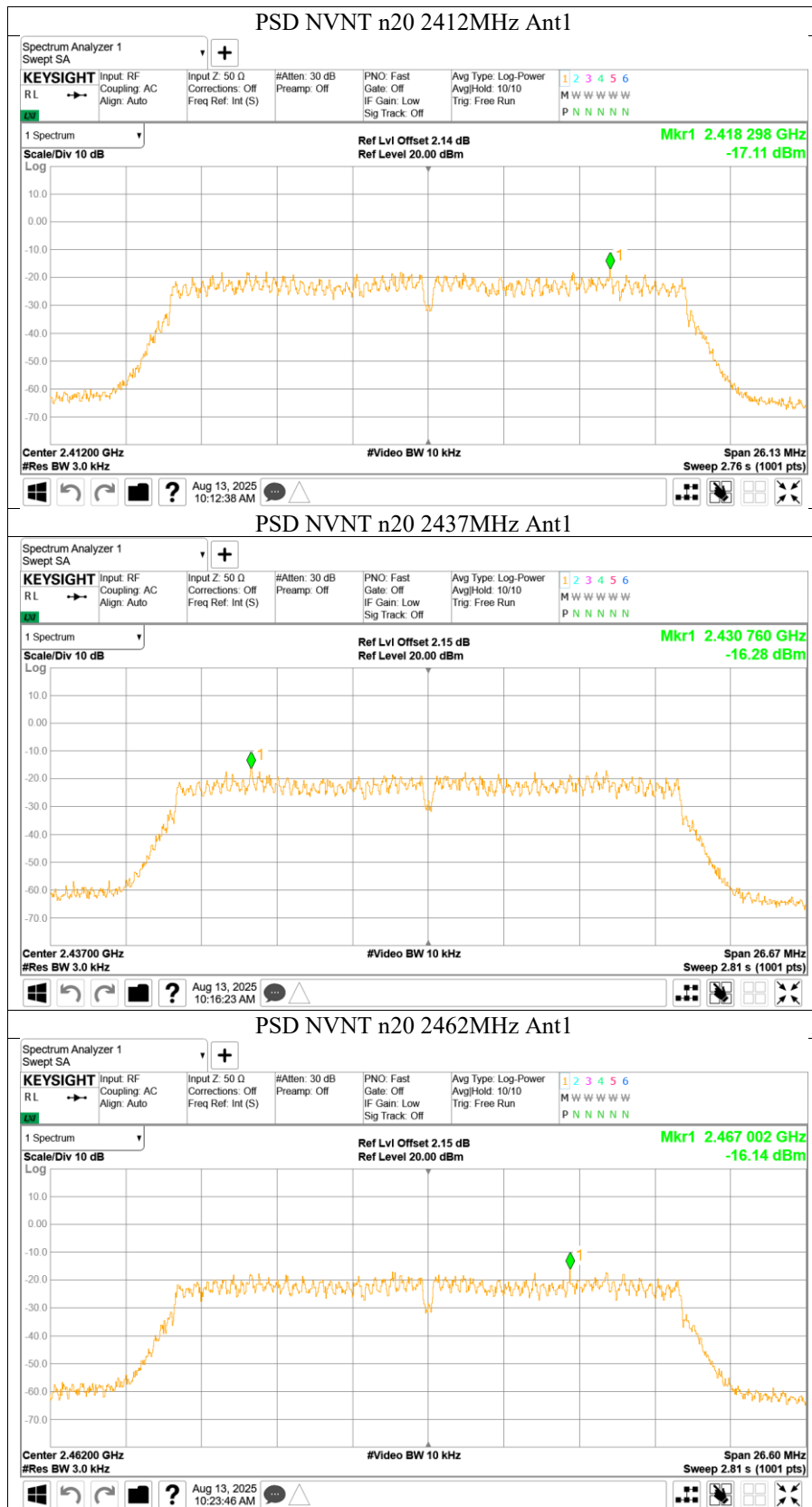






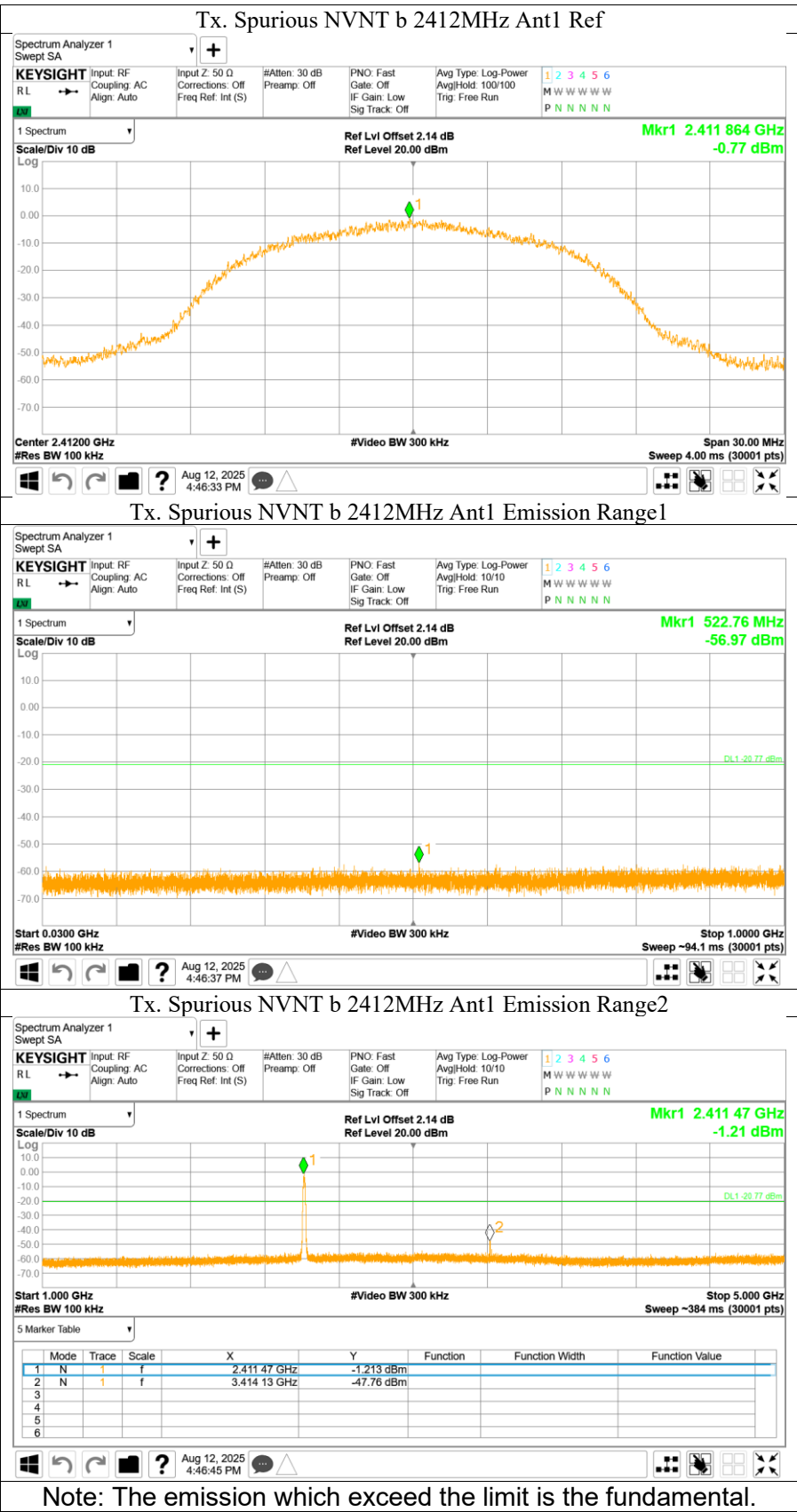
10.5 Spurious RF conducted emissions

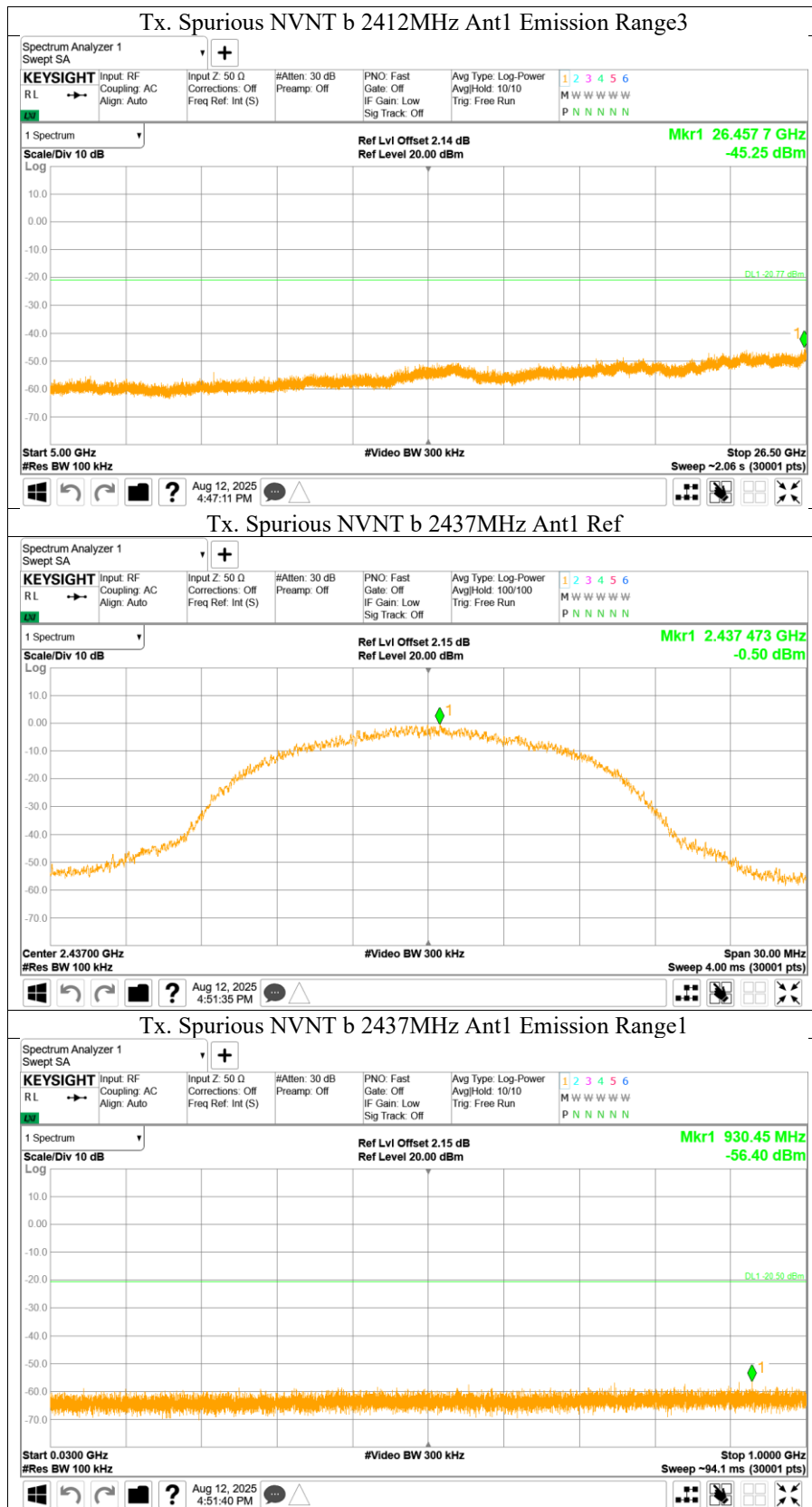
Test Method

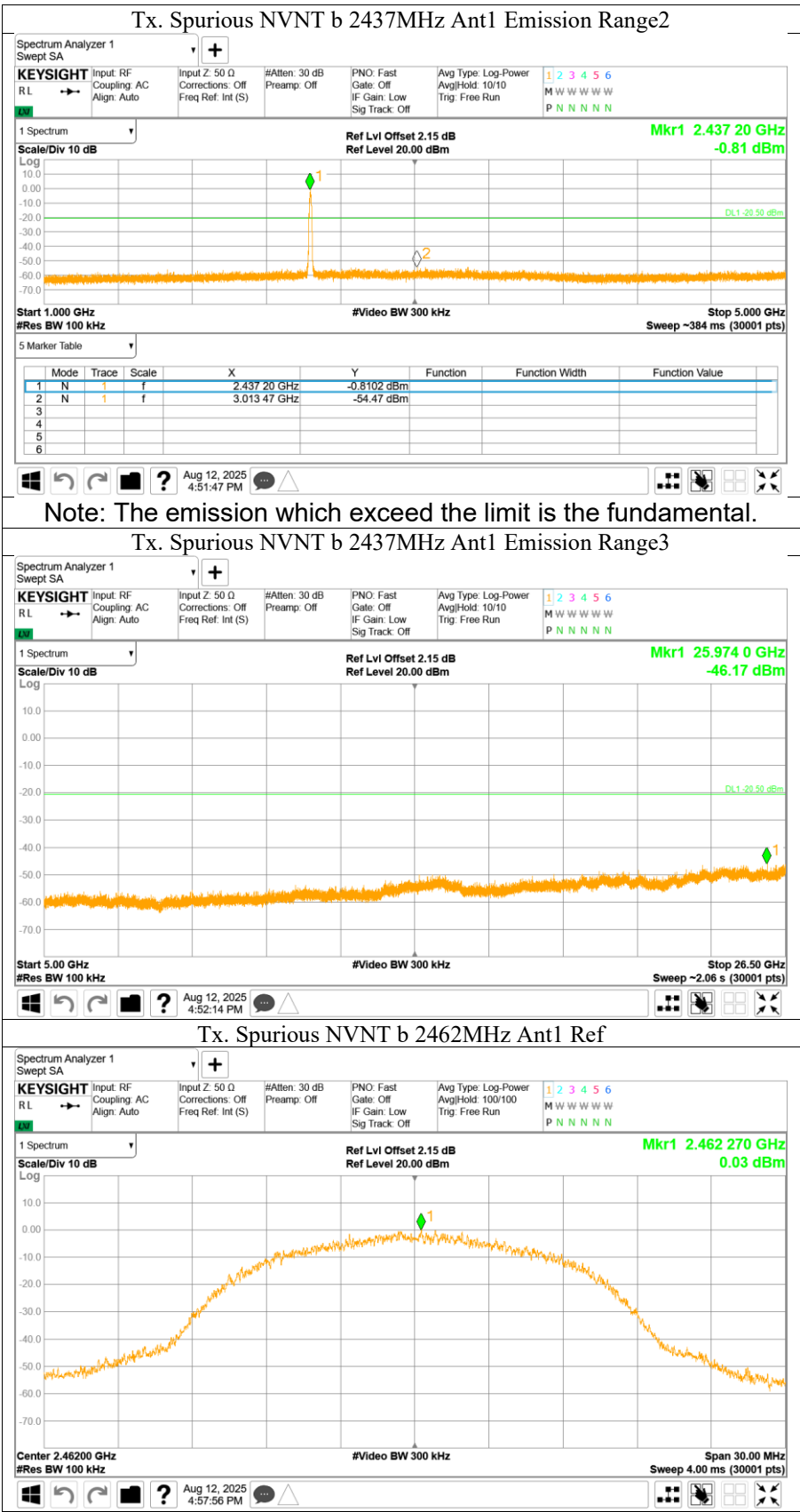
1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.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

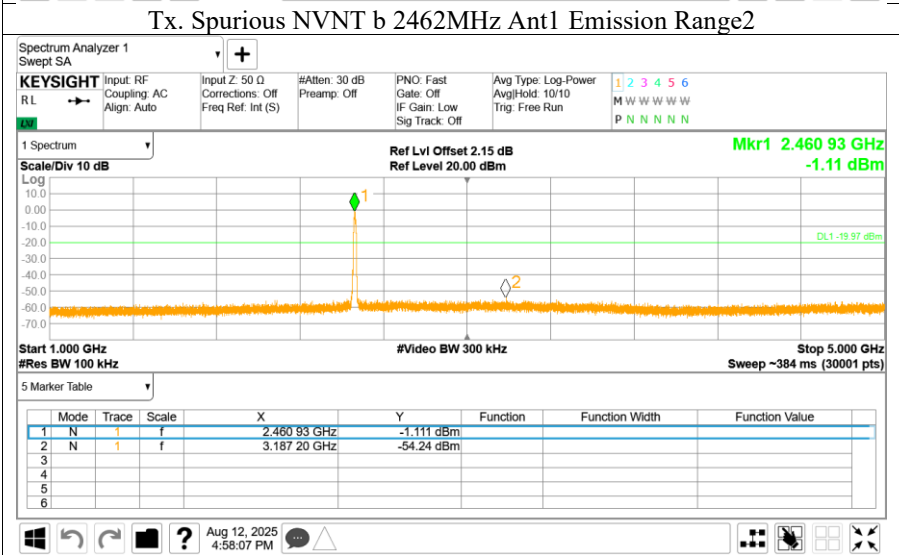
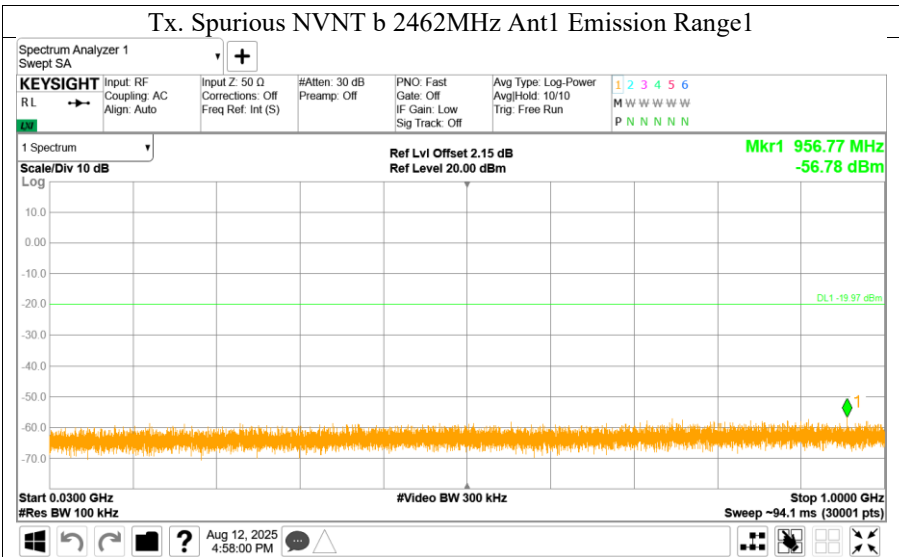
Limit

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

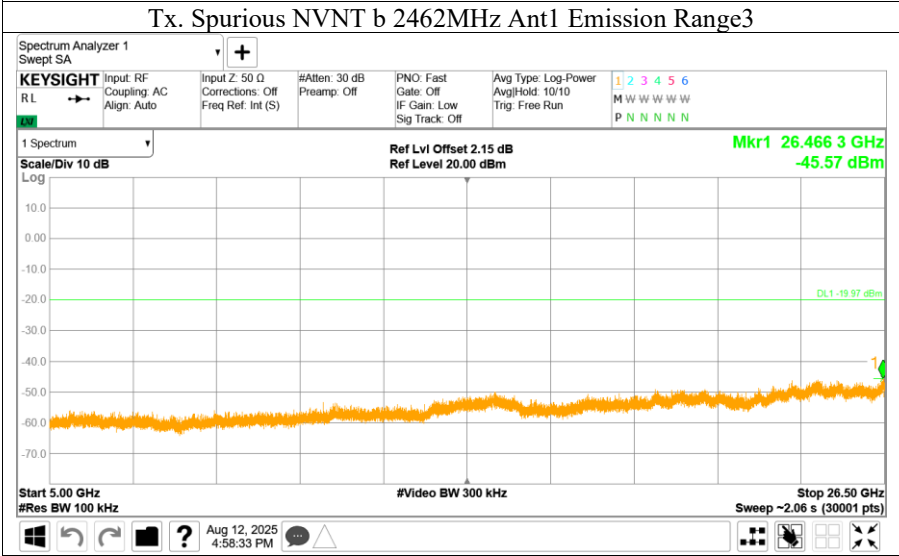


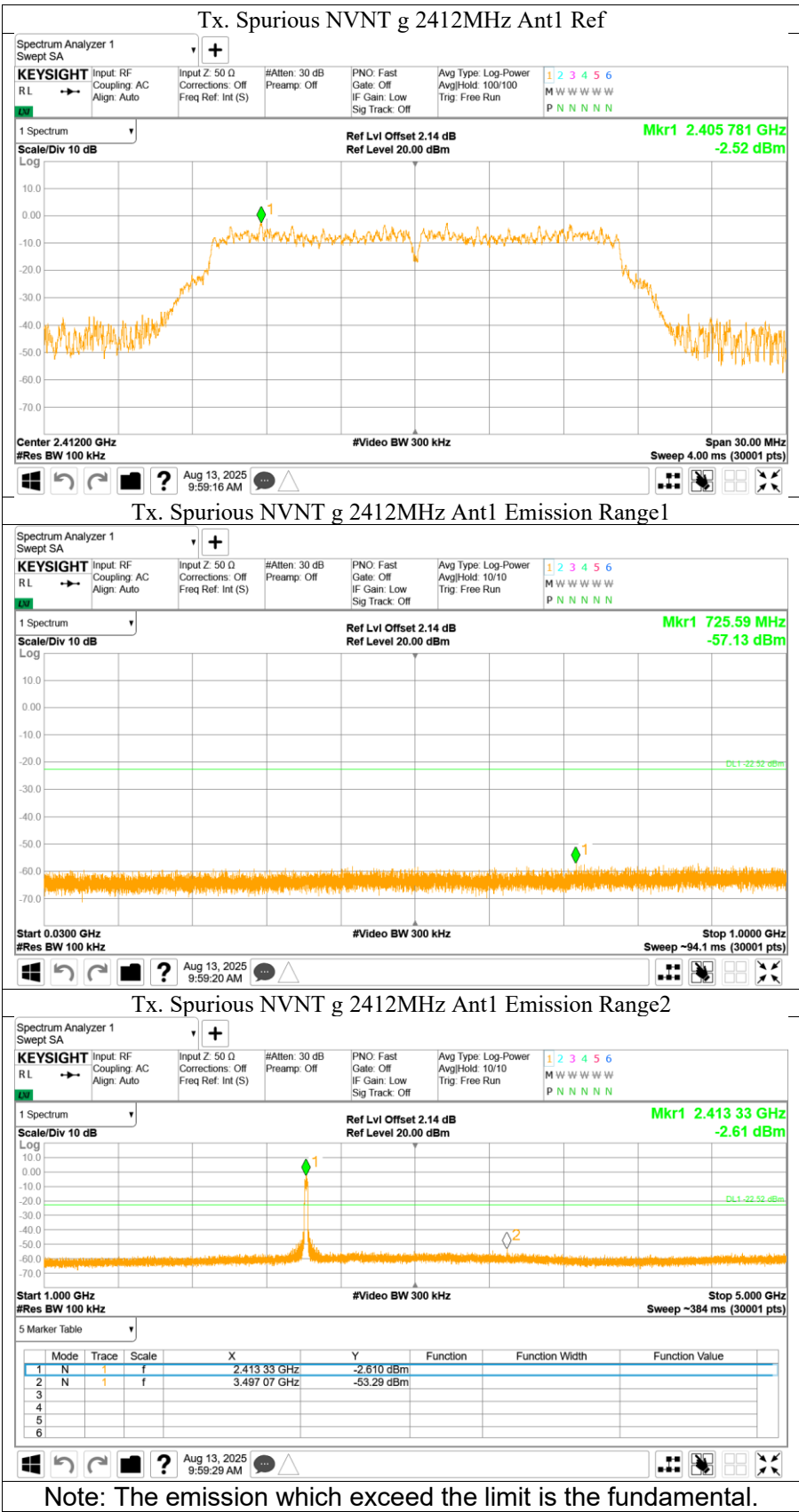


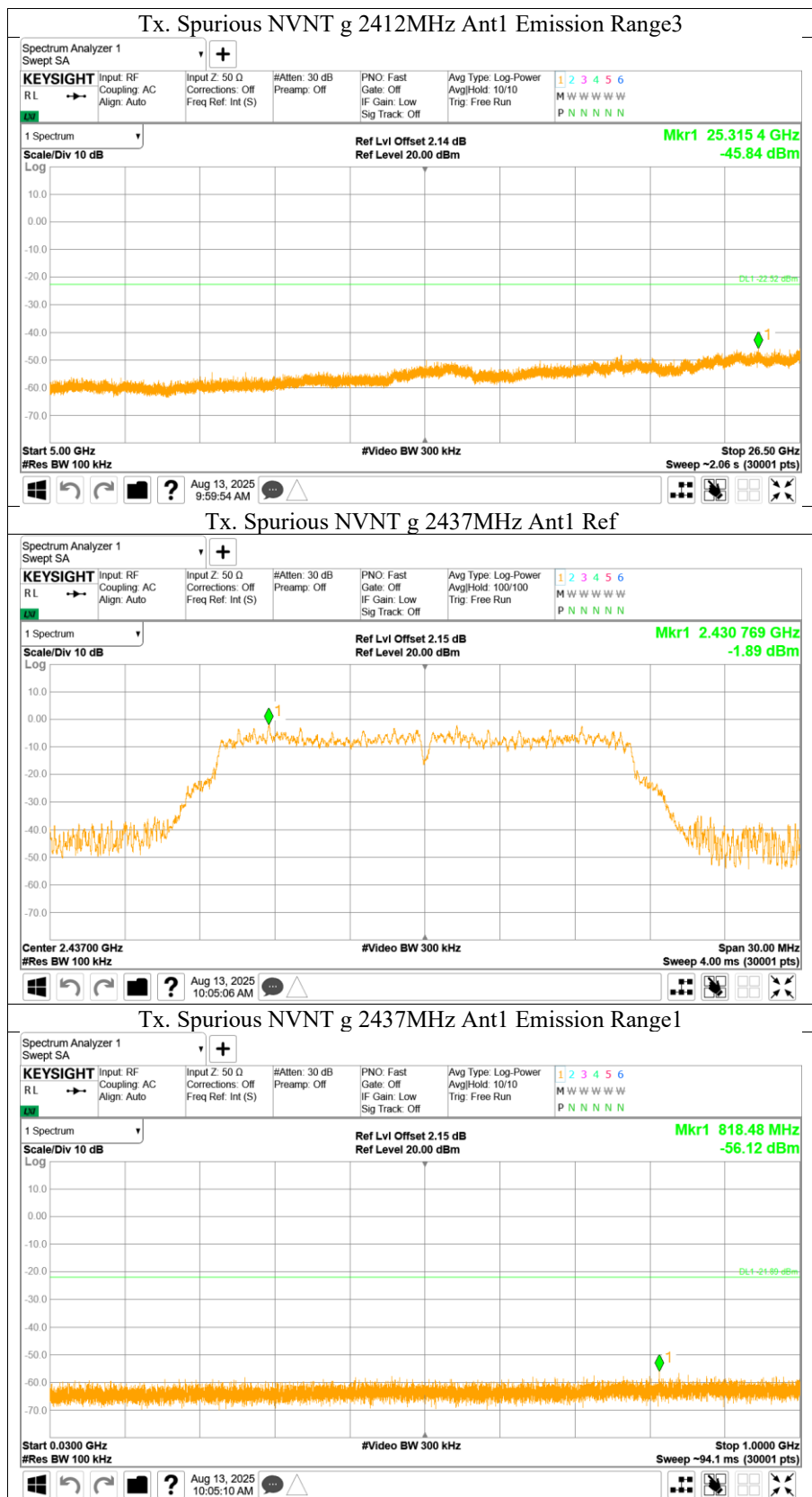


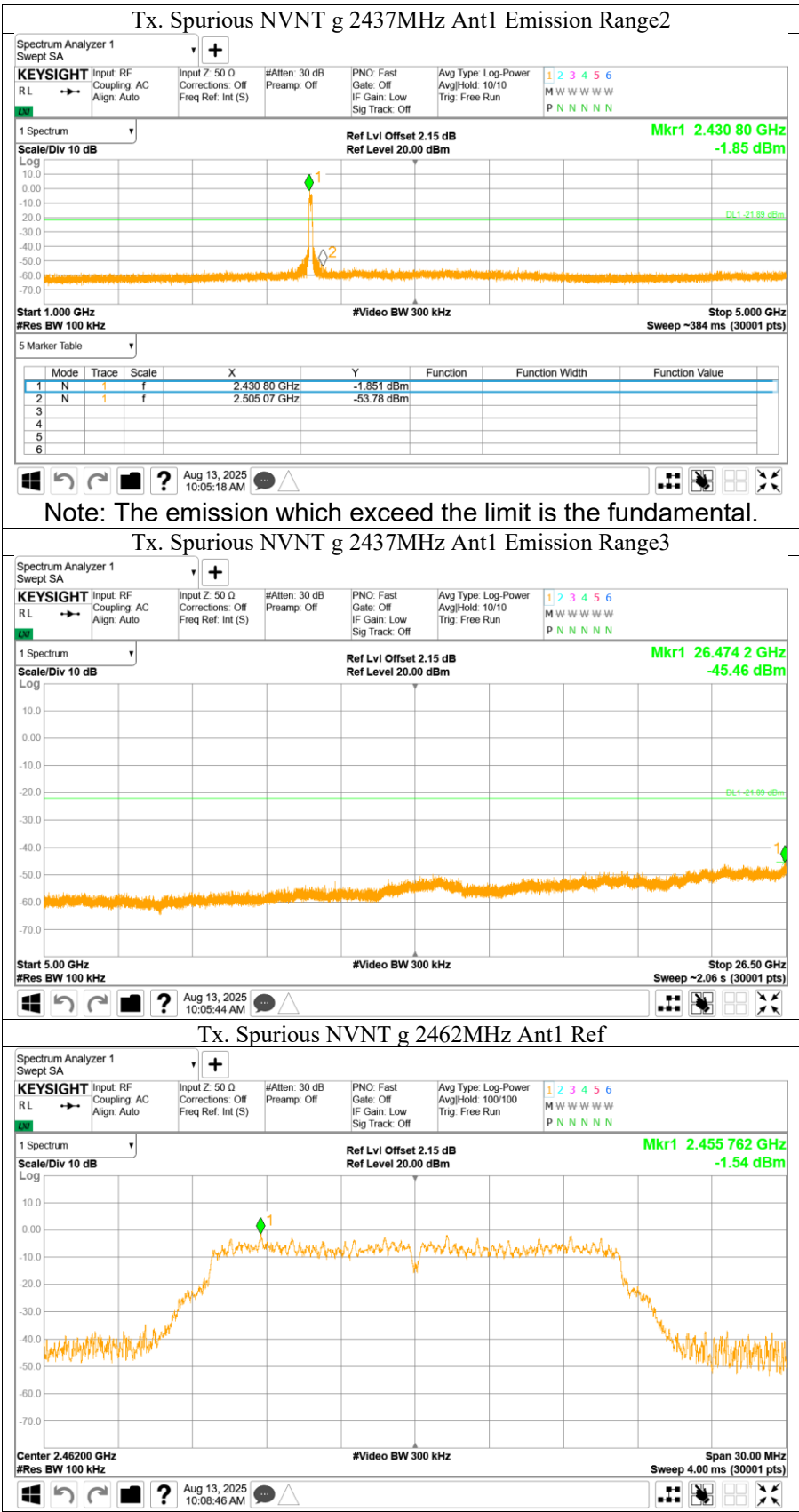


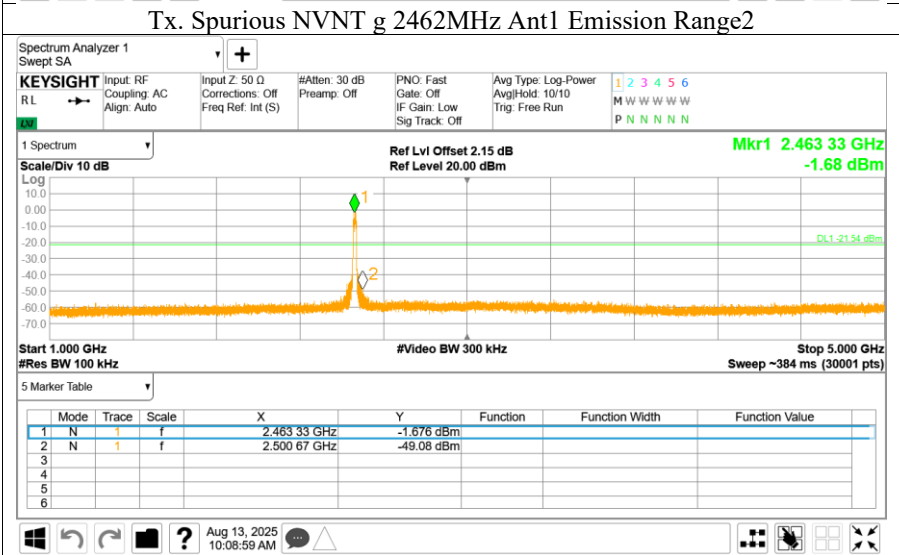
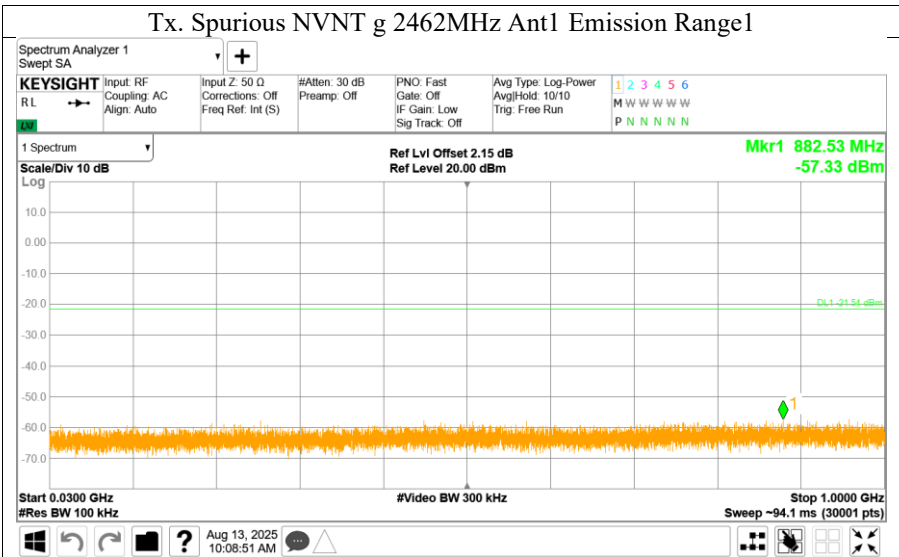
Note: The emission which exceed the limit is the fundamental.



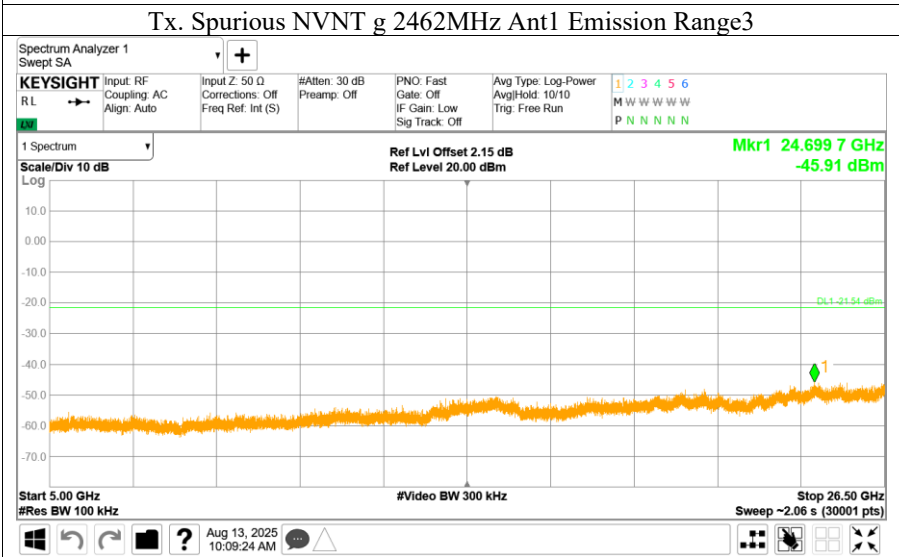


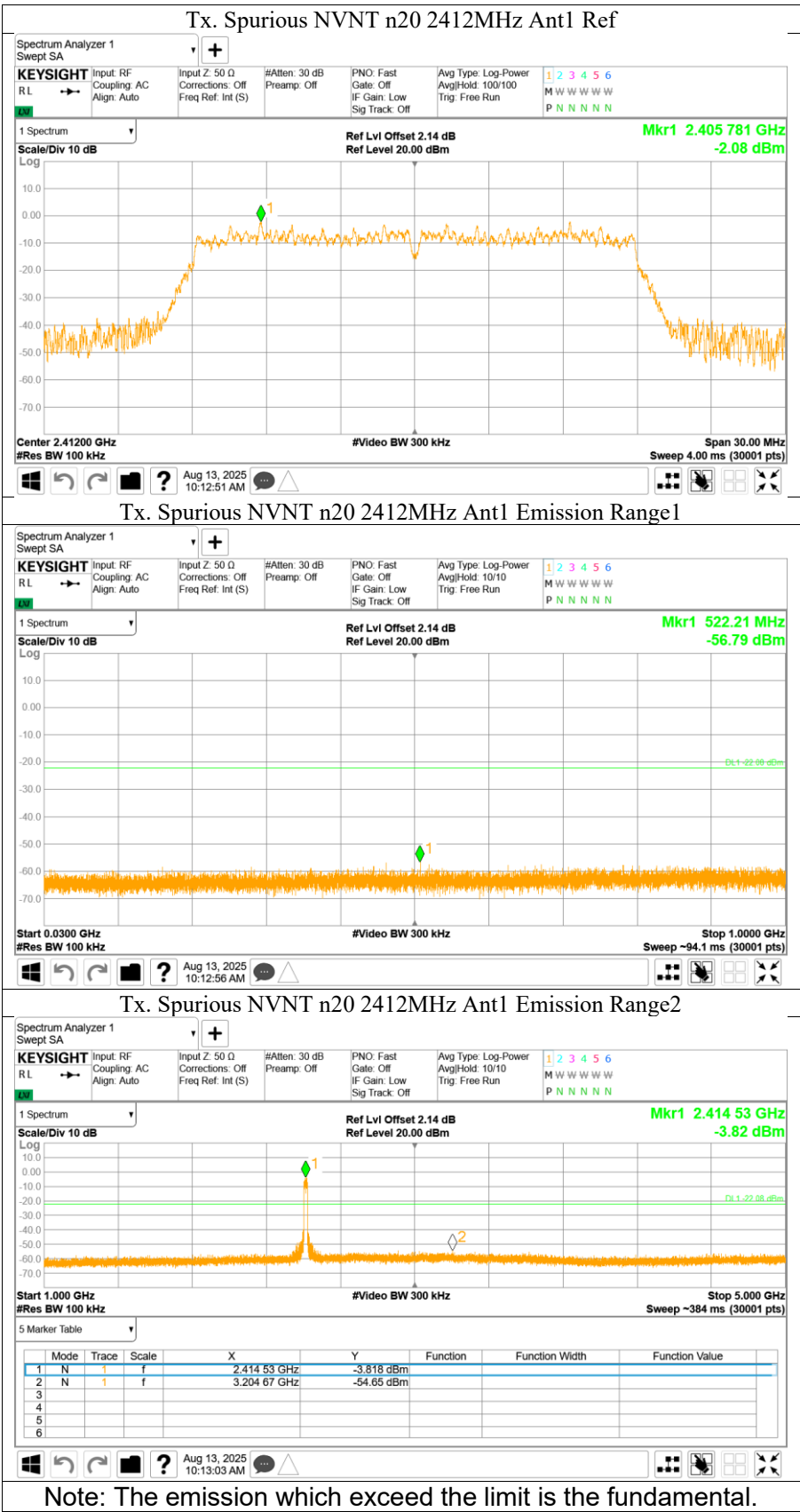


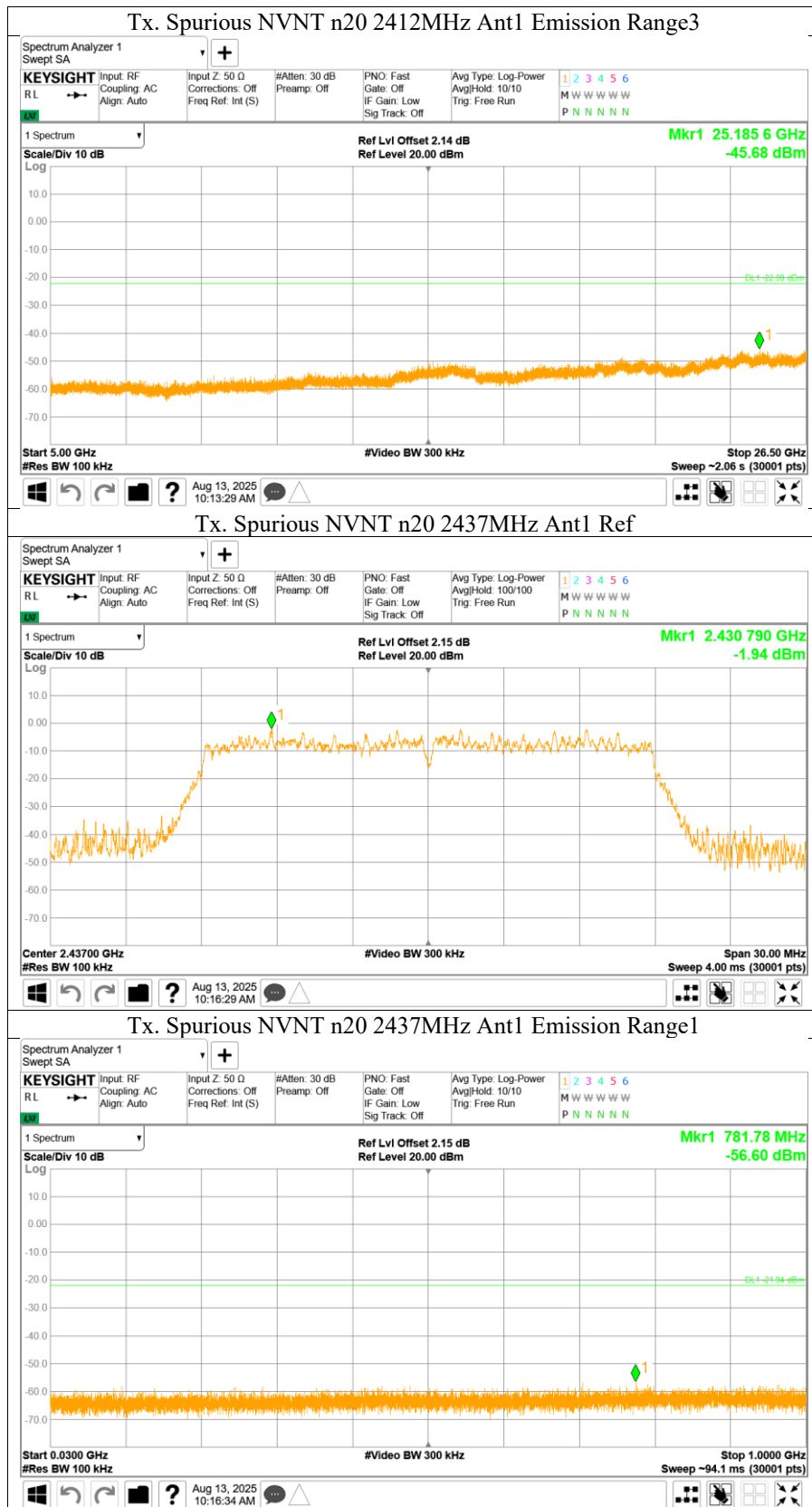


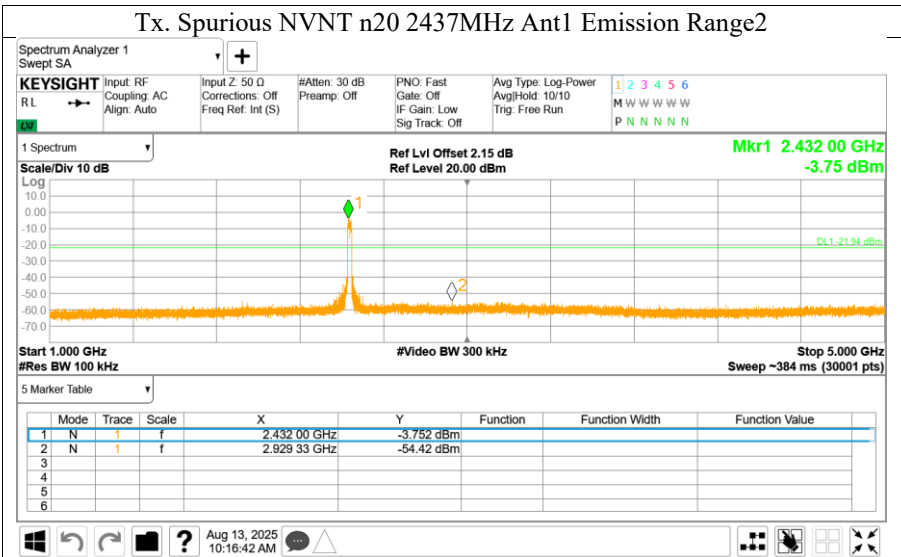


Note: The emission which exceed the limit is the fundamental.

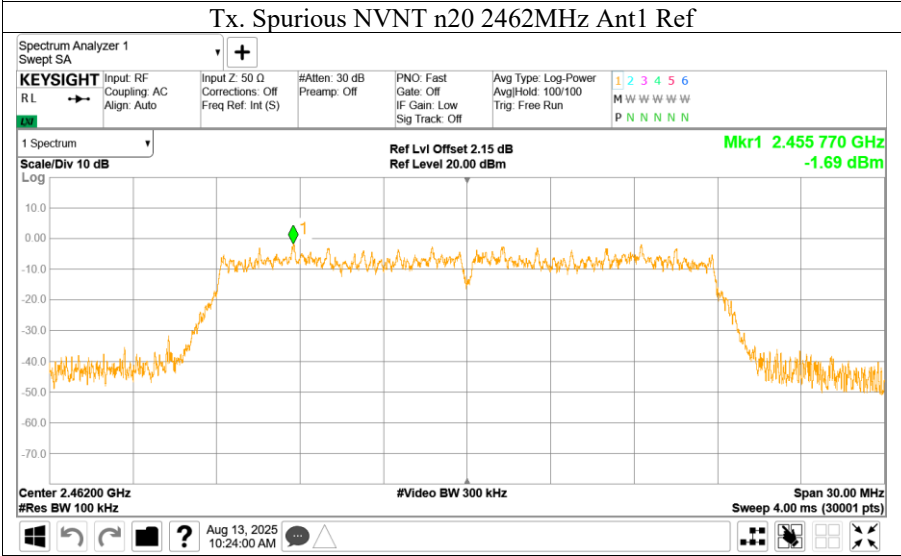
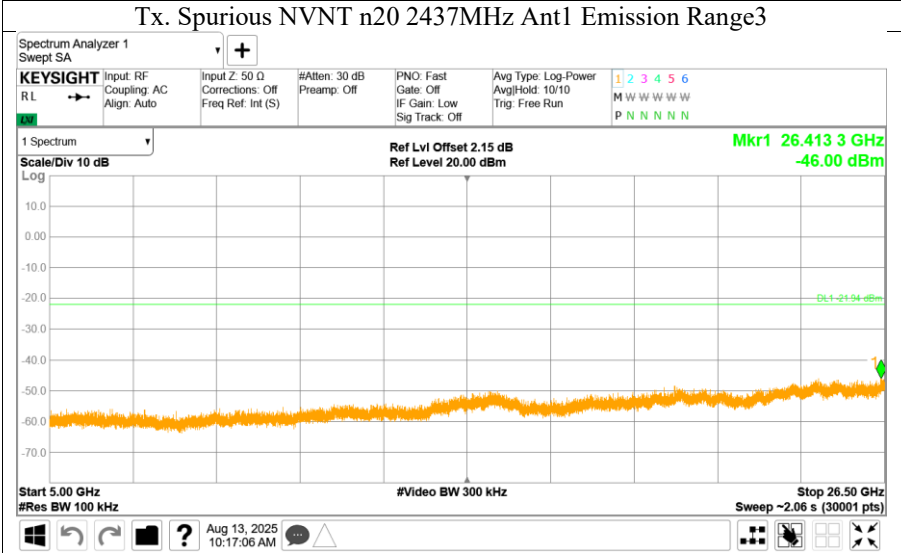


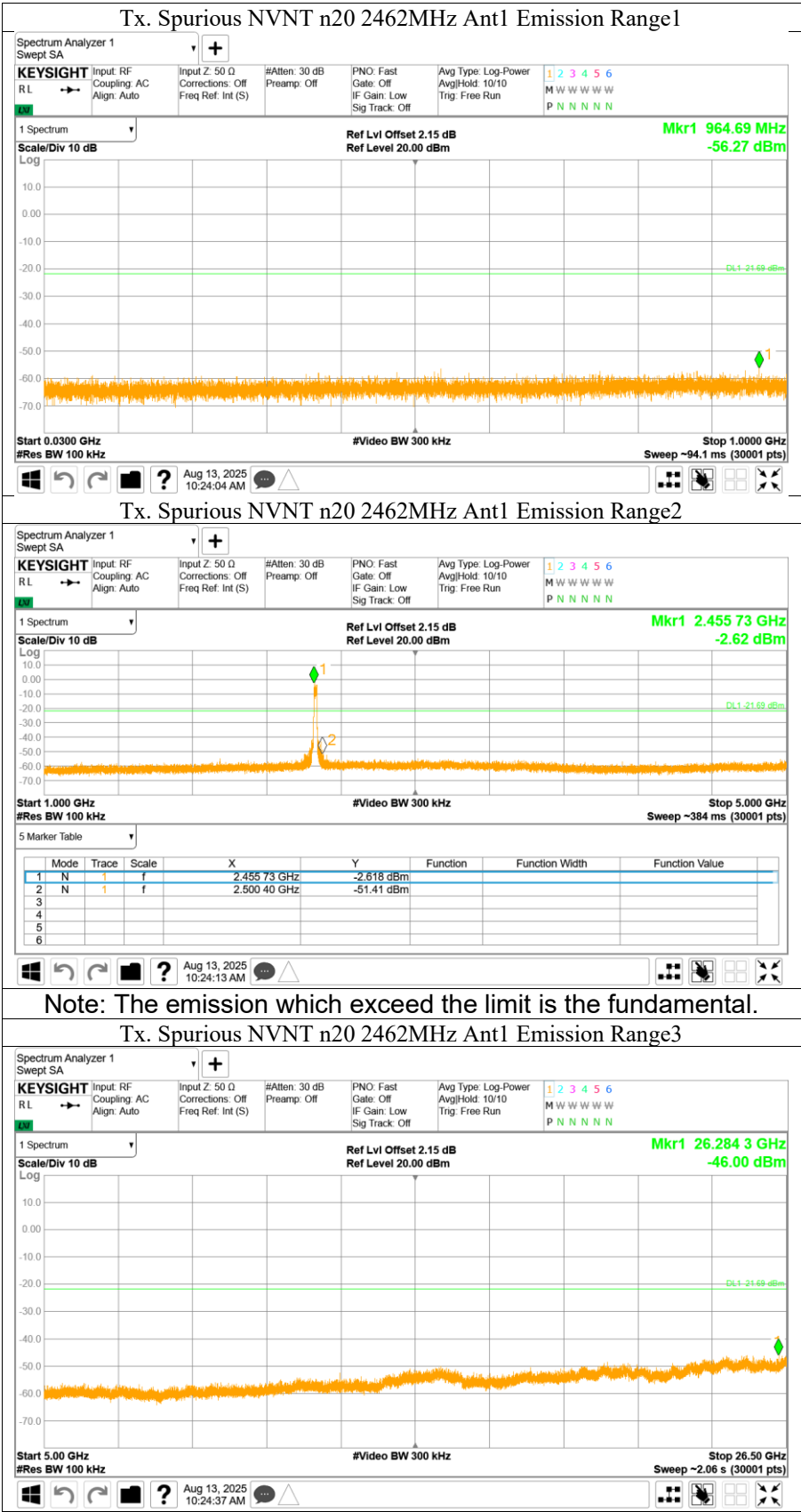






Note: The emission which exceed the limit is the fundamental.







10.6 Band edge

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious
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.

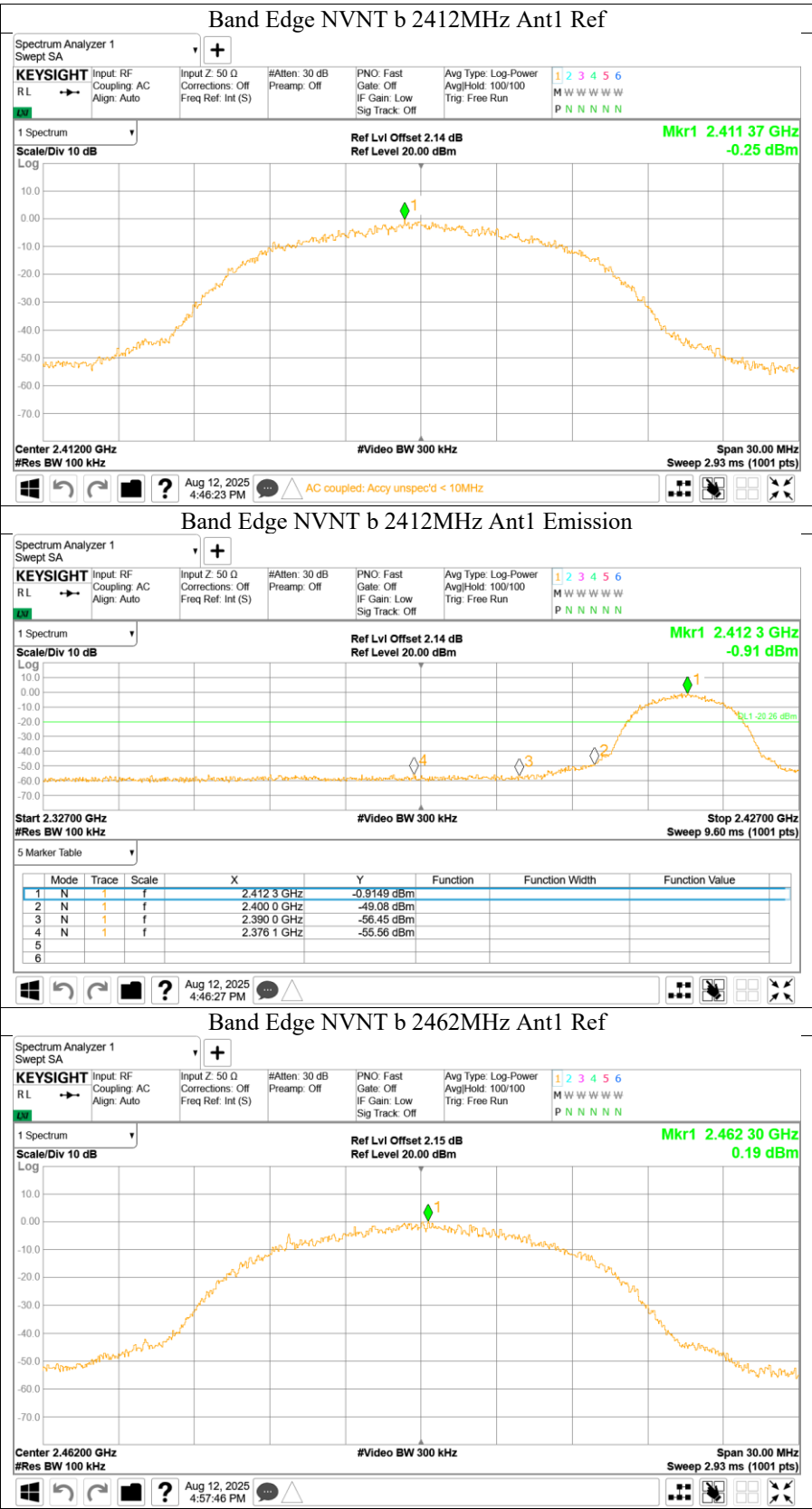
Limit:

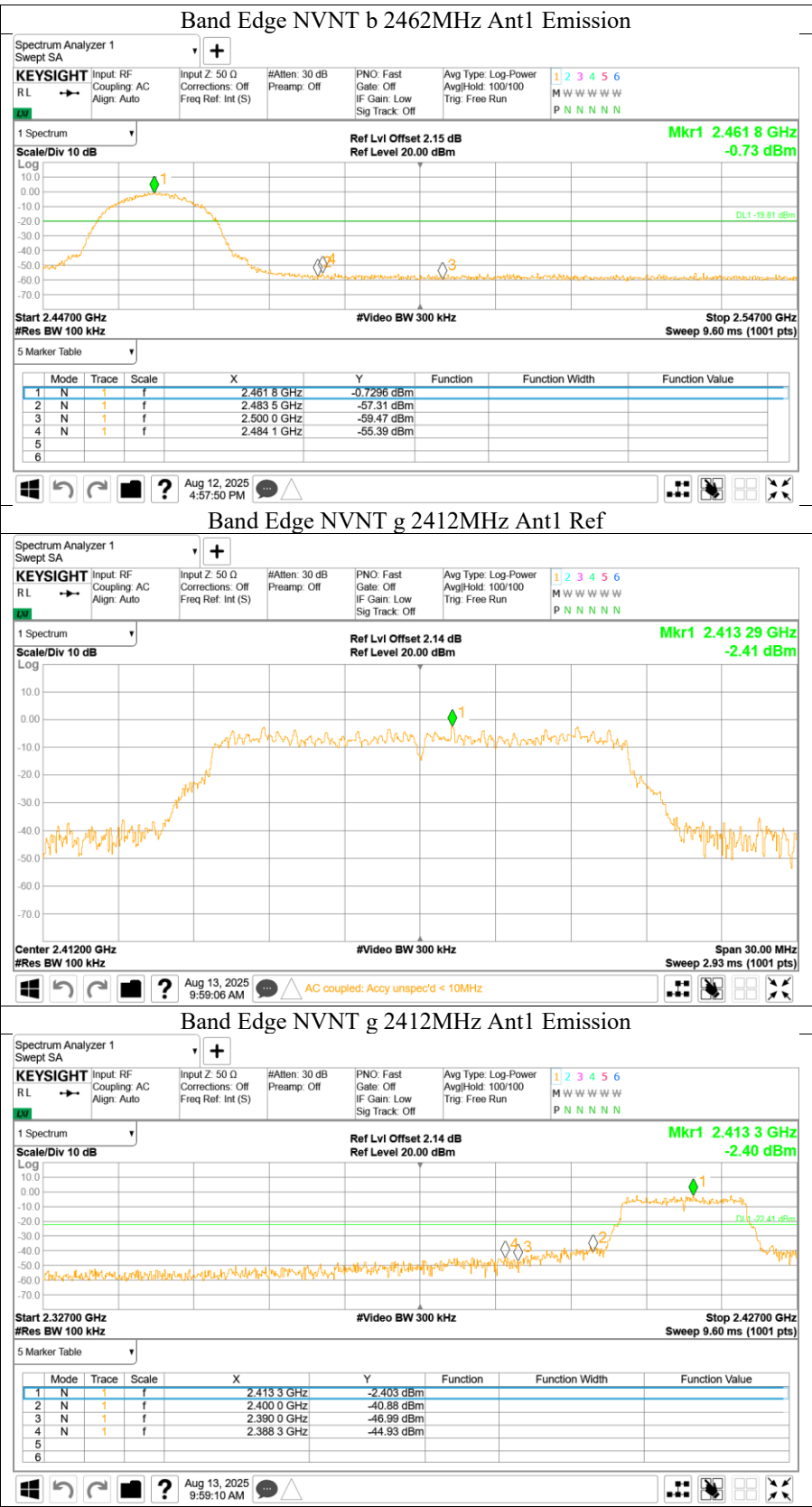
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either 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) and RSS-247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

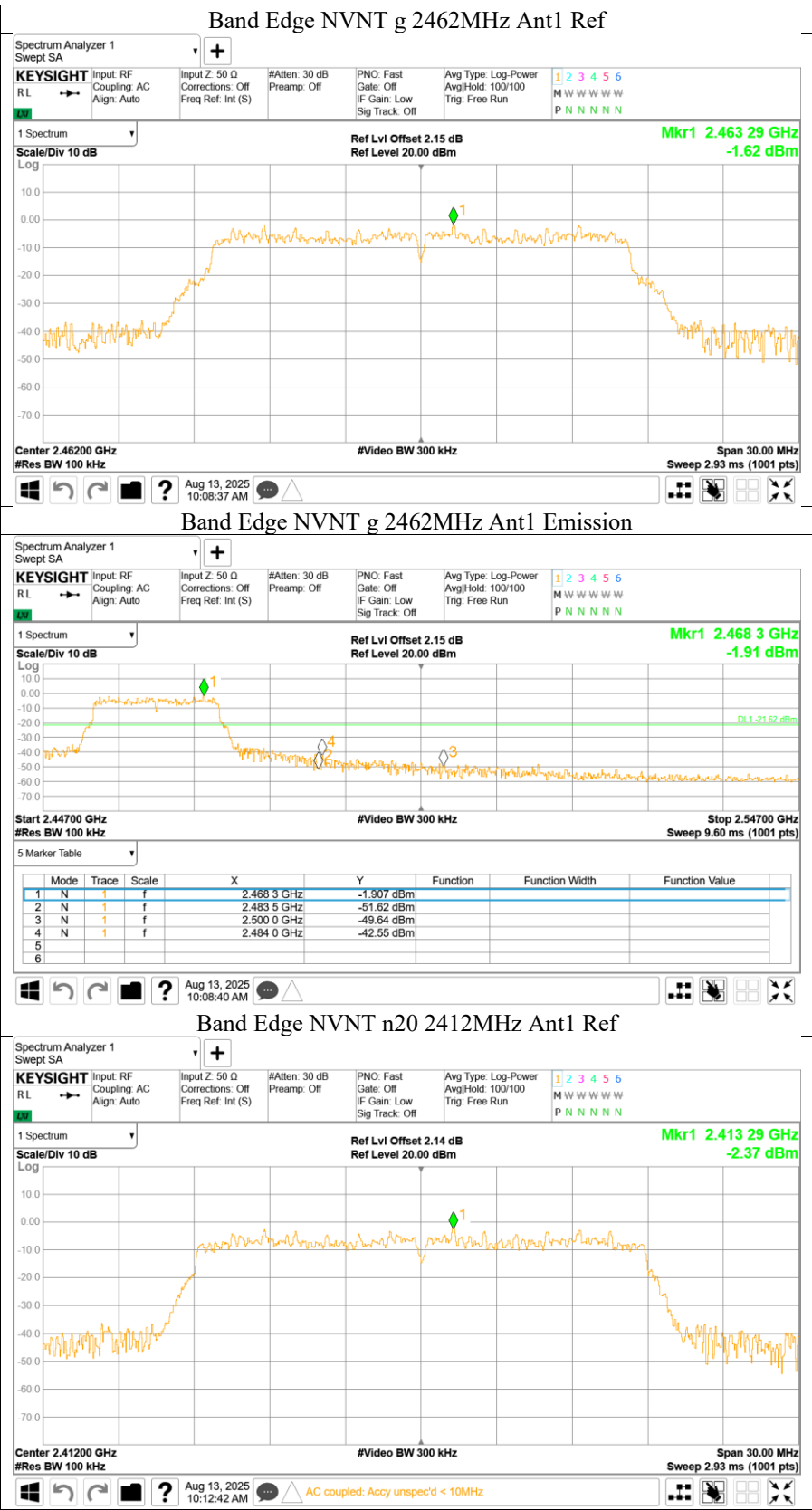
Frequency Range MHz	Limit (dBc)
30-25000	-20

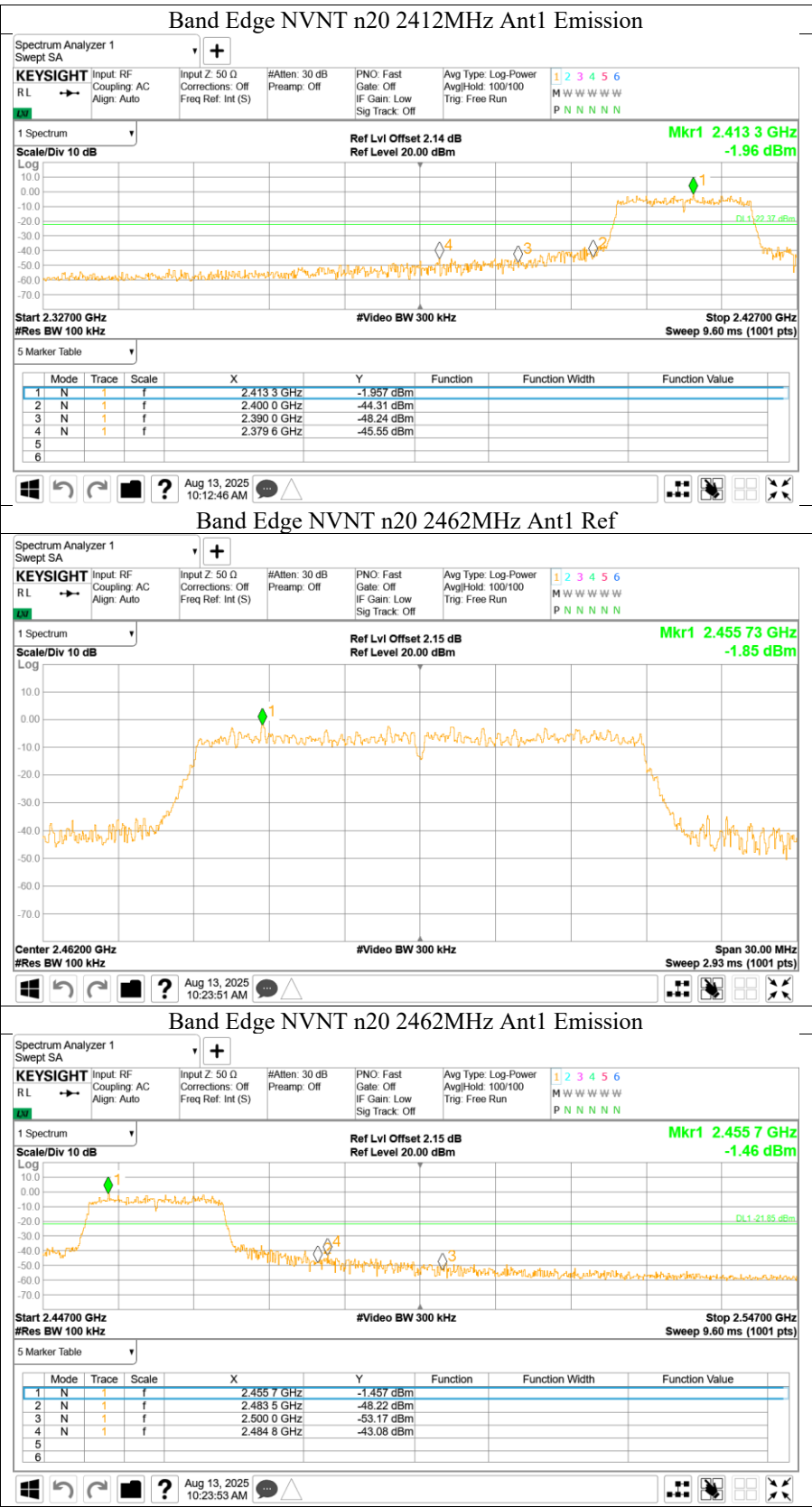


Test result











10.7 Spurious radiated emissions for transmitter

Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. Use the following spectrum analyzer settings According to C63.10
 - 1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 kHz to 120kHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 - 2) For Peak unwanted emissions Above 1GHz:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
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) and RSS 247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in § 15.209(a) and RSS-Gen is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a) and RSS-Gen section 8.9, must also comply with the radiated emission limits specified in § 15.209(a) and RSS-Gen section 8.10.

Frequency MHz	Field Strength μV/m	Field Strength dBμV/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 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)

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

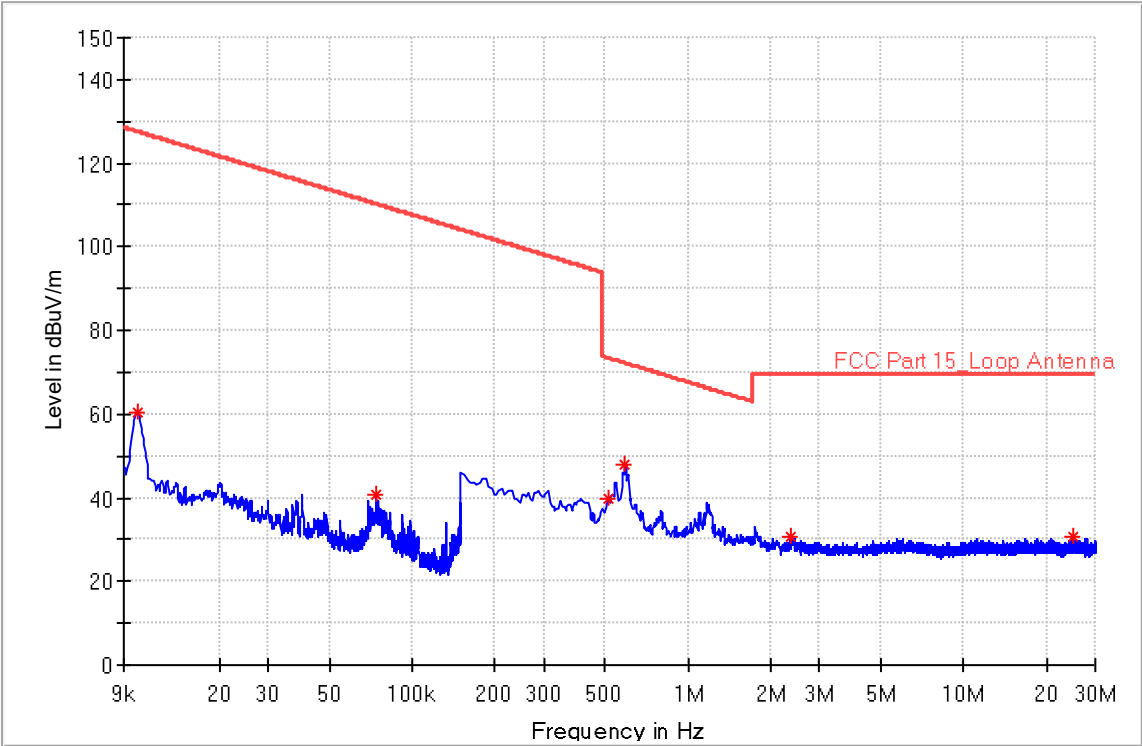
EUT Name:	Thermal Imaging Rifle Sight
Model:	IOP25
Client:	Infitac LLC
Op Cond:	Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator:	Chengjie GUO
Test Spec:	FCC Part 15.209(a)
Sample No:	SHA-944366-3

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)
0.010146	60.54	127.48	66.94	100.0	H	74.0	19.6
0.073860	40.58	110.24	69.65	100.0	H	130.0	18.9
0.514346	39.83	73.38	33.55	100.0	H	74.0	18.8
0.593360	48.06	72.14	24.07	100.0	H	96.0	18.8
2.349243	30.70	69.54	38.85	100.0	H	128.0	19.1
24.956228	30.50	69.54	39.05	100.0	H	293.0	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

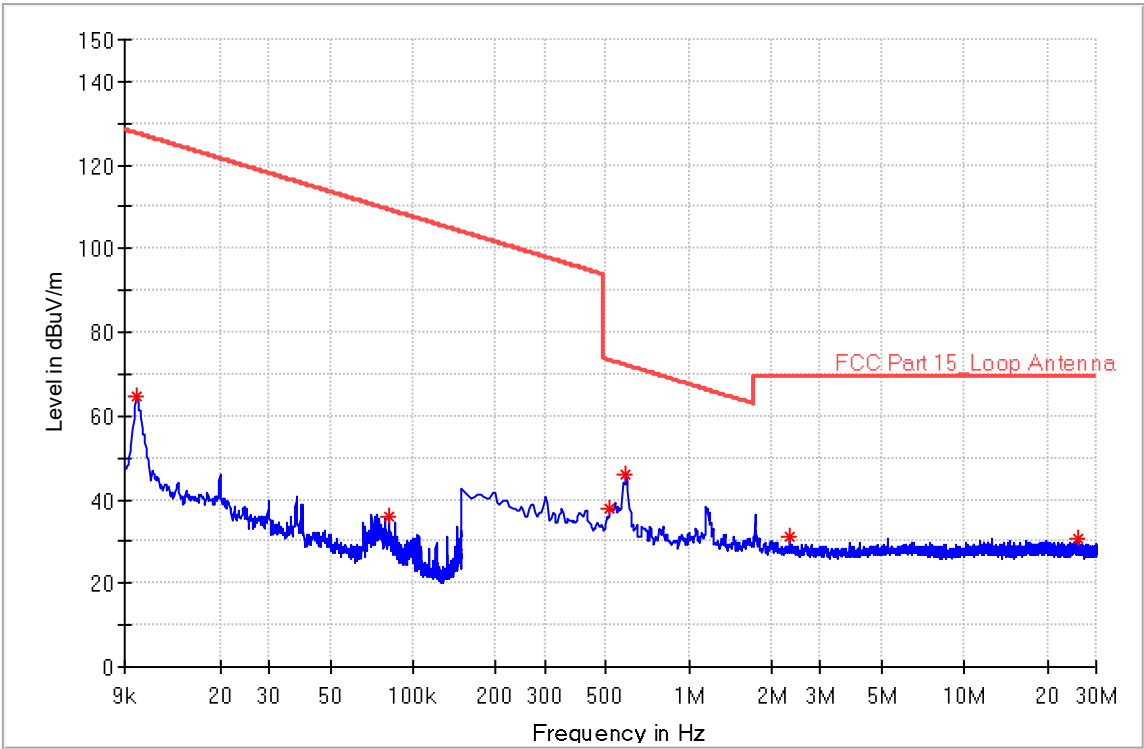
EUT Name:	Thermal Imaging Rifle Sight
Model:	IOP25
Client:	Infitac LLC
Op Cond:	Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator:	Chengjie GUO
Test Spec:	FCC Part 15.209(a)
Sample No:	SHA-944366-3

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	64.53	127.63	63.10	100.0	H	150.0	19.6
0.082408	35.73	109.28	73.55	100.0	H	4.0	18.9
0.518735	37.65	73.31	35.65	100.0	H	0.0	18.8
0.593360	45.84	72.14	26.30	100.0	H	23.0	18.8
2.318515	30.98	69.54	38.56	100.0	H	48.0	19.1
25.632243	30.84	69.54	38.70	100.0	H	166.0	19.5

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

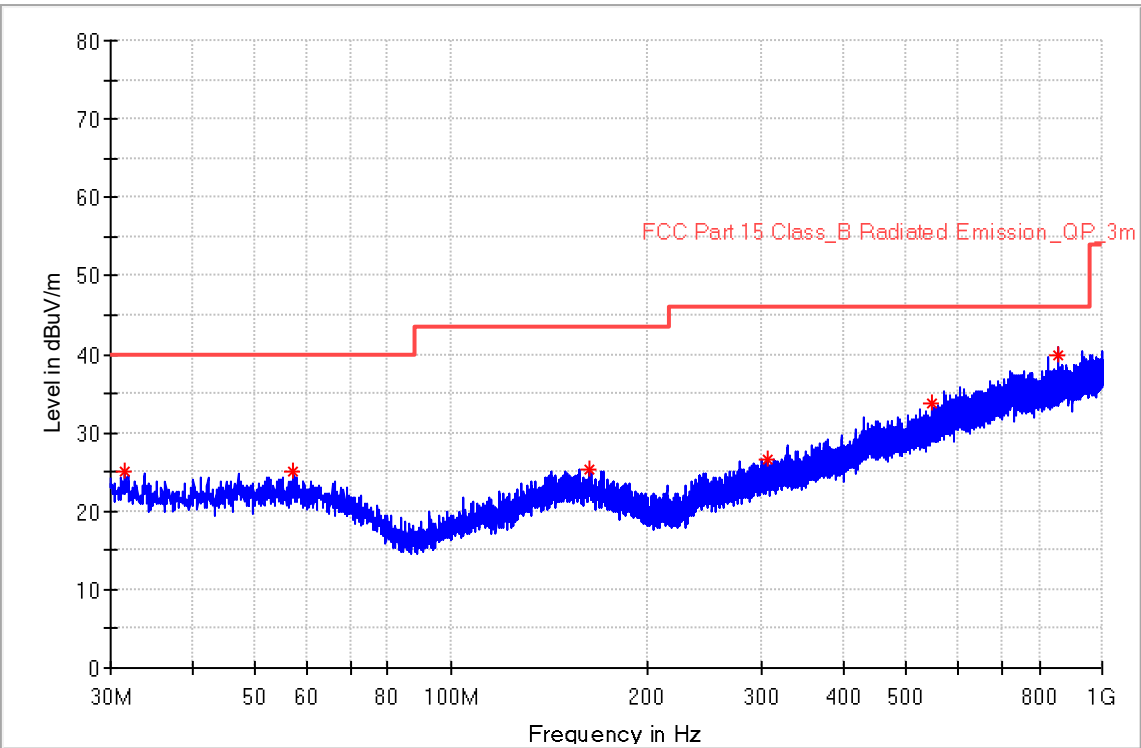
EUT Name: Thermal Imaging Rifle Sight
Model: IOP25
Client: Infitac LLC
Op Cond: Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator: Chengjie GUO
Test Spec: FCC Part 15.209(a)
Sample No: SHA-944366-3

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

Full Spectrum





Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.503500	24.97	40.00	15.03	178.0	H	222.0	19.9
57.354000	25.02	40.00	14.98	169.0	H	297.0	20.5
163.375000	25.42	43.50	18.08	188.0	H	0.0	20.8
307.129000	26.67	46.00	19.33	178.0	H	306.0	21.8
547.786000	33.64	46.00	12.36	169.0	H	212.0	27.7
853.821000	39.77	46.00	6.23	175.0	H	0.0	33.0

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

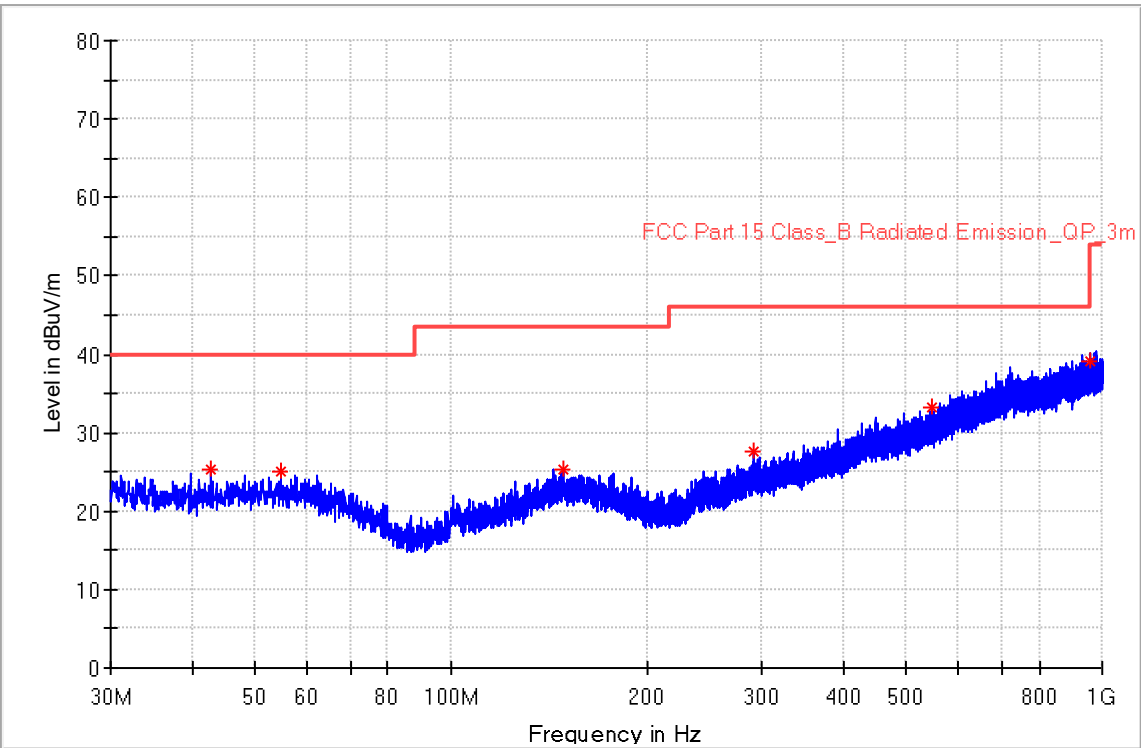
EUT Name: Thermal Imaging Rifle Sight
Model: IOP25
Client: Infitac LLC
Op Cond: Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator: Chengjie GUO
Test Spec: FCC Part 15.209(a)
Sample No: SHA-944366-3

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

Full Spectrum





Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
42.658500	25.33	40.00	14.67	100.0	V	0.0	20.1
54.832000	25.01	40.00	14.99	100.0	V	313.0	20.6
148.485500	25.33	43.50	18.17	100.0	V	262.0	21.0
291.366500	27.63	46.00	18.37	100.0	V	248.0	21.5
548.950000	33.23	46.00	12.77	100.0	V	138.0	27.7
957.659500	39.19	46.00	6.81	100.0	V	318.0	34.3

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

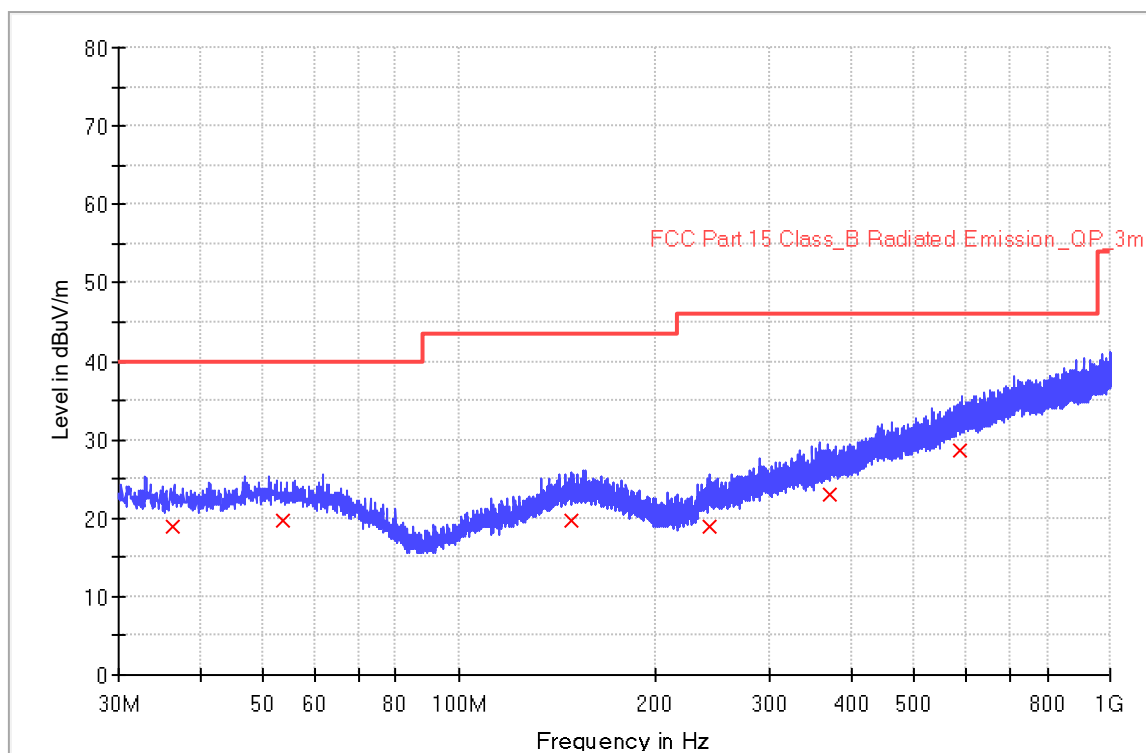
EUT Name: Thermal Imaging Rifle Sight
Model: IOL25
Client: Infitac LLC
Op Cond: Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator: Chengjie GUO
Test Spec: FCC Part 15.209(a)
Sample No: SHA-949023-1

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)
36.320000	19.0	1000.0	120.000	100.0	H	0.0	19.7	21.0
53.560000	19.6	1000.0	120.000	100.0	H	0.0	20.7	20.4
148.680000	19.7	1000.0	120.000	100.0	H	0.0	21.0	23.8
242.480000	18.9	1000.0	120.000	100.0	H	0.0	19.8	27.1
372.040000	23.1	1000.0	120.000	100.0	H	0.0	23.7	22.9
588.240000	28.8	1000.0	120.000	100.0	H	0.0	28.8	17.3

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

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
36.320000	40.0	
53.560000	40.0	
148.680000	43.5	
242.480000	46.0	
372.040000	46.0	
588.240000	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

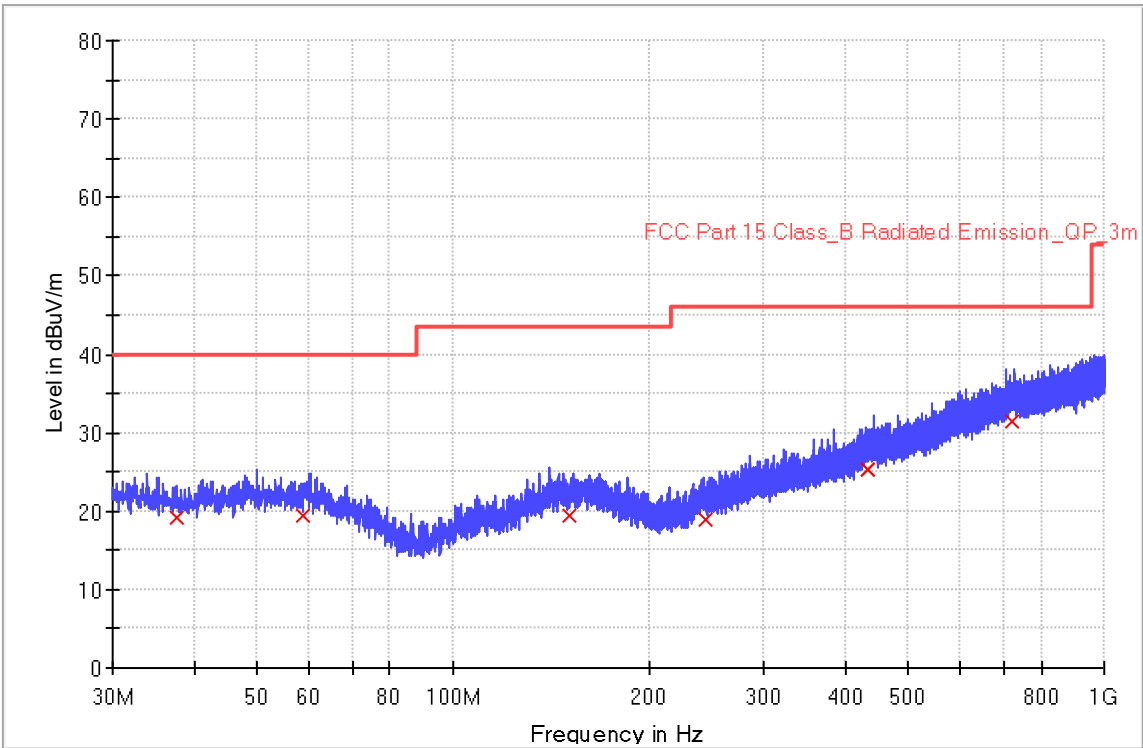
EUT Name: Thermal Imaging Rifle Sight
Model: IOL25
Client: Infitac LLC
Op Cond: Transmit mode, 802.11g Tx_2462MHz (worst case)
Operator: Chengjie GUO
Test Spec: FCC Part 15.209(a)
Sample No: SHA-949023-1

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)
37.520000	19.2	1000.0	120.000	175.0	V	211.0	19.8	20.8
58.720000	19.5	1000.0	120.000	178.0	V	256.0	20.5	20.5
150.720000	19.6	1000.0	120.000	155.0	V	302.0	21.0	24.0
243.920000	18.9	1000.0	120.000	117.0	V	342.0	19.9	27.1
432.520000	25.2	1000.0	120.000	147.0	V	359.0	25.5	20.8
432.520000	25.2	1000.0	120.000	147.0	V	359.0	25.5	20.8
721.960000	31.6	1000.0	120.000	168.0	V	359.0	31.4	14.5

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

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
37.520000	40.0	
58.720000	40.0	
150.720000	43.5	
243.920000	46.0	
432.520000	46.0	
432.520000	46.0	
721.960000	46.0	

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

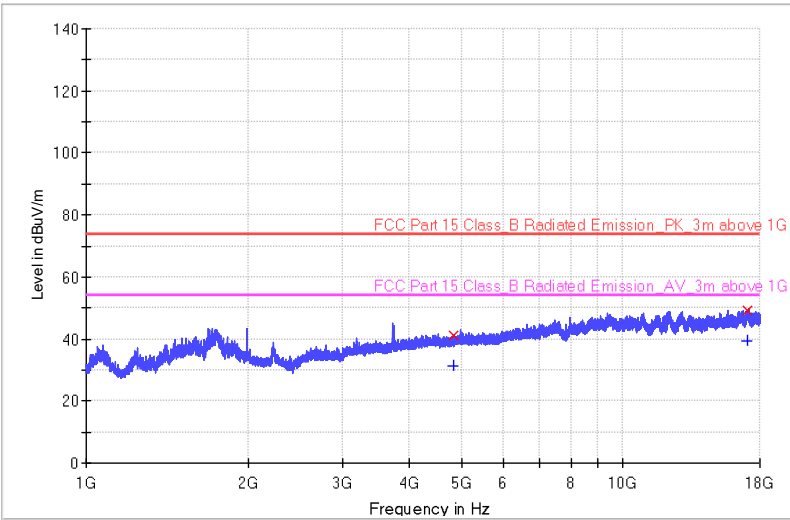
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



Radiated Emission 1-18GHz

Frequency: 802.11b 2412MHz

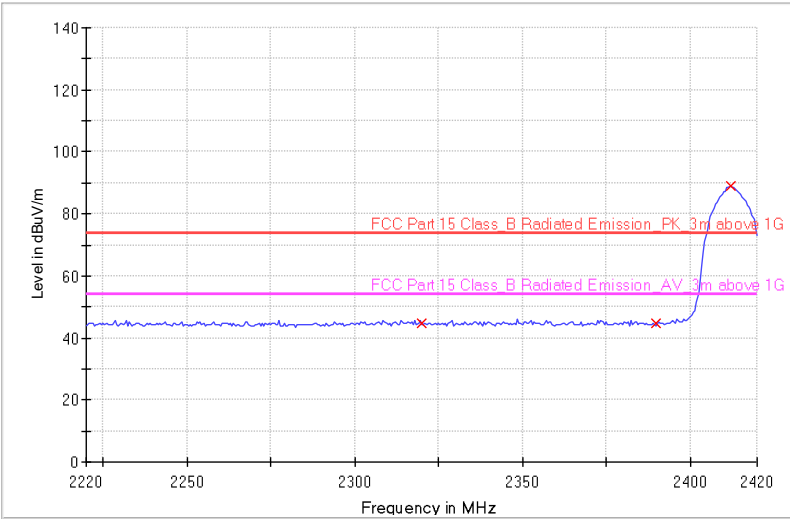
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4824.000000	41.0	31.2	150.0	V	145.0	-3.3	33	74	22.8	54
17094.700000	49.2	39.3	150.0	V	81.0	6.3	24.8	74	14.7	54

RE_HF907_BRF_Pre

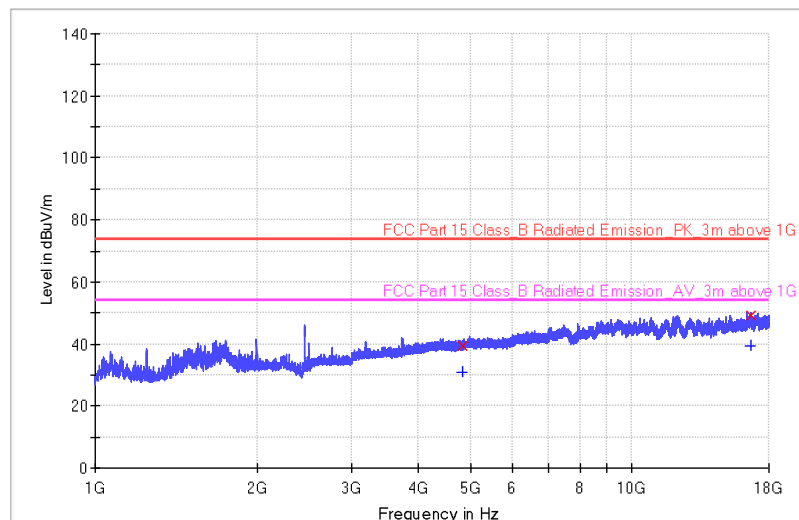


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2320.000000	44.7	--	250.0	H	242.0	-12.2	29.3	74
2390.000000	44.8	--	150.0	H	114.0	-11.9	29.2	74
2412.000000	88.9	--	250.0	H	12.0	-11.8	-14.9	74



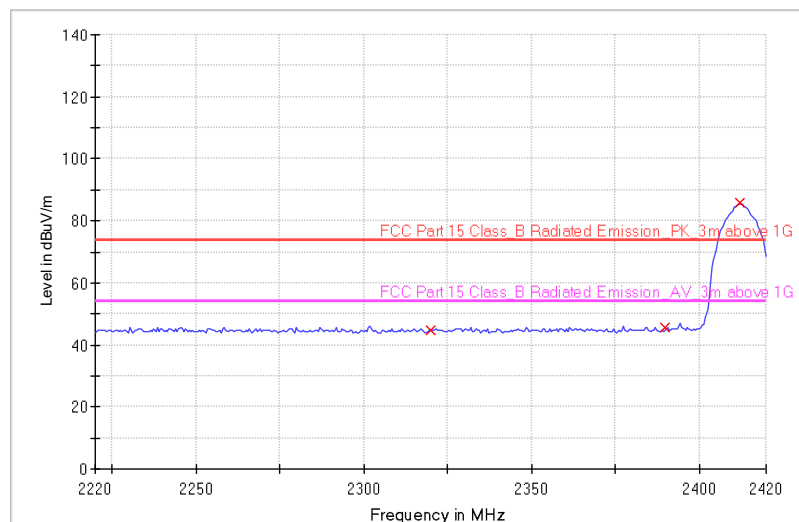
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4824.000000	39.1	30.8	150.0	V	25.0	-3.3	34.9	74	23.2	54
16702.600000	49.3	39.4	150.0	V	145.0	6.1	24.7	74	14.6	54

RE_HF907_BRF_Pre



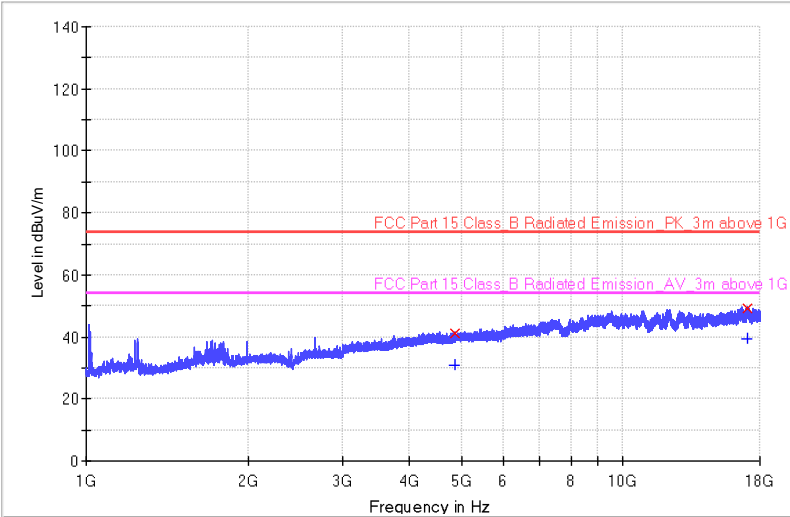
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK (dB)	Limit - PK (dBuV/m)
2412.000000	85.9	--	185.0	V	132.0	-11.8	-11.9	74
2390.000000	45.8	--	231.0	V	113.0	-11.9	28.2	74
2320.000000	44.7	--	150.0	V	13.0	-12.1	29.3	74



Frequency: 802.11b 2437MHz

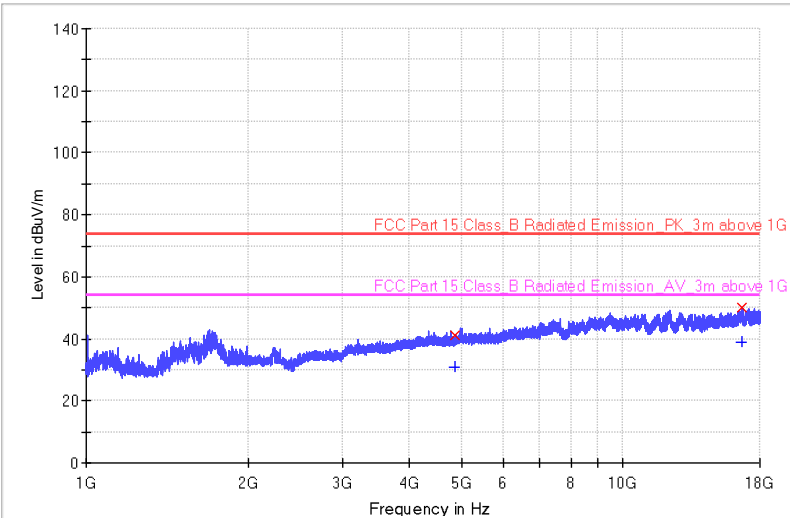
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4874.000000	41.1	30.8	150.0	H	174.0	-3.1	32.9	74	23.2	54
17076.687500	49.3	39.2	150.0	H	1.0	6.2	24.7	74	14.8	54

RE_HF907_BRF_Pre



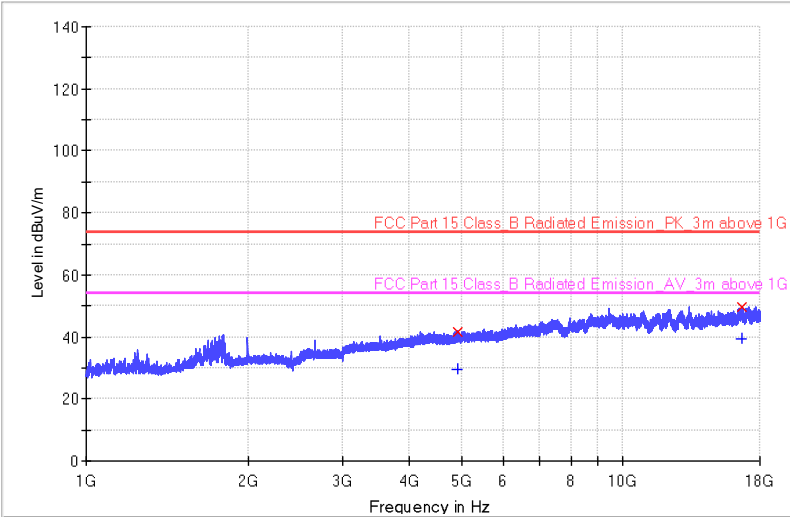
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4874.000000	41.4	30.9	150.0	V	113.0	-3.1	32.6	74	23.1	54
16637.343750	50.2	38.8	150.0	V	12.0	6.0	23.8	74	15.2	54



Frequency: 802.11b 2462MHz

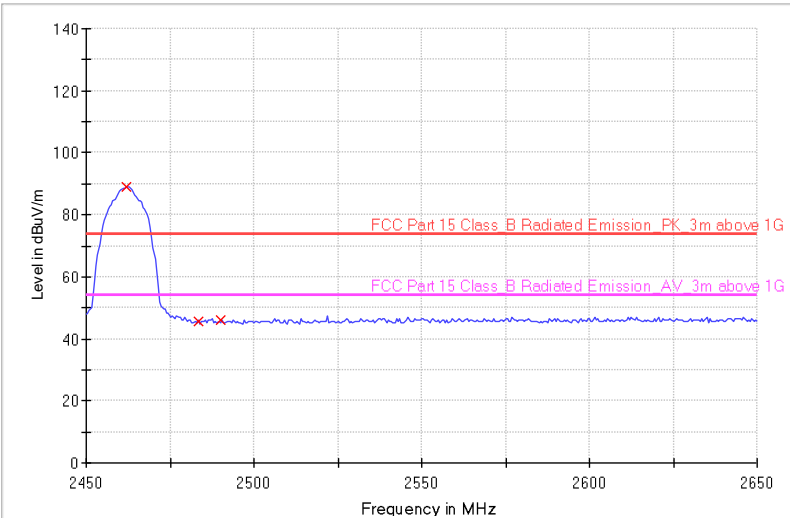
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4924.000000	41.5	29.3	150.0	H	359.0	-5.9	32.5	74	24.7	54
16688.800000	49.6	39.2	150.0	H	142.0	6.1	24.4	74	14.8	54

RE_HF907_BRF_Pre

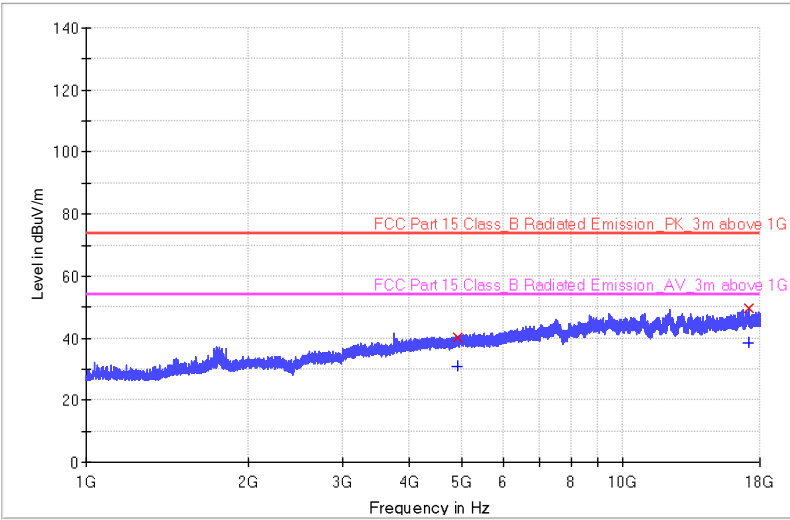


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2462.000000	88.8	--	235.0	H	12.0	-11.5	-14.8	74
2483.500000	45.5	--	236.0	H	13.0	-11.3	28.5	74
2490.000000	46.1	--	199.0	H	164.0	-11.1	27.9	74



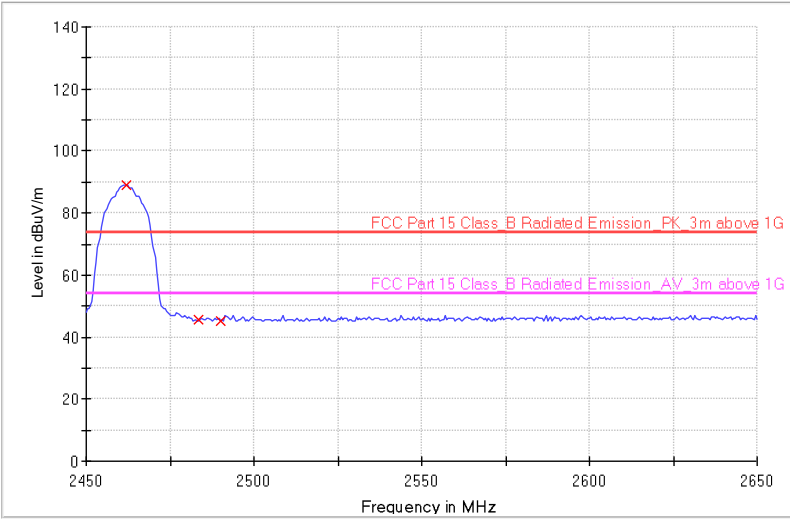
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4924.000000	40.3	31.0	100.0	V	44.0	-4.7	33.7	74	23	54
17166.400000	49.5	38.5	250.0	V	1.0	6.4	24.5	74	15.5	54

RE_HF907_BRF_Pre



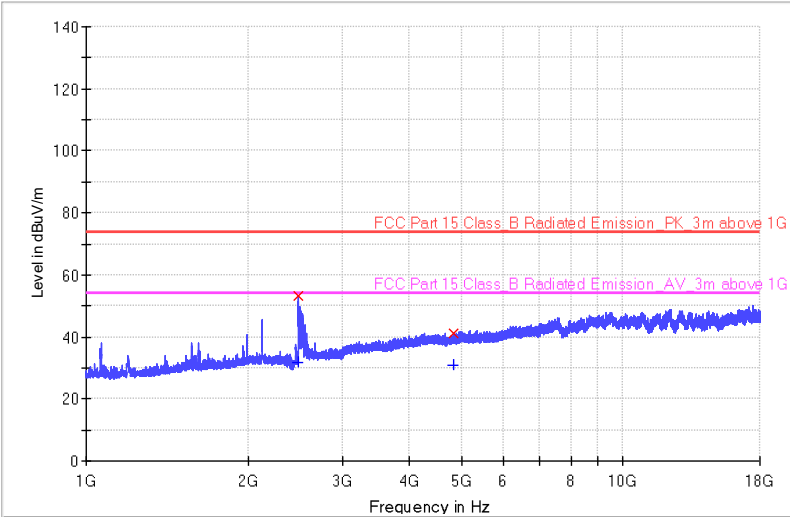
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBuV/m)
2462.000000	89.2	--	254.0	V	164.0	-11.5	-15.2	74
2483.500000	45.5	--	223.0	V	13.0	-11.3	28.5	74
2490.000000	45.1	--	241.0	V	123.0	-11.2	28.9	74



Frequency: 802.11g 2412MHz

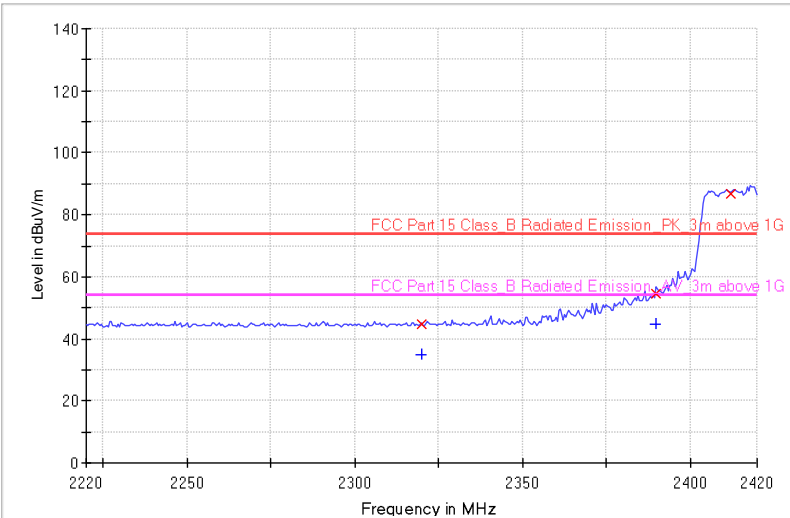
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2485.900000	53.3	31.8	250.0	H	12.0	-11.3	20.7	74	22.2	54
4824.000000	41.0	30.8	150.0	H	112.0	0.4	33	74	23.2	54

RE_HF907_BRF_Pre

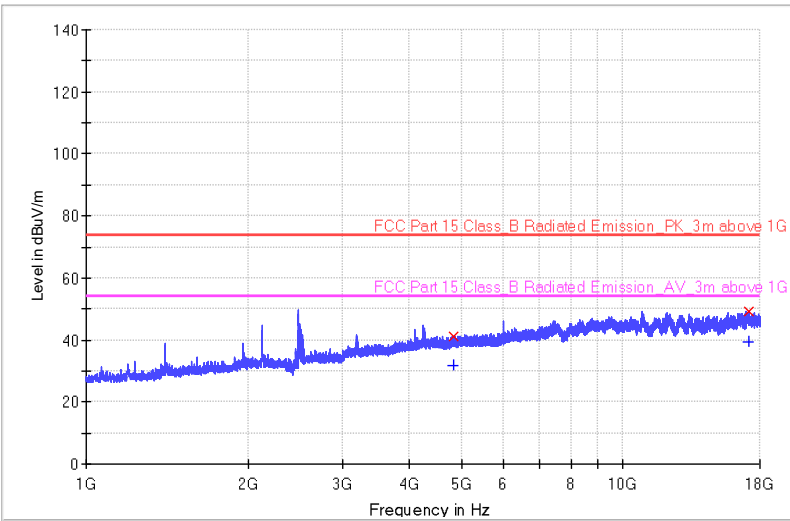


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2320.000000	44.8	34.8	235.0	H	11.0	-12.2	29.2	74	19.2	54
2390.000000	54.7	44.9	227.0	H	142.0	-12.0	19.3	74	9.1	54
2412.000000	86.9	---	178.0	H	13.0	-11.8	-12.9	74	--	--



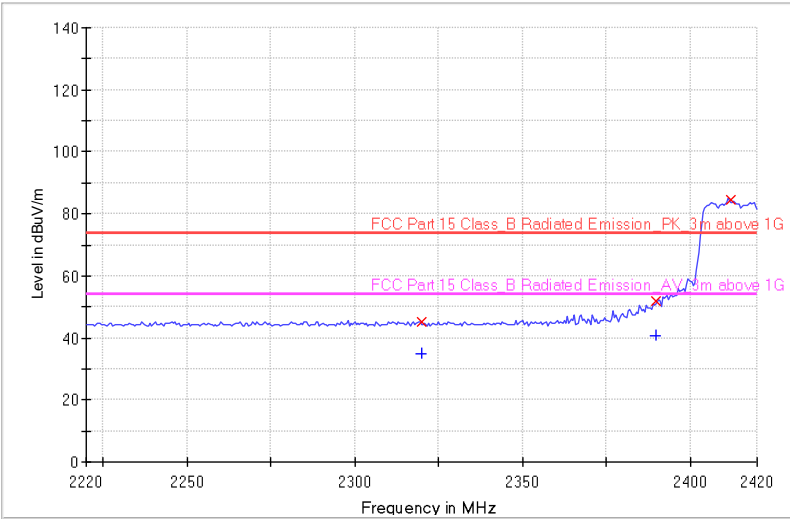
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4824.000000	41.2	31.8	224.0	V	12.0	-1.4	32.8	74	22.2	54
17125.600000	49.2	39.3	169.0	V	43.0	6.3	24.8	74	14.7	54

RE_HF907_BRF_Pre



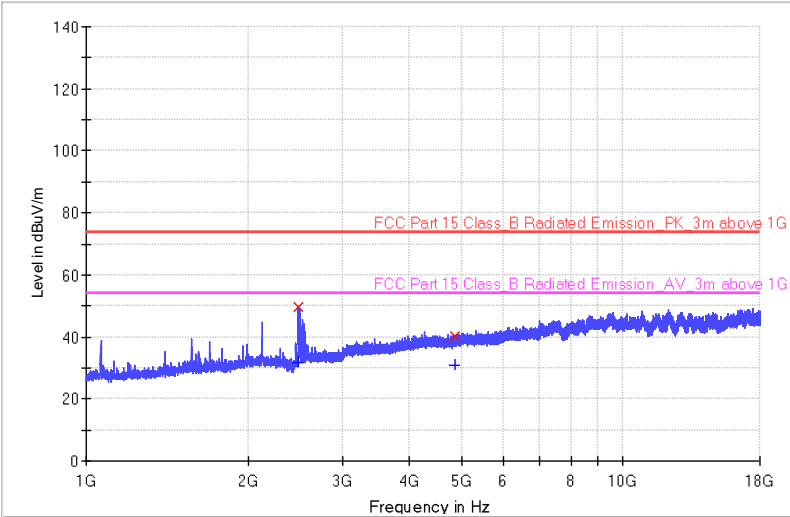
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2412.000000	84.5	---	253.0	V	132.0	-11.8	-10.5	74	--	--
2390.000000	51.9	40.9	278.0	V	14.0	-11.9	22.1	74	13.1	54
2320.000000	45.1	34.7	168.0	V	113.0	-12.1	28.9	74	19.3	54



Frequency: 802.11g 2437MHz

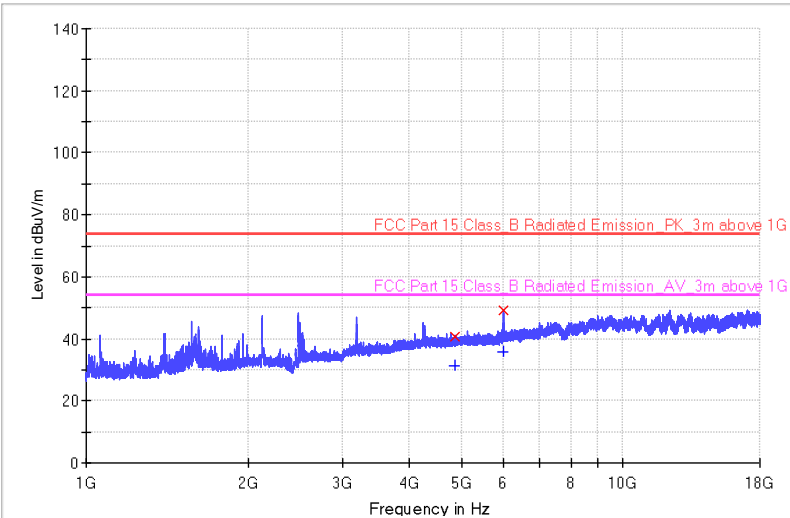
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2489.500000	49.7	31.9	230.0	H	153.0	-11.3	24.3	74	22.1	54
4874.000000	40.3	30.7	180.0	H	12.0	-2.7	33.7	74	23.3	54

RE_HF907_BRF_Pre



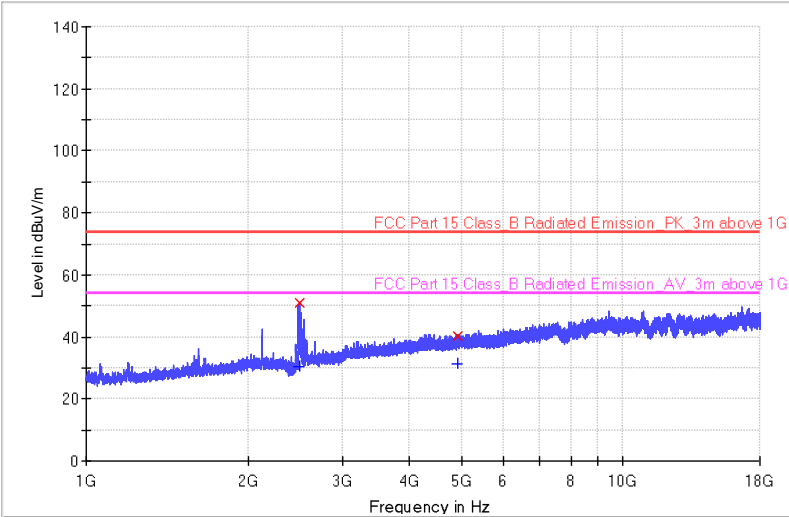
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4874.000000	40.6	31.1	220.0	V	1.0	-3.0	33.4	74	22.9	54
5989.600000	49.4	35.8	150.0	V	132.0	-1.4	24.6	74	18.2	54



Frequency: 802.11g 2462MHz

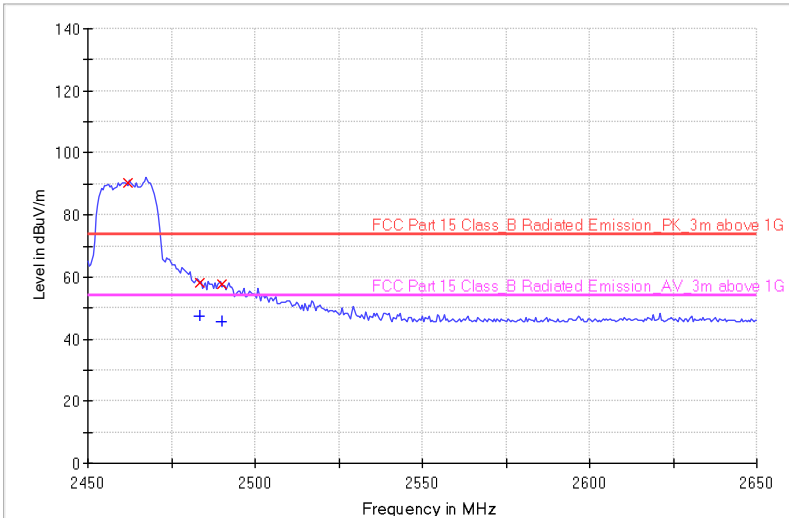
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2501.800000	50.8	30.5	250.0	H	158.0	-11.3	23.2	74	23.5	54
4924.000000	40.2	31.1	150.0	H	108.0	-2.1	33.8	74	22.9	54

RE_HF907_BRF_Pre

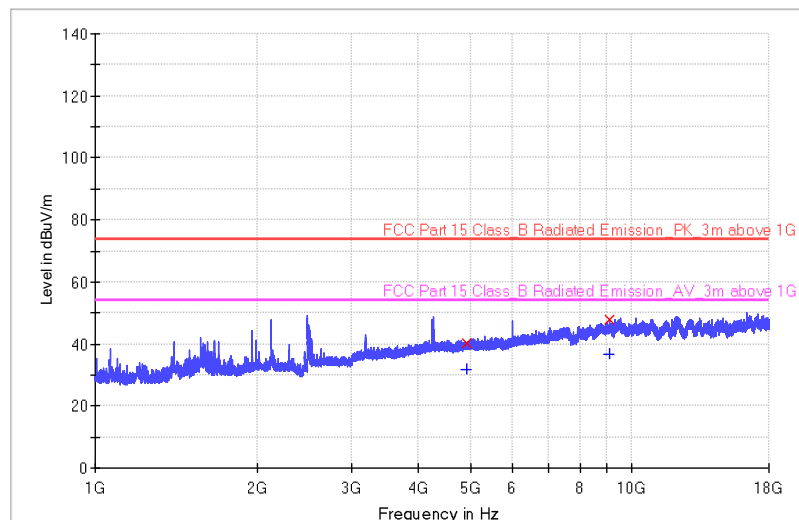


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2462.000000	90.4	---	188.0	H	142.0	-11.5	-16.4	74	--	--
2483.500000	58.3	47.4	211.0	H	114.0	-1.4	15.7	74	6.6	54
2490.000000	57.8	45.6	199.0	H	41.0	-11.3	16.2	74	8.4	54



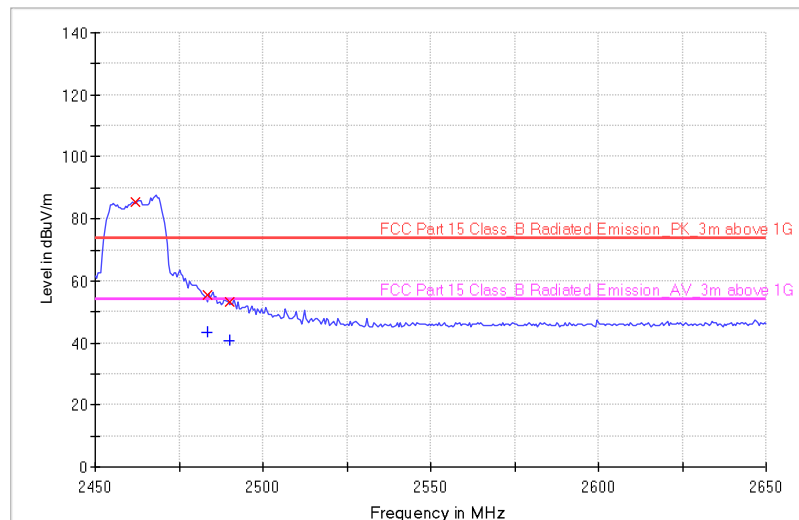
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4924.000000	40.1	31.7	150.0	V	359.0	-4.5	33.9	74	22.3	54
9059.500000	47.9	36.5	150.0	V	142.0	1.6	26.1	74	17.5	54

RE_HF907_BRF_Pre



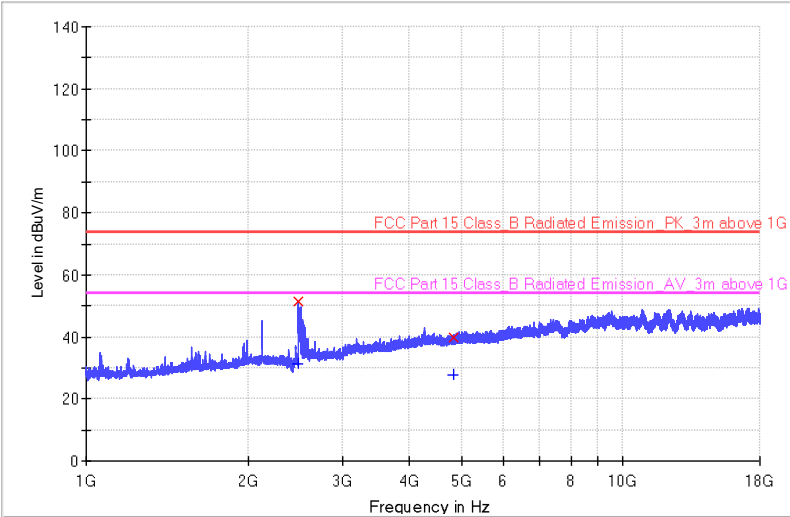
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2462.000000	85.5	---	178.0	V	152.0	-11.5	-11.5	74	--	--
2483.500000	55.5	43.4	198.0	V	13.0	-11.4	18.5	74	10.6	54
2490.000000	53.4	40.8	215.0	V	16.0	-11.2	20.6	74	13.2	54



Frequency: 802.11n20 2412MHz

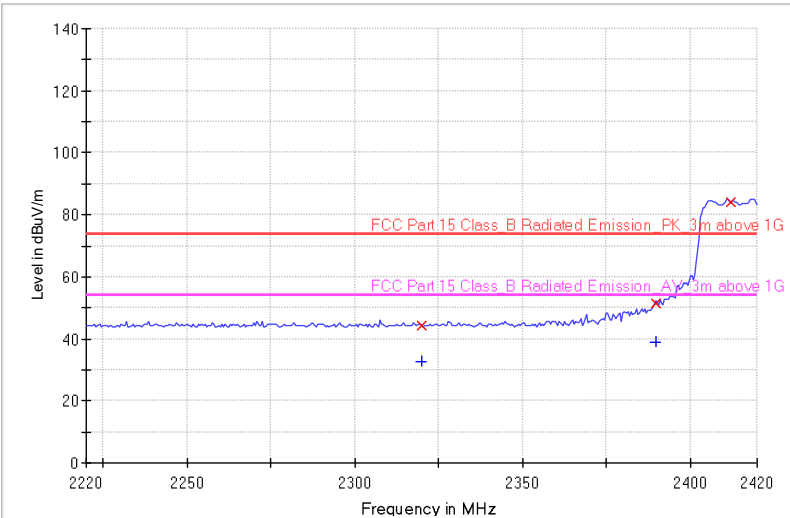
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2485.900000	51.4	31.4	150.0	H	306.0	-11.3	22.6	74	22.6	54
4824.000000	40.0	27.6	150.0	H	238.0	2.1	34	74	26.4	54

RE_HF907_BRF_Pre

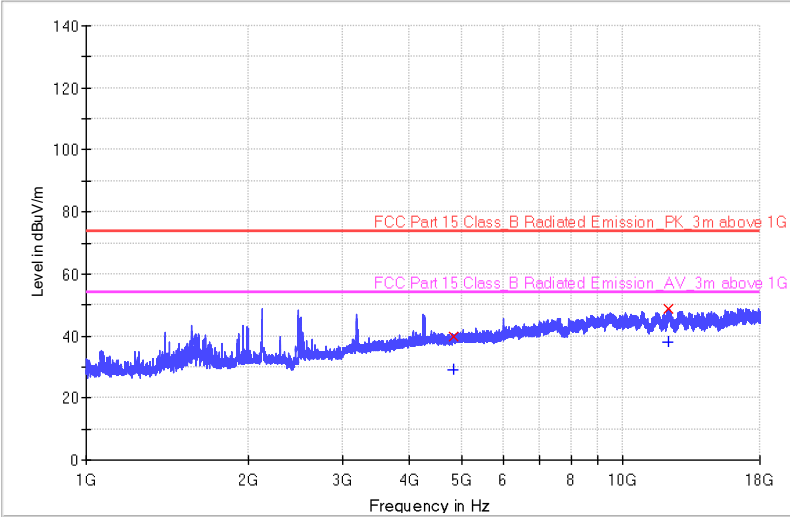


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2320.000000	44.3	32.8	174.0	H	13.0	-12.0	29.7	74	21.2	54
2390.000000	51.6	38.9	241.0	H	11.0	-11.9	22.4	74	15.1	54
2412.000000	83.9	---	224.0	H	124.0	-11.8	-9.9	74	--	--



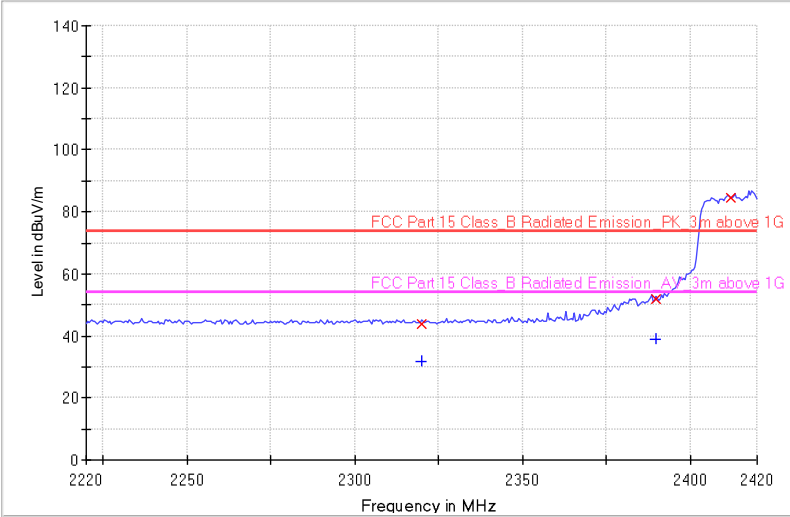
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4824.000000	40.0	29.3	250.0	V	125.0	-4.5	34	74	24.7	54
12151.900000	48.8	38.1	150.0	V	123.0	4.7	25.2	74	15.9	54

RE_HF907_BRF_Pre



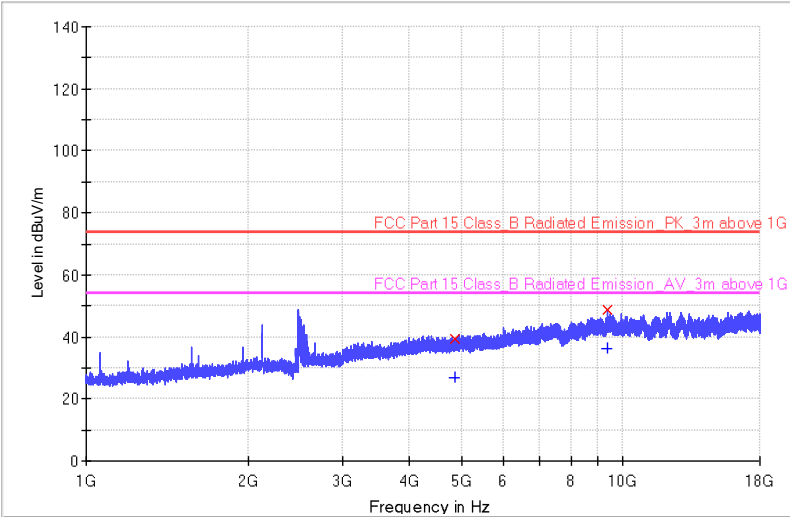
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2320.000000	44.1	31.8	235.0	V	132.0	-12.0	29.9	74	22.2	54
2390.000000	51.9	38.9	277.0	V	11.0	-11.9	22.1	74	15.1	54
2412.000000	84.5	---	178.0	V	123.0	-11.8	-10.5	74	--	--



Frequency: 802.11n20 2437MHz

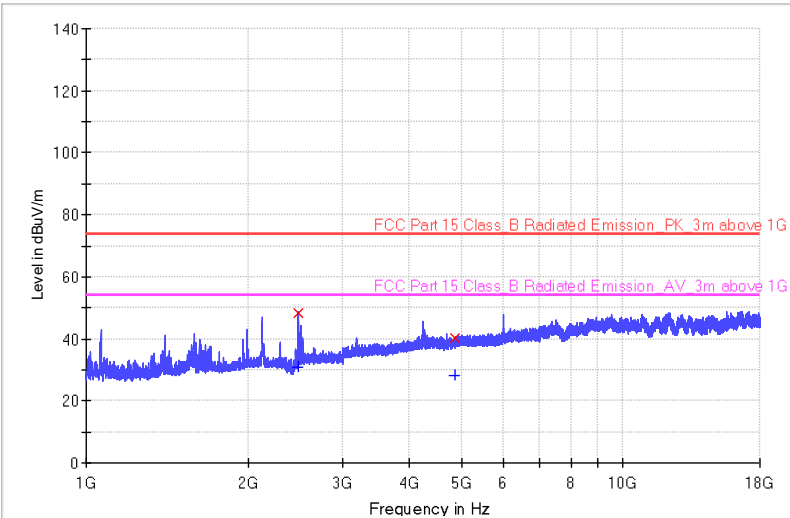
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4874.000000	39.6	26.7	200.0	H	12.0	-4.2	34.4	74	27.3	54
9348.100000	48.6	36.4	150.0	H	134.0	2.0	25.4	74	17.6	54

RE_HF907_BRF_Pre

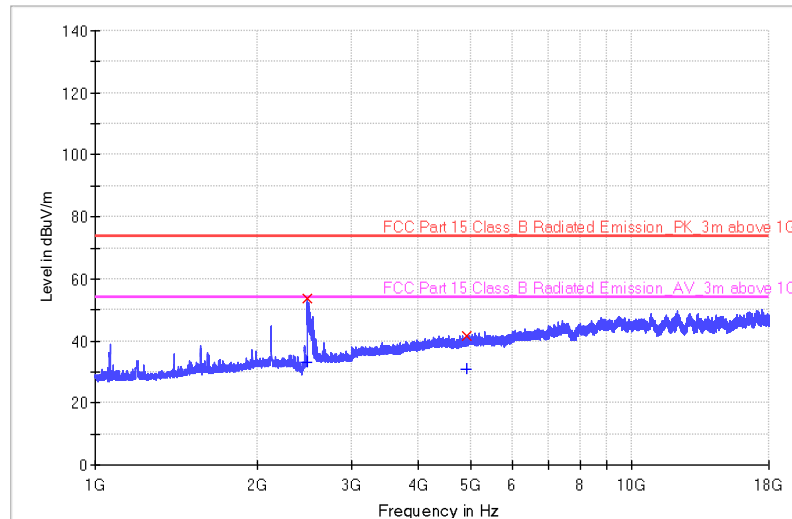


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2486.500000	48.1	31.0	250.0	V	14.0	-11.3	25.9	74	23	54
4874.000000	40.1	28.2	150.0	V	75.0	-4.5	33.9	74	25.8	54

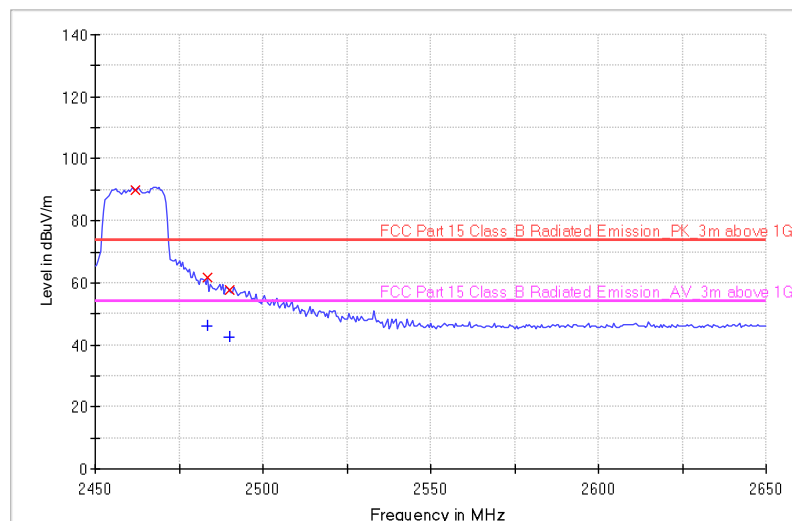
Frequency: 802.11n20 2462MHz

RE_HF907_BRF_Pre

**Critical_Freqs**

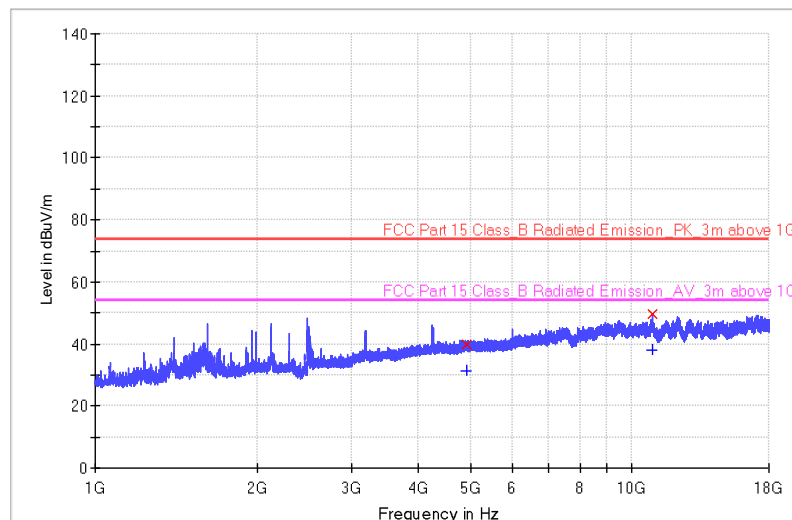
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2484.400000	53.6	33.0	220.0	H	359.0	-11.3	20.4	74	21	54
4924.000000	41.5	30.8	180.0	H	145.0	-2.7	32.5	74	23.2	54

RE_HF907_BRF_Pre

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2462.000000	89.9	---	189.0	H	132.0	-11.5	-15.9	74	--	--
2483.500000	61.5	46.0	215.0	H	1.0	-1.4	12.5	74	8	54
2490.000000	57.7	42.6	241.0	H	125.0	-11.3	16.3	74	11.4	54

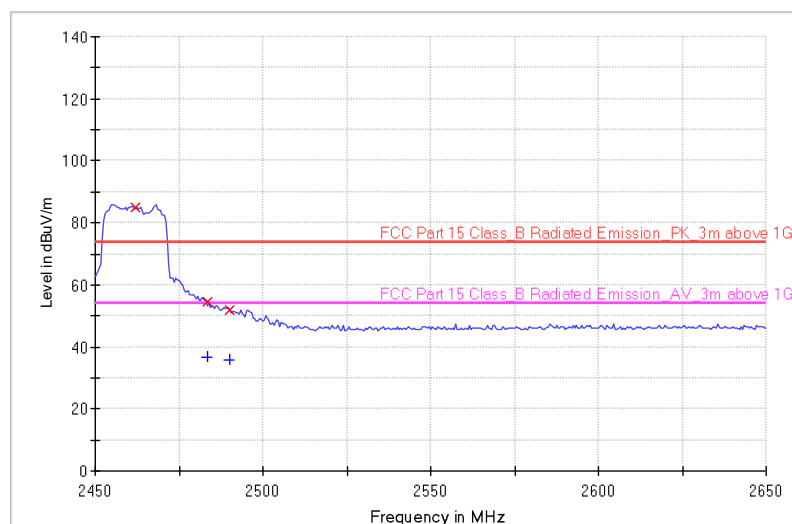
RE_HF907_BRF_Pre



Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
4924.000000	39.9	31.5	300.0	V	343.0	-1.4	34.1	74	22.5	54
10890.700000	49.4	37.9	150.0	V	316.0	3.5	24.6	74	16.1	54

RE_HF907_BRF_Pre



Critical_Freqs

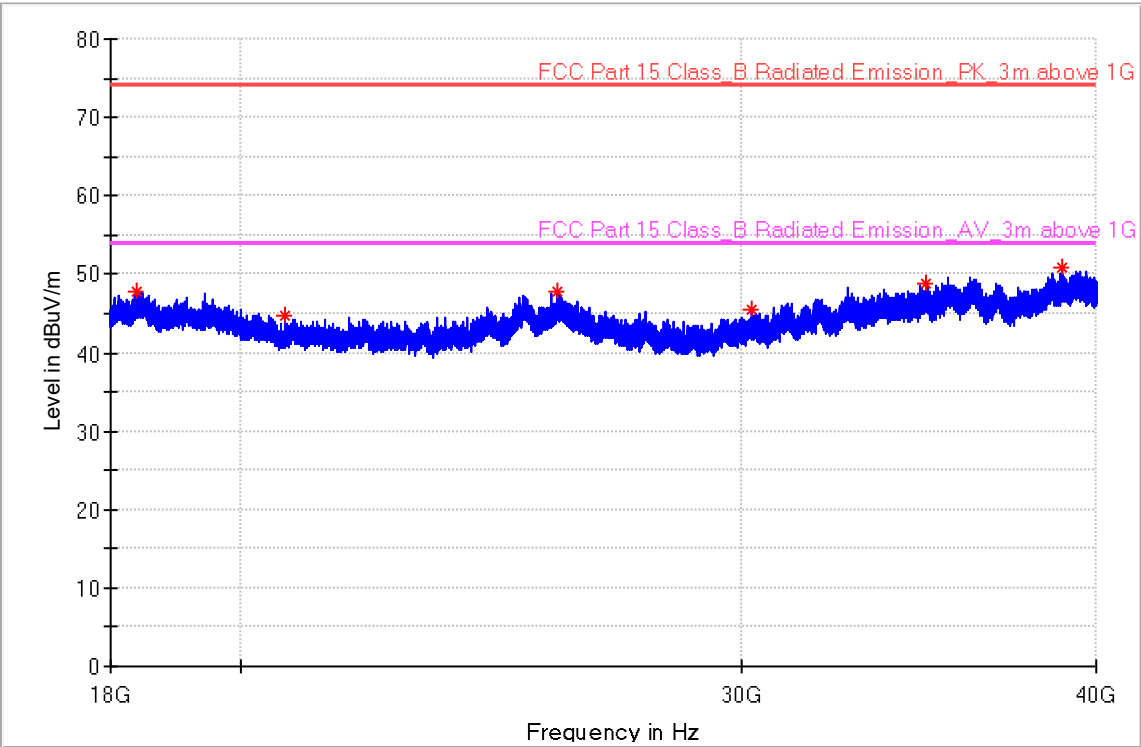
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Margin - RMS (dB)	Limit - RMS (dBuV/m)
2462.000000	84.8	---	199.0	V	0.0	-11.5	-10.8	74	--	--
2483.500000	54.4	36.5	254.0	V	113.0	-11.4	19.6	74	17.5	54
2490.000000	52.1	35.7	197.0	V	132.0	-11.2	21.9	74	18.3	54



The worst case of Radiated Emission Above 18GHz

Frequency: 802.11g 2462MHz

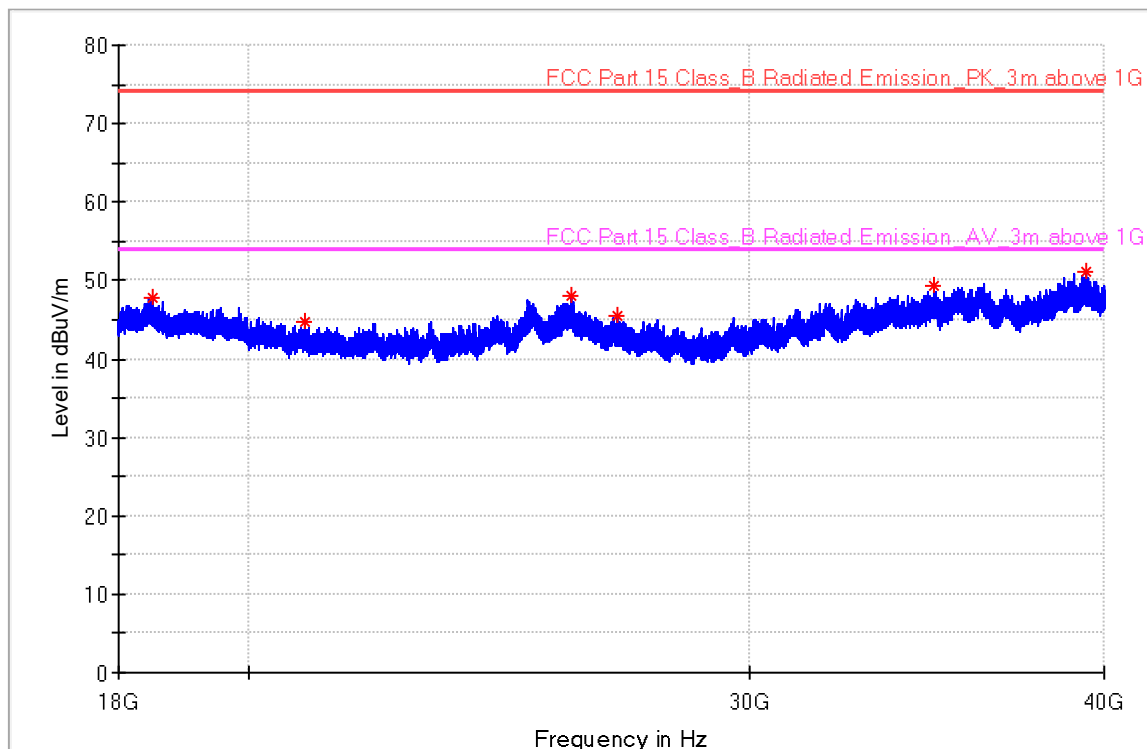
Full Spectrum



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18382.250000	47.74	74.00	26.26	100.0	H	359.0	8.1
20730.750000	44.70	74.00	29.30	100.0	H	128.0	8.5
25863.625000	47.73	74.00	26.27	100.0	H	0.0	9.6
30266.375000	45.60	74.00	28.40	100.0	H	203.0	10.2
34866.437500	48.75	74.00	25.25	100.0	H	128.0	12.2
38895.875000	50.88	74.00	23.12	100.0	H	40.0	13.4

Full Spectrum



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18501.187500	47.86	74.00	26.14	100.0	V	359.0	8.1
20947.312500	44.79	74.00	29.21	100.0	V	282.0	8.5
25992.187500	48.11	74.00	25.89	100.0	V	176.0	9.7
26977.375000	45.56	74.00	28.44	100.0	V	214.0	9.1
34865.062500	49.33	74.00	24.67	100.0	V	315.0	12.2
39409.437500	51.04	74.00	22.96	100.0	V	105.0	13.7

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	S2110418b-YQ-EMC	2024-10-8	2025-10-7
	RF_Cable	UCWAVE ELECTRONIC	UCA500-NJWSM-1.5M	---	2025-8-1	2026-7-31
	Wideband power sensor	Rohde & Schwarz	NRP-Z81	105903	2025-2-19	2026-2-18
	10dB Attenuator	Aeroflex Weinschel	CG-4689	93459	2025-2-19	2026-2-18
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
CE	EMI Test Receiver	Rohde & Schwarz	ESR3	101907	2025-8-1	2026-7-31
	LISN	Rohde & Schwarz	ENV216	101924	2025-8-1	2026-7-31
	CE_Cable_01 Coaxial Cable	HUBER+SUHNER	RG400	1002115055	2025-8-1	2026-7-31

Measurement Software Information			
Test Item	Software	Manufacturer	Version
C	MTS 8310	MWRFTtest	3.0.0.0
	Power Viewer	Rohde & Schwarz	V 11.0
RE	EMC 32	Rohde & Schwarz	V10.50.40
CE	EMC 32	Rohde & Schwarz	V9.15.03



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
Conducted Disturbance at Mains Terminals	150kHz to 30MHz, LISN, 3.16dB
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-----