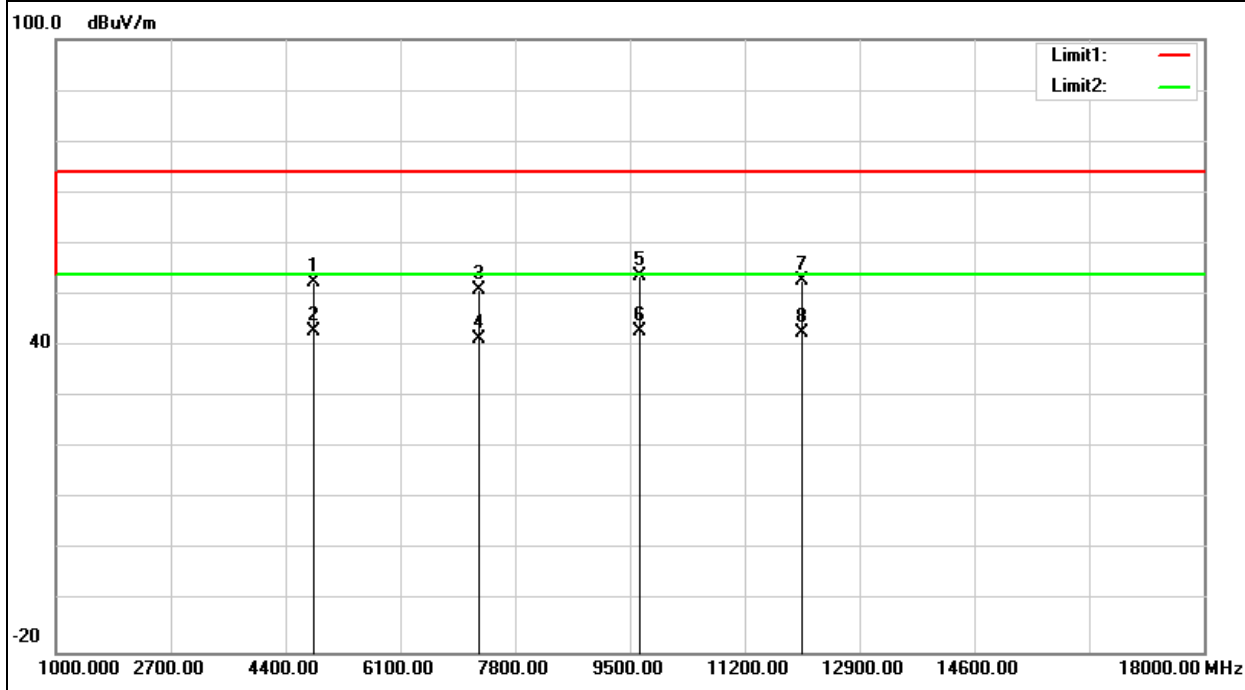
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH03 (802.11n20 : Rate 6.5Mbps)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4825.000	59.44	-7.13	52.31	74.00	-21.69	peak
4825.000	50.13	-7.13	43.00	54.00	-11.00	AVG
7269.000	50.04	0.78	50.82	74.00	-23.18	peak
7269.000	40.47	0.78	41.25	54.00	-12.75	AVG
9648.000	50.48	3.20	53.68	74.00	-20.32	peak
9648.000	39.75	3.20	42.95	54.00	-11.05	AVG
12055.000	46.80	5.81	52.61	74.00	-21.39	peak
12055.000	36.61	5.81	42.42	54.00	-11.58	AVG

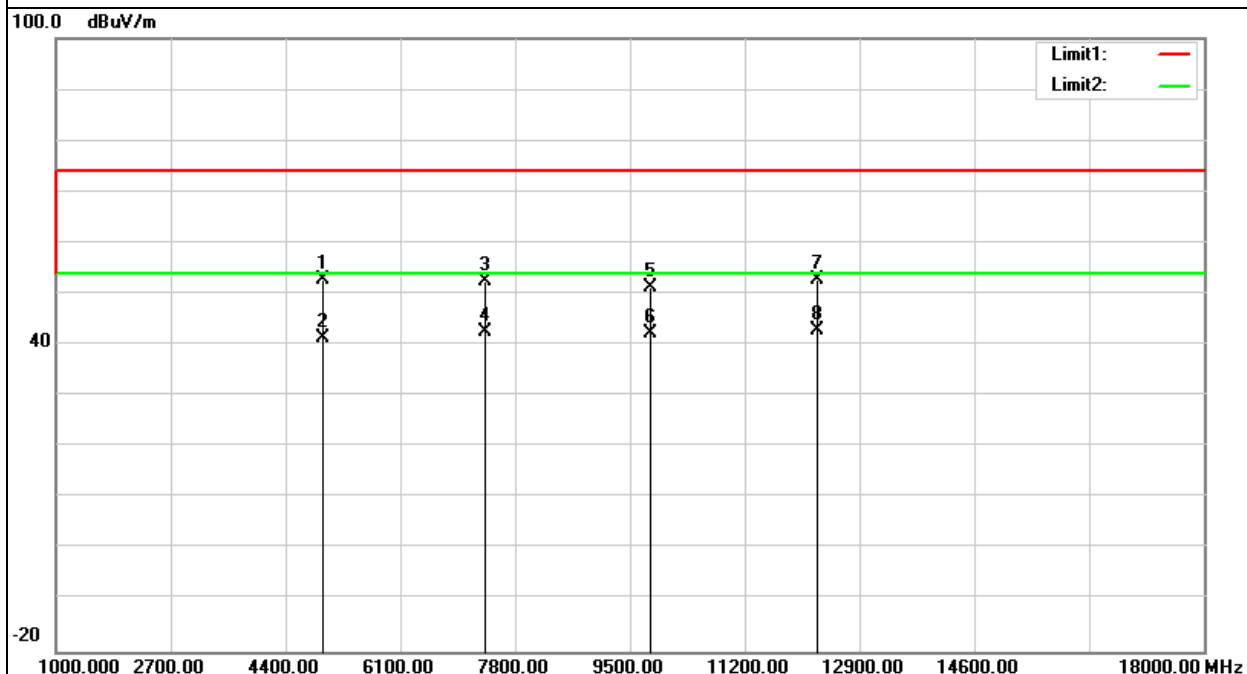
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH06 (802.11n20 : Rate 6.5Mbps)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4961.000	59.09	-6.45	52.64	74.00	-21.36	peak
4961.000	47.88	-6.45	41.43	54.00	-12.57	AVG
7358.000	51.30	1.11	52.41	74.00	-21.59	peak
7358.000	41.54	1.11	42.65	54.00	-11.35	AVG
9809.000	47.91	3.28	51.19	74.00	-22.81	peak
9809.000	39.03	3.28	42.31	54.00	-11.69	AVG
12266.000	46.95	5.82	52.77	74.00	-21.23	peak
12266.000	37.14	5.82	42.96	54.00	-11.04	AVG

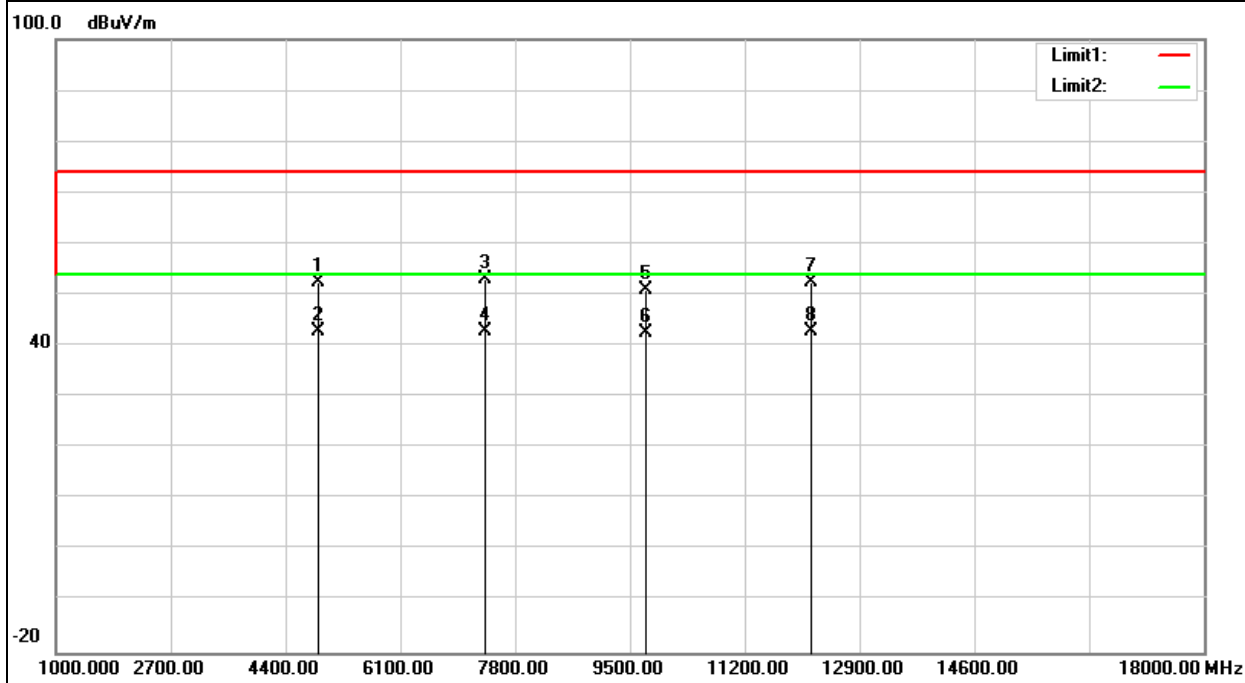
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH06 (802.11n20 : Rate 6.5Mbps)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4897.000	59.17	-6.86	52.31	74.00	-21.69	peak
4897.000	49.81	-6.86	42.95	54.00	-11.05	AVG
7366.000	51.80	1.14	52.94	74.00	-21.06	peak
7366.000	41.73	1.14	42.87	54.00	-11.13	AVG
9745.000	47.84	3.25	51.09	74.00	-22.91	peak
9745.000	39.36	3.25	42.61	54.00	-11.39	AVG
12189.000	46.65	5.81	52.46	74.00	-21.54	peak
12189.000	37.14	5.81	42.95	54.00	-11.05	AVG

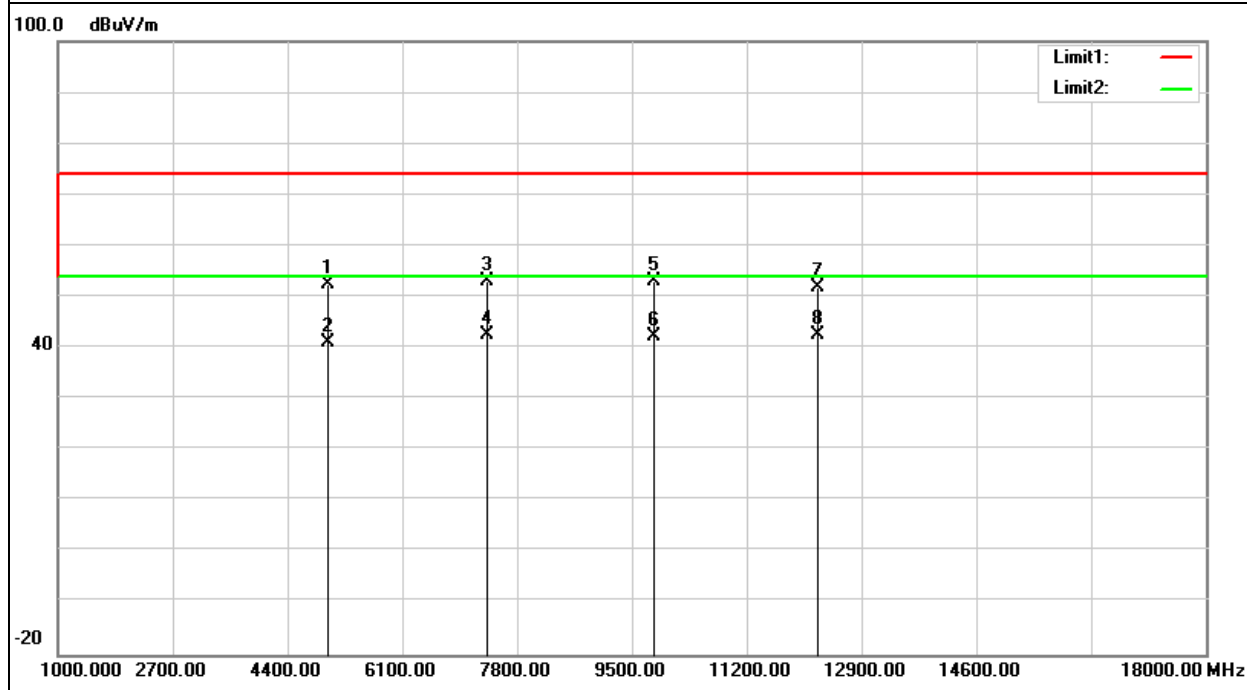
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH09 (802.11n20 : Rate 6.5Mbps)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4999.000	58.50	-6.19	52.31	74.00	-21.69	peak
4999.000	47.20	-6.19	41.01	54.00	-12.99	AVG
7366.000	51.80	1.14	52.94	74.00	-21.06	peak
7366.000	41.53	1.14	42.67	54.00	-11.33	AVG
9832.000	49.69	3.28	52.97	74.00	-21.03	peak
9832.000	38.87	3.28	42.15	54.00	-11.85	AVG
12264.000	46.05	5.82	51.87	74.00	-22.13	peak
12264.000	36.85	5.82	42.67	54.00	-11.33	AVG

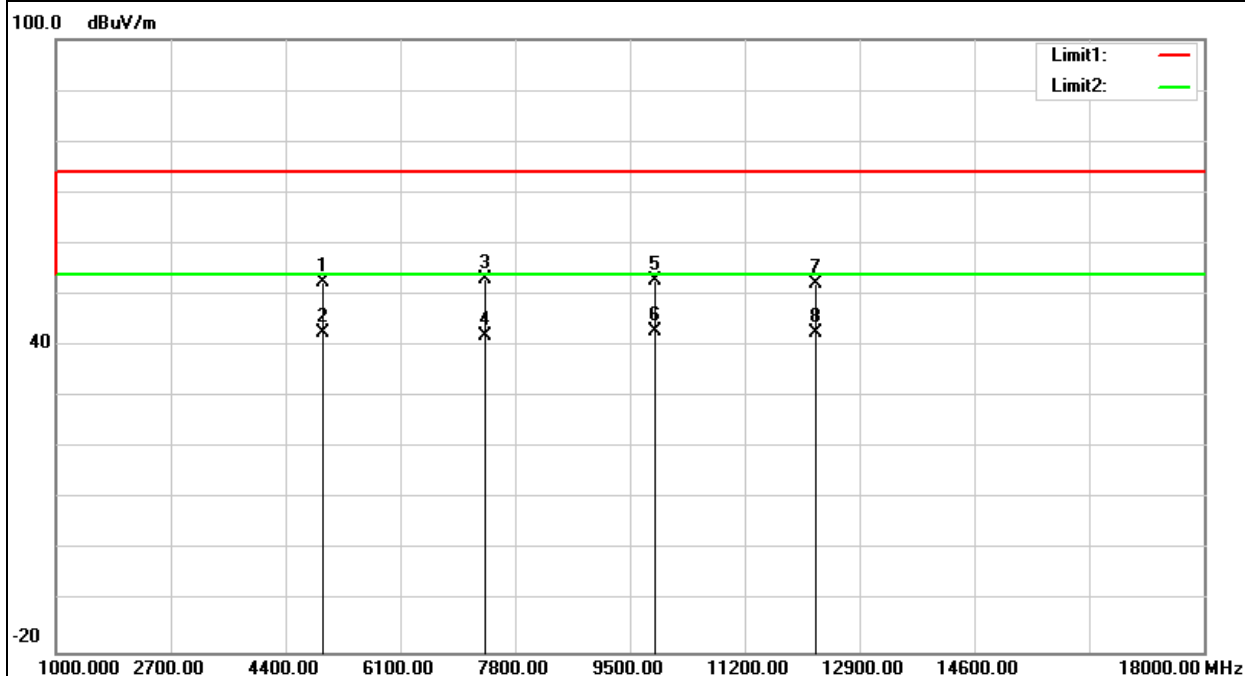
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	TX CH09 (802.11n40 : Rate 6.5Mbps)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4963.000	58.74	-6.43	52.31	74.00	-21.69	peak
4963.000	49.07	-6.43	42.64	54.00	-11.36	AVG
7355.000	51.84	1.10	52.94	74.00	-21.06	peak
7355.000	40.92	1.10	42.02	54.00	-11.98	AVG
9866.000	49.34	3.30	52.64	74.00	-21.36	peak
9866.000	39.67	3.30	42.97	54.00	-11.03	AVG
12265.000	46.22	5.82	52.04	74.00	-21.96	peak
12265.000	36.79	5.82	42.61	54.00	-11.39	AVG

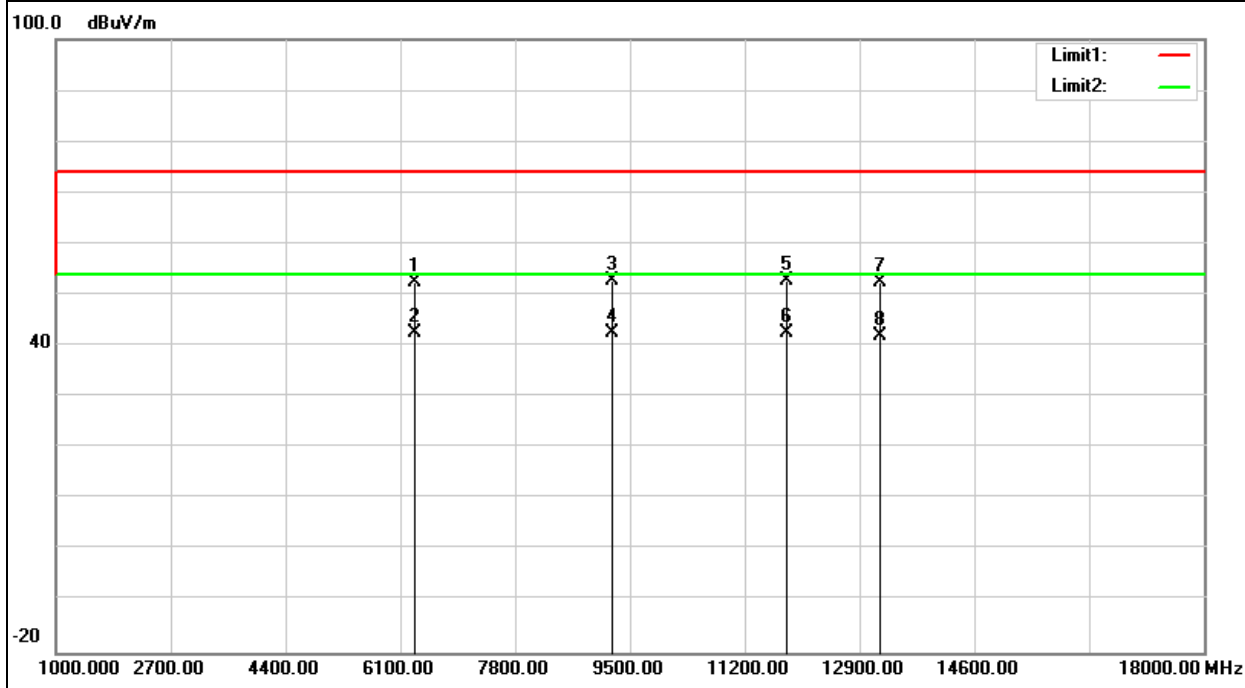
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	RX(worst case)	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
6321.000	54.72	-2.38	52.34	74.00	-21.66	peak
6321.000	44.96	-2.38	42.58	54.00	-11.42	peak
9228.000	50.02	2.77	52.79	74.00	-21.21	peak
9228.000	39.84	2.77	42.61	54.00	-11.39	peak
11829.000	46.67	6.00	52.67	74.00	-21.33	peak
11829.000	36.60	6.00	42.60	54.00	-11.40	peak
13206.000	44.52	7.82	52.34	74.00	-21.66	peak
13206.000	34.23	7.82	42.05	54.00	-11.95	AVG

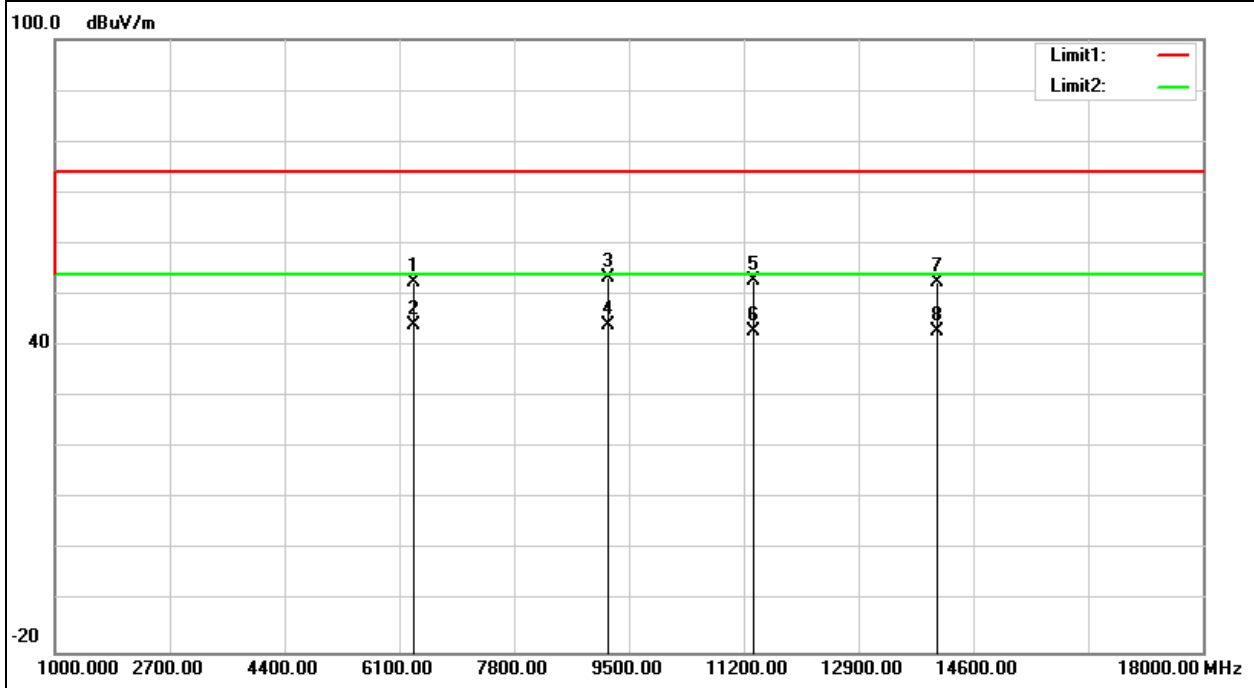
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-19
Test Mode :	RX(worst case)	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	1GHz to 18GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
6321.000	54.69	-2.38	52.31	74.00	-21.69	peak
6321.000	46.36	-2.38	43.98	54.00	-10.02	AVG
9194.000	50.57	2.73	53.30	74.00	-20.70	peak
9194.000	41.25	2.73	43.98	54.00	-10.02	AVG
11353.000	46.26	6.37	52.63	74.00	-21.37	peak
11353.000	36.33	6.37	42.70	54.00	-11.30	AVG
14056.000	40.12	12.22	52.34	74.00	-21.66	peak
14056.000	30.73	12.22	42.95	54.00	-11.05	AVG

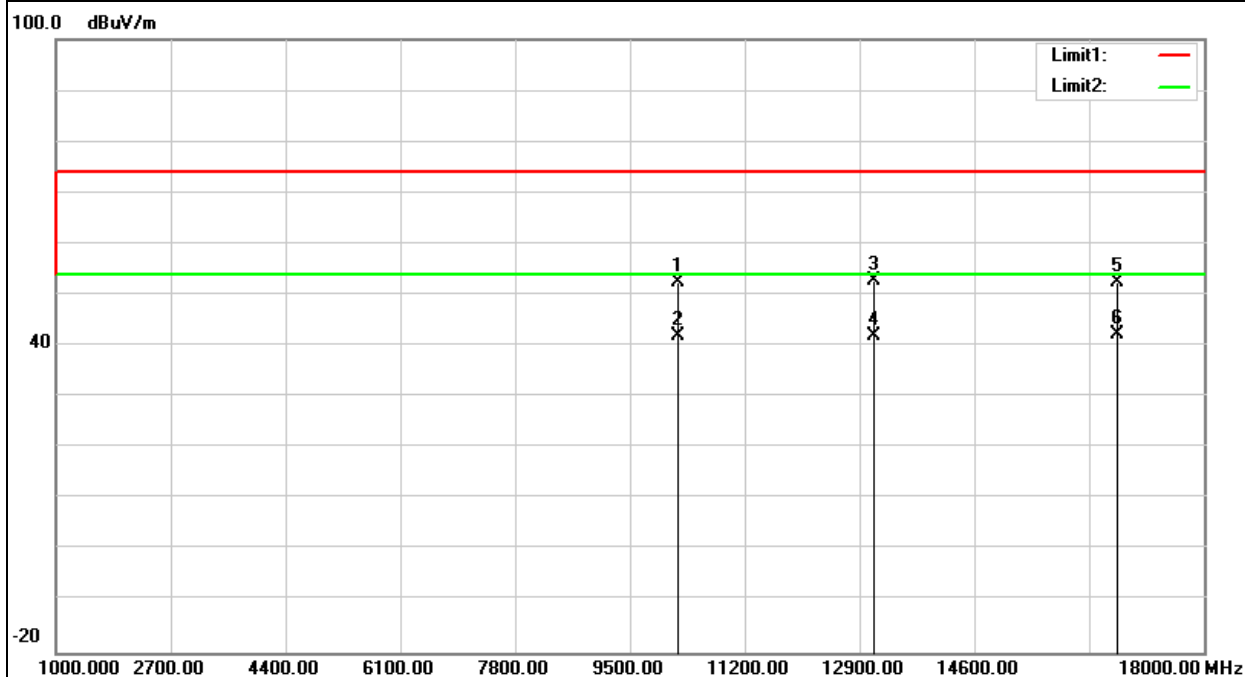
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-23
Test Mode :	Working	Polarization :	Horizontal
Measurement Distance	3 m	Frenqucy Range	18GHz to 25GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
10214.000	48.29	4.05	52.34	74.00	-21.66	peak
10214.000	37.97	4.05	42.02	54.00	-11.98	AVG
13104.000	45.44	7.20	52.64	74.00	-21.36	peak
13104.000	34.80	7.20	42.00	54.00	-12.00	AVG
16725.000	42.81	9.53	52.34	74.00	-21.66	peak
16725.000	32.81	9.53	42.34	54.00	-11.66	AVG

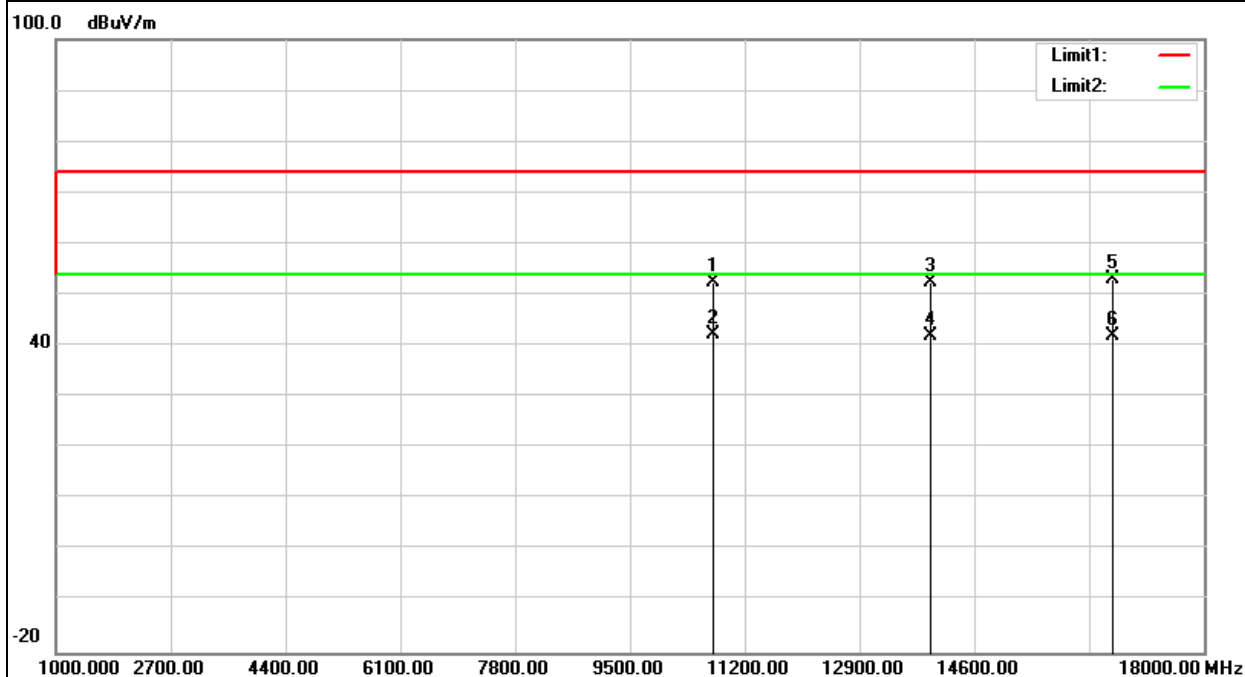
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Date :	2021-06-23
Test Mode :	Working	Polarization :	Vertical
Measurement Distance	3 m	Frenqucy Range	18GHz to 25GHz
Test Power :	AC 110V/60Hz		

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
10741.000	46.73	5.61	52.34	74.00	-21.66	peak
10741.000	36.64	5.61	42.25	54.00	-11.75	AVG
13954.000	40.26	12.07	52.33	74.00	-21.67	peak
13954.000	29.98	12.07	42.05	54.00	-11.95	AVG
16657.000	43.52	9.45	52.97	74.00	-21.03	peak
16657.000	32.60	9.45	42.05	54.00	-11.95	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

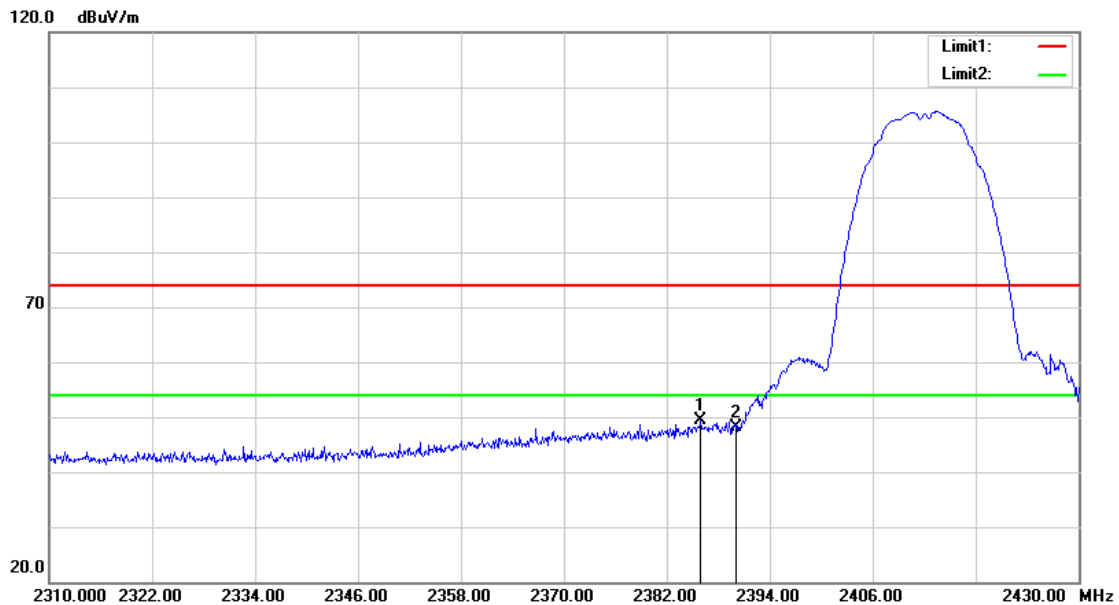


4.2.7 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

Note: Pre-scan both the SISO and MIMO mode, only the worst-case results were reported.

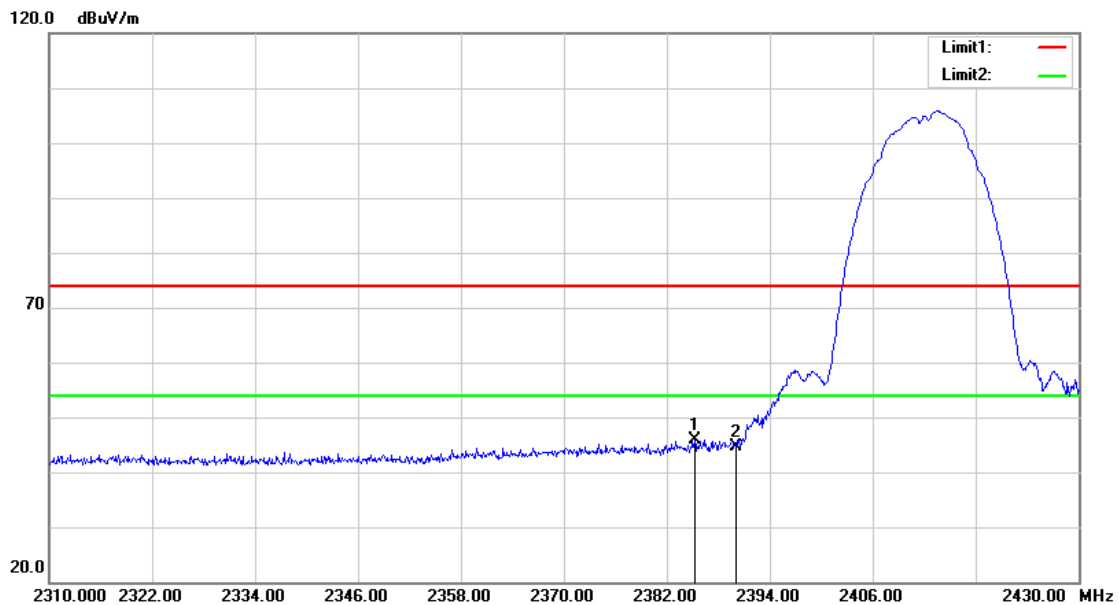
Temperature :	23.1 °C	Relative Humidity :	60%
Test Mode :	TX	Test Date :	2021-04-20

ANT B 802.11b Low channel Horizontal



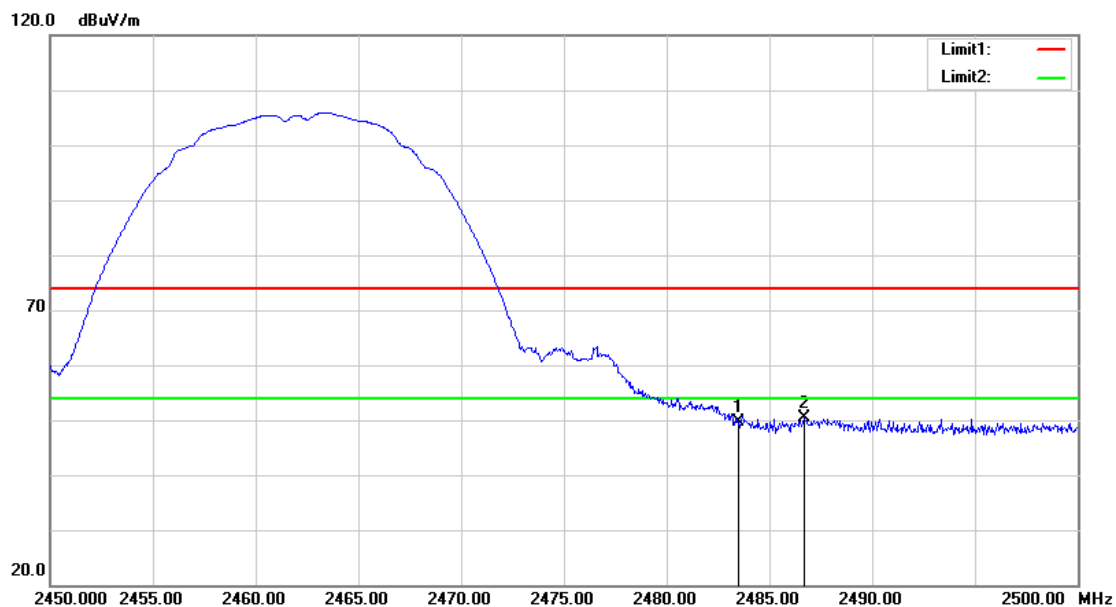
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.960	45.05	4.28	49.33	74.00	-24.67	peak
2	2390.000	43.67	4.34	48.01	74.00	-25.99	peak

Vertical



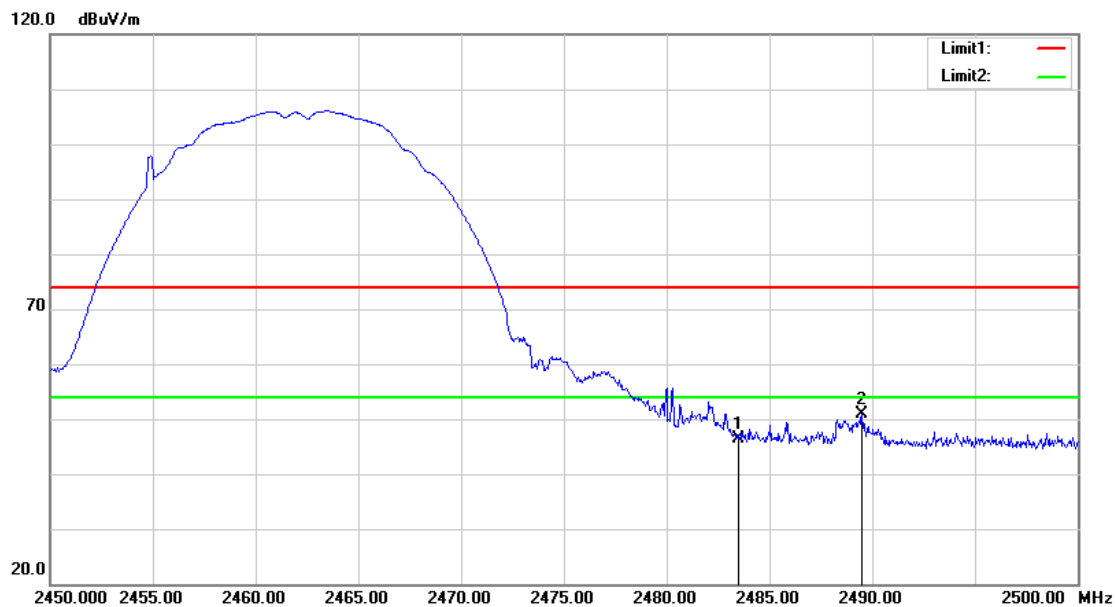
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.240	41.63	4.27	45.90	74.00	-28.10	peak
2	2390.000	40.32	4.34	44.66	74.00	-29.34	peak

802.11b High channel Horizontal



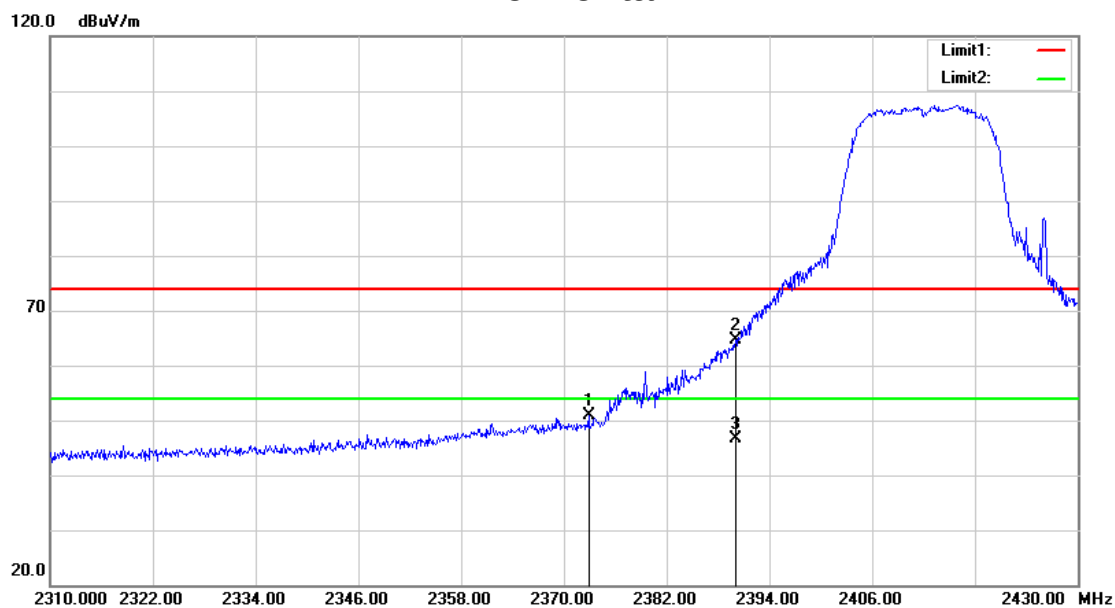
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	45.08	4.60	49.68	74.00	-24.32	peak
2	2486.700	45.76	4.61	50.37	74.00	-23.63	peak

Vertical



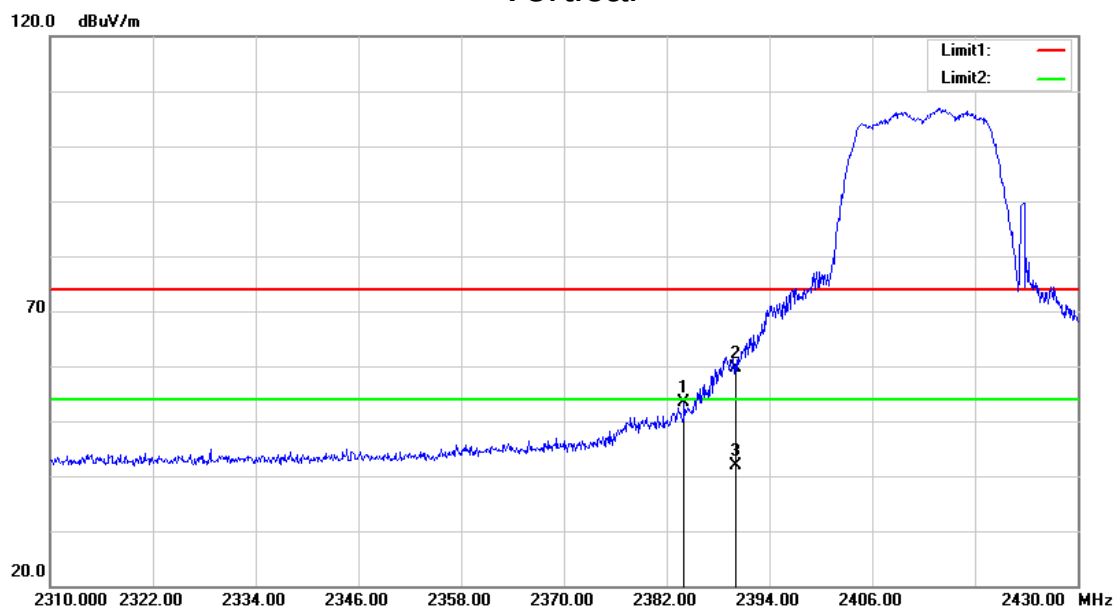
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	41.88	4.60	46.48	74.00	-27.52	peak
2	2489.500	46.30	4.62	50.92	74.00	-23.08	peak

802.11g Low channel Horizontal



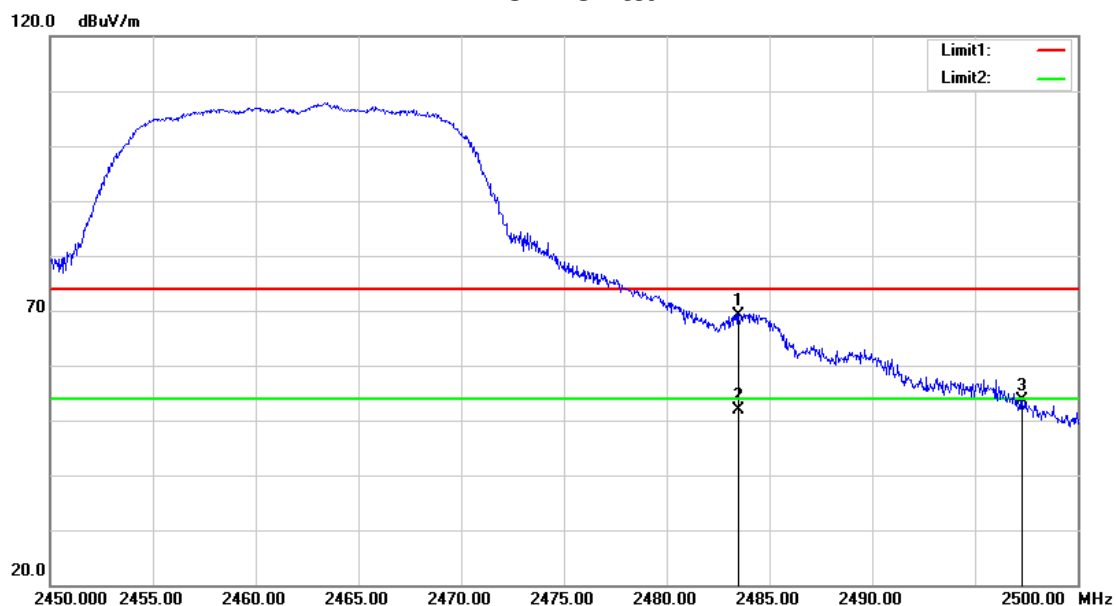
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2372.880	46.76	4.09	50.85	74.00	-23.15	peak
2	2390.000	60.21	4.34	64.55	74.00	-9.45	peak
3	2390.000	42.39	4.34	46.73	54.00	-7.27	AVG

Vertical



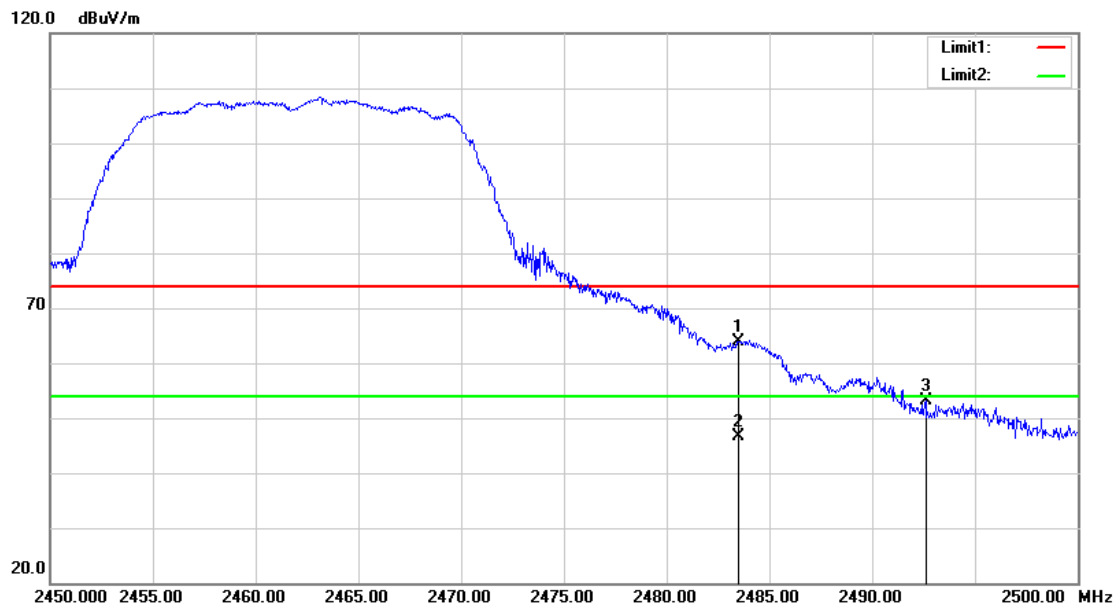
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.040	49.17	4.25	53.42	74.00	-20.58	peak
2	2390.000	55.35	4.34	59.69	74.00	-14.31	peak
3	2390.000	37.55	4.34	41.89	54.00	-12.11	AVG

802.11g High channel Horizontal



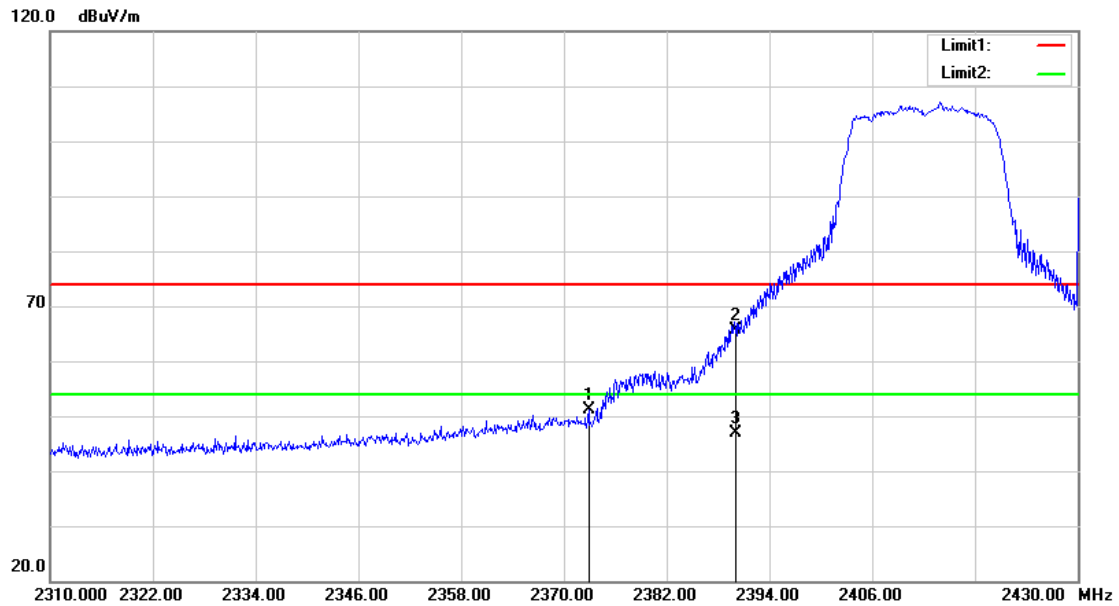
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	64.54	4.60	69.14	74.00	-4.86	peak
2	2483.500	47.27	4.60	51.87	54.00	-2.13	AVG
3	2497.300	48.95	4.64	53.59	74.00	-20.41	peak

Vertical



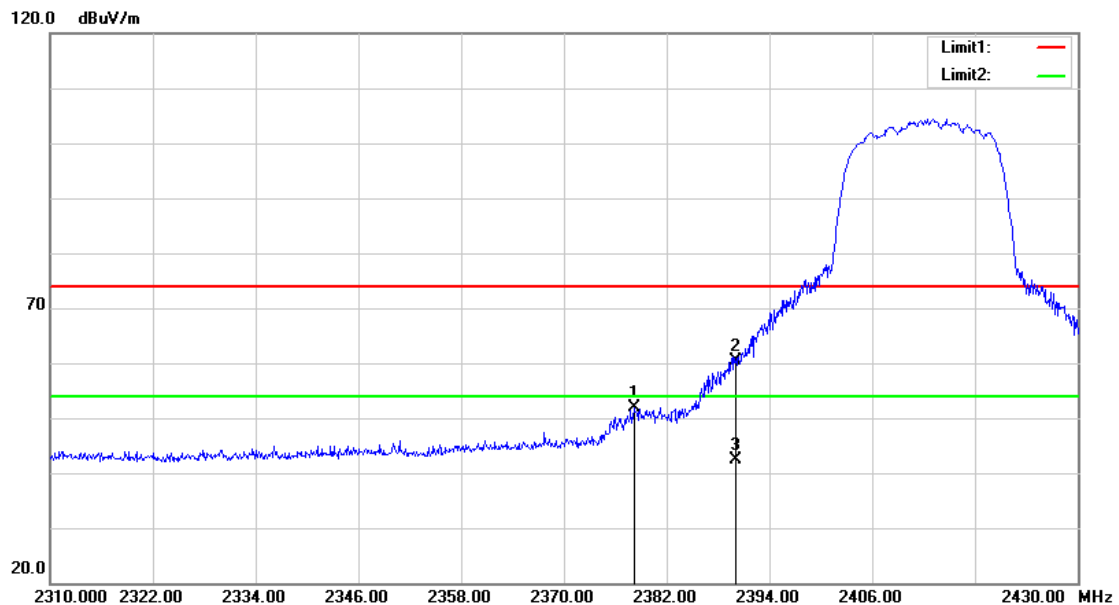
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	59.19	4.60	63.79	74.00	-10.21	peak
2	2483.500	42.02	4.60	46.62	54.00	-7.38	AVG
3	2492.600	48.60	4.63	53.23	74.00	-20.77	peak

MIMO 802.11n 20 Low channel Horizontal



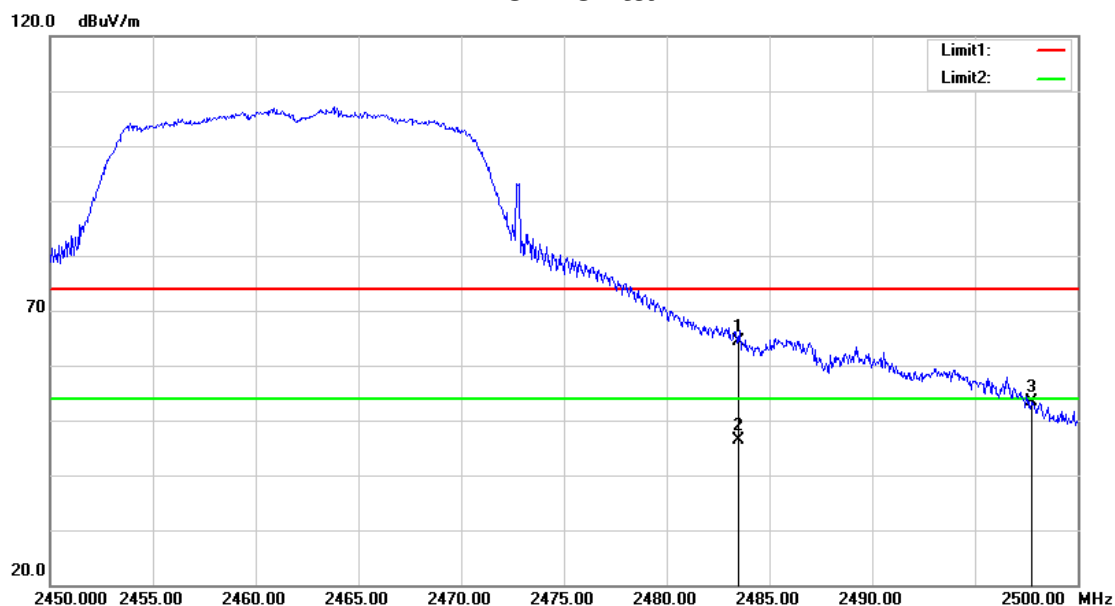
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2372.880	46.98	4.09	51.07	74.00	-22.93	peak
2	2390.000	61.25	4.34	65.59	74.00	-8.41	peak
3	2390.000	42.63	4.34	46.97	54.00	-7.03	AVG

Vertical



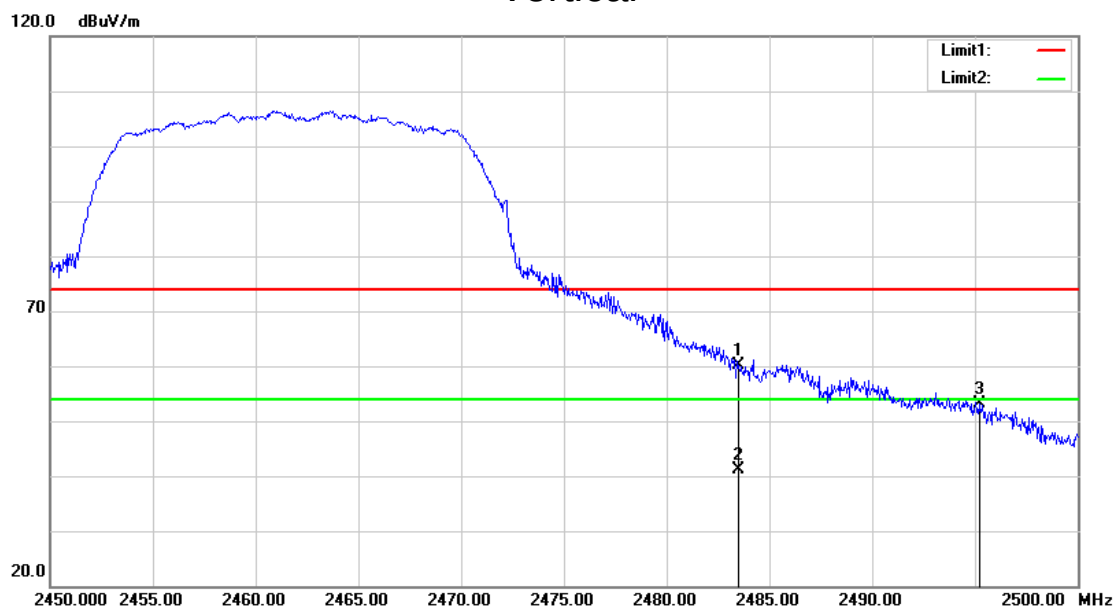
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2378.160	47.81	4.17	51.98	74.00	-22.02	peak
2	2390.000	56.10	4.34	60.44	74.00	-13.56	peak
3	2390.000	38.14	4.34	42.48	54.00	-11.52	AVG

802.11n 20 High channel Horizontal



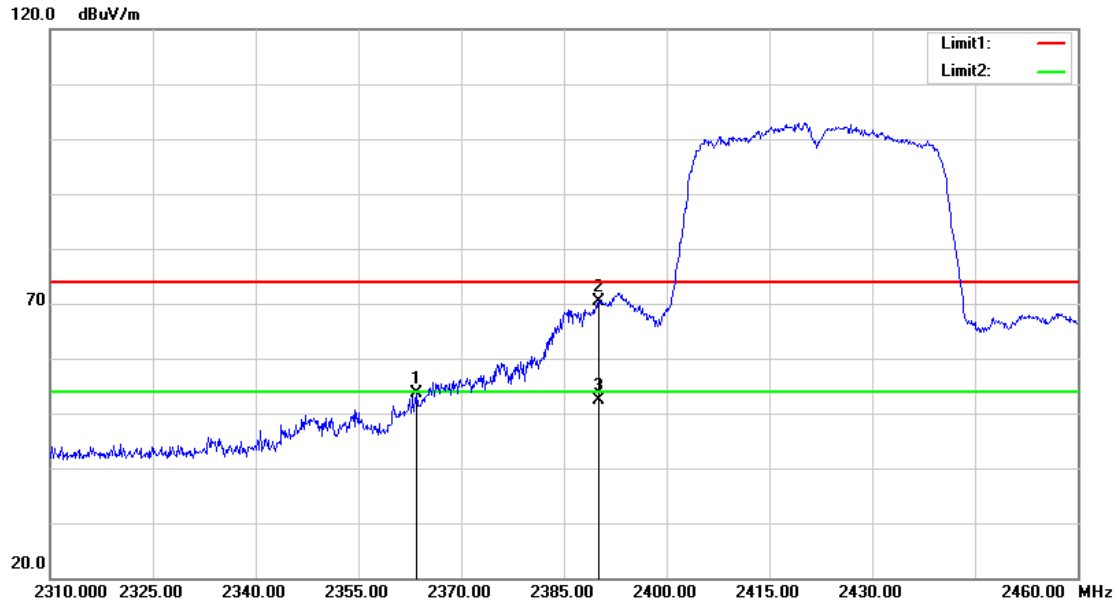
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	59.76	4.60	64.36	74.00	-9.64	peak
2	2483.500	41.87	4.60	46.47	54.00	-7.53	AVG
3	2497.750	48.84	4.64	53.48	74.00	-20.52	peak

Vertical



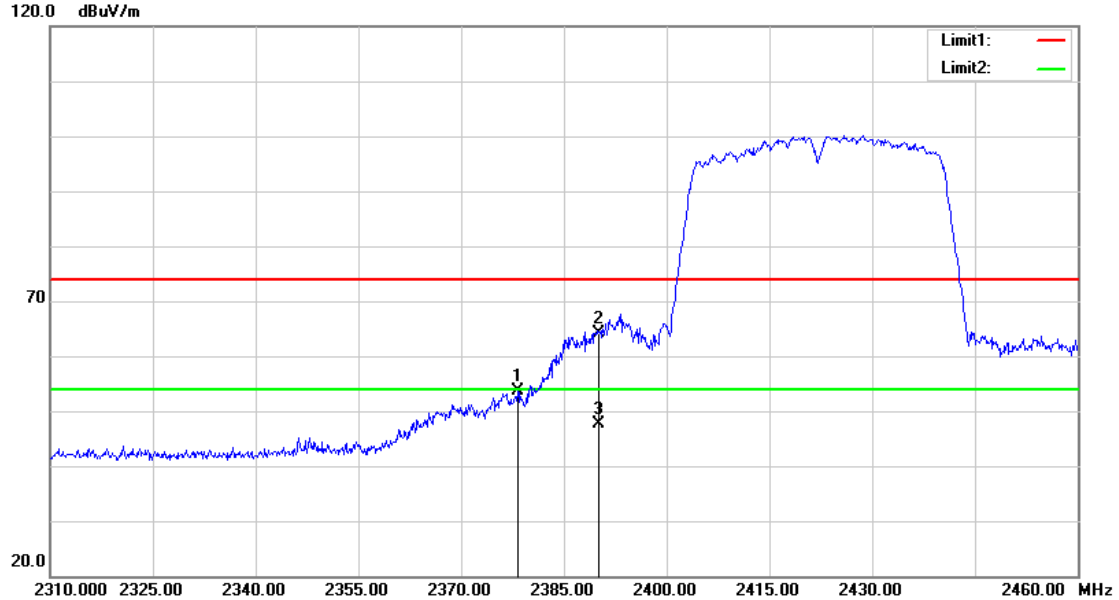
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.44	4.60	60.04	74.00	-13.96	peak
2	2483.500	36.42	4.60	41.02	54.00	-12.98	AVG
3	2495.200	48.44	4.63	53.07	74.00	-20.93	peak

802.11n 40 Low channel Horizontal



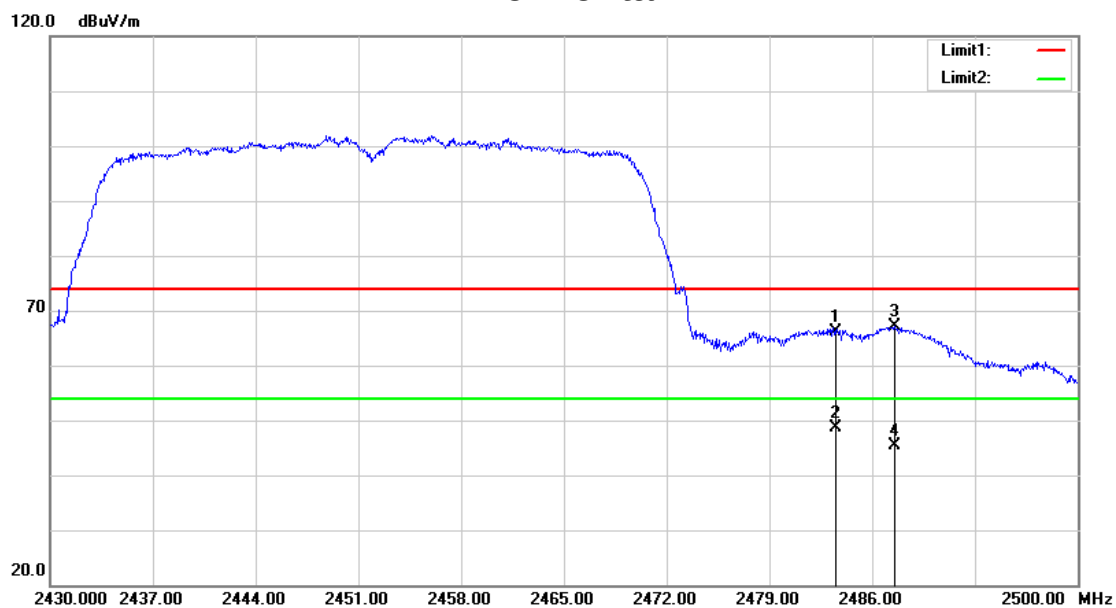
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2363.550	49.64	3.95	53.59	74.00	-20.41	peak
2	2390.000	66.06	4.34	70.40	74.00	-3.60	peak
3	2390.000	47.97	4.34	52.31	54.00	-1.69	AVG

Vertical



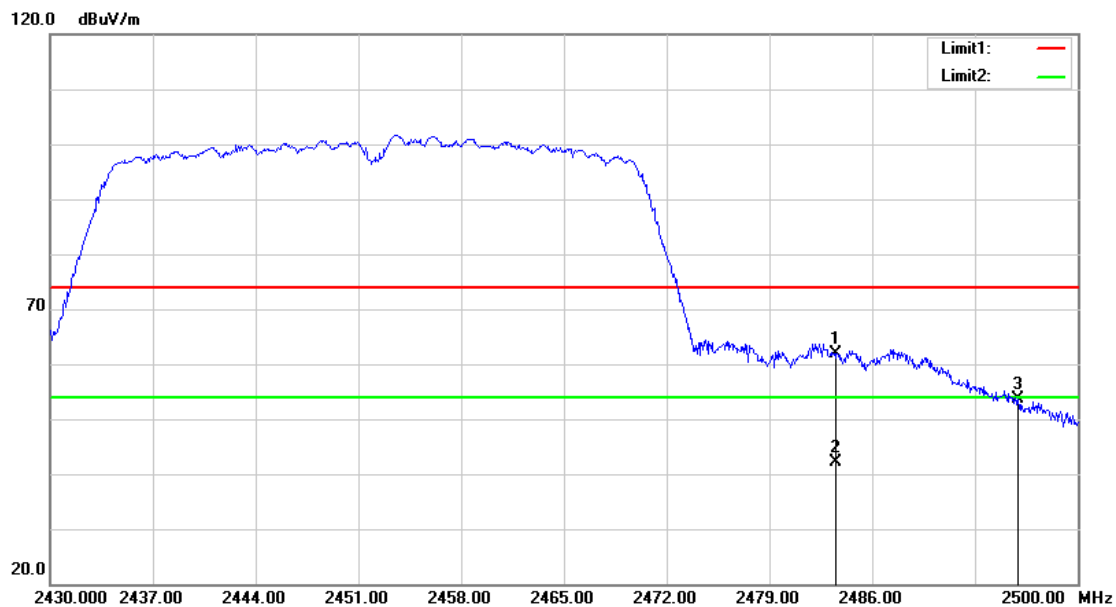
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2378.250	49.49	4.17	53.66	74.00	-20.34	peak
2	2390.000	59.91	4.34	64.25	74.00	-9.75	peak
3	2390.000	43.24	4.34	47.58	54.00	-6.42	AVG

802.11n 40 High channel Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	61.64	4.60	66.24	74.00	-7.76	peak
2	2483.500	43.97	4.60	48.57	54.00	-5.43	AVG
3	2487.540	62.42	4.62	67.04	74.00	-6.96	peak
4	2487.540	40.70	4.62	45.32	54.00	-8.68	AVG

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	57.37	4.60	61.97	74.00	-12.03	peak
2	2483.500	37.43	4.60	42.03	54.00	-11.97	AVG
3	2495.940	49.08	4.64	53.72	74.00	-20.28	peak

5. OCCUPIED BANDWIDTH TEST

5.1 APPLIED PROCEDURES / LIMIT

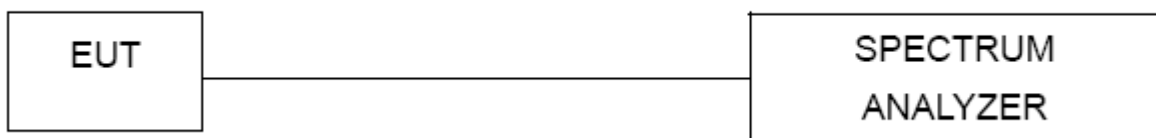
LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1(6.2.1)	Bandwidth	$\geq 500\text{kHz}$ (6dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	$>$ Measurement Bandwidth or Channel Separation
RB	100 kHz (6dB Bandwidth) / 100 kHz (Channel Separation)
VB	300 kHz (6dB Bandwidth) / 300 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

5.1.2 TEST SETUP



5.1.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

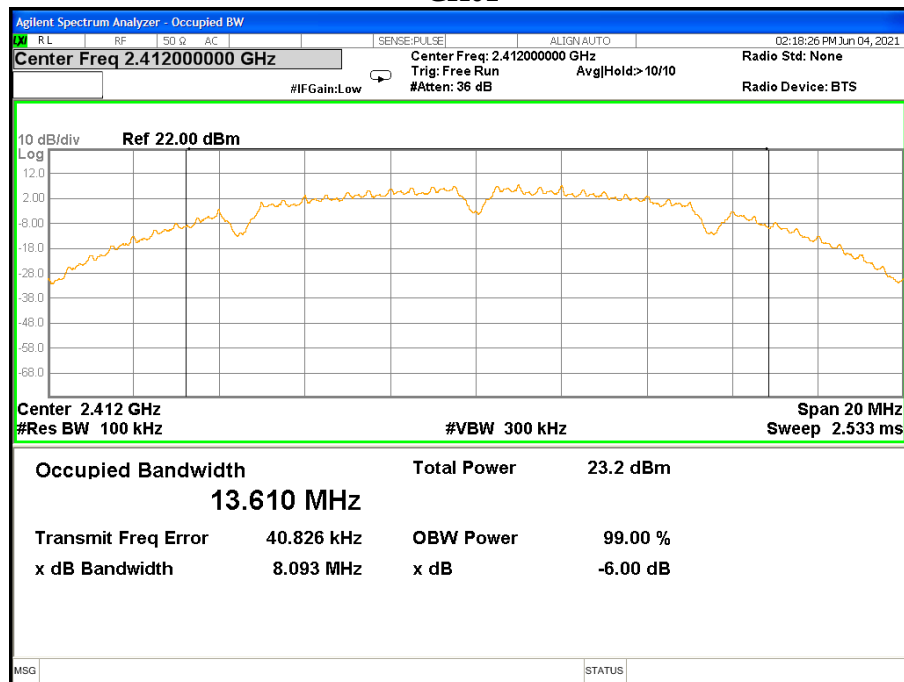
5.1.4 TEST RESULTS

Note: ANT B Power > ANT A Power, Both ANT A and B have been test, Only show the worst data of ANT B

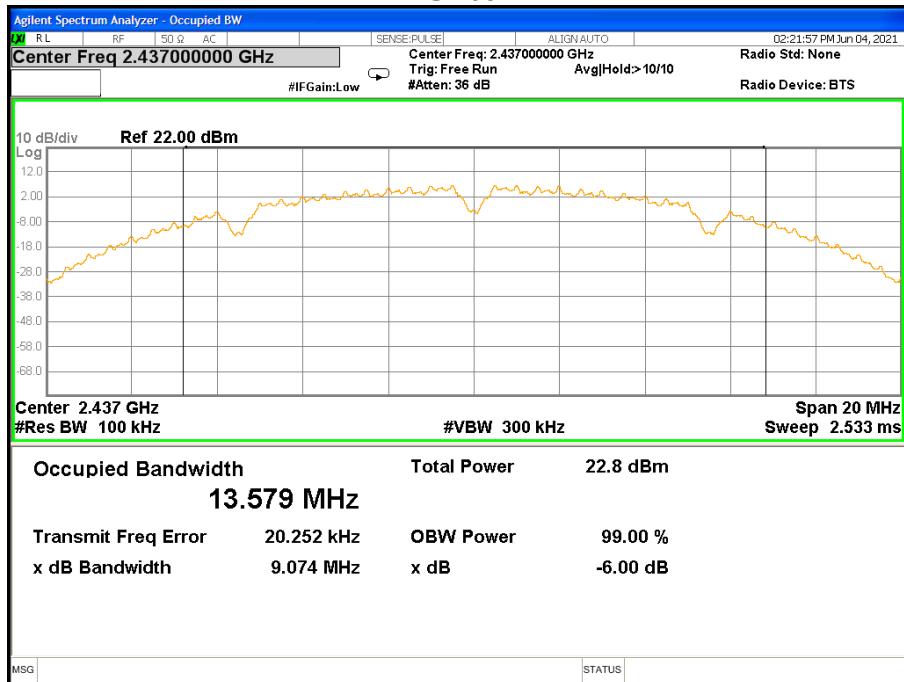
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 / CH06 /CH11(802.11b Data rate 1Mbps)		
Test Date :	2021-06-04		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	8.093	≥500	Pass
2437 MHz	9.074	≥500	Pass
2462 MHz	9.079	≥500	Pass

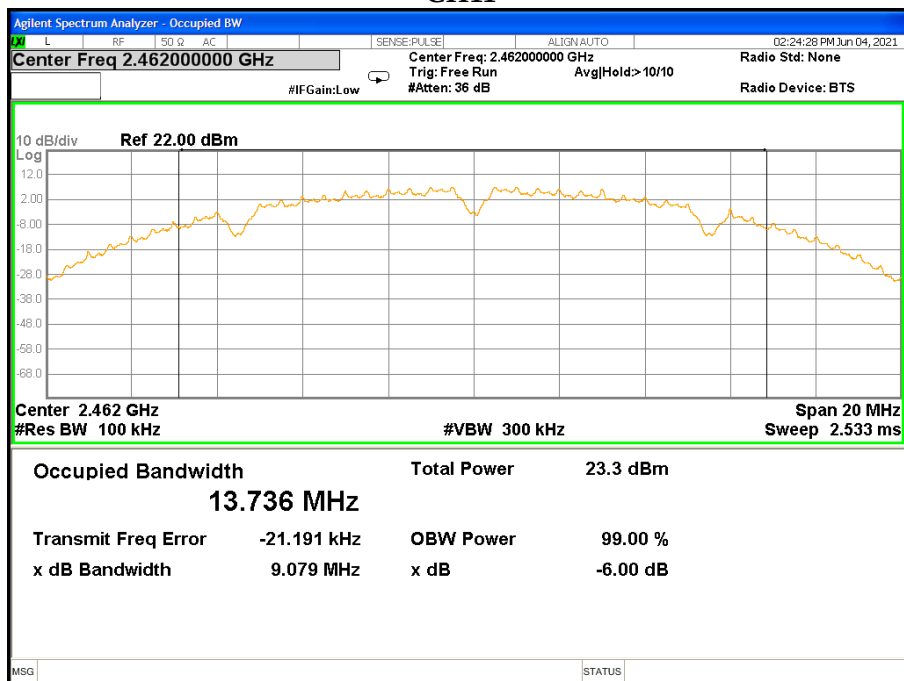
CH01



CH06



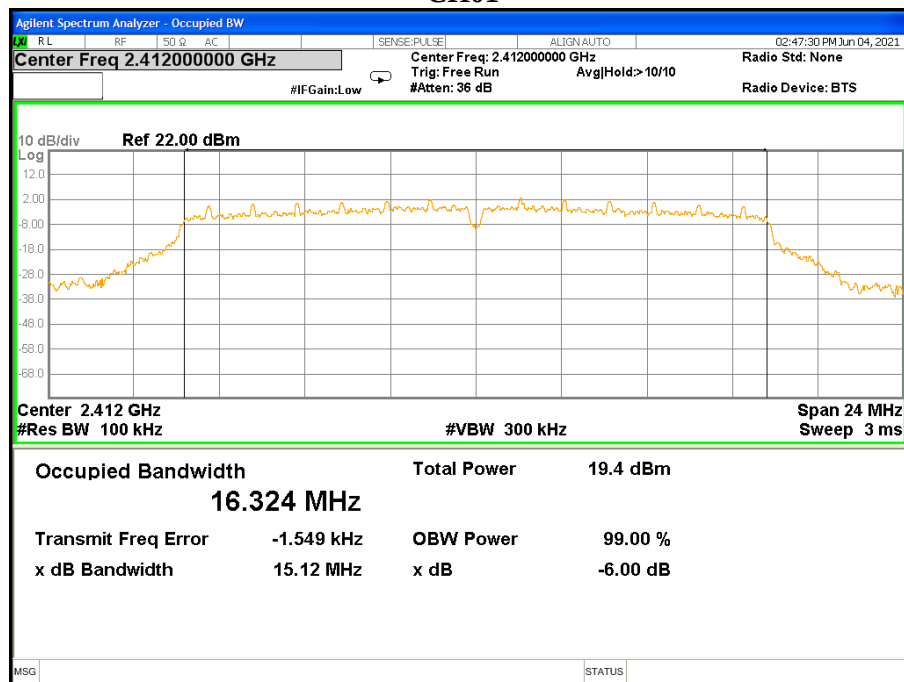
CH11



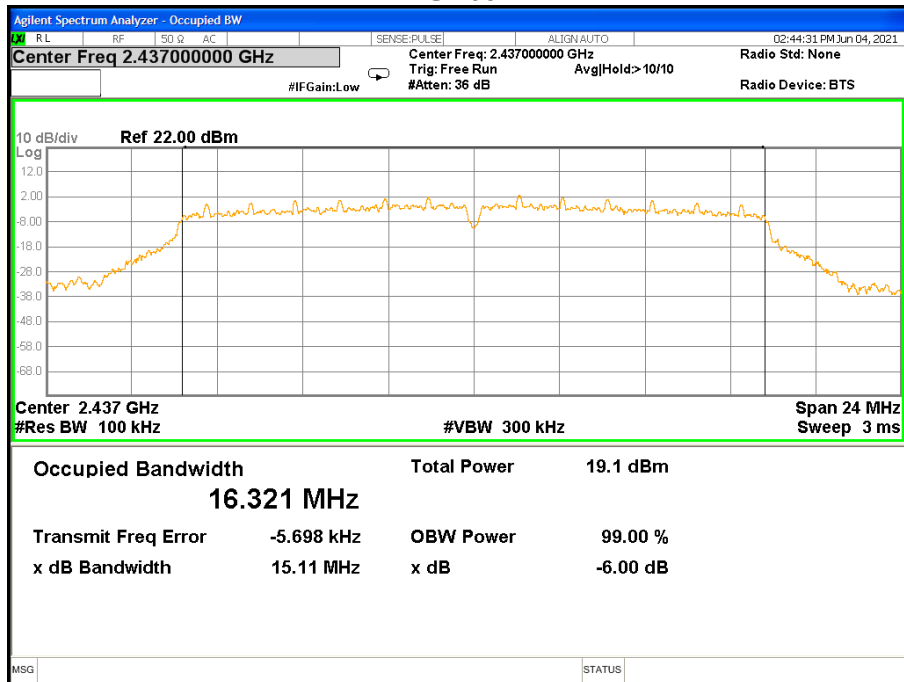
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 / CH06 / CH11(802.11g Data rate 6Mbps)		
Test Date :	2021-06-04		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	15.120	≥ 500	Pass
2437 MHz	15.110	≥ 500	Pass
2462 MHz	15.120	≥ 500	Pass

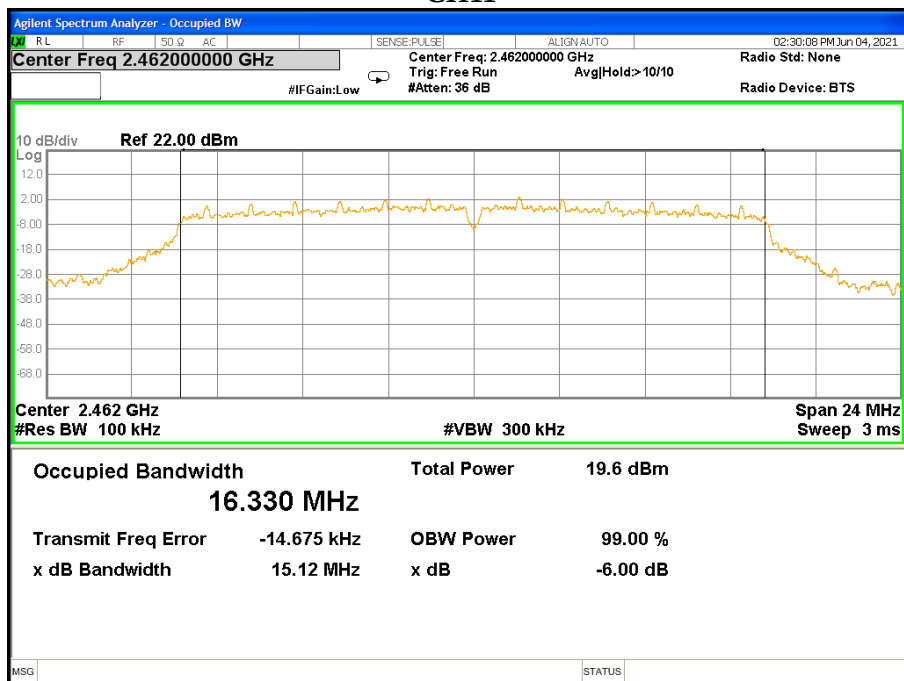
CH01



CH06



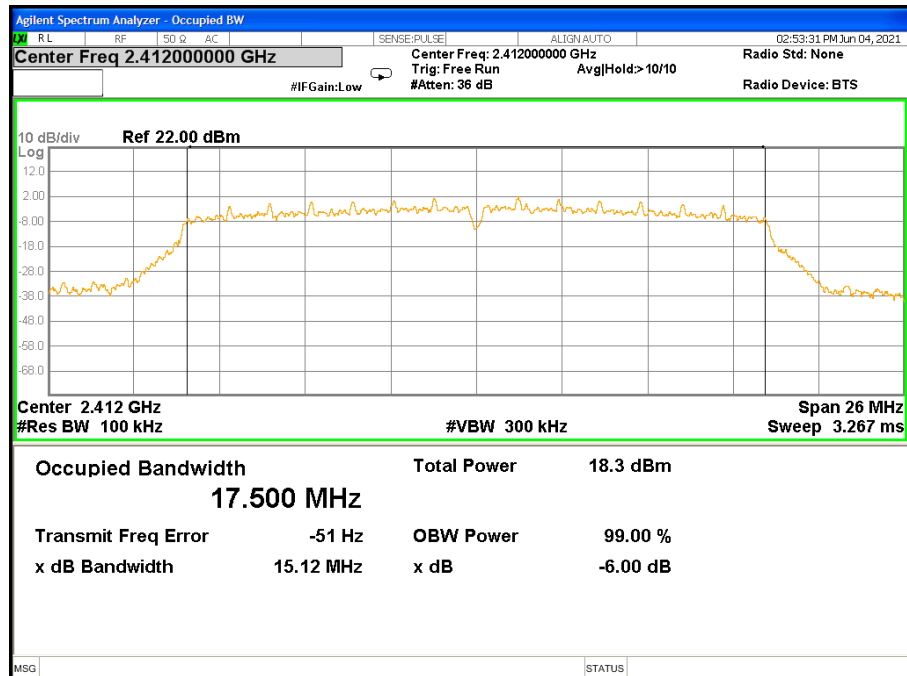
CH11



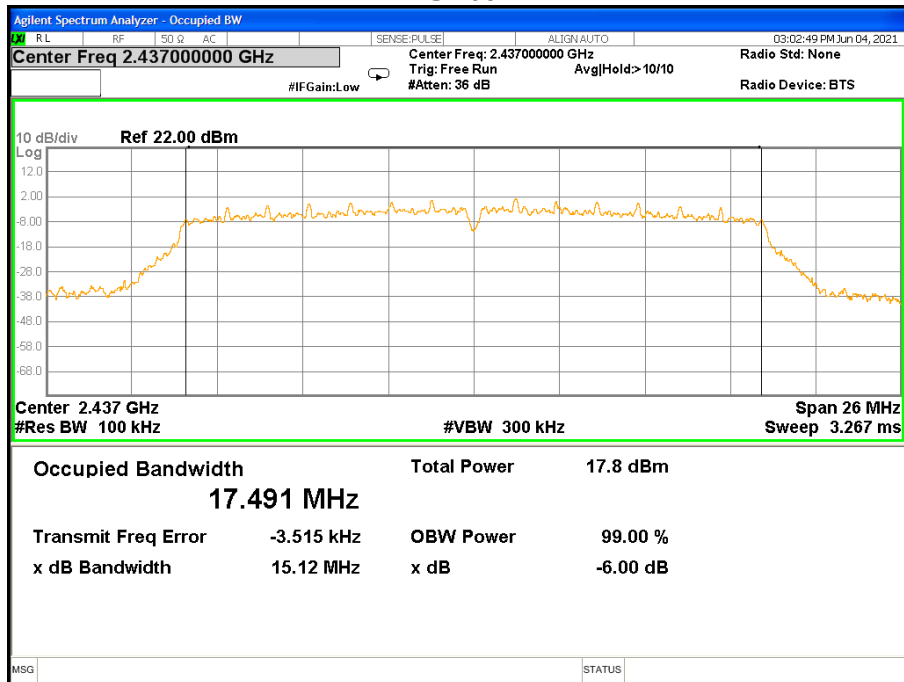
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 / CH06/ CH11(802.11n20 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	15.120	≥ 500	Pass
2437 MHz	15.120	≥ 500	Pass
2462 MHz	15.120	≥ 500	Pass

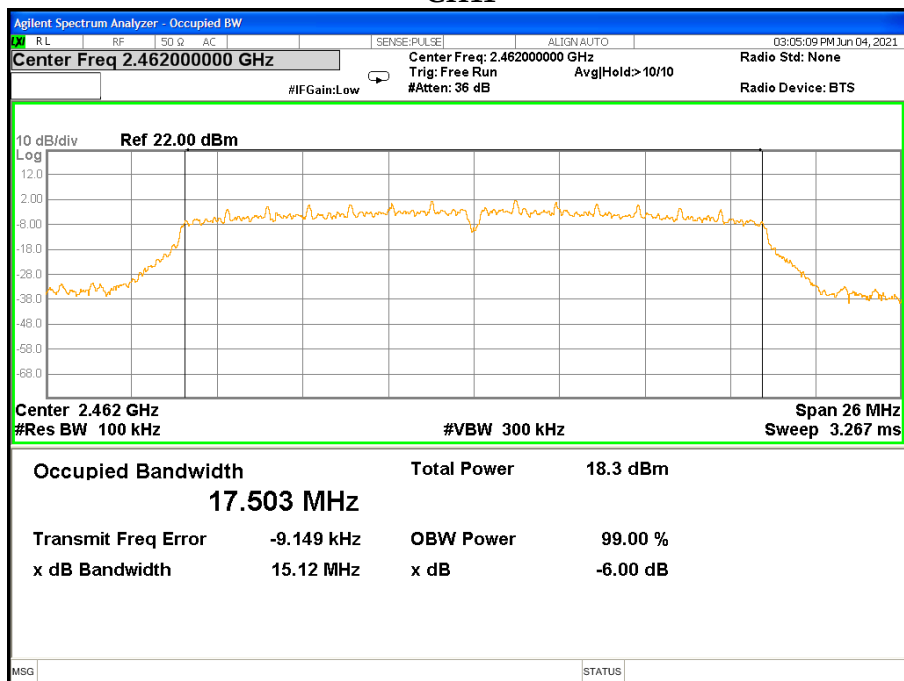
CH01



CH06



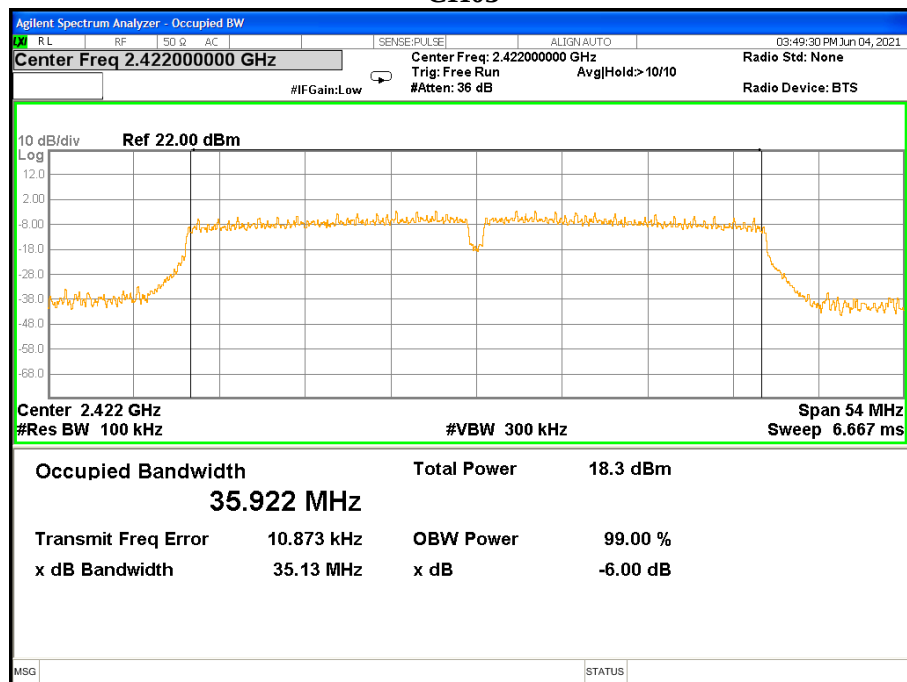
CH11



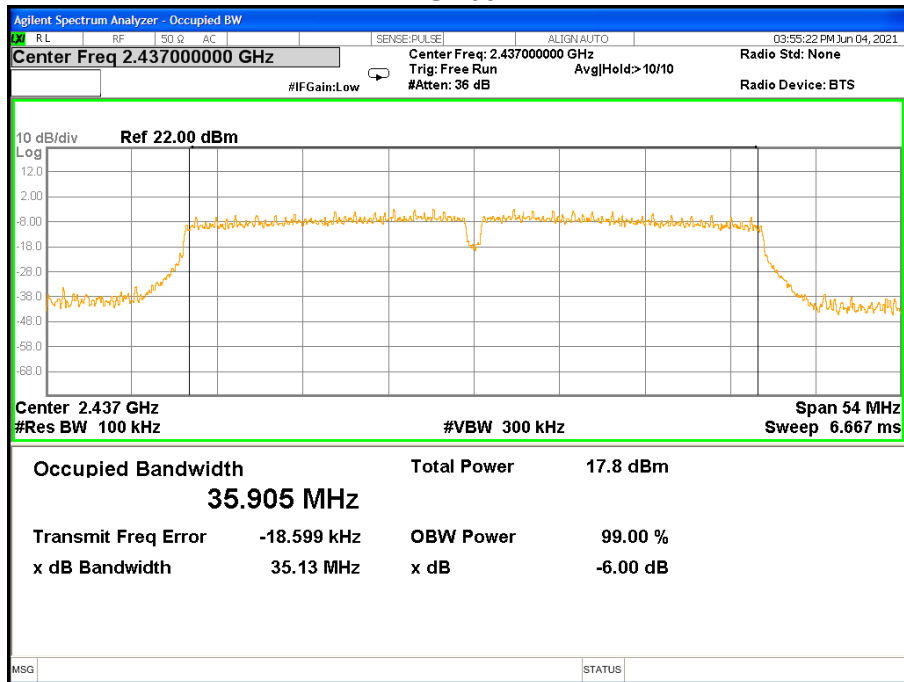
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH03 / CH06/ CH09(802.11n20 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2422 MHz	35.130	≥ 500	Pass
2437 MHz	35.130	≥ 500	Pass
2452 MHz	35.310	≥ 500	Pass

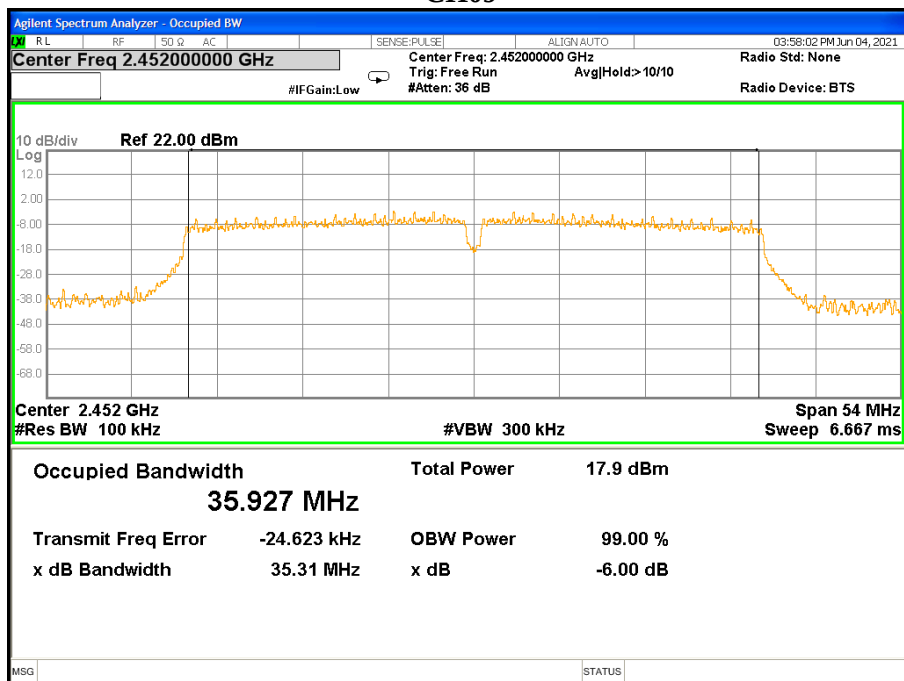
CH03



CH06



CH09



6. POWER DENSITY

6.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1(6.2.2)	Power density	8dBm	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS bandwidth.
RB	3 kHz
VB	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 3kHz, VBW=10kHz, Detector= Peak, Trace=Max Hold.

6.1.2 TEST SETUP



6.1.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

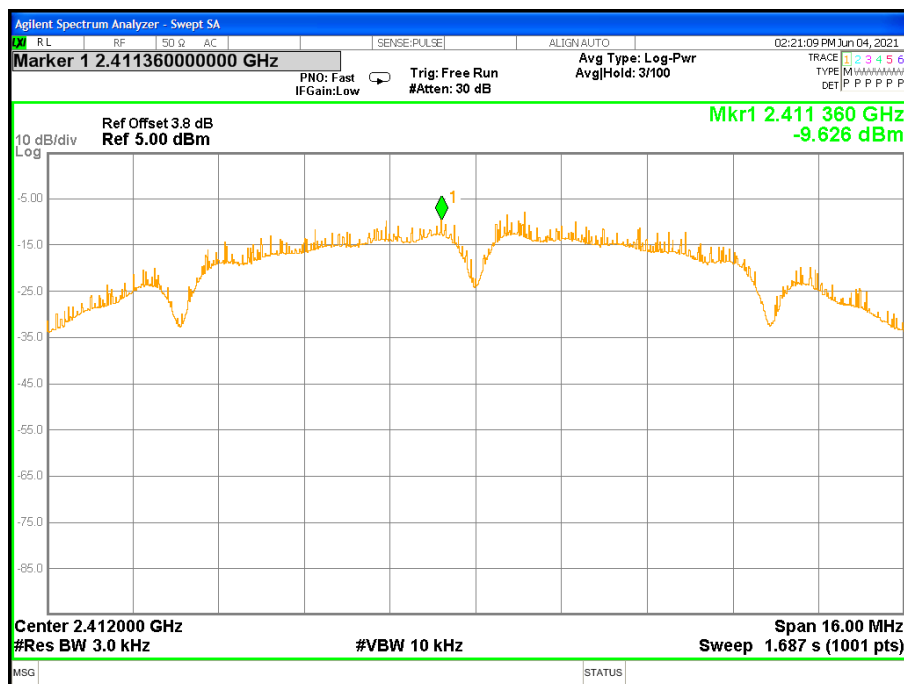
6.1.4 TEST RESULTS

EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 /CH06 /CH11 (802.11b Data rate 1Mbps)		
Test Date :	2021-06-04		

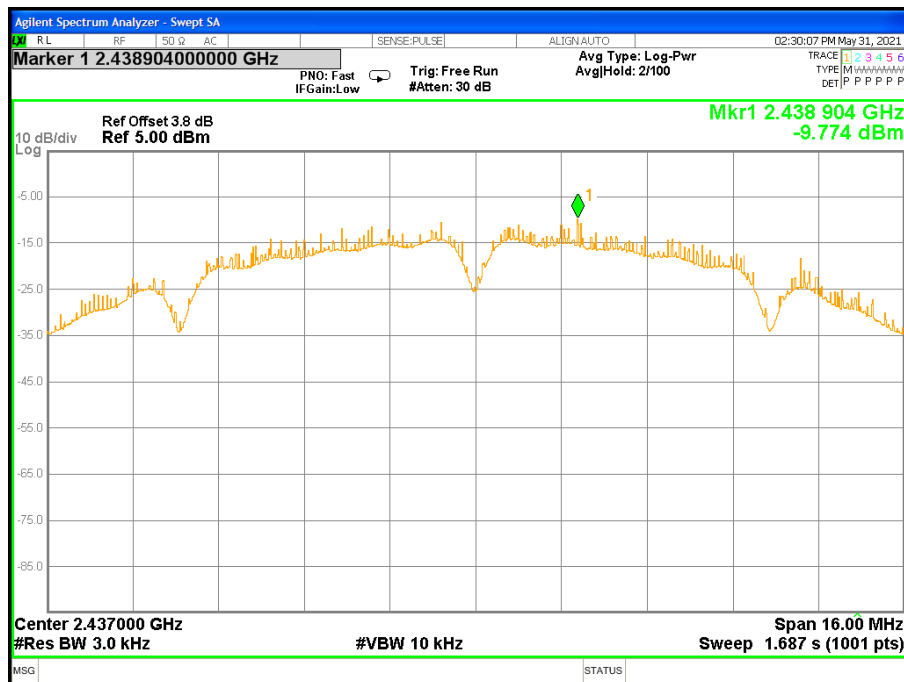
Frequency	Power Density			Limit	Result
	ANT A (dBm)	ANT B (dBm)	TOTAL (dBm)	(dBm/3KHz)	
2412	-9.626	-8.515	--	8	PASS
2437	-9.774	-7.884	--	8	PASS
2462	-9.747	-7.959	--	8	PASS

ANT A

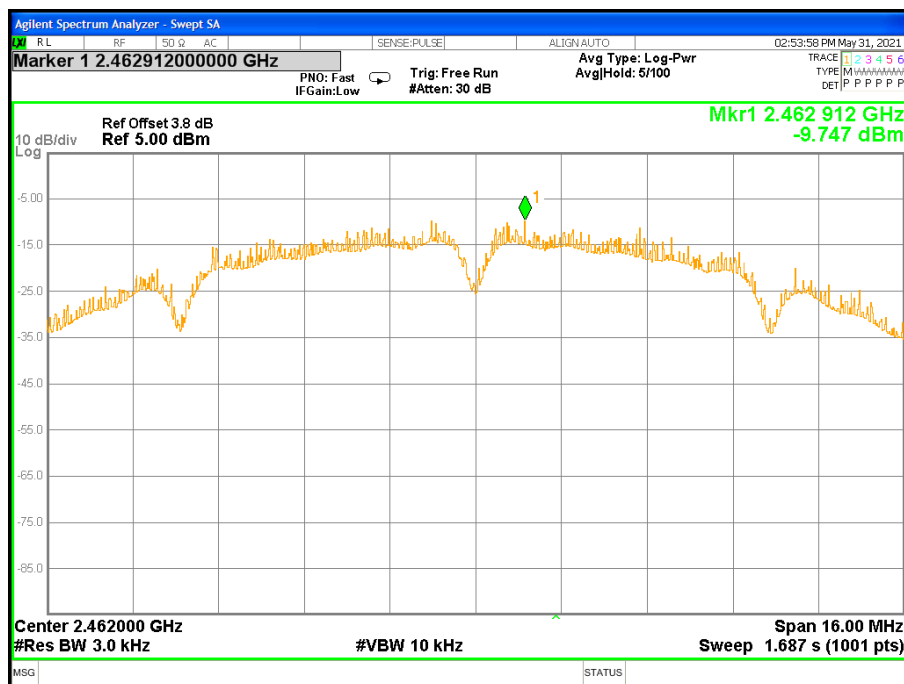
CH01



CH06

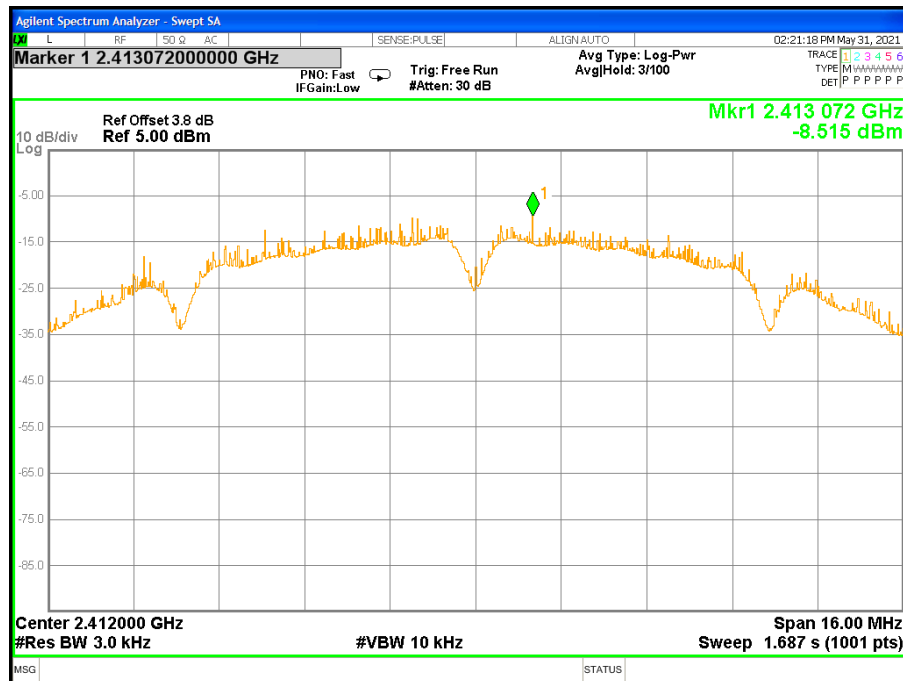


CH11

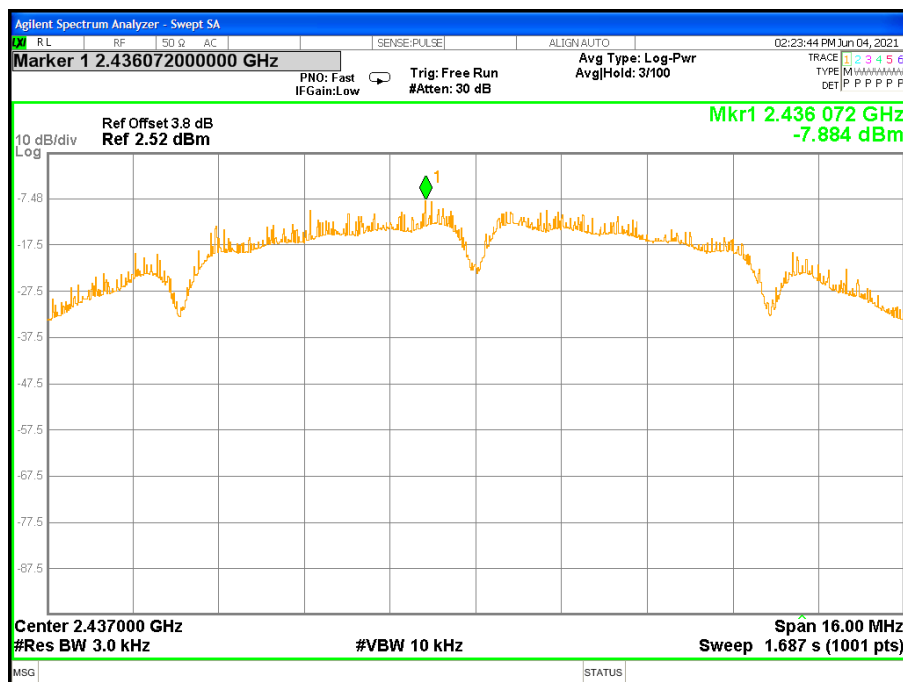


ANT B

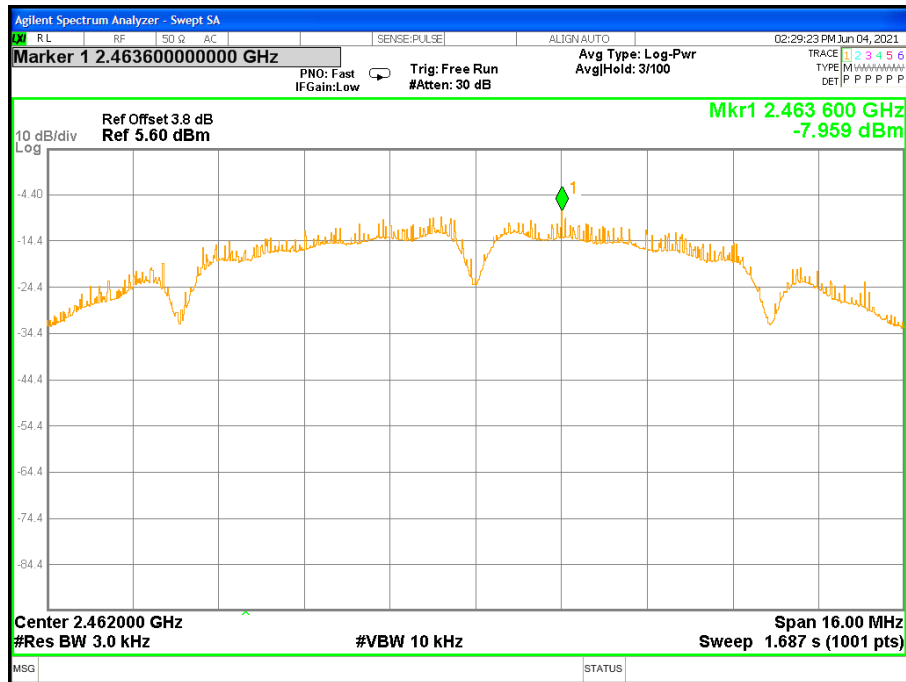
CH01



CH06



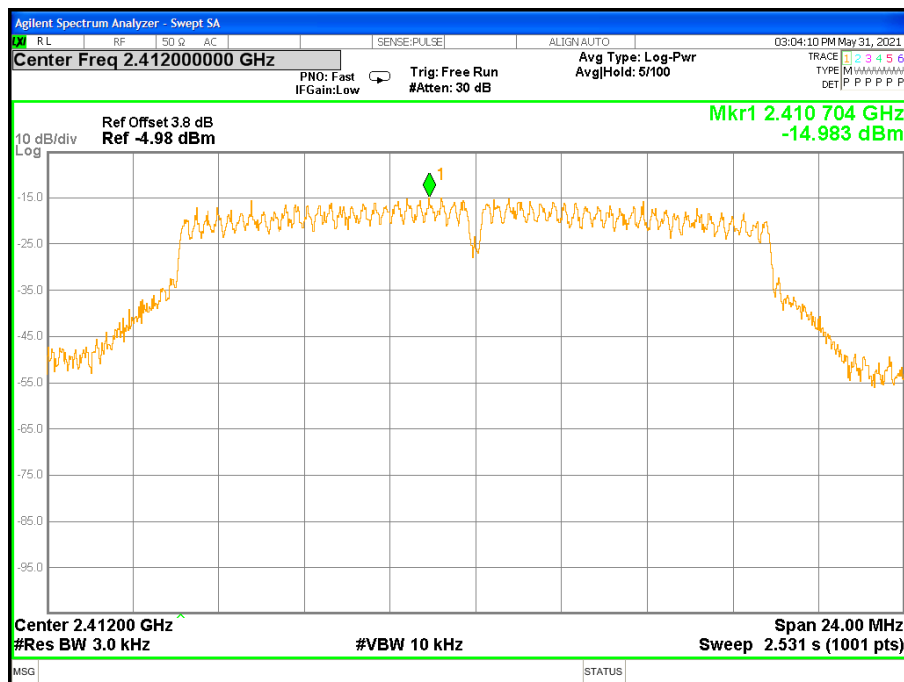
CH11



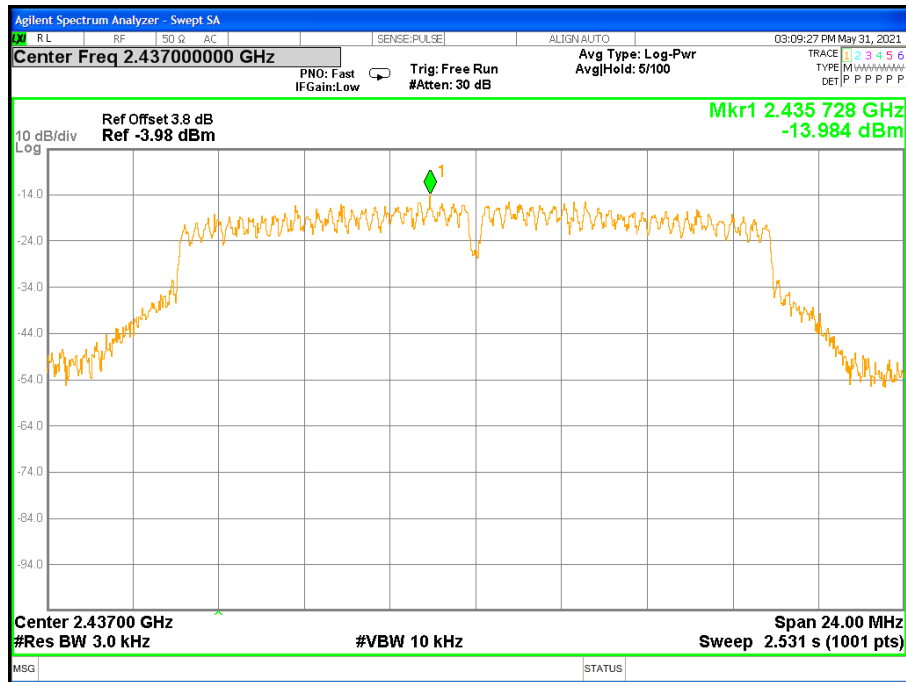
EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 / CH06/CH11 (802.11g Data rate 6Mbps)		
Test Date :	2021-06-04		

Frequency	Power Density			Limit	Result
	ANT A (dBm)	ANT B (dBm)	TOTAL (dBm)	(dBm/3KHz)	
2412	-14.983	-11.894	--	8	PASS
2437	-13.984	-12.993	--	8	PASS
2462	-13.326	-12.708	--	8	PASS

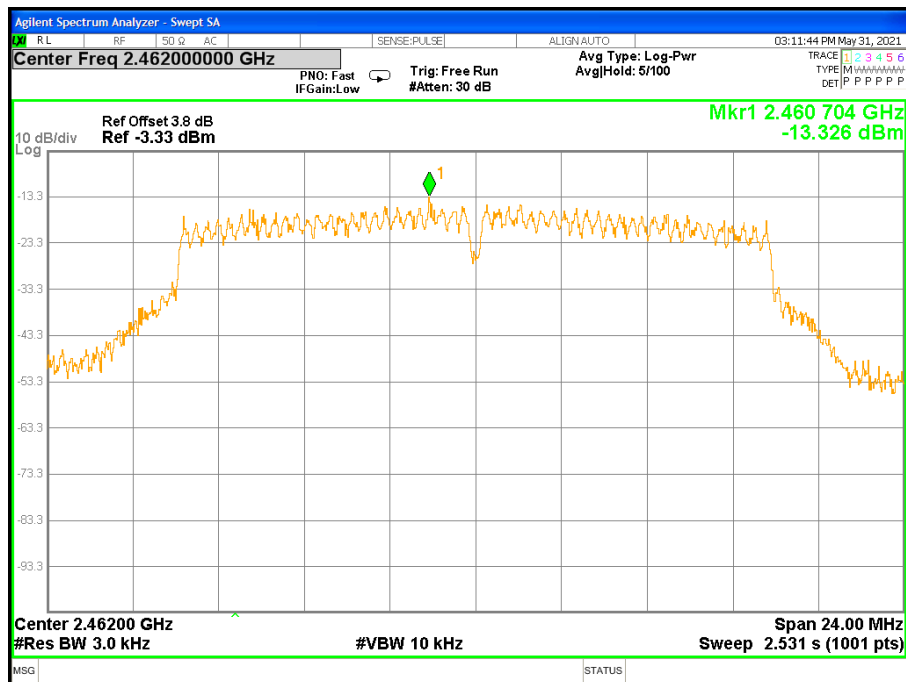
ANT A CH01



CH06

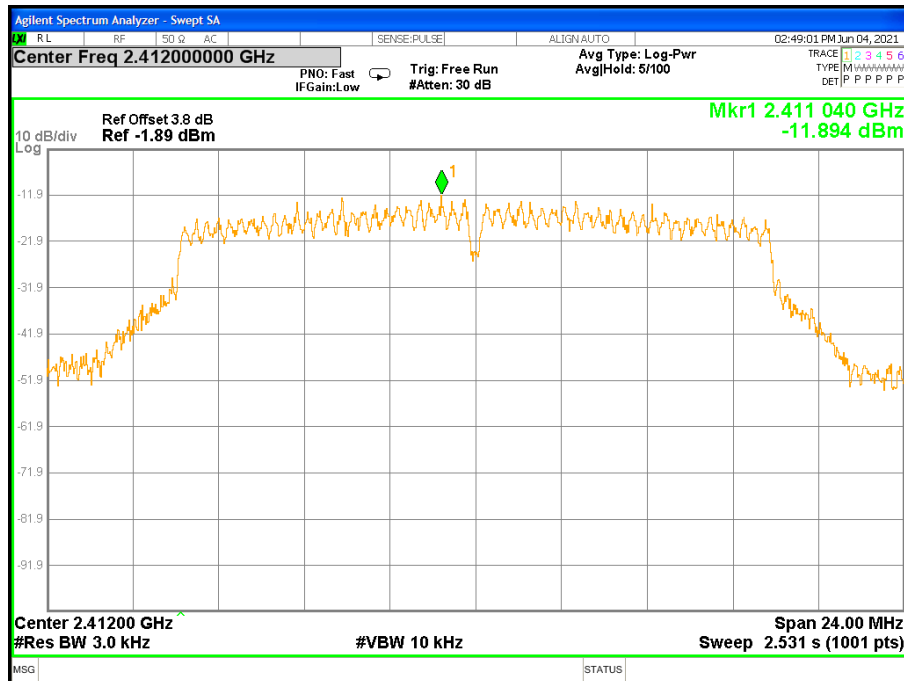


CH11

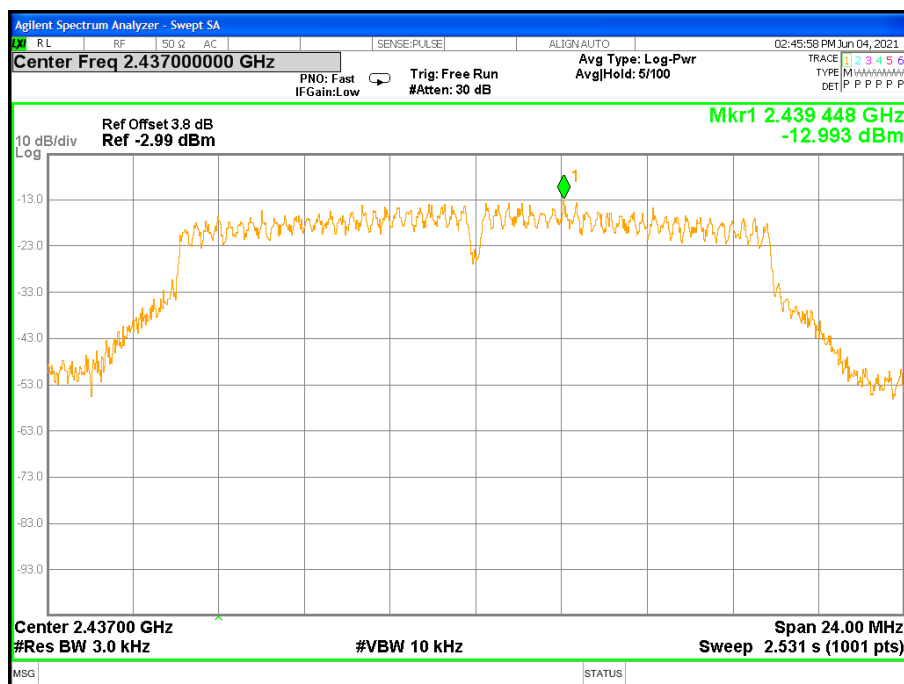


ANT B

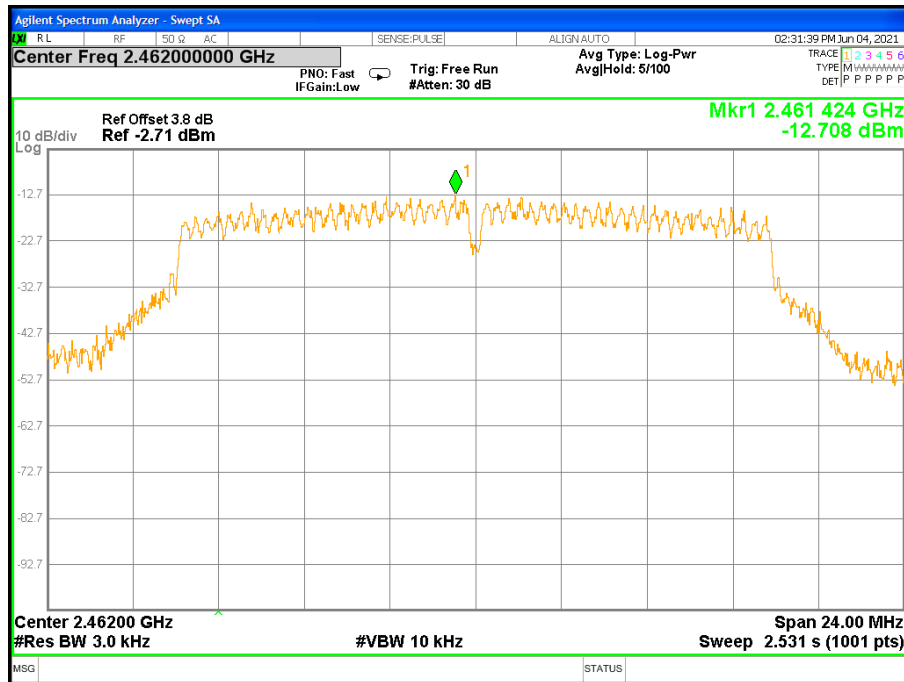
CH01



CH06



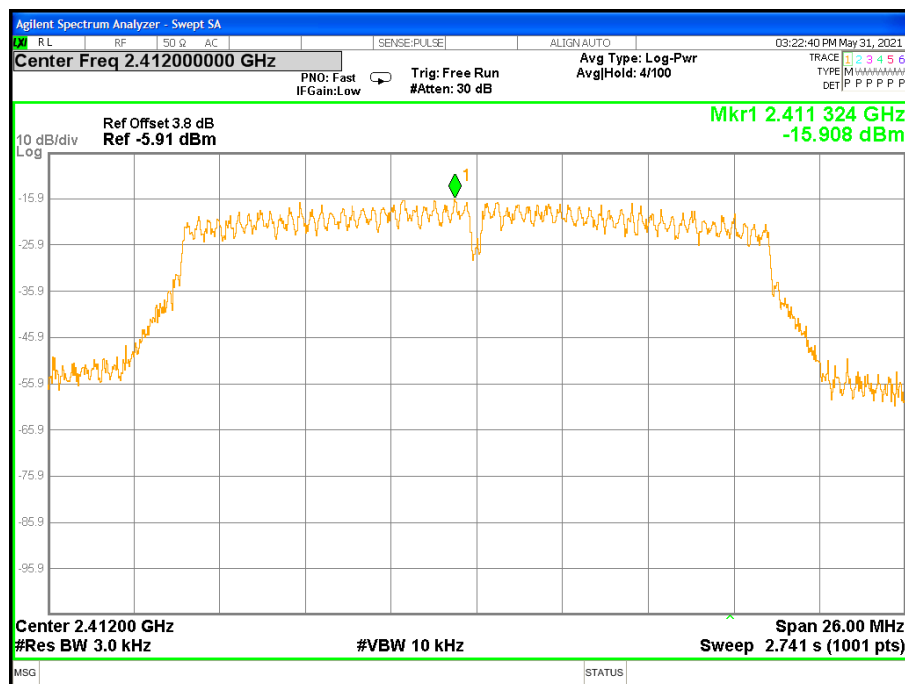
CH11



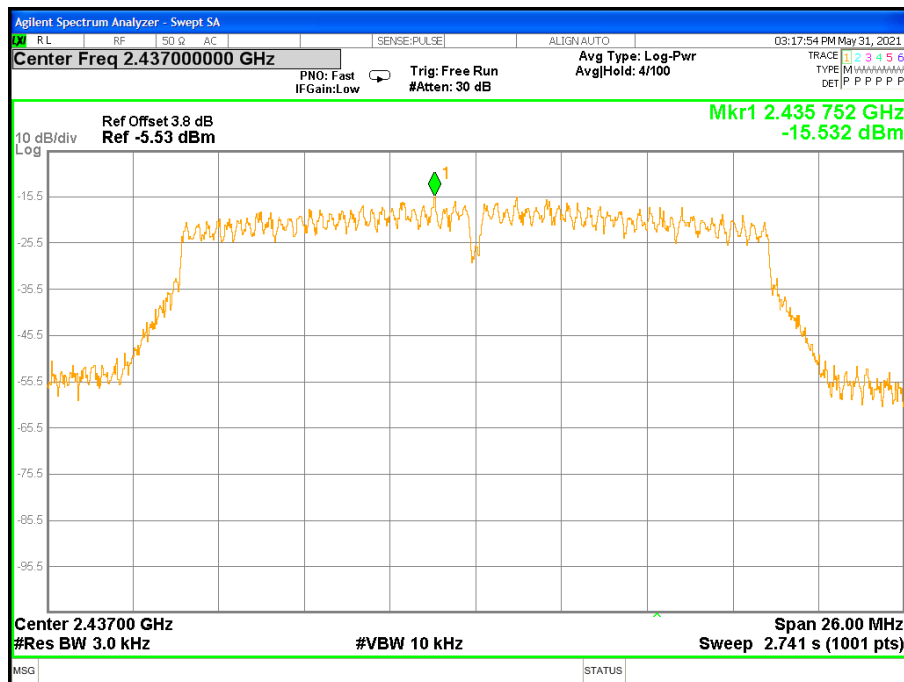
EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01 / CH06/ CH11 (802.11n20 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

Frequency	Power Density			Limit	Result
	ANT A (dBm)	ANT B (dBm)	TOTAL (dBm)	(dBm/3KHz)	
2412	-15.908	-12.005	-10.52	8	PASS
2437	-15.532	-13.815	-11.58	8	PASS
2462	-14.180	-13.649	-10.90	8	PASS

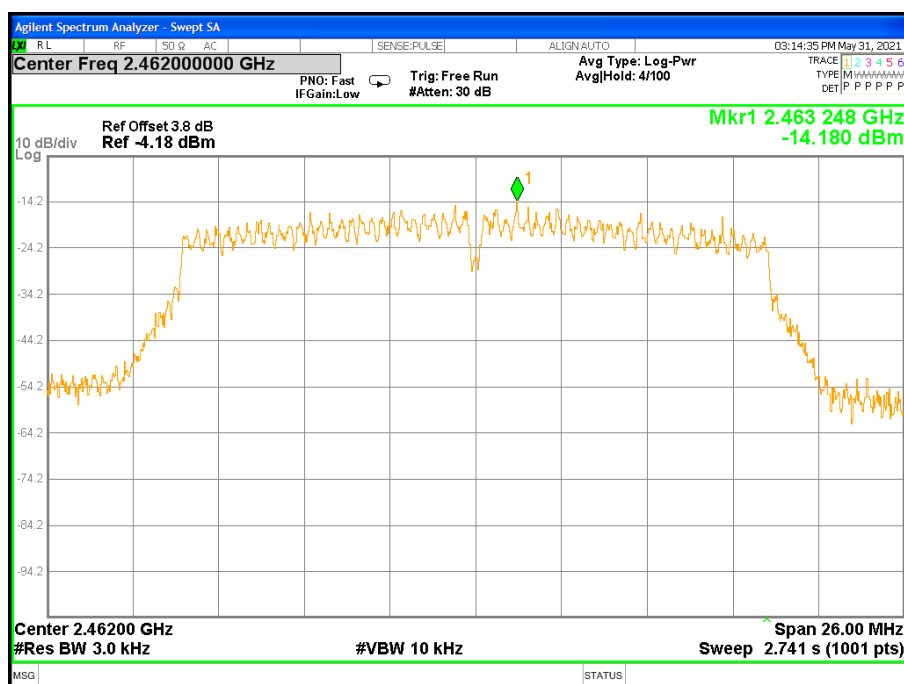
ANT A CH01



CH06

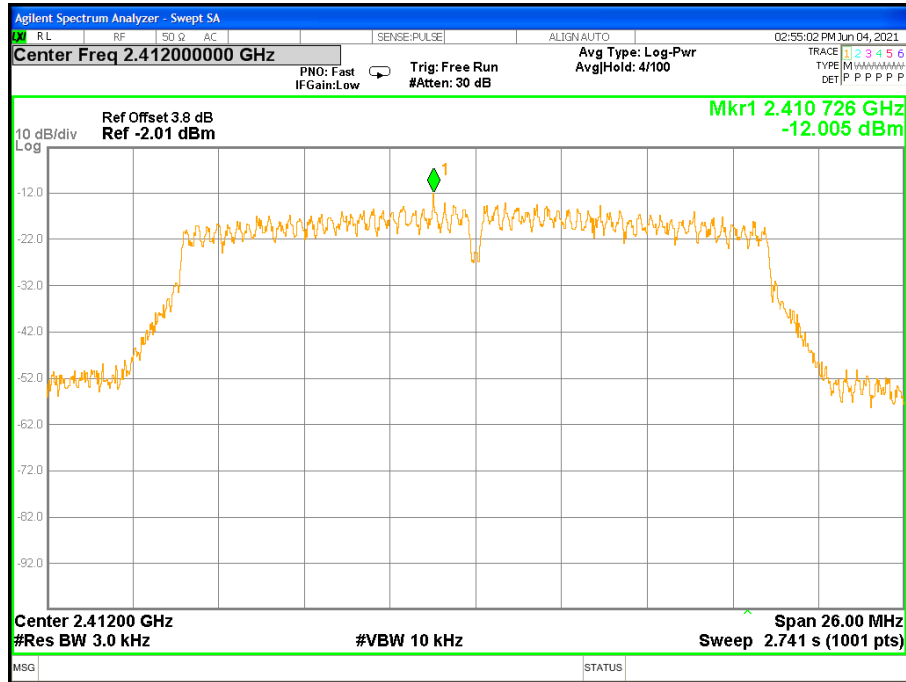


CH11

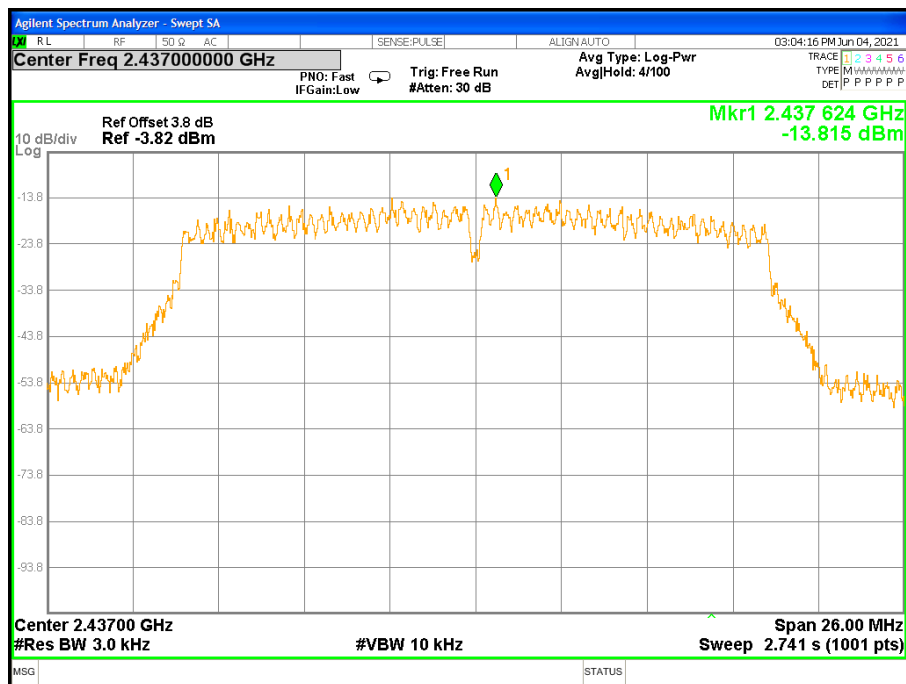


ANT B

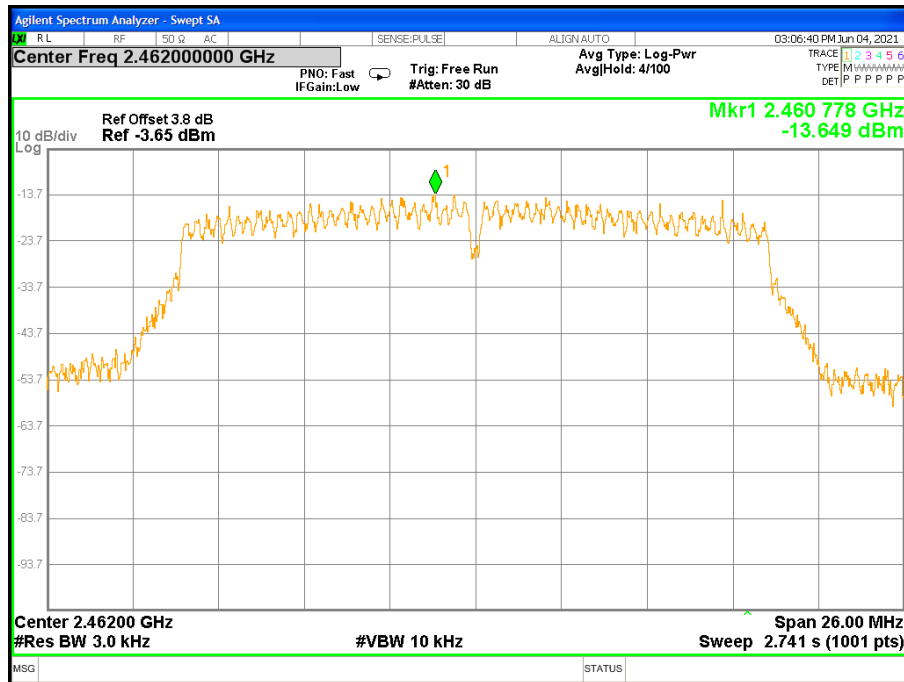
CH01



CH06



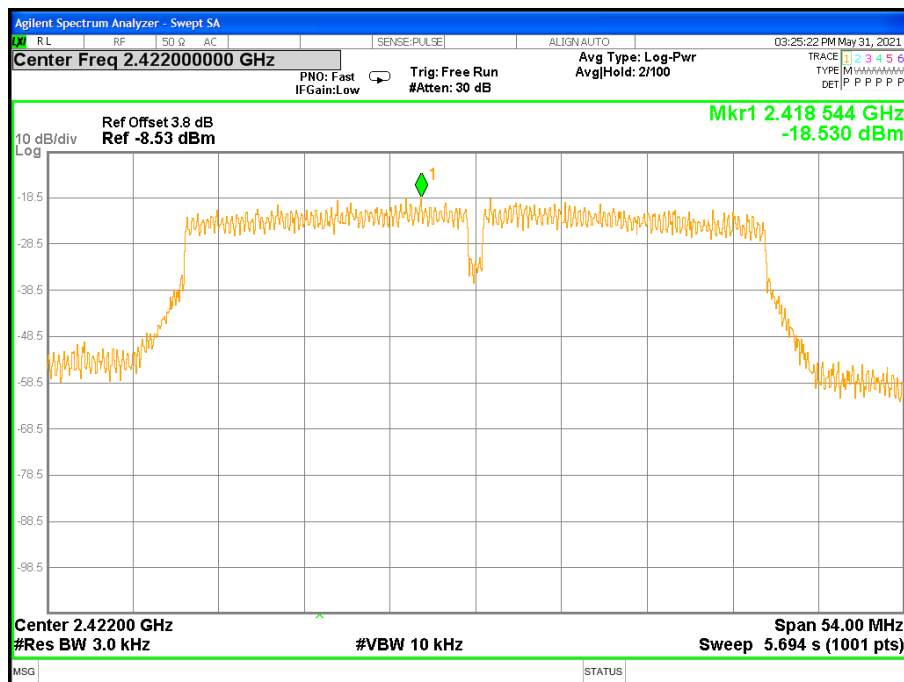
CH11



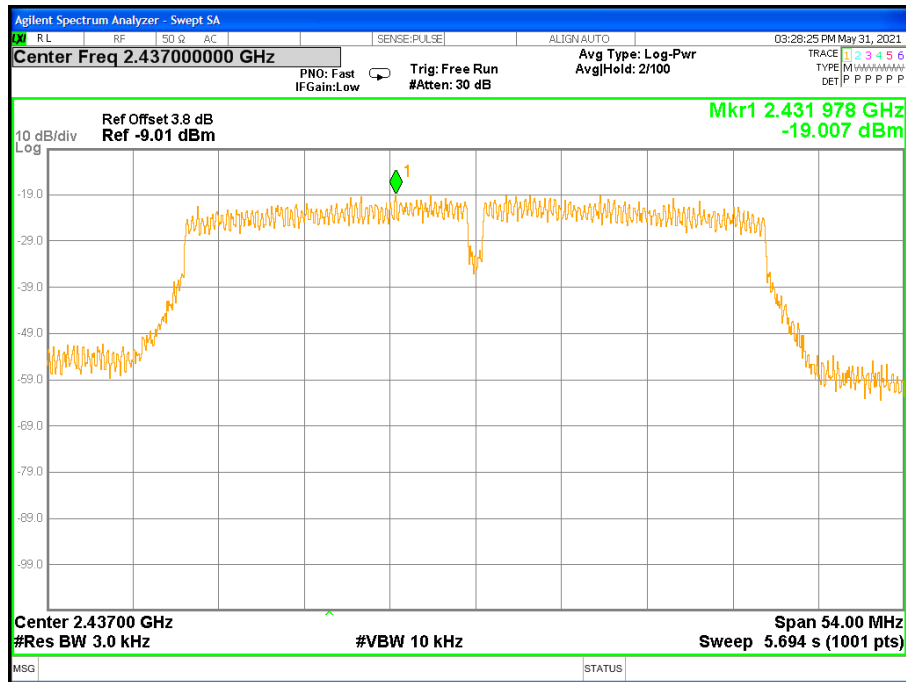
EUT :	Projector	Model Name :	XM03A
Temperature :	23.1 °C	Relative Humidity :	60%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH03 / CH06/ CH09 (802.11n40 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

Frequency	Power Density			Limit	Result
	ANT A (dBm)	ANT B (dBm)	TOTAL (dBm)	(dBm/3KHz)	
2422	-18.530	-16.626	-14.46	8	PASS
2437	-19.007	-16.852	-14.79	8	PASS
2452	-18.610	-16.582	-14.47	8	PASS

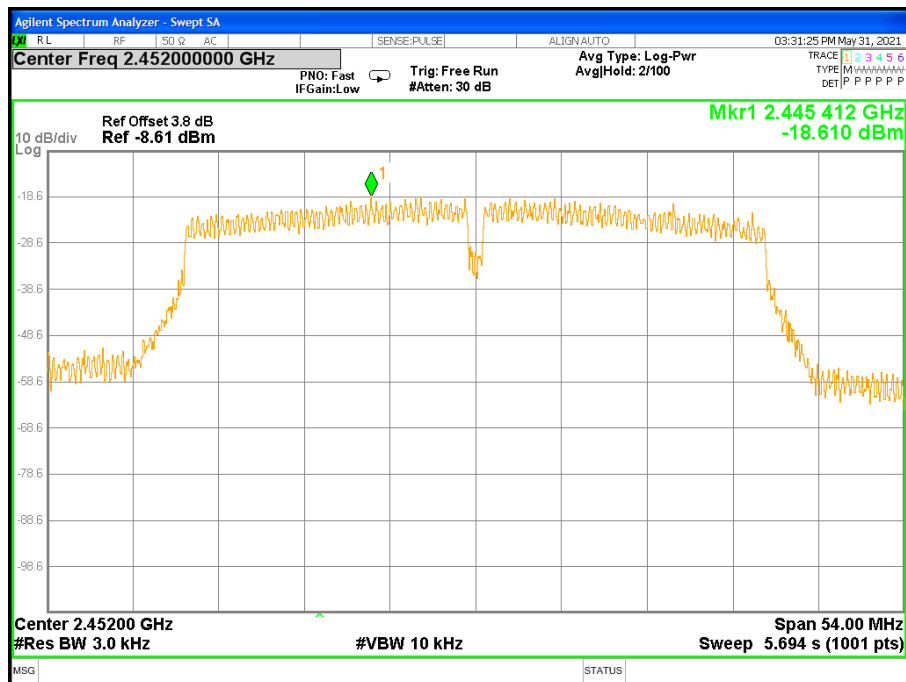
ANT A CH03



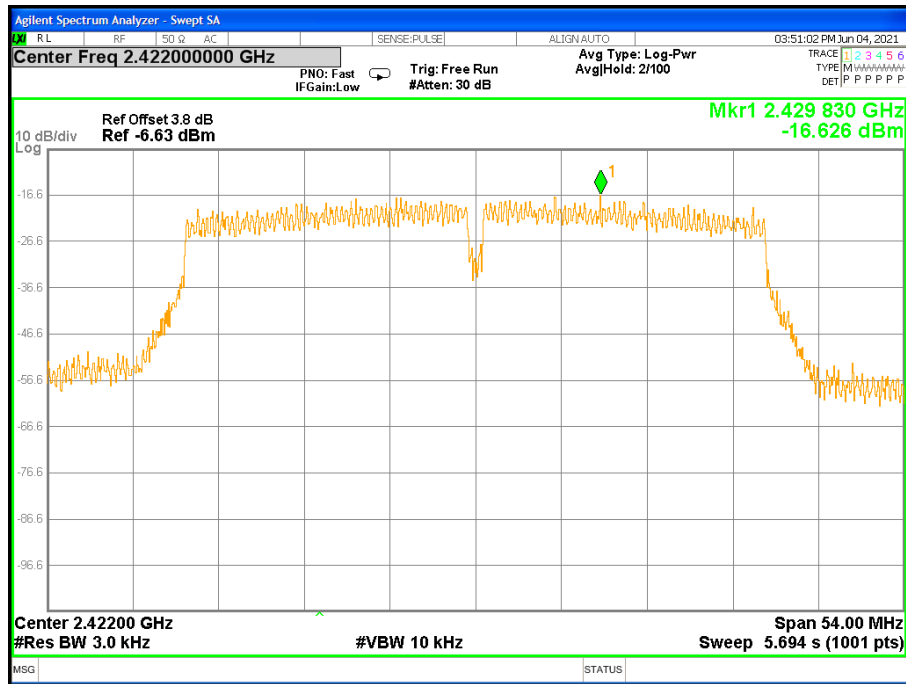
CH06



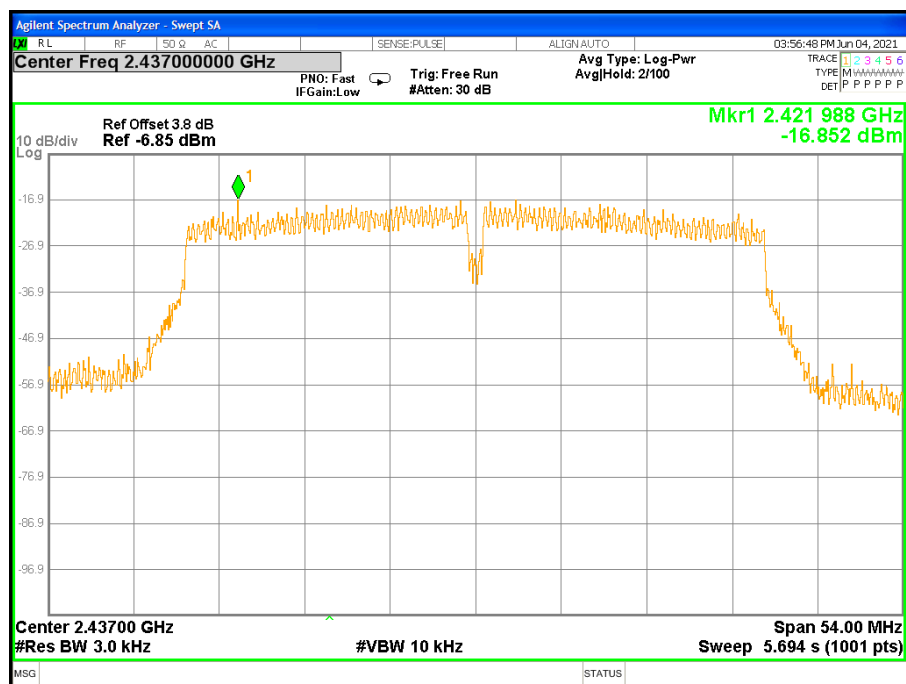
CH09



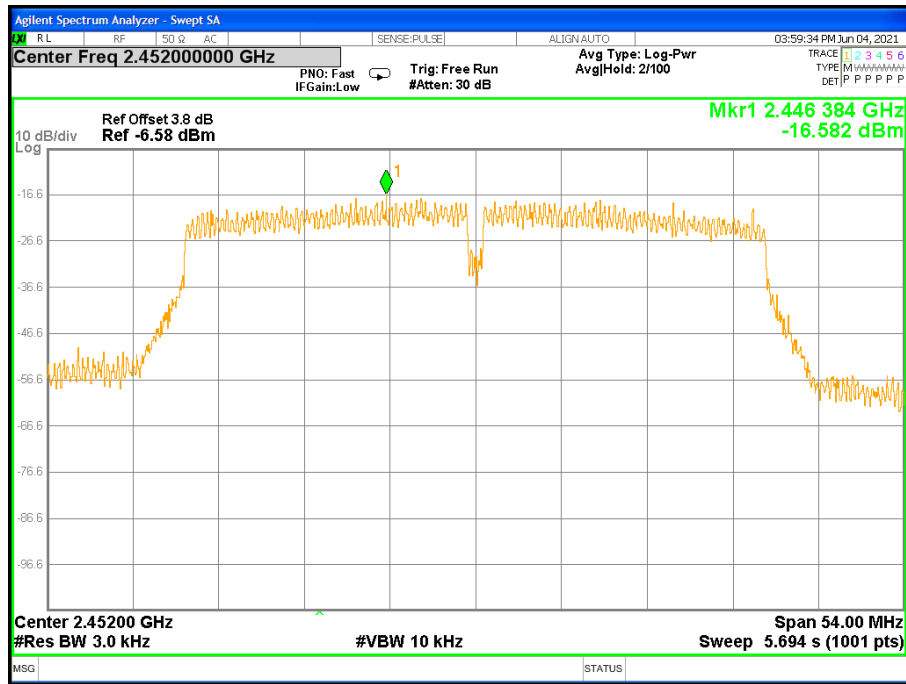
ANT B
CH03



CH06



CH09



7. PEAK OUTPUT POWER TEST

7.1 APPLIED PROCEDURES / LIMIT

LP0002				
Section	Test Item	Limit	Frequency Range (MHz)	Result
4.10.1(2)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

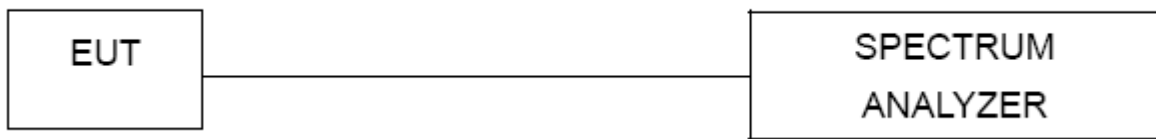
7.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 1 MHz, VBW= 3 MHz, Detector=Peak,Trace mode= Max Hold ,Sweep time = Auto.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 TEST RESULTS

Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	802.11b/g/n20/n40	Test Date :	2021-06-02

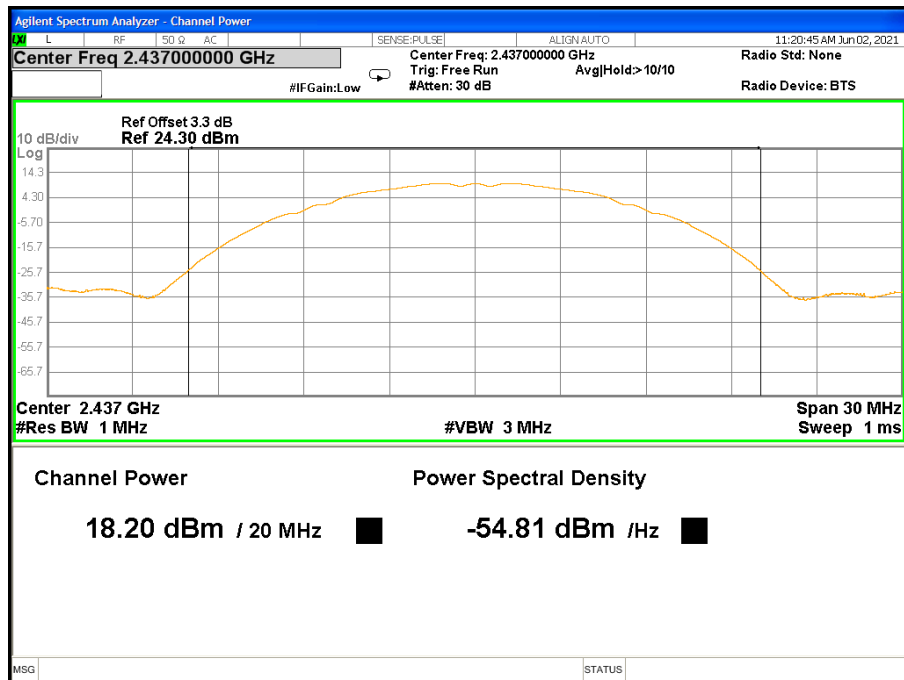
Mode	Test Channel	Frequency	PK Power ANT A	PK Power ANT B	PK Power ANT A+ANT B	LIMIT
		(MHz)	(dBm)	(dBm)	(dBm)	dBm
TX 802.11b	CH01	2412	17.90	17.84	--	30
	CH06	2437	18.20	19.18	--	30
	CH11	2462	18.08	19.68	--	30
TX 802.11g	CH01	2412	19.46	21.02	--	30
	CH06	2437	19.53	20.88	--	30
	CH11	2462	19.81	21.20	--	30
TX 802.11 n20	CH01	2412	18.36	20.74	22.72	29.42
	CH06	2437	18.99	20.38	22.75	29.42
	CH11	2462	18.38	20.86	22.80	29.42
TX 802.11 n40	CH03	2422	18.52	20.61	22.70	29.42
	CH06	2437	18.70	20.21	22.53	29.42
	CH09	2452	18.77	20.25	22.58	29.42

ANT A

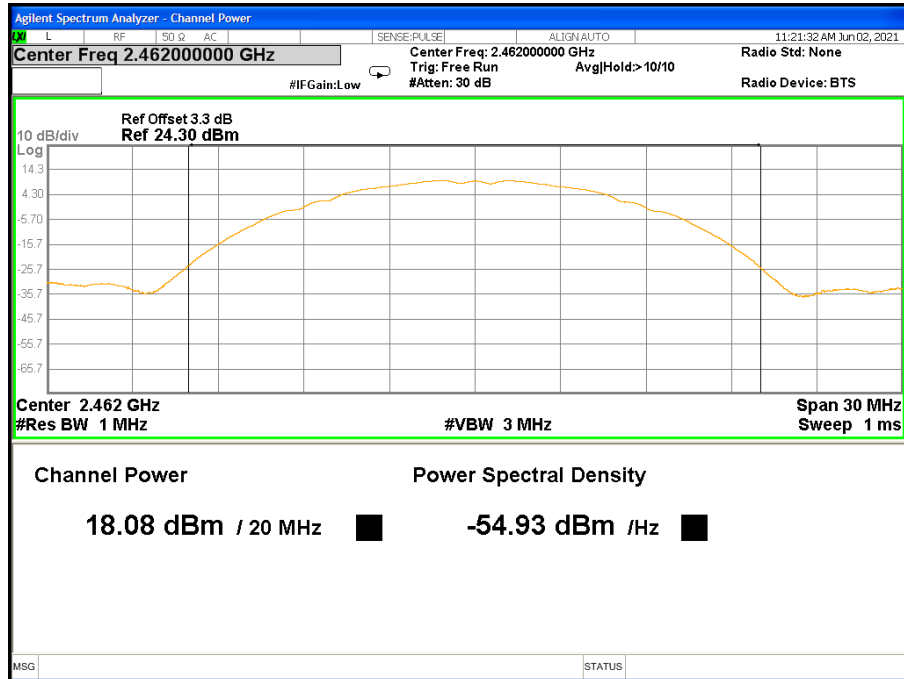
b Low channel



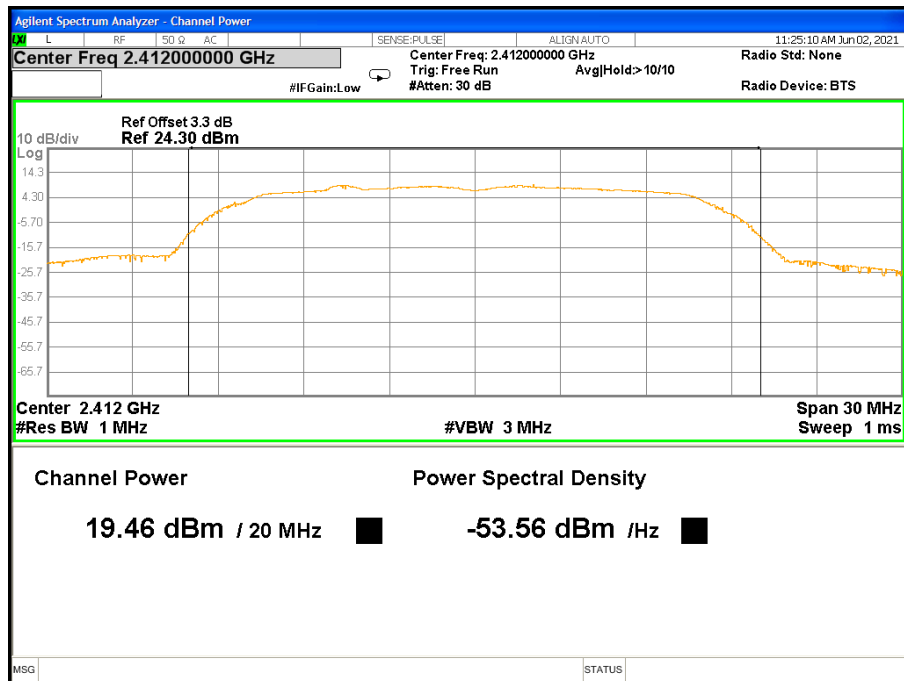
b Mid channel



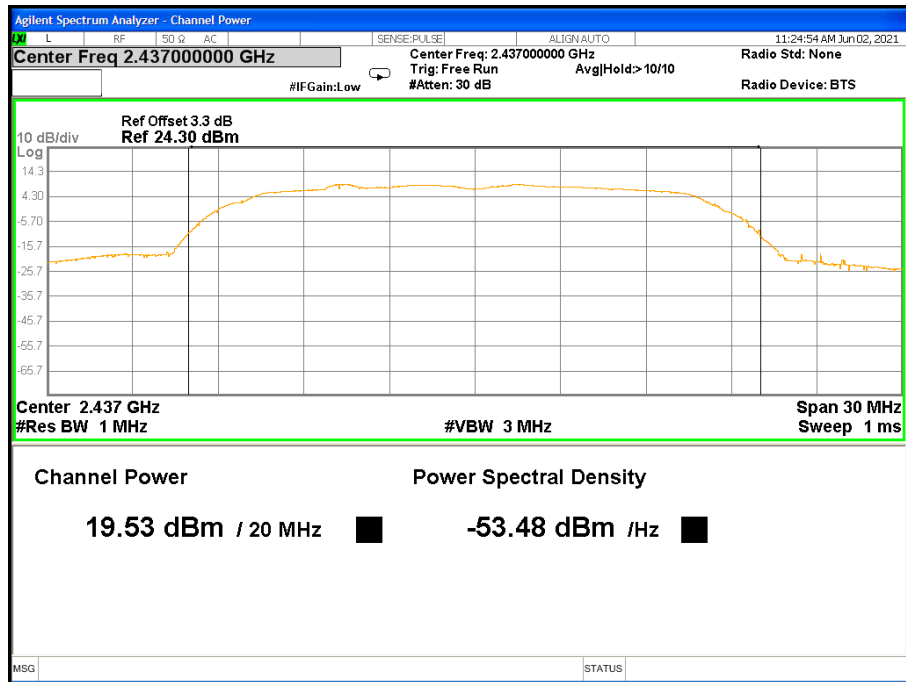
b High channel



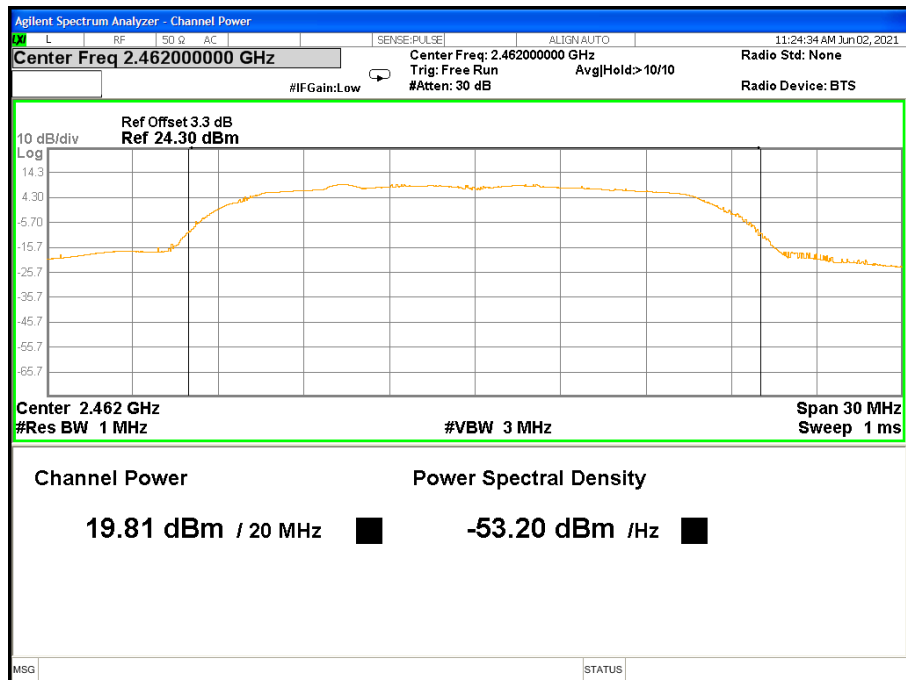
g Low channel



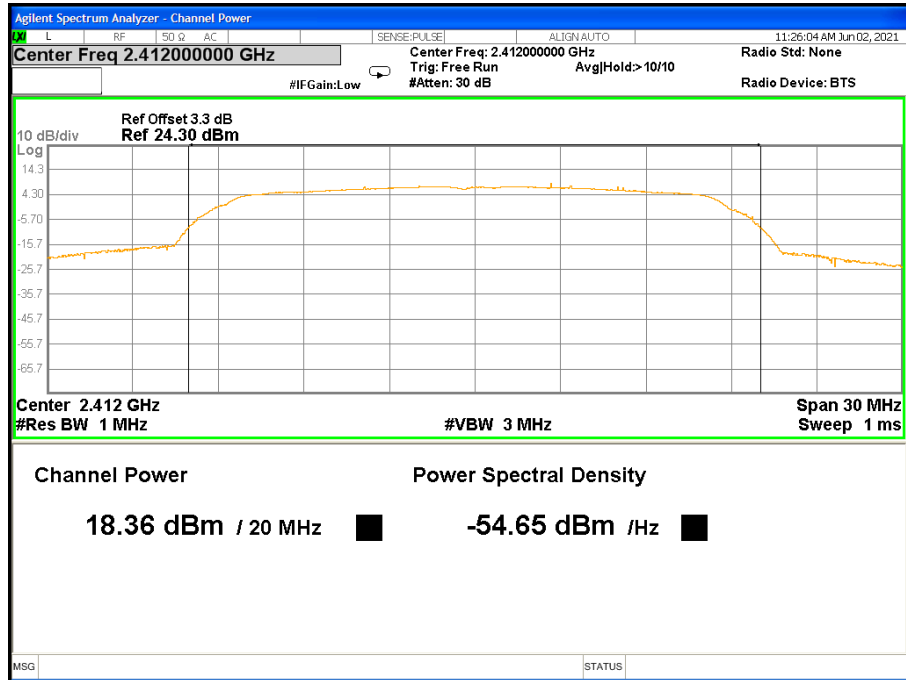
g Mid channel



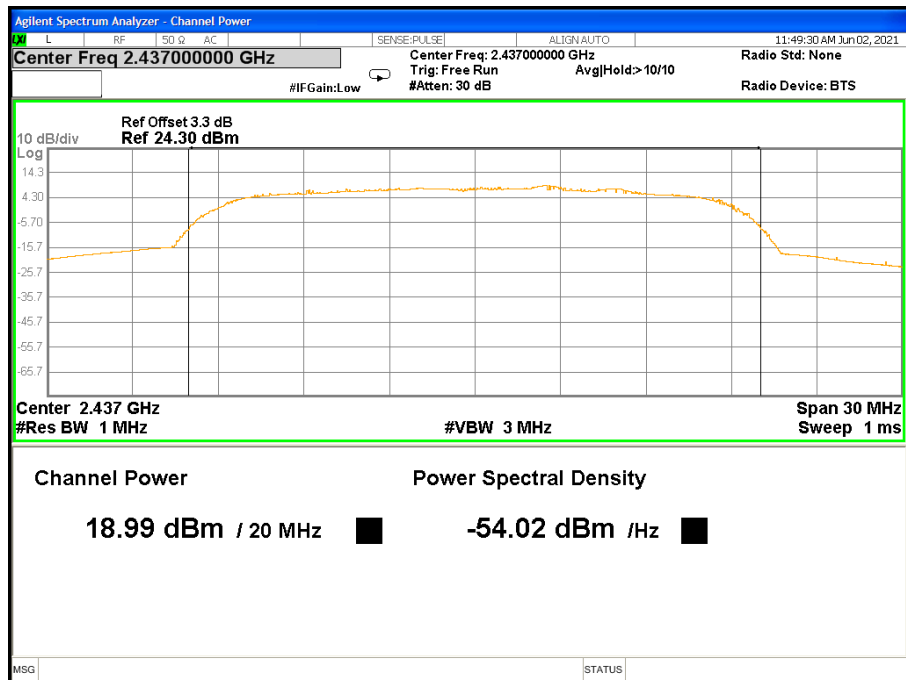
g High channel



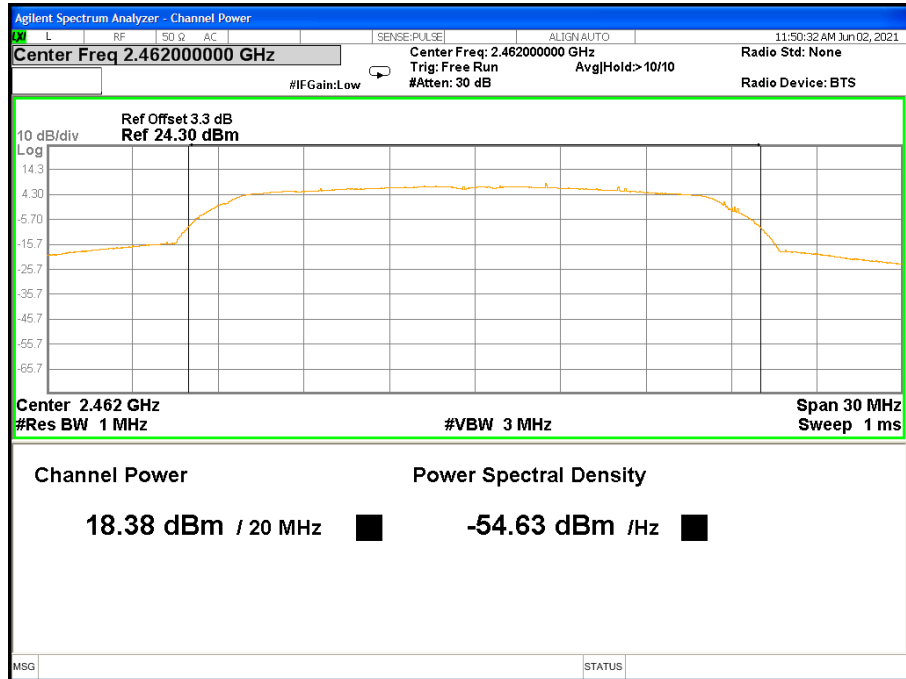
N20 Low channel



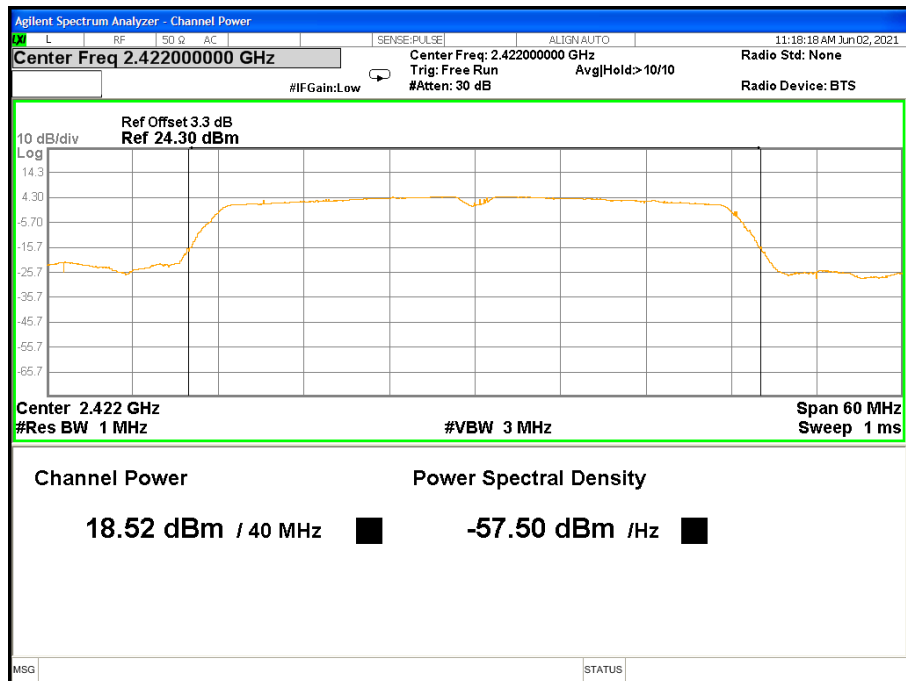
N20 Mid channel



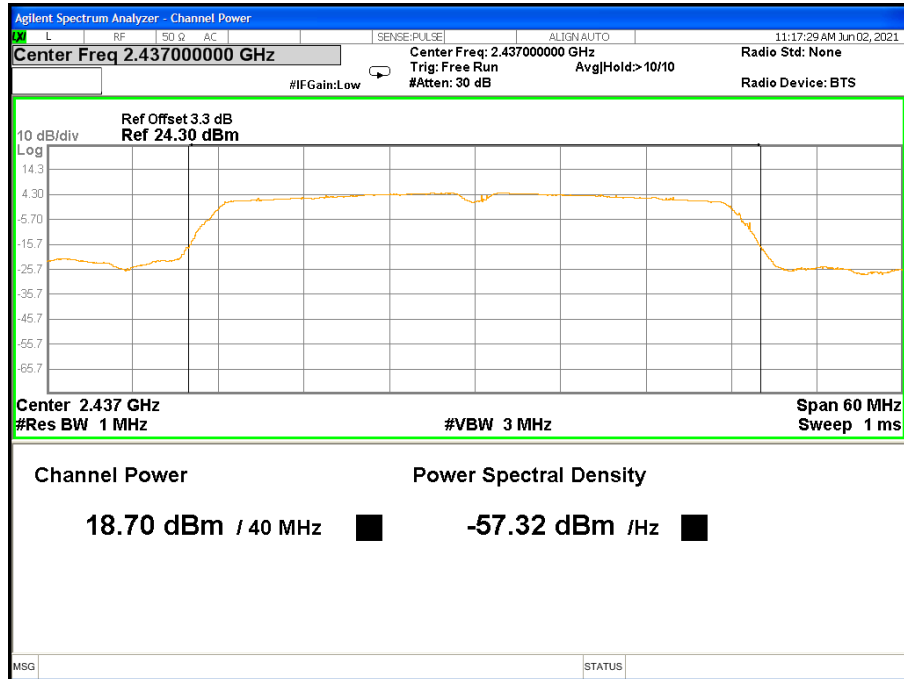
N20 High channel



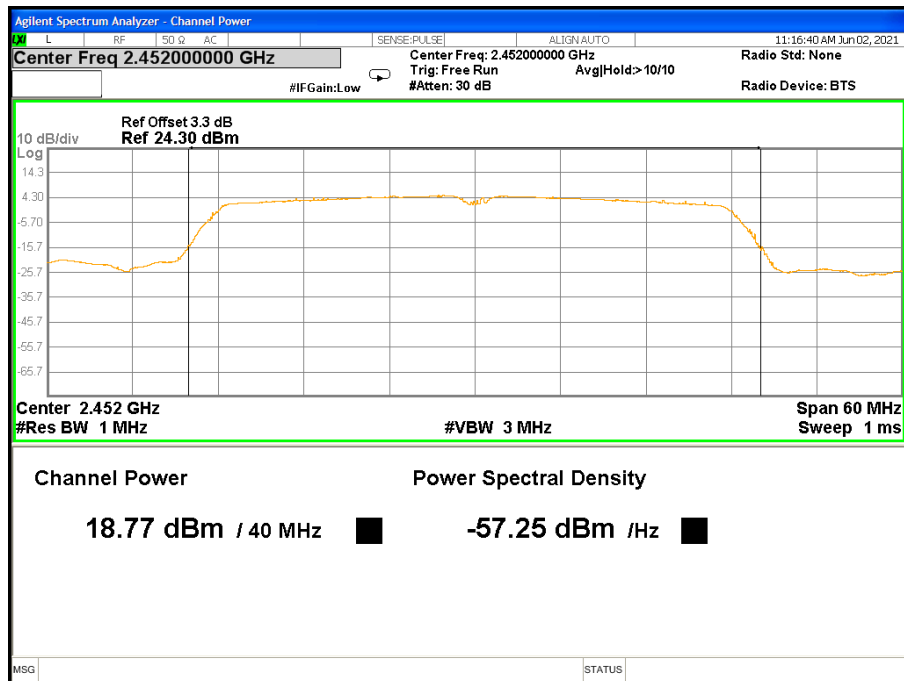
N40 Low channel



N40 Mid channel

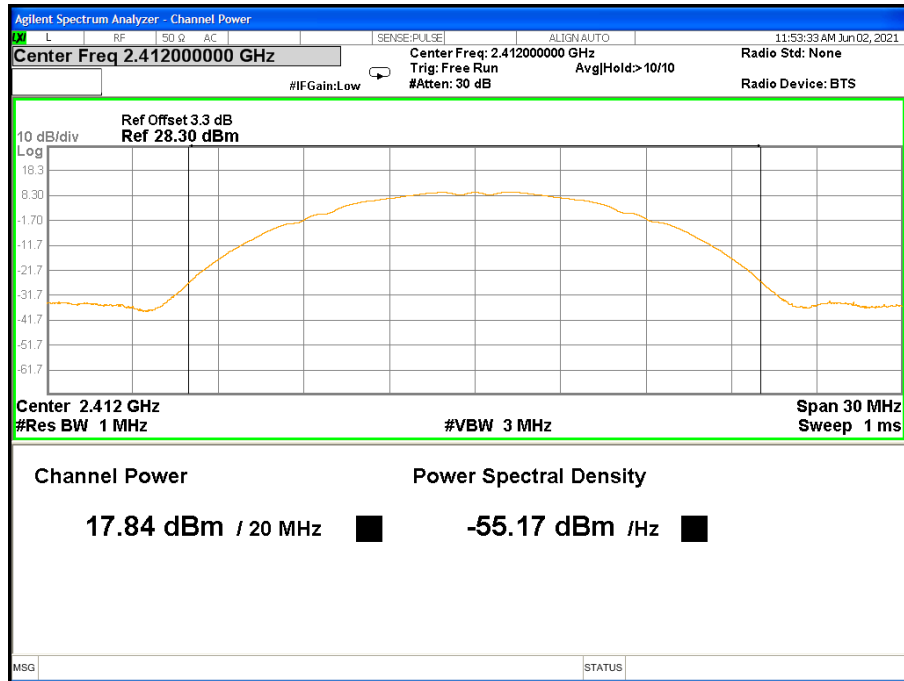


N40 High channel

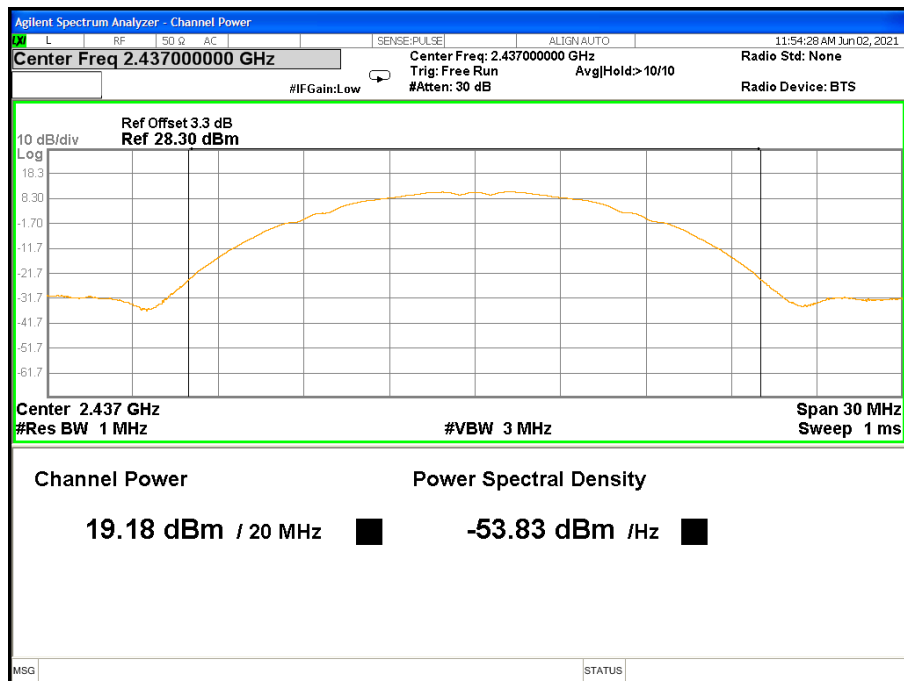


ANT B

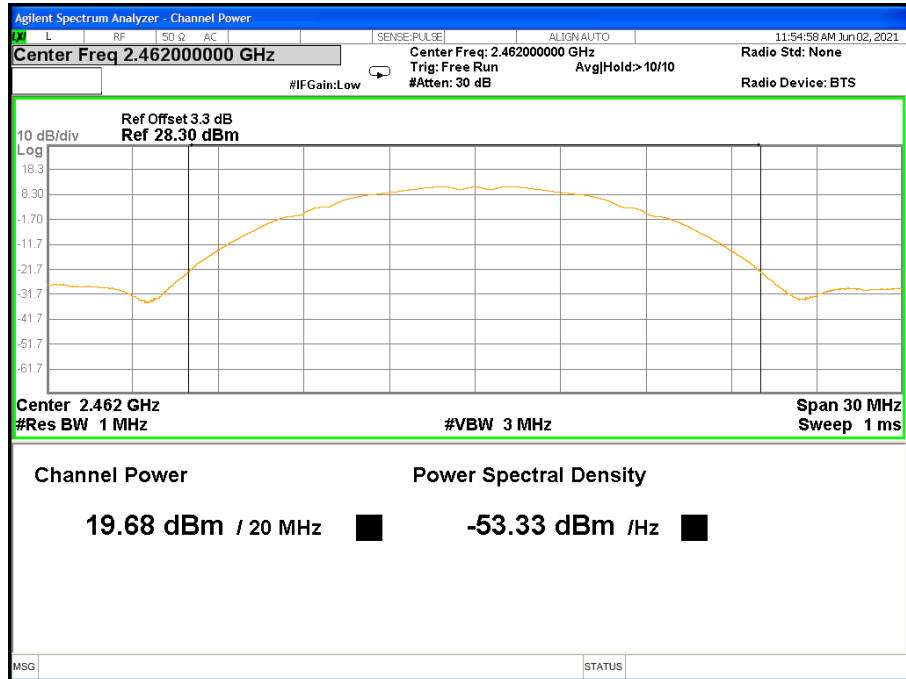
b Low channel



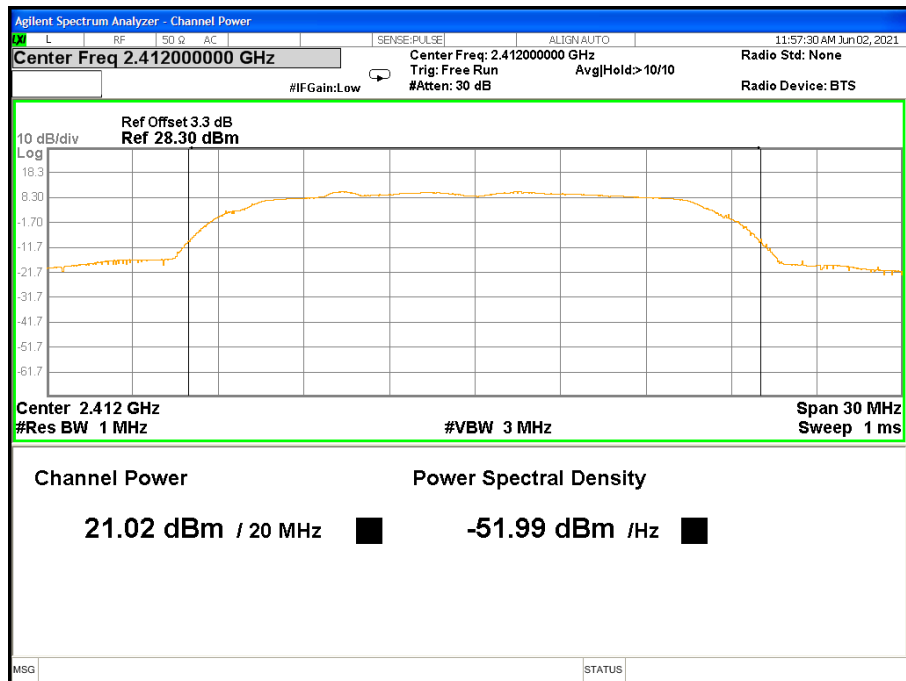
b Mid channel



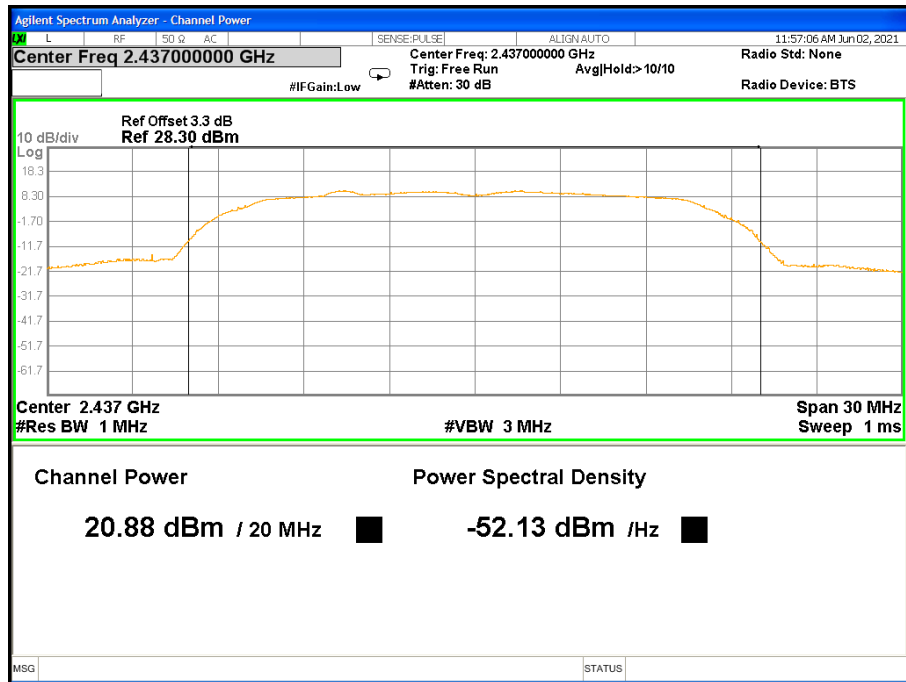
b High channel



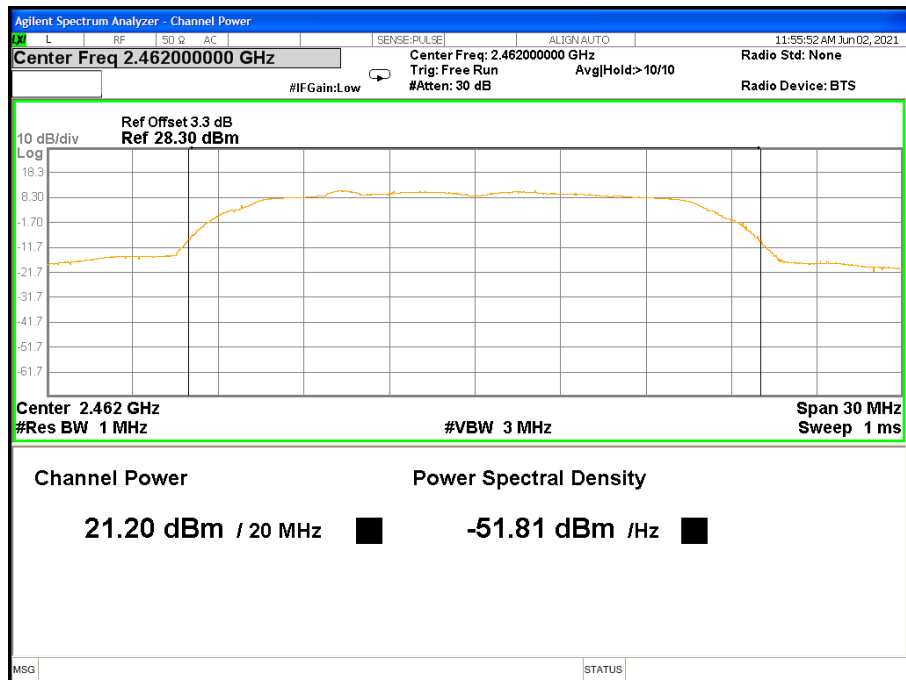
g Low channel



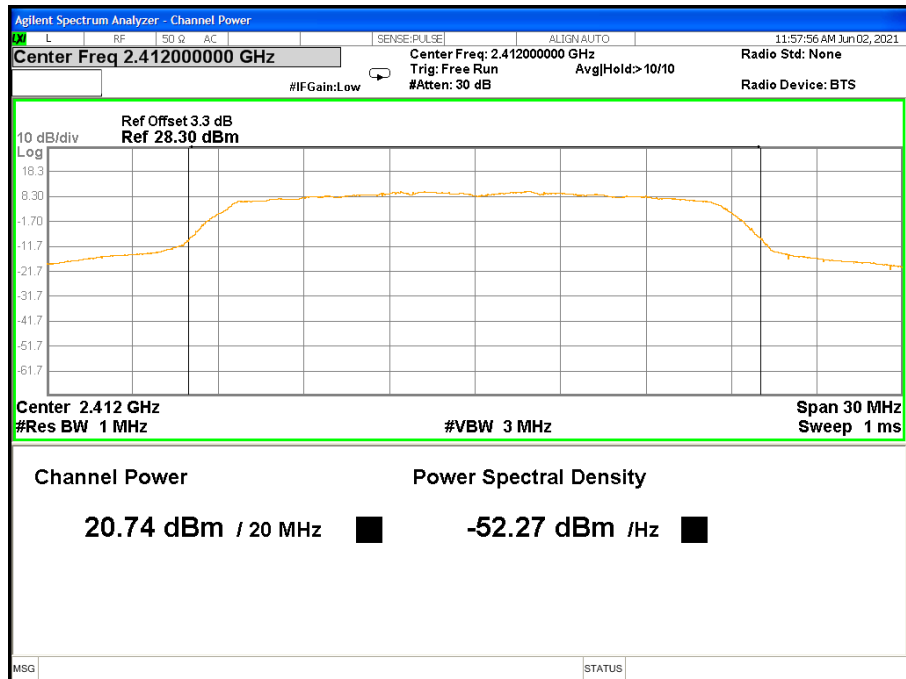
g Mid channel



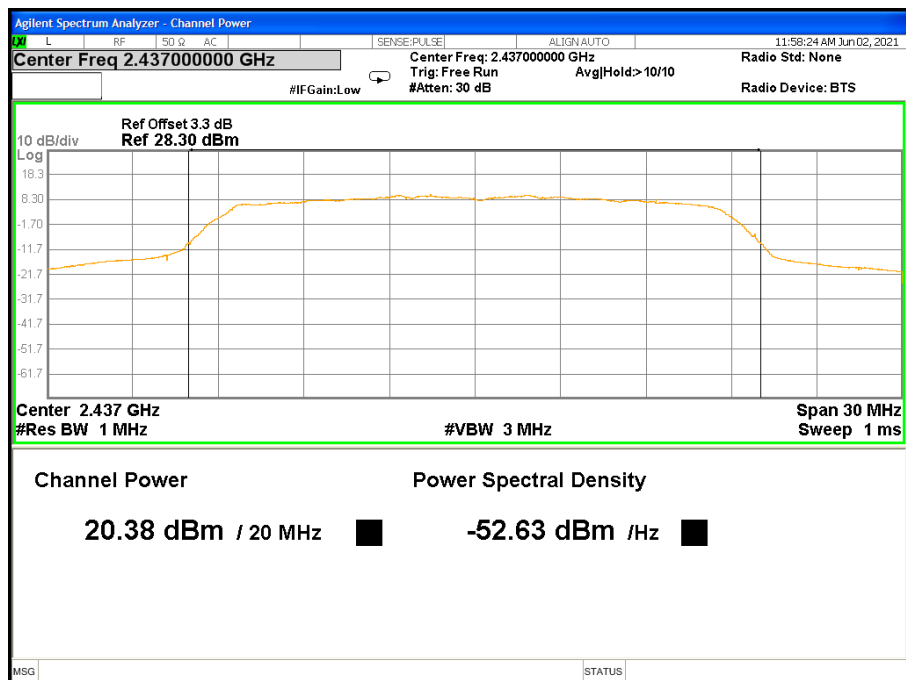
g High channel



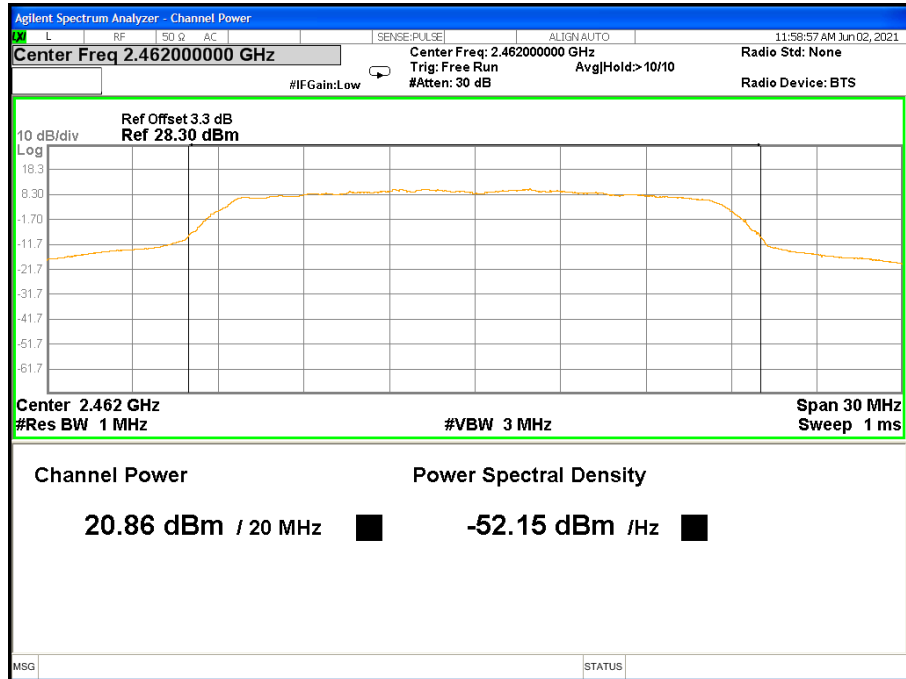
N20 Low channel



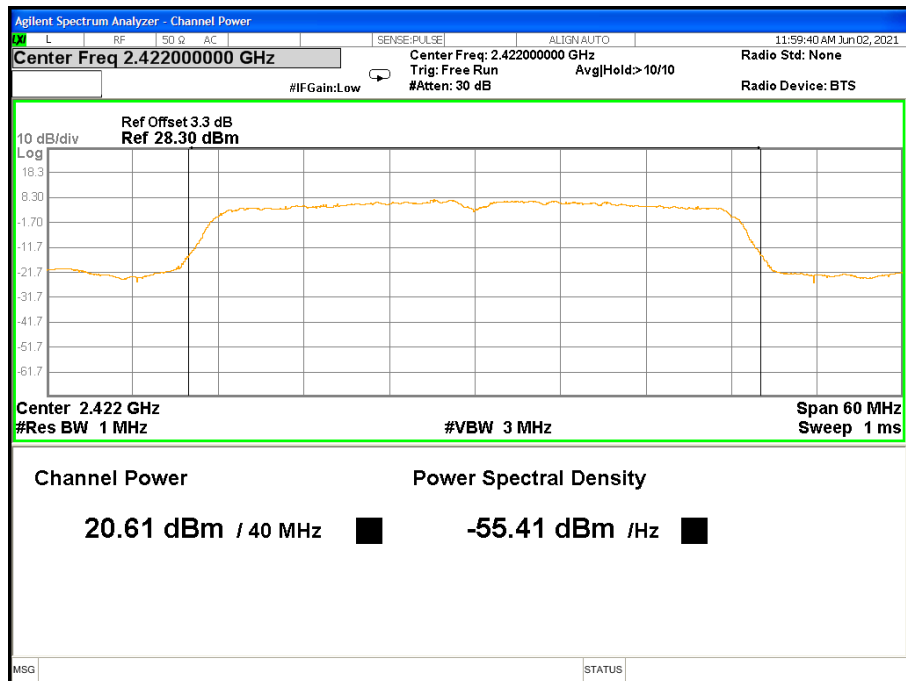
N20 Mid channel



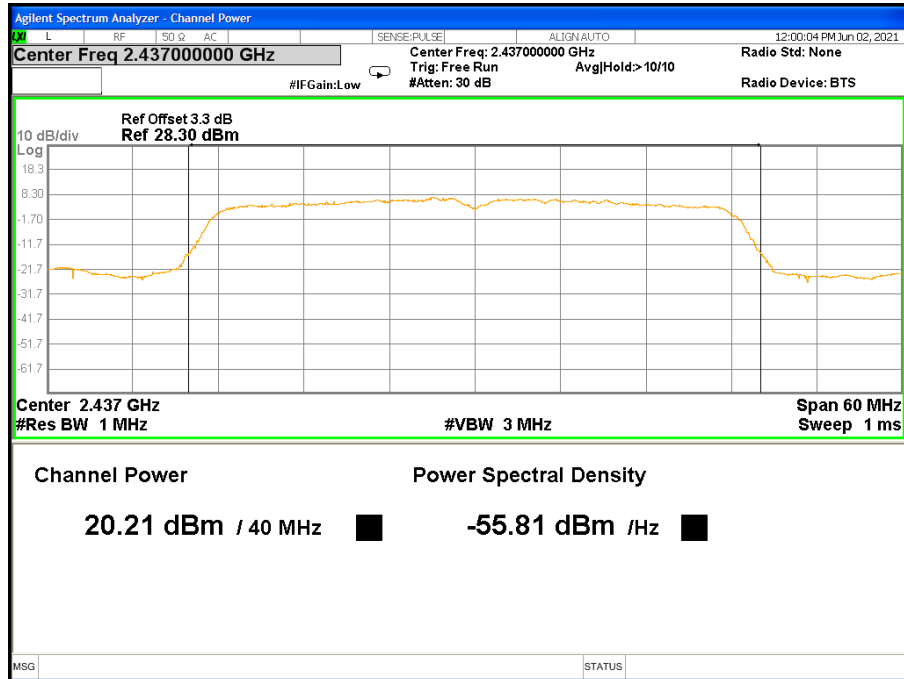
N20 High channel



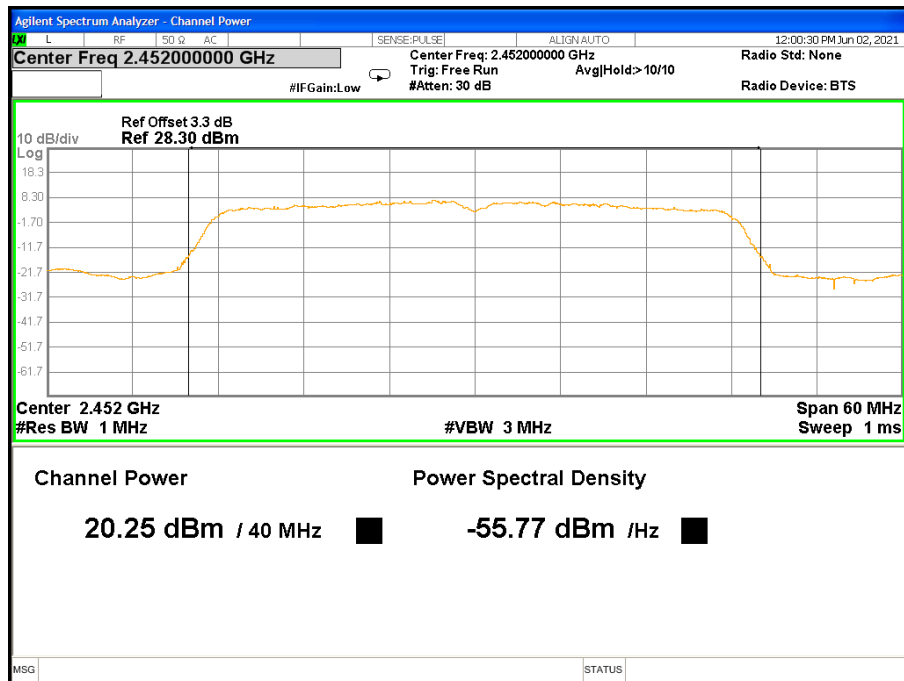
N40 Low channel



N40 Mid channel



N40 High channel



8. ANTENNA CONDUCTED SPURIOUS EMISSION

8.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency 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 or shall not exceed the general levels specified in Section 3.6.

Frequencies (MHz)	Field Strength (micorvolts/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
Above 960	500	3

8.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

8.1.2 TEST SETUP



8.1.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

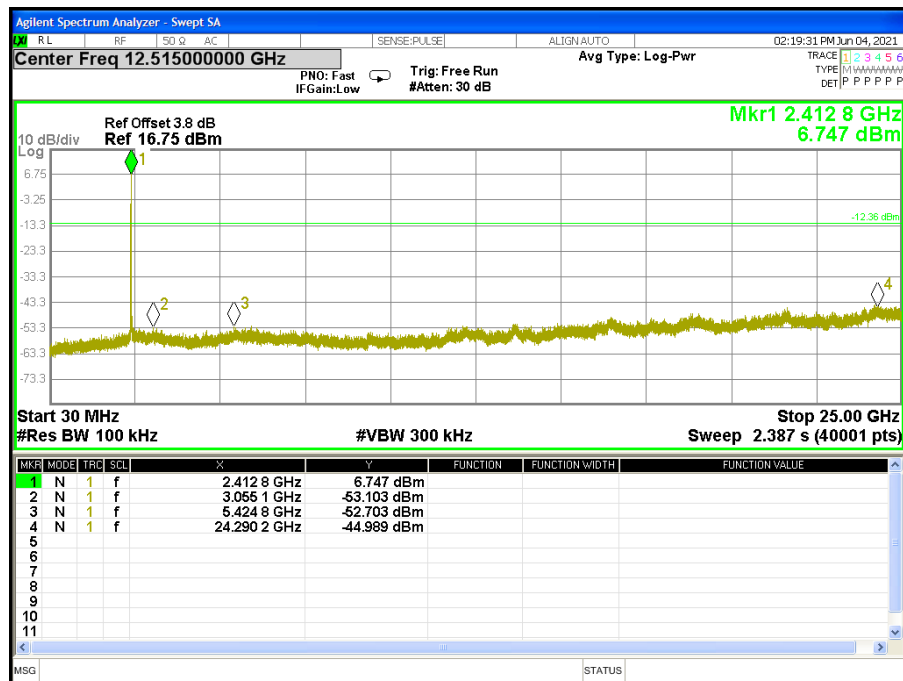
8.1.4 TEST RESULTS

Note: ANT B Power> ANT A Power, Both ANT A and B have been test, Only show the worst data of ANT B

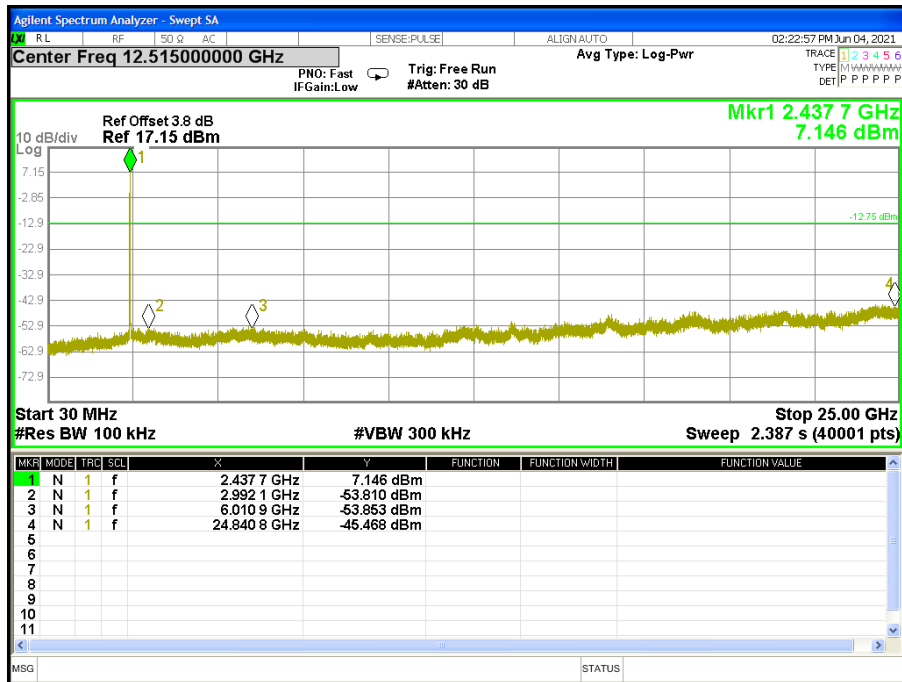
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01/ CH/06/CH11 (802.11b Data rate 1Mbps)		
Test Date :	2021-06-04		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

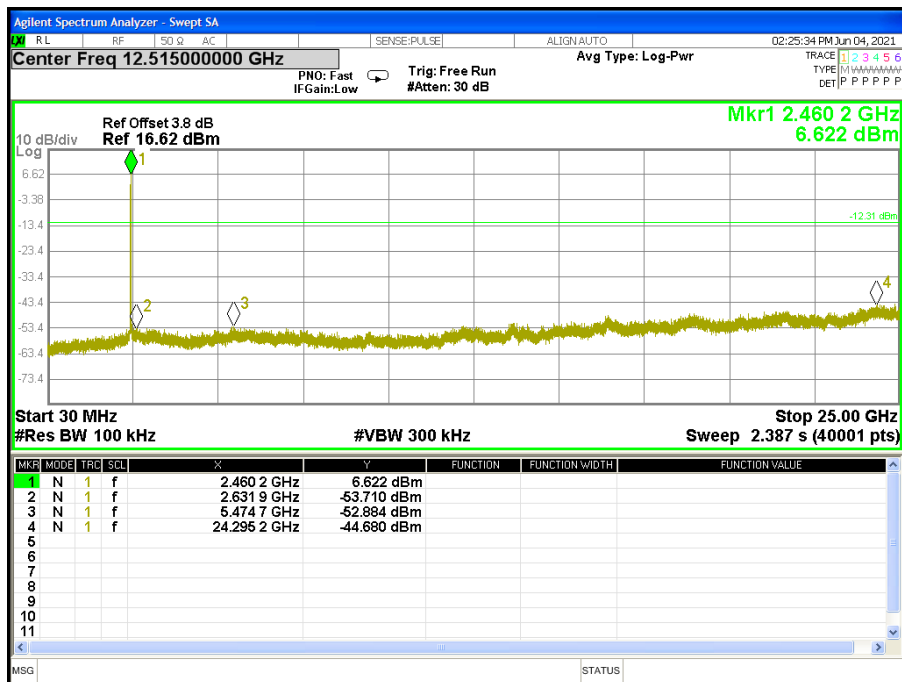
CH01 (Lower)



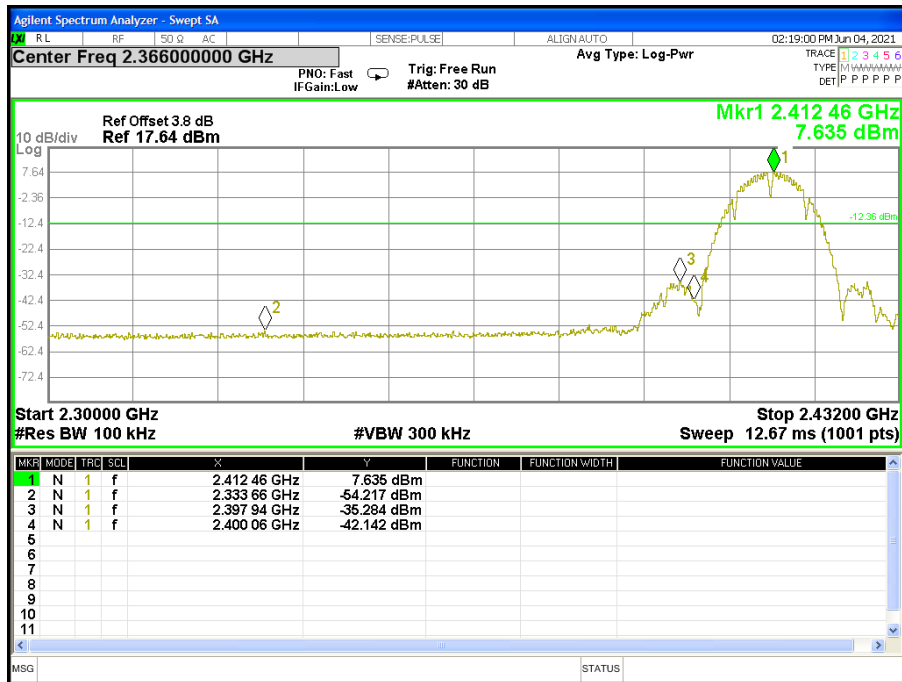
CH 06(Middle)



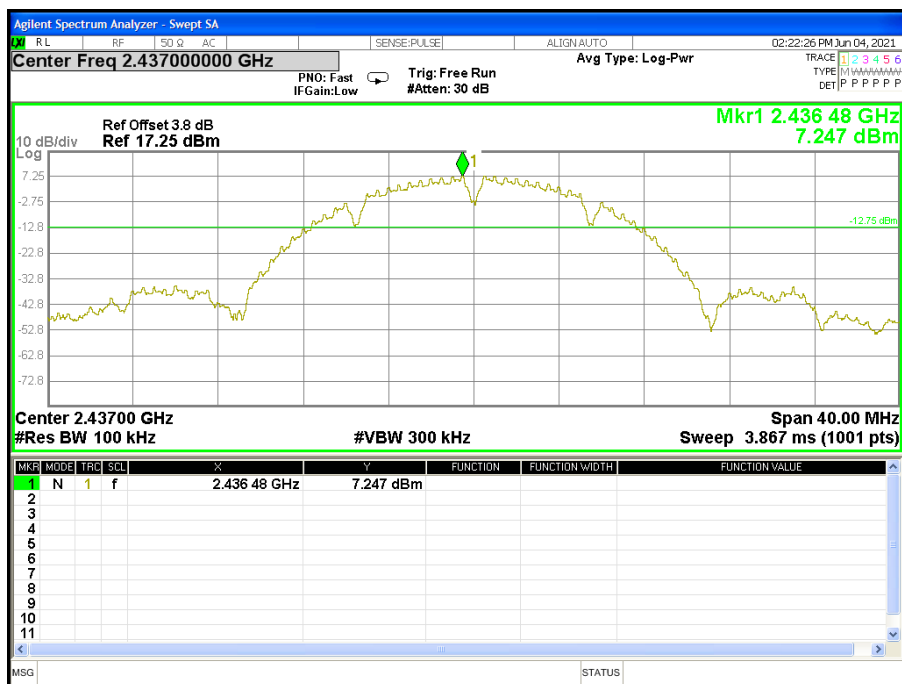
CH 11(Upper)



CH01



CH06



Agilent Spectrum Analyzer - Swept SA

RL RF SO Q AC SENSE:PULSE ALIGN:AUTO 02:25:03 PM Jun 04, 2021

Center Freq 2.471000000 GHz Avg Type: Log-Pwr

PNO: Fast Trig: Free Run IF Gain: Low #Atten: 30 dB

TRACE TYPE DET P P P P P P P

Ref Offset 3.8 dB Ref 17.70 dBm

Mkr1 2.461 488 GHz 7.695 dBm

The figure shows a spectrum analyzer display with a green trace representing the signal. A prominent peak is labeled Mkr1 at 2.461 488 GHz with a power level of 7.695 dBm. Other smaller peaks are visible at higher frequencies, marked with diamonds and numbered 2, 3, and 4. The x-axis represents frequency from 2.44200 GHz to 2.50000 GHz, and the y-axis represents power from -72.3 dBm to 10 dB/div Log.

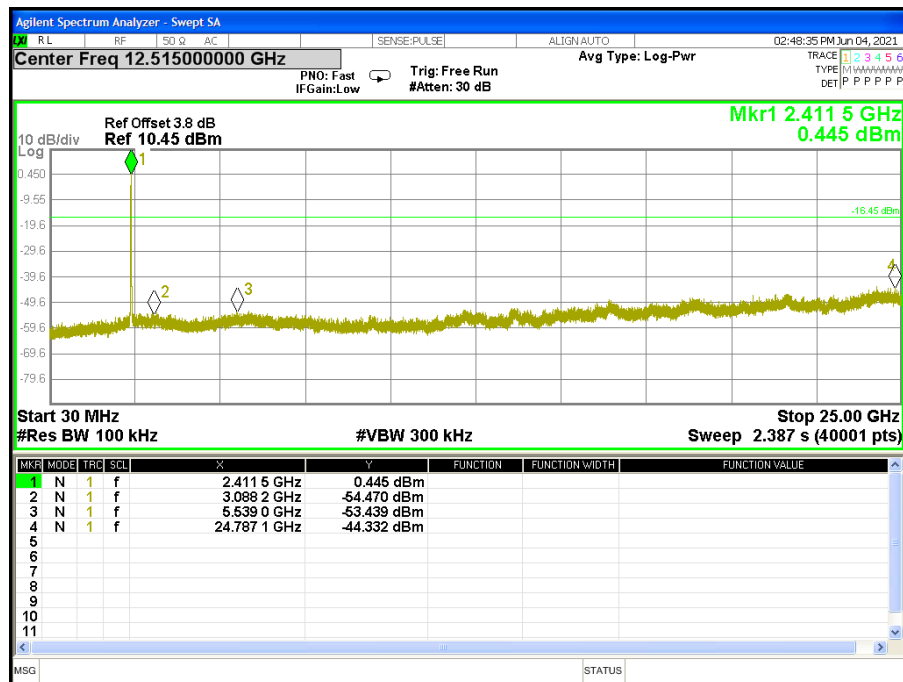
Start 2.44200 GHz Stop 2.50000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 5.600 ms (1001 pts)

MKR	MODE	TRG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.461 488 GHz	7.695 dBm			
2	N	1	f	2.483 528 GHz	-52.902 dBm			
3	N	1	f	2.487 994 GHz	-50.619 dBm			
4	N	1	f	2.492 866 GHz	-52.735 dBm			

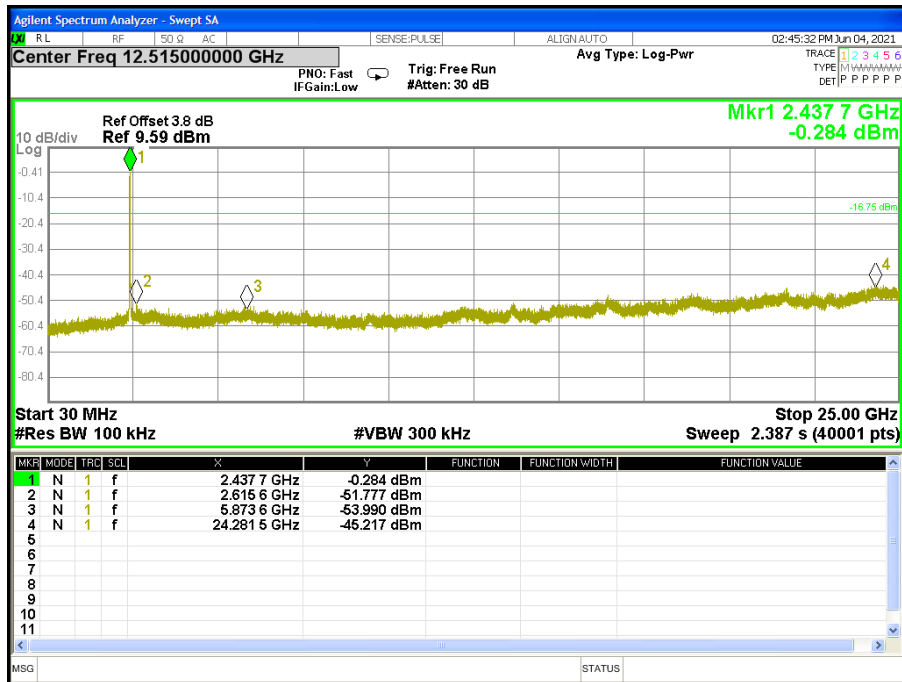
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01/ CH/06/CH11 (802.11g Data rate 6Mbps)		
Test Date :	2021-06-04		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

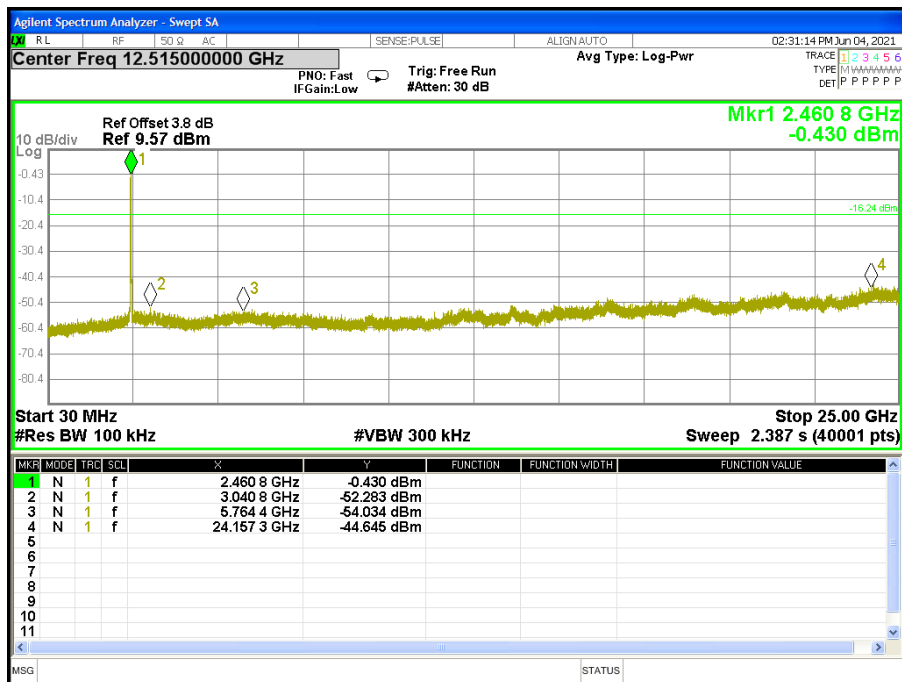
CH01 (Lower)



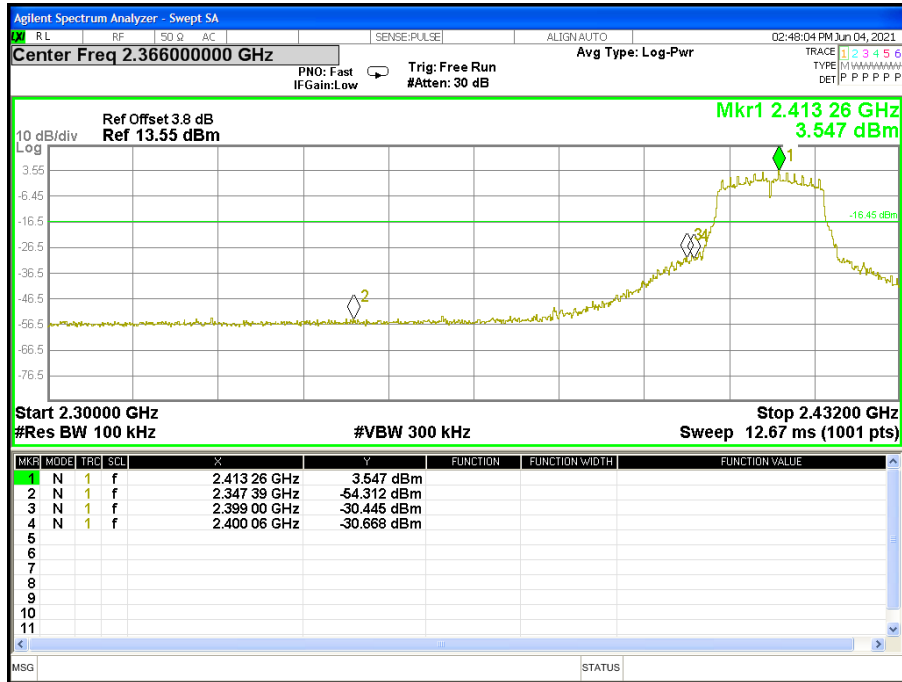
CH 06(Middle)



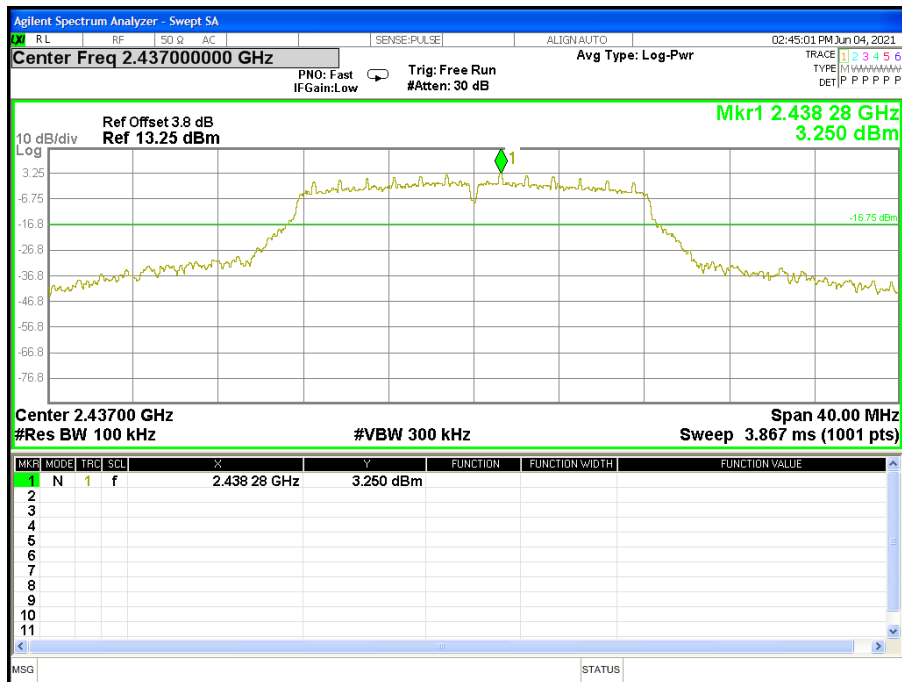
CH 11(Upper)



CH01



CH06

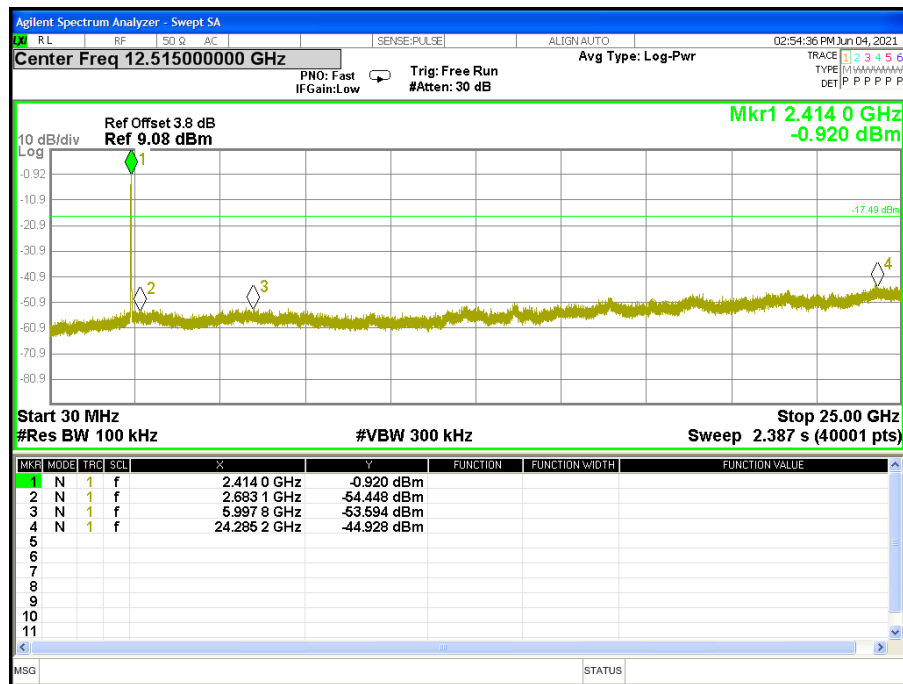


[illegible]

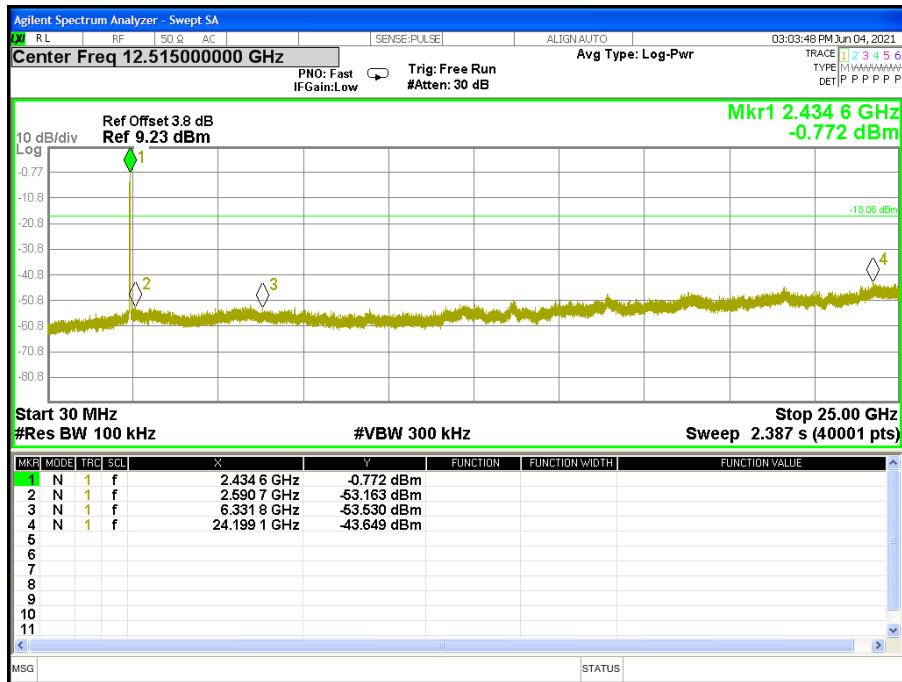
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH01/ CH/06/CH11 (802.11n20 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

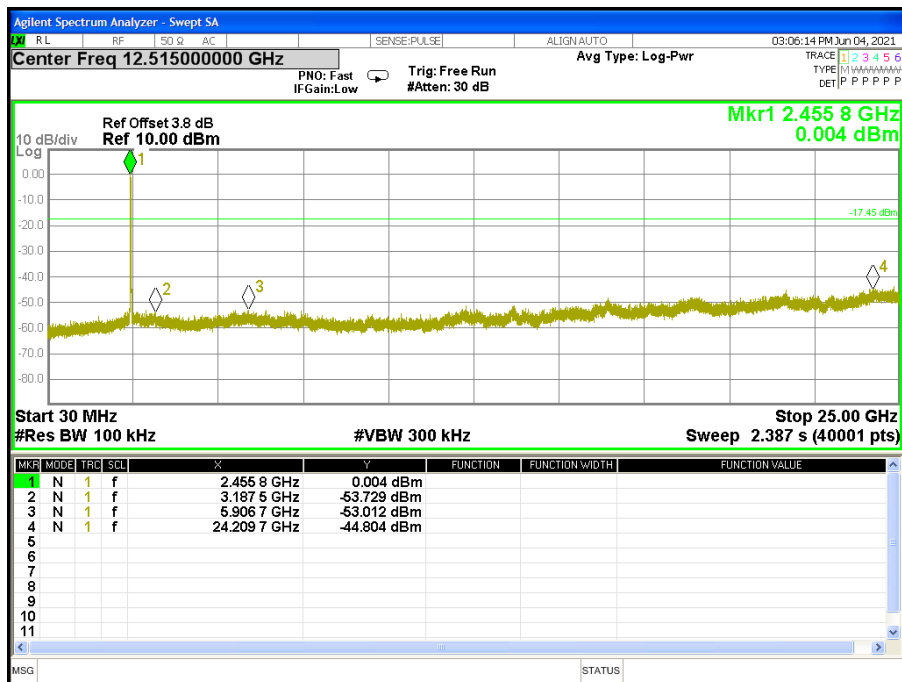
CH01 (Lower)



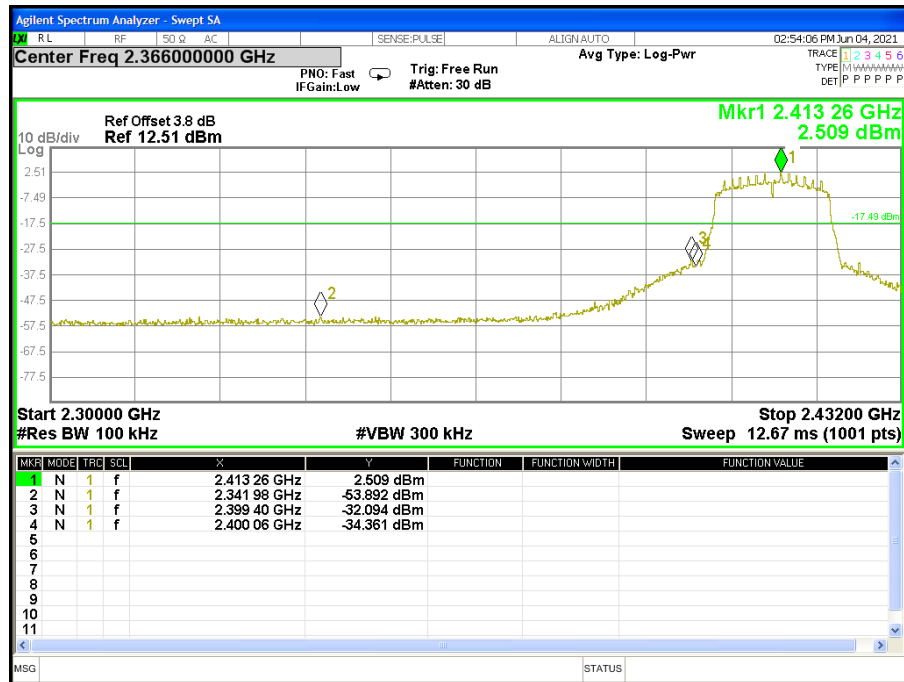
CH 06(Middle)



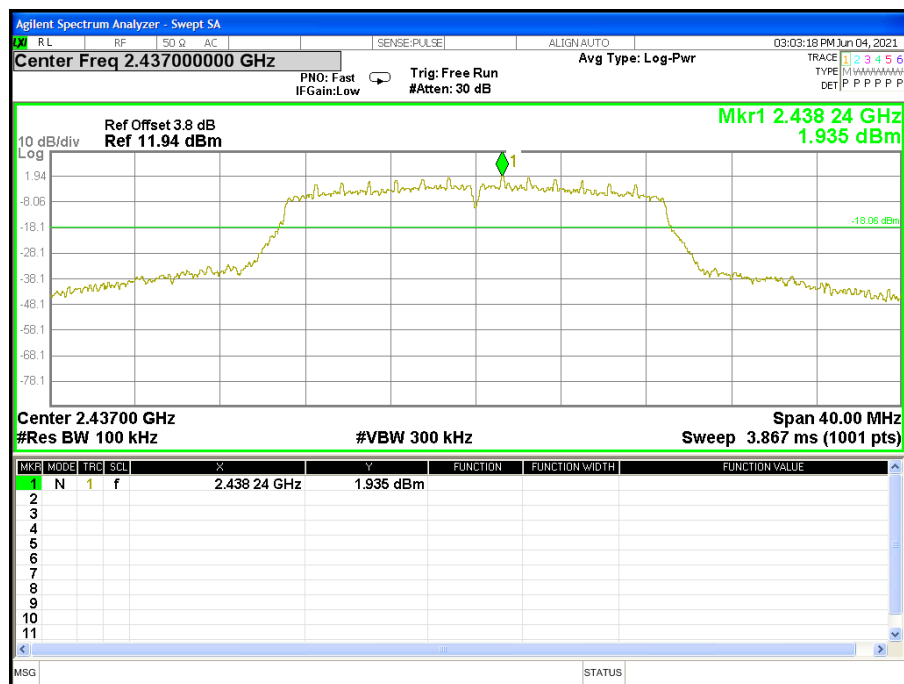
CH 11(Upper)



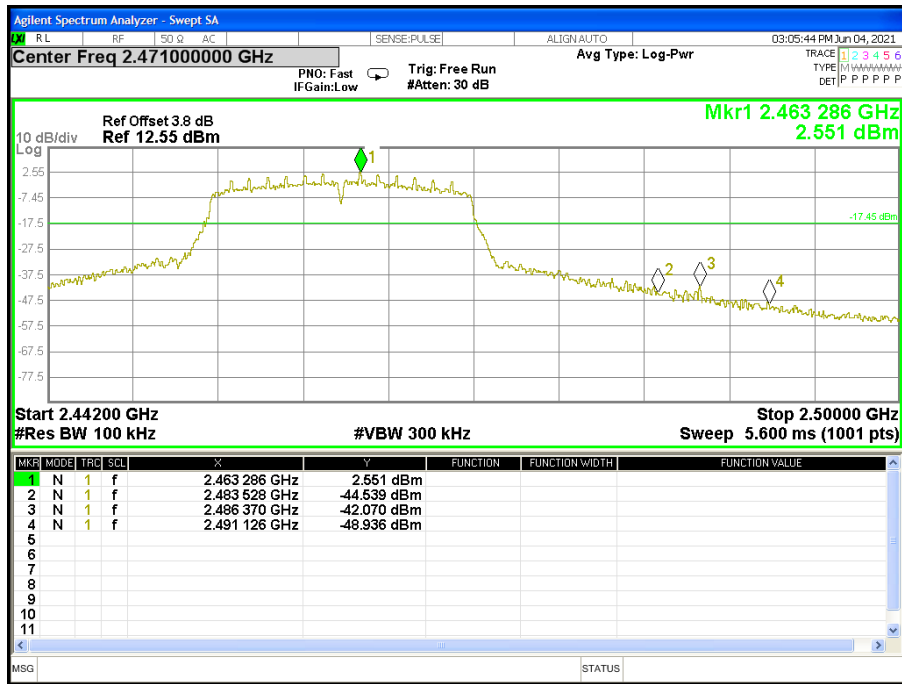
CH01



CH06



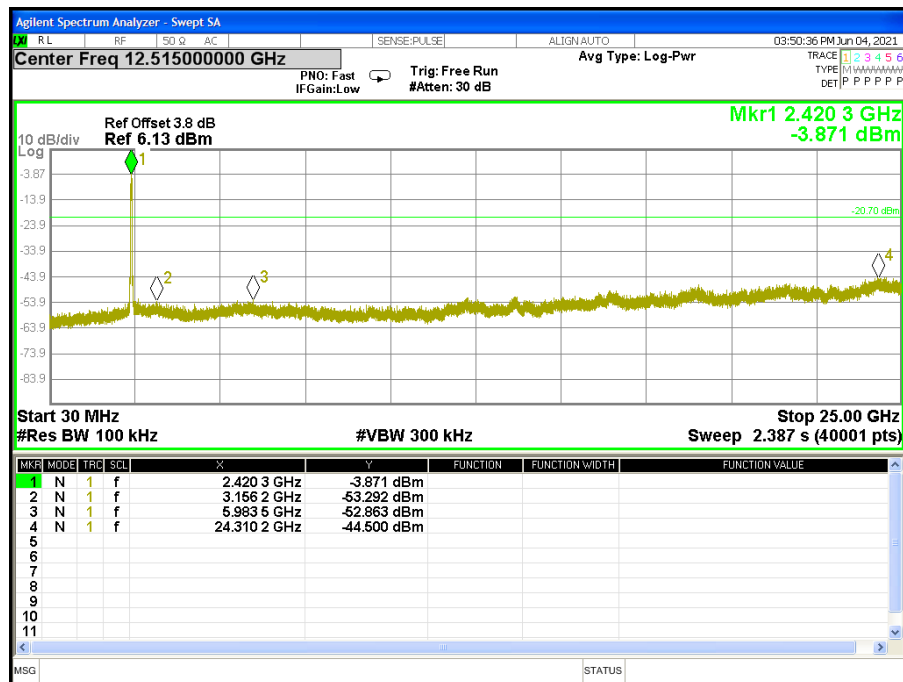
CH11



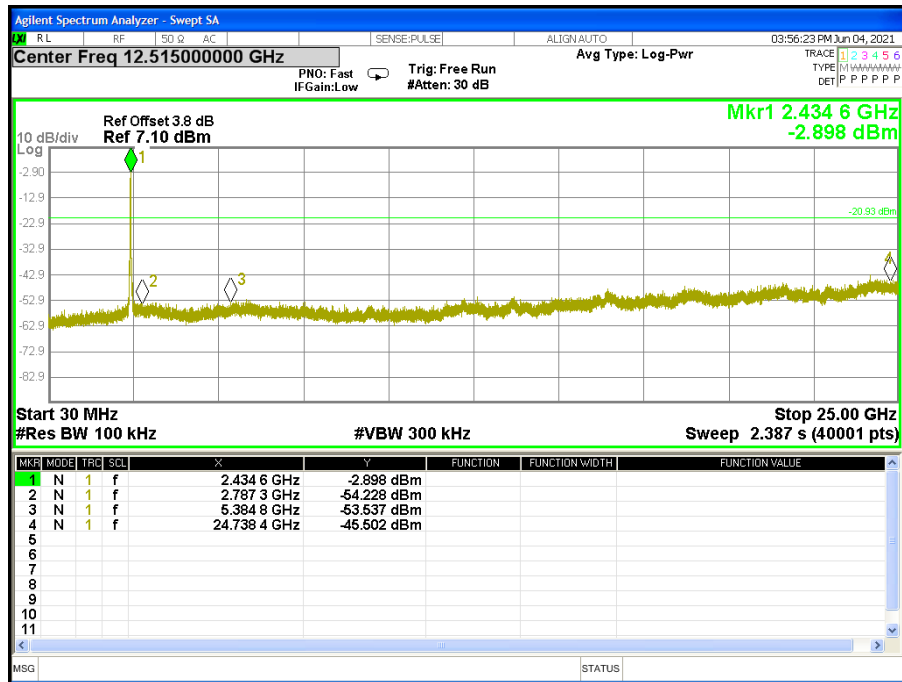
EUT :	Projector	Model Name :	XM03A
Temperature :	25.1 °C	Relative Humidity :	52%
Pressure :	1010 hPa	Test Voltage :	AC 110V/60Hz
Test Mode :	CH03/ CH/06/CH09 (802.11n40 Data rate 6.5Mbps)		
Test Date :	2021-06-04		

in any 100kHz bandwidth outside the low frequency band	in any 100 kHz bandwidth outside the high frequency band
Pass	Pass
Result	
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.	

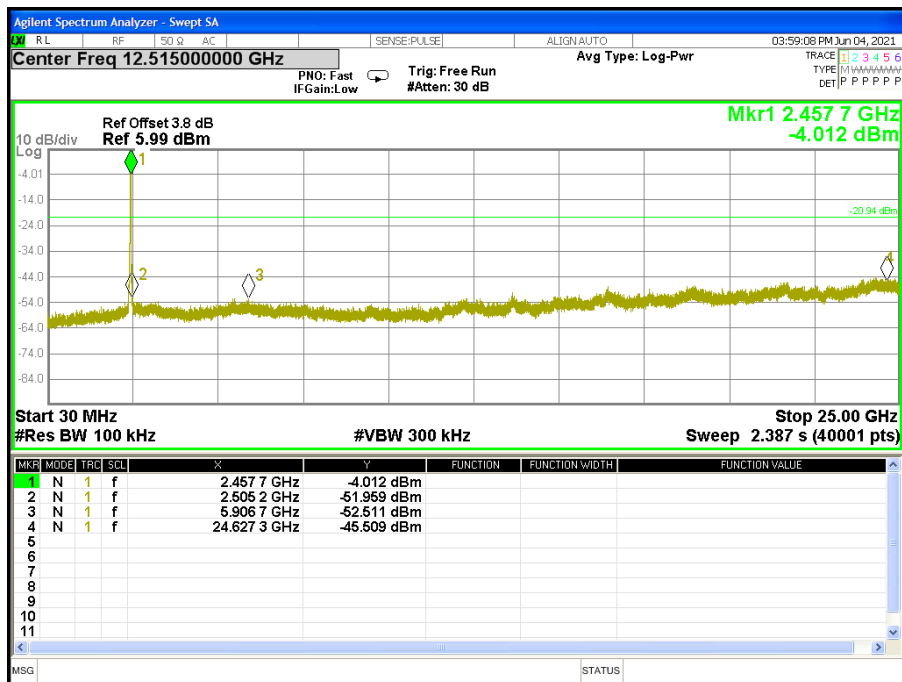
CH03 (Lower)



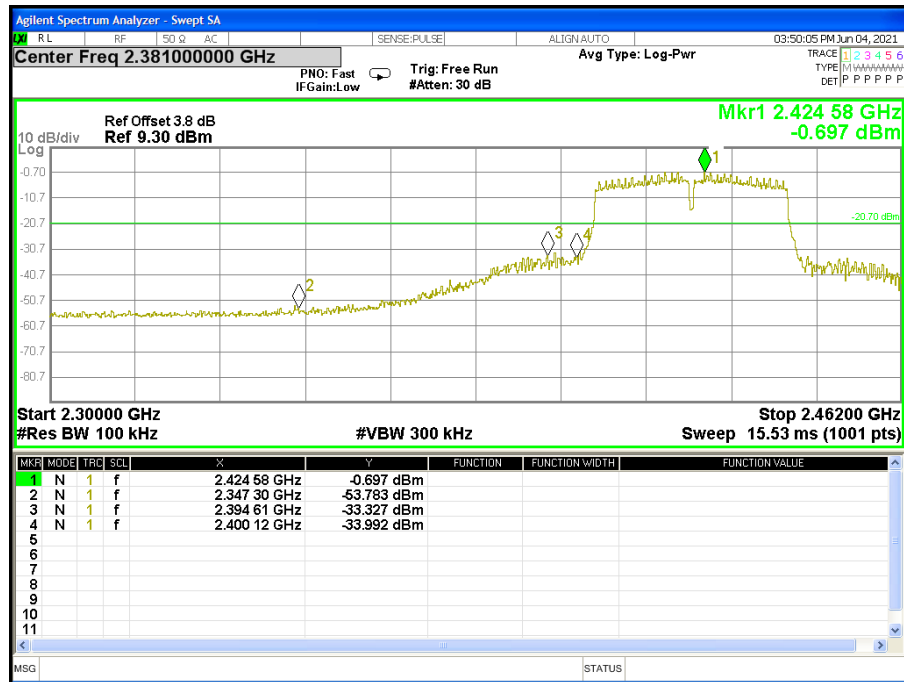
CH 06(Middle)



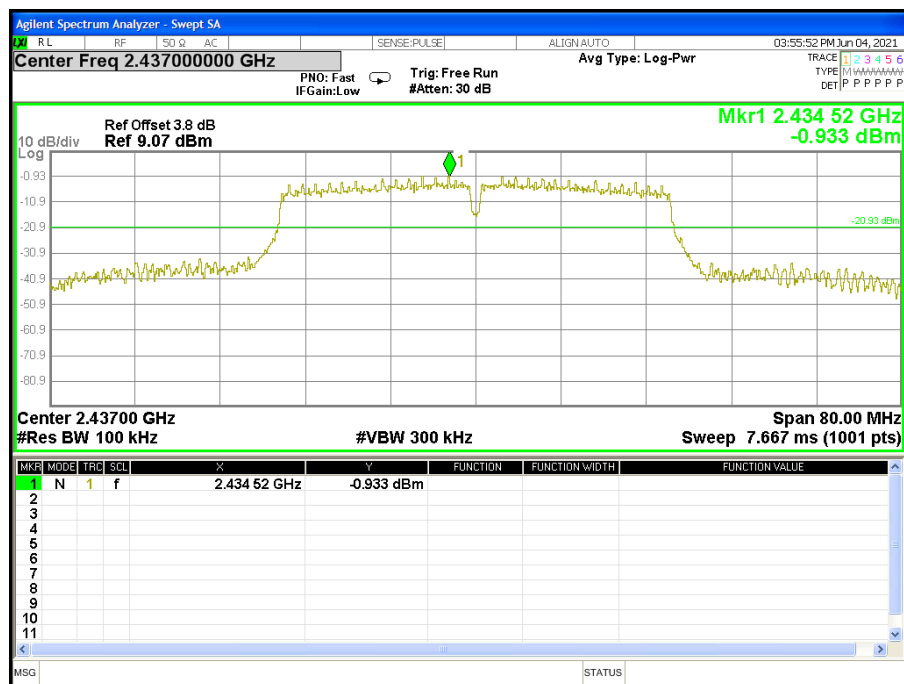
CH 09(Upper)



CH03



CH06



Agilent Spectrum Analyzer - Swept SA

RL RF SQ Z AC SENSE:PULSE ALIGN: AUTO 03:58:38 PM Jun 04, 2021

Center Freq 2.461000000 GHz Avg Type: Log-Pwr

PNO: Fast IFGain: Low Trig: Free Run #Atten: 30 dB

TRACE 1 2 3 4 5 6 TYPE [f] [m] [w] [h] [l] [p] [r] [s] [t] [u] [v] [w] [x] [y] [z] [aa] [ab] [ac] [ad] [ae] [af] [ag] [ah] [ai] [aj] [ak] [al] [am] [an] [ao] [ap] [aq] [ar] [as] [at] [au] [av] [aw] [ax] [ay] [az] [ba] [bb] [bc] [bd] [be] [bf] [bg] [bh] [bi] [bj] [bk] [bl] [bm] [bn] [bo] [bp] [bq] [br] [bs] [bt] [bu] [bv] [bw] [bx] [by] [bz] [ca] [cb] [cc] [cd] [ce] [cf] [cg] [ch] [ci] [cj] [ck] [cl] [cm] [cn] [co] [cp] [cq] [cr] [cs] [ct] [cu] [cv] [cw] [cx] [cy] [cz] [da] [db] [dc] [dd] [de] [df] [dg] [dh] [di] [dj] [dk] [dl] [dm] [dn] [do] [dp] [dq] [dr] [ds] [dt] [du] [dv] [dw] [dx] [dy] [dz] [ea] [eb] [ec] [ed] [ee] [ef] [eg] [eh] [ei] [ej] [ek] [el] [em] [en] [eo] [ep] [eq] [er] [es] [et] [eu] [ev] [ew] [ex] [ey] [ez] [fa] [fb] [fc] [fd] [fe] [ff] [fg] [fh] [fi] [fj] [fk] [fl] [fm] [fn] [fo] [fp] [fq] [fr] [fs] [ft] [fu] [fv] [fw] [fx] [fy] [fz] [ga] [gb] [gc] [gd] [ge] [gf] [gg] [gh] [gi] [gj] [gk] [gl] [gm] [gn] [go] [gp] [gq] [gr] [gs] [gt] [gu] [gv] [gw] [gx] [gy] [gz] [ha] [hb] [hc] [hd] [he] [hf] [hg] [hh] [hi] [hj] [hk] [hl] [hm] [hn] [ho] [hp] [hq] [hr] [hs] [ht] [hu] [hv] [hw] [hx] [hy] [hz] [ia] [ib] [ic] [id] [ie] [if] [ig] [ih] [ii] [ij] [ik] [il] [im] [in] [io] [ip] [iq] [ir] [is] [it] [iu] [iv] [iw] [ix] [iy] [iz] [ja] [jb] [jc] [jd] [je] [jf] [jg] [jh] [ji] [jj] [jk] [jl] [jm] [jn] [jo] [jp] [jq] [jr] [js] [jt] [ju] [jv] [jw] [jx] [jy] [jz] [ka] [kb] [kc] [kd] [ke] [kf] [kg] [kh] [ki] [kj] [kk] [kl] [km] [kn] [ko] [kp] [kq] [kr] [ks] [kt] [ku] [kv] [kw] [kx] [ky] [kz] [la] [lb] [lc] [ld] [le] [lf] [lg] [lh] [li] [lj] [lk] [ll] [lm] [ln] [lo] [lp] [lq] [lr] [ls] [lt] [lu] [lv] [lw] [lx] [ly] [lz] [ma] [mb] [mc] [md] [me] [mf] [mg] [mh] [mi] [mj] [mk] [ml] [mm] [mn] [mo] [mp] [mq] [mr] [ms] [mt] [mu] [mv] [mw] [mx] [my] [mz] [na] [nb] [nc] [nd] [ne] [nf] [ng] [nh] [ni] [nj] [nk] [nl] [nm] [nn] [no] [np] [nq] [nr] [ns] [nt] [nu] [nv] [nw] [nx] [ny] [nz] [oa] [ob] [oc] [od] [oe] [of] [og] [oh] [oi] [oj] [ok] [ol] [om] [on] [oo] [op] [oq] [or] [os] [ot] [ou] [ov] [ow] [ox] [oy] [oz] [pa] [pb] [pc] [pd] [pe] [pf] [pg] [ph] [pi] [pj] [pk] [pl] [pm] [pn] [po] [pp] [pq] [pr] [ps] [pt] [pu] [pv] [pw] [px] [py] [pz] [qa] [qb] [qc] [qd] [qe] [qf] [qg] [qh] [qi] [qj] [qk] [ql] [qm] [qn] [qo] [qp] [qq] [qr] [qs] [qt] [qu] [qv] [qw] [qx] [qy] [qz] [ra] [rb] [rc] [rd] [re] [rf] [rg] [rh] [ri] [rj] [rk] [rl] [rm] [rn] [ro] [rp] [rq] [rr] [rs] [rt] [ru] [rv] [rw] [rx] [ry] [rz] [sa] [sb] [sc] [sd] [se] [sf] [sg] [sh] [si] [sj] [sk] [sl] [sm] [sn] [so] [sp] [sq] [sr] [ss] [st] [su] [sv] [sw] [sx] [sy] [sz] [ta] [tb] [tc] [td] [te] [tf] [tg] [th] [ti] [tj] [tk] [tl] [tm] [tn] [to] [tp] [tq] [tr] [ts] [tt] [tu] [tv] [tw] [tx] [ty] [tz] [ua] [ub] [uc] [ud] [ue] [uf] [ug] [uh] [ui] [uj] [uk] [ul] [um] [un] [uo] [up] [uq] [ur] [us] [ut] [uu] [uv] [uw] [ux] [uy] [uz] [va] [vb] [vc] [vd] [ve] [vf] [vg] [vh] [vi] [vj] [vk] [vl] [vm] [vn] [vo] [vp] [vq] [vr] [vs] [vt] [vu] [vv] [vw] [vx] [vy] [vz] [wa] [wb] [wc] [wd] [we] [wf] [wg] [wh] [wi] [wj] [wk] [wl] [wm] [wn] [wo] [wp] [wq] [wr] [ws] [wt] [wu] [wv] [ww] [wx] [wy] [wz] [xa] [xb] [xc] [xd] [xe] [xf] [xg] [xh] [xi] [xj] [xk] [xl] [xm] [xn] [xo] [xp] [xq] [xr] [xs] [xt] [xu] [xv] [xw] [xx] [xy] [xz] [ya] [yb] [yc] [yd] [ye] [yf] [yg] [yh] [yi] [yj] [yk] [yl] [ym] [yn] [yo] [yp] [yq] [yr] [ys] [yt] [yu] [yv] [yw] [yx] [yy] [yz] [za] [zb] [zc] [zd] [ze] [zf] [zg] [zh] [zi] [zj] [zk] [zl] [zm] [zn] [zo] [zp] [zq] [zr] [zs] [zt] [zu] [zv] [zw] [zx] [zy] [zz]

Ref Offset 3.8 dB Ref 9.06 dBm

Mkr1 2.447 038 GHz -0.937 dBm

Start 2.42200 GHz Stop 2.50000 GHz

#Res BW 100 kHz #VBW 300 kHz Sweep 7.467 ms (1001 pts)

MRK	MODE	TRG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.447 038 GHz	-0.937 dBm			
2	N	1	f	2.483 542 GHz	-40.219 dBm			
3	N	1	f	2.486 116 GHz	-36.739 dBm			
4	N	1	f	2.491 108 GHz	-41.774 dBm			

9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

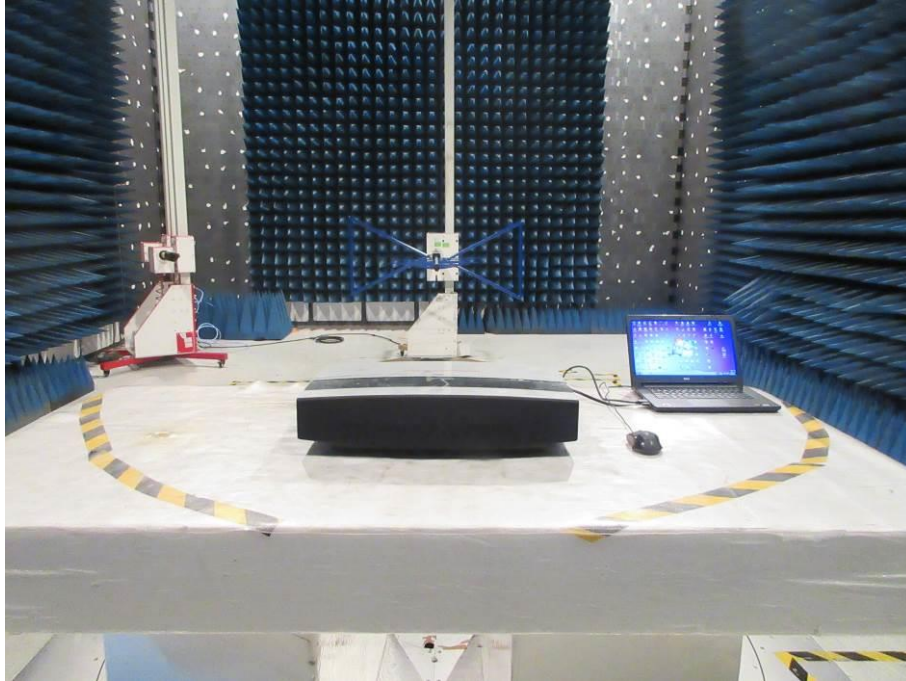
4.10.3.1.1 requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

9.2 EUT ANTENNA

The antenna is a PIFA antenna and no consideration of replacement. Antenna max gain is ANT A: 3.57dBi, ANT B: 3.57dBi, MIMO: 6.58dB from 2.4GHz to 2.5GHz.

10. EUT TEST PHOTO

Radiated Measurement Photos 30MHz-1GHz



Radiated Measurement Photos Above 1GHz



Conducted Measurement Photos



11 . APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix-photographs.

**** End of Report ****