FCC - TEST REPORT

Report Number	:	**68.950.20.0051.01**	Date of Issue:	May 08, 2020

Model	:	MDZ-24-AA
Product Type	:	Mi TV Stick
Applicant	:	Beijing Xiaomi Electronics Co., Ltd.
Address	:	Room 707,7F, Building 5, No 58, JinghaiWulu Road, Beijing economic and Technological Development Zone, Beijing 100176 Beijing City PEOPLE'S REPUBLIC OF CHINA
Manufacturer	:	Beijing Xiaomi Electronics Co., Ltd.
Address	:	Room 707,7F, Building 5, No 58, JinghaiWulu Road, Beijing economic and Technological Development Zone, Beijing 100176 Beijing City PEOPLE'S REPUBLIC OF CHINA
Factory	:	Shenzhen Twowing Technologies Co., Ltd.
Address	:	Floor 1-12, Nangang Industrial Building, Tangtou Industrial Park, Shiyan, Baoan, Shenzhen, Guangdong, China

Test Result	:	■ **Positive** ☐ **Negative**
Total pages including Appendices	:	**35**

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1 Table of Contents

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
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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, Nantou Checkpoint Road 2, Nanshan District Shenzhen 518052 P.R. China
Telephone:	86 755 8828 6998
Fax:	86 755 828 5299
FCC Registration No.:	514049

3 Description of the Equipment Under Test

Product:	Mi TV Stick
Model no.:	MDZ-24-AA
FCC ID:	2AIMRMITVMDZ24AA
Brand name	MI
Options and accessories:	Adapter, USB Cable and Wireless Remote Control
Input Rating: Adapter:	5Vdc/1000mA (Supplied By AC/DC Adapter) Input:100-240V~50/60Hz 0.2A Output: 5V/1000mA
RF Transmission Frequency:	2402MHz-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Antenna Type:	PCB antenna
Antenna Gain:	1.0dBi
Description of the EUT:	The Equipment Under Test (EUT) is a TV Stick which support 2.4G Wi-Fi, 5G Wi-Fi, BR/EDR and BLE function. The 2.4G Wi-Fi, BR/EDR and BLE operated at 2400MHz to 2483.5MHz, The 5G Wi-Fi operation 5150MHz to 5250MHz, and 5725MHz to 5825MHz.

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4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2019 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to 558074 D01 v05r02 DTS Measurement Guidance and ANSI C63.10 (2013).

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5 Summary of Test Results

Test Condition		Test Site	Test Result		
			Pass	Fail	N/A
§15.207	Conducted emission AC power port	Site 1	☒	☐	☐
§15.247 (b) (1)	Conducted peak output power	Site 1	☒	☐	☐
§15.247(a)(1)	20dB bandwidth	---	☐	☐	☒
§15.247(a)(1)	Carrier frequency separation	---	☐	☐	☒
§15.247(a)(1)(iii)	Number of hopping frequencies	---	☐	☐	☒
§15.247(a)(1)(iii)	Dwell Time	---	☐	☐	☒
§15.247(a)(2)	6dB bandwidth and 99% Occupied Bandwidth	Site 1	☒	☐	☐
§15.247(e)	Power spectral density	Site 1	☒	☐	☐
§15.247(d)	Spurious RF conducted emissions	Site 1	☒	☐	☐
§15.247(d)	Band edge	Site 1	☒	☐	☐
§15.247(d) & §15.209	Spurious radiated emissions for transmitter	Site 1	☒	☐	☐
§15.203	Antenna requirement	Note 2	☒	☐	☐

Note 1: N/A=Not Applicable.
Note 2: The EUT uses a Integrated antenna, which gain is 1.0dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

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6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2ADQO3SB3350N5 and complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C rules.

The Equipment Under Test (EUT) is a TV Stick which support 2.4G Wi-Fi, 5G Wi-Fi, BR/EDR and BLE function. The 2.4G Wi-Fi, BR/EDR and BLE operated at 2400MHz to 2483.5MHz, The 5G Wi-Fi operation 5150MHz to 5250MHz, and 5725MHz to 5825MHz.

This report for BLE only.

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: February 20, 2020

Testing Start Date: February 21, 2020

Testing End Date: April 27, 2020

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

Reviewed by:	Prepared by:	Tested by:
Zhi John	Warlen Song	Louise Liu
EMC Section Manager	EMC Project Engineer	EMC Test Engineer

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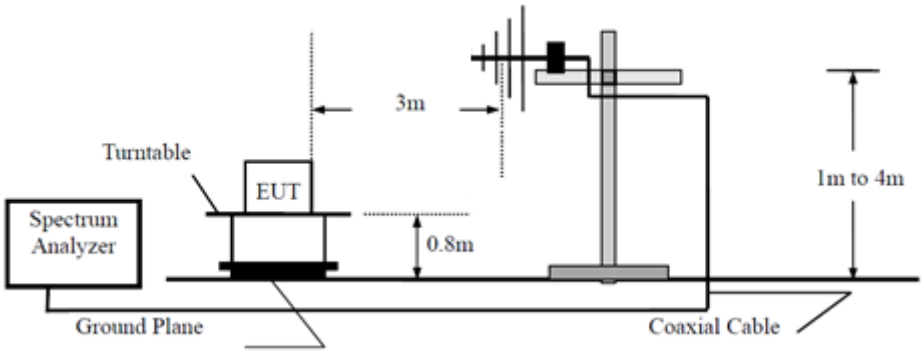
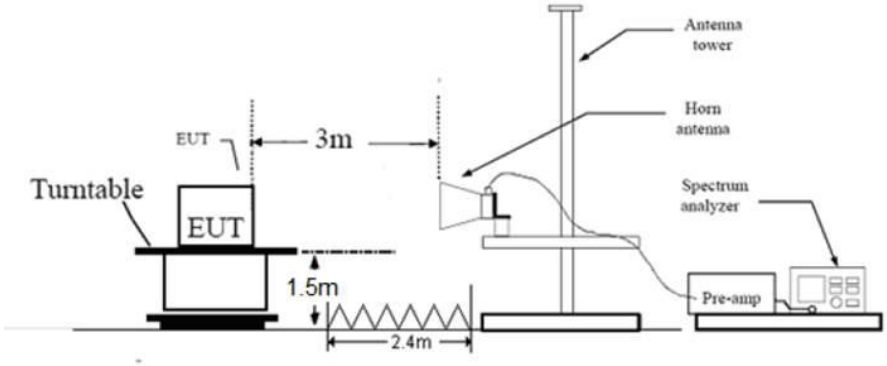
7 Test Setups

7.1 Radiated test setups

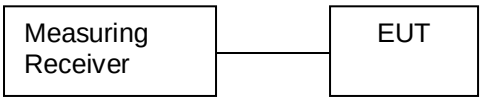
Below 1GHz



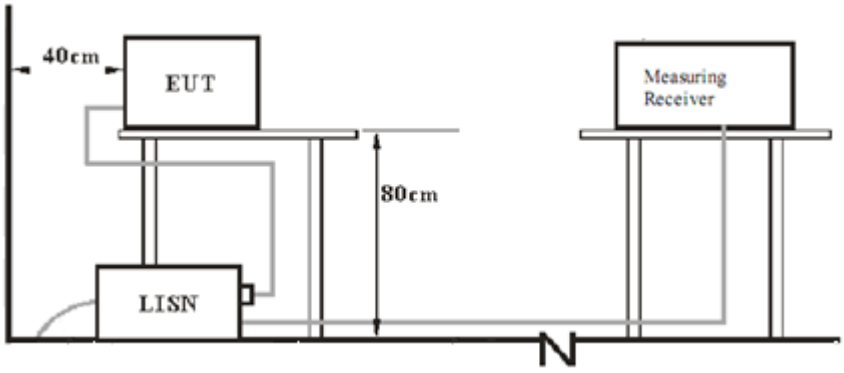
Above 1GHz



7.2 Conducted RF test setups



7.3 AC Power Line Conducted Emission test setups



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8 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
Notebook	Lenovo	X220	---

The system was configured to channel 0, 19, and 39 for the test.
Power Setting:0x16;

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9 Technical Requirement

9.1 Conducted Emission Test

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

According to §15.207, conducted emissions limit as below:

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

*Decreasing linearly with logarithm of the frequency

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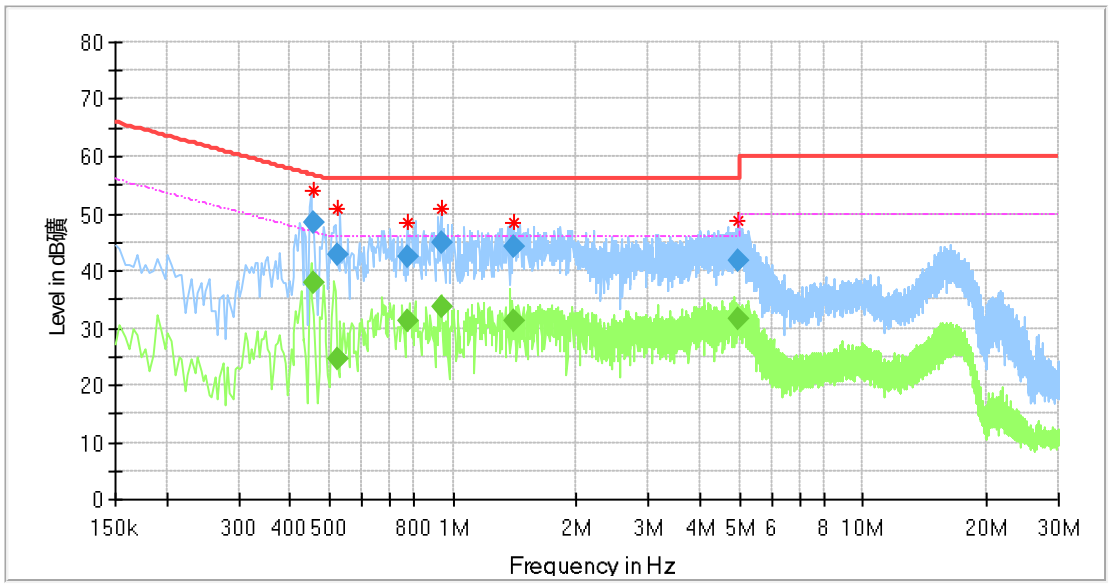
Conducted Emission

Product Type	:	Mi TV Stick
M/N	:	MDZ-24-AA
Operating Condition	:	Wi-Fi connection+BT control
Test Specification	:	Line
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.454500	54.12	---	56.88	2.76	L1	10.3
0.525500	51.00	---	56.00	5.00	L1	10.3
0.773500	48.46	---	56.00	7.54	L1	10.3
0.933500	50.76	---	56.00	5.24	L1	10.3
1.413500	48.53	---	56.00	7.47	L1	10.3
4.937500	48.93	---	56.00	7.07	L1	10.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.454500	48.45	---	56.79	8.34	L1	10.3
0.454500	---	38.04	46.79	8.75	L1	10.3
0.525500	---	24.52	46.00	21.48	L1	10.3
0.525500	42.93	---	56.00	13.07	L1	10.3
0.773500	42.31	---	56.00	13.69	L1	10.3
0.773500	---	31.09	46.00	14.91	L1	10.3
0.933500	---	33.56	46.00	12.44	L1	10.3
0.933500	45.05	---	56.00	10.95	L1	10.3
1.413500	44.07	---	56.00	11.93	L1	10.3
1.413500	---	31.08	46.00	14.92	L1	10.3
4.937500	41.89	---	56.00	14.11	L1	10.5
4.937500	---	31.69	46.00	14.31	L1	10.5

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)

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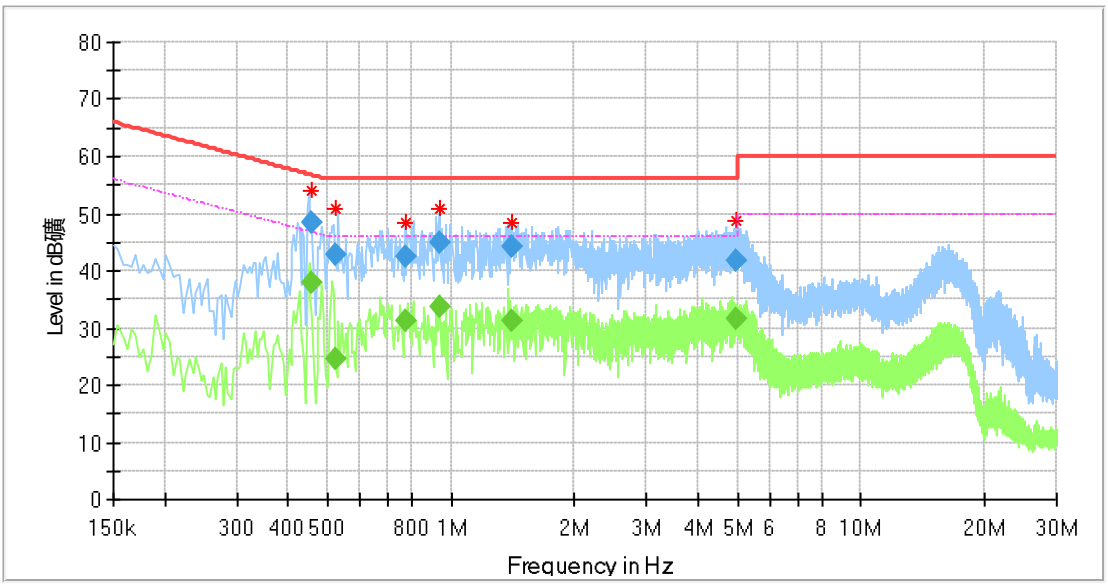
Conducted Emission

Product Type	:	Mi TV Stick
M/N	:	MDZ-24-AA
Operating Condition	:	Wi-Fi connection+BT control
Test Specification	:	Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.454500	54.12	---	56.88	2.76	L1	10.3
0.525500	51.00	---	56.00	5.00	L1	10.3
0.773500	48.46	---	56.00	7.54	L1	10.3
0.933500	50.76	---	56.00	5.24	L1	10.3
1.413500	48.53	---	56.00	7.47	L1	10.3
4.937500	48.93	---	56.00	7.07	L1	10.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.454500	48.45	---	56.79	8.34	L1	10.3
0.454500	---	38.04	46.79	8.75	L1	10.3
0.525500	---	24.52	46.00	21.48	L1	10.3
0.525500	42.93	---	56.00	13.07	L1	10.3
0.773500	42.31	---	56.00	13.69	L1	10.3
0.773500	---	31.09	46.00	14.91	L1	10.3
0.933500	---	33.56	46.00	12.44	L1	10.3
0.933500	45.05	---	56.00	10.95	L1	10.3
1.413500	44.07	---	56.00	11.93	L1	10.3
1.413500	---	31.08	46.00	14.92	L1	10.3
4.937500	41.89	---	56.00	14.11	L1	10.5
4.937500	---	31.69	46.00	14.31	L1	10.5

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)

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9.2 Conducted peak output power

Test Method

1. Use the following spectrum analyzer settings:
   RBW > the 6 dB bandwidth of the emission being measured, VBW≥3RBW, Span≥3RBW
   Sweep = auto, Detector function = peak, Trace = max hold.
2. Add a correction factor to the display.
3. 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.

Limits

conducted peak output power limit as below:

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

Test result as below table:

Frequency MHz	Conducted Peak Output Power dBm	Result
Bottom channel 2402MHz	2.79	Pass
Middle channel 2440MHz	3.86	Pass
Top channel 2480MHz	4.35	Pass

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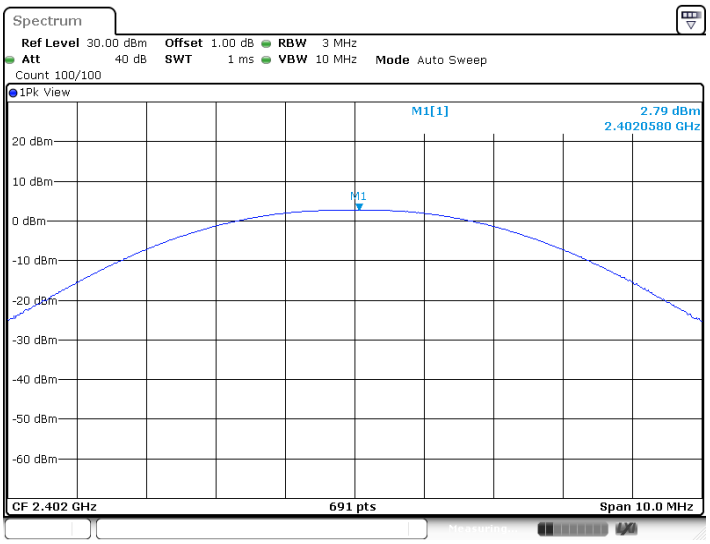
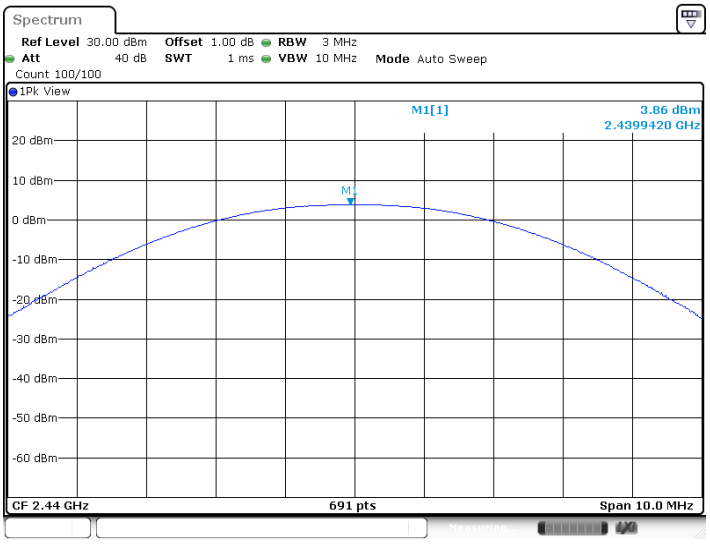
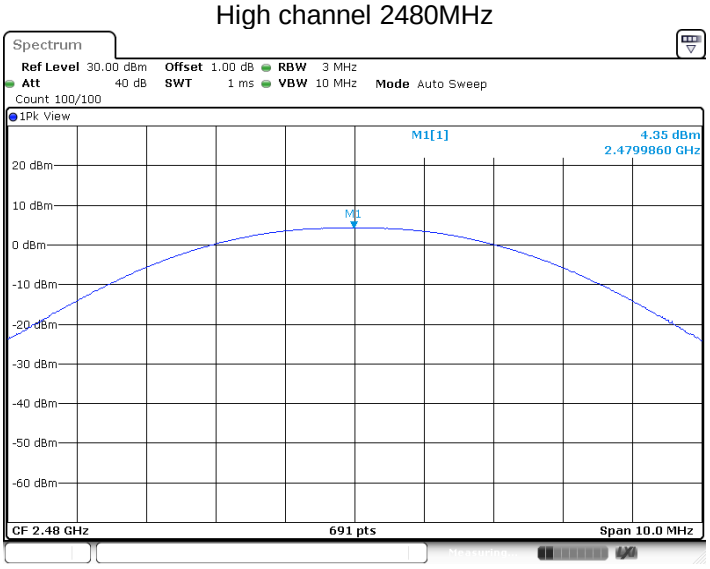
Low channel 2402MHz



Middle channel 2440MHz



High channel 2480MHz



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9.3 Power spectral density

Test Method

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance:

1. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW≥3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
2. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
3. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3KHz]
≤8

Test result

Frequency **MHz**	Power spectral density **dBm/3KHz**	Result
Top channel 2402MHz	-13.73	Pass
Middle channel 2440MHz	-12.65	Pass
Bottom channel 2480MHz	-12.15	Pass

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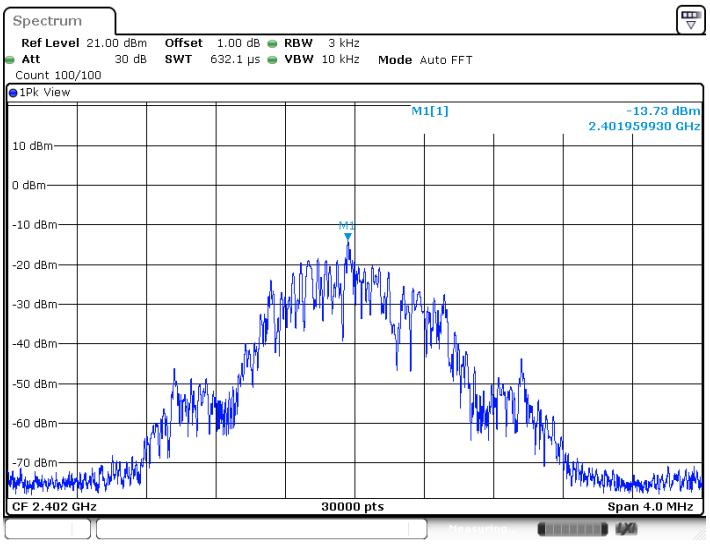
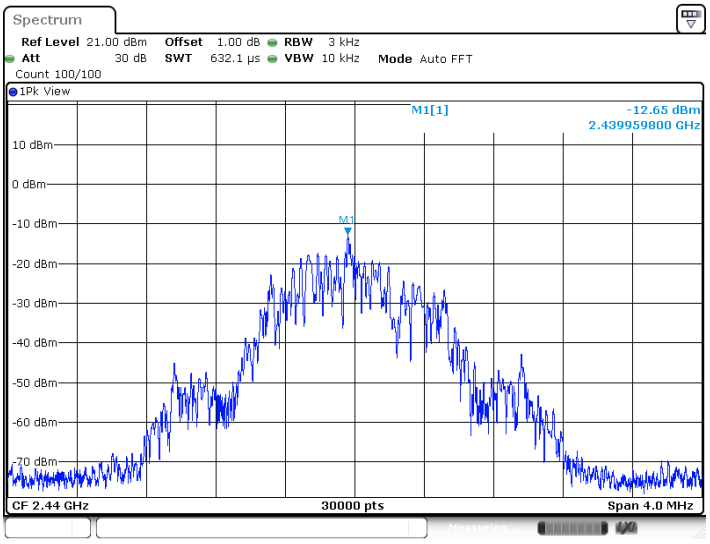
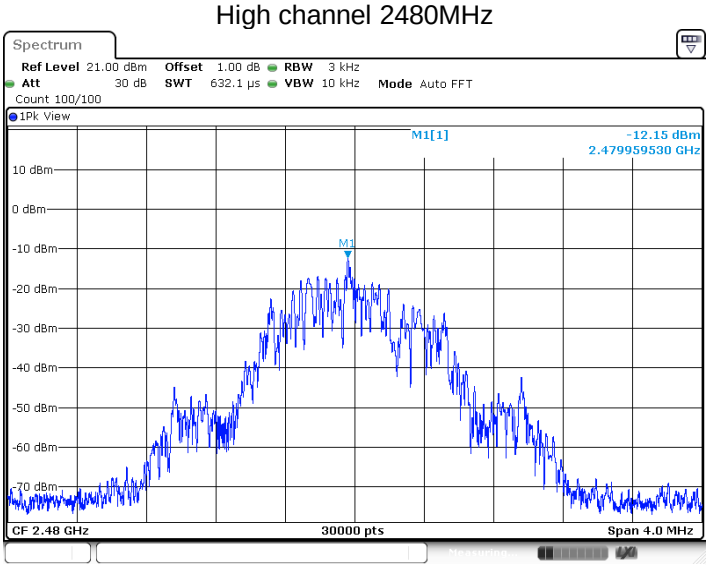
Low channel 2402MHz



Middle channel 2440MHz



High channel 2480MHz



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9.4 6 dB Bandwidth and 99% Occupied Bandwidth

Test Method

1. Use the following spectrum analyzer settings:
RBW=100K, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
2. Use the automatic bandwidth measurement capability of an instrument, may be employed using the X dB bandwidth mode with X set to 6 dB, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.
3. Allow the trace to stabilize, record the X dB Bandwidth value.

Limit

Limit [kHz]
≥500

Test result

Frequency MHz	6dB bandwidth kHz	99 bandwidth kHz	Result
Bottom channel 2402MHz	708.0	1043.0	Pass
Middle channel 2440MHz	724.0	1039.0	Pass
Top channel 2480MHz	728.0	1047.0	Pass

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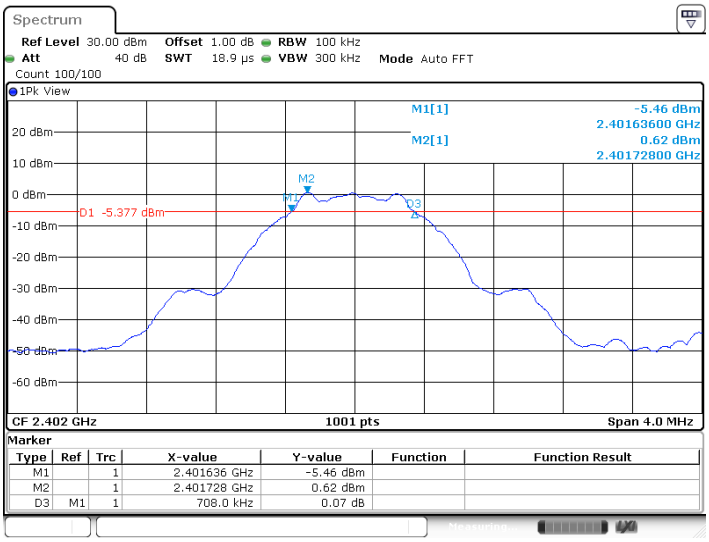
6 dB Bandwidth

Low channel 2402MHz



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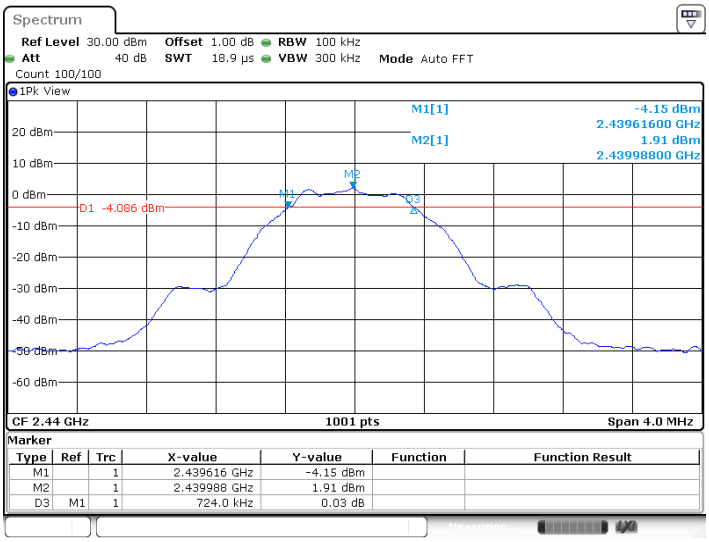
Middle channel 2440MHz



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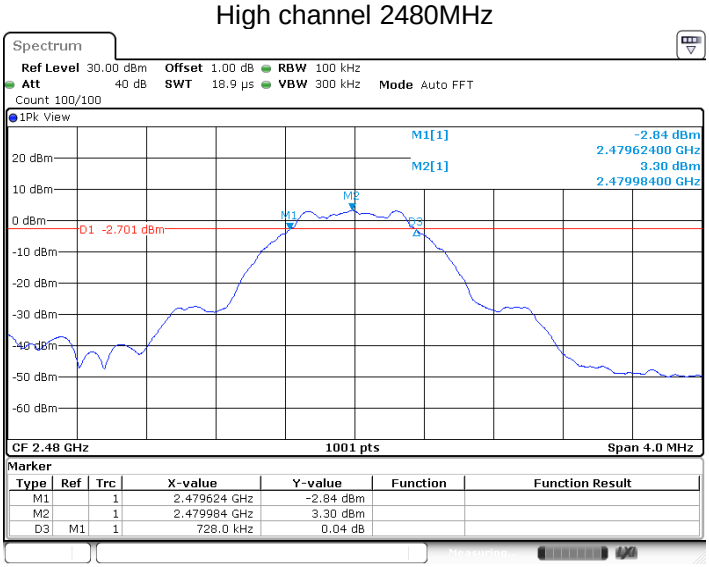
High channel 2480MHz



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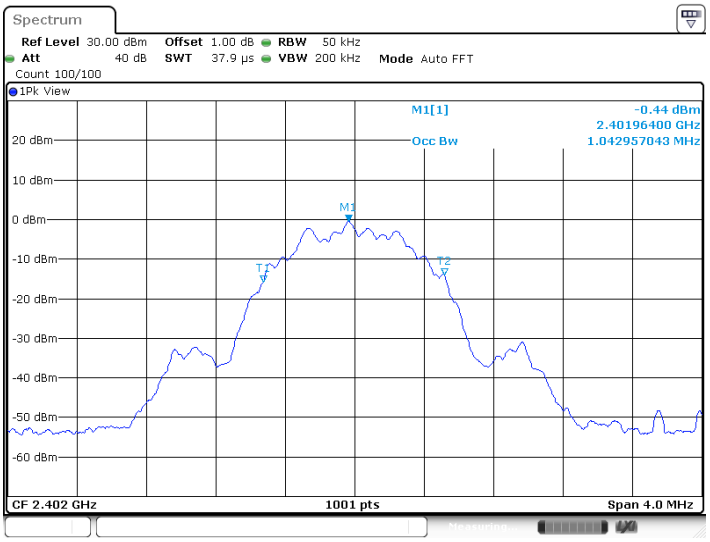
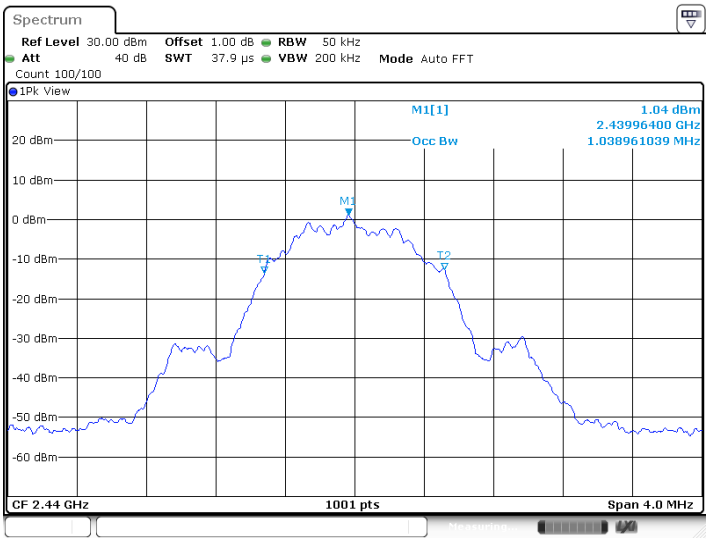
99% Occupied Bandwidth

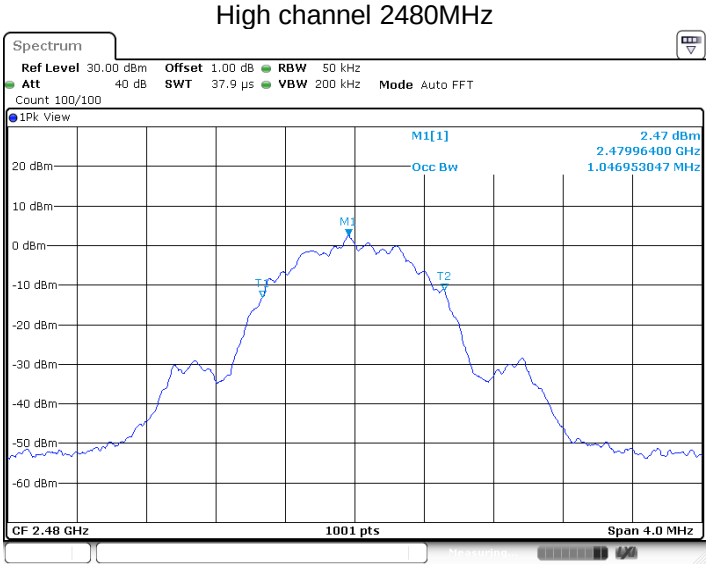
Low channel 2402MHz



Middle channel 2440MHz



High channel 2480MHz



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9.5 Spurious RF conducted emissions

Test Method

1. Establish a reference level by using the following procedure:
   a. Set RBW=100 kHz. VBW≥3RBW. Detector =peak, Sweep time = auto couple, Trace mode = max hold.
   b. Allow trace to fully stabilize, use the peak marker function to determine the maximum PSD level.
2. Use the maximum PSD level to establish the reference level.
   a. Set the center frequency and span to encompass frequency range to be measured.
   b. Use the peak marker function to determine the maximum amplitude level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements, report the three highest emissions relative to the limit.
3. Repeat above procedures until other frequencies measured were completed.

Limit

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

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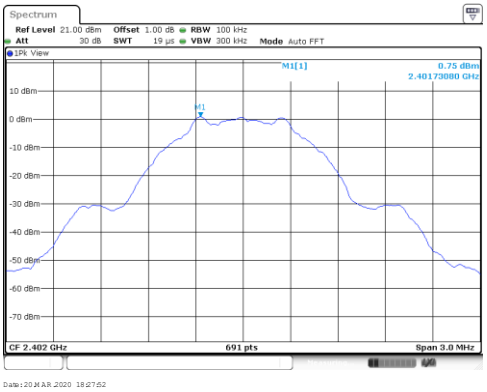
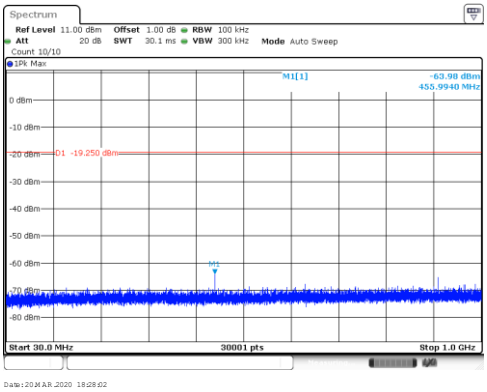
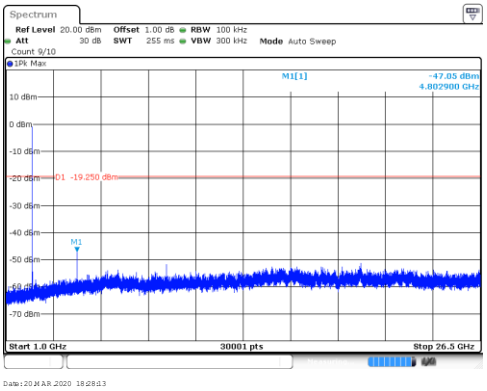
Spurious RF conducted emissions

2402MHz





30MHz-1000MHz



1GHz-26.5GHz

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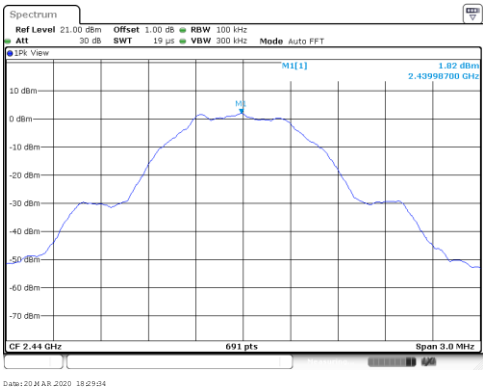
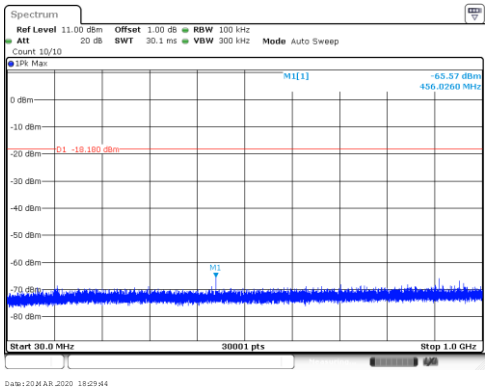
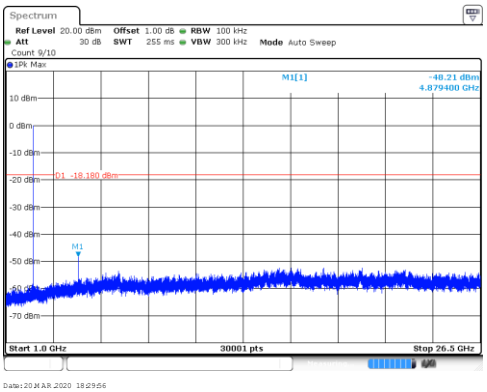
2440MHz





30MHz-1000MHz



1GHz-26.5GHz

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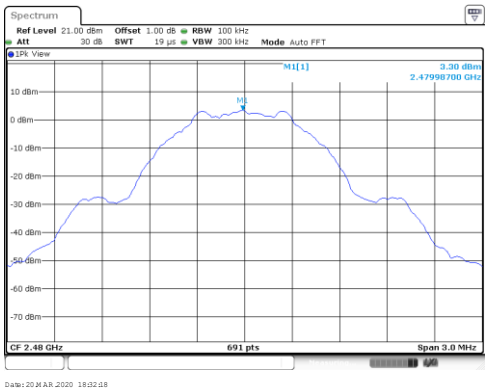
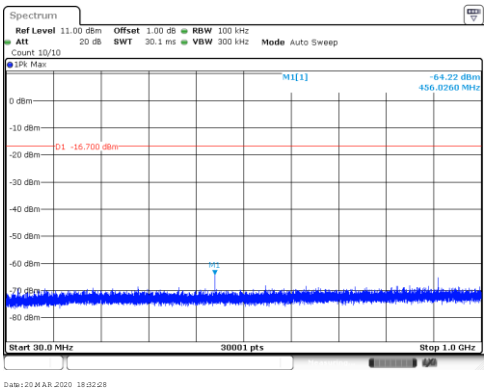
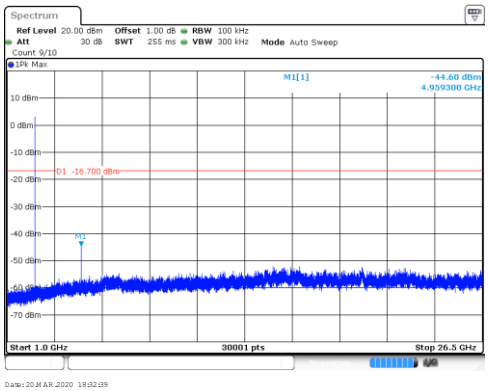
2480MHz





30MHz-1000MHz



1GHz-26.5GHz

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9.6 Band edge

Test Method

1 Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 kHz, VBW≥RBW, Sweep = auto, Detector function = peak, Trace = max hold.
2 Allow the trace to stabilize, use the peak and delta measurement to record the result.
3 The level displayed must comply with the limit specified in this Section.

Limit

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

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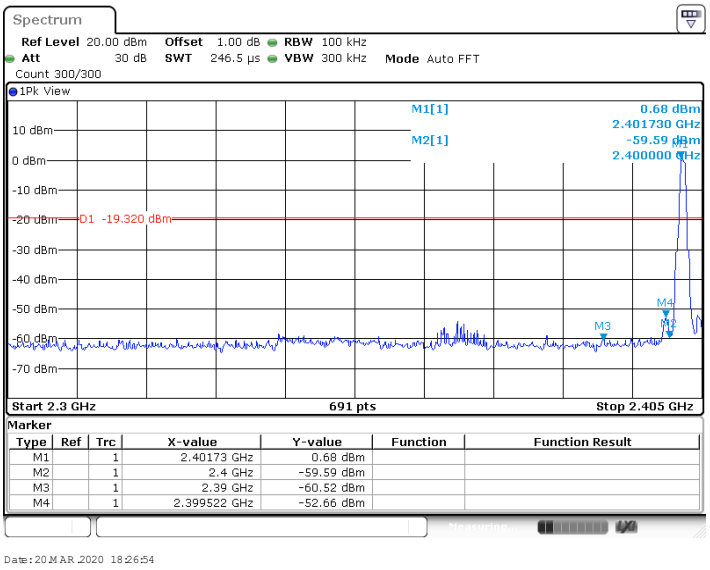
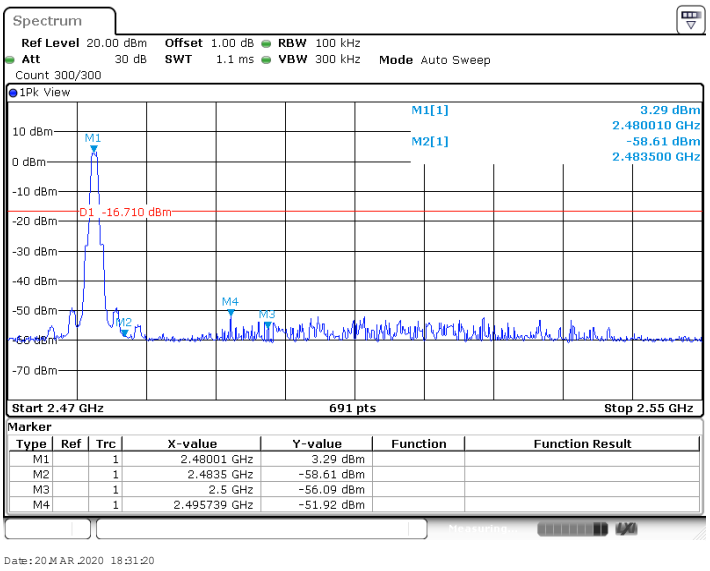
Band edge testing

2402MHz



2480MHz



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9.7 Spurious radiated emissions for transmitter

Test Method

1: The EUT was place 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:
For Below 1GHz
Use the following spectrum analyzer settings:

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.

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.

Procedures for average unwanted emissions measurements above 1000 MHz

a) RBW = 1 MHz.
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.

Limit

The radio emission outside the operating frequency band 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. Radiated emissions which fall in the restricted bands, as defined in section15.205, must comply with the radiated emission limits specified in section 15.209.

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

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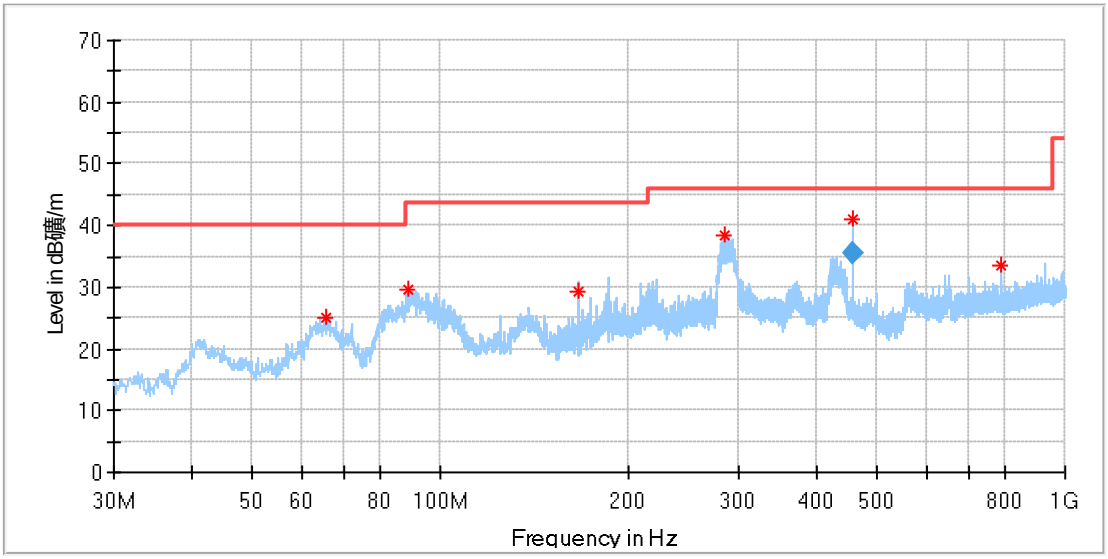
Spurious radiated emissions for transmitter

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:

Below 1G:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
65.829375	25.13	40.00	14.87	200.0	H	14.0	15
89.048750	29.69	43.50	13.81	200.0	H	4.0	14
166.709375	29.40	43.50	14.10	100.0	H	30.0	13
285.231250	38.51	46.00	7.49	100.0	H	46.0	18
456.002813	40.92	46.00	5.08	179.0	H	285.0	22
791.328750	33.56	46.00	12.44	100.0	H	260.0	28
Frequency (MHz)	**QuasiPeak (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**	**Height (cm)**	**Pol**	**Azimuth (deg)**	**Corr. (dB/m)**
456.002813	35.64	46.00	10.36	179.0	H	285.0	22

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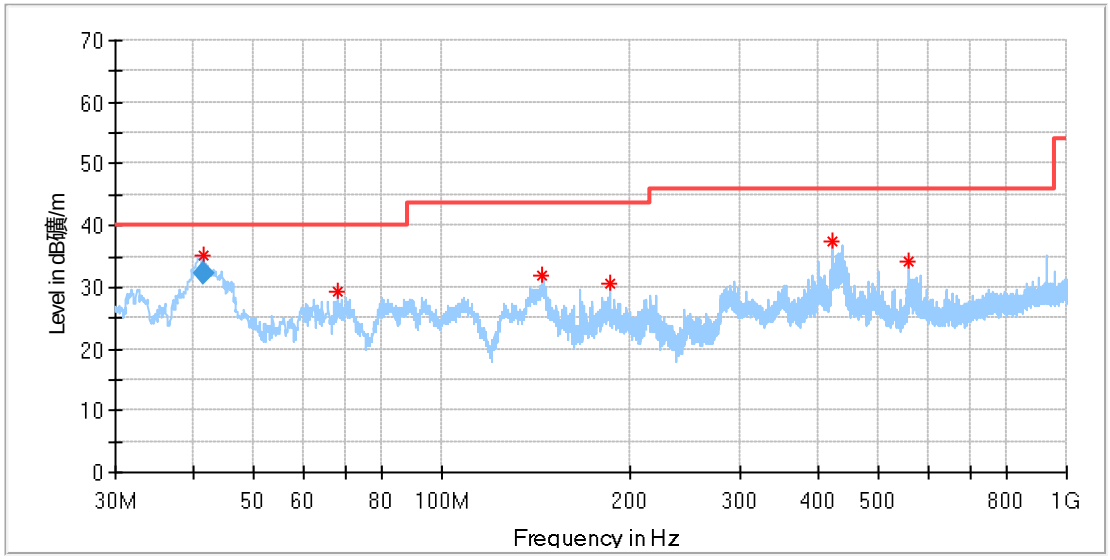

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.518750	35.28	40.00	4.72	100.0	V	217.0	17
68.072500	29.45	40.00	10.55	100.0	V	302.0	15
145.066250	31.97	43.50	11.53	100.0	V	0.0	12
185.563750	30.65	43.50	12.85	100.0	V	100.0	15
422.971250	37.35	46.00	8.65	100.0	V	225.0	22
556.891875	34.18	46.00	11.82	100.0	V	178.0	24
Frequency (MHz)	**QuasiPeak (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**	**Height (cm)**	**Pol**	**Azimuth (deg)**	**Corr. (dB/m)**
41.518750	32.28	40.00	7.72	100.0	V	217.0	17

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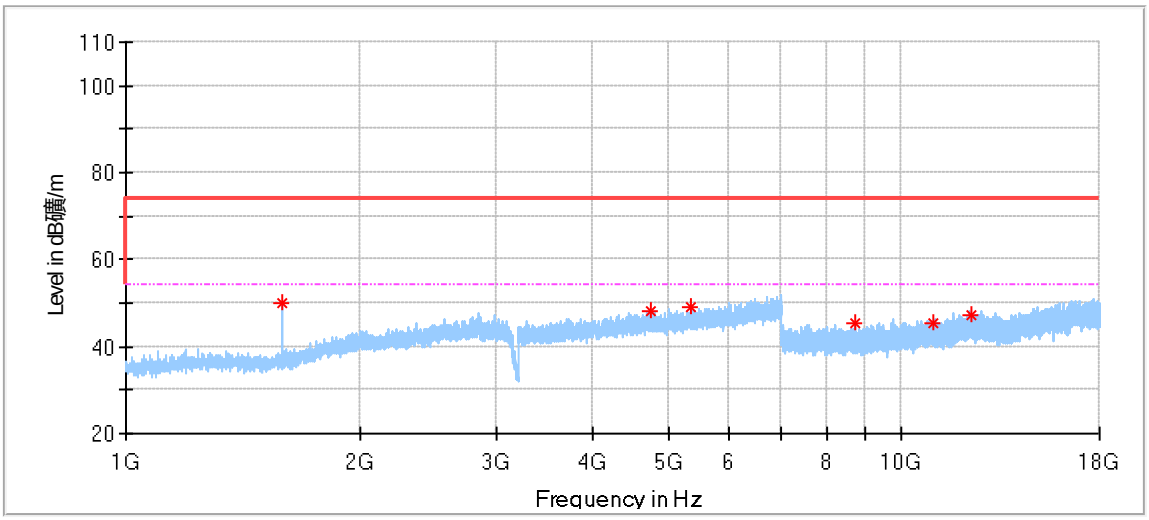
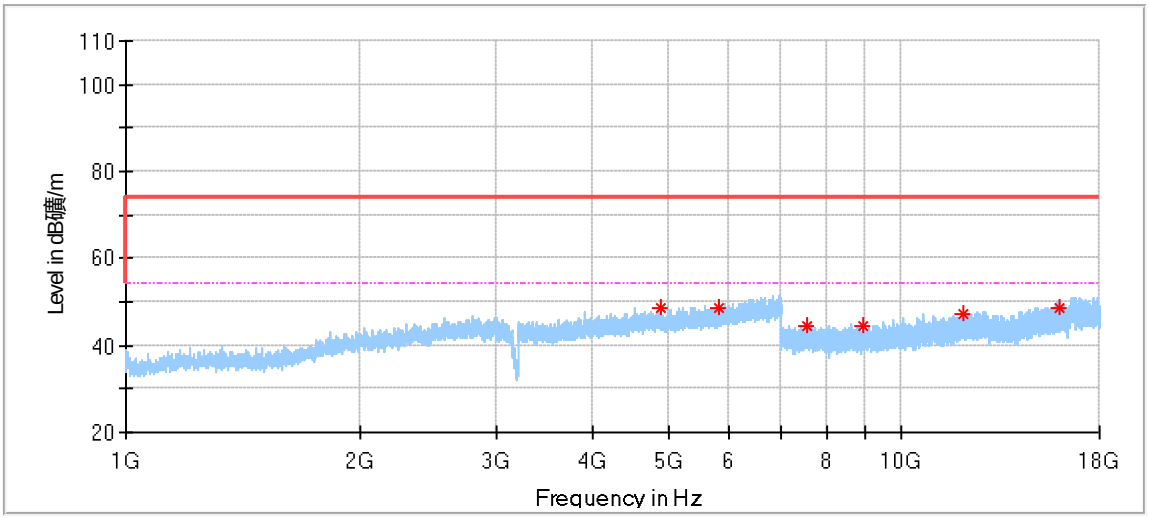
Low channel 2402MHz Test Result



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1594.000000	50.12	74.00	23.88	150.0	H	331.0	-8.7
4748.500000	48.37	74.00	25.63	150.0	H	0.0	3.0
5358.500000	48.94	74.00	25.06	150.0	H	326.0	3.2
8717.000000	45.21	74.00	28.79	150.0	H	210.0	6.6
11004.000000	45.51	74.00	28.49	150.0	H	108.0	8.3
12307.000000	47.44	74.00	26.56	150.0	H	5.0	10.0



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4900.000000	48.39	74.00	25.61	150.0	V	229.0	2.6
5801.500000	48.81	74.00	25.19	150.0	V	355.0	3.4
7540.000000	44.48	74.00	29.52	150.0	V	348.0	6.7
8943.500000	44.55	74.00	29.45	150.0	V	6.0	6.9
12034.000000	47.01	74.00	26.99	150.0	V	348.0	9.9
15938.500000	48.81	74.00	25.19	150.0	V	348.0	13.9

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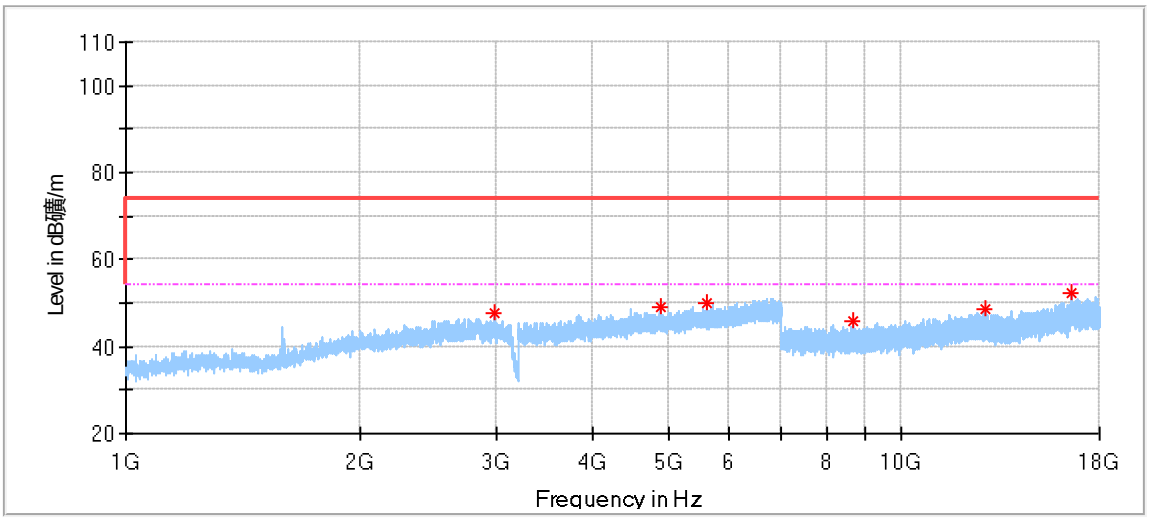
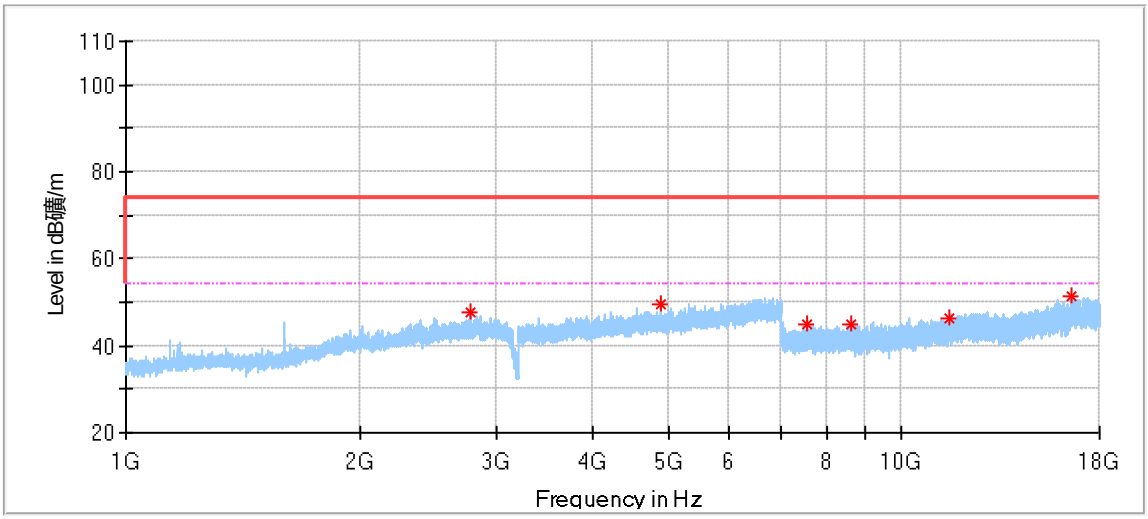
Middle channel 2440MHz Test Result



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2986.500000	47.78	74.00	26.22	150.0	H	21.0	-2.1
4879.500000	49.28	74.00	24.72	150.0	H	40.0	2.5
5601.500000	50.11	74.00	23.89	150.0	H	0.0	3.1
8644.000000	45.78	74.00	28.22	150.0	H	59.0	6.7
12801.500000	48.59	74.00	25.41	150.0	H	128.0	10.2
16601.000000	52.28	74.00	21.72	150.0	H	178.0	16.2



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2774.000000	47.48	74.00	26.52	150.0	V	243.0	-3.1
4880.500000	49.50	74.00	24.50	150.0	V	25.0	2.5
7540.500000	44.74	74.00	29.26	150.0	V	54.0	6.7
8587.000000	45.06	74.00	28.94	150.0	V	19.0	6.6
11519.500000	46.22	74.00	27.78	150.0	V	140.0	8.9
16605.500000	51.47	74.00	22.53	150.0	V	208.0	16.3

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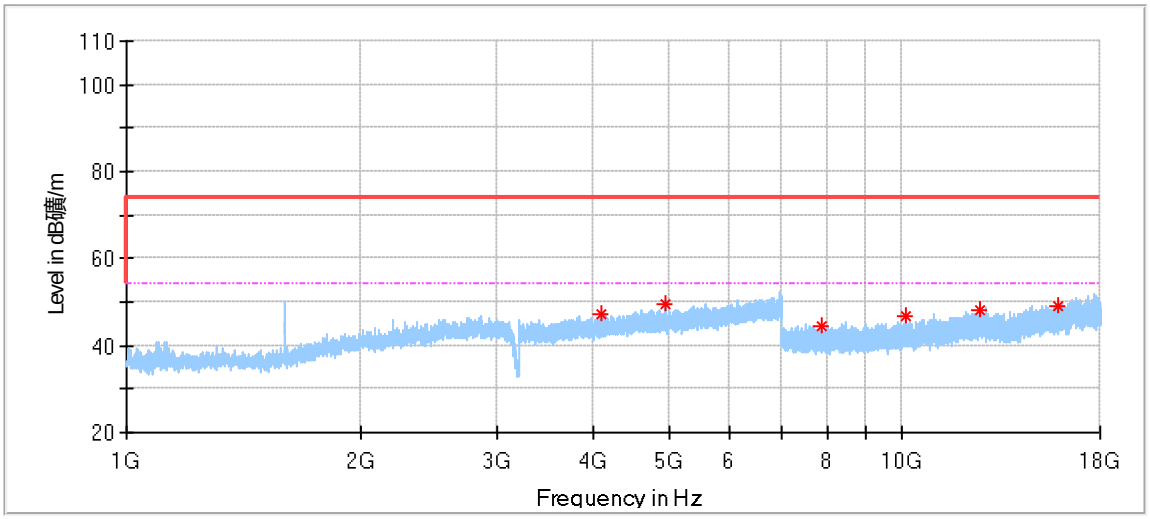
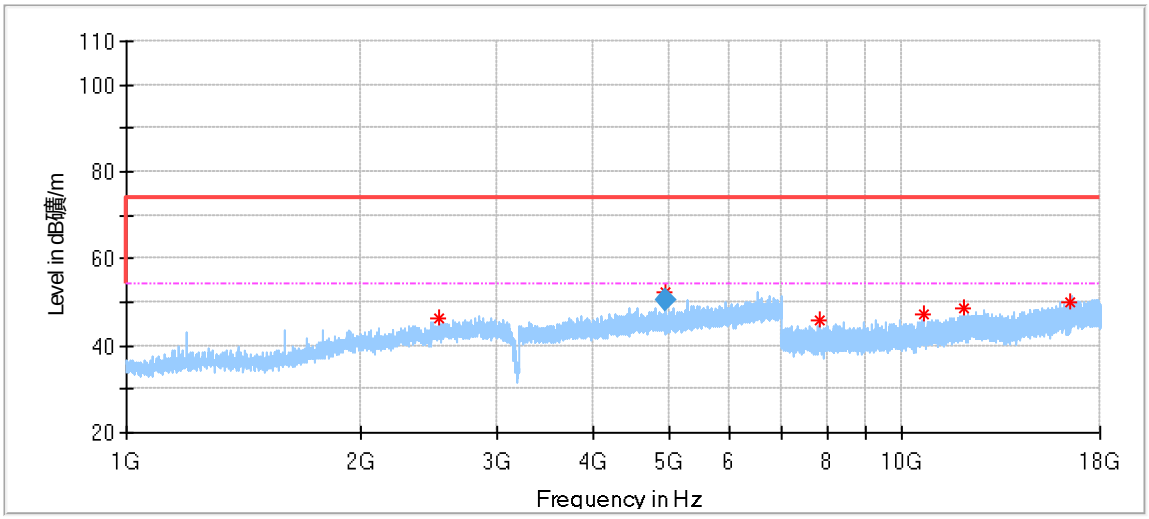
High channel 2480MHz Test Result



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4101.000000	47.17	74.00	26.83	150.0	H	300.0	1.5
4959.500000	49.46	74.00	24.54	150.0	H	115.0	1.5
7874.000000	44.54	74.00	29.46	150.0	H	281.0	6.6
10109.500000	46.94	74.00	27.06	150.0	H	281.0	8.2
12621.000000	47.98	74.00	26.02	150.0	H	158.0	9.8
15912.000000	49.02	74.00	24.98	150.0	H	334.0	13.8

Antenna Polarization Vertical:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2525.500000	46.21	74.00	27.79	150.0	V	68.0	-3.1
4961.000000	52.21	74.00	21.79	150.0	V	24.0	1.5
7819.500000	45.76	74.00	28.24	150.0	V	166.0	6.6
10645.500000	47.44	74.00	26.56	150.0	V	166.0	8.3
12041.500000	48.63	74.00	25.37	150.0	V	355.0	9.9
16420.500000	50.22	74.00	23.78	150.0	V	166.0	15.0
Frequency (MHz)	**Average (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**	**Height (cm)**	**Pol**	**Azimuth (deg)**	**Corr. (dB/m)**
4961.000000	50.41	54.00	3.59	150.0	V	24.0	1.5

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Remark:

(1) "*" means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.

(2) Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are the noise floor or attenuated more than 10dB below the permissible limits or the field strength is too small to be measured.

(3) Level=Reading Level + Correction Factor
Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain
Below 1GHz: Corrector factor = Antenna Factor + Cable Loss

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10 Test Equipment List

List of Test Instruments

Radiated Emission Test

Description	Manufacturer	Model no.	Serial no.	cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 26	101031	2020-6-28
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	708	2020-6-28
Horn Antenna	Rohde & Schwarz	HF907	102295	2020-7-5
Loop Antenna	Rohde & Schwarz	HFH2-Z2	12827	2020-7-5
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2020-6-28
Attenuator	Agilent	8491A	MY39264334	2020-6-28
3m Semi-anechoic chamber	TDK	9X6X6	----	2020-7-7
Test software	Rohde & Schwarz	EMC32	Version 9.15.00	N/A

TS8997 Test System

Description	Manufacturer	Model no.	Serial no.	cal. due date
Signal Analyzer	Rohde & Schwarz	OSP120/OSP-B157	101030	2020-6-28
10dB Attenuator	R&S	DNF	DNF-001	2020-6-28
Test software	Rohde & Schwarz	EMC32	Version 10.38.00	N/A

Conducted Emission Test

Description	Manufacturer	Model no.	Serial no.	cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2020-6-28
LISN	Rohde & Schwarz	ENV4200	100249	2020-6-28
LISN	Rohde & Schwarz	ENV216	100326	2020-6-28
Attenuator	Shanghai Huaxiang	TS2-26-3	080928189	2020-6-28
Test software	Rohde & Schwarz	EMC32	Version9.15.00	N/A

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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 150kHz-30MHz (for test using High Voltage Probe TK9420(VT9420))	3.21 dB
Uncertainty for Radiated Spurious Emission 25MHz-3000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Uncertainty for Radiated Spurious Emission 3000MHz-18000MHz	Horizontal: 4.80dB; Vertical: 4.79dB;
Uncertainty for Radiated Spurious Emission 18000MHz-40000MHz	Horizontal: 4.89dB; Vertical: 4.87dB;
Uncertainty for Conducted RF test with TS 8997	RF Power Conducted: 1.16dB Frequency test involved: 0.6×10^{-7} or 1%

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