



FCC - TEST REPORT

Report Number : **709502507814-00C** Date of Issue: October 9, 2025

Model : DBH D12

Product Type : Thermal Imaging Scope

Applicant : Visir Inc.

Address : 700 International Pkwy, Ste 102, Richardson, TX 75081, United States

Manufacturer : Visir Inc.

Address : 700 International Pkwy, Ste 102, Richardson, TX 75081, United States

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

Total pages including
Appendices :

51



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2 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
709502507814-00C	First Issue	10/09/2025

3 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
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FCC Registration No.: 820234

FCC Designation Number: CN1183

ISED CAB identifier CN0101

IC Registration No.: 31668



4 Description of the Equipment under Test

Product:	Thermal Imaging Scope
Model no.:	DBH D12
FCC ID:	2A7ZZ-DBH-04
Options and accessories:	NA
Rating:	7.2V DC by (18650 rechargeable battery)
RF Transmission Frequency:	For 2.4G Wi-Fi: 802.11b/g/n-HT20: 2412~2462 MHz For BLE: 2402~2480 MHz For EDR: 2402~2480 MHz
No. of Operated Channel:	For 2.4G Wi-Fi: 11 for 802.11b/802.11g/802.11n(H20) For BLE: 40 For EDR: 79
Modulation:	For 2.4G Wi-Fi: Direct Sequence Spread Spectrum (DSSS) for 802.11b Orthogonal Frequency Division Multiplexing (OFDM) for 802.11g/n For BLE: GFSK For EDR: GFSK, $\pi/4$ DQPSK, 8DPSK
Hardware Version:	V1_0
Software Version:	V1.0.9
Data speed:	For 2.4G Wi-Fi: 11b 1-11Mbps 11g 6-54Mbps 11n(H20) 6.5-72.2Mbps For BLE: 1Mbps For EDR: 1Mbps, 2Mbps, 3Mbps



Channel list:

For 2.4G Wi-Fi:

802.11b/g/n(HT20)			
Ch	Fre(MHz)	Ch	Fre(MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437		

For BLE

Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

For EDR

Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MHz)
1	2402	17	2418	33	2434	49	2450	65	2466
2	2403	18	2419	34	2435	50	2451	66	2467
3	2404	19	2420	35	2436	51	2452	67	2468
4	2405	20	2421	36	2437	52	2453	68	2469
5	2406	21	2422	37	2438	53	2454	69	2470
6	2407	22	2423	38	2439	54	2455	70	2471
7	2408	23	2424	39	2440	55	2456	71	2472
8	2409	24	2425	40	2441	56	2457	72	2473
9	2410	25	2426	41	2442	57	2458	73	2474
10	2411	26	2427	42	2443	58	2459	74	2475
11	2412	27	2428	43	2444	59	2460	75	2476
12	2413	28	2429	44	2445	60	2461	76	2477
13	2414	29	2430	45	2446	61	2462	77	2478
14	2415	30	2431	46	2447	62	2463	78	2479
15	2416	31	2432	47	2448	63	2464	79	2480
16	2417	32	2433	48	2449	64	2465		

Antenna Type:

FPC antenna



Antenna Gain: 0.83 dBi

Description of the EUT: The Equipment Under Test (EUT) is a Thermal Imaging Scope with Wi-Fi & BLE/EDR Module. The EUT support Wi-Fi operated at 2.4GHz.

Test sample no.: SHA-952960-3 (Radiated sample)
SHA-952960-2 (Conducted sample)

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment, antenna gain or any information supplied.



5 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2024 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

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



6 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart C						
Test Condition		Pages	Test Site	Test Result		
				Pass	Fail	N/A
§15.207	Conducted emission AC power port	---	---	☐	☐	☒
§15.247 (b) (3)	Conducted peak (average) output power	14-18	Site 1	☒	☐	☐
§15.247(a)(1)	20dB bandwidth and 99% Occupied Bandwidth	---	---	☐	☐	☒
§15.247(a)(1)	Carrier frequency separation	---	---	☐	☐	☒
§15.247(a)(1)(iii)	Number of hopping frequencies	---	---	☐	☐	☒
§15.247(a)(1)(iii)	Dwell Time - Average Time of Occupancy	---	---	☐	☐	☒
§15.247(a)(2)	6dB bandwidth and 99% Occupied Bandwidth	19-21	Site 1	☒	☐	☐
§15.247(e)	Power spectral density	22-23	Site 1	☒	☐	☐
§15.247(d)	Spurious RF conducted emissions	24-27	Site 1	☒	☐	☐
§15.247(d)	Band edge	28-30	Site 1	☒	☐	☐
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	31-47	Site 1	☒	☐	☐
§15.203	Antenna requirement	See note 1		☒	☐	☐

Remark 1: N/A – Not Applicable.

Note 1: The EUT uses a BT FPC antenna, which gain is 0.83 dBi. In accordance to §15.203, It is considered sufficiently to comply with the provisions of this section.

15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi



7 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2A7ZZ-DBH-04, complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

This report is only for the 2.4GHz BLE test report, for the 2.4G Wi-Fi test report please refer to 709502507814-00B, for the 2.4G BR/EDR test report please refer to 709502507814-00D.

We tested it and listed the worst data in this report.

SUMMARY:

All tests according to the regulations cited on page 7 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

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

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

Sample Received Date: September 3, 2025

Testing Start Date: September 5, 2025

Testing End Date: September 28, 2025

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

Reviewed by:

Prepared by:

Tested by:



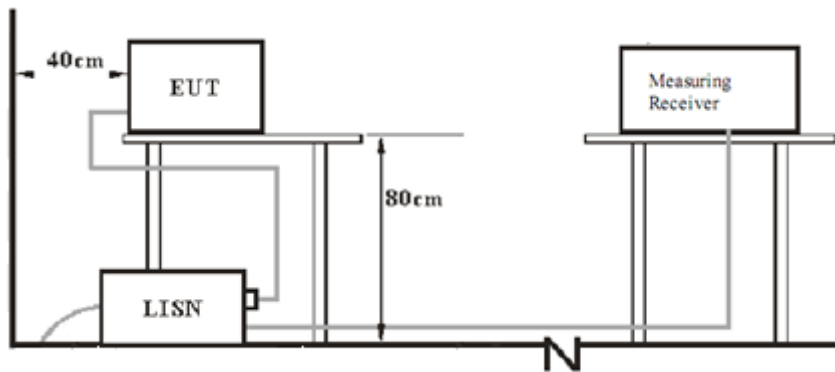
Hui TONG
Review Engineer

Wenqiang LU
Project Engineer

Tianji XU
Test Engineer

8 Test Setups

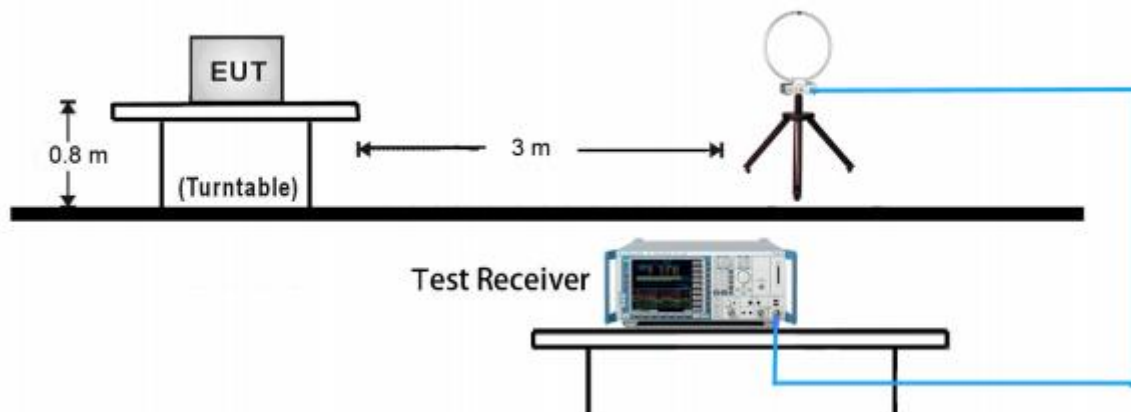
8.1 AC Power Line Conducted Emission test setups



Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

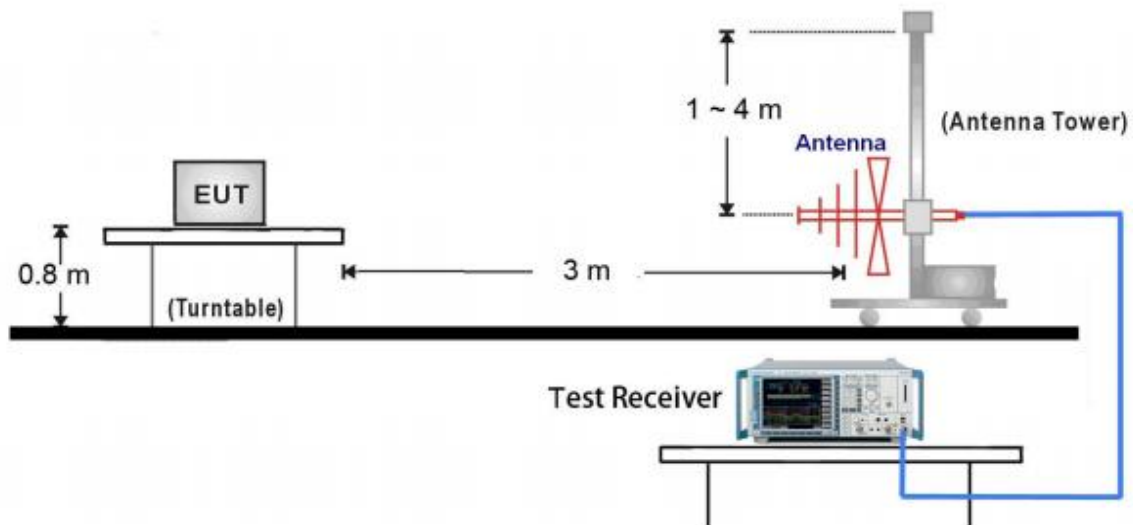
8.2 Radiated test setups

9kHz ~ 30MHz Test Setup:



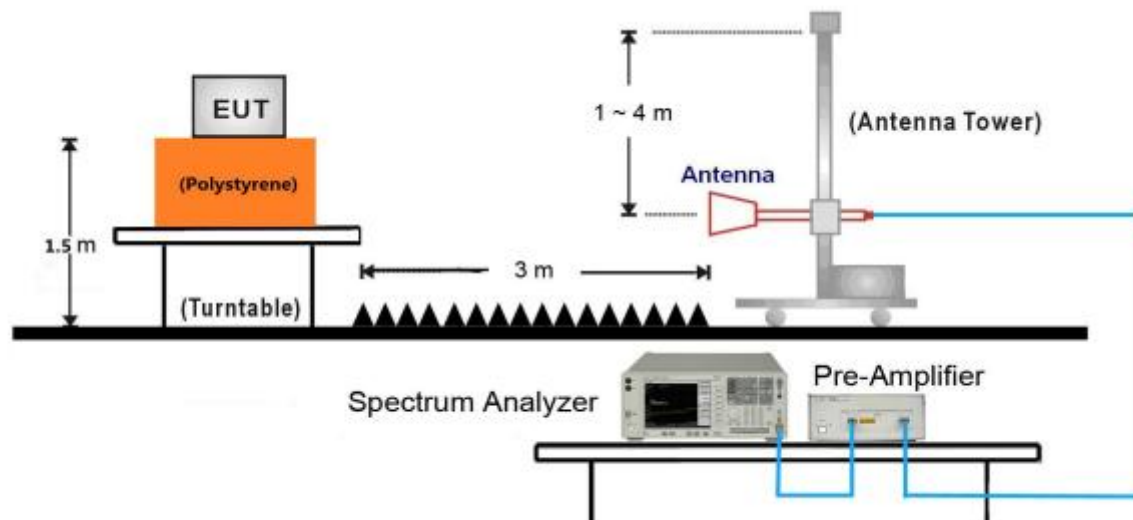
Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

30MHz ~ 1GHz Test Setup:



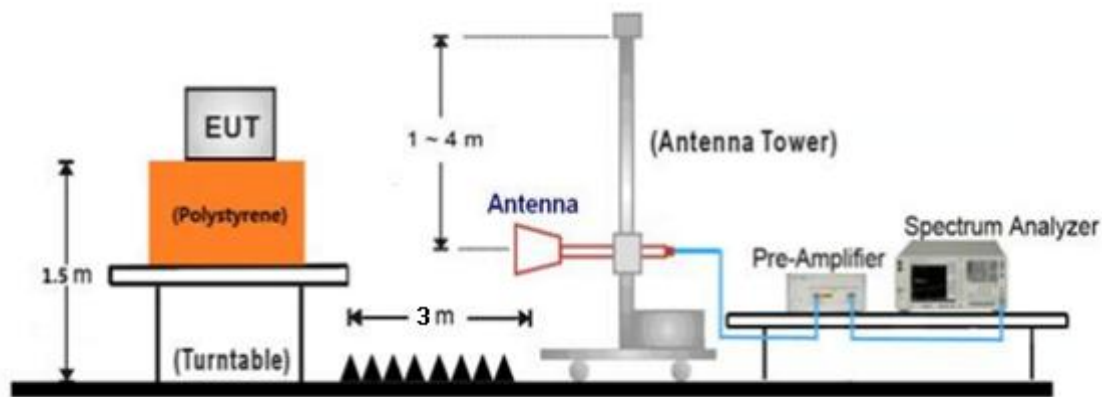
Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

1GHz ~ 18GHz Test Setup:

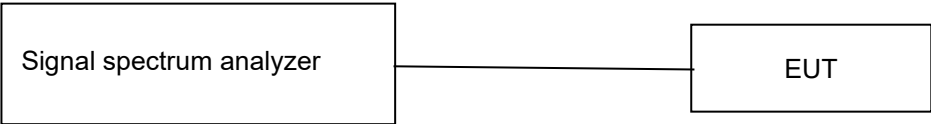




18GHz ~ 25GHz Test Setup:



8.3 Conducted RF test setups





9 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
Notebook	Lenove	E470	PF-OU5TS7 17/09

Test software: SecureCRT.exe, which used to control the EUT in continues transmitting mode.

The system was configured to channel 0, 19, and 39 for the test.

Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power.

Test Mode Applicability and Tested Channel Detail:

Mode	Tested Channel	Data Rate (Mbps)	Modulation	Index Value (Power level setting)
Bluetooth LE	0	1	GFSK	Draft
	19	1	GFSK	Draft
	39	1	GFSK	Draft



10 Technical Requirement

10.1 Conducted peak(average) output power

Test Method for conducted peak power

1. Use the following spectrum analyzer settings:
RBW > the 6 dB bandwidth of the emission being measured, VBW $\geq$ 3RBW, Span $\geq$ 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.

Test Method for average power

1. Measure the duty cycle D of the transmitter output signal.
2. Set span to at least 1.5 times the OBW.
3. Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
4. Set VBW $\geq$ [3 $\times$ RBW].
5. Number of points in sweep $\geq$ [2 $\times$ span / RBW]. (This gives bin-to-bin spacing $\leq$ RBW / 2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = RMS (i.e., power averaging), if available. Otherwise, use the sample detector mode.
8. Do not use sweep triggering. Allow the sweep to "free run."
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
10. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
11. Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission).

Limits

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

	Frequency Range	Limit	Limit
	MHz	W	dBm
Conducted peak output power	2400-2483.5	≤ 1	≤ 30



Test result (conducted peak) as below table

1Mbps

Frequency MHz	Conducted Peak Output Power dBm	Result
Low channel 2402MHz	-0.38	Pass
Middle channel 2440MHz	0.23	Pass
High channel 2480MHz	0.34	Pass

Test result (average power) as below table

1Mbps

Frequency MHz	Duty cycle Factor dB	Conducted Power dBm	Total Power(average) dBm	Result
Low channel 2402MHz	2.04	-2.76	-0.72	Pass
Middle channel 2440MHz	2.06	-2.2	-0.14	Pass
High channel 2480MHz	2.04	-1.81	0.23	Pass

Duty Cycle

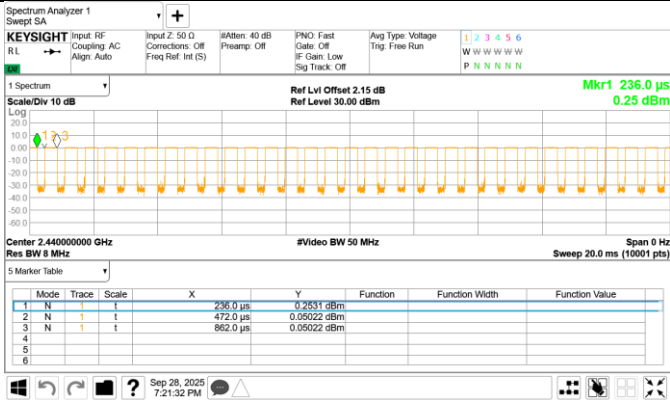
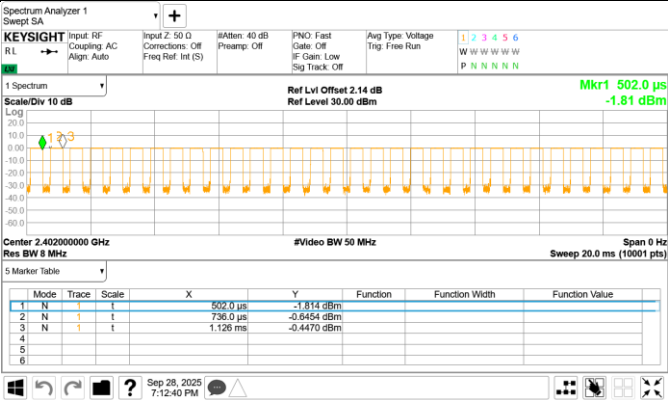
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	BLE	2402	Ant1	62.5	2.04
NVNT	BLE	2440	Ant1	62.3	2.06
NVNT	BLE	2480	Ant1	62.5	2.04



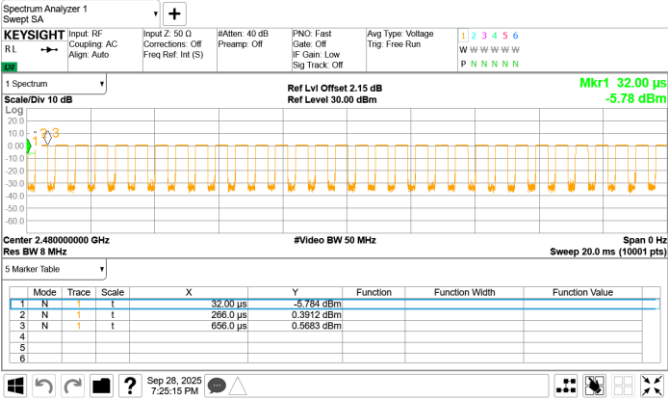
Duty Cycle

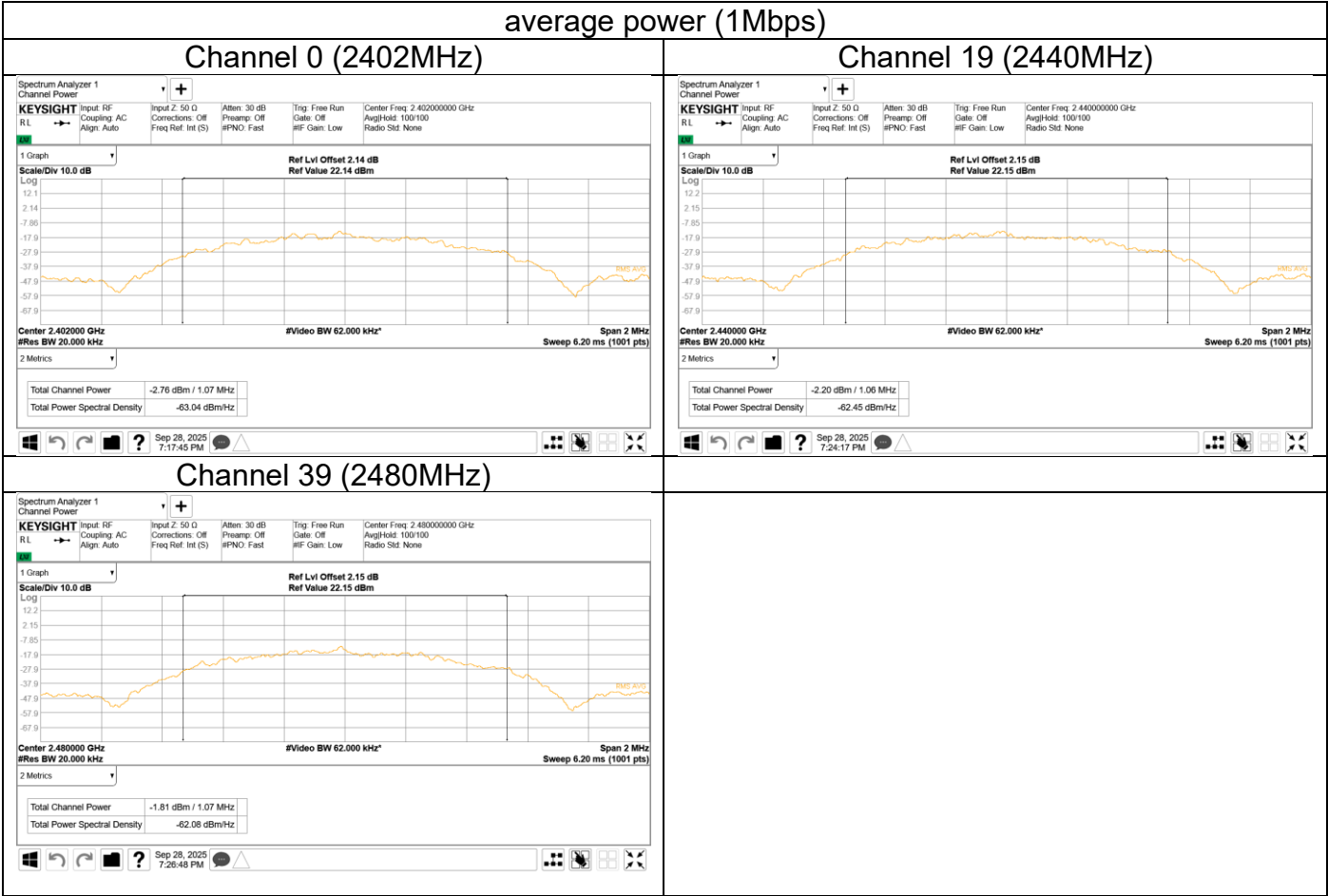
Channel 0 (2402MHz)

Channel 19 (2440MHz)



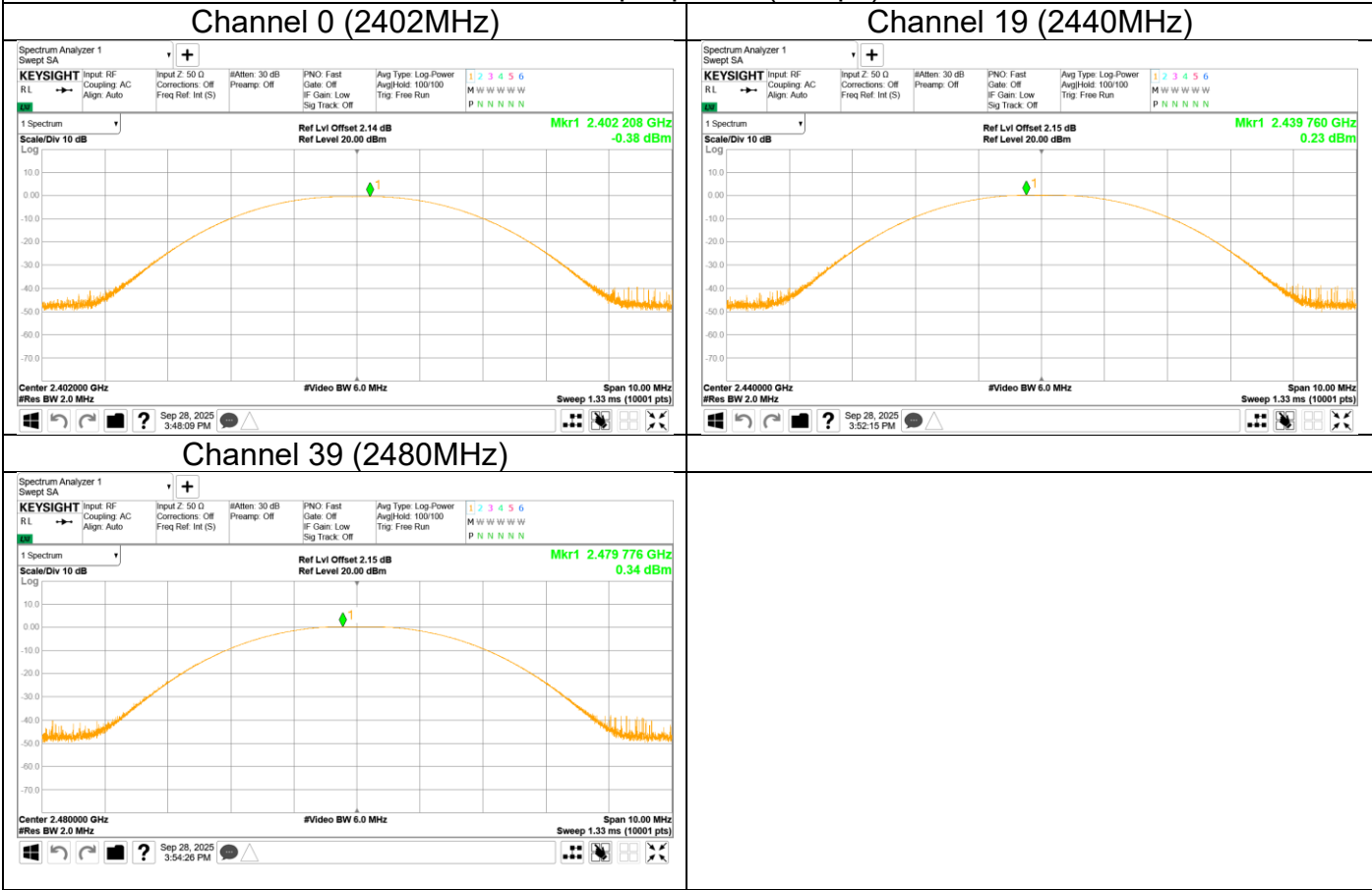
Channel 39 (2480MHz)







Peak output power (1Mbps)





10.26dB bandwidth and 99% Occupied Bandwidth

Test Method for 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 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:
RBW=100KHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Use the automatic bandwidth measurement capability of an instrument, use the X dB bandwidth mode with X set to 6 dB.
5. Allow the trace to stabilize, record the 6 dB Bandwidth value.

Test Method for 99 % Bandwidth

1. Connect EUT test port to spectrum analyzer.
Use the following spectrum analyzer settings:
RBW=1% to 5% of the actual occupied, VBW $\geq$ 3RBW, Sweep = auto,
Detector function = peak, Trace = max hold
2. Use the occupied bandwidth measurement capability of test receiver.
3. Allow the trace to stabilize, record the occupied bandwidth value.

Limit

According to §15.247(a)(2), 6dB bandwidth limit as below:

6dB bandwidth Limit [kHz]	99% bandwidth Limit [kHz]
≥ 500	--

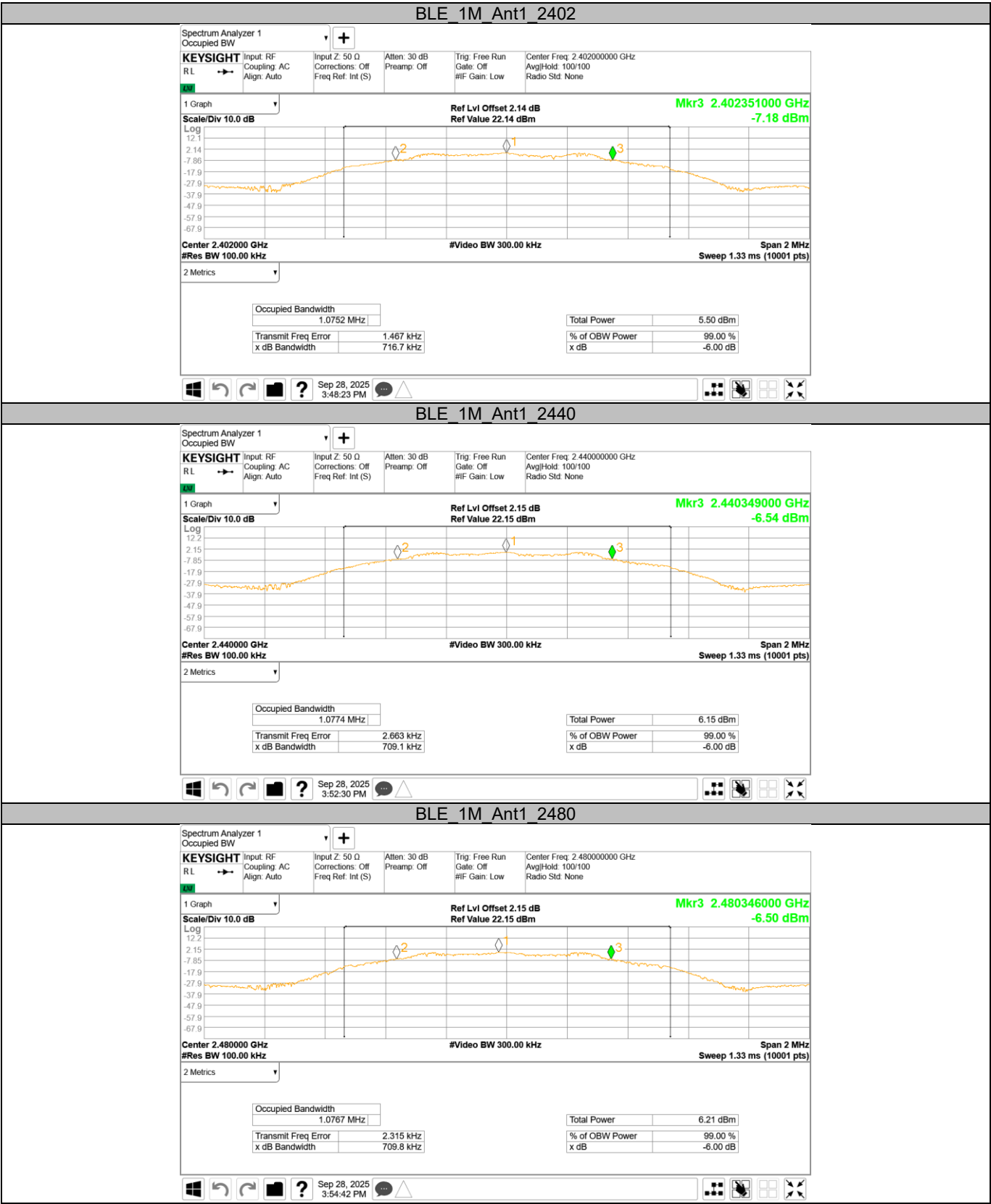
Test result

1Mbps

Frequency MHz	6dB bandwidth MHz	99% Bandwidth MHz	Result
Top channel 2402MHz	0.717	1.067	Pass
Middle channel 2440MHz	0.709	1.058	Pass
Bottom channel 2480MHz	0.71	1.065	Pass

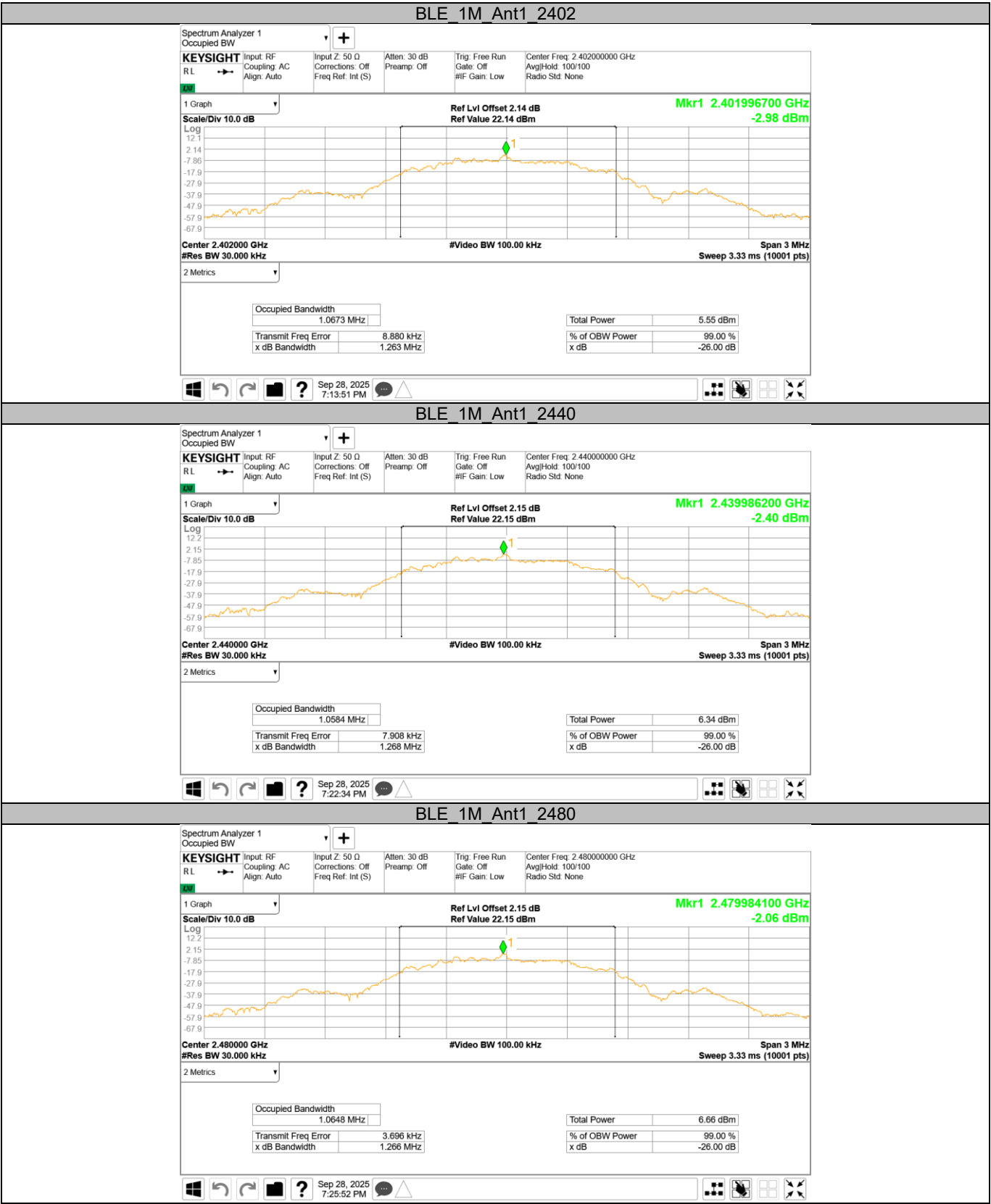


6dB Bandwidth





99% Occupied Bandwidth





10.3 Power spectral density

Test Method

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

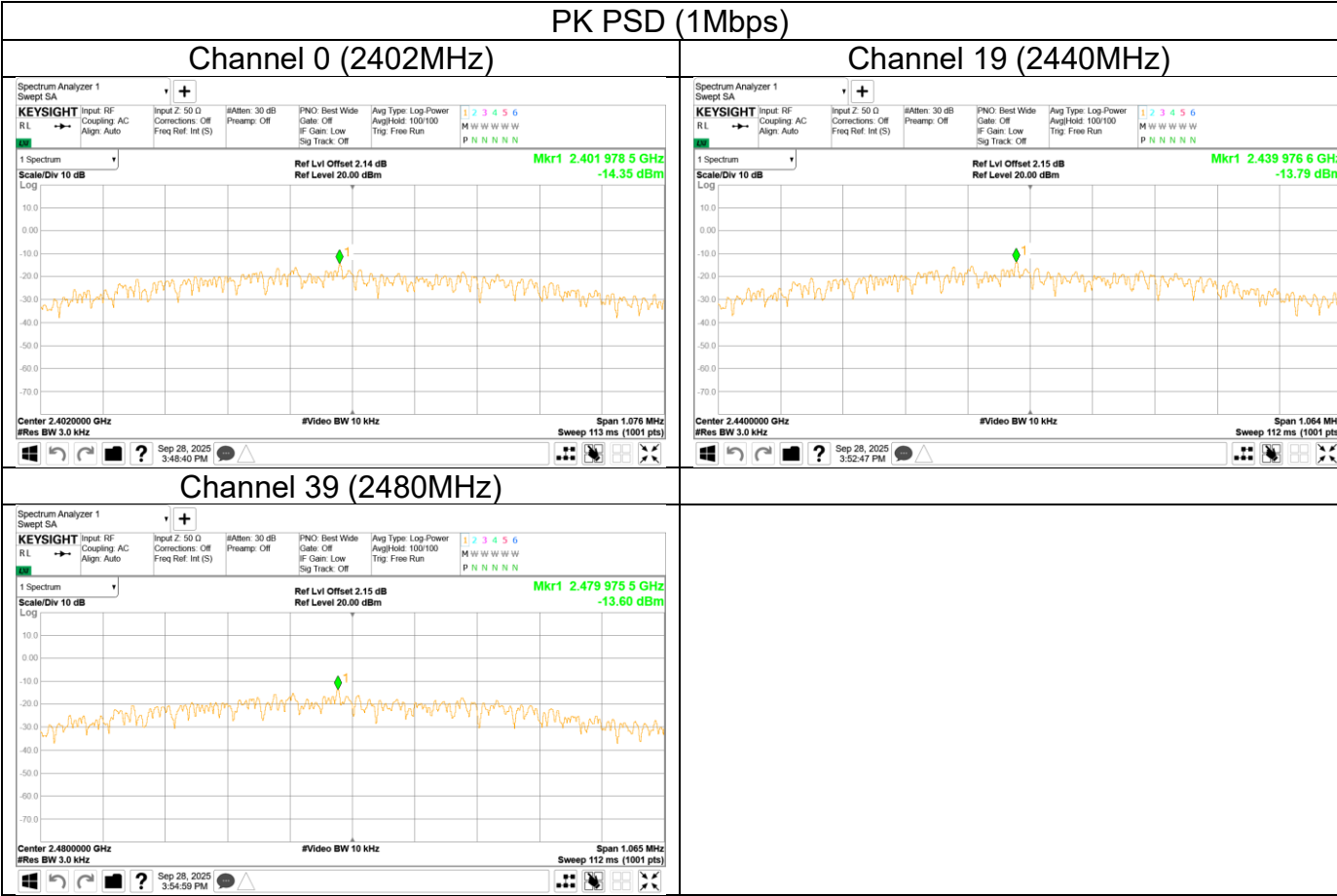
1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following 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
1Mbps

Frequency MHz	Power spectral density dBm/3kHz	Result
Top channel 2402MHz	-14.35	Pass
Middle channel 2440MHz	-13.79	Pass
Bottom channel 2480MHz	-13.6	Pass





10.4 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

According to §15.247(d), spurious RF conducted emissions limit as below:

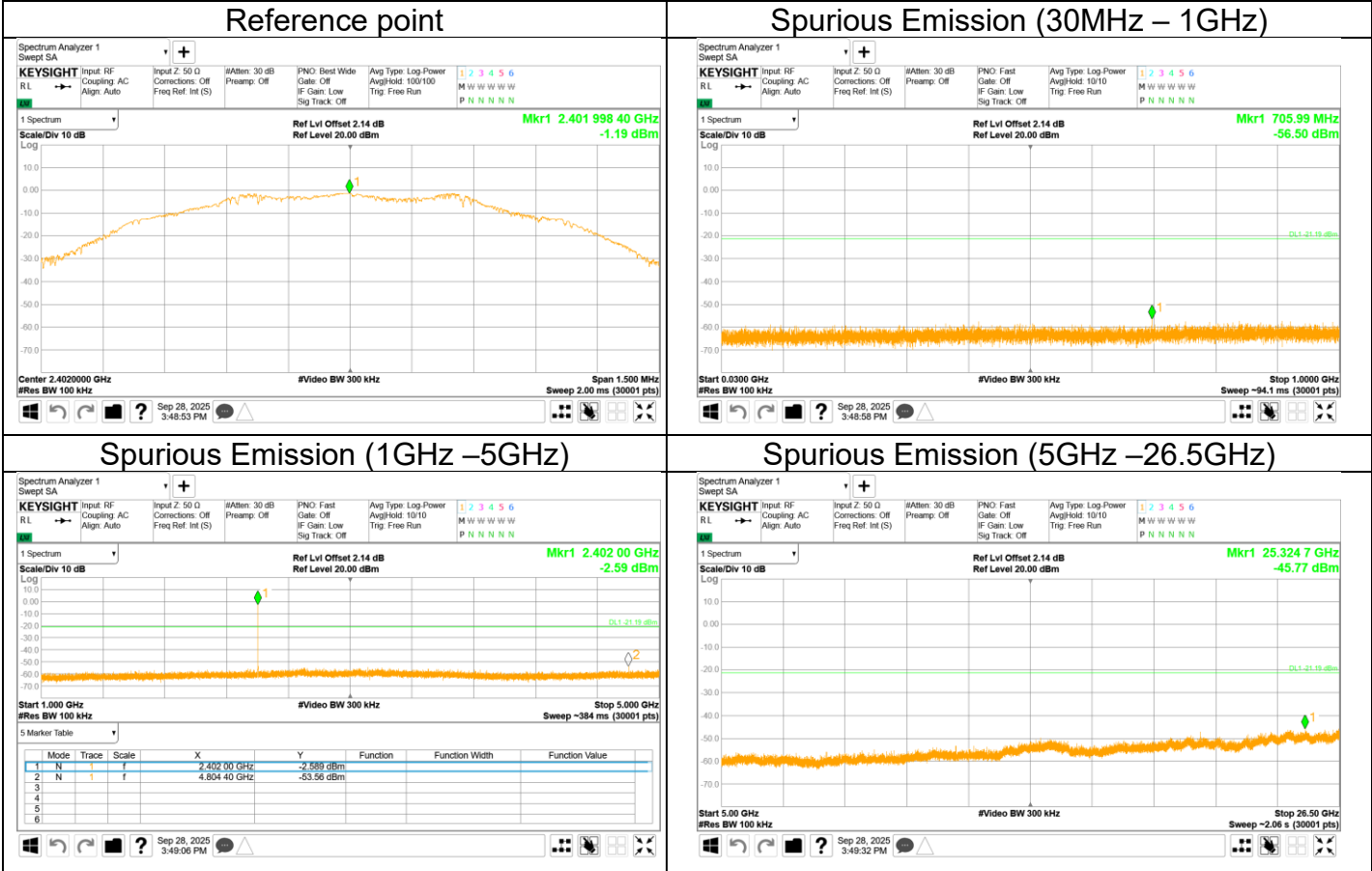
Frequency Range MHz	Limit (dBc)
30-25000	-20



Spurious RF conducted emissions

Out-of-Band Emissions (1Mbps)

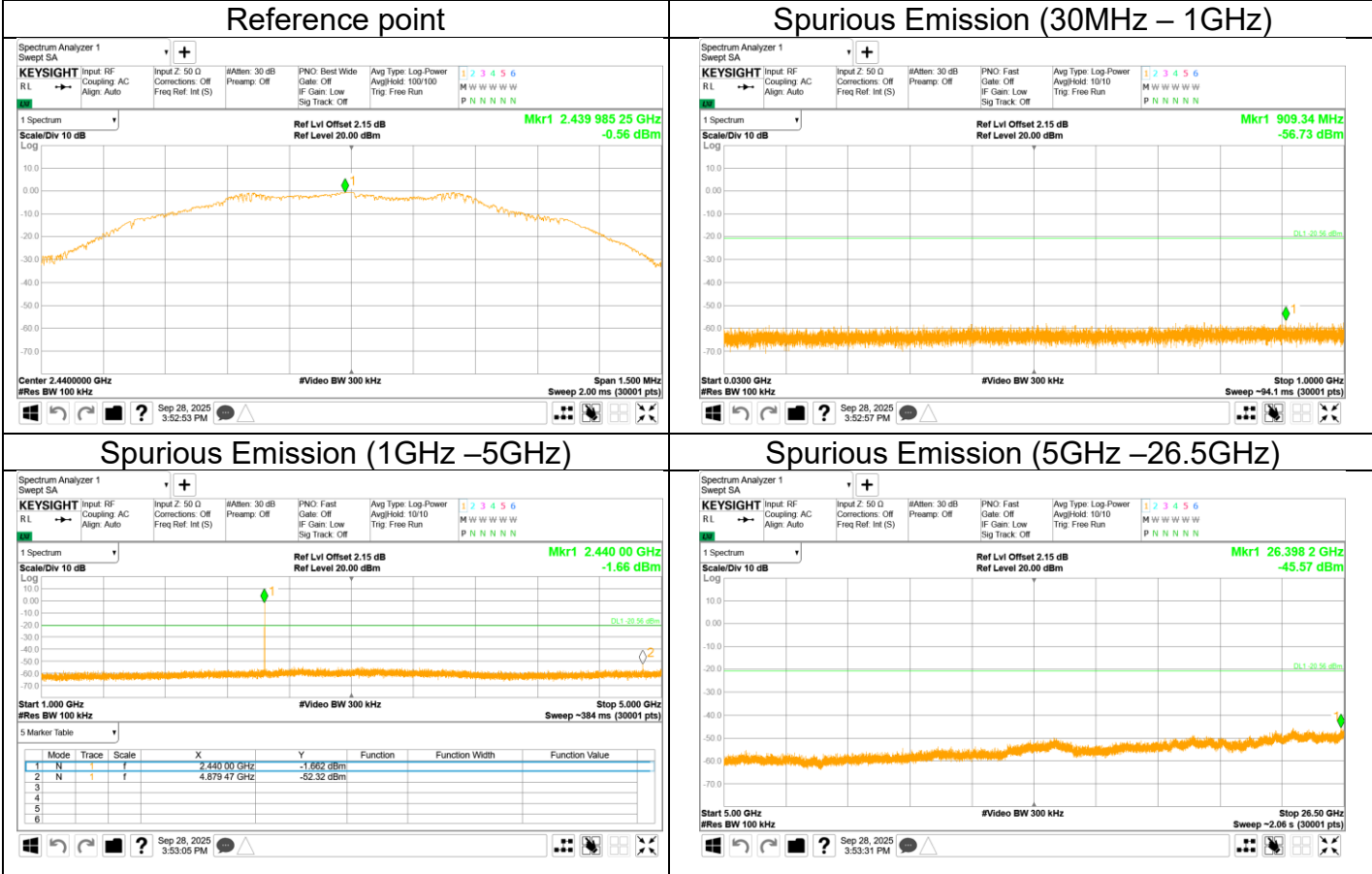
Channel 0 (2402MHz)



Note: The emission which exceed the limit is the fundamental.



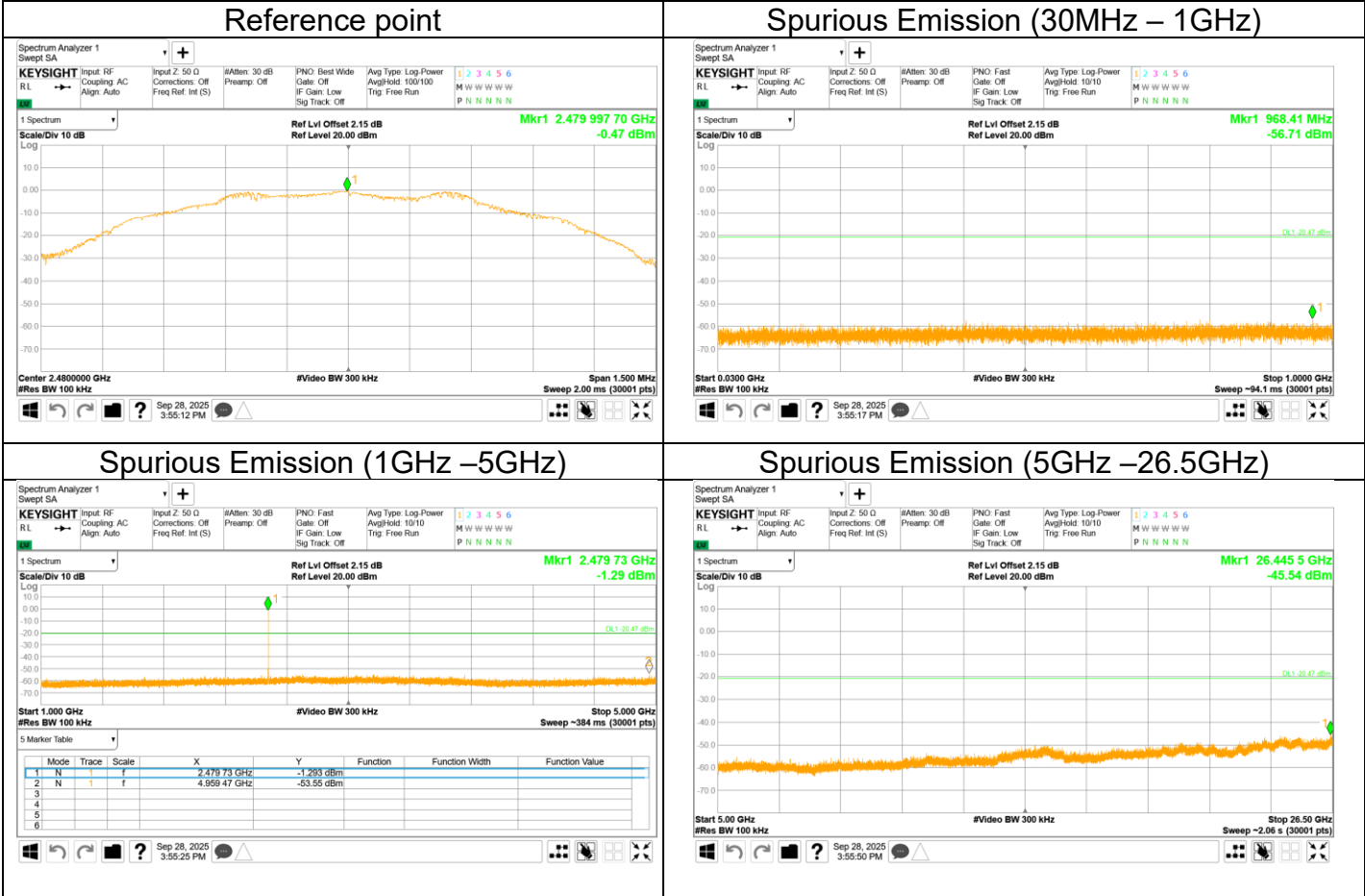
Out-of-Band Emissions (1Mbps)
Channel 19 (2440MHz)



Note: The emission which exceed the limit is the fundamental.



Out-of-Band Emissions (1Mbps)
Channel 39 (2480MHz)



Note: The emission which exceed the limit is the fundamental.



10.5 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
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize, use the peak and delta measurement to record the result.
5. The level displayed must comply with the limit specified in this Section.
6. Repeat above procedures until all frequencies measured were complete and submit all the plots.

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.

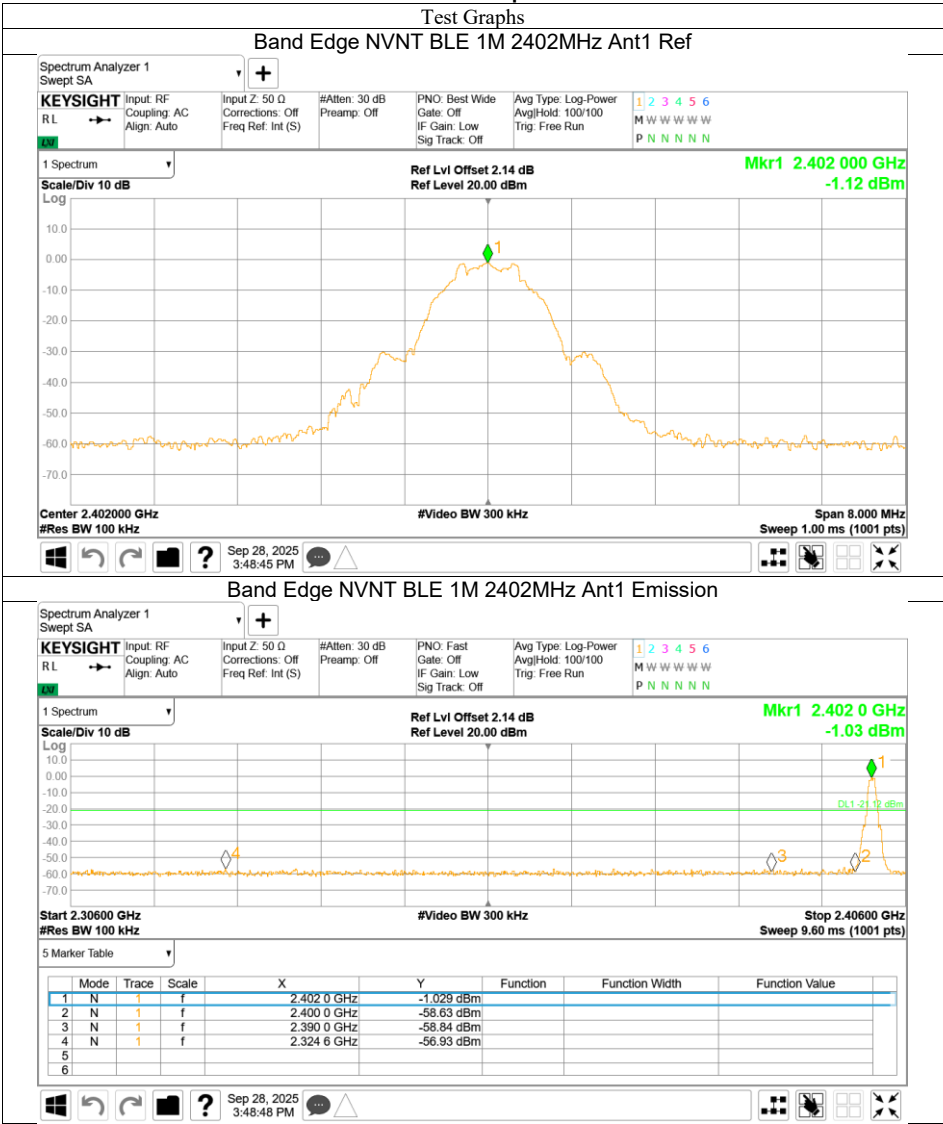
According to §15.247(d), band edge limit as below:

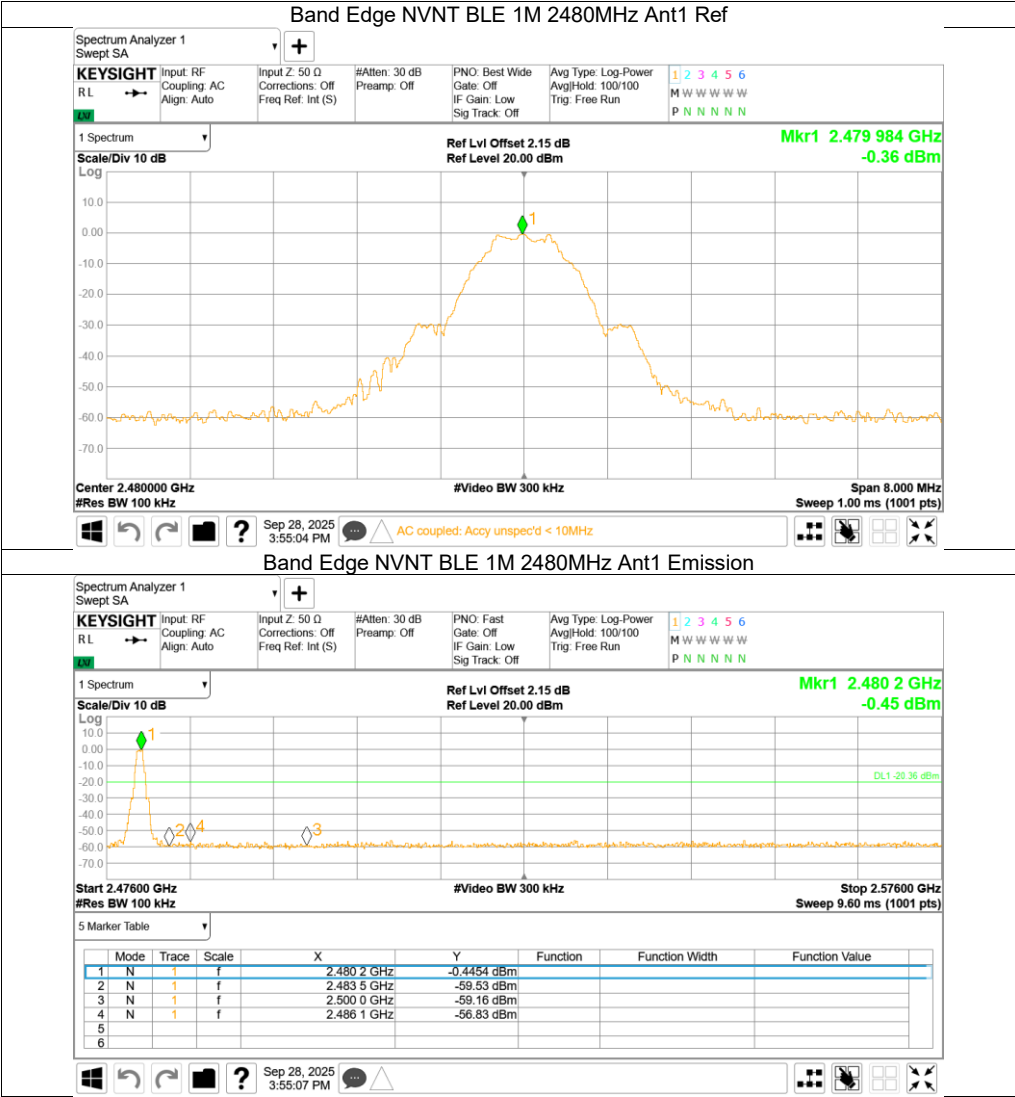
Frequency Range MHz	Limit (dBc)
30-25000	-20



Test result

1Mbps







10.6 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.

Procedures for average unwanted emissions measurements above 1GHz

 - 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).

Below 30MHz

§15.247(d) & §15.209 & §15.205

Frequency MHz	Field Strength uV/m	Detector	Measured Distance Meters
0.009~0.090	2400/F (kHz)	AV	300
0.090~0.110	2400/F (kHz)	QP	300
0.110~0.490	2400/F (kHz)	AV	300
0.490~1.705	24000/F (kHz)	QP	30
1.705~30	30	QP	30

Note 1: Limit 3m(dBµV/m)=Limit 300m(dBµV/m)+40Log(300m/3m) (Below 30MHz)

Note 2: Limit 3m(dBµV/m)=Limit 30m(dBµV/m)+40Log(30m/3m) (Below 30MHz)

Note 3: dBµV/m = 20log(µV/m)

Above 30MHz

§15.247(d) & §15.209 & §15.205

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector	Measured Distance Meters
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

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.



Test result

The worst case of Radiated Emission below 1GHz: Only the worst case listed as below.

0.009-30MHz Radiated Emission

EUT Information

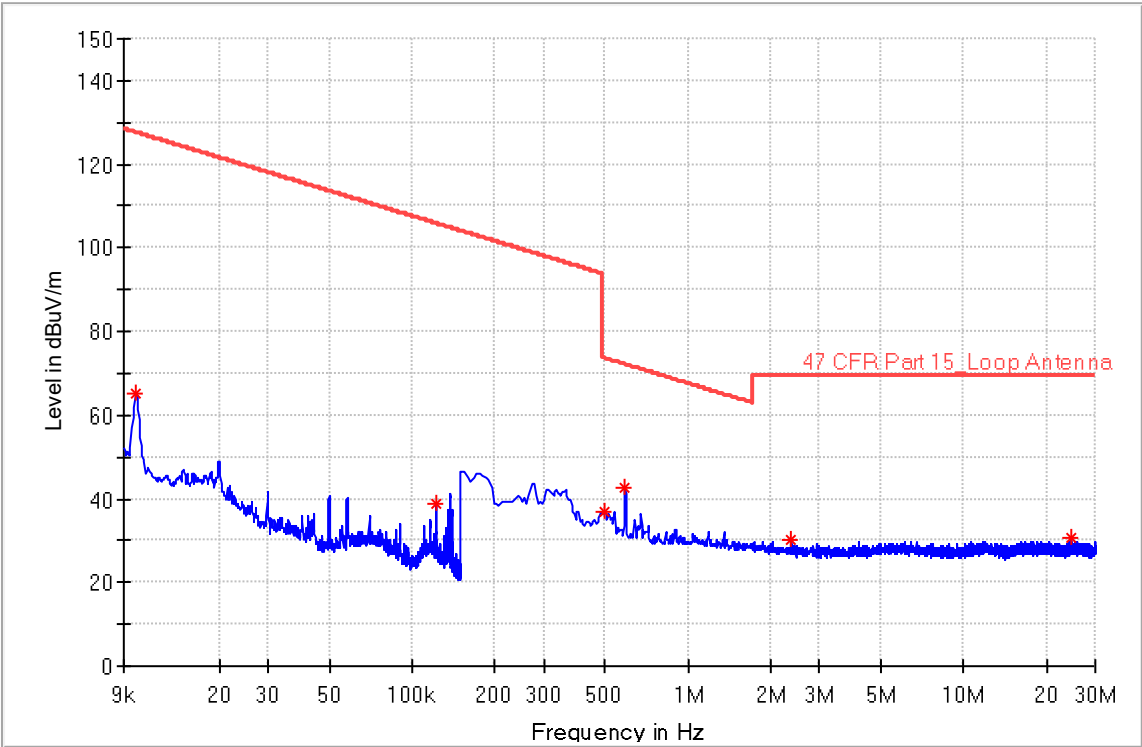
EUT Name:	Thermal Imaging Scope
Model:	DBH D12
Client:	Visir Inc.
Op Cond:	Transmit mode and TX at 2480MHz (worst case)
Operator:	Tianji XU
Test Spec:	FCC Part 15.209(a)
Sample No:	SHA-952960-3

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup:	RE_Loop Antenna V
Receiver:	[ESR 3]
Level Unit:	dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 150 kHz	88.125 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	4.39 kHz	PK+	9 kHz	0.01 s	0 dB

Full Spectrum





Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.009969	65.32	127.63	62.31	100.0	H	254.0	19.6
0.122681	38.91	105.83	66.92	100.0	H	266.0	18.9
0.501177	37.14	73.60	36.46	100.0	H	290.0	18.8
0.593360	42.89	72.14	29.25	100.0	H	342.0	18.8
2.379971	30.24	69.54	39.31	100.0	H	344.0	19.1
24.736743	30.57	69.54	38.97	100.0	H	106.0	19.6

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



0.009-30MHz Radiated Emission

EUT Information

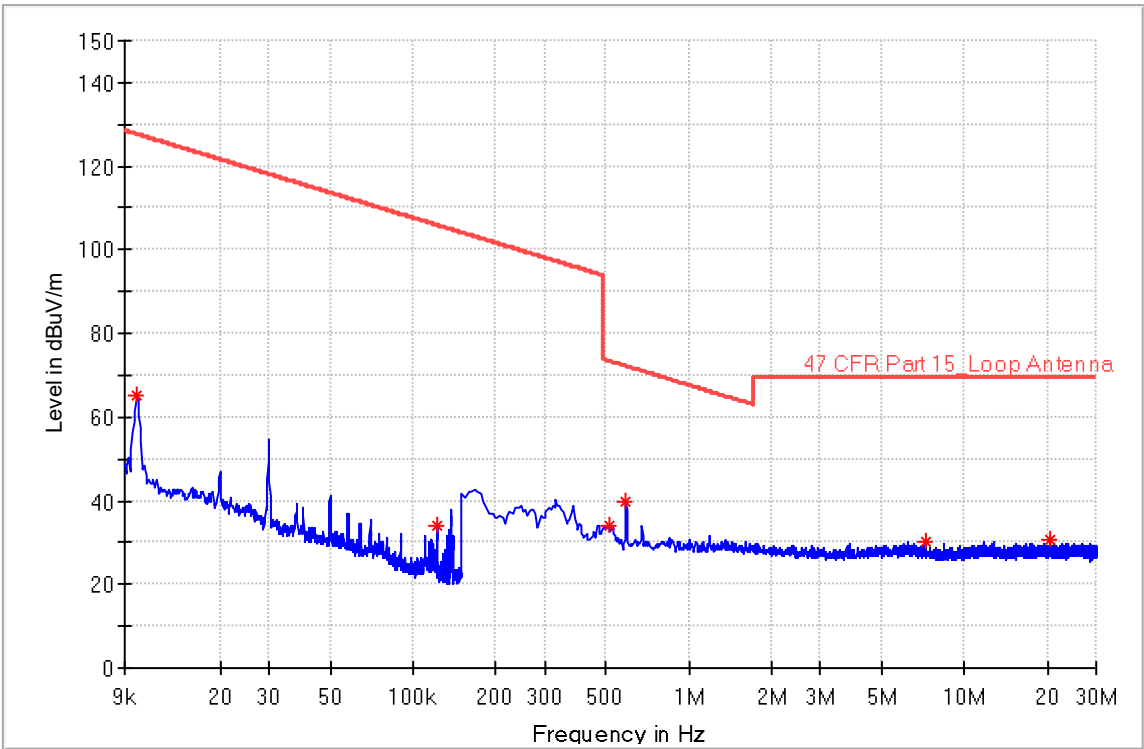
EUT Name:	Thermal Imaging Scope
Model:	DBH D12
Client:	Visir Inc.
Op Cond:	Transmit mode and TX at 2480MHz (worst case)
Operator:	Tianji XU
Test Spec:	FCC Part 15.209(a)
Sample No:	SHA-952960-3

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup:	RE_Loop Antenna V
Receiver:	[ESR 3]
Level Unit:	dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 150 kHz	88.125 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	4.39 kHz	PK+	9 kHz	0.01 s	0 dB

Full Spectrum





Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.009969	64.97	127.63	62.66	100.0	H	167.0	19.6
0.122858	34.17	105.82	71.65	100.0	H	164.0	18.9
0.514346	33.98	73.38	39.40	100.0	H	358.0	18.8
0.593360	39.89	72.14	32.25	100.0	H	291.0	18.8
7.252544	30.09	69.54	39.46	100.0	H	359.0	18.9
20.272412	30.44	69.54	39.10	100.0	H	174.0	19.1

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

30-1000MHz Radiated Emission

EUT Information

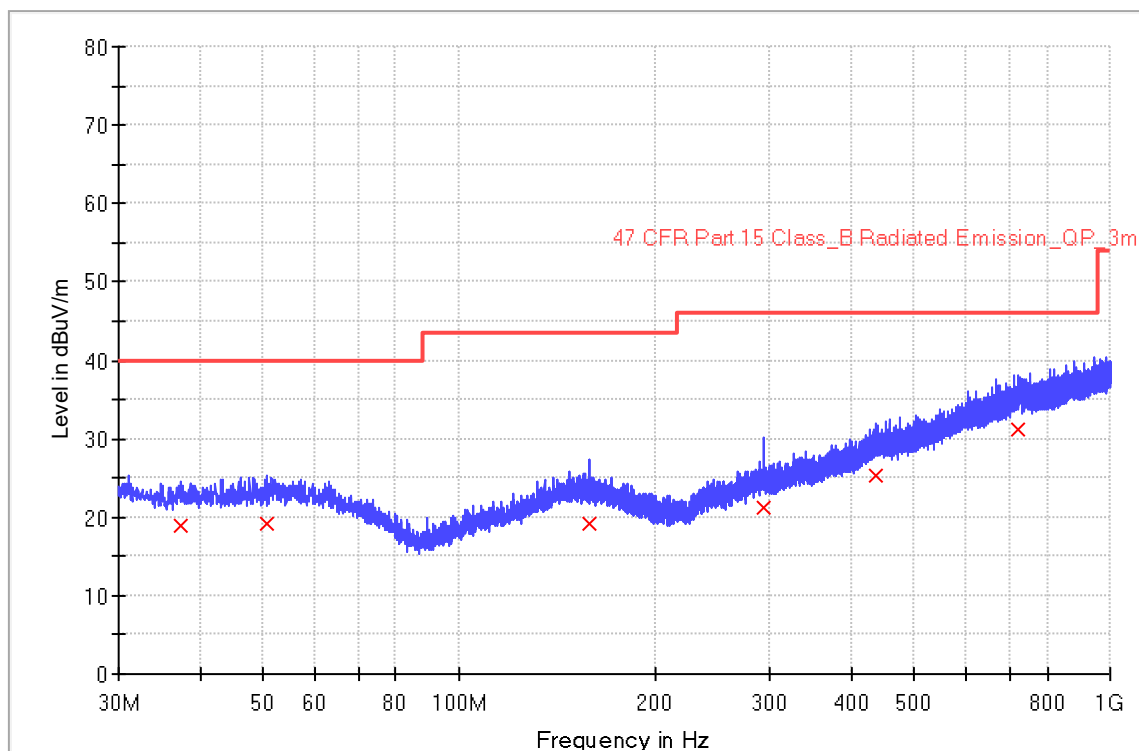
EUT Name: Thermal Imaging Scope
Model: DBH D12
Client: Visir Inc.
Op Cond: Transmit mode and TX at 2480MHz (worst case)
Operator: Tianji XU
Test Spec: FCC Part 15.209(a)
Sample No: SHA-952960-3

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup: RE_VULB9168
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)
37.480000	18.9	1000.0	120.000	123.0	H	345.0	19.8	21.1
50.560000	19.3	1000.0	120.000	100.0	H	145.0	20.6	20.7
158.120000	19.3	1000.0	120.000	200.0	H	173.0	20.9	24.2
294.120000	21.1	1000.0	120.000	225.0	H	233.0	21.6	24.9
437.680000	25.4	1000.0	120.000	186.0	H	117.0	25.7	20.6
722.160000	31.3	1000.0	120.000	200.0	H	168.0	31.4	14.7

(continuation of the "Limit and Margin" table from column 16 ...)

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
37.480000	40.0	
50.560000	40.0	
158.120000	43.5	
294.120000	46.0	
437.680000	46.0	
722.160000	46.0	

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)
 Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



30-1000MHz Radiated Emission

EUT Information

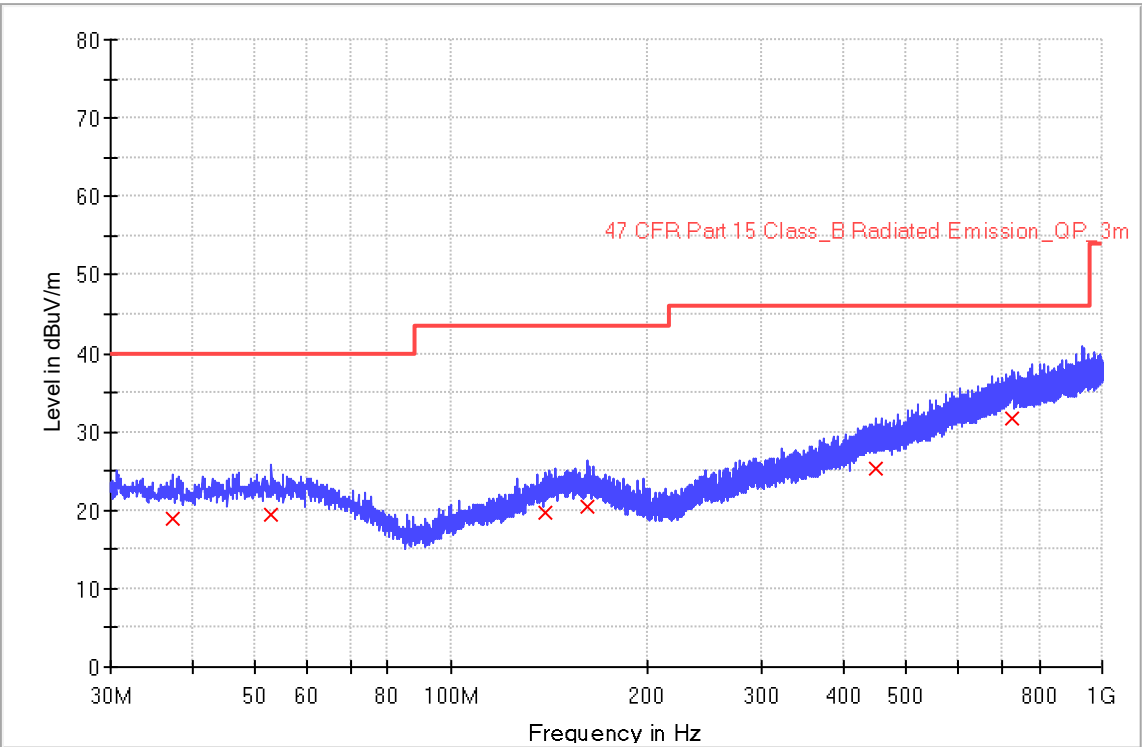
EUT Name: Thermal Imaging Scope
Model: DBH D12
Client: Visir Inc.
Op Cond: Transmit mode and TX at 2480MHz (worst case)
Operator: Tianji XU
Test Spec: FCC Part 15.209(a)
Sample No: SHA-952960-3

Sweep Setup: RE_VULB9168_pre_Cont_30-1000 [EMI radiated]

Hardware Setup: RE_VULB9168
Receiver: [ESR 3]
Level Unit: dBuV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	48.5 kHz	PK+	120 kHz	0.2 s	20 dB

RE_VULB9168_pre_Cont_30-1000





Limit and Margin

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)
37.360000	18.8	1000.0	120.000	100.0	V	147.0	19.8	21.2
53.040000	19.4	1000.0	120.000	225.0	V	152.0	20.7	20.6
139.400000	19.8	1000.0	120.000	133.0	V	335.0	20.4	23.7
161.680000	20.4	1000.0	120.000	100.0	V	117.0	20.8	23.1
447.640000	25.3	1000.0	120.000	250.0	V	225.0	26.0	20.7
726.040000	31.7	1000.0	120.000	100.0	V	21.0	31.6	14.3

(continuation of the "Limit and Margin" table from column 16 ...)

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
37.360000	40.0	
53.040000	40.0	
139.400000	43.5	
161.680000	43.5	
447.640000	46.0	
726.040000	46.0	

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

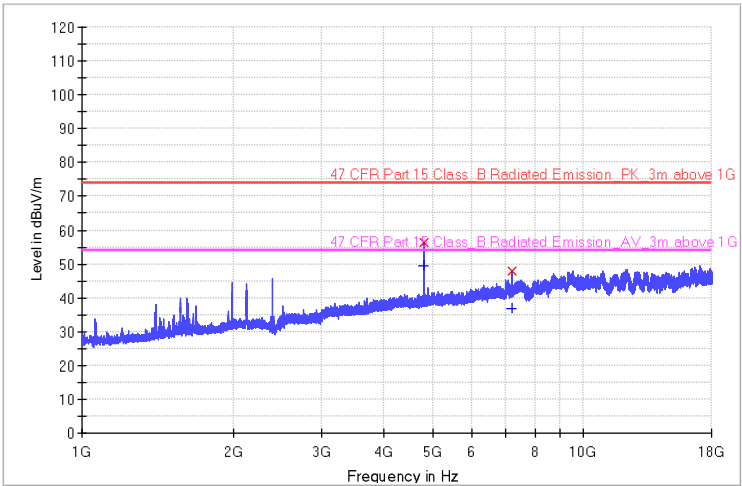
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



Radiated Emission 1-18GHz

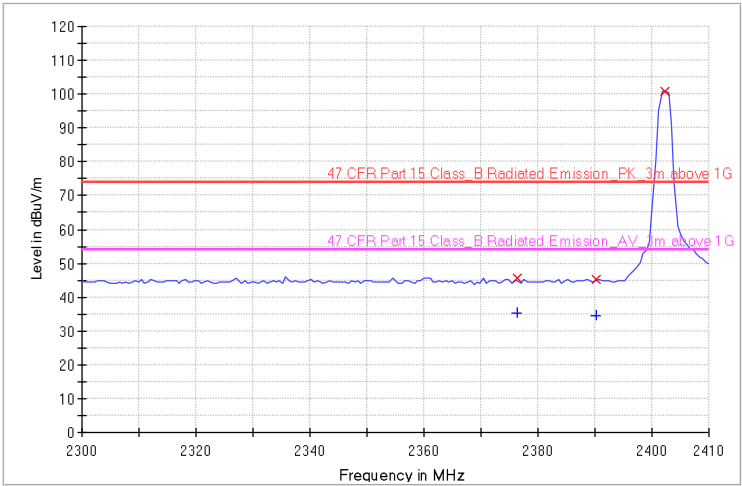
Frequency:2402MHz, 1Mbps

RE_HF907_BRF_Pre



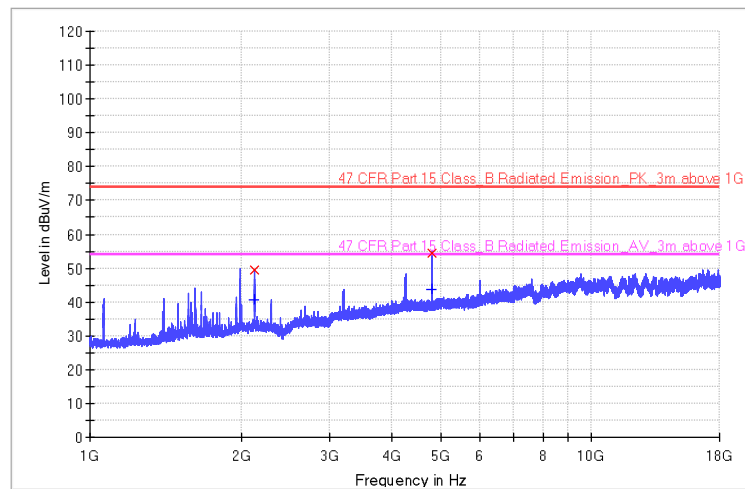
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4804.300000	56.3	49.6	152.0	H	252.0	-3.4	17.7	74.0	4.4	54.0
7204.900000	47.8	36.8	117.0	H	114.0	0.2	26.2	74.0	17.2	54.0

RE_HF907_BRF_Pre



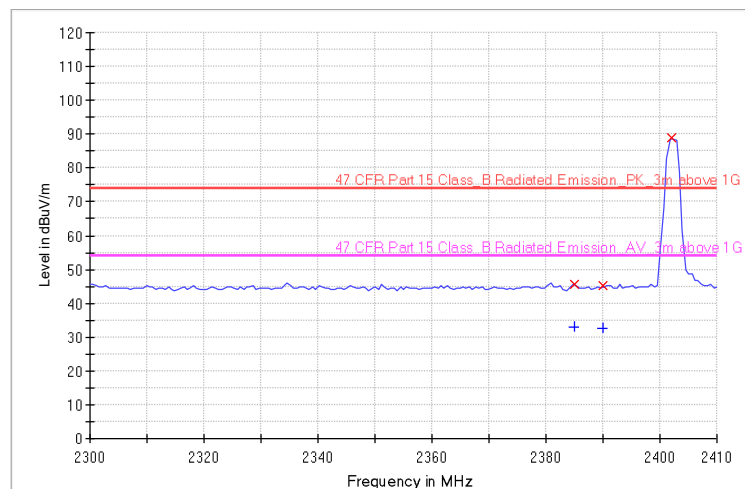
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2376.400000	45.5	35.2	122.0	H	153.0	-2.0	28.5	74.0	18.8	54.0
2390.000000	45.1	34.7	252.0	H	225.0	-1.9	28.9	74.0	19.3	54.0
2402.000000	100.8	---	120.0	H	196.0	-1.8	-26.8	74.0	---	---

RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2124.700000	49.6	40.5	252.0	V	265.0	-12.5	24.4	74.0	13.5	54.0
4803.100000	54.3	43.8	114.0	V	114.0	-3.4	19.7	74.0	10.2	54.0

RE_HF907_BRF_Pre

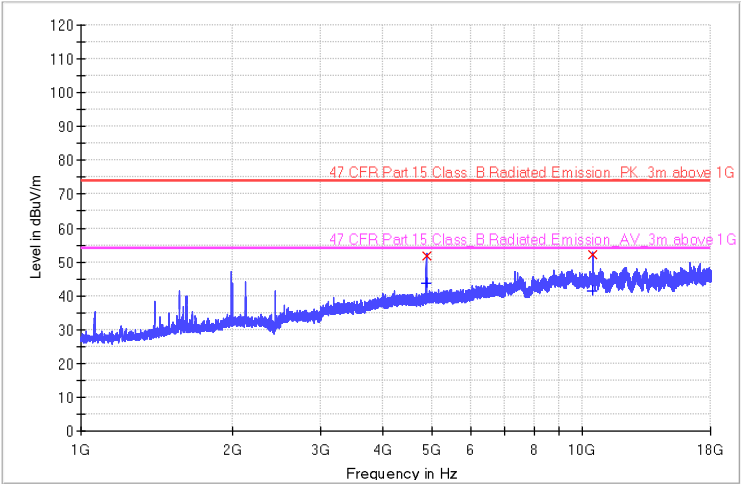


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2385.100000	45.8	32.8	149.0	V	235.0	-1.9	28.2	74.0	21.2	54.0
2390.000000	45.2	32.5	152.0	V	221.0	-1.9	28.8	74.0	21.5	54.0
2402.000000	88.9	---	214.0	V	17.0	-1.8	-14.9	74.0	---	---



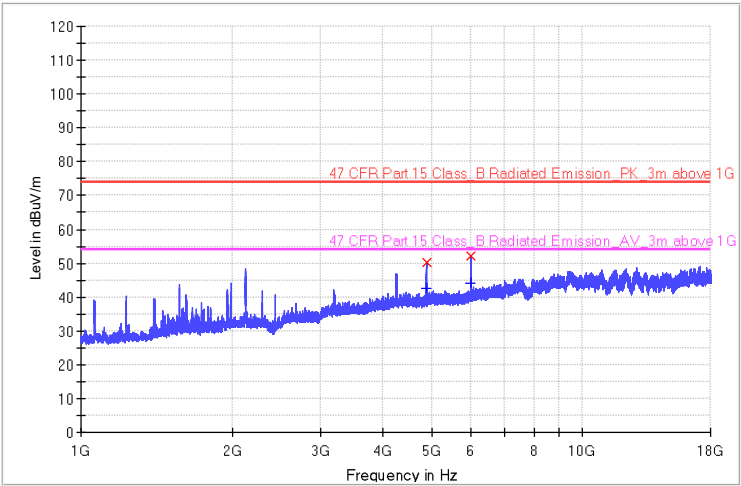
Frequency:2440MHz

RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4880.800000	51.8	43.6	252.0	H	125.0	-3.1	22.2	74.0	10.4	54.0
10469.500000	52.1	41.5	147.0	H	331.0	3.1	21.9	74.0	12.5	54.0

RE_HF907_BRF_Pre

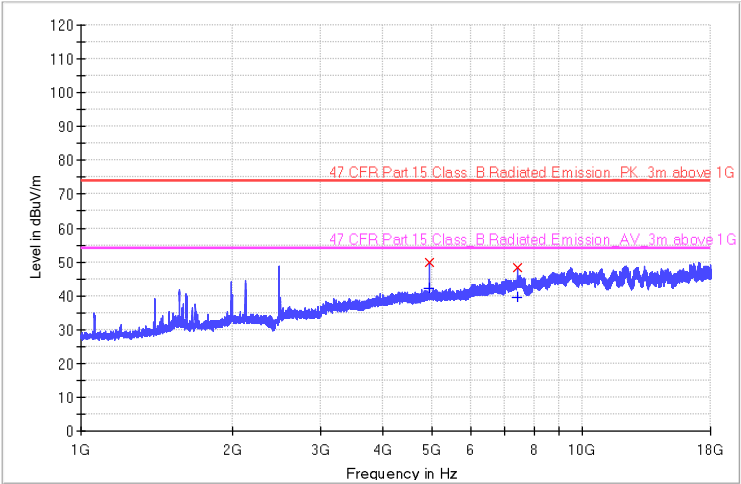


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4879.300000	50.1	42.6	155.0	V	251.0	-3.1	23.9	74.0	11.4	54.0
5973.700000	52.3	44.2	163.0	V	147.0	-1.5	21.7	74.0	9.8	54.0



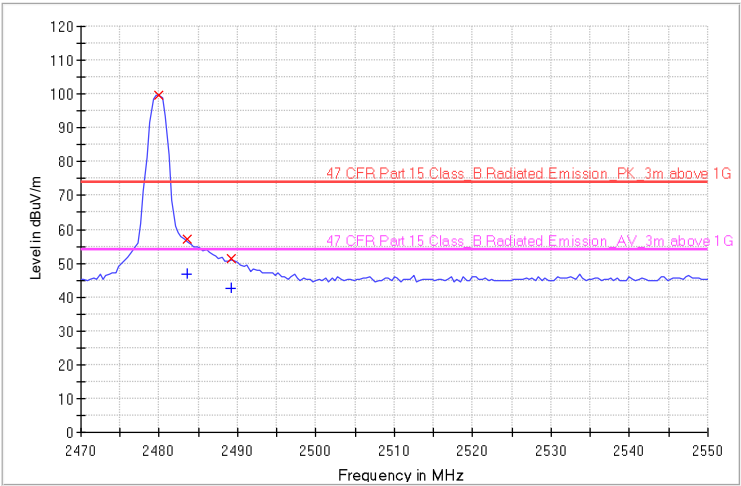
Frequency:2480MHz

RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4960.600000	49.7	42.1	252.0	H	26.0	-3.0	24.3	74.0	11.9	54.0
7440.400000	48.2	39.3	115.0	H	359.0	0.2	25.8	74.0	14.7	54.0

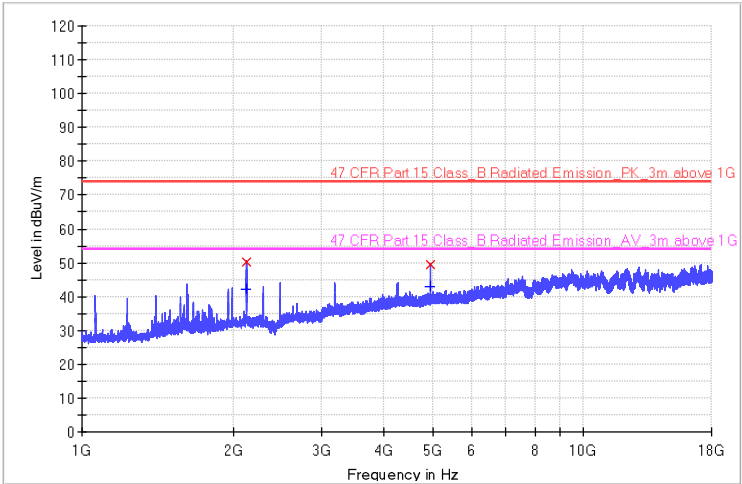
RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2480.000000	99.8	---	225.0	H	23.0	-1.4	-25.8	74.0	---	---
2483.500000	57.2	46.8	152.0	H	0.0	-1.4	16.8	74.0	7.2	54.0
2489.200000	51.4	42.6	114.0	H	334.0	-1.3	22.6	74.0	11.4	54.0

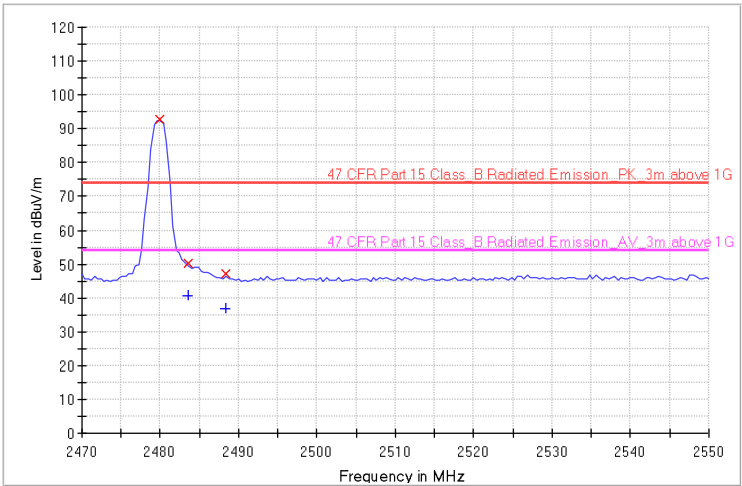


RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2130.100000	50.3	42.2	149.0	V	0.0	-12.5	23.7	74.0	11.8	54.0
4959.400000	49.3	42.9	149.0	V	0.0	-3.0	24.7	74.0	11.1	54.0

RE_HF907_BRF_Pre

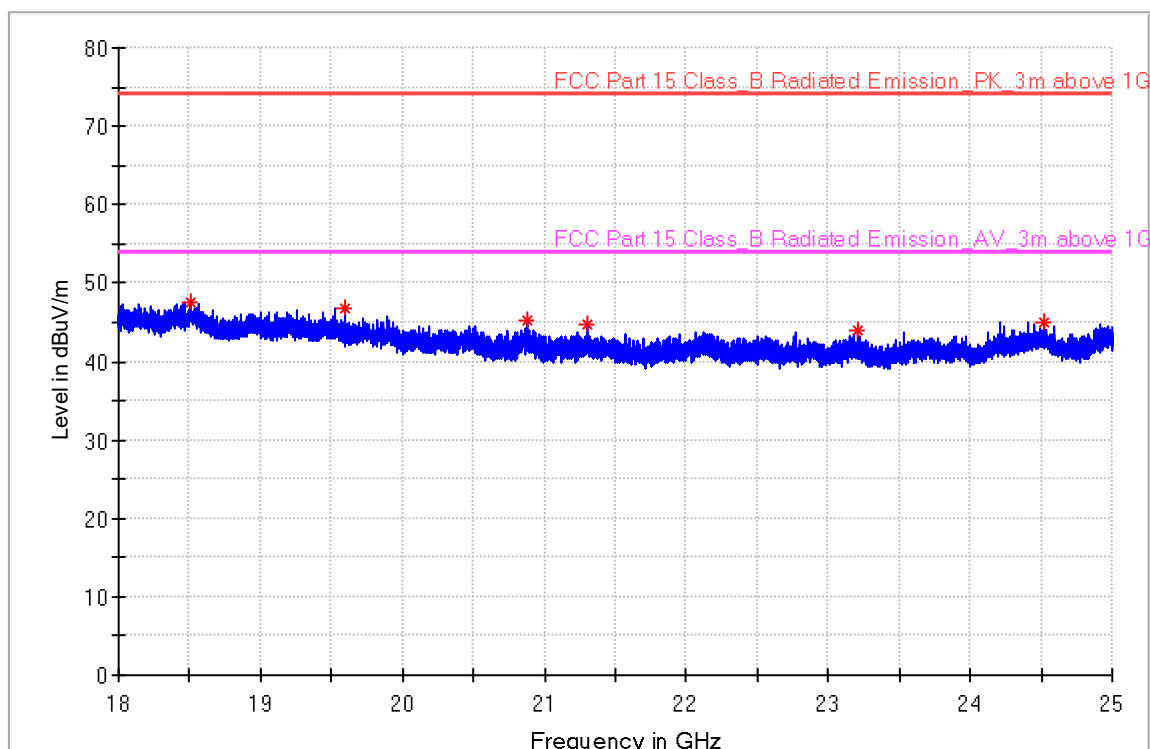


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2480.000000	92.8	---	155.0	V	255.0	-1.4	-18.8	74.0	---	---
2483.500000	50.2	40.5	145.0	V	112.0	-1.4	23.8	74.0	13.5	54.0
2488.300000	47.1	36.8	220.0	V	314.0	-1.3	26.9	74.0	17.2	54.0

The worst case of Radiated Emission Above 18GHz

Frequency: 2480MHz

Full Spectrum

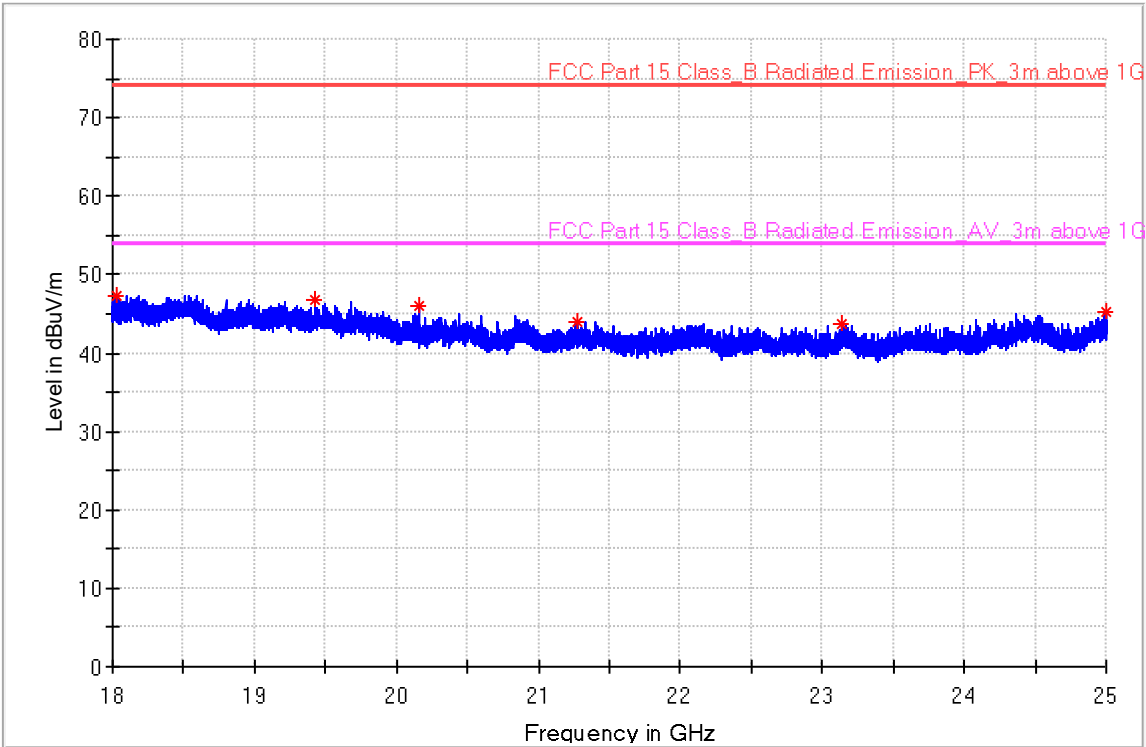


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18507.000000	47.46	74.00	26.54	100.0	H	66.0	8.1
19589.500000	46.76	74.00	27.24	100.0	H	1.0	8.4
20885.000000	45.16	74.00	28.84	100.0	H	314.0	8.5
21297.000000	44.78	74.00	29.22	100.0	H	165.0	8.6
23213.000000	43.89	74.00	30.11	100.0	H	1.0	8.9
24521.000000	44.99	74.00	29.01	100.0	H	288.0	9.0



Full Spectrum



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18035.000000	47.39	74.00	26.61	100.0	V	265.0	8.1
19422.000000	46.86	74.00	27.14	100.0	V	244.0	8.3
20163.500000	46.12	74.00	27.88	100.0	V	145.0	8.3
21280.500000	43.99	74.00	30.01	100.0	V	339.0	8.6
23140.000000	43.59	74.00	30.41	100.0	V	311.0	8.9
24998.000000	45.12	74.00	28.88	100.0	V	174.0	9.0

Remark:

- (1) Emission level= Original Receiver Reading + Correct Factor
- (2) Correct Factor = Antenna Factor + Cable Loss -Amplifier gain
- (3) Margin = limit – Corrected Reading



11 Test Equipment List

List of Test Instruments
Test Site1

	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
C	Signal spectrum analyzer	Agilent	N9020B	MY59050168	2025-2-19	2026-2-18
	RF automatic control unit	MWRFTtest	MW100-RFCB	MW211122-28	2024-10-8	2025-10-7
	RF_Cable	UCWAVE ELECTRONIC	UCA500-NJWSM-1.5M	---	2025-8-1	2026-7-31
RE	EMI Test Receiver	Rohde & Schwarz	ESR3	101906	2025-8-1	2026-7-31
	Signal Analyzer	Rohde & Schwarz	FSV40	101091	2025-8-1	2026-7-31
	Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9168	961	2025-6-25	2026-6-24
	Double-ridged waveguide horn antenna	Rohde & Schwarz	HF907	102393	2025-4-14	2026-4-13
	Pre-amplifier	Shenzhen HzEMC	HPA-081843	HYP A23026	2025-4-14	2026-4-13
	Loop antenna	Rohde & Schwarz	HFH2-Z2	100443	2025-7-4	2026-7-3
	Double Ridged Horn Antenna	ETS-Lindgren	3116C	00222727	2023-7-7	2026-7-6
	RE_Cable_01 Coaxial Cable	JUNFLON	MWX221	1906S057	2025-8-1	2026-7-31
	RE_Cable_02 Coaxial Cable	HUBER+SUHNER	RG214	1358176	2025-8-1	2026-7-31
	RE_Cable_03 Coaxial Cable	JUNFLON	MWX221	J12J102482	2025-8-1	2026-7-31
	RE_Cable_04 Coaxial Cable	PASTERNAK	PE360	2233	2025-8-1	2026-7-31
	3m Semi-anechoic chamber	TDK	9X6X6	----	2024-5-8	2027-5-7

Measurement Software Information			
Test Item	Software	Manufacturer	Version
C	MTS 8310	MWRFTtest	3.0.0.0
RE	EMC 32	Rohde & Schwarz	V10.50.40

C - Conducted RF tests

- Conducted peak output power
- 6dB bandwidth and 99% Occupied Bandwidth
- Power spectral density*
- Spurious RF conducted emissions
- Band edge



12 System Measurement Uncertainty

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

Items	Extended Uncertainty
Radiated Disturbance	9kHz to 30MHz, 3.52dB 30MHz to 1GHz, 5.03dB (Horizontal) 5.12dB (Vertical) 1GHz to 18GHz, 5.49dB 18GHz to 40GHz, 5.63dB
RF Conducted Measurement	Power related: 1.16dB Frequency related: 6.00×10 ⁻³

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.



13 Photographs of Test Set-ups

Refer to the < Test Setup photos >.



14 Photographs of EUT

Refer to the < External Photos > & < Internal Photos >.

THE END