Certificate #7130.01

FCC Radio Test Report

FCC ID: RWO-RZ040522

This report concerns: Class II permissive Change

Project No.	:	2407C154F
Equipment	:	Wireless Headset
Brand Name	:	RAZER
Test Model	:	RZ04-0522
Series Model	:	RZ04-0522XXXX-XXXX(X can be 0-9 or A-Z)
Applicant	:	Razer Inc.
Address	:	9 Pasteur, Suite 100, Irvine, CA92618, USA
Manufacturer	:	RAZER (ASIA-PACIFIC) PTE. LTD.
Address	:	Razer SEA HQ, 1 One-north Crescent, #02-01, Singapore 138538
Factory	:	RAZER TECHNOLOGY AND DEVELOPMENT (SHENZHEN)CO., LTD
Address	:	East Wing, 3rd Floor, Block 2, Phase 1 of Vision ShenzhenBusiness Park Keji South Road, Hi-Tech IndustrialPark, Shenzhen 518057, China
Date of Receipt	:	Feb. 08, 2025
Date of Test	:	Feb. 10, 2025 ~ Feb. 25, 2025
Issued Date	:	Apr. 07, 2025
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG2025020896
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Prepared by : Evan Yang

Evan Yang

Approved by : Chay Cai

Chay Cai

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-2-2407C154F	R00	This is a supplementary report to the original test report (BTL-FCCP-2-2407C154). 1. Add a new appearance. 2. Added a new antenna. So the radiated emissions 1GHz to 18GHz test items have been re-evaluated and recorded in the test report. In this report only recorded the new test data. Other original test results please refer to original report.	Apr. 07, 2025	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:
ANSI C63.10-2013
The following reference test guidance is not within the scope of accreditation of A2LA:
KDB 558074 D01 15.247 Meas Guidance v05r02

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX A	PASS	------

Note:
(1) “N/A” denotes test is not applicable in this test report
(2) The other test records and results please refer to the test report number: BTL-FCCP-2-2407C154, issued date is Sep. 04, 2024.
This report is only valid conjunction with the above referenced test report.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of
Room 102 & Room 702, Building 3, No.9, Jinshagang 1st Road, Dalang Town, Dongguan City, Guangdong People's Republic of China.
BTL's Registration Number for FCC: 747969
BTL's Designation Number for FCC: CN1377

2.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95.45% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. Radiated emissions Measurement:

Test Site	Method	Measurement Frequency Range	*U*,(dB)
DG-CB18 (3m)	CISPR	1GHz ~ 6GHz	4.48
		6GHz ~ 18GHz	3.88

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Date
Radiated Emissions-Above 1000 MHz	25°C	43%	DC 5V	Drew Tan	Feb. 15, 2025

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Headset
Brand Name	RAZER
Test Model	RZ04-0522
Series Model	RZ04-0522XXXX-XXXX(X can be 0-9 or A-Z)
Model Difference(s)	Only differ in model name.
Hardware Version	EVT
Software Version	V0.2.0.0
Power Source	1# Supplied from USB port. 2# Supplied from battery. Model: 553450PN2
Power Rating	1# 5V⎓500mA 2# DC 3.7V, 1200mAh, 4.44Wh
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK
Bit Rate of Transmitter	1Mbps, 2Mbps
Max. Output Power	2Mbps: 4.17 dBm (0.0026 W)

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

2. The system model number is RZ04-0522XXXX-XXXX. This system consists of Wireless Headset (Model: RZ04-0522) and Wireless Dongle (Model:RC30-0517), X can be 0-9 or A-Z.

3. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

4. Table for Filed Antenna:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	Shenzhen Strongpower Communication Co.,Ltd.	BTH-1513	FPC	N/A	3.61

3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/19/39
Mode 2	TX Mode_2Mbps Channel 00/19/39

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

Radiated emissions test - Above 1GHz	
Final Test Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/19/39
Mode 2	TX Mode_2Mbps Channel 00/19/39

Note:

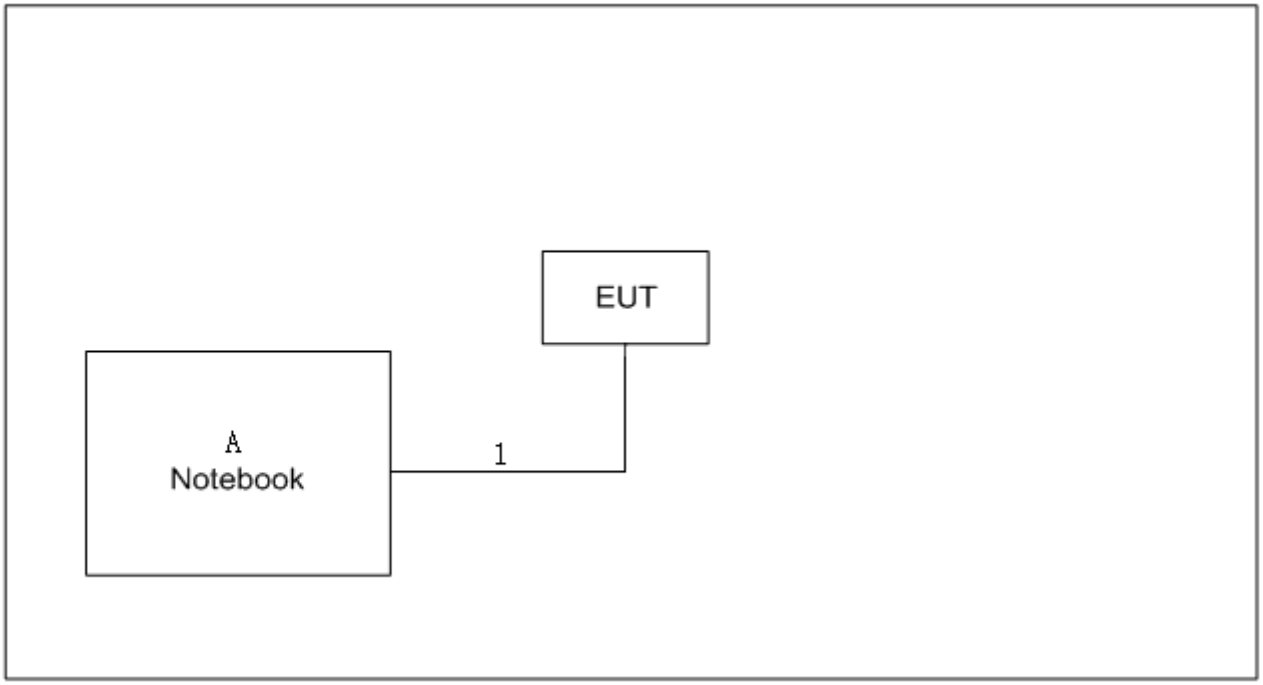
(1) For radiated emission above 1GHz test, both Vertical and Horizontal are evaluated, only the worst case is recorded.

3.3 PARAMETERS OF TEST SOFTWARE

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	AB1565_AB1568_Airoha_Tool_Kit(ATK)_v5.0.0.1		
Frequency (MHz)	2402	2440	2480
1Mbps	51	51	51
2Mbps	51	51	51

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	HUAWEI	magicBook2019	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	USB Cable	NO	NO	1.0m

3.6 CUSTOMER INFORMATION DESCRIPTION

1) The antenna gain is provided by the manufacturer.
2) Except for radiated spurious emissions, the results of all test items include cable losses. Part of the cable losses (0.5dB) are provided by the manufacturer, while the other parts of the cable losses are provided by the testing laboratory.

4. RADIATED EMISSIONS

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Band edge/ Harmonic at 3m (dBμV/m)		Harmonic at 1m (dBμV/m)	
	Peak	Average	Peak	Average
Above 1000	74	54	83.5 (Note 4)	63.5 (Note 4)

Note:
(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).
(4)

$$FS_{\text{limit}} = FS_{\max} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

20log ($d_{limit}/d_{measure}$)=20log (3/1)=9.5 dB.
FS_{limit}: Harmonic at 3m Peak and Average limit.
FS_{max}: Harmonic at 1m Peak and Average Maximum value.
d_{limit}: Harmonic at 3m test distance.
$d_{measure}$: Harmonic Actual test distance.

4.2 TEST PROCEDURE

a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance of 3 m or 1m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; 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.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

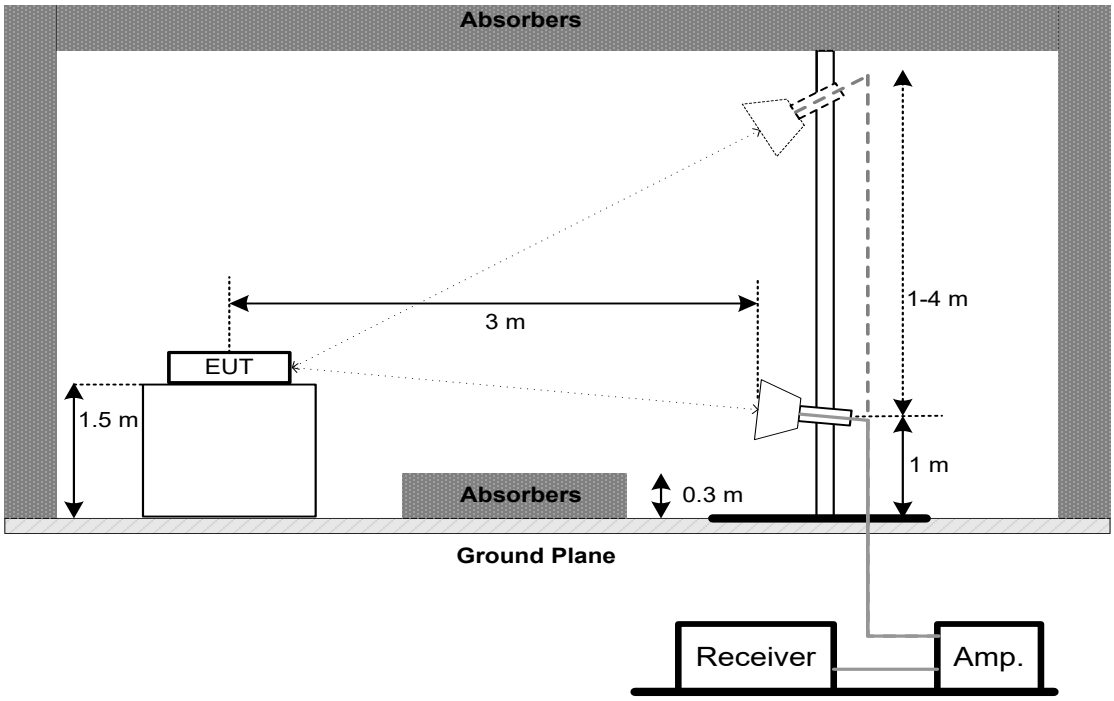
Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP

Above 1 GHz
Band edge & Harmonic (1 GHz to 18 GHz)



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX A.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

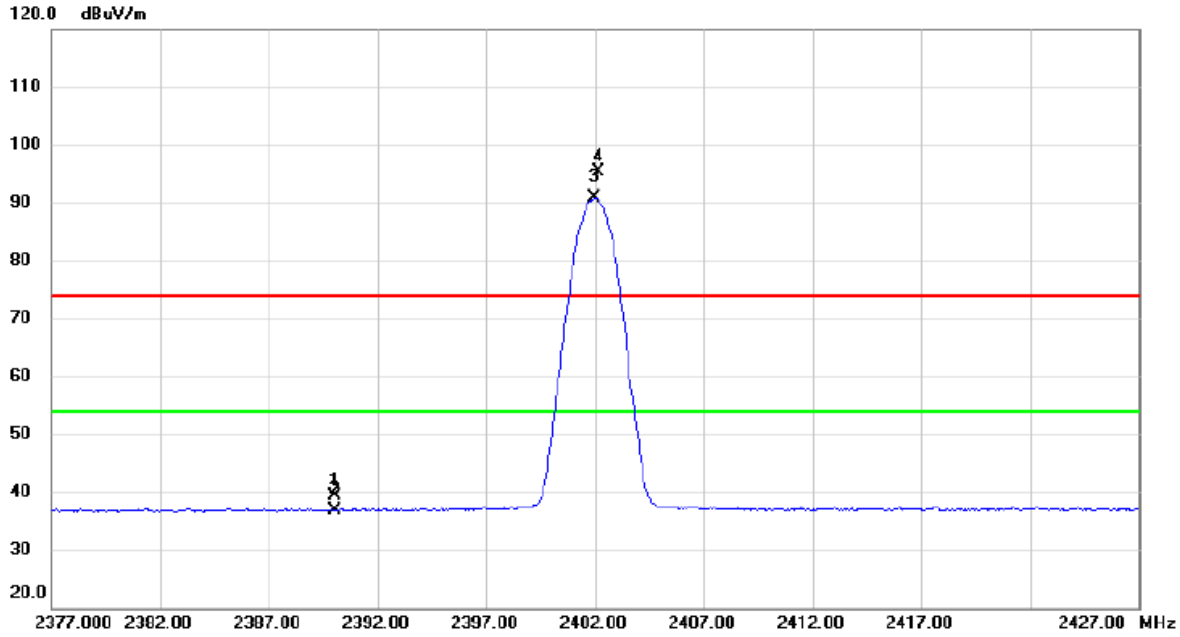
5. MEASUREMENT INSTRUMENTS LIST

Radiated Emissions - 1 GHz to 18GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Multi-Device Controller	ETS-Lindgren	N/A	N/A	N/A
2	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
3	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63430227	Oct. 29, 2025
4	Cable	RegalWay	RWLP50-4.0A-SMSM-1.3M	N/A	Jan. 07, 2026
5	Cable	RegalWay	RWLP50-2.6A-3.5M2.92MRA-3M	N/A	Jan. 07, 2026
6	Cable	RegalWay	RWLP50-4.0A-SMSM-9M	N/A	Jan. 07, 2026
7	966 Chamber room	ETS	RFD-100（SVSWR）	Q2179	Jan. 07, 2026
8	Double Ridged Horn Antenna	EMC INSTRUMENT	DRH18-E	210509A18ES	Aug. 28, 2025
9	Preamplifier	EMC INSTRUMENT	EMC118A45SE	981001	May 31, 2025
10	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
11	Filter	STI	STI15-9912	N/A	Oct. 29, 2025

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

APPENDIX A - RADIATED EMISSION - ABOVE 1000 MHZ

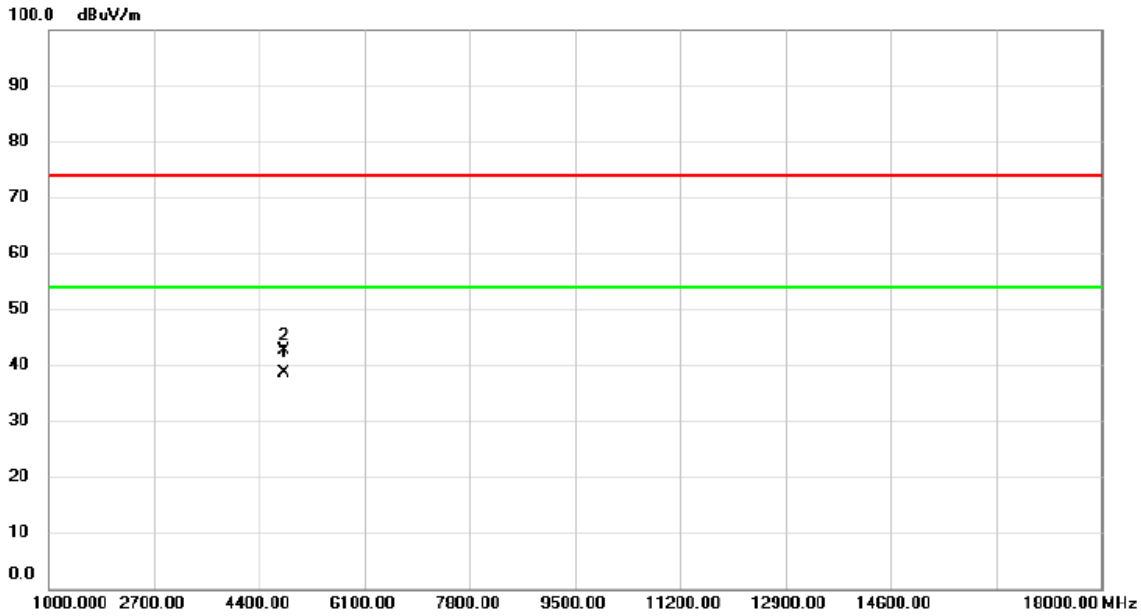
Test Mode	TX 2402 MHz _CH00_1Mbps	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	30.60	8.66	39.26	74.00	-34.74	peak	
2		2390.000	28.30	8.66	36.96	54.00	-17.04	AVG	
3	*	2401.950	82.16	8.69	90.85	54.00	36.85	AVG	No Limit
4	X	2402.150	86.65	8.69	95.34	74.00	21.34	peak	No Limit

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

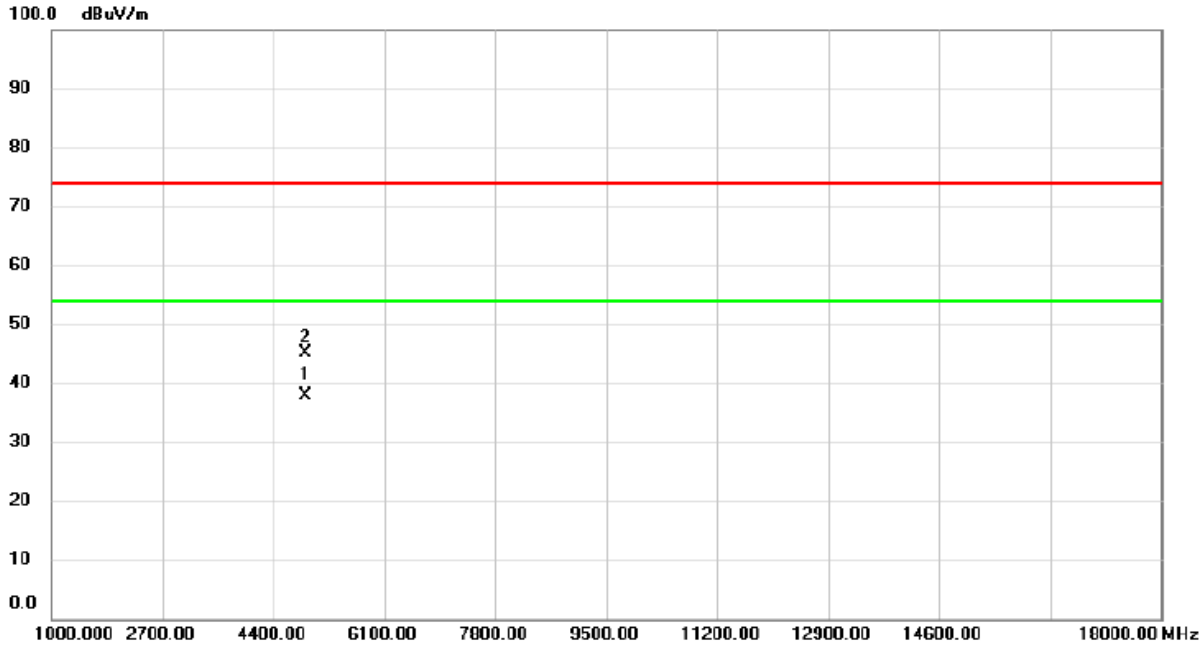
Test Mode	TX 2402 MHz _CH00_1Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4803.950	34.56	4.05	38.61	54.00	-15.39	AVG	
2		4804.100	38.53	4.05	42.58	74.00	-31.42	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

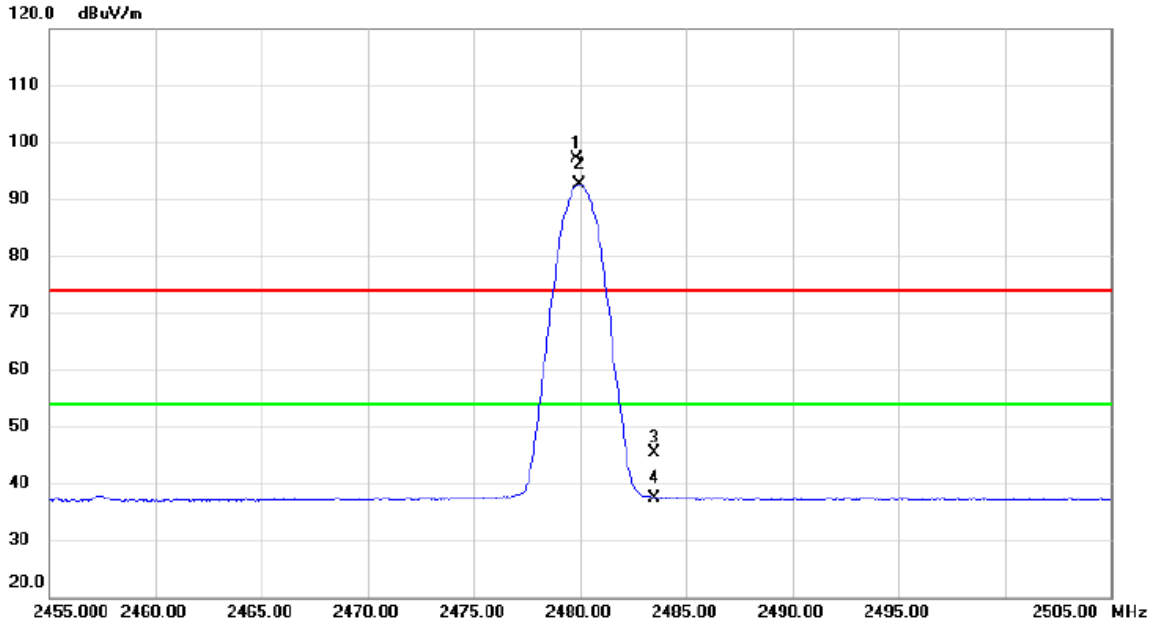
Test Mode	TX 2440 MHz _CH19_1Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4879.950	33.84	4.16	38.00	54.00	-16.00	AVG	
2		4880.100	41.02	4.16	45.18	74.00	-28.82	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

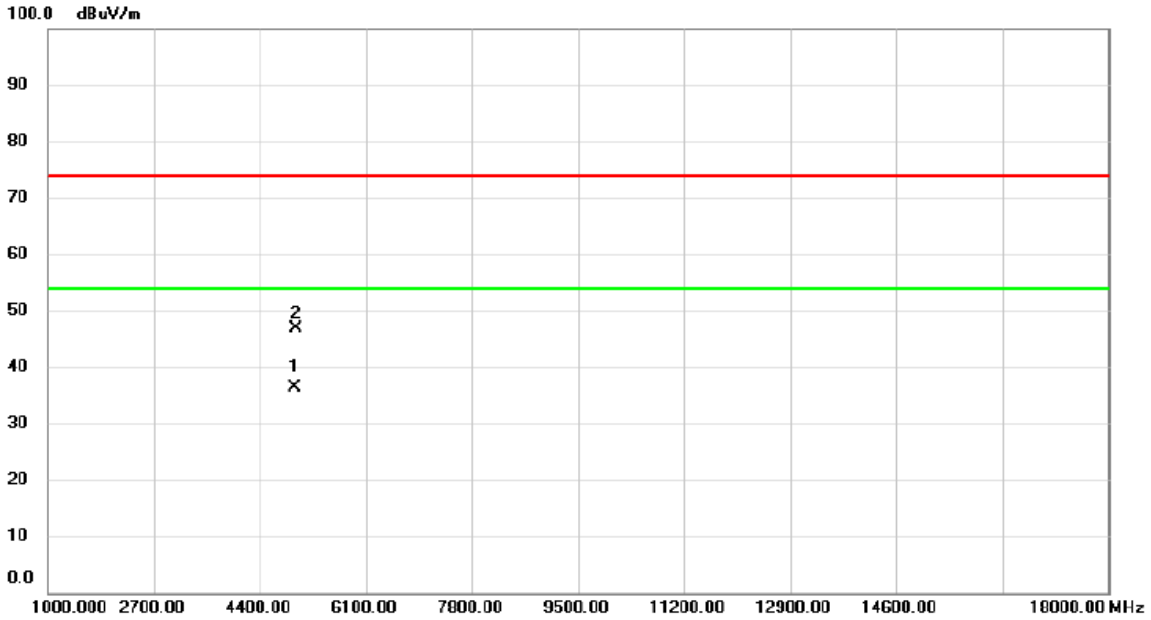
Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2479.850	88.36	8.89	97.25	74.00	23.25	peak	No Limit
2	*	2479.950	83.70	8.89	92.59	54.00	38.59	AVG	No Limit
3		2483.500	36.52	8.89	45.41	74.00	-28.59	peak	
4		2483.500	28.58	8.89	37.47	54.00	-16.53	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

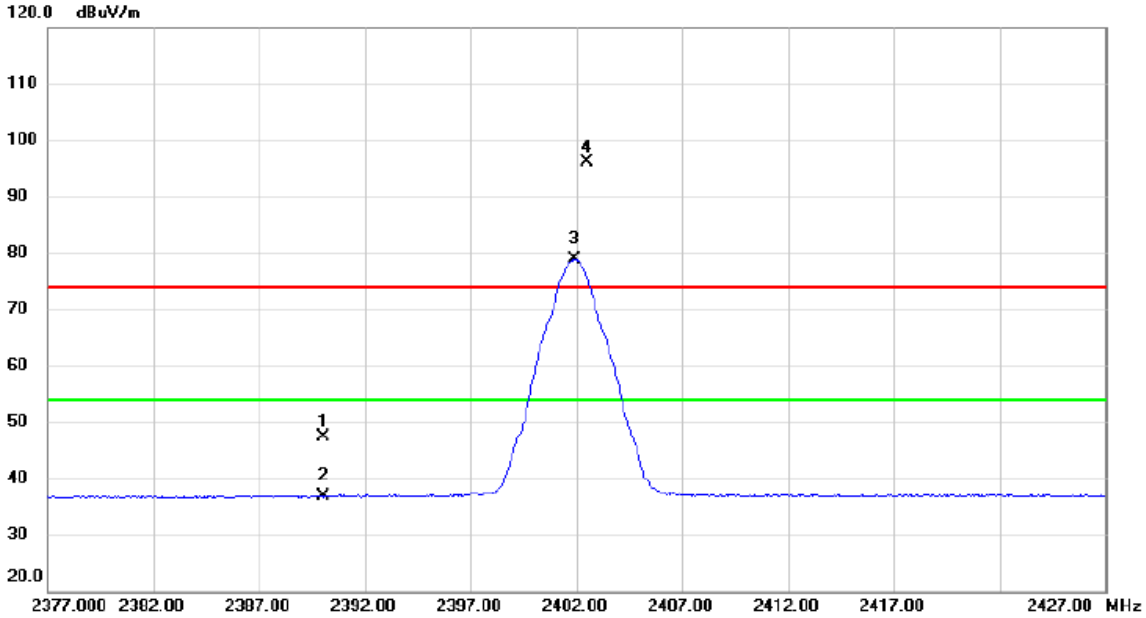
Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4960.050	32.04	4.27	36.31	54.00	-17.69	AVG	
2		4983.500	42.70	4.30	47.00	74.00	-27.00	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

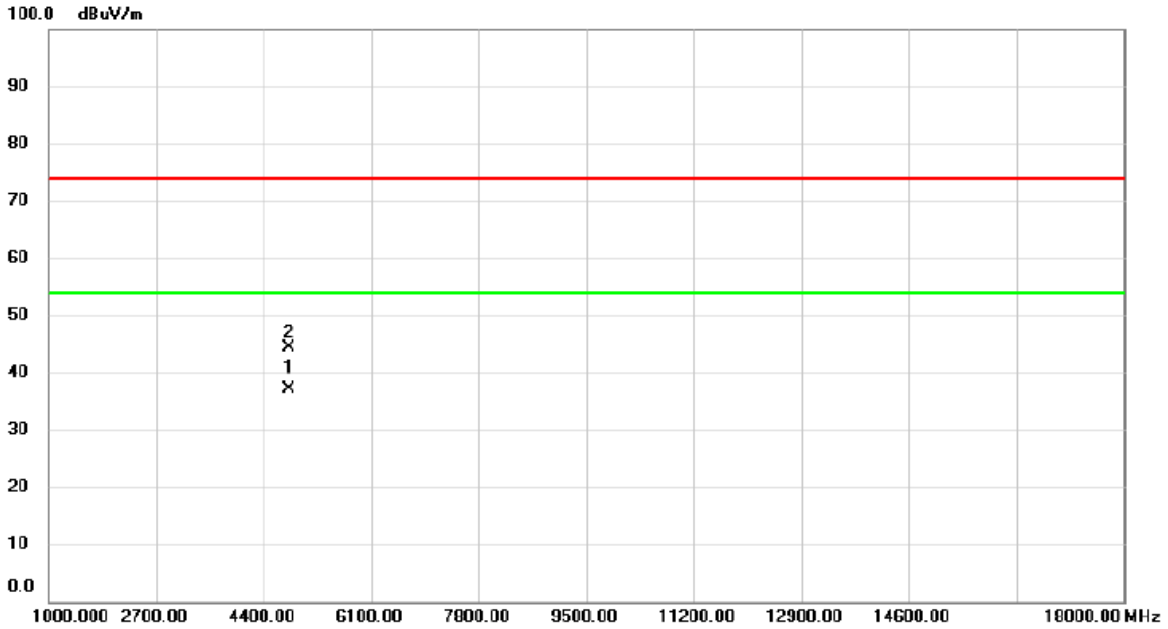
Test Mode	TX 2402 MHz _CH00_2Mbps	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	38.62	8.66	47.28	74.00	-26.72	peak	
2		2390.000	28.10	8.66	36.76	54.00	-17.24	AVG	
3	*	2401.900	70.18	8.69	78.87	54.00	24.87	AVG	No Limit
4	X	2402.500	87.46	8.69	96.15	74.00	22.15	peak	No Limit

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

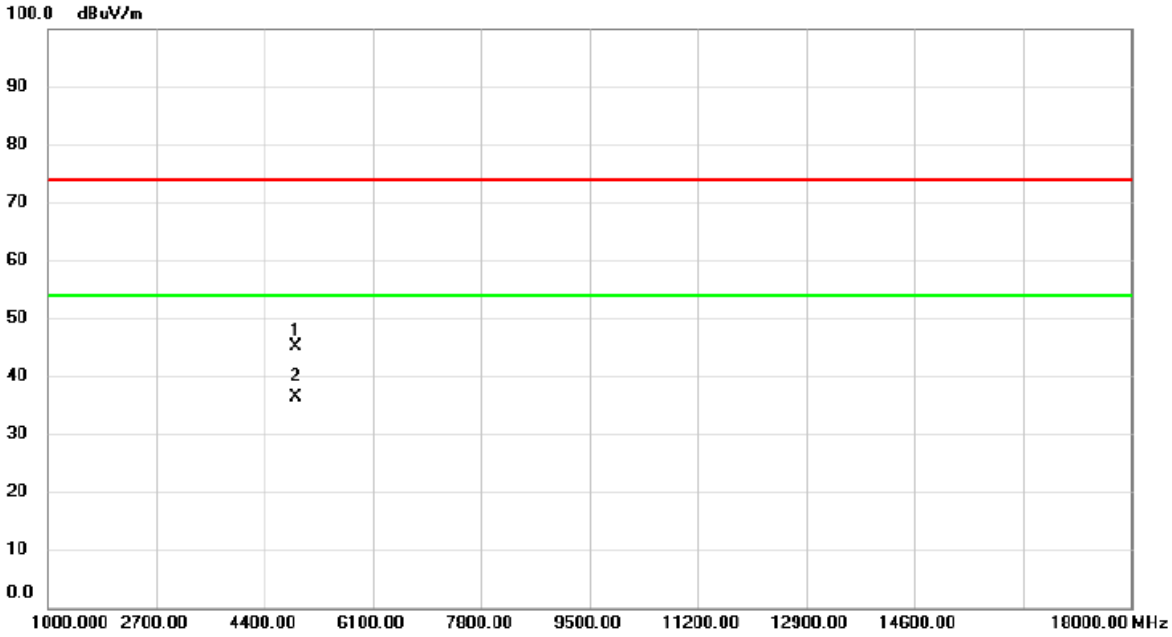
Test Mode	TX 2402 MHz _CH00_2Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4803.950	33.01	4.05	37.06	54.00	-16.94	AVG	
2		4804.200	40.31	4.05	44.36	74.00	-29.64	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

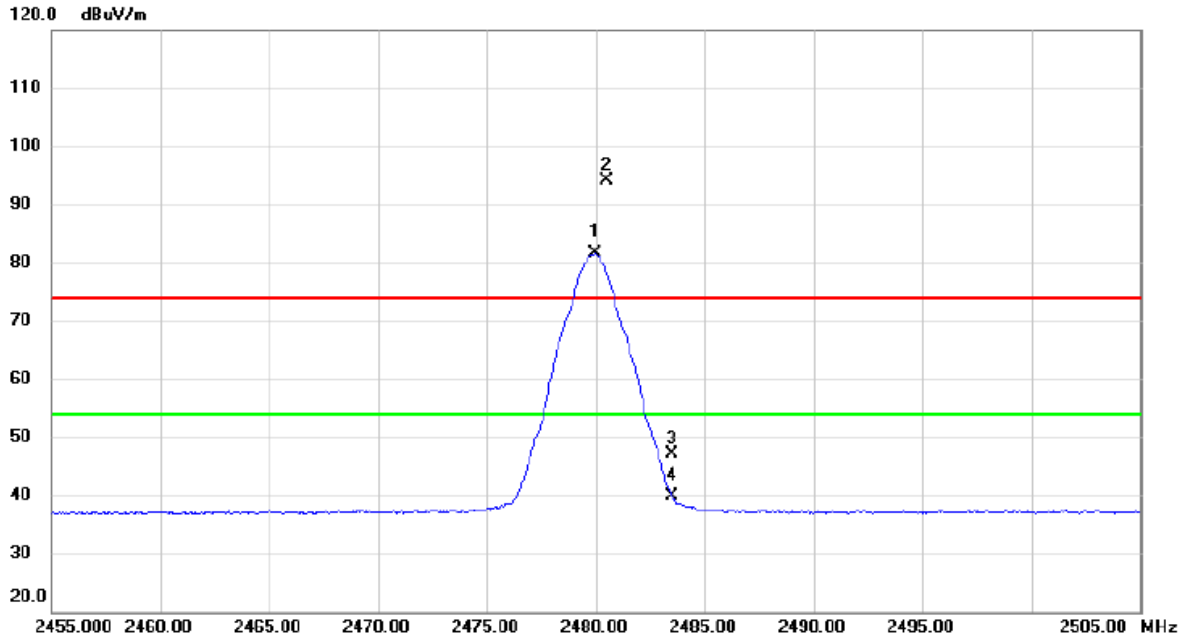
Test Mode	TX 2440 MHz _CH19_2Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4880.050	40.99	4.16	45.15	74.00	-28.85	peak	
2	*	4880.050	32.19	4.16	36.35	54.00	-17.65	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

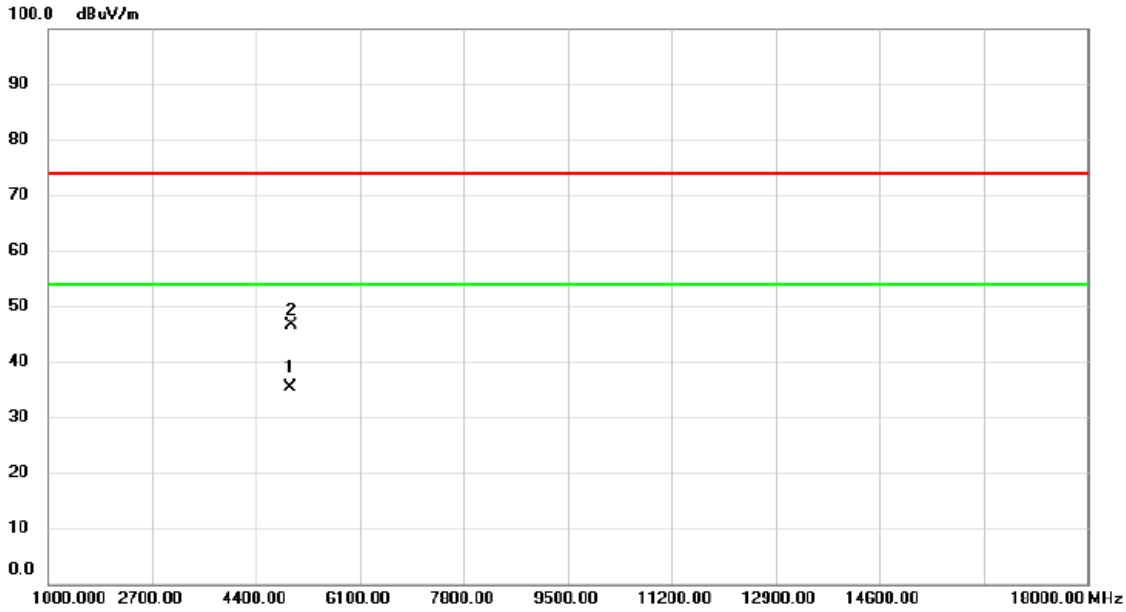
Test Mode	TX 2480 MHz _CH39_2Mbps	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2479.950	72.67	8.89	81.56	54.00	27.56	AVG	No Limit
2	X	2480.500	85.30	8.89	94.19	74.00	20.19	peak	No Limit
3		2483.500	38.24	8.89	47.13	74.00	-26.87	peak	
4		2483.500	30.89	8.89	39.78	54.00	-14.22	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX 2480 MHz _CH39_2Mbps	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4959.950	31.23	4.27	35.50	54.00	-18.50	AVG	
2		4982.500	42.22	4.30	46.52	74.00	-27.48	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

End of Test Report