

FCC - TEST REPORT

Report Number : **68.930.23.0054.01** Date of Issue: 15 August, 2024

Model : **A01-SLB, A01-BS, A01-BL**

Product Type : Upper Arm Electronic Blood Pressure Monitor

Applicant : ShenZhen GoodlyMed Technology Co.,Ltd.

Address : 701, Building C, Area C, Datianyang Industrial Zone, Shiwei

Community, Matian Street, Guangming District, 518107 Shenzhen,

Guangdong, PEOPLE'S REPUBLIC OF CHINA

Manufacturer : ShenZhen GoodlyMed Technology Co.,Ltd.

Address : 701, Building C, Area C, Datianyang Industrial Zone, Shiwei

Community, Matian Street, Guangming District, 518107 Shenzhen,

Guangdong, PEOPLE'S REPUBLIC OF CHINA

Production Facility : ShenZhen GoodlyMed Technology Co.,Ltd.

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Community, Matian Street, Guangming District, 518107 Shenzhen,

Guangdong, PEOPLE'S REPUBLIC OF CHINA

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including
Appendices : **44**

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu,
Nantou, Nanshan District, Shenzhen, Guangdong, China

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

FCC Registration No.: 514049

FCC Designation Number: CN5009

3 Description of the Equipment Under Test

Product:	Upper Arm Electronic Blood Pressure Monitor
Model no.:	A01-SLB, A01-BS, A01-BL
FCC ID:	2BERFA01SLB001
Options and accessories:	Medical adapter (M/N: LXCP12X-050100, manufactured by Shenzhen Longxc Power Supply Co.,LTD.) with following ratings: Input: 100-240VAC, 50/60Hz, 0.5A Max Output: 5Vdc, 1.0A
Rating:	6VDC (4*AAA batteries) or 5.0Vdc, 1.0A (type-C port, supplied by a separate approved medical adaptor)
RF Transmission Frequency:	2402MHz-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Antenna Type:	PCB
Antenna Gain	-13.87dBi
Description of the EUT:	The Equipment Under Test (EUT) is an Upper Arm Electronic Blood Pressure Monitor which support Low Energy Bluetooth(1M).

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2023 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement Guidance and ANSI C63.10-2020.

5 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart C						
Test Condition		Test Site	Test Result			Test Environment
			Pass	Fail	N/A	
§15.207	Conducted emission AC power port	Site 1	☒	☐	☐	T: 23.1°C H: 51.2%
§15.247 (b) (3)	Conducted peak output power	Site 1	☒	☐	☐	T: 23.4°C H: 52.7%
§15.247(a)(2)	6dB bandwidth	Site 1	☒	☐	☐	T: 23.4°C H: 52.7%
§15.247(e)	Power spectral density	Site 1	☒	☐	☐	T: 23.7°C H: 52.7%
§15.247(d)	Spurious RF conducted emissions	Site 1	☒	☐	☐	T: 23.8°C H: 52.7%
§15.247(d)	Band edge	Site 1	☒	☐	☐	T: 23.1°C H: 58.0%
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Site 1	☒	☐	☐	T: 23.2°C H: 58.1%
§15.203	Antenna requirement	See note 2	☒	☐	☐	--

Note 1: N/A=Not Applicable.

Note 2: The EUT uses a PCB antenna, which gain is -13.87dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

Note 3: T: Temperature, H: Humidity.

Note 4: The EUT has been tested under two input voltage modes 6VDC (4*AAA batteries) and 5.0Vdc, 1.0A (type-C port, supplied by a separate approved medical adaptor), the worst case 6VDC (4*AAA batteries) test results are listed in the report for RF tests.

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2BERFA01SLB001, complies with Section 15.207, 15.205, 15.209, 15.247 of the FCC Part 15, Subpart C rules.

All models are identical in RF module, main schematic, critical components and main software. The differences are listed in the below table, So all the RF tests were applied on the models A01-SLB, other models were deemed to fulfil the relevant requirement without further testing.

Model	Size	Bluetooth	Backlight	Voice
A01-SLB	129x97x46mm	With	with	With
A01-BS	129x97x46mm	With	Without	with
A01-BL	129x97x46mm	With	With	without

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2023-11-03

Testing Start Date: 2024-01-31

Testing End Date: 2024-02-21

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:



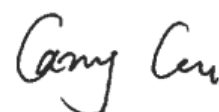
John Zhi
EMC Project Manager

Prepared by:



Grace Gao
Project Engineer

Tested by:

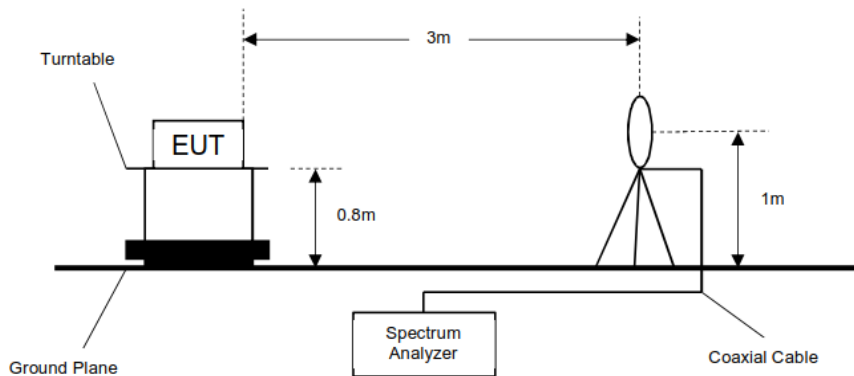


Carry Cai
Test Engineer

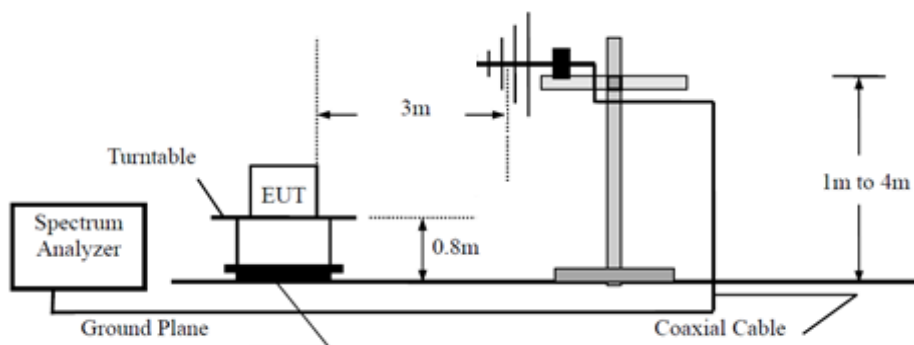
7 Test Setups

7.1 Radiated test setups

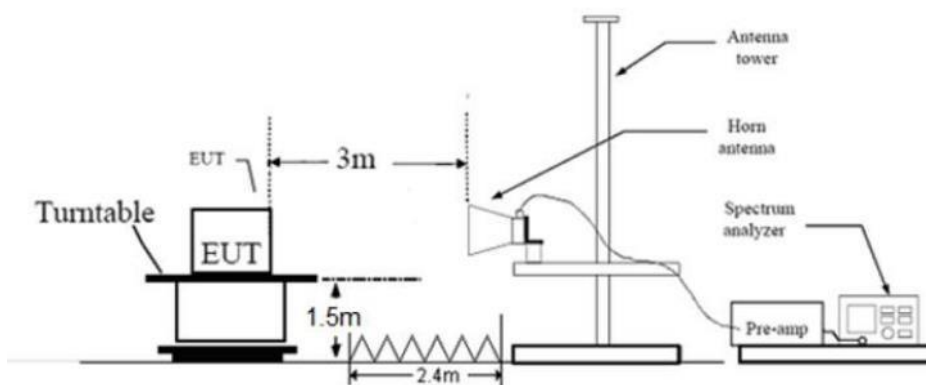
9KHz - 30MHz



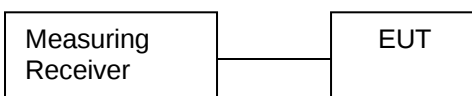
30MHz - 1GHz



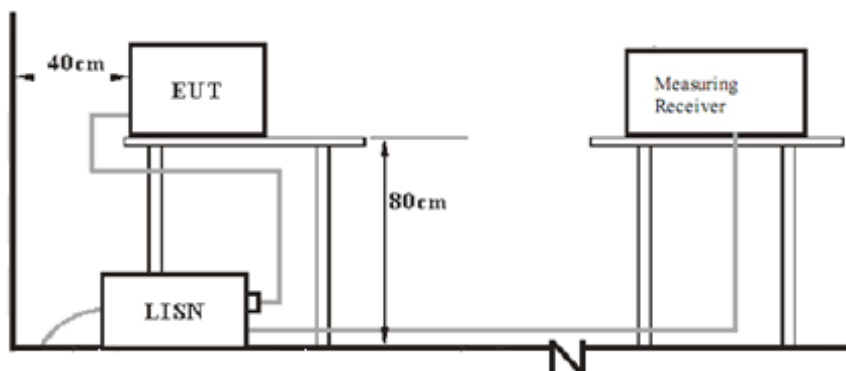
Above 1GHz



7.2 Conducted RF test setups



7.3 AC Power Line Conducted Emission test setups



8 Systems Test Configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model NO.	S/N
Notebook	Thinkpad	X220	429044C
Serial port board	---	---	---

Cables Used During Test:

Cable	Length	Shielded/unshielded	With / without ferrite
---	---	---	---

Test software information:

Test Software Version	SmartSnippetsToolbox	
Modulation	Setting TX Power	Packet Type
GFSK	Default	/

The system was configured to non-hopping mode, testing channel 0, 19, 39.

9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

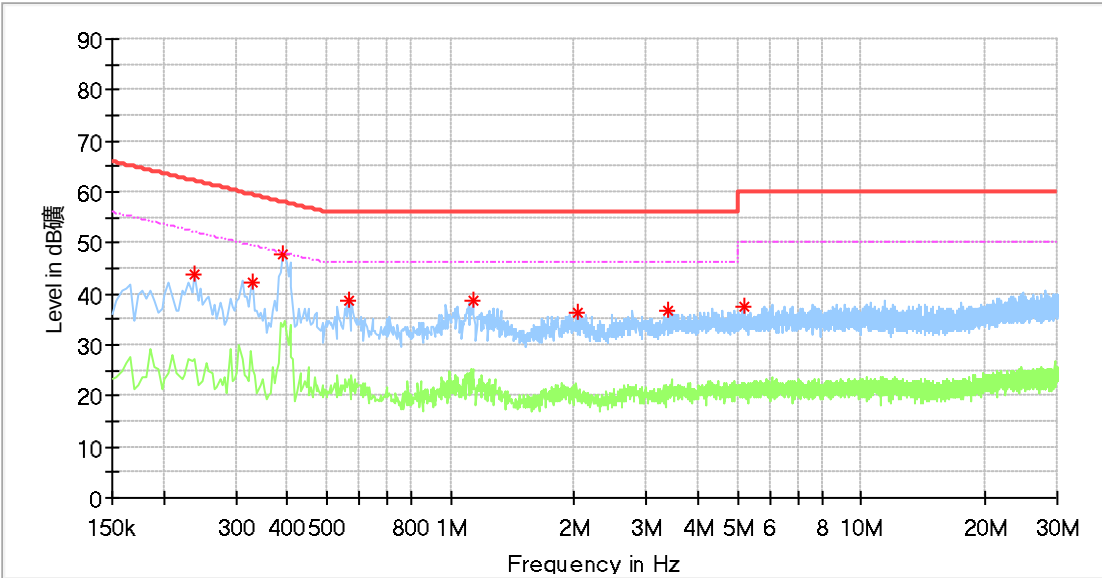
Limit

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Conducted Emission

Product Type : Upper Arm Electronic Blood Pressure Monitor
M/N : A01-SLB
Operating Condition : Transmitting
Test Specification : Line
Test Date : 31 January 2024
Comment : AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.238000	43.70	---	62.17	18.46	L1	10.28
0.330000	42.09	---	59.45	17.36	L1	10.28
0.390000	47.66	---	58.06	10.40	L1	10.29
0.566000	38.72	---	56.00	17.28	L1	10.30
1.130000	38.65	---	56.00	17.35	L1	10.33
2.030000	36.27	---	56.00	19.73	L1	10.37
3.378000	36.80	---	56.00	19.20	L1	10.45
5.210000	37.31	---	60.00	22.69	L1	10.59

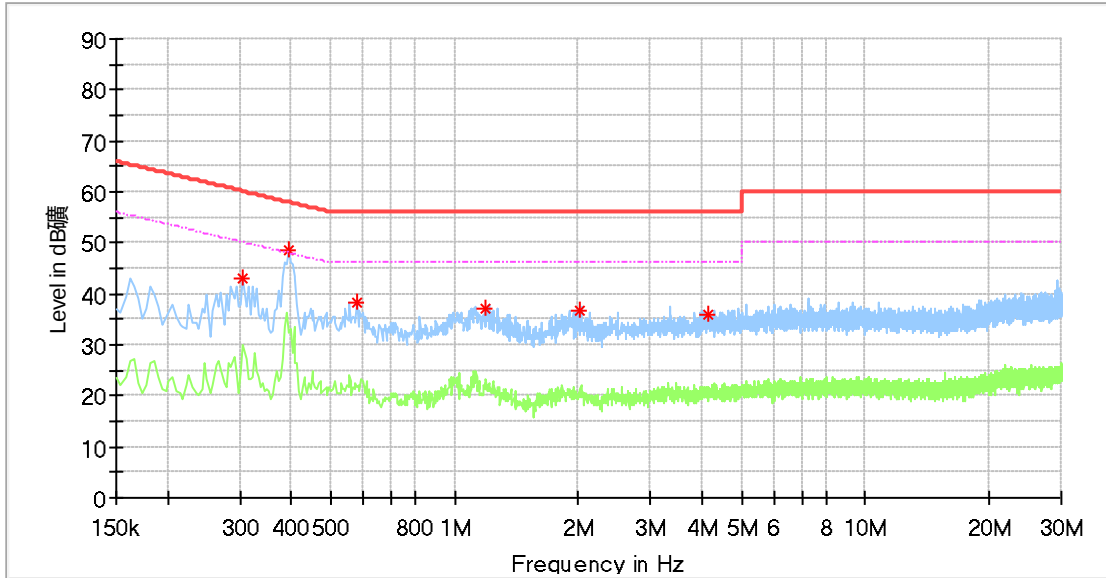
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
---	---	---	---	---	---	---

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

Conducted Emission

Product Type : Upper Arm Electronic Blood Pressure Monitor
M/N : A01-SLB
Operating Condition : Transmitting
Test Specification : Neutral
Test Date : Comment
Comment : AC 120V/60Hz



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.306000	42.93	---	60.08	17.14	N	10.22
0.394000	48.70	---	57.98	9.28	N	10.16
0.578000	38.13	---	56.00	17.87	N	10.20
1.182000	37.30	---	56.00	18.70	N	10.22
2.006000	36.53	---	56.00	19.47	N	10.26
4.162000	36.02	---	56.00	19.98	N	10.45

Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
---	---	---	---	---		---

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

9.2 Conducted Peak Output Power

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Use the following test receiver settings:
Span = approximately 5 times the 6dB bandwidth, centered on a channel need to test,
RBW > the 6dB bandwidth of the emission being measured, VBW $\geq$ 3RBW,
Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power and record the results in the test report.
5. Repeat above procedures until all frequencies measured were complete.

Limits

According to §15.247 (b) (3) conducted peak output power limit as below:

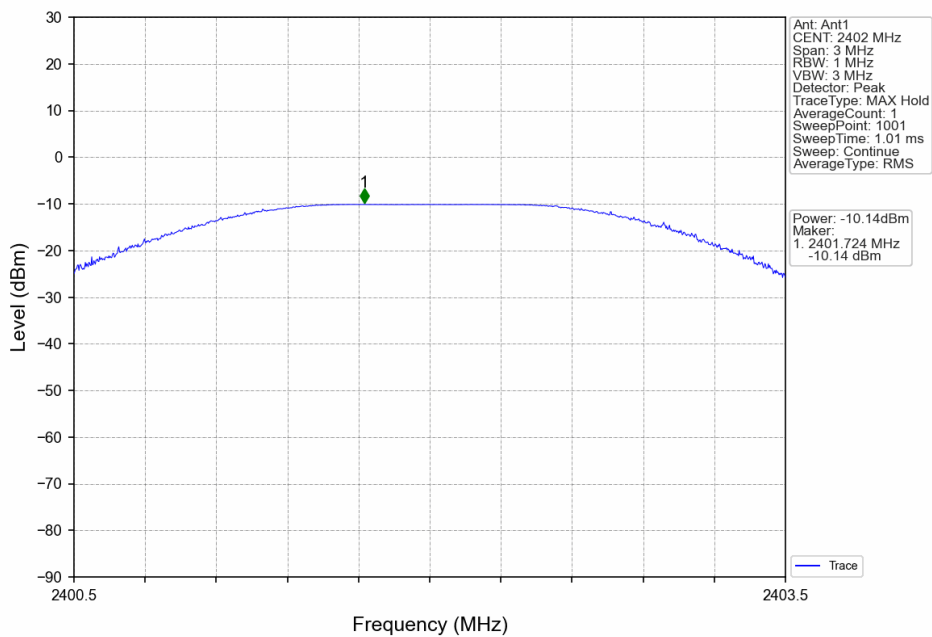
Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤ 1	≤ 30

Conducted Peak Output Power

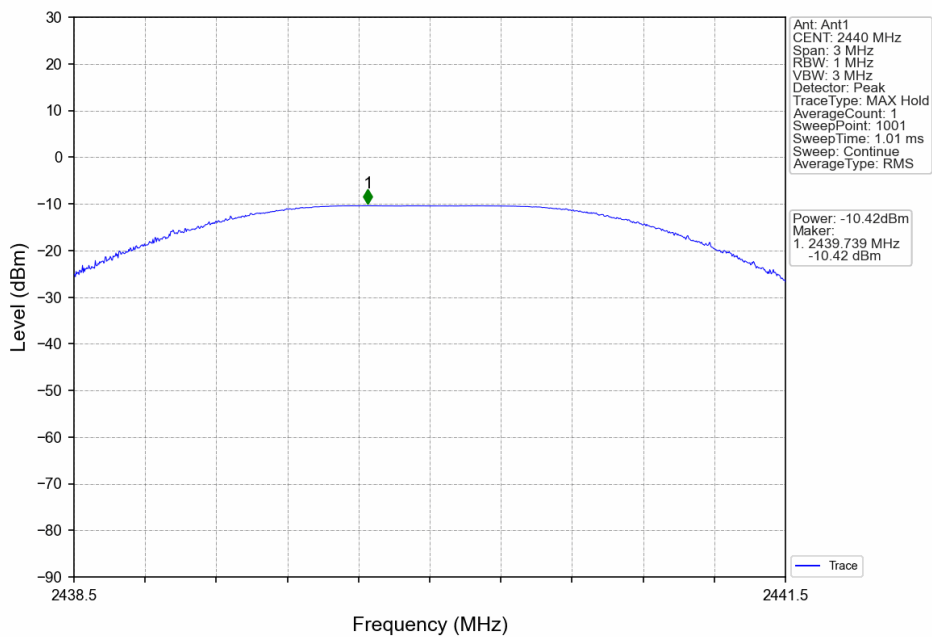
Frequency MHz	Mode	Conducted Peak Output Power dBm	Result
Bottom channel 2402MHz	LE 1Mbps	-10.14	Pass
Middle channel 2440MHz	LE 1Mbps	-10.42	Pass
Top channel 2480MHz	LE 1Mbps	-12.49	Pass

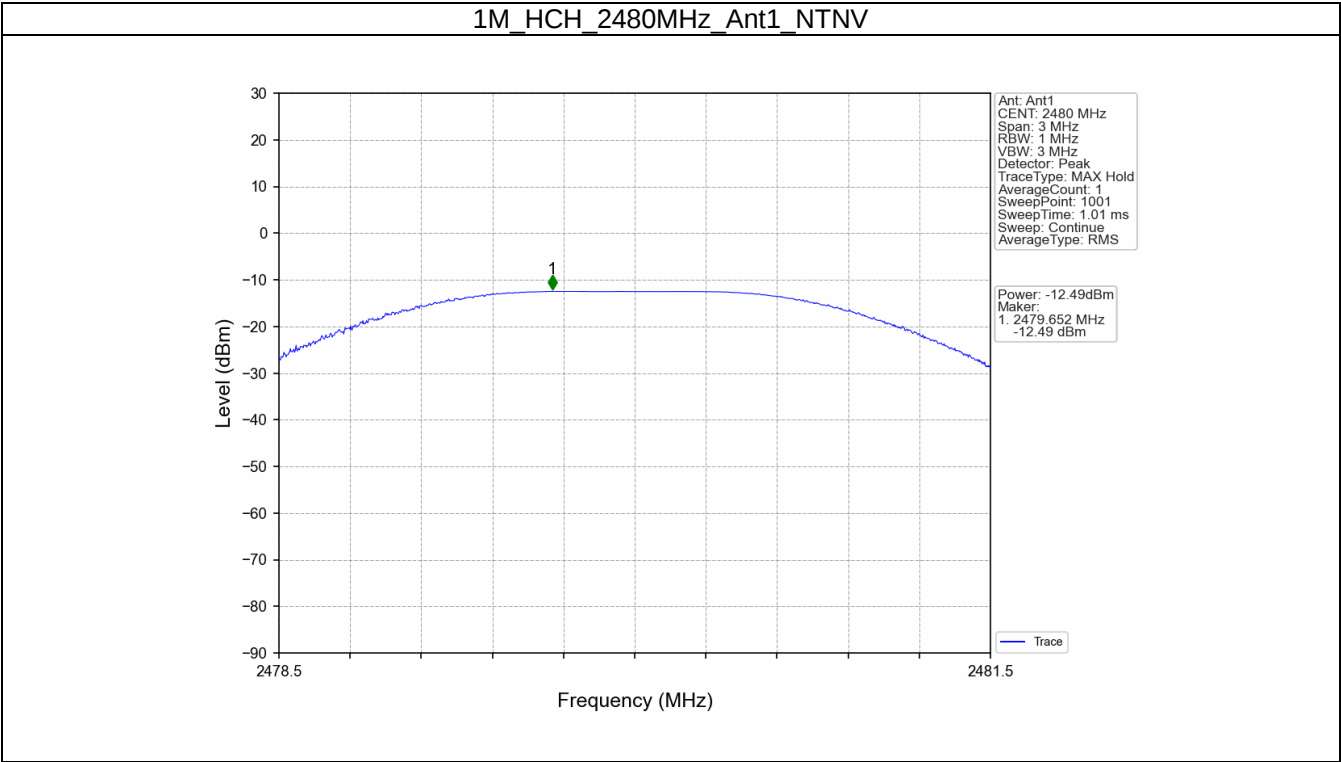


1M_LCH_2402MHz_Ant1_NTNV



1M_MCH_2440MHz_Ant1_NTNV





9.3 Power Spectral Density

Test Method

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
4. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW $\geq$ 3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
5. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
6. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3KHz]

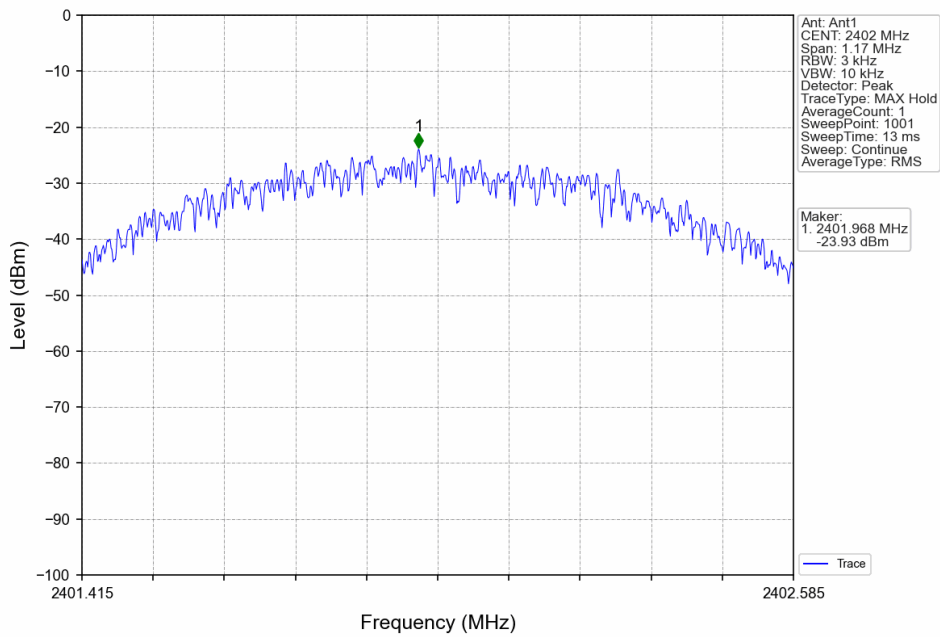
≤ 8

Test result

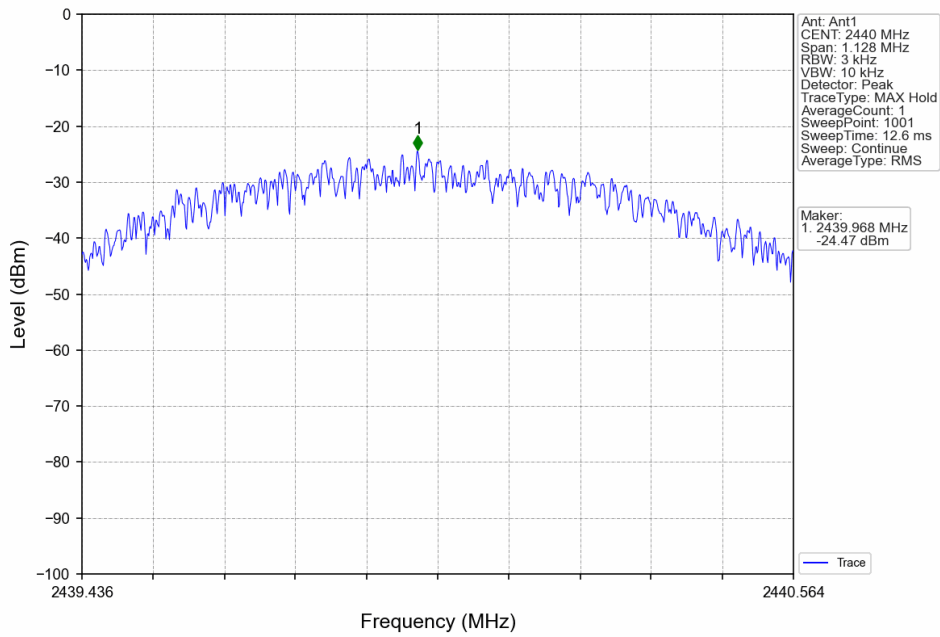
Frequency MHz	Mode	Power spectral density dBm/3KHz	Result
Bottom channel 2402MHz	LE 1Mbps	-23.93	Pass
Middle channel 2440MHz	LE 1Mbps	-24.47	Pass
Top channel 2480MHz	LE 1Mbps	-26.51	Pass

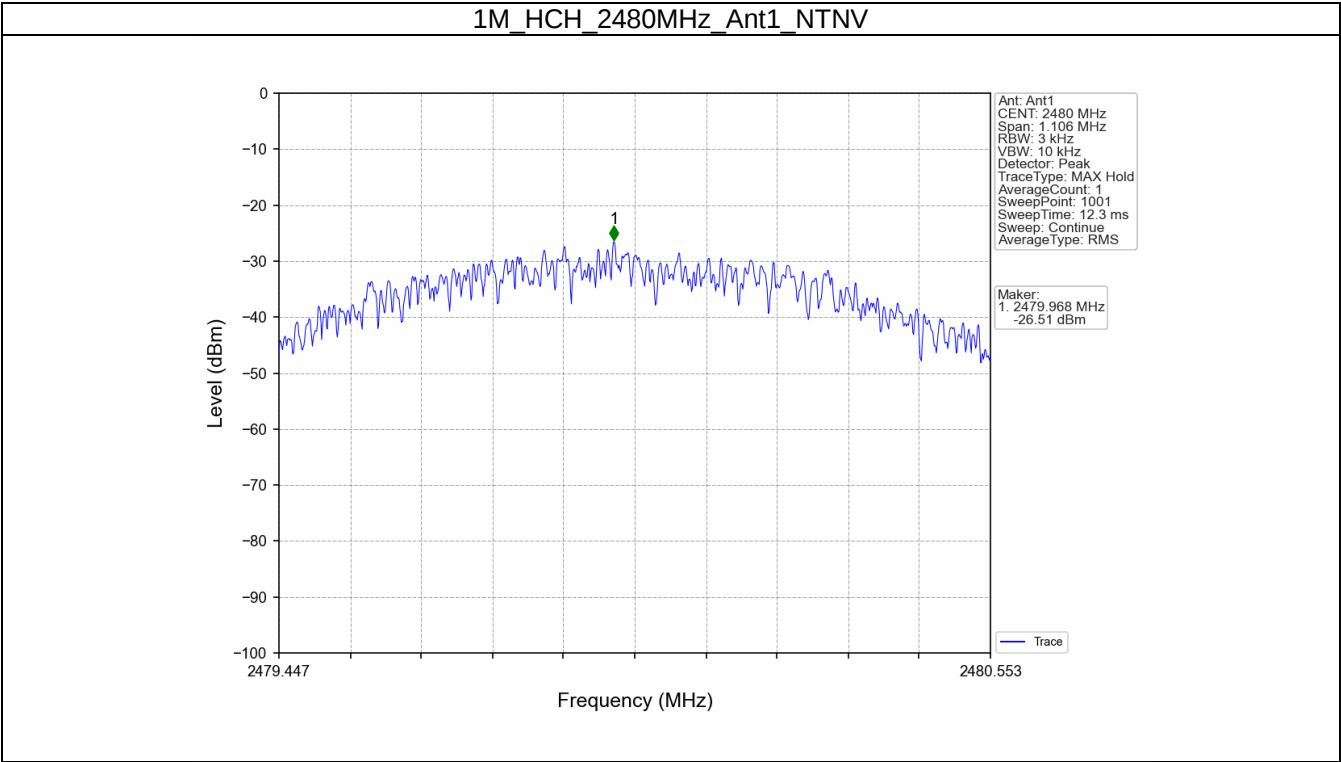


1M_LCH_2402MHz_Ant1_NTNV



1M_MCH_2440MHz_Ant1_NTNV





9.4 6 dB Bandwidth

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set center frequency to the nominal EUT channel center frequency
3. Set RBW =1% to 5% of the OBW but not less than 100 kHz, VBW $\geq$ 3 $\times$ RBW
Detector = Peak. Trace mode = max hold. Sweep = auto Trace = max hold
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
5. Record the results in the test report.

Limit

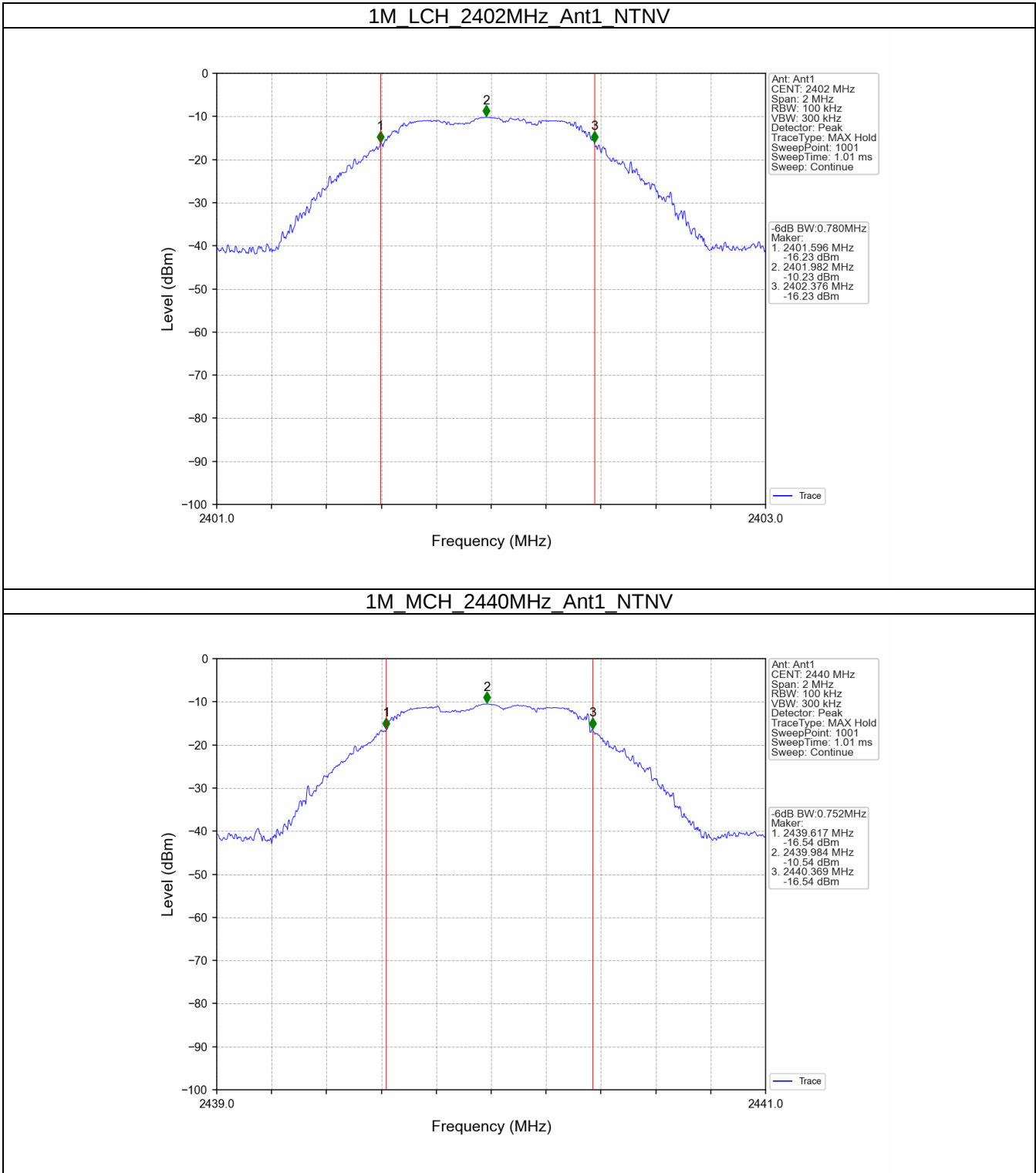
Limit [kHz]

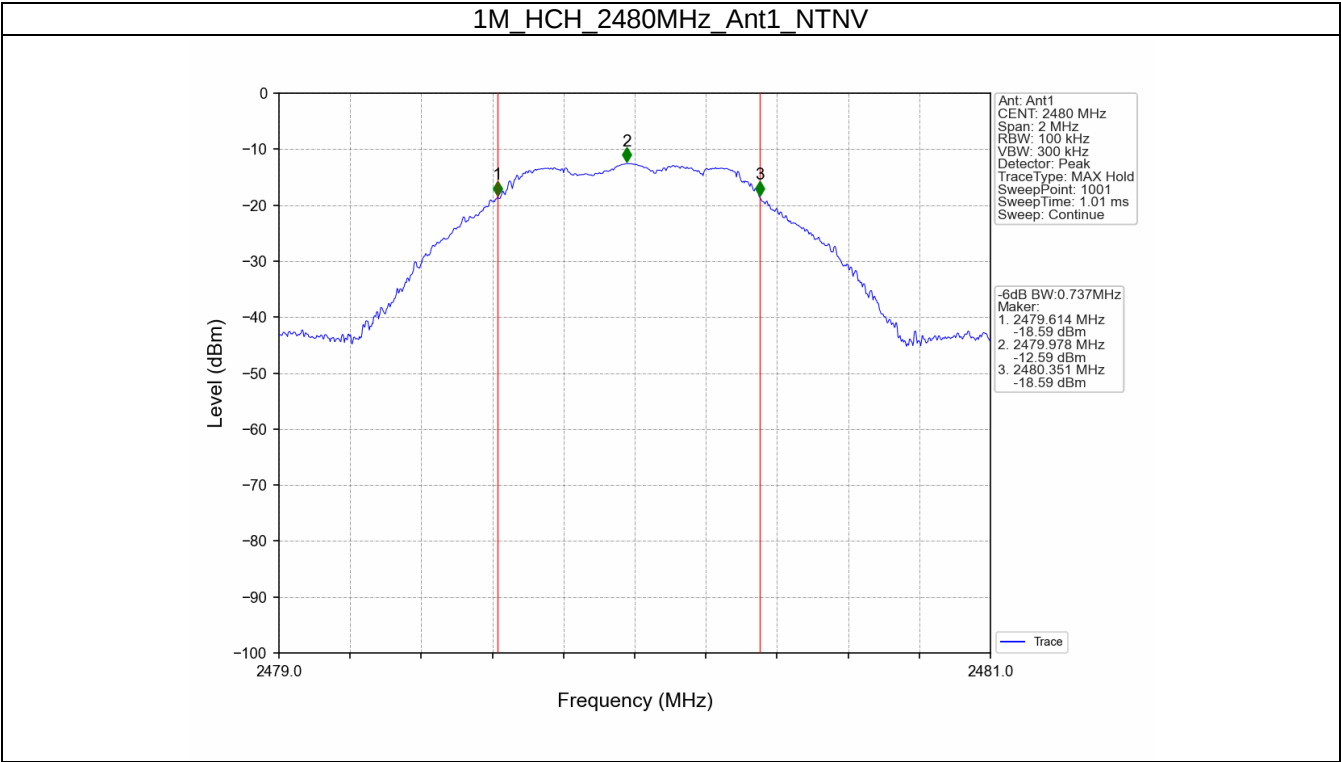
≥ 500

Test result

Frequency MHz	Mode	6dB bandwidth MHz	Result
Bottom channel 2402MHz	LE 1Mbps	0.780	Pass
Middle channel 2440MHz	LE 1Mbps	0.752	Pass
Top channel 2480MHz	LE 1Mbps	0.737	Pass

6 dB Bandwidth





9.5 Spurious RF Conducted Emissions

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

Limit

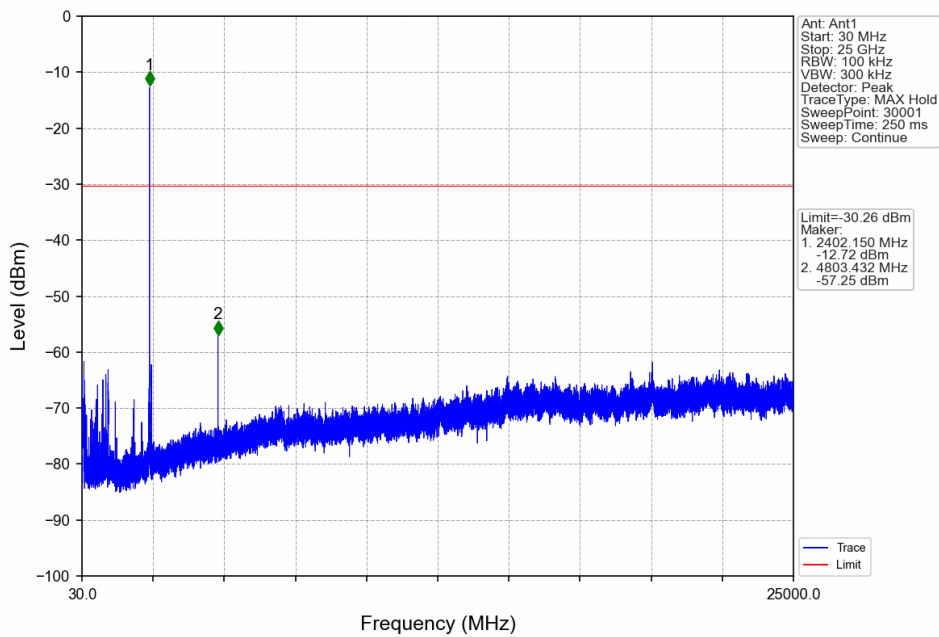
Frequency Range MHz	Limit (dBc)
30-25000	-20

Spurious RF conducted emissions

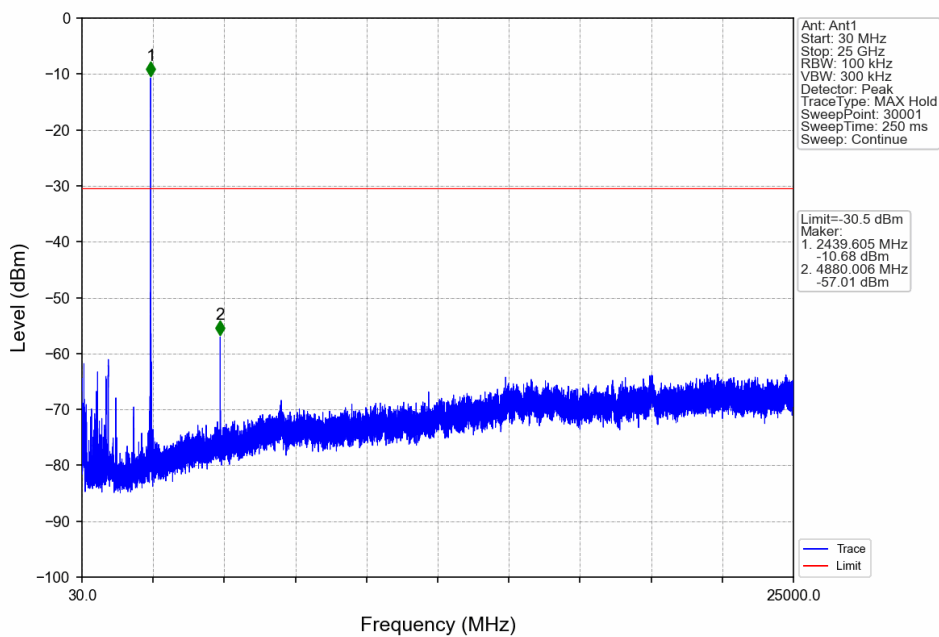
TestMode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-10.26	-30.26	Pass
		2440	1	-10.50	-30.50	Pass
		2480	1	-12.58	-32.58	Pass



1M_LCH_2402MHz_Ant1_NTNV

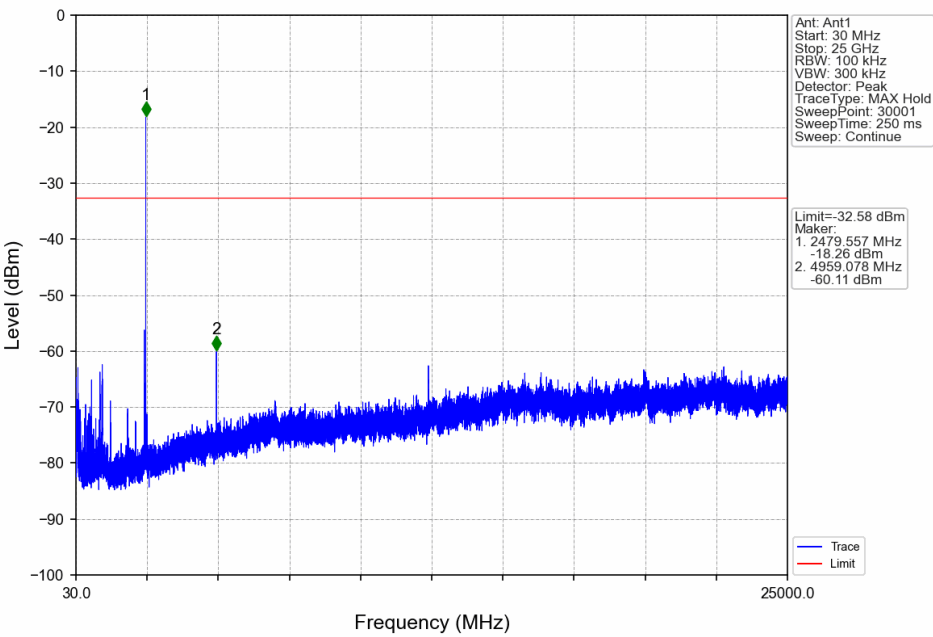


1M_MCH_2440MHz_Ant1_NTNV





1M_HCH_2480MHz_Ant1_NTNV



9.6 Band Edge

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3) and RSS-247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

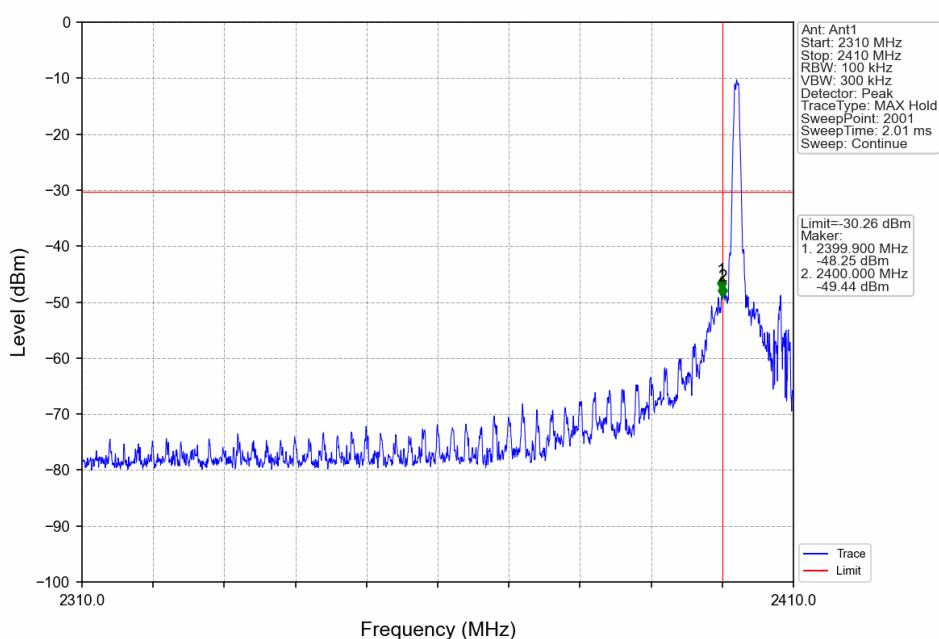
Frequency Range MHz	Limit (dBc)
30-25000	-20

Band edge testing

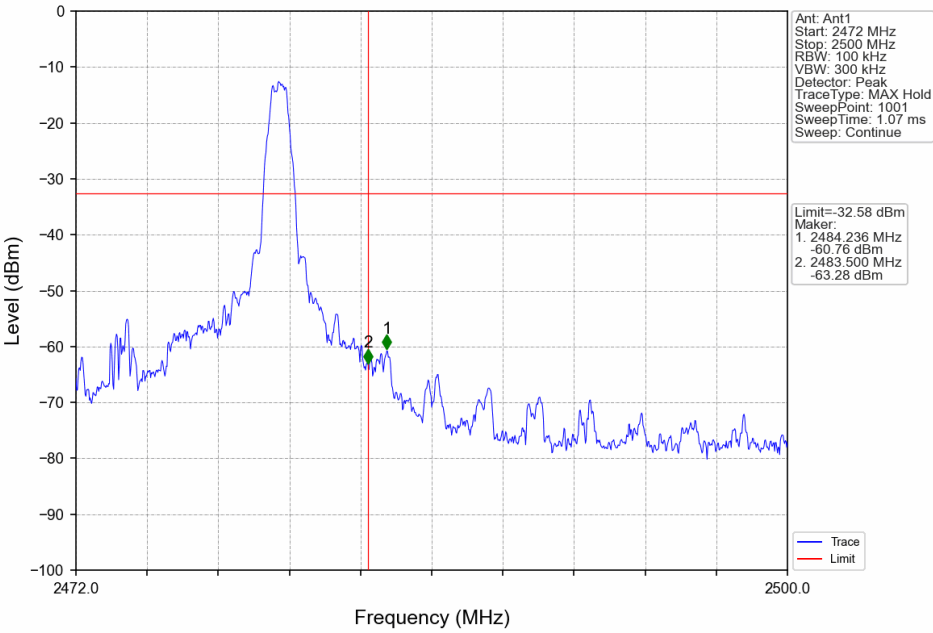
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-10.26
		2480	1	-12.58

Note1: Refer to FCC Part 15.247 (d), the channel contains the maximum PSD level was used to establish the reference level.

1M_LCH_2402MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



9.7 Spurious Radiated Emissions for Transmitter

Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. Use the following spectrum analyzer settings According to C63.10:
 - 1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 KHz to 120KHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 - 2) For Peak unwanted emissions Above 1GHz:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 - 3) Procedures for average unwanted emissions measurements above 1000 MHz
 - a) RBW = 1MHz.
 - b) VBW \ [3 × RBW].
 - c) Detector = RMS (power averaging), if [span / (# of points in sweep)] \ RBW / 2. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
 - d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
 - e) Sweep time = auto.
 - f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)
 - g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
 - 1) If power averaging (rms) mode was used in the preceding step e), then the correction

factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is $[20 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission(AV) at frequency above 1GHz.

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).

Frequency MHz	Field Strength $\mu\text{V/m}$	Field Strength $\text{dB}\mu\text{V/m}$	Detector	Measurement distance meters
0.009-0.490	2400/F(kHz)	48.5-13.8	AV	300
0.490-1.705	24000/F(kHz)	33.8-23.0	QP	30
1.705-30	30	29.5	QP	30
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3
Above 1000	500	54	AV	3
Above 1000	5000	74	PK	3

Note 1: Limit $3\text{m}(\text{dB}\mu\text{V/m}) = \text{Limit } 300\text{m}(\text{dB}\mu\text{V/m}) + 40\text{Log}(300\text{m}/3\text{m})$ (Below 30MHz)

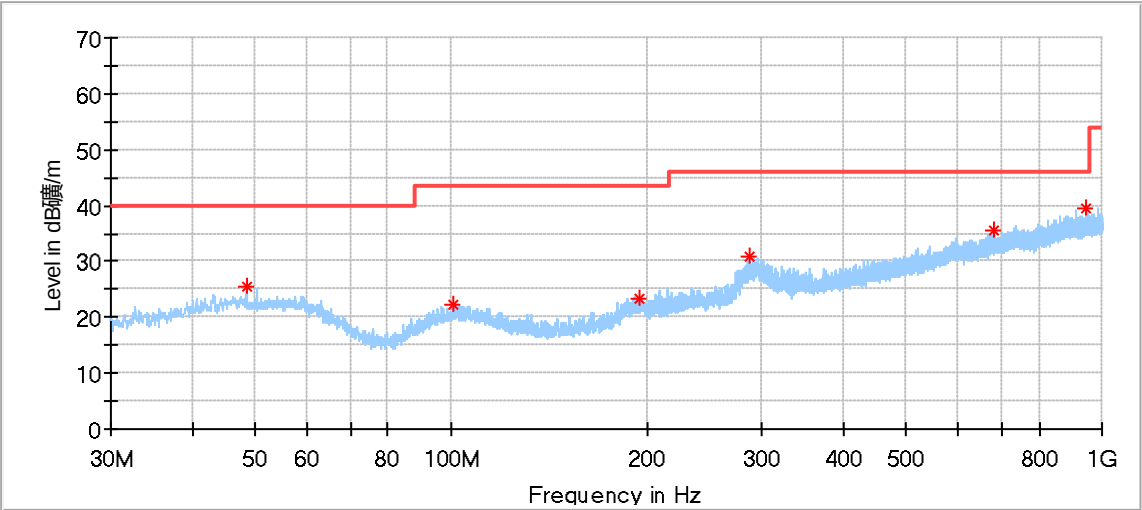
Note 2: Limit $3\text{m}(\text{dB}\mu\text{V/m}) = \text{Limit } 30\text{m}(\text{dB}\mu\text{V/m}) + 40\text{Log}(30\text{m}/3\text{m})$ (Below 30MHz)

Spurious radiated emissions for transmitter

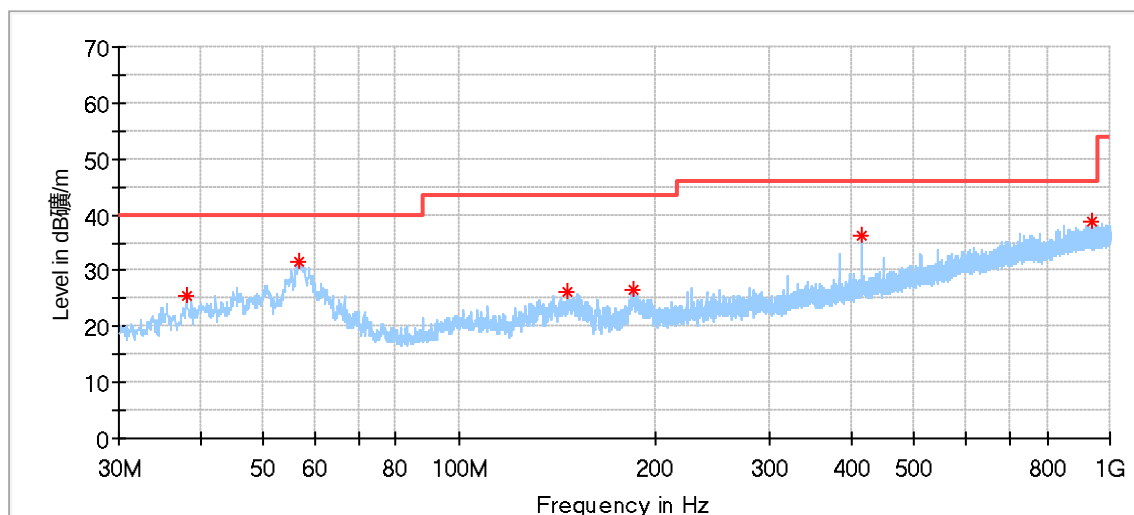
According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Transmitting spurious emission test result as below:

Test data_30MHz to 1000MHz

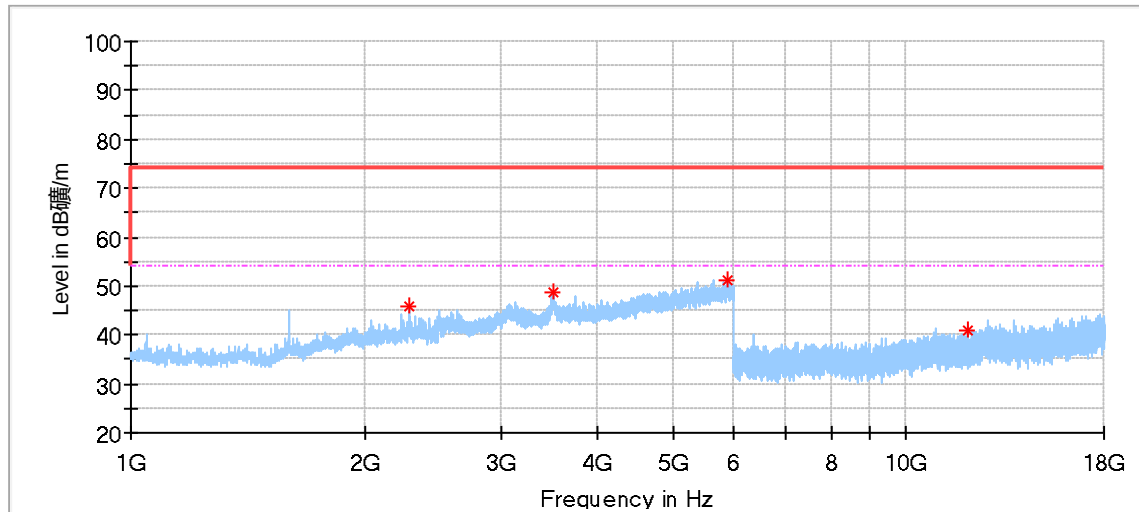


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
48.430000	25.48	40.00	14.52	200.0	H	341.0	18.29
100.917778	22.39	43.50	21.11	100.0	H	341.0	16.07
195.115556	23.44	43.50	20.06	100.0	H	233.0	16.35
288.127778	30.93	46.00	15.07	100.0	H	105.0	18.19
680.600556	35.42	46.00	10.58	200.0	H	144.0	26.17
945.626111	39.39	46.00	6.61	100.0	H	137.0	29.35

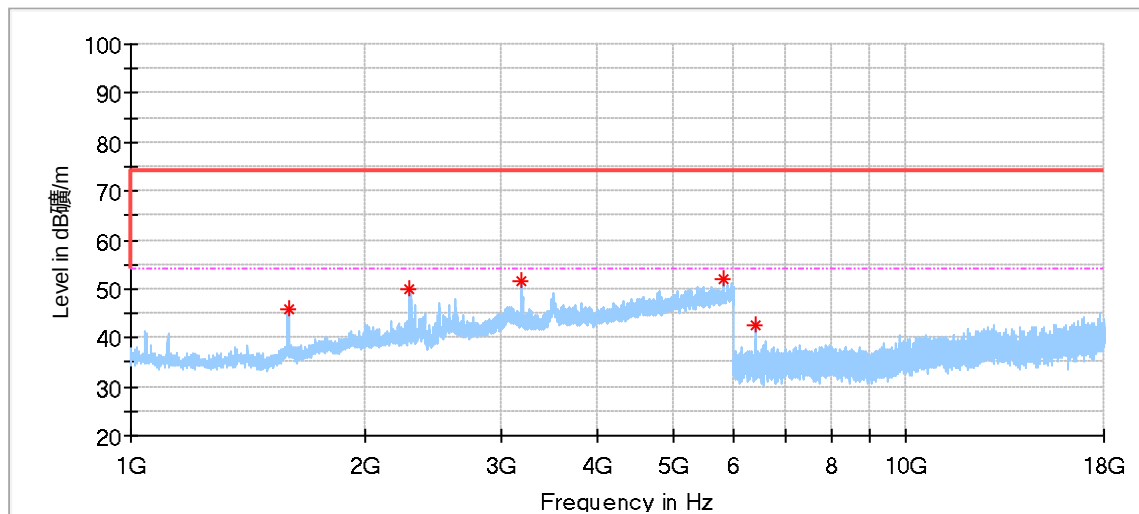


Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.137222	25.44	40.00	14.56	100.0	V	17.0	16.41
56.675000	31.54	40.00	8.46	100.0	V	172.0	17.60
146.723333	26.08	43.50	17.42	100.0	V	1.0	12.56
184.768889	26.46	43.50	17.04	100.0	V	5.0	14.75
416.006111	36.13	46.00	9.87	100.0	V	263.0	21.48
940.883889	38.75	46.00	7.25	100.0	V	341.0	29.42

Test data 1GHz to 18GHz:
BLE_1Mbps_Low Channel:

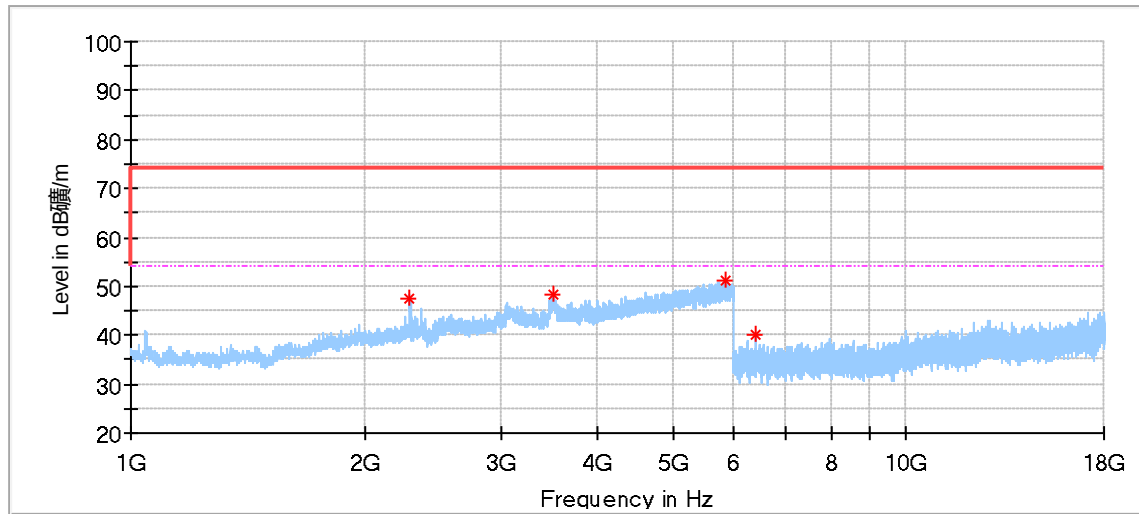


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2281.500000	45.79	74.00	28.21	150.0	H	261.0	-3.32
3501.000000	48.82	74.00	25.18	150.0	H	69.0	4.43
5868.500000	51.36	74.00	22.64	150.0	H	165.0	7.99
11979.000000	40.80	74.00	33.20	150.0	H	271.0	11.59

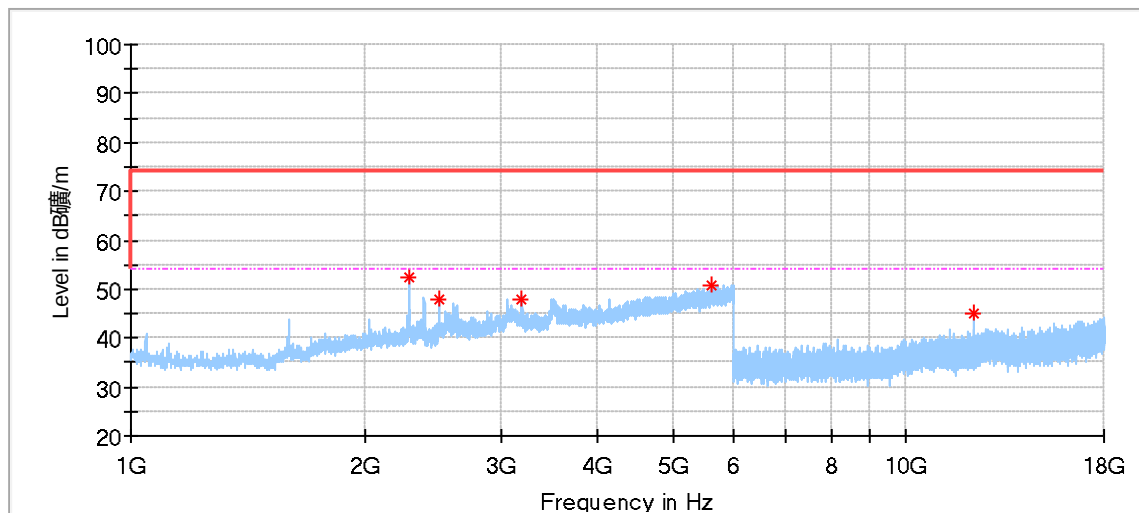


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1599.000000	46.02	74.00	27.98	150.0	V	274.0	-6.85
2290.500000	49.85	74.00	24.15	150.0	V	247.0	-3.31
3190.500000	51.77	74.00	22.23	150.0	V	288.0	0.63
5816.000000	51.83	74.00	22.17	150.0	V	179.0	7.60
6392.500000	42.61	74.00	31.39	150.0	V	0.0	6.01

BLE_1Mbps _Middle Channel:

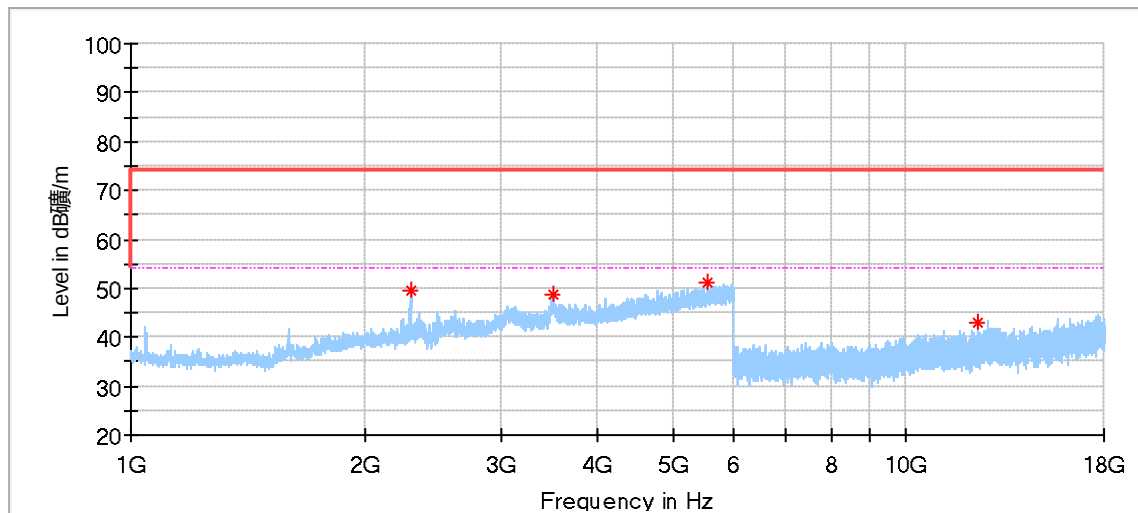


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2290.000000	47.59	74.00	26.41	150.0	H	274.0	-3.31
3502.000000	48.12	74.00	25.88	150.0	H	261.0	4.39
5847.500000	51.00	74.00	23.00	150.0	H	274.0	7.86
6395.000000	39.99	74.00	34.01	150.0	H	192.0	6.01

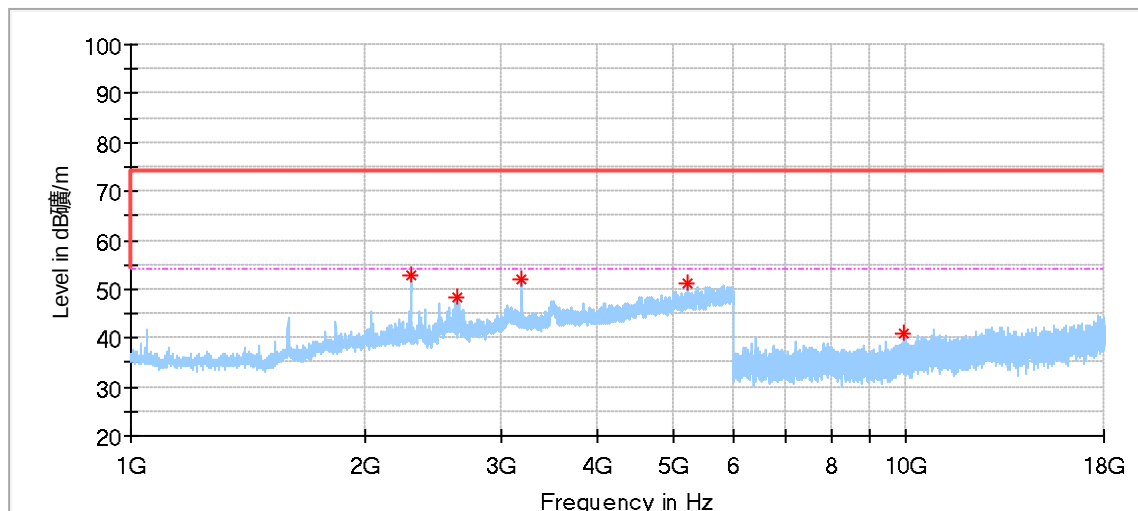


Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2289.500000	52.30	74.00	21.70	150.0	V	230.0	-3.31
2499.000000	48.10	74.00	25.90	150.0	V	298.0	-1.85
3193.000000	47.80	74.00	26.20	150.0	V	298.0	0.62
5613.000000	50.96	74.00	23.04	150.0	V	4.0	7.14
12199.000000	45.19	74.00	28.81	150.0	V	190.0	11.96

BLE_1Mbps_High Channel:



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2293.500000	49.56	74.00	24.44	150.0	H	263.0	-3.30
3498.000000	48.65	74.00	25.35	150.0	H	0.0	4.33
5545.500000	51.32	74.00	22.68	150.0	H	263.0	6.98
12398.500000	43.03	74.00	30.97	150.0	H	247.0	12.20



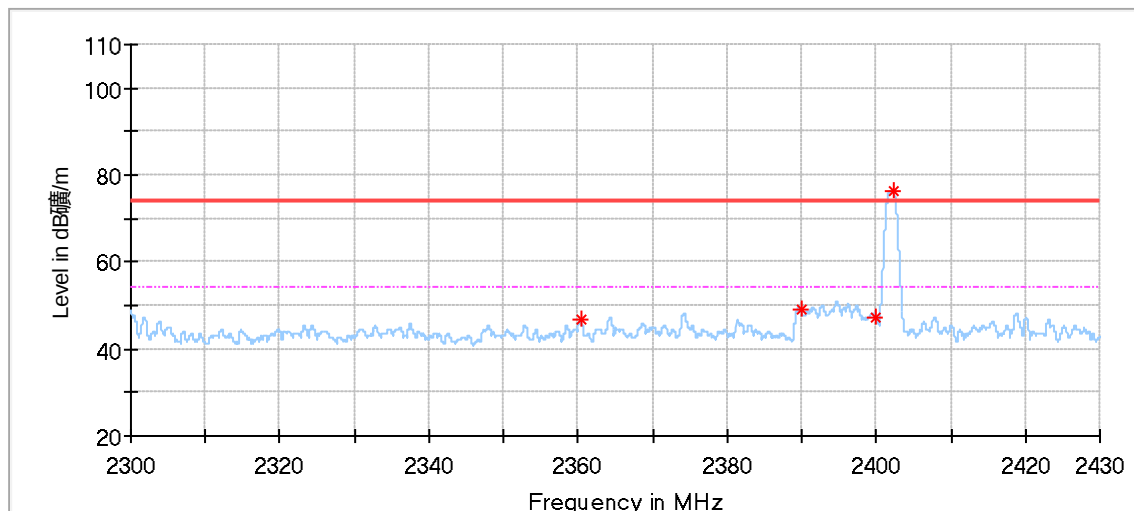
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2297.500000	52.66	74.00	21.34	150.0	V	253.0	-3.28
2634.000000	48.32	74.00	25.68	150.0	V	347.0	-1.36
3196.500000	51.98	74.00	22.02	150.0	V	103.0	0.60
5221.000000	50.98	74.00	23.02	150.0	V	280.0	6.26
9922.000000	40.97	74.00	33.03	150.0	V	226.0	9.39

Remark:

- (1) Data of measurement within frequency range 9kHz-30MHz and 18-26GHz are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured, so test data does not present in this report.
- (2) Corrected Amplitude = Read level + Corrector factor
 Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain
 Below 1GHz: Corrector factor = Antenna Factor + Cable Loss
 (The Reading Level is recorded by software which is not shown in the sheet)

Restricted-bands band-edge of operation. test result as below:

1M 2402MHz:

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr .	Remark
2360.411000	46.68	74.00	27.32	150.0	H	330.0	-	Spurious
2389.895000	48.99	74.00	25.01	150.0	H	350.0	-	Spurious
2399.931000	47.43	74.00	26.57	150.0	H	319.0	-	Spurious
2402.232000	76.28	74.00	-2.28	150.0	H	87.0	-	Fundamental

Final_Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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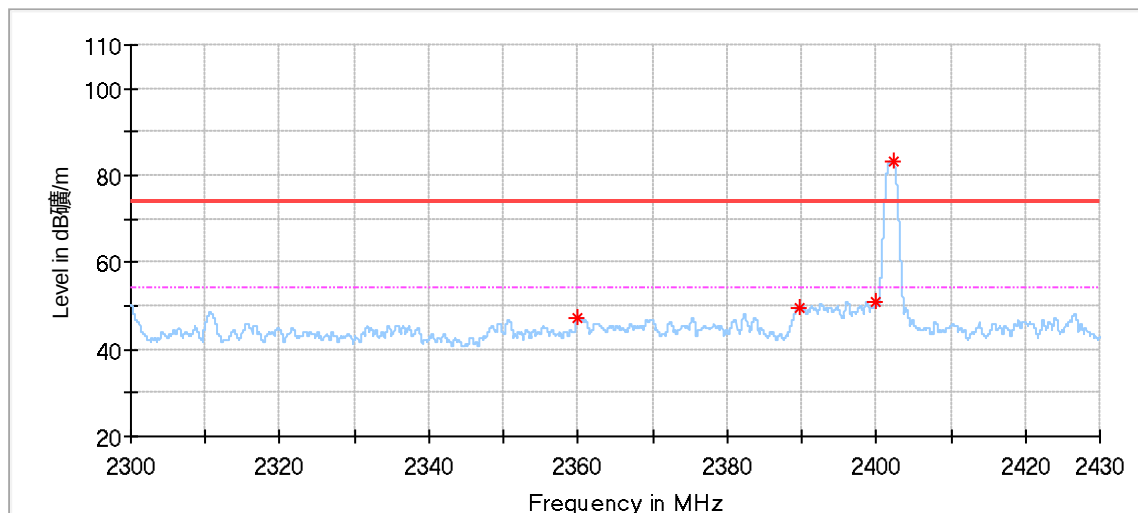
Remark:

Level=Reading Level + Correction Factor

Correction Factor=Antenna Factor + Cable Loss – Pre-amplifier

(The Reading Level is recorded by software which is not shown in the sheet)

The limits in above table are not apply to fundamental, please refer to conducted peak output power test of fundamental in this report.



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Remark
2359.917000	47.31	74.00	26.69	150.0	V	314.0	-3.18	Spurious
2389.791000	49.50	74.00	24.50	150.0	V	260.0	-2.88	Spurious
2399.931000	50.87	74.00	23.13	150.0	V	249.0	-2.91	Spurious
2402.232000	83.10	74.00	-9.10	150.0	V	249.0	-2.89	Fundamental

Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Remark:

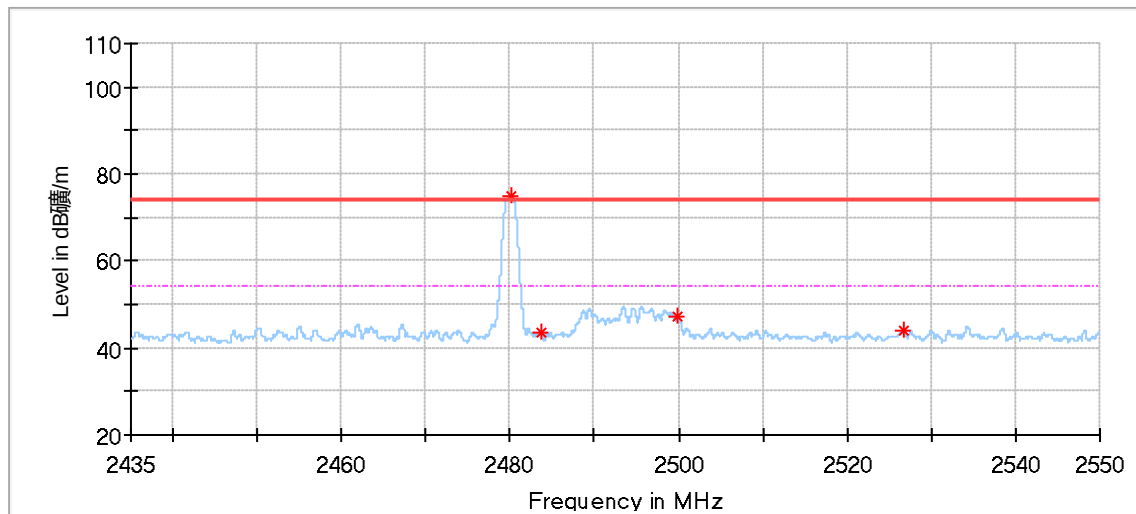
Level=Reading Level + Correction Factor

Correction Factor=Antenna Factor + Cable Loss – Pre-amplifier

(The Reading Level is recorded by software which is not shown in the sheet)

The limits in above table are not apply to fundamental, please refer to conducted peak output power test of fundamental in this report.

1M 2480MHz:



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Remark
2480.241000	74.96	74.00	-0.96	150.0	H	160.0	-2.39	Fundamental
2483.714000	43.43	74.00	30.57	150.0	H	309.0	-2.38	Spurious
2499.871500	47.10	74.00	26.90	150.0	H	321.0	-2.35	Spurious
2526.712500	43.96	74.00	30.04	150.0	H	347.0	-2.21	Spurious

Final_Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

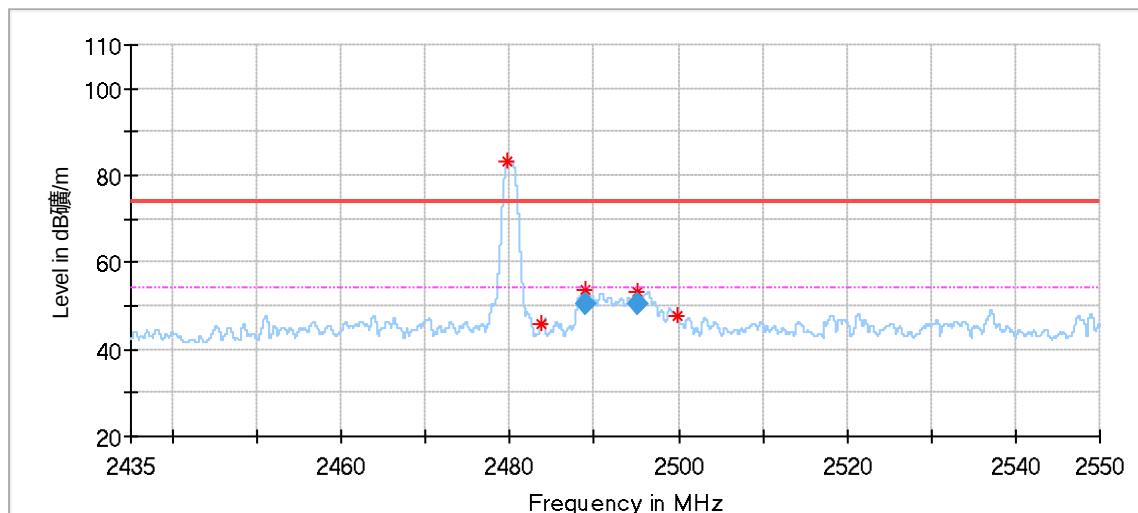
Remark:

Level=Reading Level + Correction Factor

Correction Factor=Antenna Factor + Cable Loss – Pre-amplifier

(The Reading Level is recorded by software which is not shown in the sheet)

The limits in above table are not apply to fundamental, please refer to conducted peak output power test of fundamental in this report.



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Remark
2479.746500	83.12	74.00	-9.12	150.0	V	252.0	-2.39	Fundament
2483.794500	45.77	74.00	28.23	150.0	V	252.0	-2.38	Spurious
2489.004000	53.62	74.00	20.38	150.0	V	252.0	-2.37	Spurious
2495.053000	53.01	74.00	20.99	150.0	V	252.0	-2.36	Spurious
2499.871500	47.86	74.00	26.14	150.0	V	239.0	-2.35	Spurious

Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Remark
2489.004000	50.32	54.00	3.68	150.0	V	252.0	-2.37	Spurious
2495.053000	50.69	54.00	3.31	150.0	V	252.0	-2.36	Spurious

Remark:

Level=Reading Level + Correction Factor

Correction Factor=Antenna Factor + Cable Loss – Pre-amplifier

(The Reading Level is recorded by software which is not shown in the sheet)

The limits in above table are not apply to fundamental, please refer to conducted peak output power test of fundamental in this report.

10 Test Equipment List

List of Test Instruments

Conducted Emission Test 1# Test

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-14-001	101782	1	2024-5-20
LISN	Rohde & Schwarz	ENV4200	68-4-87-14-001	100249	1	2024-5-20
LISN	Rohde & Schwarz	ENV432	68-4-87-16-001	101318	1	2024-5-20
LISN	Rohde & Schwarz	ENV216	68-4-87-14-002	100326	1	2024-5-20
ISN	Rohde & Schwarz	ENY81	68-4-87-14-003	100177	1	2024-5-20
ISN	Rohde & Schwarz	ENY81-CA6	68-4-87-14-004	101664	1	2024-5-20
High Voltage Probe	Schwarzbeck	TK9420(VT9 420)	68-4-27-14-001	9420-584	1	2024-5-28
RF Current Probe	Rohde & Schwarz	EZ-17	68-4-27-14-002	100816	1	2024-5-28
Attenuator	Shanghai Huaxiang	TS2-26-3	68-4-81-16-003	080928189	1	2024-5-19
Test software	Rohde & Schwarz	EMC32	68-4-90-14-003-A10	Version9.15.00	N/A	N/A
Shielding Room	TDK	CSR #1	68-4-90-19-004	----	3	2025-10-15

Radiated Emission Test 1# (9kHz – 1GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2024-5-20
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	1	2024-8-7
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	1	2024-5-19
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2024-8-01
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	1	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2	2024-5-28
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

Radiated Emission 2# Test (1GHz – 40GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2024-5-20
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	1	2024-3-5
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2024-4-26
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	1	2024-5-19
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2024-7-11
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2024-8-1
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	1	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2	2024-5-28
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

Conducted RF Test System

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2024-5-19
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157W	68-4-93-14-003	101226/100929	1	2024-5-20
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	1	2024-5-20
10dB Attenuator	Weinschel	4M-10	68-4-81-14-003	43152	1	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	1	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-005	DNF-002	1	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-006	DNF-003	1	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-007	DNF-004	1	2024-5-19
Test software	Tonscend	System for BT/WIFI	68-4-74-14-006-A13	Version 2.6.77.0518	N/A	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2025-10-15

11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission in shielding room (68-4-90-19-004) 150kHz-30MHz (for test using AMN ENV432 or ENV4200)	3.15dB
Uncertainty for Radiated Emission in 3m chamber (68-4-90-14-001) 9kHz-30MHz	4.70dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 30MHz-1000MHz	Horizontal: 4.63dB; Vertical: 4.78dB;
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.38dB; Vertical: 5.38dB;
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 18GHz-40GHz	5.29dB
Uncertainty for Conducted RF test	RF Power Conducted: 1.31dB Frequency test involved: 0.6×10^{-8} or 1%

Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3 and 4.3.4.

---THE END OF REPORT---