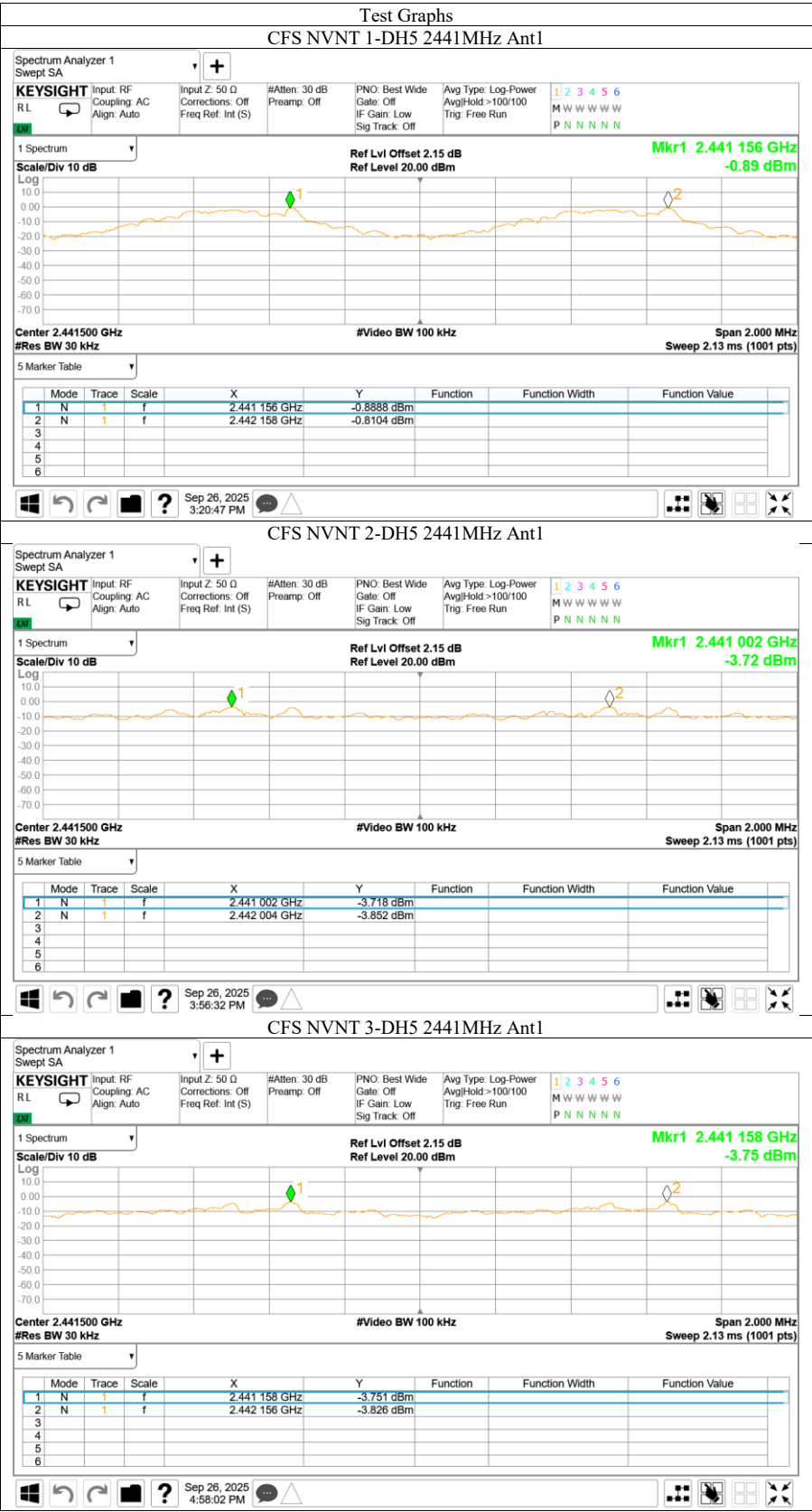


Carrier Frequency Separation

Test result: The measurement was performed with the typical configuration (normal hopping status), here GFSK, $\pi/4$ -DQPSK and 8DPSK modulation mode (low channel) was used to show compliance.

GFSK Modulation test result

Modulation	Frequency MHz	Carrier Frequency Separation MHz	Result
GFSK	2441	1.002	Pass
$\pi/4$ -DQPSK	2441	1.002	Pass
8DPSK	2441	0.998	Pass



10.4 Number of hopping frequencies

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 to hopping mode.
3. Use the following spectrum analyzer settings:
Span = the frequency band of operation, RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller, VBW $\geq$ RBW, Sweep = auto, Detector function = peak, Trace=Max hold.
4. Allow the trace to stabilize. It may prove necessary to break the span up to sections, in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

Limit

Limit
number

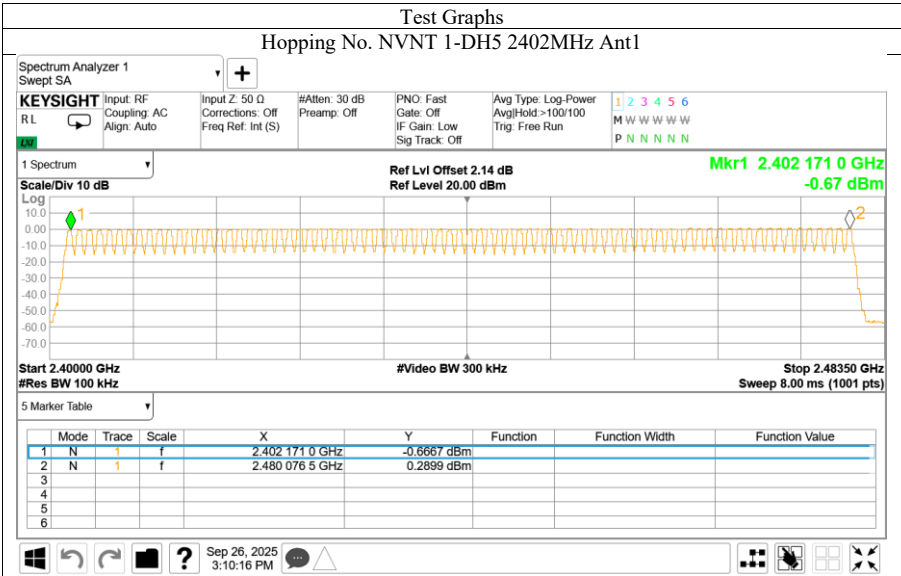
 ≥ 15



Number of hopping frequencies

Test result: The measurement was performed with the typical configuration (normal hopping status), and the total hopping channels is constant for the all modulation mode according with the Bluetooth Core Specification. Here GFSK modulation mode was used to show compliance.

Number of hopping frequencies	Result
79	Pass



10.5 Dwell Time

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 to hopping mode.
3. Span: Zero span, centered on a hopping channel.
4. RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1 / T$, where T is the expected dwell time per channel.
5. Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
6. Detector function: Peak.
7. Trace: Max hold. Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

Limit

The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Dwell Time

Dwell time

The maximum dwell time shall be 0,4 s.

According to the Bluetooth Core Specification, the worse result (DH5 mode) was reported to show compliance.

The Dwell Time = Burst Width * Total Hops. The detailed calculations are showed as follows:

The duration for dwell time calculation: 0.4 [s] * hopping number = 0.4 [s] * 79 [ch] = 31.6 [s*ch];

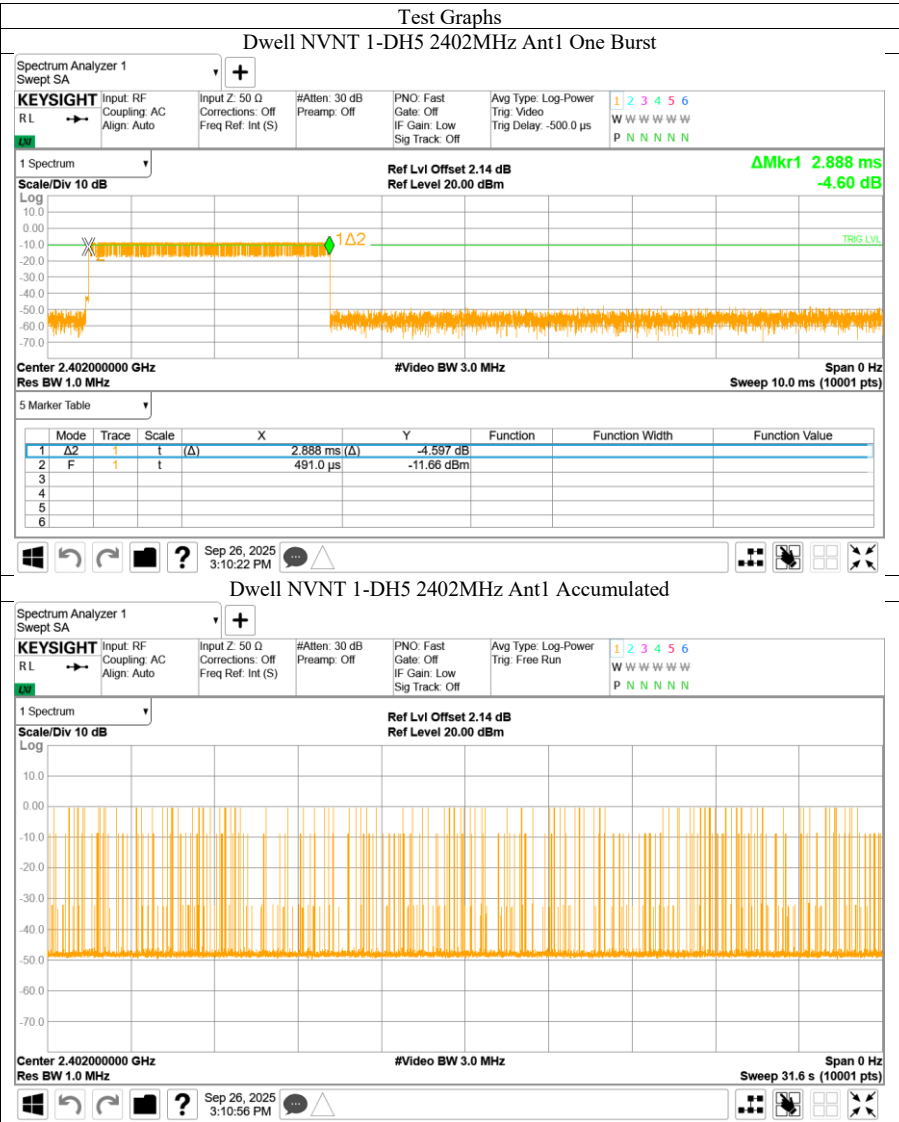
The burst width, which is directly measured, refers to the duration on one channel hop.

Test Result

Modulation	Mode	Reading (ms)	Total Hops	Test Result (ms)	Limit (ms)	Result
GFSK	DH5	2.888	101	291.688	< 400	Pass
$\pi/4$ -DQPSK	2DH5	2.89	109	315.01	< 400	Pass
8-DPSK	3DH5	2.892	106	306.552	< 400	Pass

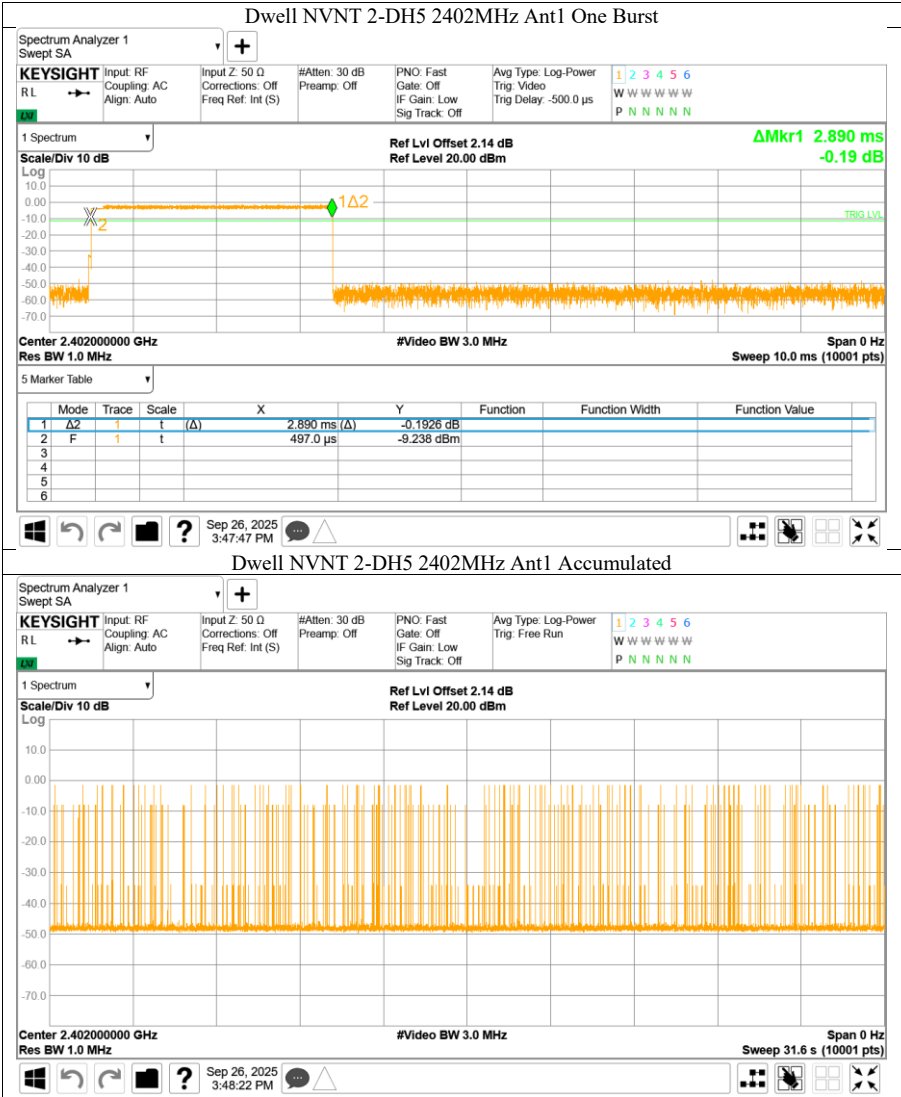


GFSK Modulation



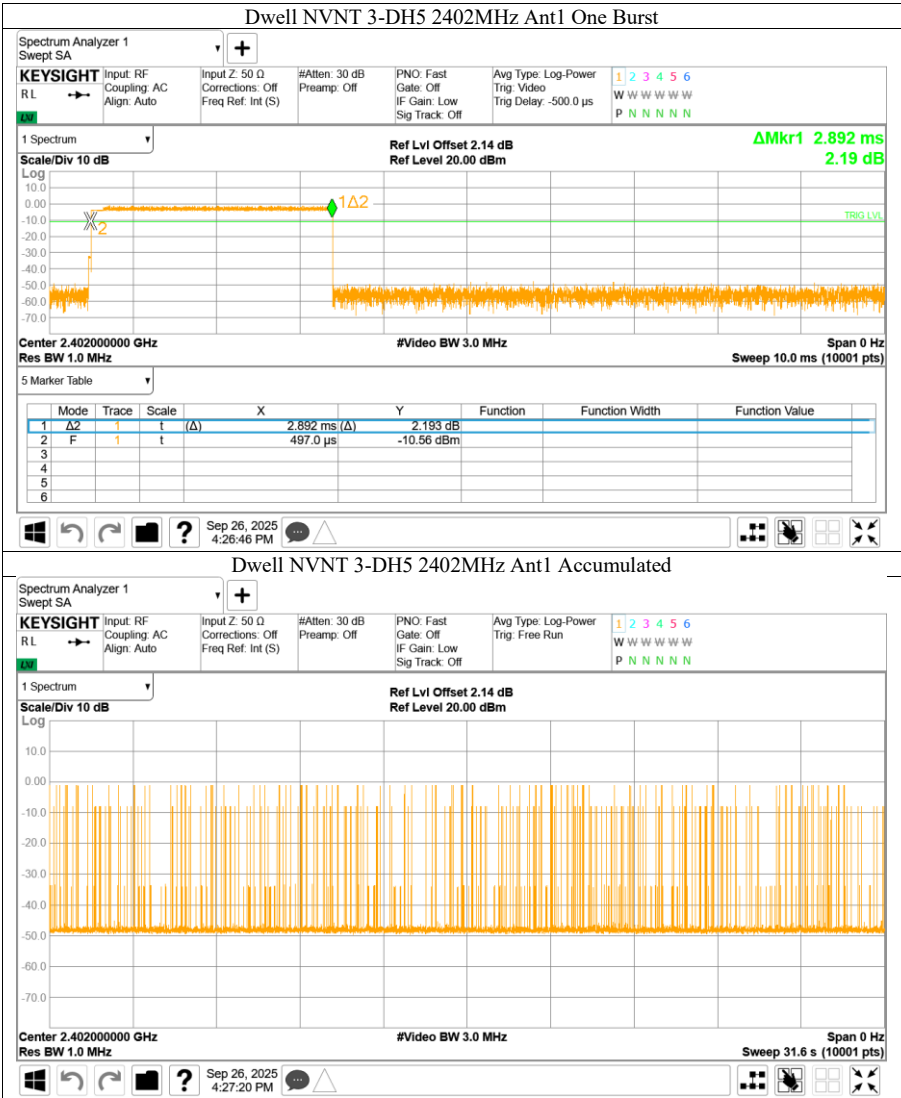


$\pi/4$ -DQPSK Modulation





8-DPSK Modulation



10.6 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 and enable the EUT transmit continuously.
3. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector, Sweep = auto, Span = wide enough to capture the peak level of the in-band emission and all spurious emissions, Trace = max hold. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this Section.
4. Measure and record the results in the test report.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency

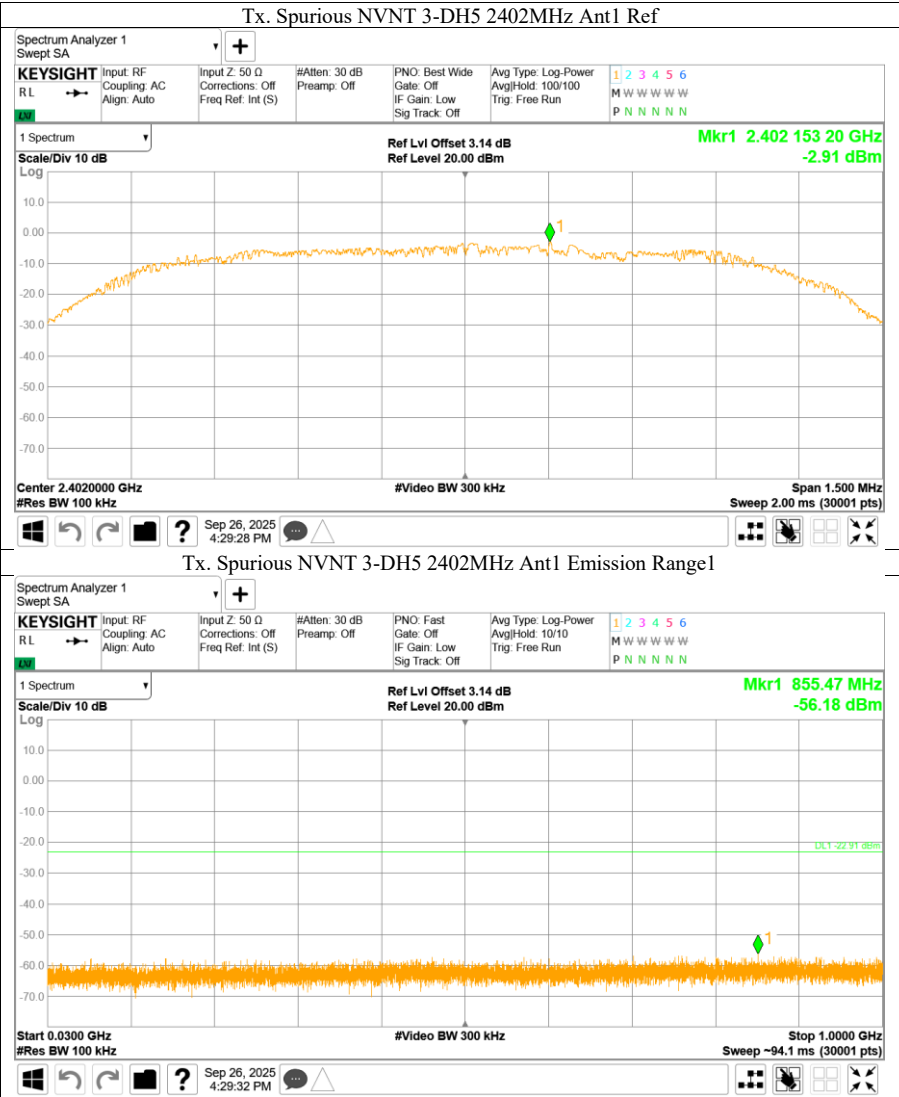
Limit

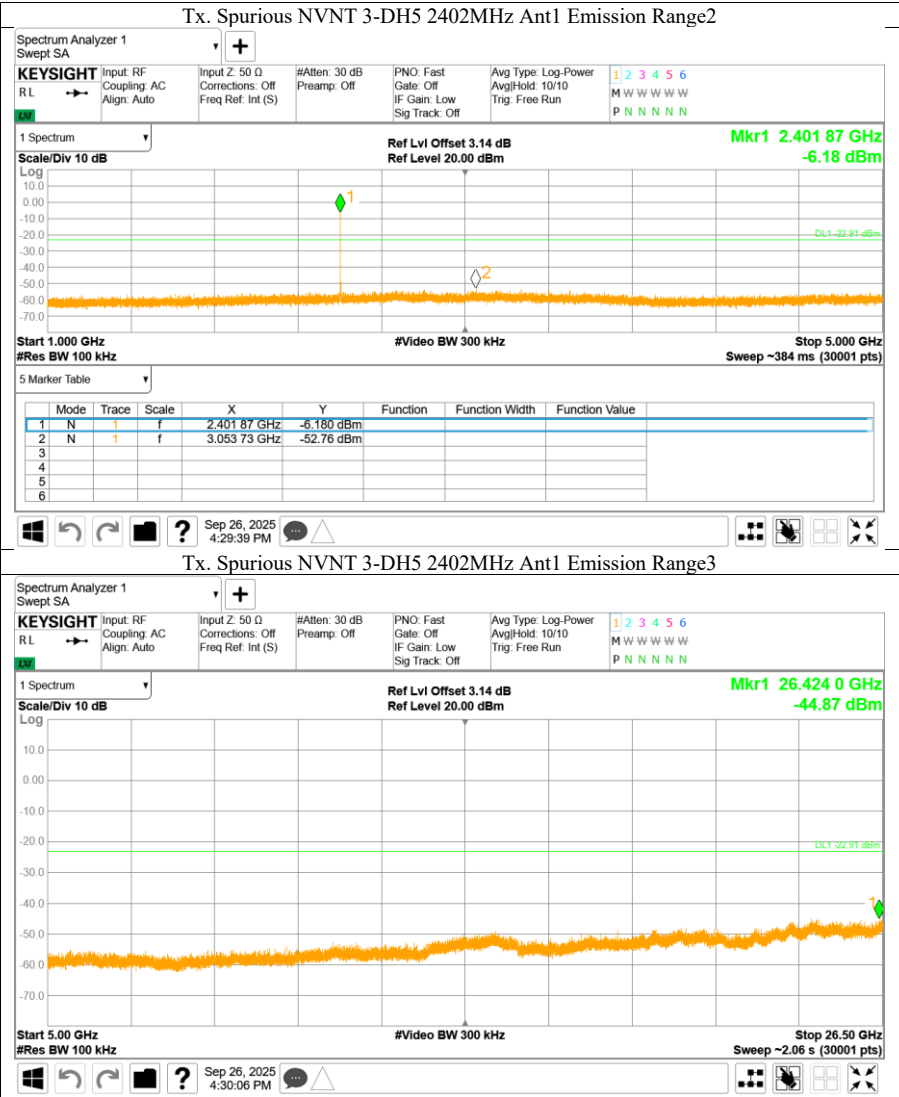
Frequency Range MHz	Limit (dBc)
30-25000	-20

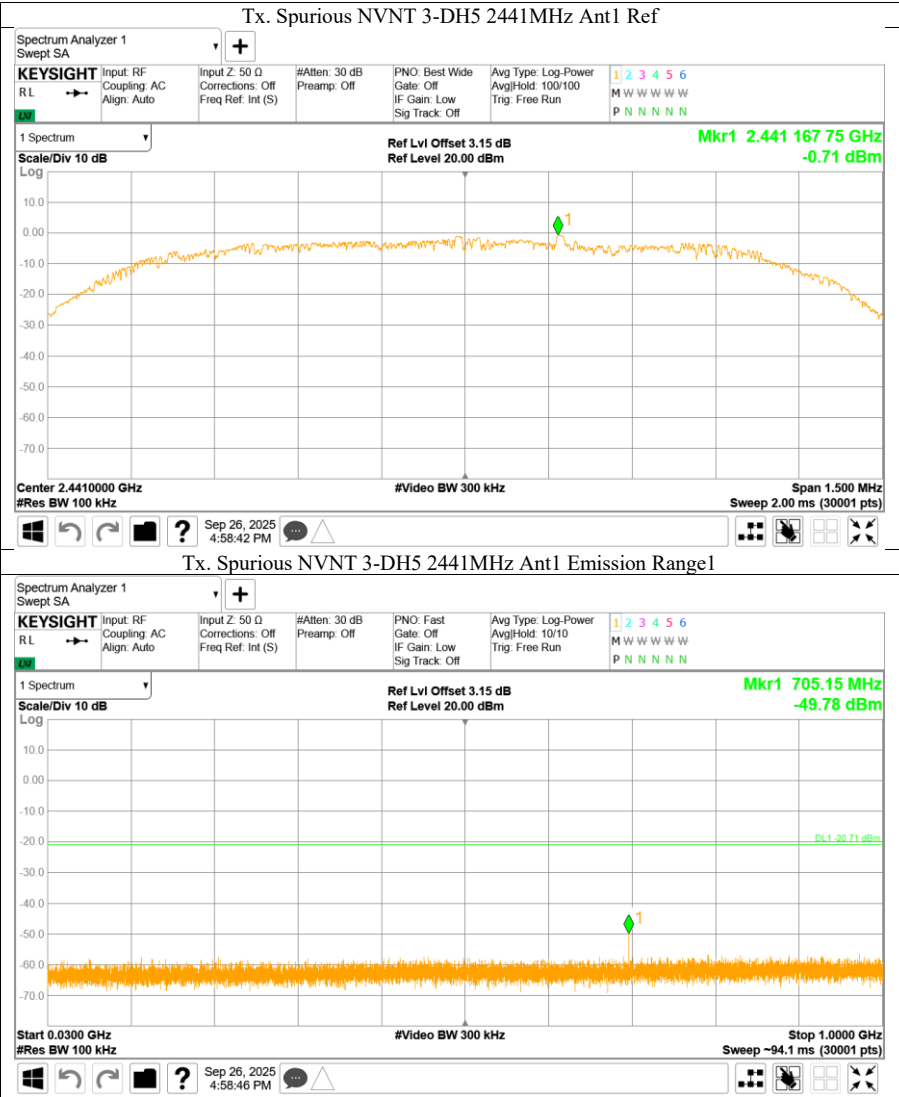


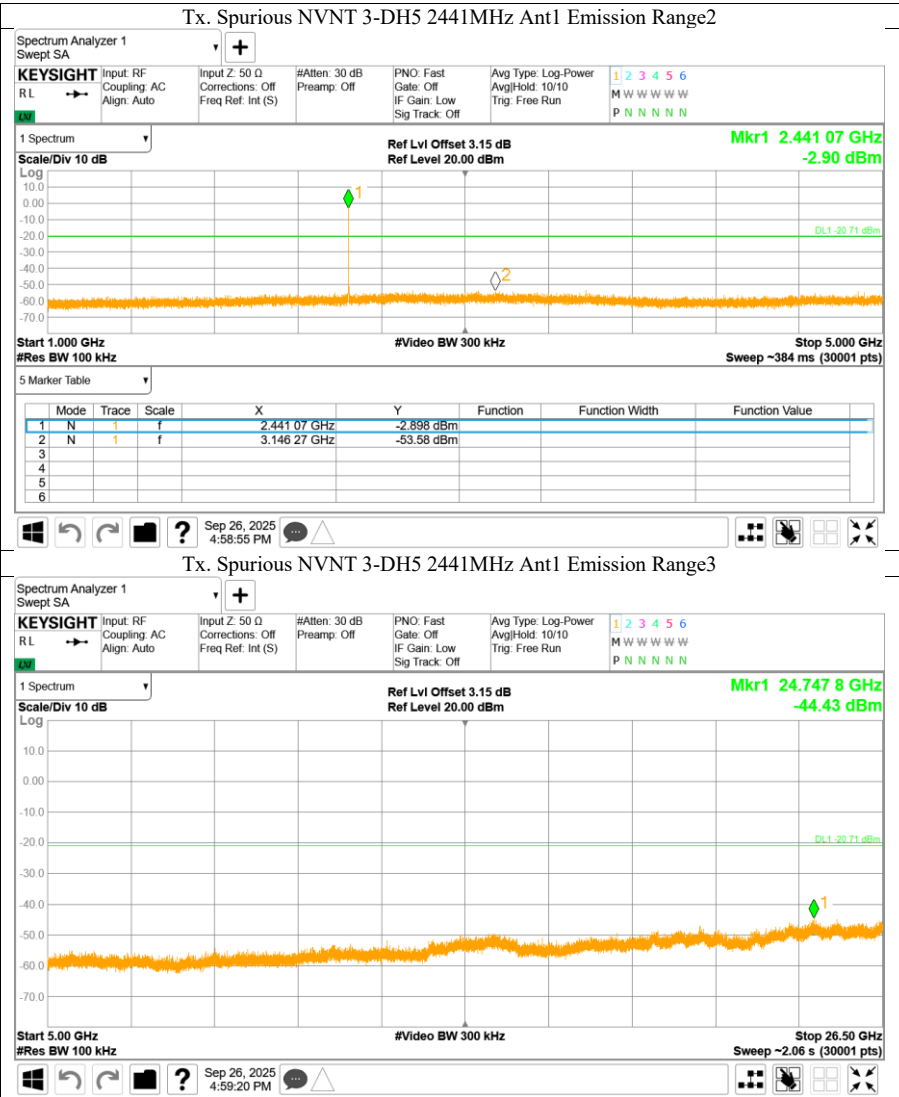
Spurious RF conducted emissions

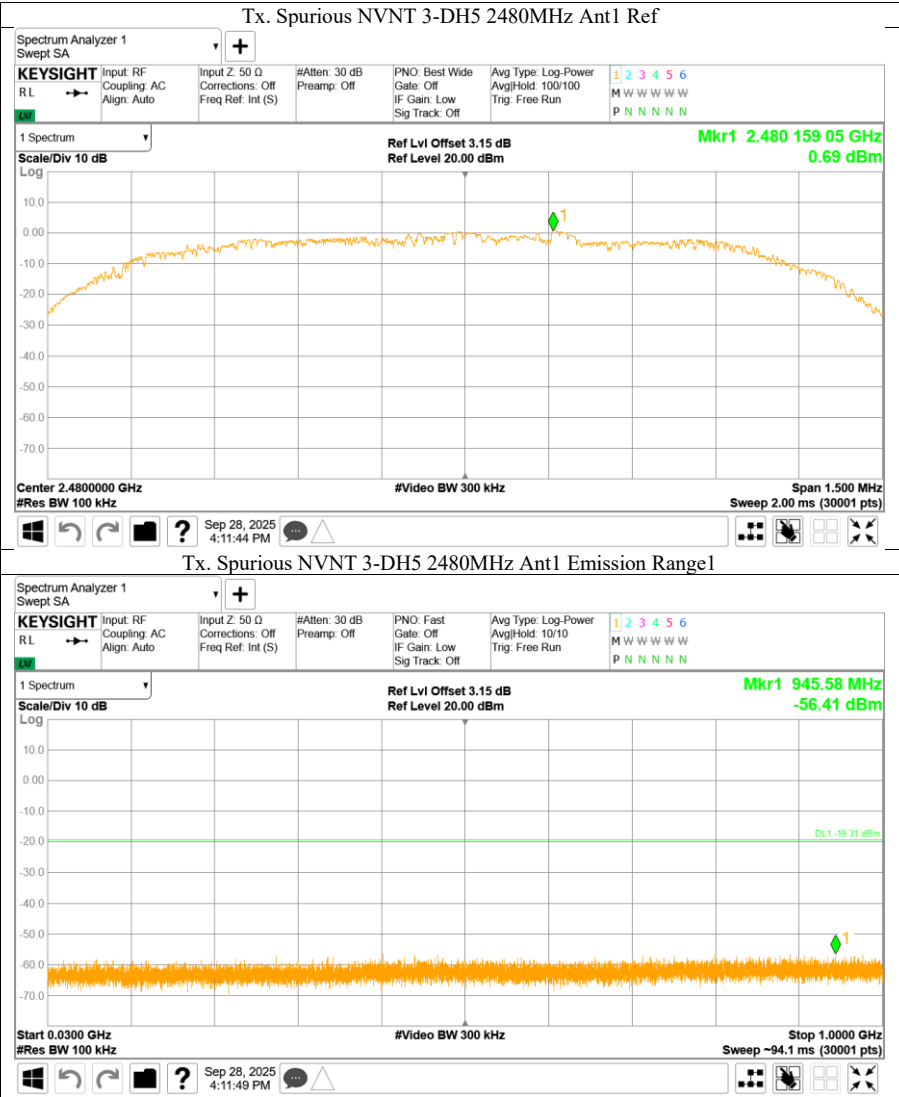
Only the worse case (which is subject to the maximum EIRP, 8DPSK mode) test result is listed in the report.

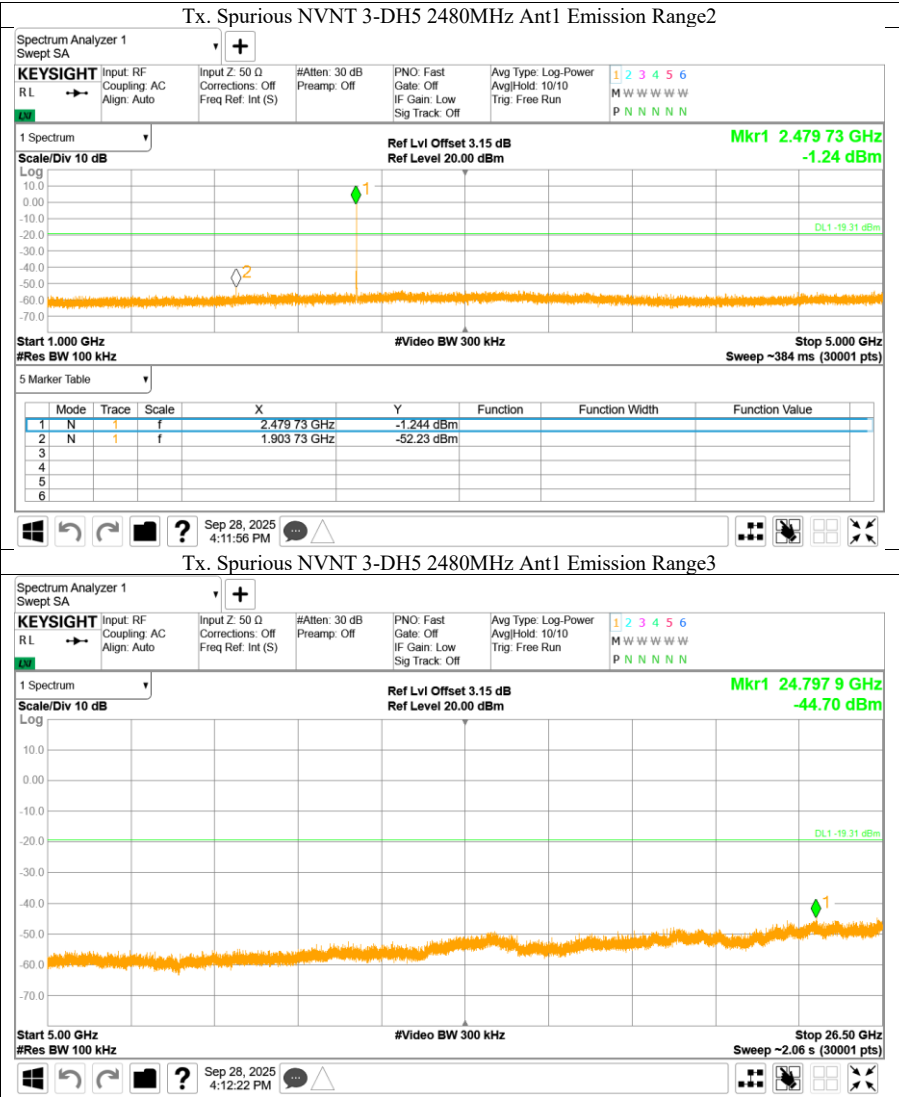












10.7 Band edge testing

Test Method

1. The RF output of EUT was connected to the test receiver 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. Set the EUT to the lowest frequency channel.
3. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector, Trace: Max hold, Sweep time: Coupled, Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation. Allow the trace to stabilize.
4. Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, and then use the marker-to-peak function to move the marker to the peak of the in-band emission.
5. Set the EUT to the highest frequency channel and repeat step 2) to 4)
6. Enable the EUT hopping mode, repeat the test.

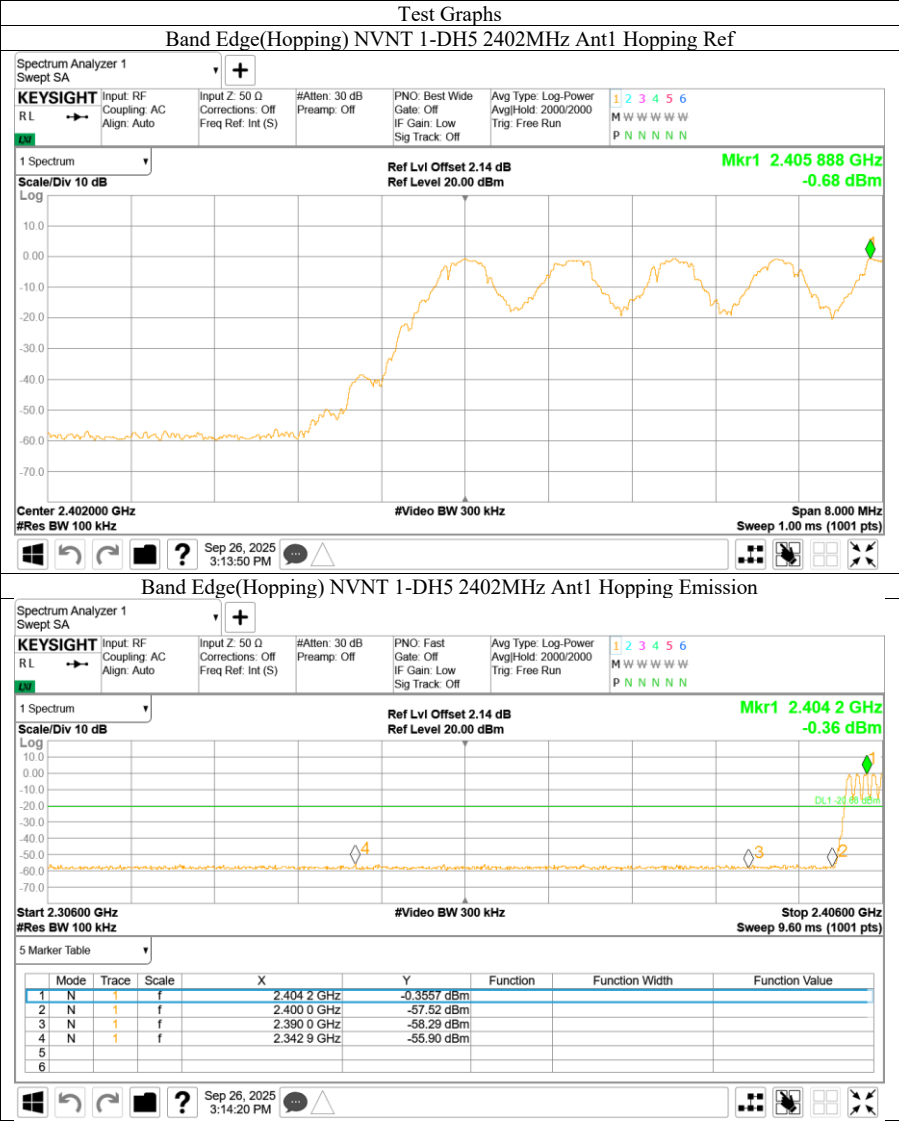
Limit:

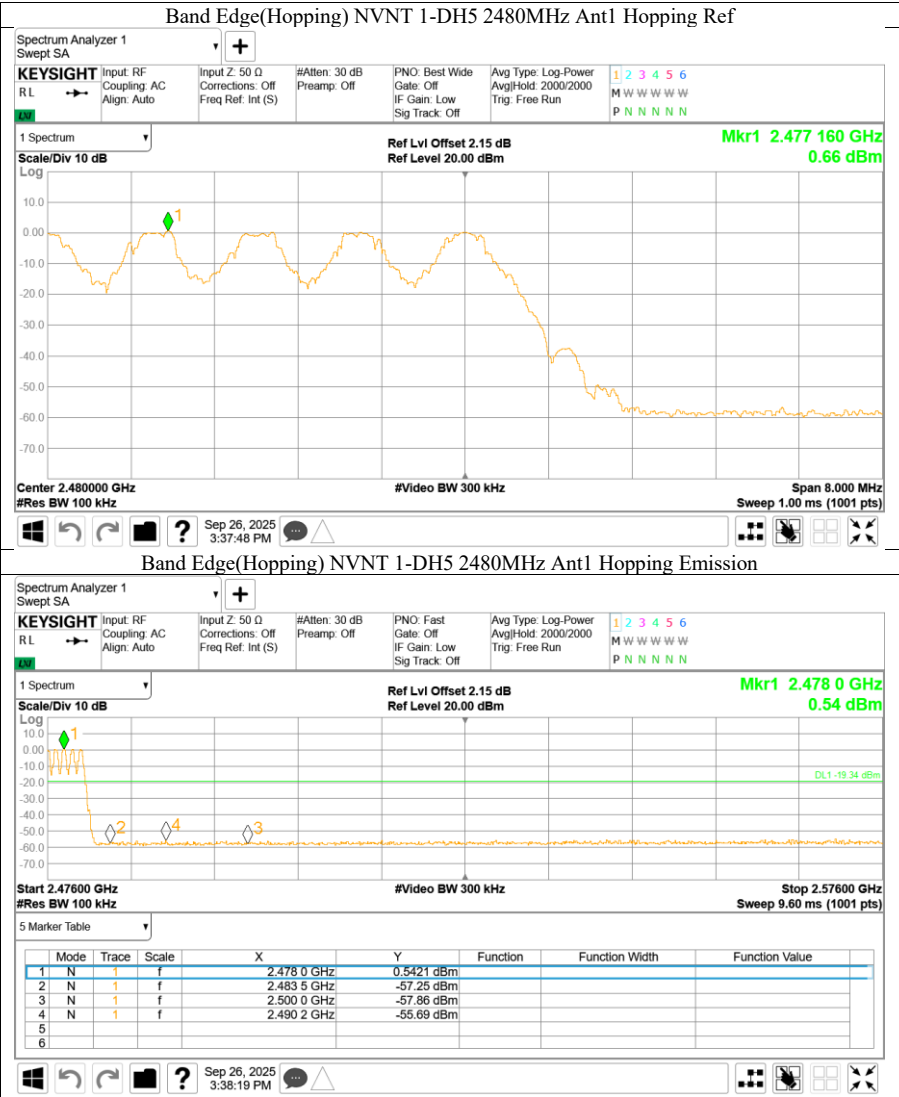
In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.



Band edge testing

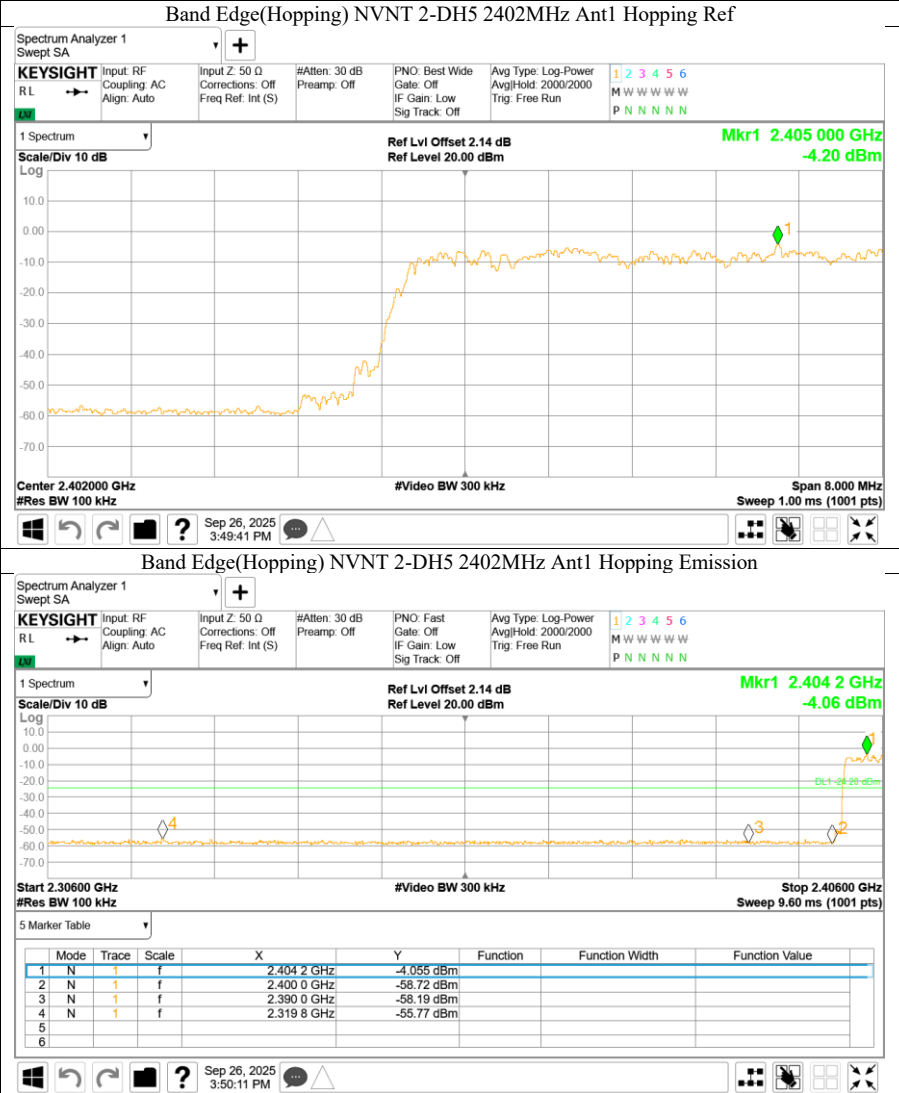
GFSK Modulation Test Result:
Hopping on mode:

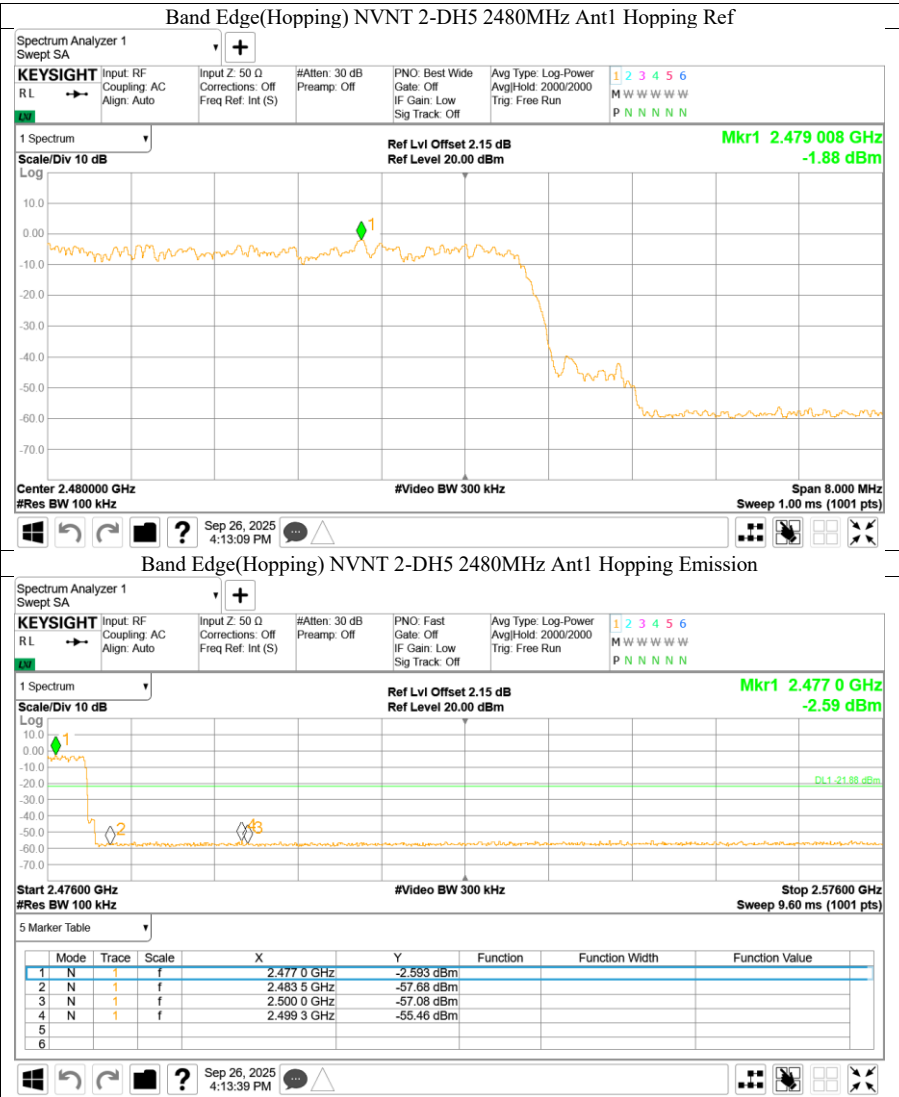






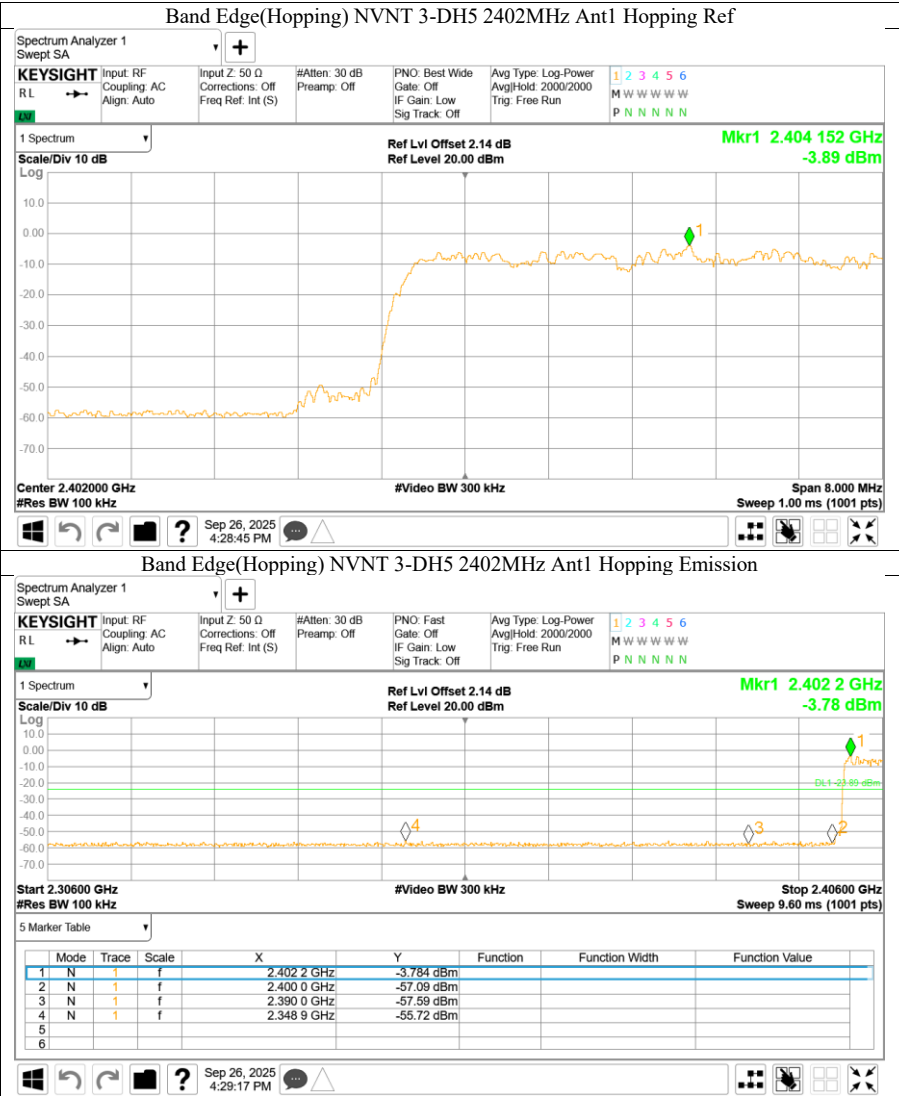
$\pi/4$ -DQPSK Modulation Test Result:
Hopping on mode:

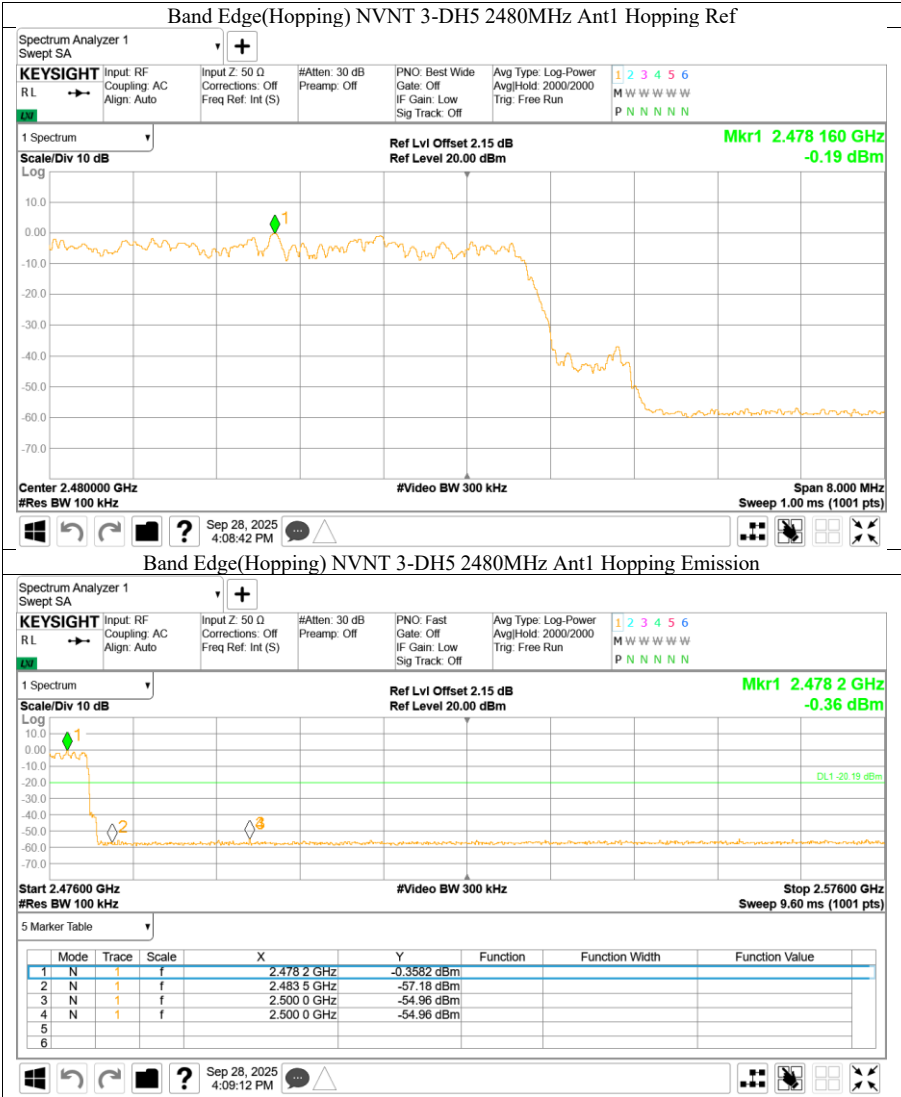






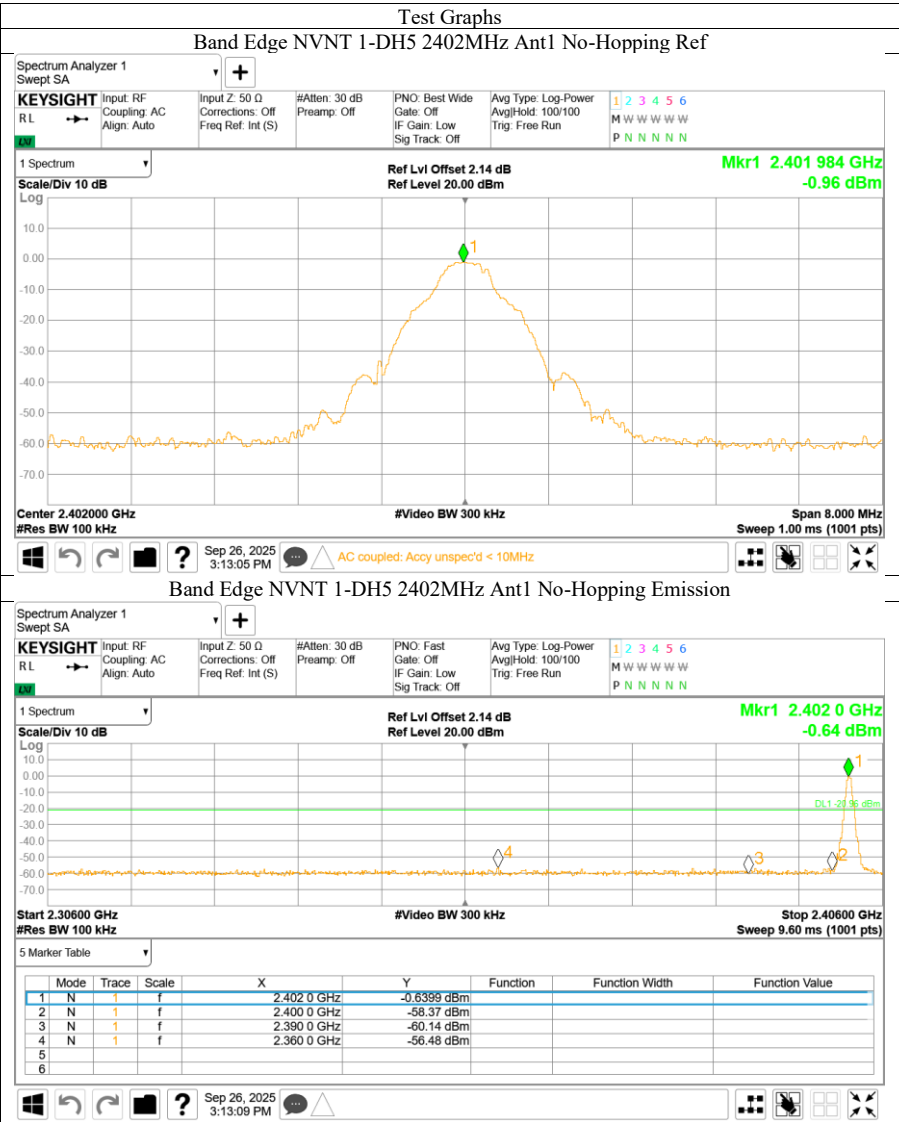
8-DPSK Modulation Test Result:
Hopping on mode:

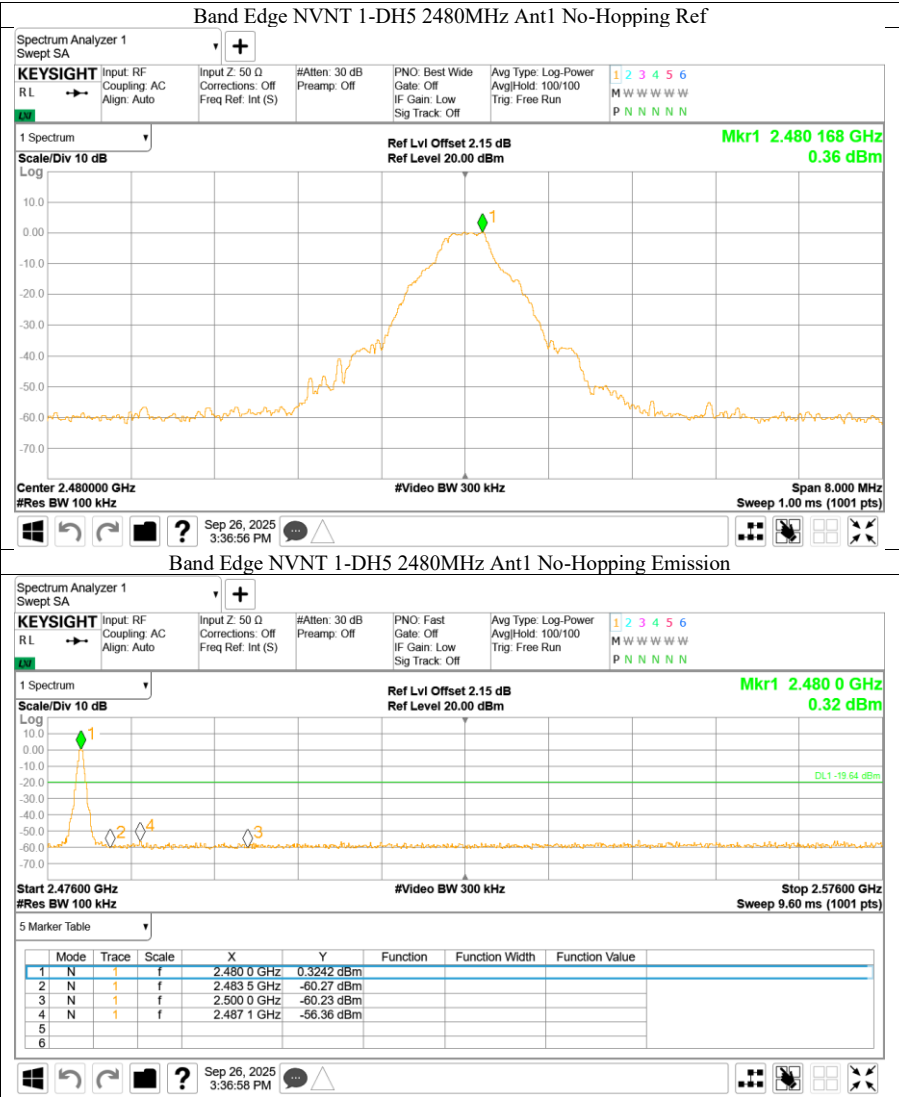






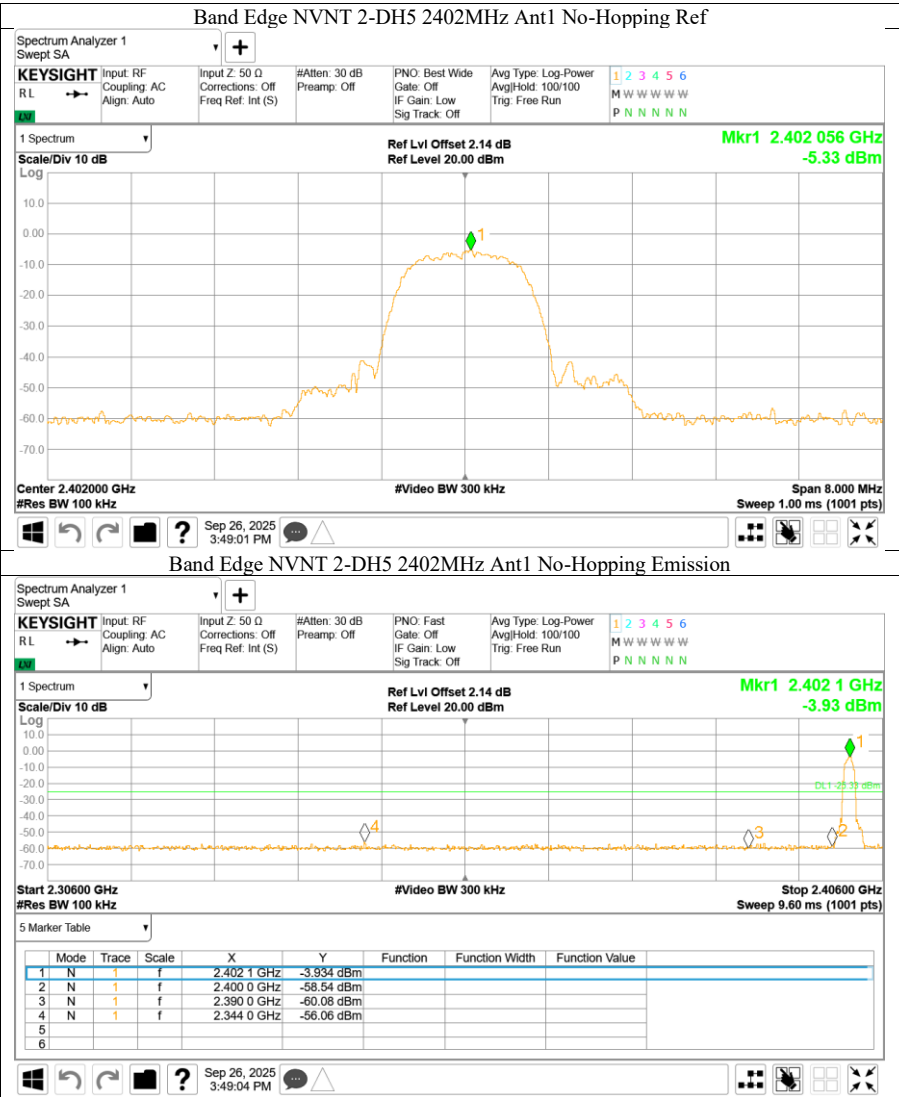
GFSK Modulation Test Result:
No Hopping off mode:

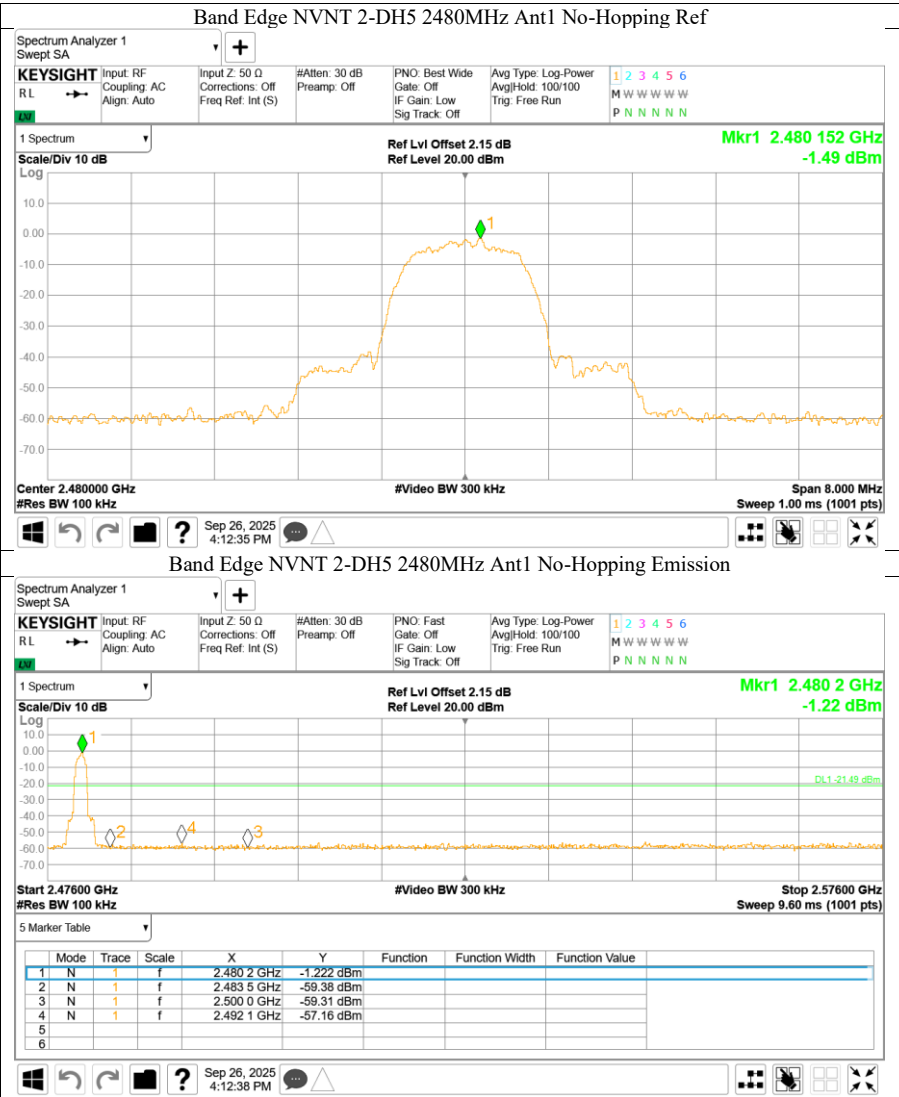






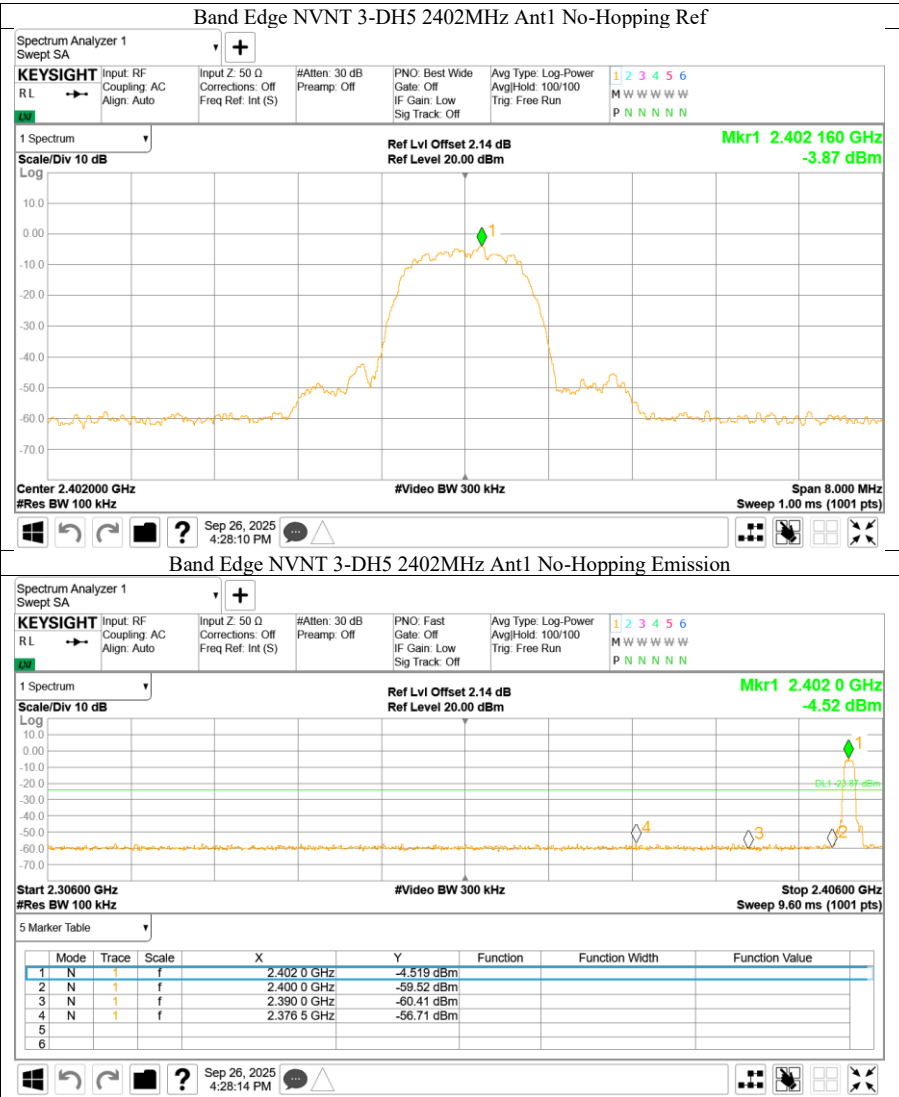
$\pi/4$ -DQPSK Modulation Test Result:
No Hopping off mode:

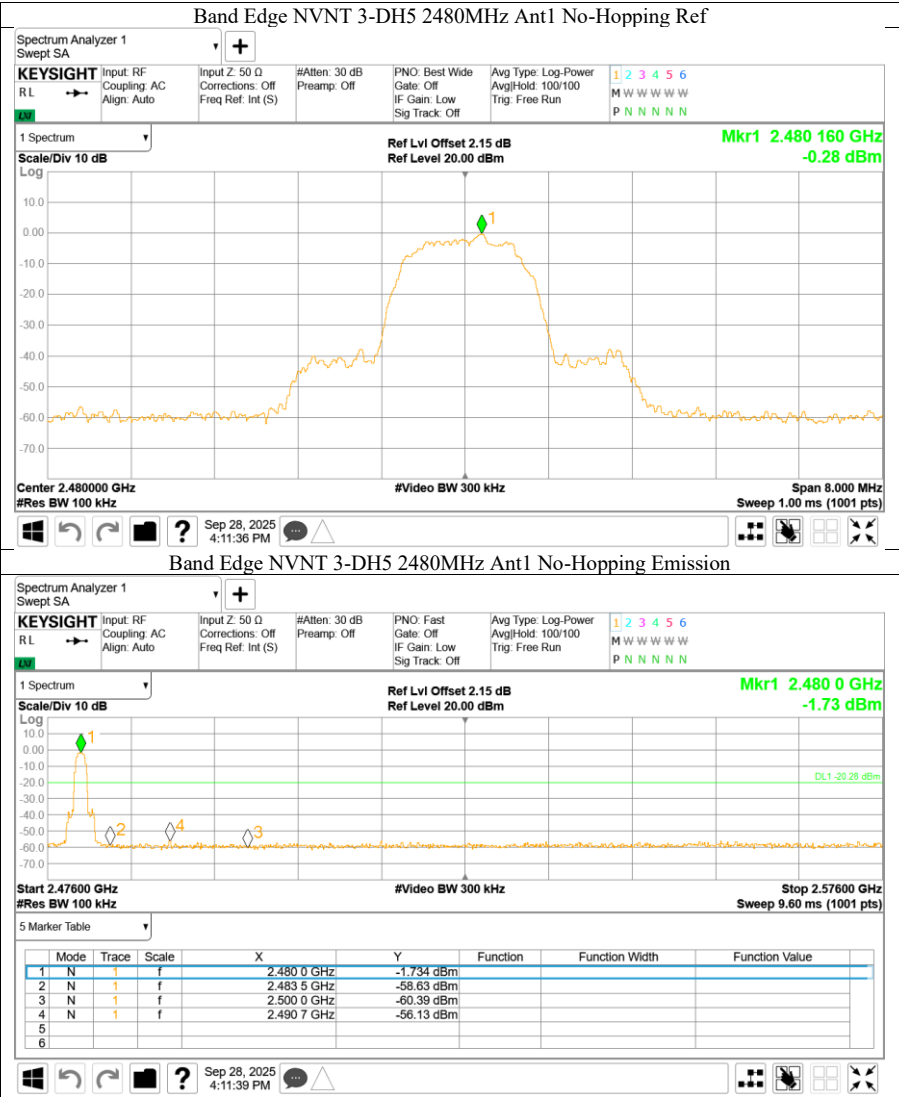






8-DPSK Modulation Test Result:
No Hopping off mode:





10.8 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 meters chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
4. 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.
5. 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.
6. Use the following test receiver settings According to C63.10:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz to 120KHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = QP; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.For average measurement:

The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($20\log(1/\text{duty cycle})$).

The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
7. Repeat above procedures until all frequencies measured were complete.

Spurious Radiated Emissions for Transmitter

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 section 15.205, must comply with the radiated emission limits specified in section 15.209.

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.

The only worse case (which is subject to the maximum conducted power, 8-DPSK mode) test result is listed in the report.

Test result

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

0.009-30MHz Radiated Emission

EUT Information

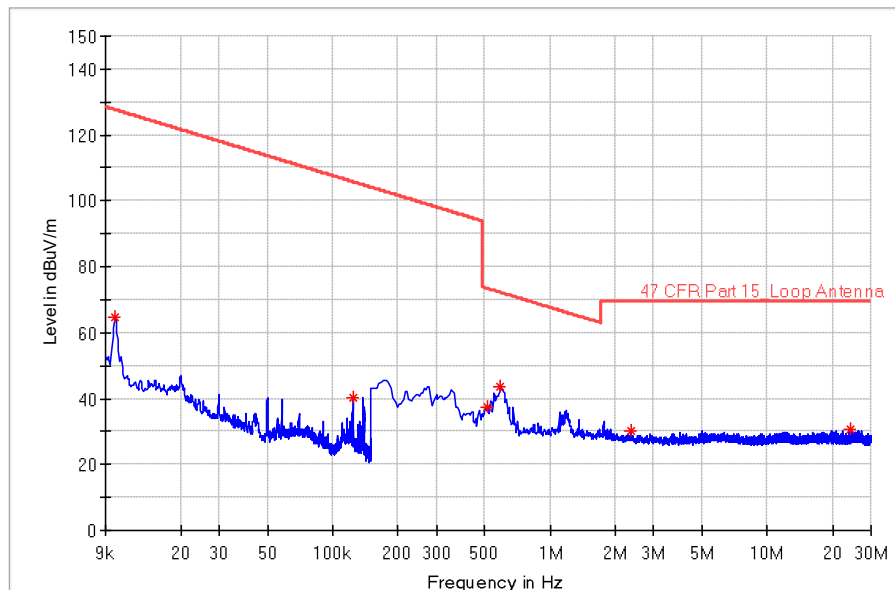
EUT Name: Thermal Imaging Scope
 Model: DBH D12
 Client: Visir Inc.
 Op Cond: Transmit mode and Tx_2480MHz, 8DPSK (worst case)
 Operator: Tianji XU
 Test Spec: FCC Part 15.209(a)
 Sample No: SHA-952960-3

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	Preamplifier
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	64.76	127.63	62.87	100.0	H	137.0	19.6
0.123563	40.20	105.77	65.56	100.0	H	304.0	18.9
0.518735	37.49	73.31	35.81	100.0	H	95.0	18.8
0.588971	43.56	72.20	28.65	100.0	H	36.0	18.8
2.371191	30.03	69.54	39.51	100.0	H	86.0	19.1
24.174860	30.66	69.54	38.88	100.0	H	162.0	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

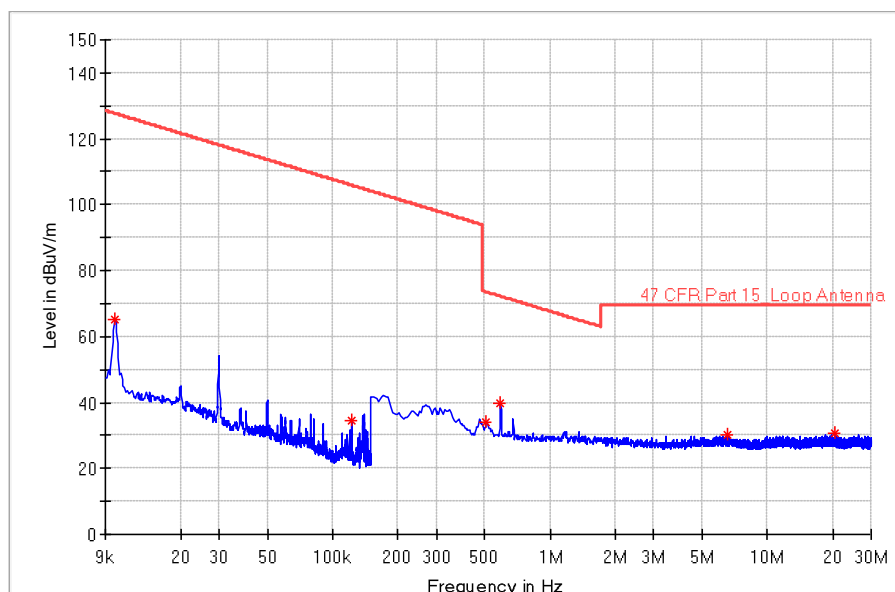
EUT Name: Thermal Imaging Scope
 Model: DBH D12
 Client: Visir Inc.
 Op Cond: Transmit mode and 2480MHz, 8DPSK (worst case)
 Operator: Tianji XU
 Test Spec: FCC Part 15.209(a)
 Sample No: SHA-952960-3

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	Preamplifier
9 kHz - 150 kHz	70.5 Hz	PK+	200 Hz	0.01 s	0 dB
150 kHz - 30 MHz	3.731 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	65.19	127.63	62.44	100.0	H	86.0	19.6
20.377765	30.78	69.54	38.76	100.0	H	92.0	19.2
0.122769	34.45	105.82	71.37	100.0	H	164.0	18.9
0.593360	39.84	72.14	32.29	100.0	H	294.0	18.8
6.541412	30.24	69.54	39.30	100.0	H	328.0	18.9
0.509956	34.11	73.45	39.34	100.0	H	344.0	18.8

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

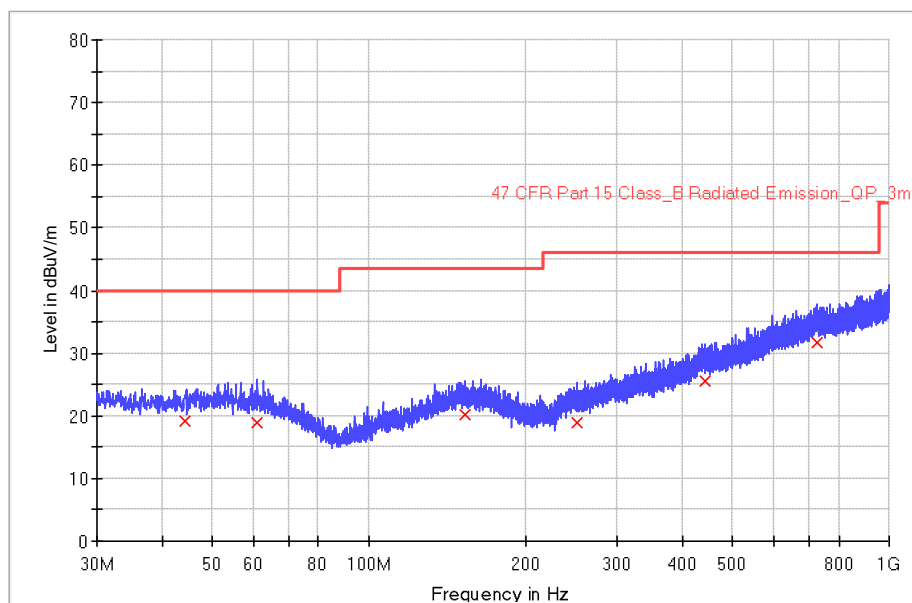
EUT Name: Thermal Imaging Scope
 Model: DBH D12
 Client: Visir Inc.
 Op Cond: Transmit mode and 2480MHz, 8DPSK (worst case)
 Operator: Tianji XU
 Test Spec: FCC Part 15.209(a)
 Sample No: SHA-952960-3

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)	Limit - QPK (dBuV/m)
44.440000	19.1	1000.0	120.000	200.0	H	2.0	20.2	20.9	40.0
61.080000	18.9	1000.0	120.000	186.0	H	224.0	20.2	21.1	40.0
152.840000	20.3	1000.0	120.000	100.0	H	17.0	21.0	23.2	43.5
250.880000	18.8	1000.0	120.000	152.0	H	358.0	20.0	27.2	46.0
441.560000	25.4	1000.0	120.000	109.0	H	136.0	25.8	20.6	46.0
725.160000	31.7	1000.0	120.000	150.0	H	224.0	31.5	14.3	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

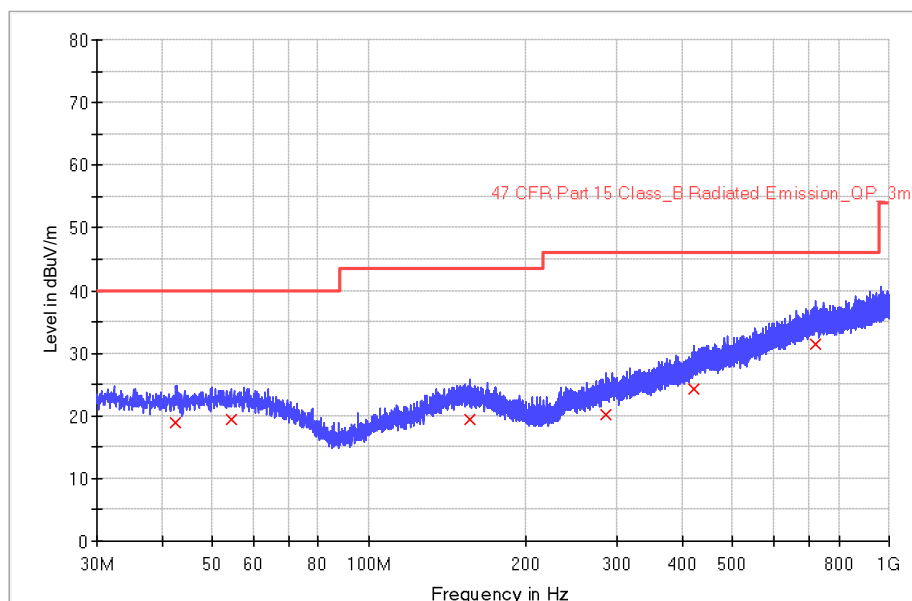
EUT Name: Thermal Imaging Scope
 Model: DBH D12
 Client: Visir Inc.
 Op Cond: Transmit mode and 2480MHz, 8DPSK (worst case)
 Operator: Tianji XU
 Test Spec: FCC Part 15.209(a)
 Sample No: SHA-952960-3

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)	Limit - QPK (dBuV/m)
42.560000	18.9	1000.0	120.000	100.0	V	253.0	20.1	21.1	40.0
54.280000	19.4	1000.0	120.000	115.0	V	112.0	20.6	20.6	40.0
156.200000	19.4	1000.0	120.000	100.0	V	28.0	21.0	24.1	43.5
284.560000	20.1	1000.0	120.000	252.0	V	334.0	21.2	25.9	46.0
420.000000	24.3	1000.0	120.000	186.0	V	16.0	24.9	21.7	46.0
722.160000	31.3	1000.0	120.000	117.0	V	321.0	31.4	14.7	46.0

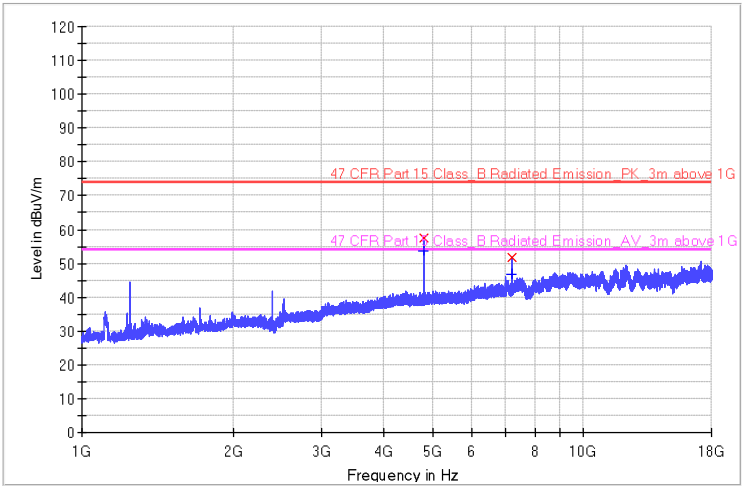
Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)
 Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



Radiated Emission 1-18GHz

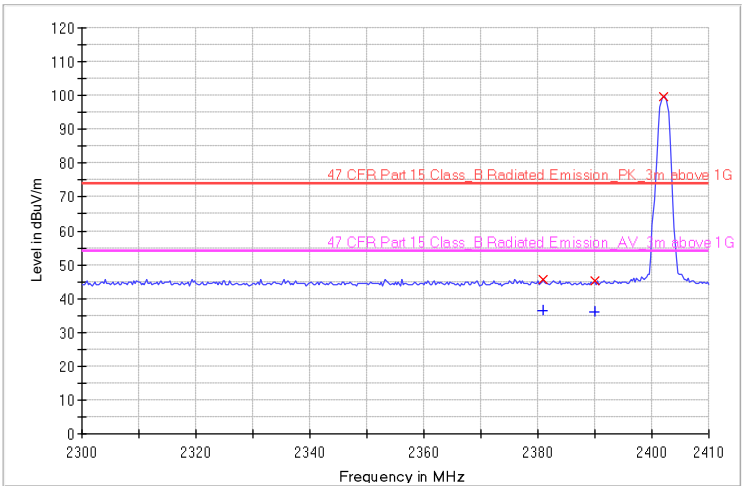
Frequency:2402MHz, GFSK
No Hopping off mode:

RE_HF907_BRF_Pre



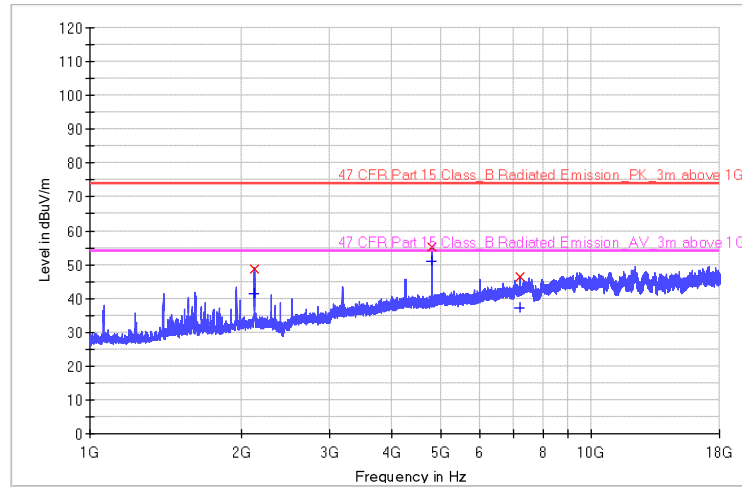
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4804.300000	57.4	53.6	152.0	H	233.0	-3.4	16.6	74.0	0.4	54.0
7206.100000	51.6	46.7	112.0	H	358.0	0.2	22.4	74.0	7.3	54.0

RE_HF907_BRF_Pre



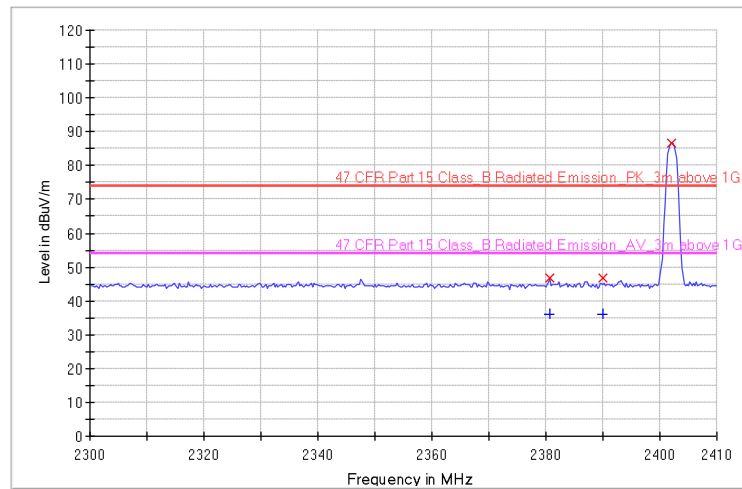
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2380.900000	45.5	36.3	150.0	H	233.0	-1.9	28.5	74.0	17.7	54.0
2390.000000	45.1	36.0	120.0	H	13.0	-1.9	28.9	74.0	18.0	54.0
2402.000000	99.6	---	180.0	H	117.0	-1.8	-25.6	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)
2123.500000	48.8	41.3	232.0	V	23.0	-12.5	25.2	74.0	12.7	54.0
4804.300000	55.3	50.8	152.0	V	117.0	-3.4	18.7	74.0	3.2	54.0
7205.500000	46.3	37.2	115.0	V	251.0	0.2	27.7	74.0	16.8	54.0

RE_HF907_BRF_Pre

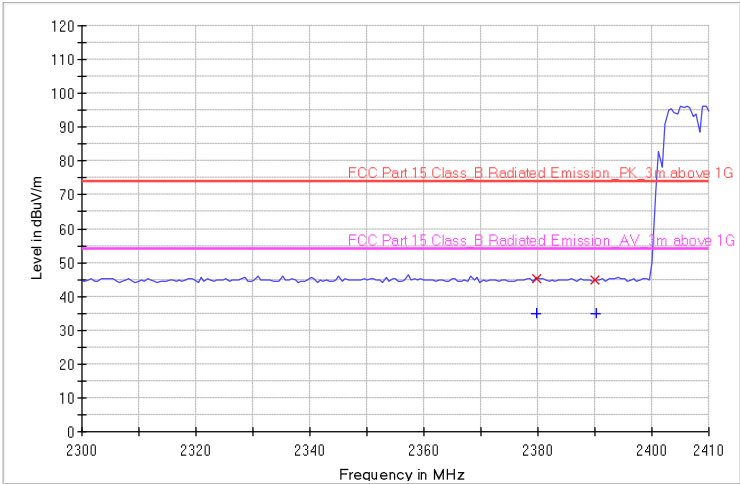


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2380.600000	46.9	36.2	252.0	V	233.0	-1.9	27.1	74.0	17.8	54.0
2390.000000	46.6	36.1	150.0	V	11.0	-1.9	27.4	74.0	17.9	54.0
2402.000000	86.5	---	114.0	V	176.0	-1.8	-12.5	74.0	---	---



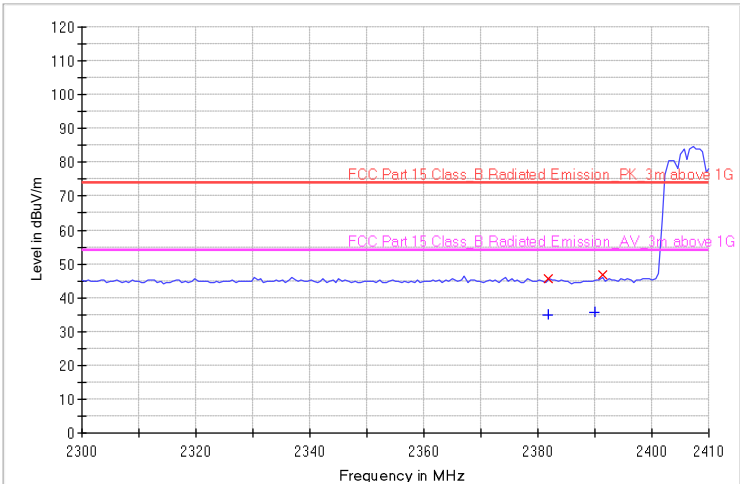
Hopping on mode:

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)
2379.700000	45.2	35.1	168.0	H	304.0	-1.9	28.8	74.0	18.9	54.0
2390.000000	45.0	35.0	112.0	H	356.0	-1.9	29.0	74.0	19.0	54.0

RE_HF907_BRF_Pre



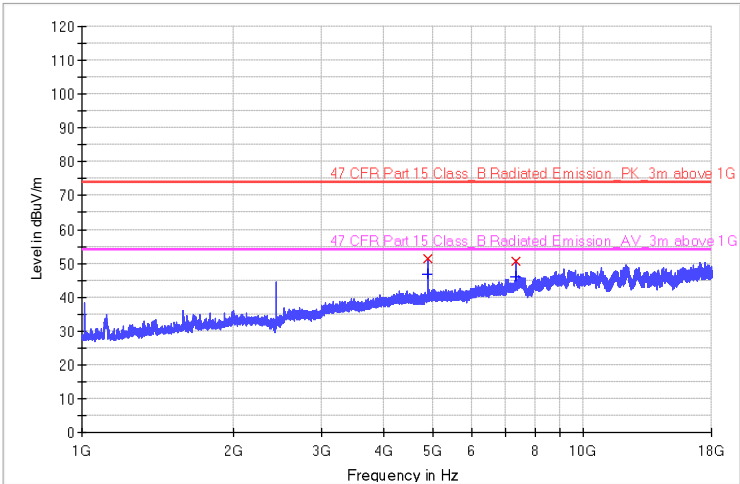
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2381.800000	45.5	35.1	157.0	V	133.0	-1.9	28.5	74.0	18.9	54.0
2390.000000	46.7	35.6	225.0	V	23.0	-1.9	27.3	74.0	18.4	54.0



Frequency:2441MHz

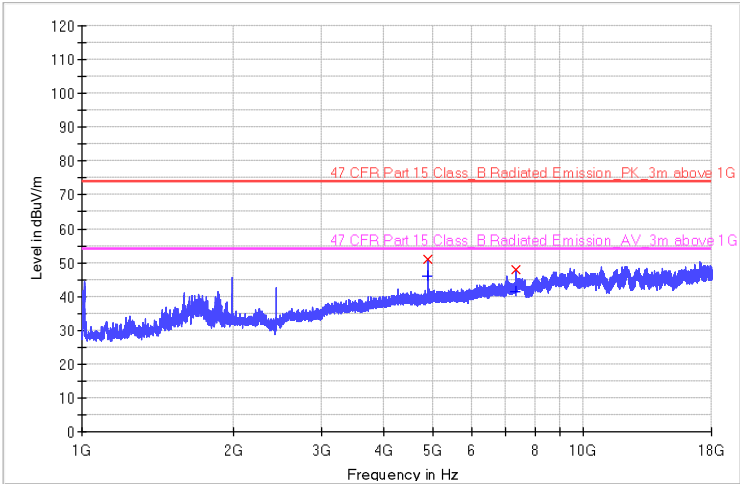
No Hopping off mode:

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)
4881.700000	51.5	46.7	127.0	H	15.0	-3.1	22.5	74.0	7.3	54.0
7322.500000	50.7	46.0	163.0	H	224.0	0.2	23.3	74.0	8.0	54.0

RE_HF907_BRF_Pre

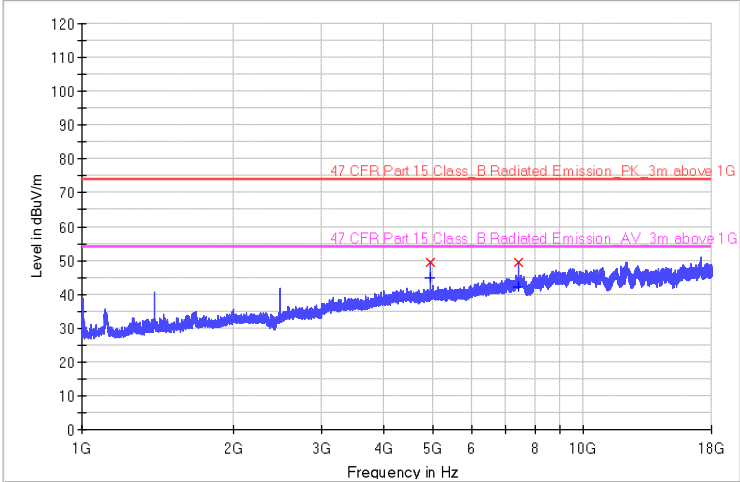


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4881.400000	50.8	45.9	130.0	V	124.0	-3.1	23.2	74.0	8.1	54.0
7322.500000	48.1	41.3	221.0	V	176.0	0.2	25.9	74.0	12.7	54.0



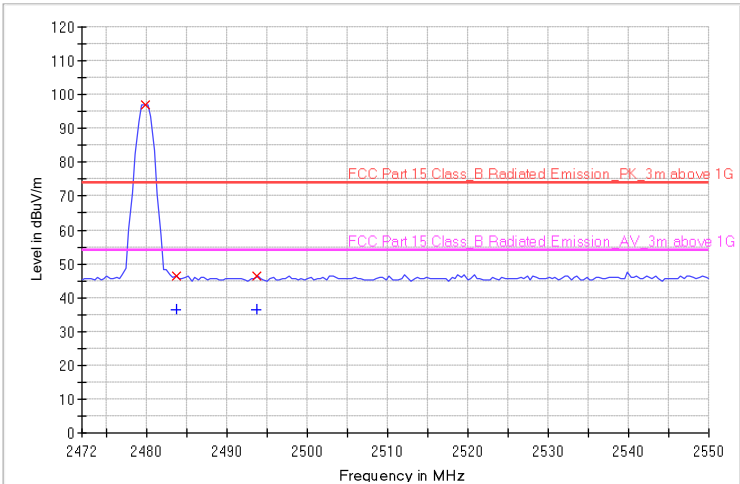
Frequency:2480MHz
No Hopping off mode:

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)
4960.000000	49.6	44.8	252.0	H	322.0	-3.0	24.4	74.0	9.2	54.0
7440.400000	49.3	42.2	148.0	H	112.0	0.2	24.7	74.0	11.8	54.0

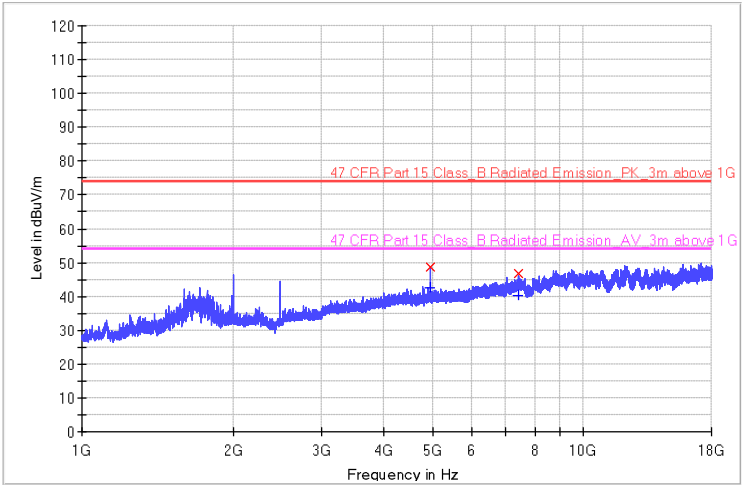
RE_HF907_BRF_Pre



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	97.1	---	212.0	H	145.0	-1.4	-23.1	74.0	---	---
2483.500000	46.5	36.3	221.0	H	186.0	-1.4	27.5	74.0	17.7	54.0
2493.700000	46.3	36.5	140.0	H	216.0	-1.3	27.7	74.0	17.5	54.0

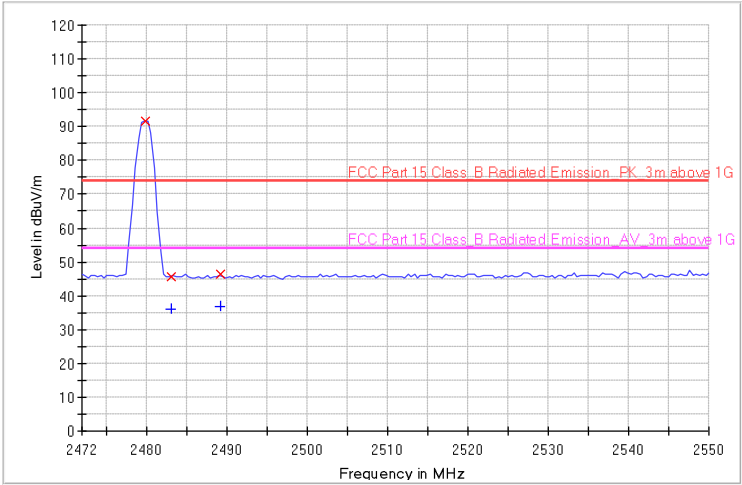


RE_HF907_BRF_Pre



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)
4959.400000	48.6	42.5	117.0	V	12.0	-3.0	25.4	74.0	11.5	54.0
7440.400000	46.7	40.2	152.0	V	331.0	0.2	27.3	74.0	13.8	54.0

RE_HF907_BRF_Pre

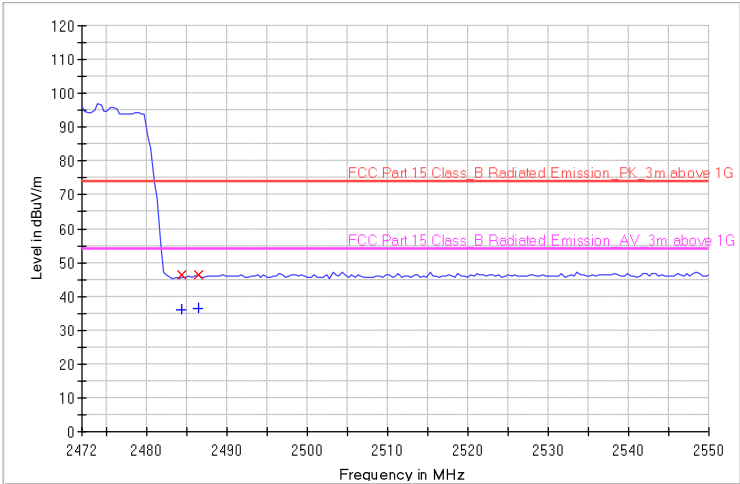


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2480.000000	91.7	---	125.0	V	152.0	-1.4	-17.7	74.0	---	---
2483.500000	45.7	36.0	150.0	V	224.0	-1.4	28.3	74.0	18.0	54.0
2489.200000	46.2	36.7	225.0	V	133.0	-1.3	27.8	74.0	17.3	54.0



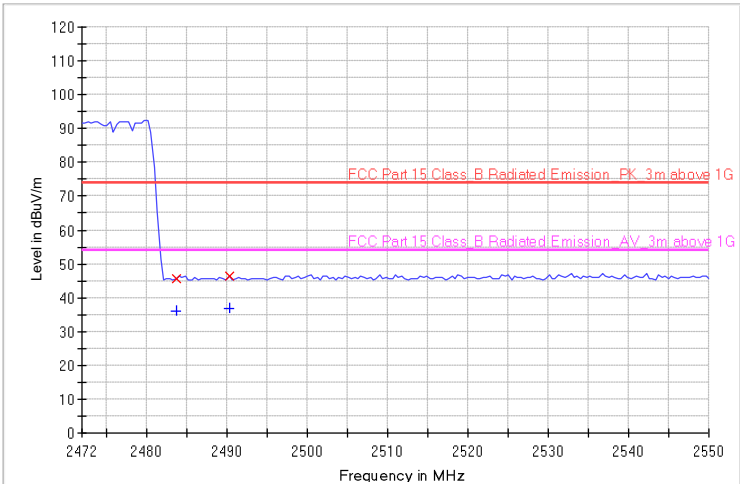
Hopping on mode:

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)
2483.500000	46.2	36.1	112.0	H	214.0	-1.3	27.8	74.0	17.9	54.0
2486.500000	46.3	36.5	221.0	H	240.0	-1.3	27.7	74.0	17.5	54.0

RE_HF907_BRF_Pre

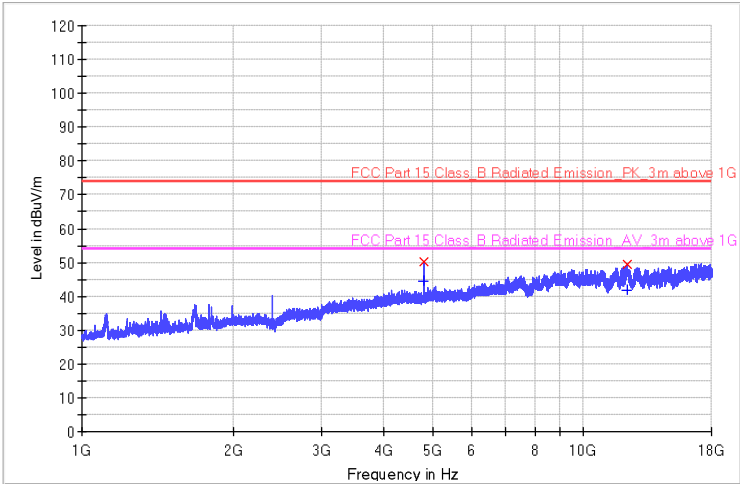


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2483.500000	45.5	36.1	152.0	V	24.0	-1.4	28.5	74.0	17.9	54.0
2490.400000	46.2	36.8	221.0	V	332.0	-1.3	27.8	74.0	17.2	54.0



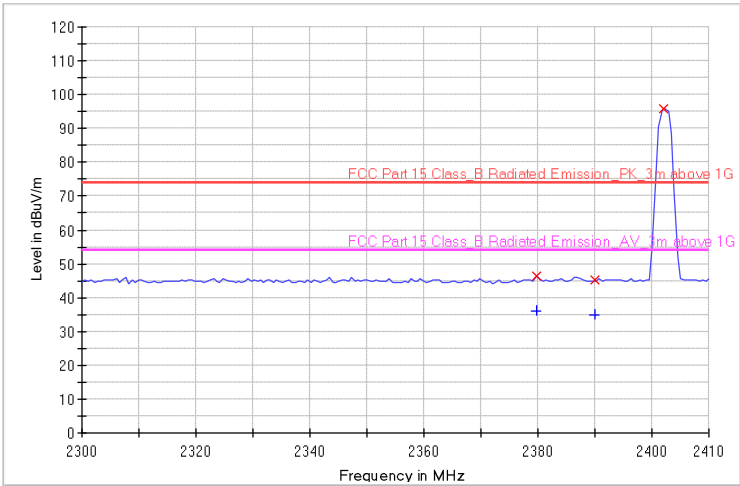
Frequency:2402MHz, $\pi/4$ -DQPSK
No Hopping off mode:

RE_HF907_BRF_Pre



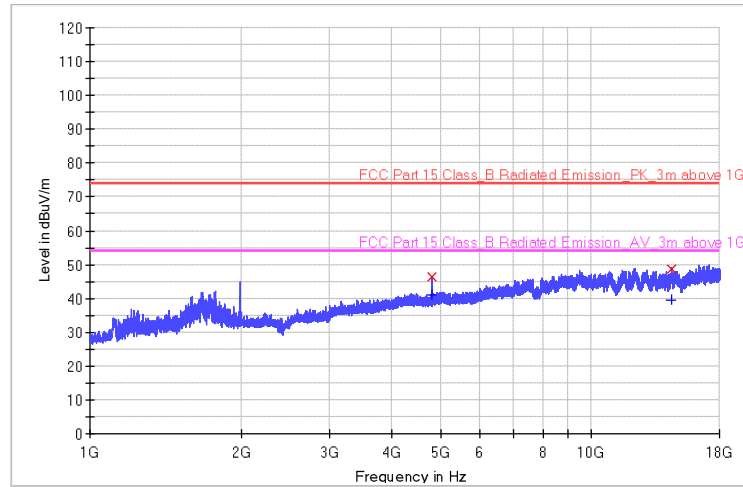
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4803.700000	50.2	44.6	152.0	H	152.0	-3.4	23.8	74.0	9.4	54.0
12202.000000	49.6	41.7	221.0	H	224.0	4.7	24.4	74.0	12.3	54.0

RE_HF907_BRF_Pre



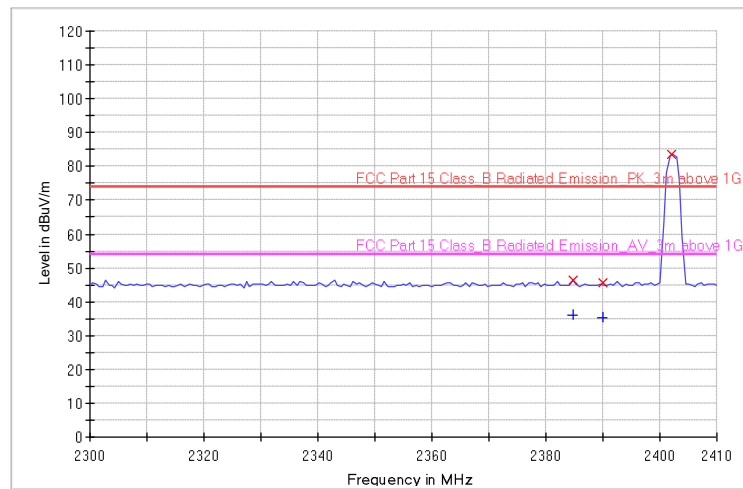
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2379.700000	46.4	35.9	120.0	H	141.0	-1.9	27.6	74.0	18.1	54.0
2390.000000	45.2	34.8	122.0	H	55.0	-1.9	28.8	74.0	19.2	54.0
2402.000000	95.8	---	201.0	H	23.0	-1.8	-21.8	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)
4803.100000	46.5	41.1	125.0	V	152.0	-3.4	27.5	74.0	12.9	54.0
14446.900000	48.7	39.6	221.0	V	11.0	3.8	25.3	74.0	14.4	54.0

RE_HF907_BRF_Pre

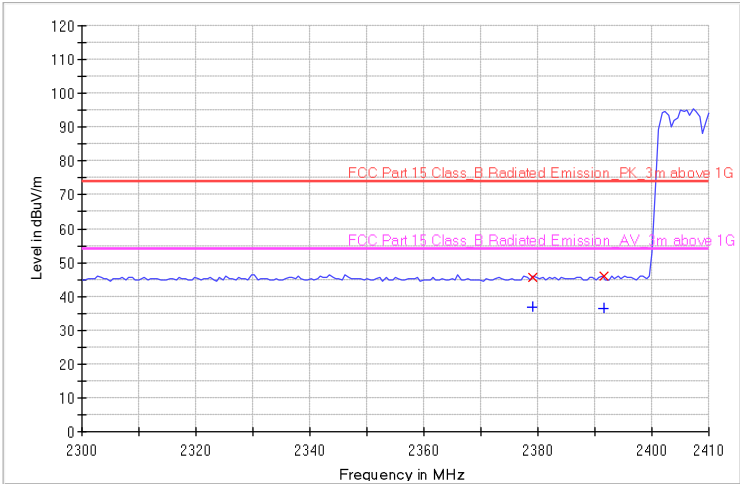


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2384.800000	46.5	36.1	112.0	V	133.0	-1.9	27.5	74.0	17.9	54.0
2390.000000	45.5	35.2	150.0	V	23.0	-1.9	28.5	74.0	18.8	54.0
2402.000000	83.6	---	252.0	V	11.0	-1.8	-9.6	74.0	---	---



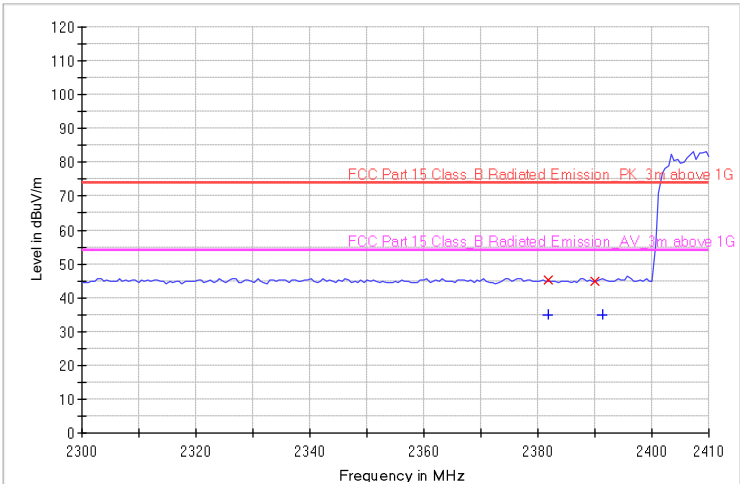
Hopping on mode:

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)
2379.100000	45.8	36.8	120.0	H	223.0	-2.0	28.2	74.0	17.2	54.0
2390.000000	46.1	36.3	128.0	H	11.0	-1.9	27.9	74.0	17.7	54.0

RE_HF907_BRF_Pre



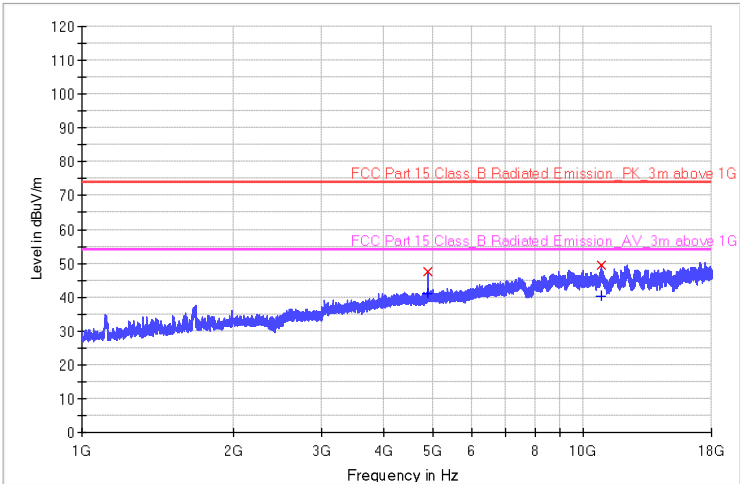
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2381.800000	45.1	35.1	221.0	V	323.0	-1.9	28.9	74.0	18.9	54.0
2390.000000	45.0	35.0	125.0	V	11.0	-1.9	29.0	74.0	19.0	54.0



Frequency:2441MHz

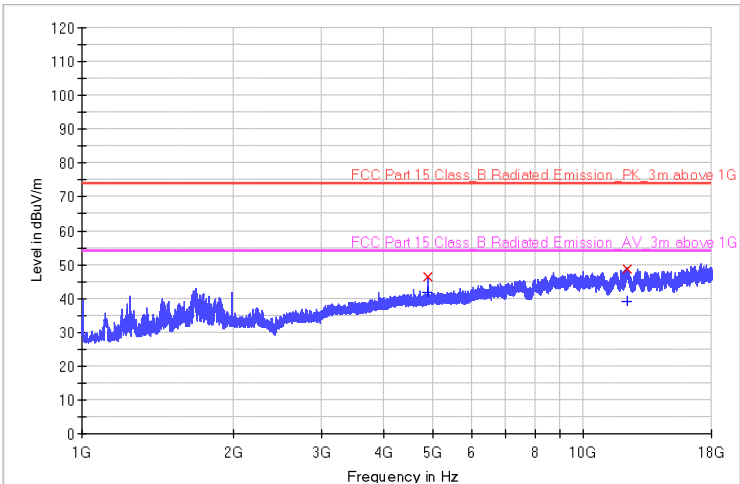
No Hopping off mode:

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)
4881.400000	47.6	41.1	121.0	H	223.0	-3.1	26.4	74.0	12.9	54.0
10869.100000	49.3	40.3	150.0	H	39.0	3.5	24.7	74.0	13.7	54.0

RE_HF907_BRF_Pre

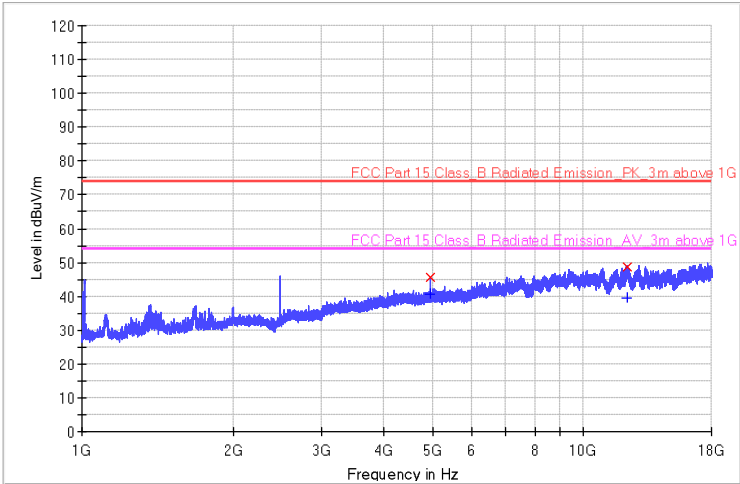


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4881.700000	46.3	41.7	174.0	V	123.0	-3.1	27.7	74.0	12.3	54.0
12207.700000	48.8	39.2	221.0	V	22.0	4.7	25.2	74.0	14.8	54.0



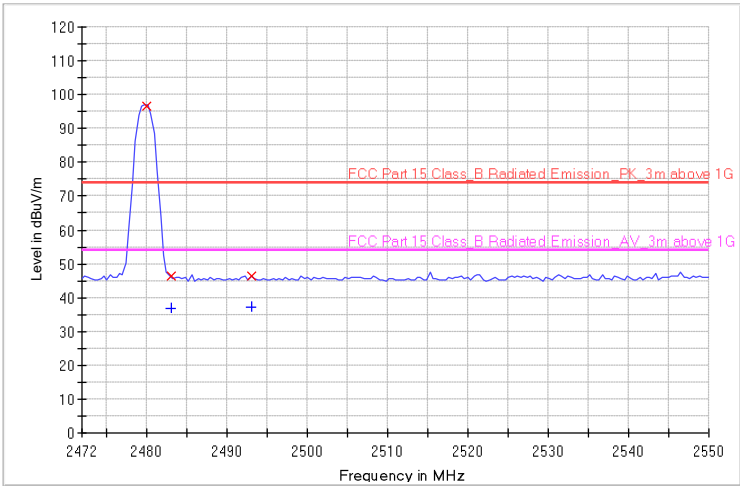
Frequency:2480MHz
No Hopping off mode:

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)
4959.400000	45.7	40.8	251.0	H	135.0	-3.0	28.3	74.0	13.2	54.0
12197.800000	48.8	39.6	163.0	H	224.0	4.7	25.2	74.0	14.4	54.0

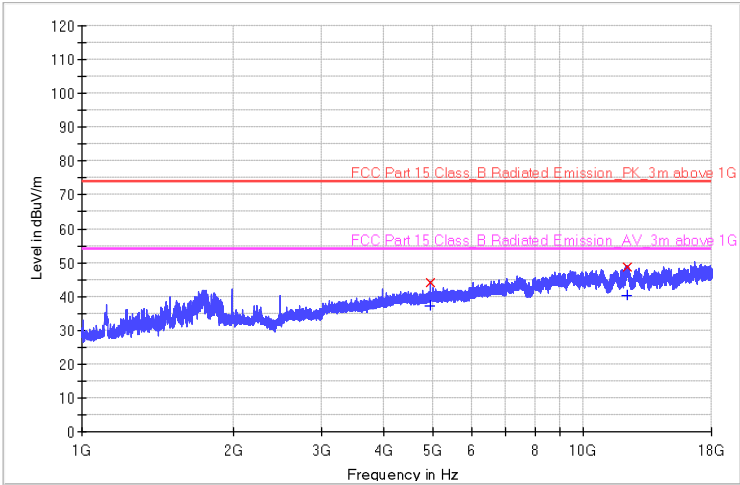
RE_HF907_BRF_Pre



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)
2480.000000	96.8	---	250.0	H	153.0	-1.4	-22.8	74.0	---	---
2483.500000	46.2	36.8	211.0	H	202.0	-1.4	27.8	74.0	17.2	54.0
2493.100000	46.3	37.1	150.0	H	240.0	-1.3	27.7	74.0	16.9	54.0

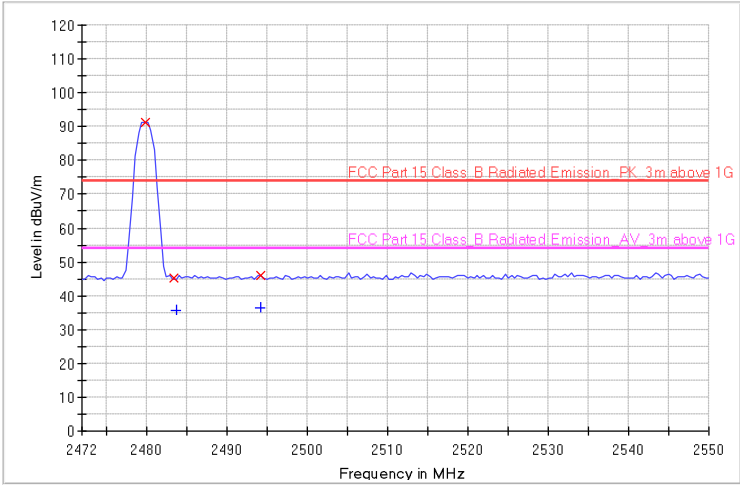


RE_HF907_BRF_Pre



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)
4960.000000	43.9	37.2	252.0	V	321.0	-3.0	30.1	74.0	16.8	54.0
12220.600000	48.6	40.1	110.0	V	114.0	4.7	25.4	74.0	13.9	54.0

RE_HF907_BRF_Pre

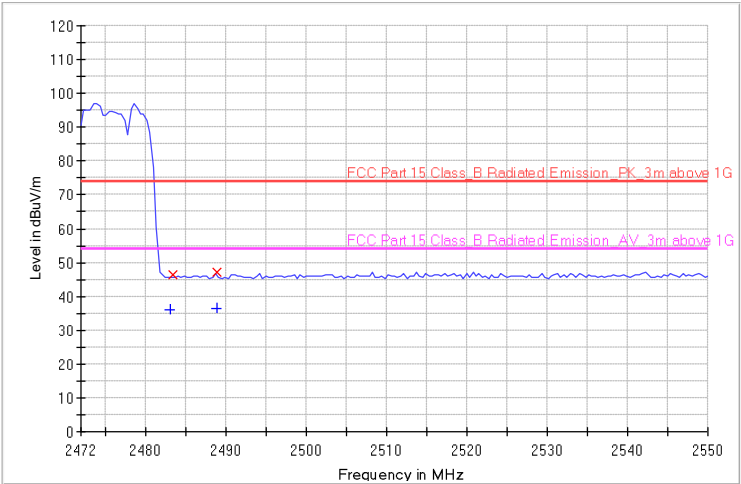


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2480.000000	91.4	---	102.0	V	88.0	-1.4	-17.4	74.0	---	---
2483.500000	45.3	35.7	112.0	V	137.0	-1.4	28.7	74.0	18.3	54.0
2494.300000	46.1	36.6	200.0	V	161.0	-1.3	27.9	74.0	17.4	54.0



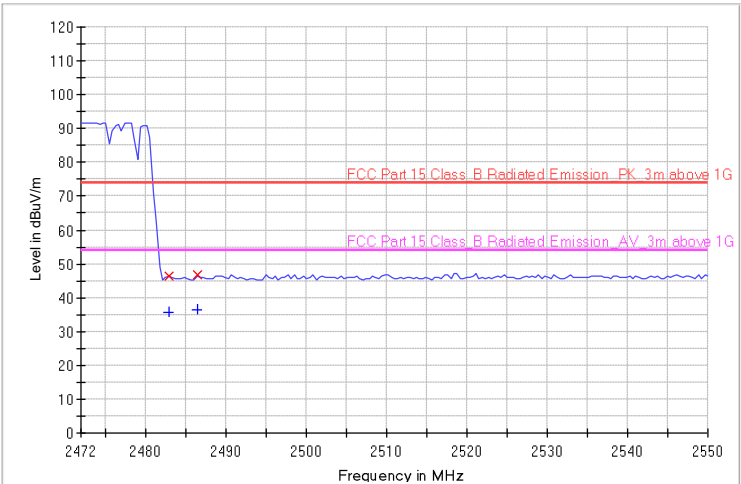
Hopping on mode:

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)
2483.500000	46.2	35.9	252.0	H	331.0	-1.4	27.8	74.0	18.1	54.0
2488.900000	47.1	36.6	112.0	H	112.0	-1.3	26.9	74.0	17.4	54.0

RE_HF907_BRF_Pre

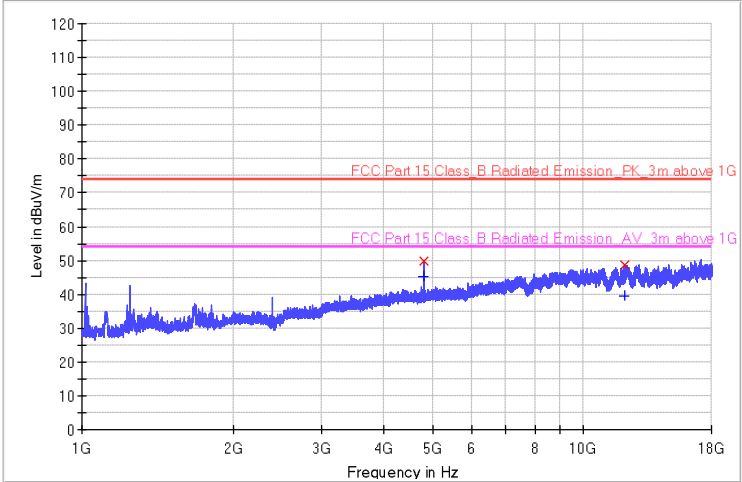


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2483.500000	46.2	35.8	152.0	V	233.0	-1.4	27.8	74.0	18.2	54.0
2486.500000	46.6	36.3	224.0	V	11.0	-1.3	27.4	74.0	17.7	54.0



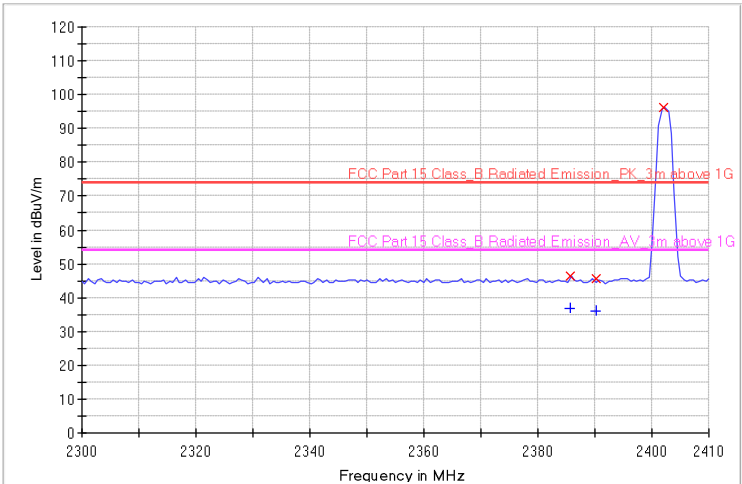
Frequency:2402MHz, 8DPSK
No Hopping off mode:

RE_HF907_BRF_Pre



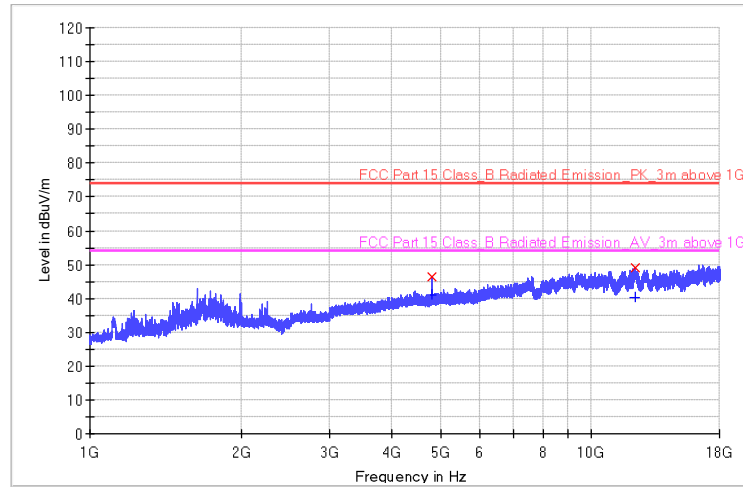
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4804.300000	49.7	45.2	125.0	H	221.0	-3.4	24.3	74.0	8.8	54.0
12108.400000	48.6	39.3	221.0	H	11.0	4.7	25.4	74.0	14.7	54.0

RE_HF907_BRF_Pre



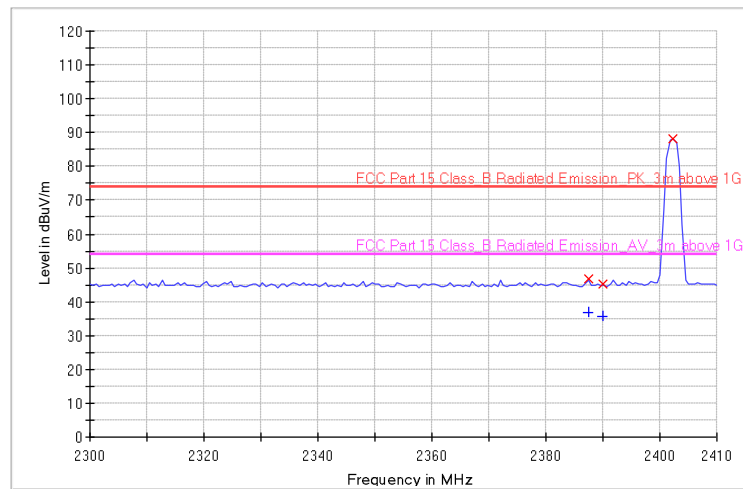
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2385.700000	46.5	36.7	153.0	H	116.0	-1.9	27.5	74.0	17.7	54.0
2390.000000	45.5	36.2	205.0	H	60.0	-1.9	28.5	74.0	18.0	54.0
2402.000000	96.3	---	125.0	H	24.0	-1.8	-22.3	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)
4803.700000	46.3	41.1	252.0	V	23.0	-3.4	27.7	74.0	12.9	54.0
12199.900000	49.2	40.3	114.0	V	117.0	4.7	24.8	74.0	13.7	54.0

RE_HF907_BRF_Pre

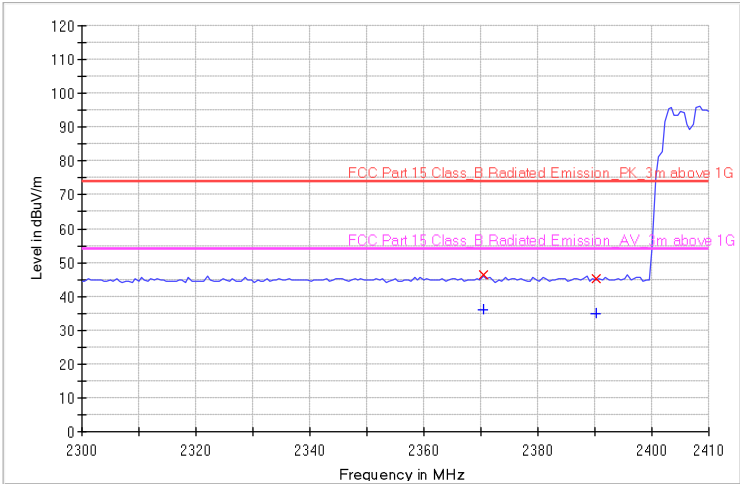


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2387.500000	46.6	36.8	122.0	V	13.0	-1.9	27.4	74.0	17.2	54.0
2390.000000	45.1	35.5	202.0	V	0.0	-1.9	28.9	74.0	18.5	54.0
2402.000000	88.2	---	150.0	V	254.0	-1.8	-14.2	74.0	---	---



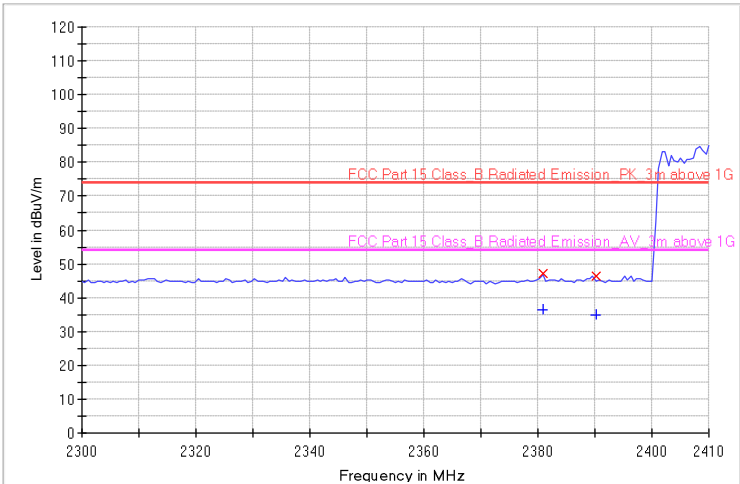
Hopping on mode:

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)
2370.400000	46.5	36.2	221.0	H	16.0	-2.0	27.5	74.0	17.8	54.0
2390.200000	45.3	34.9	122.0	H	1.0	-1.9	28.7	74.0	19.1	54.0

RE_HF907_BRF_Pre



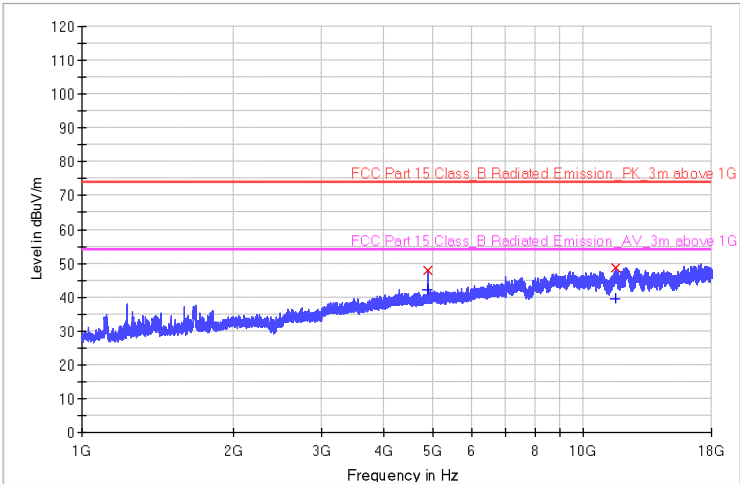
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2380.900000	47.0	36.5	112.0	V	21.0	-1.9	27.0	74.0	17.5	54.0
2390.200000	46.3	36.2	152.0	V	12.0	-1.9	27.7	74.0	17.8	54.0



Frequency:2441MHz

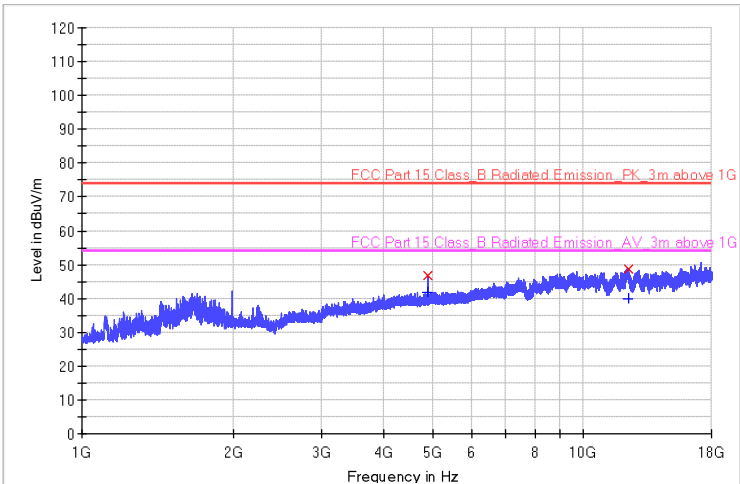
No Hopping off mode:

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)
4882.300000	47.9	42.1	112.0	H	123.0	-3.1	26.1	74.0	11.9	54.0
11605.300000	48.6	39.6	201.0	H	332.0	4.2	25.4	74.0	14.4	54.0

RE_HF907_BRF_Pre

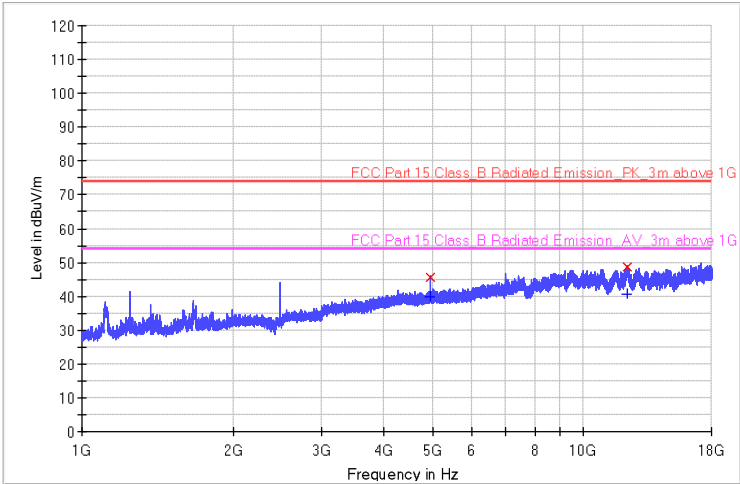


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
4882.300000	46.6	41.7	162.0	V	22.0	-3.1	27.4	74.0	12.3	54.0
12274.300000	48.5	39.7	220.0	V	114.0	4.7	25.5	74.0	14.3	54.0



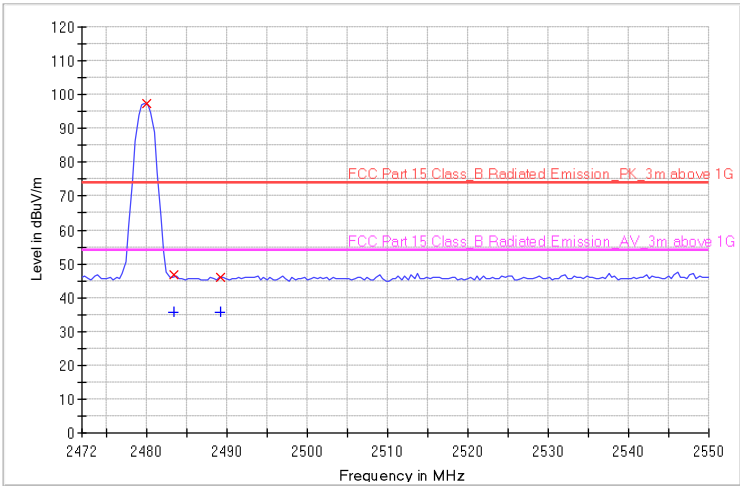
Frequency:2480MHz
No Hopping off mode:

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)
4960.000000	45.6	39.8	118.0	H	24.0	-3.0	28.4	74.0	14.2	54.0
12215.800000	48.8	40.5	220.0	H	114.0	4.7	25.2	74.0	13.5	54.0

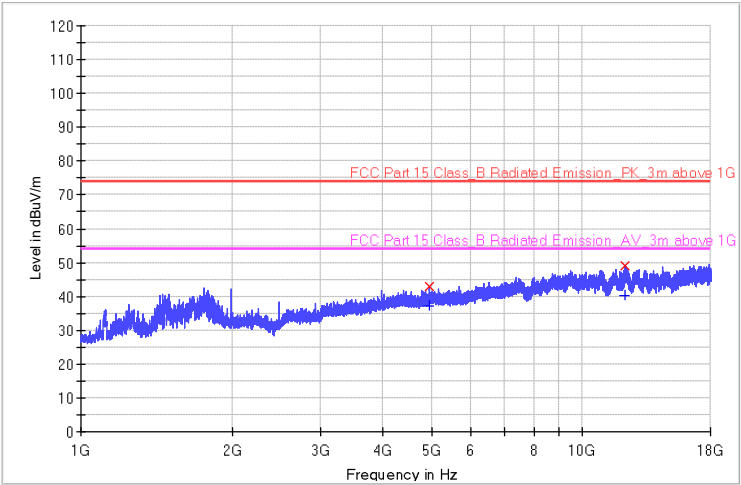
RE_HF907_BRF_Pre



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)
2480.000000	97.2	---	122.0	H	249.0	-1.4	-23.2	74.0	---	---
2483.500000	46.8	35.7	221.0	H	273.0	-1.4	27.2	74.0	18.3	54.0
2489.200000	46.1	35.8	113.0	H	314.0	-1.3	27.9	74.0	18.2	54.0

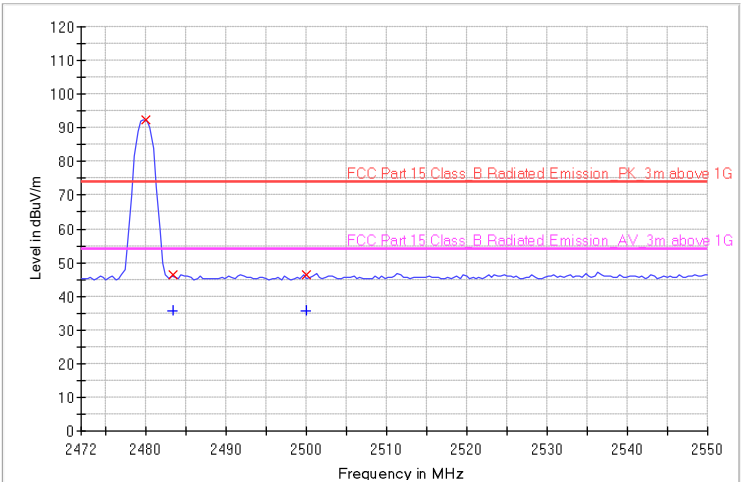


RE_HF907_BRF_Pre



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)
4960.600000	43.1	37.2	112.0	V	140.0	-3.0	30.9	74.0	16.8	54.0
12169.600000	48.9	40.1	221.0	V	21.0	4.7	25.1	74.0	13.9	54.0

RE_HF907_BRF_Pre

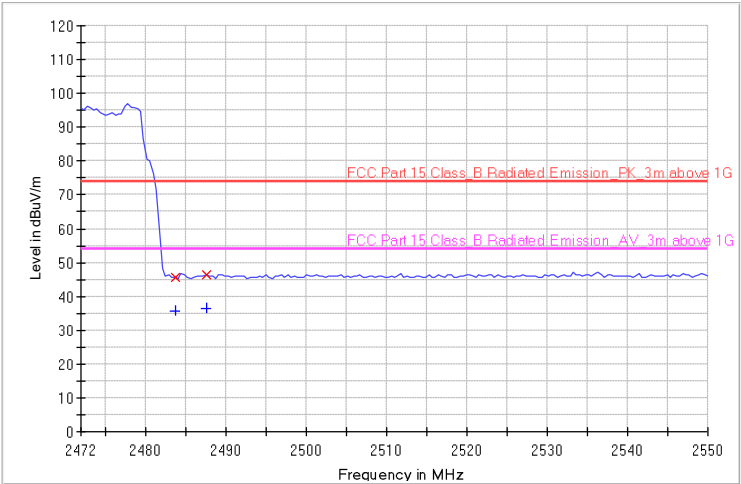


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2480.000000	92.3	---	150.0	V	190.0	-1.4	-18.3	74.0	---	---
2483.500000	46.2	35.6	221.0	V	168.0	-1.3	27.8	74.0	18.4	54.0
2500.000000	46.3	35.7	122.0	V	137.0	-1.3	27.7	74.0	18.3	54.0



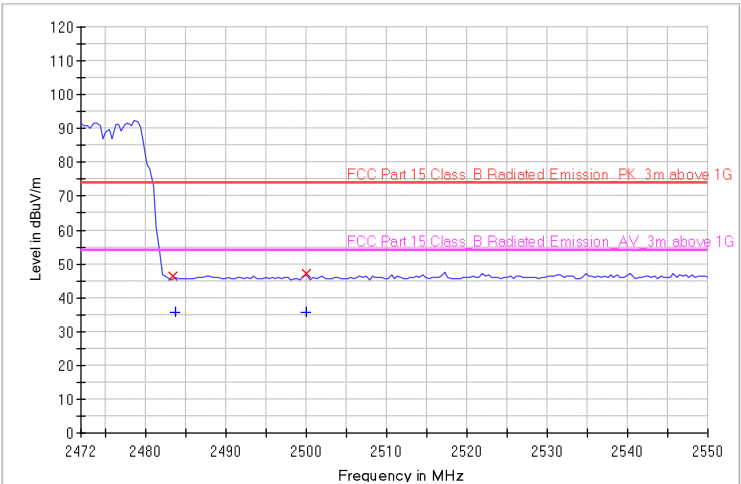
Hopping on mode:

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)
2483.500000	45.5	35.7	252.0	H	241.0	-1.4	28.5	74.0	18.3	54.0
2487.700000	46.3	36.3	117.0	H	113.0	-1.3	27.7	74.0	17.7	54.0

RE_HF907_BRF_Pre

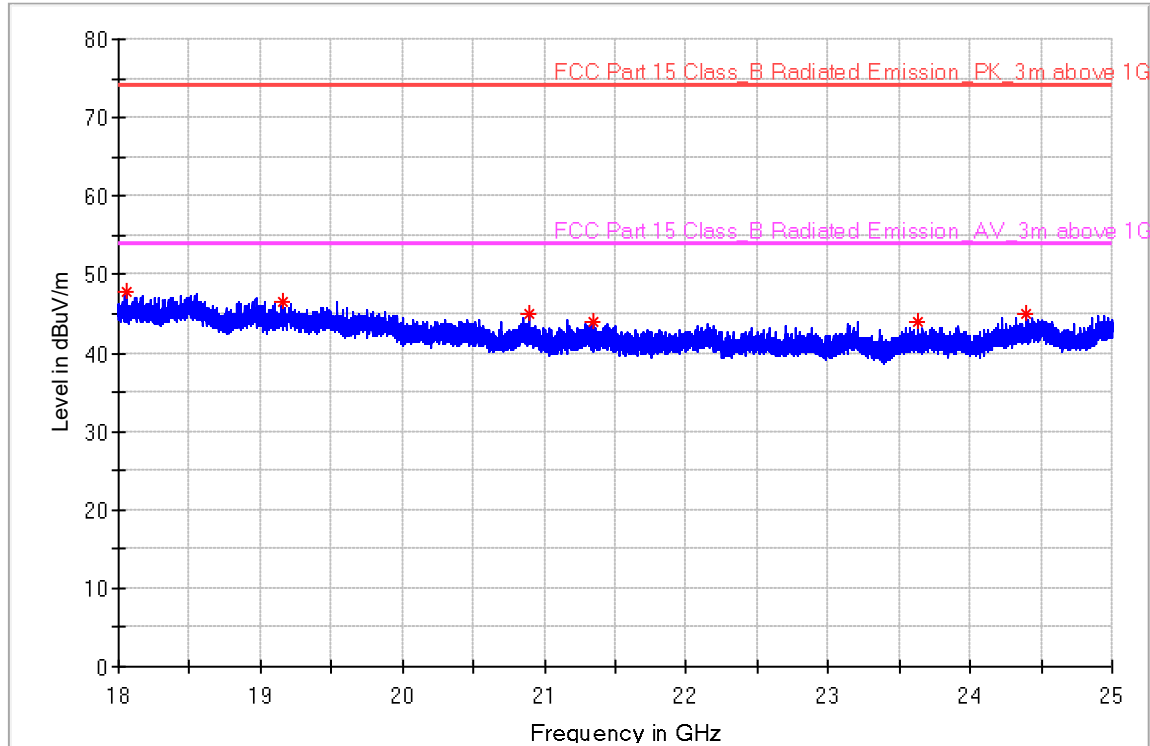


Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - AV (dB)	Limit - AV (dBuV/m)
2483.500000	46.2	35.7	250.0	V	113.0	-1.4	27.8	74.0	18.3	54.0
2500.000000	47.1	35.8	114.0	V	22.0	-1.3	26.9	74.0	18.2	54.0

The worst case of Radiated Emission Above 18GHz

Frequency: 2480MHz, 8DPSK

Full Spectrum

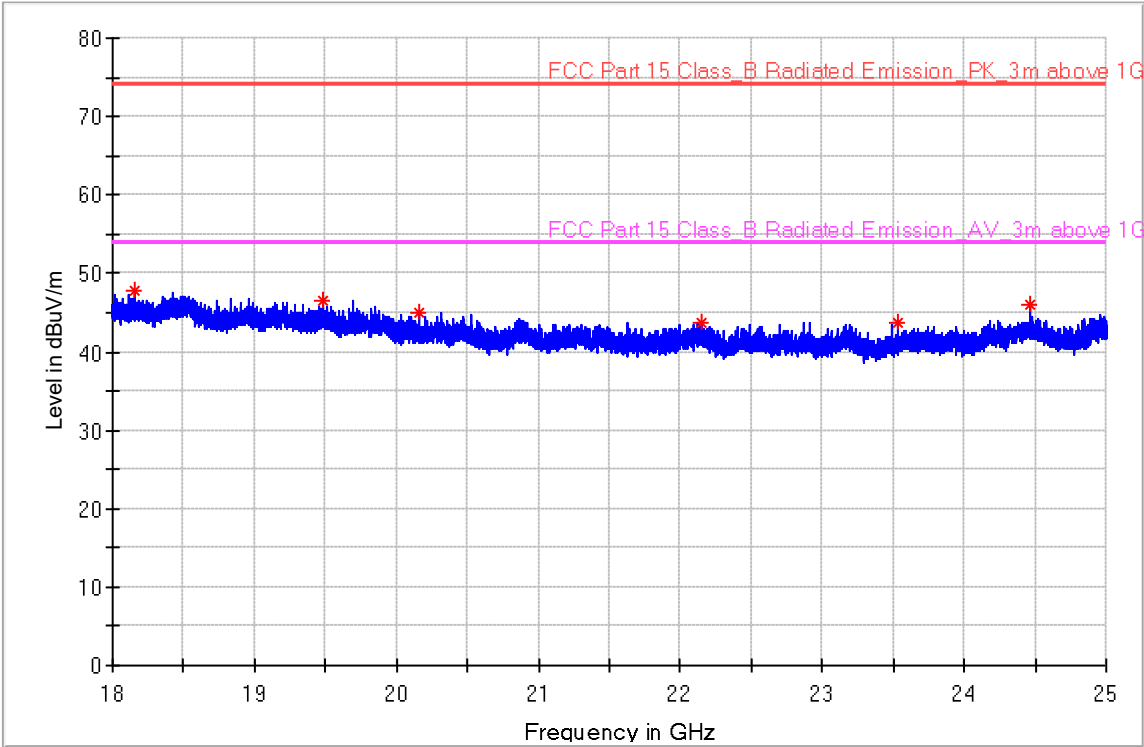


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18059.500000	47.91	74.00	26.09	100.0	H	340.0	8.1
19153.500000	46.54	74.00	27.46	100.0	H	117.0	8.2
20887.000000	44.86	74.00	29.14	100.0	H	270.0	8.5
21346.500000	43.85	74.00	30.15	100.0	H	334.0	8.6
23630.500000	44.03	74.00	29.97	100.0	H	340.0	8.9
24399.500000	44.93	74.00	29.07	100.0	H	193.0	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)
18149.000000	47.77	74.00	26.23	100.0	V	141.0	8.1
19476.500000	46.44	74.00	27.56	100.0	V	112.0	8.4
20157.500000	44.95	74.00	29.05	100.0	V	184.0	8.3
22145.500000	43.73	74.00	30.27	100.0	V	342.0	8.8
23537.000000	43.76	74.00	30.24	100.0	V	158.0	8.9
24468.500000	45.92	74.00	28.08	100.0	V	7.0	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	MWRFTest	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	MWRFTest	3.0.0.0
RE	EMC 32	Rohde & Schwarz	V10.50.40

C - Conducted RF tests

- Conducted peak output power
- 20dB 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 ⁻⁸

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 >.

-----End of Test Report-----