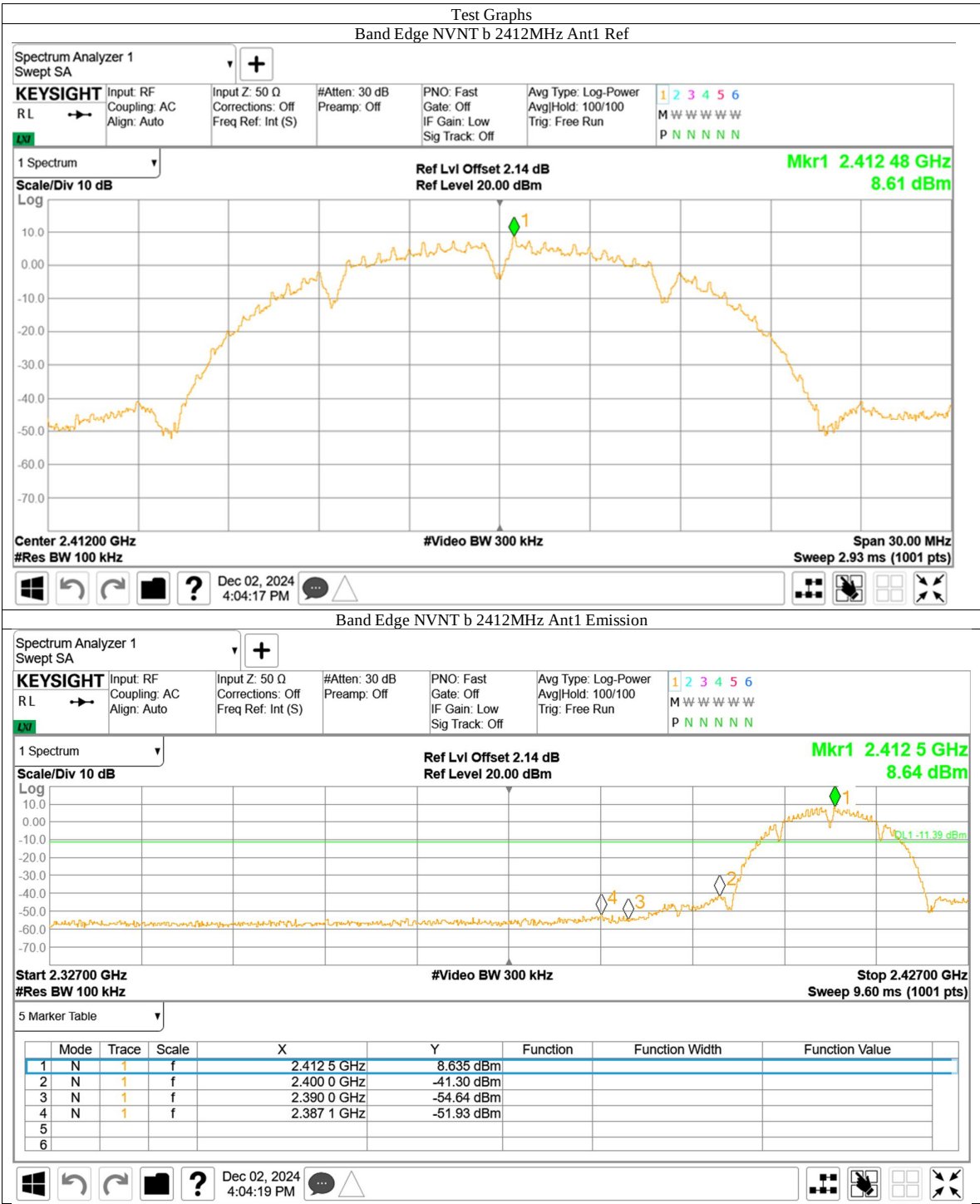
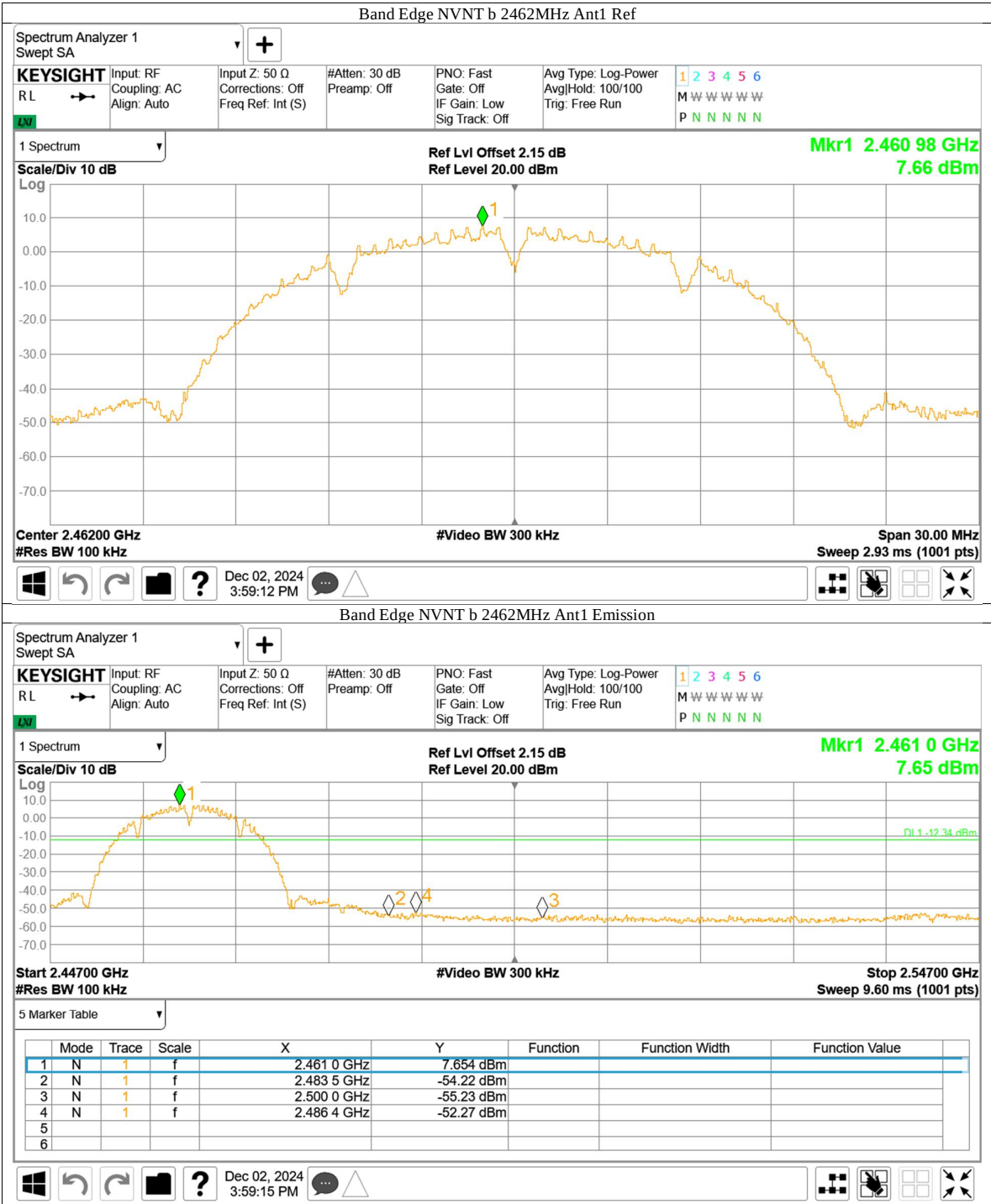
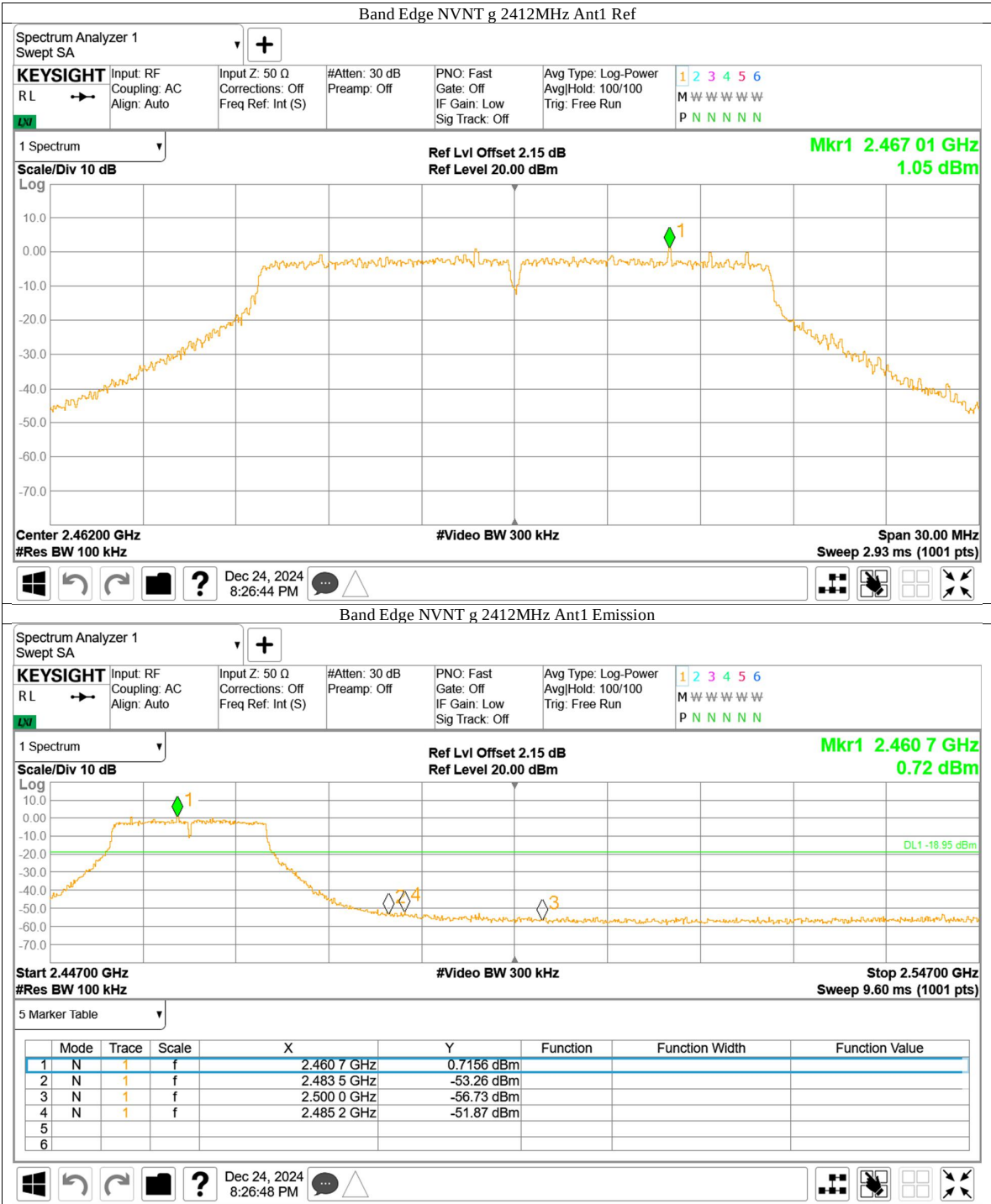


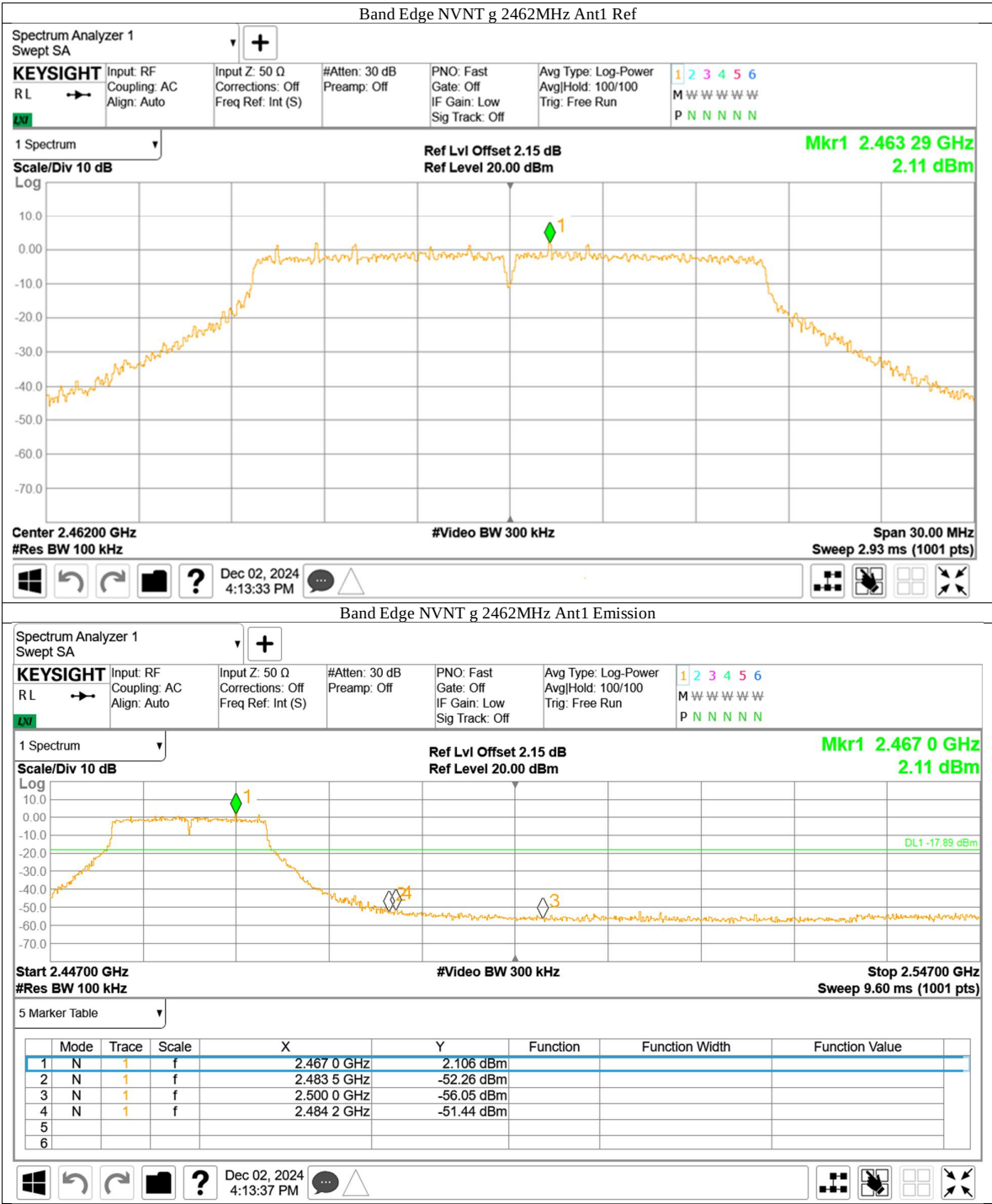


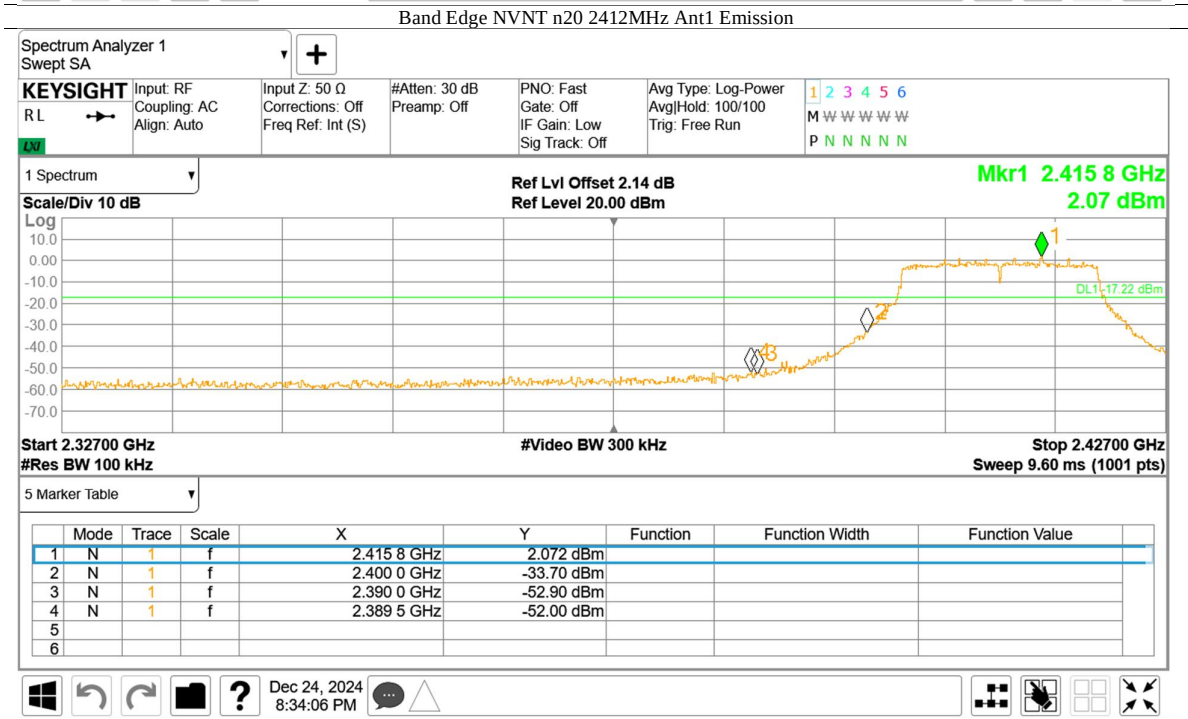
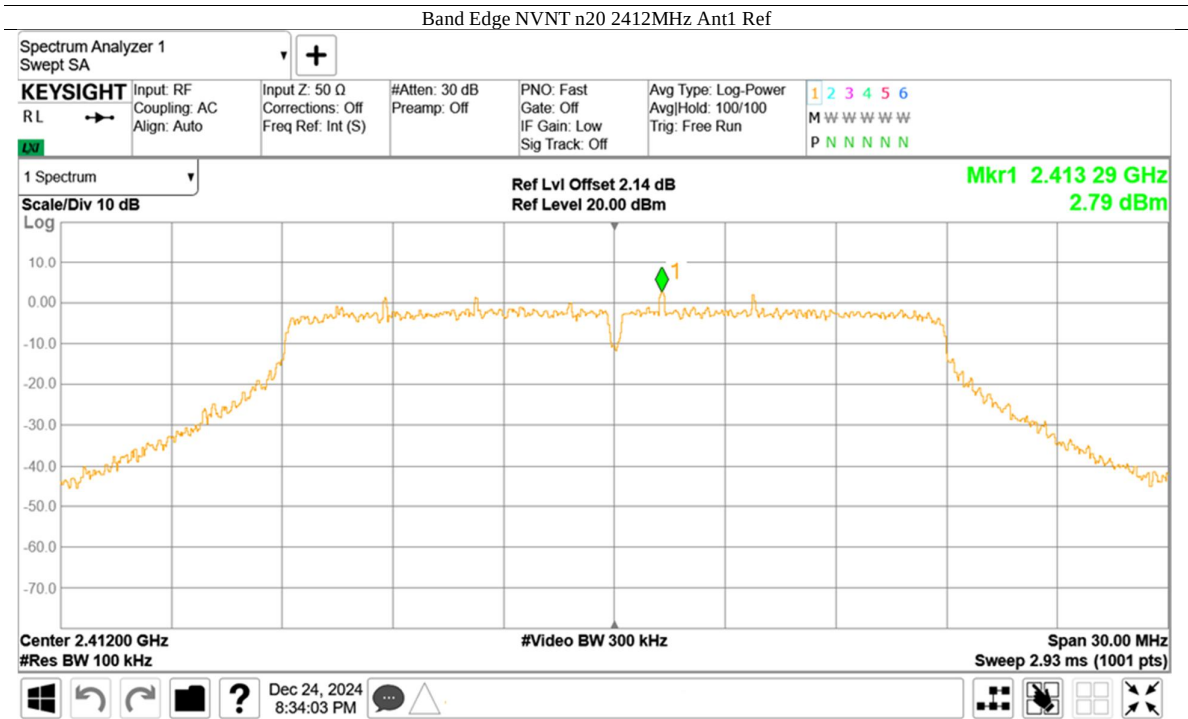
Test result

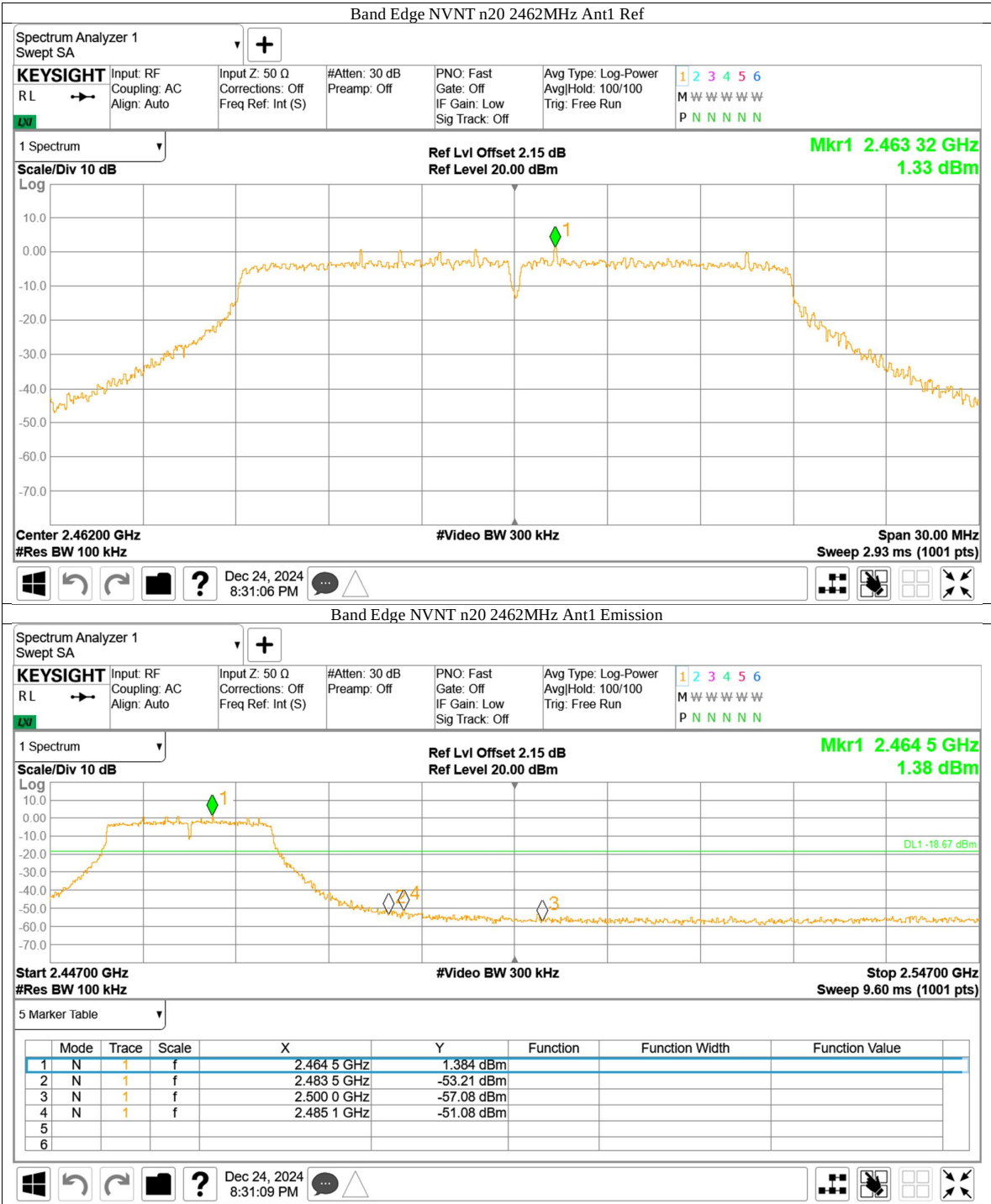












10.7 Spurious radiated emissions for transmitter

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) $VBW \setminus [3 \times RBW]$.
 - c) Detector = RMS (power averaging), if $[span / (\# \text{ of points in sweep})] \setminus RBW / 2$.
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 $\mu\text{V/m}$	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.

Data of measurement within frequency range 9kHz-30MHz and 18-25GHz are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured, so test data does not present in this report.

Test result

Pre-scan with three orthogonal axis and worst case as X axis listed below:30-1GHz.

30-1000MHz Radiated Emission**EUT Information**

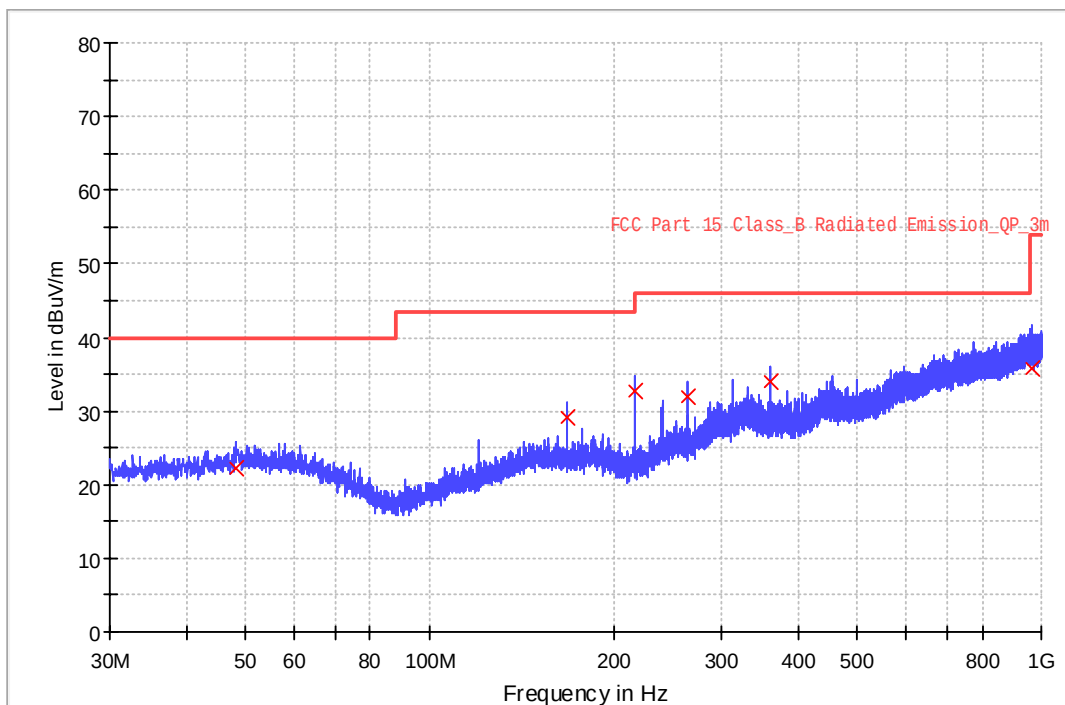
EUT Name: Wi-Fi and Bluetooth Module
Model: TYAUX-F2
Client: Hangzhou Tuya Information Technology Co., Ltd
Op Cond: Power on and TX_2437MHz at N20 mode
Operator: Chengjie Guo
Test Spec: FCC Part 15.209(a)
Comment: Horizontal
Sample No: SHA-866932-2

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)
48.280000	22.3	1000.0	120.000	169.0	H	1.0	20.8	17.7
168.000000	29.2	1000.0	120.000	154.0	H	44.0	20.5	14.4
216.000000	32.7	1000.0	120.000	210.0	H	92.0	17.7	13.3
263.960000	32.0	1000.0	120.000	265.0	H	269.0	20.3	14.0
360.000000	33.9	1000.0	120.000	178.0	H	144.0	23.2	12.1
965.480000	35.8	1000.0	120.000	168.0	H	190.0	34.8	18.1

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

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
48.280000	40.0	
168.000000	43.5	
216.000000	46.0	
263.960000	46.0	
360.000000	46.0	
965.480000	54.0	

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

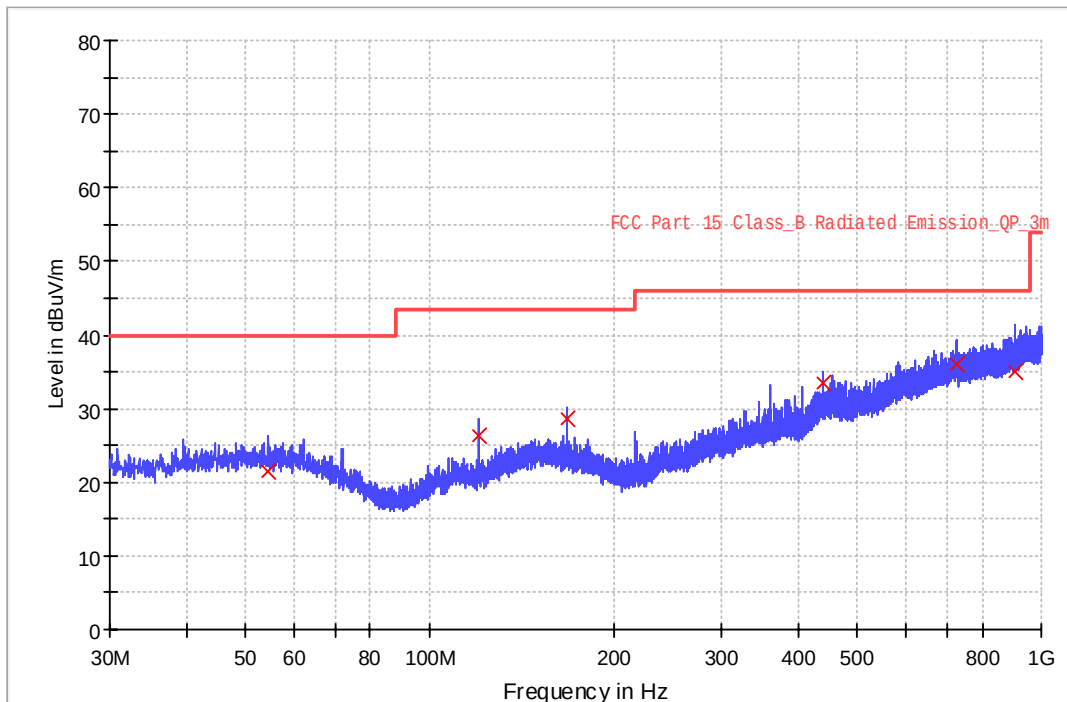
EUT Name: Wi-Fi and Bluetooth Module
Model: TYAUX-F2
Client: Hangzhou Tuya Information Technology Co., Ltd
Op Cond: Power on and TX_2437MHz at N20 mode
Operator: Chengjie Guo
Test Spec: FCC Part 15.209(a)
Comment: Vertical
Sample No: SHA-866932-2

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)
54.560000	21.4	1000.0	120.000	138.0	V	0.0	20.9	18.6
119.960000	26.2	1000.0	120.000	175.0	V	40.0	18.4	17.3
168.000000	28.6	1000.0	120.000	159.0	V	135.0	20.5	14.9
439.920000	33.4	1000.0	120.000	224.0	V	200.0	25.8	12.6
727.680000	36.1	1000.0	120.000	168.0	V	261.0	31.7	9.9
906.840000	35.0	1000.0	120.000	260.0	V	331.0	34.1	11.1

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

Frequency (MHz)	Limit - QPK (dBuV/m)	Comment
54.560000	40.0	
119.960000	43.5	
168.000000	43.5	
439.920000	46.0	
727.680000	46.0	
906.840000	46.0	

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

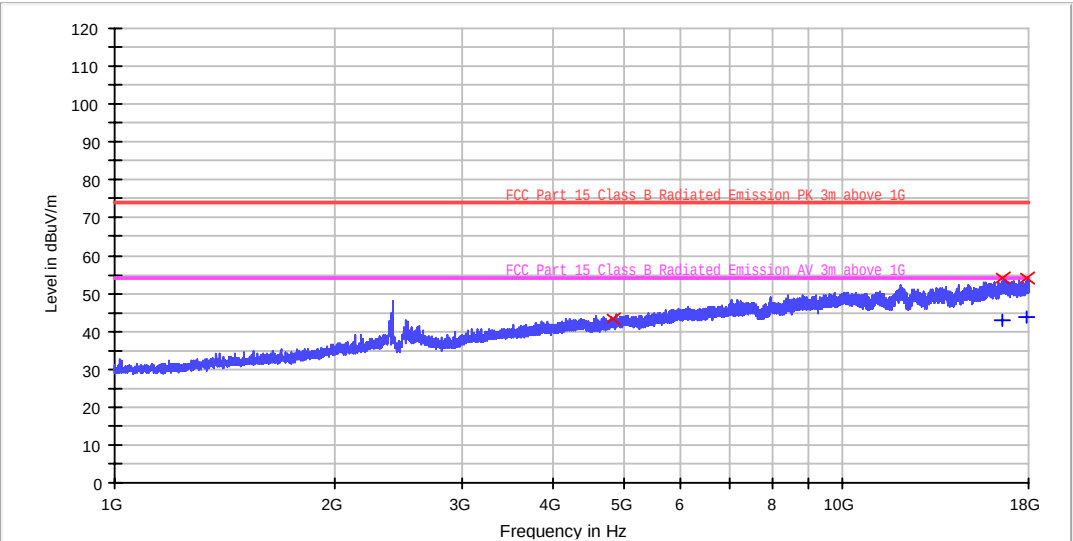
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)



Radiated Emission 1-18 GHz

802.11B:2412MHz

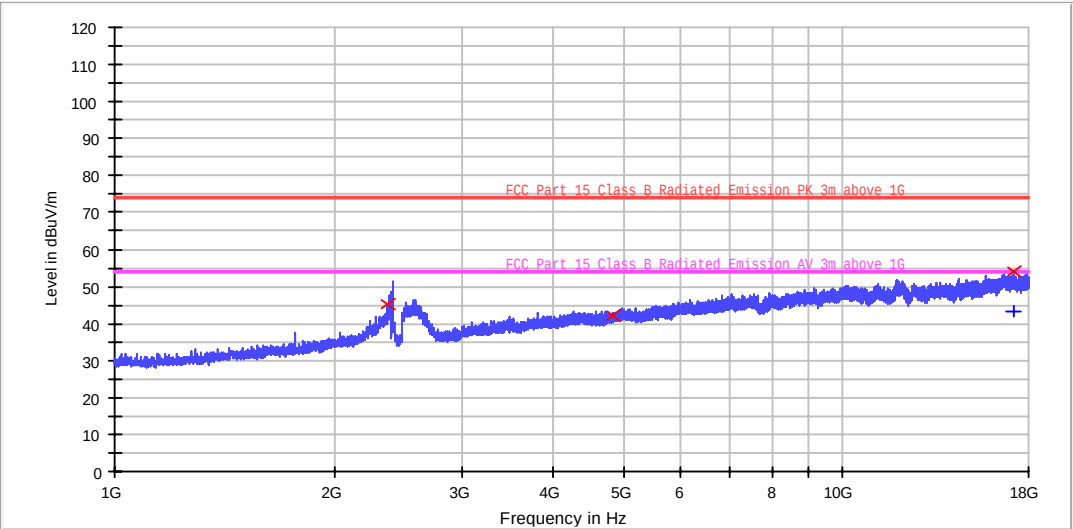
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4824.000000	43.2	---	1000.000	171.0	H	168.0	-3.2	30.8	74.0	---	---
16578.400000	54.0	43.1	1000.000	116.0	H	359.0	7.5	20.0	74.0	10.9	54.0
17909.200000	54.2	43.6	1000.000	117.0	H	133.0	8.4	19.8	74.0	10.4	54.0

RE_HF907_BRF_Pre

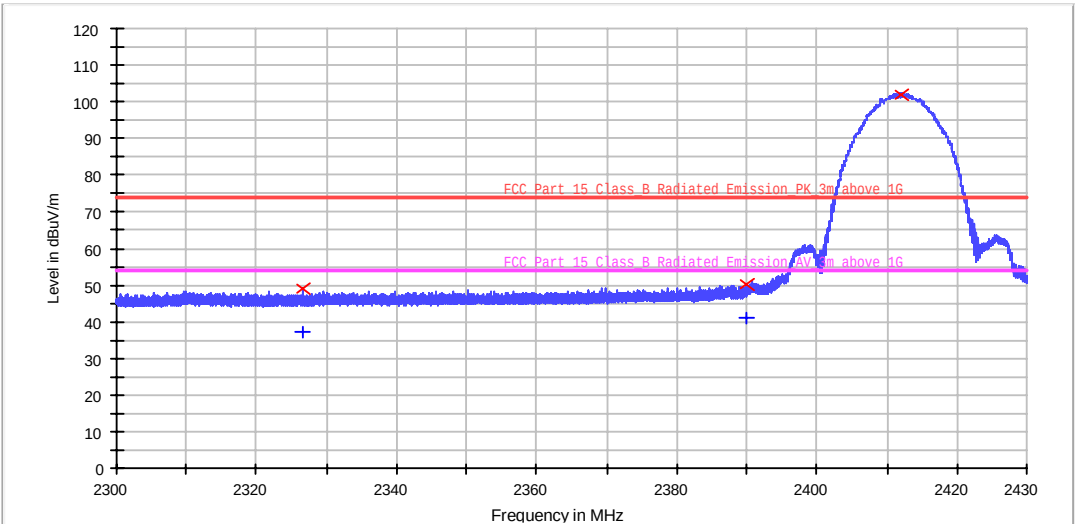


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2370.100000	45.3	---	1000.000	125.0	V	133.0	-8.9	28.7	74.0	---	---
4824.000000	42.4	---	1000.000	234.0	V	132.0	-2.2	31.6	74.0	---	---
17119.600000	54.1	43.5	1000.000	259.0	V	152.0	7.9	19.9	74.0	10.6	54.0

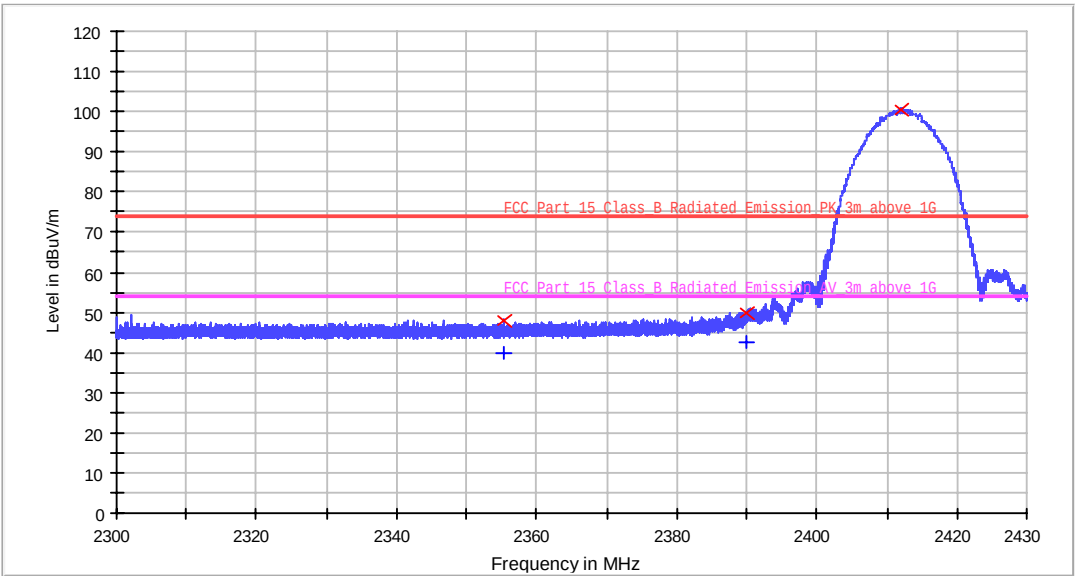


RE_HF907_BRF_Pre



Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2326.600000	49.2	37.1	1000.000	214.0	H	153.0	-1.1	24.8	74.0	16.90	54.0
2389.900000	50.4	41.1	1000.000	159.0	H	145.0	-0.8	23.6	74.0	12.90	54.0

RE_HF907_BRF_Pre



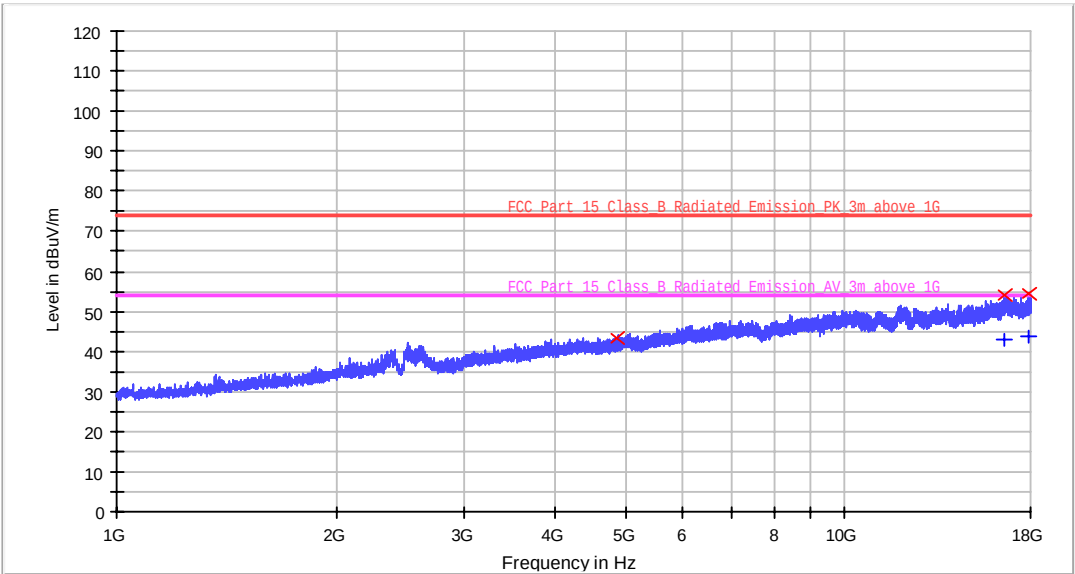
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2355.247375	48.1	40.0	1000.000	191.0	V	138.0	-0.9	25.9	74.0	14.1	54.0
2390.000000	50.0	42.7	1000.000	122.0	V	142.0	-0.8	24.0	74.0	11.3	54.0



802.11B:2437MHz

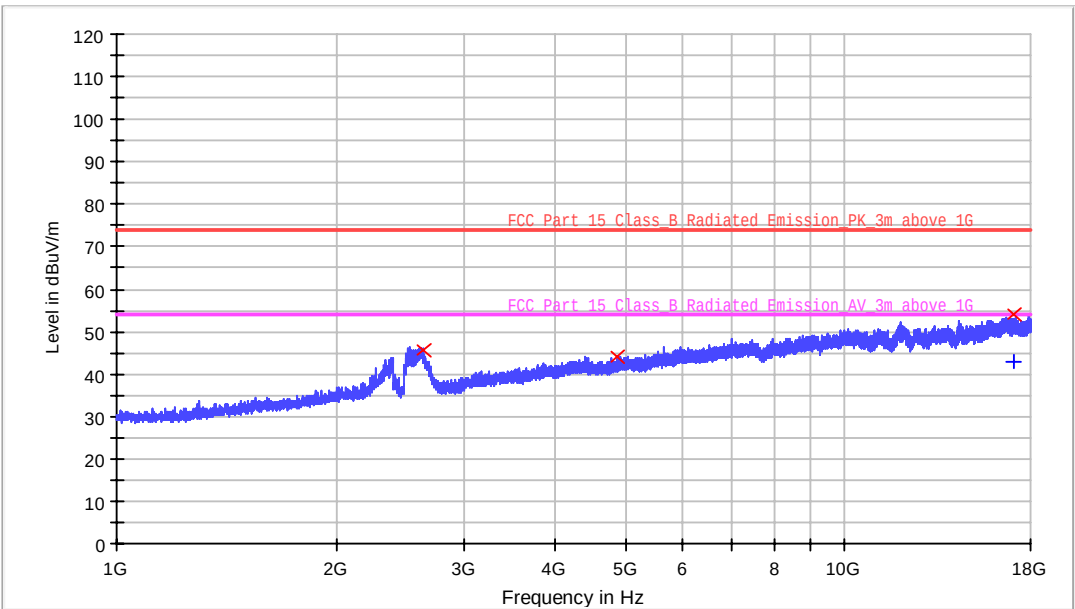
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4874.000000	43.5	---	1000.000	228.0	H	111.0	2.2	30.5	74.0	---	---
16555.600000	54.2	43.1	1000.000	294.0	H	45.0	7.4	19.8	74.0	11.0	54.0
17911.300000	54.4	43.6	1000.000	241.0	H	135.0	8.4	19.6	74.0	10.4	54.0

RE_HF907_BRF_Pre



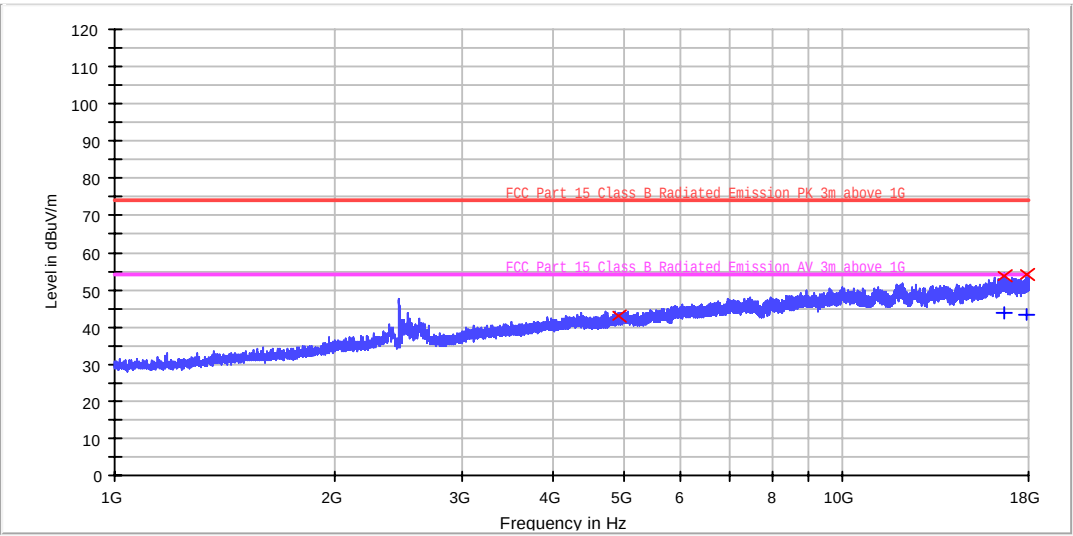
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2633.200000	45.6	---	1000.000	261.0	V	42.0	-9.5	28.4	74.0	---	---
4874.000000	44.1	---	1000.000	102.0	V	359.0	-0.7	29.9	74.0	---	---
17065.000000	54.0	42.9	1000.000	275.0	V	123.0	7.8	20.0	74.0	11.2	54.0



802.11B:2462MHz

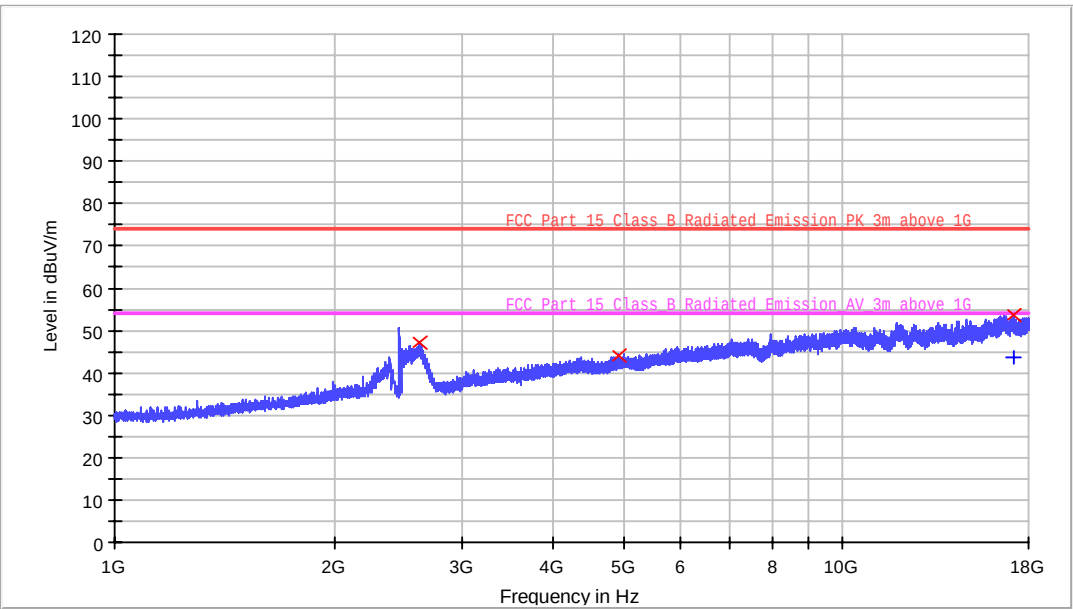
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4924.000000	43.0	---	1000.000	167.0	H	214.0	1.4	31.0	74.0	---	---
16692.700000	53.8	43.5	1000.000	203.0	H	113.0	7.8	20.2	74.0	10.5	54.0
17898.400000	54.0	43.3	1000.000	136.0	H	351.0	8.4	20.0	74.0	10.8	54.0

RE_HF907_BRF_Pre

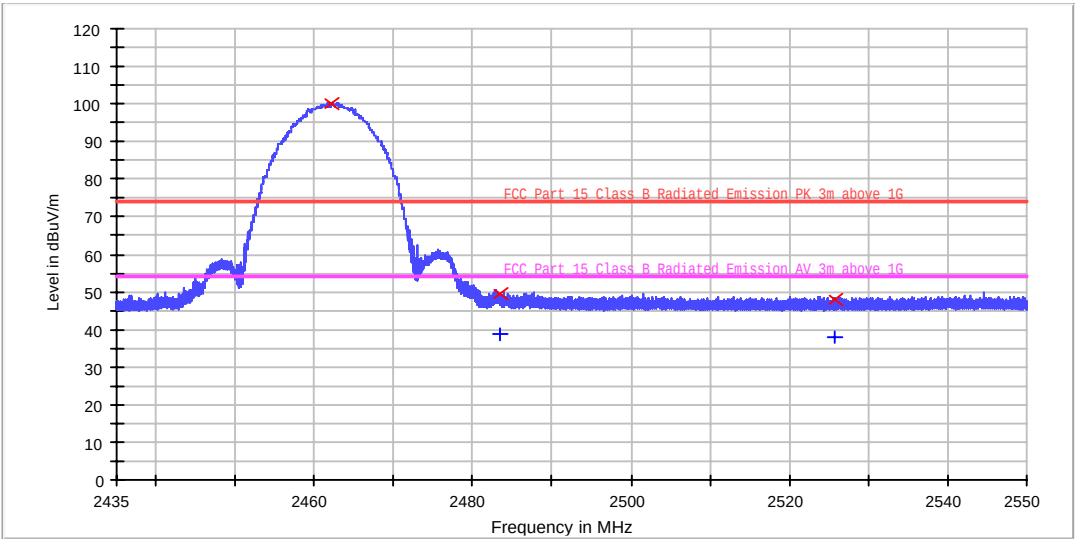


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2621.500000	47.0	---	1000.000	240.0	V	21.0	-9.5	27.0	74.0	---	---
4924.000000	44.0	---	1000.000	157.0	V	164.0	2.0	30.0	74.0	---	---
17116.600000	53.7	43.8	1000.000	102.0	V	233.0	7.9	20.3	74.0	10.2	54.0



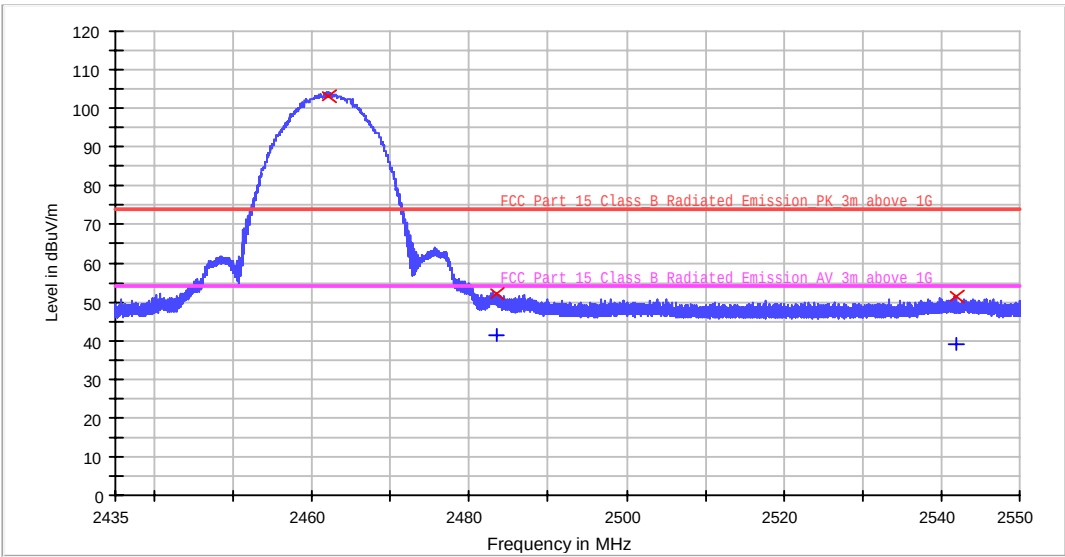
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/	Margin - AV (dB)	Limit - AV (dBuV/
2483.500000	49.5	38.7	1000.000	278.0	H	231.0	-0.3	24.5	74.0	15.3	54.0
2525.800000	48.0	37.9	1000.000	242.0	H	43.0	-0.1	26.0	74.0	16.1	54.0

RE_HF907_BRF_Pre



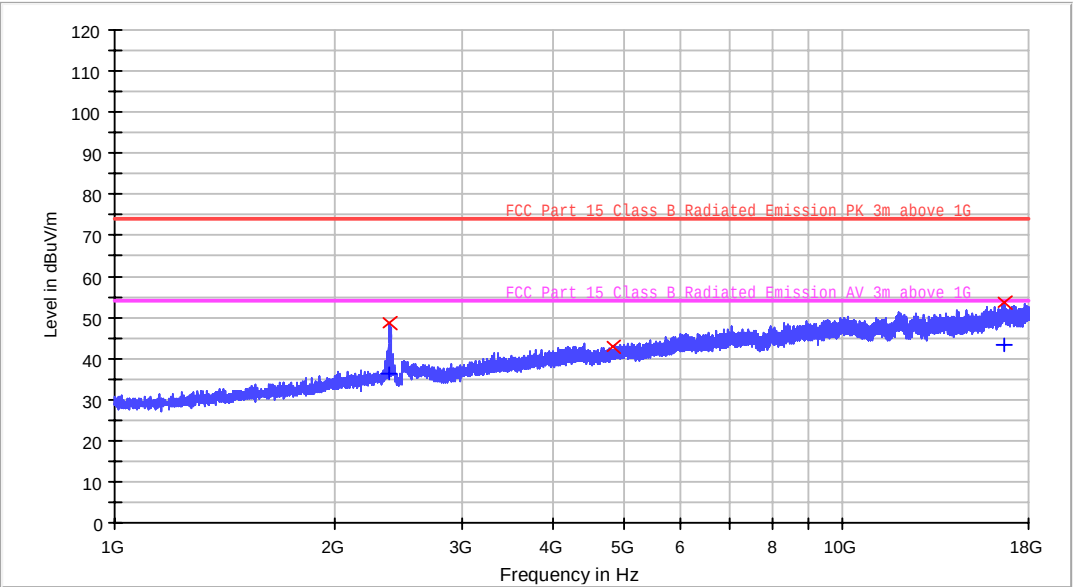
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/	Margin - AV (dB)	Limit - AV (dBuV/
2483.500000	52.3	41.3	1000.000	140.0	V	174.0	-0.3	21.7	74.0	12.7	54.0
2542.000000	51.5	39.3	1000.000	131.0	V	359.0	0.1	22.5	74.0	14.7	54.0



802.11G:2412MHz

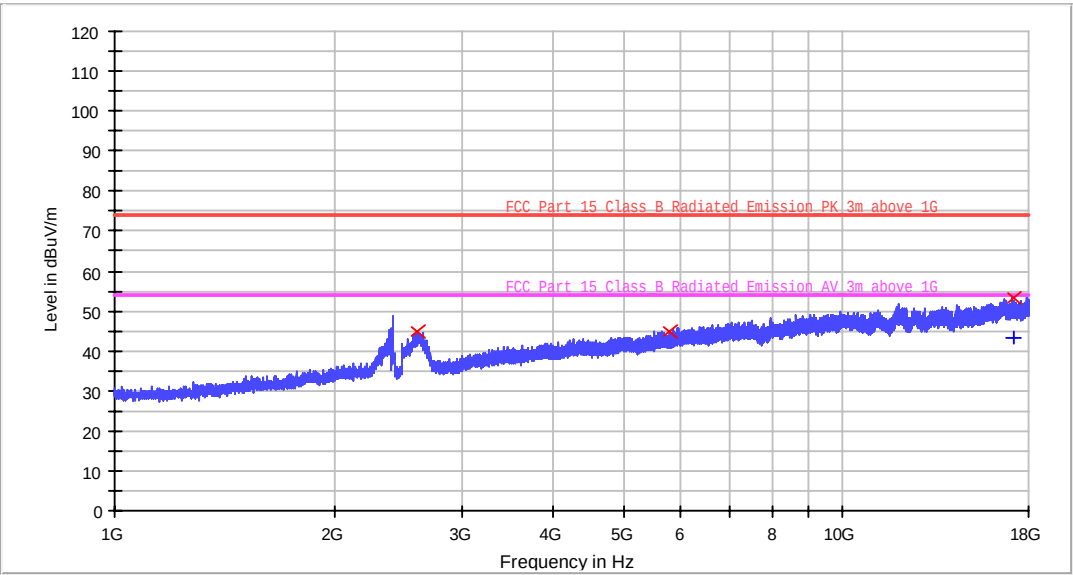
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2389.300000	48.6	36.3	1000.000	257.0	H	153.0	-7.1	25.4	74.0	17.7	54.0
4824.000000	43.0	---	1000.000	104.0	H	168.0	1.2	31.0	74.0	---	---
16669.600000	53.8	43.5	1000.000	177.0	H	144.0	7.7	20.2	74.0	10.5	54.0

RE_HF907_BRF_Pre

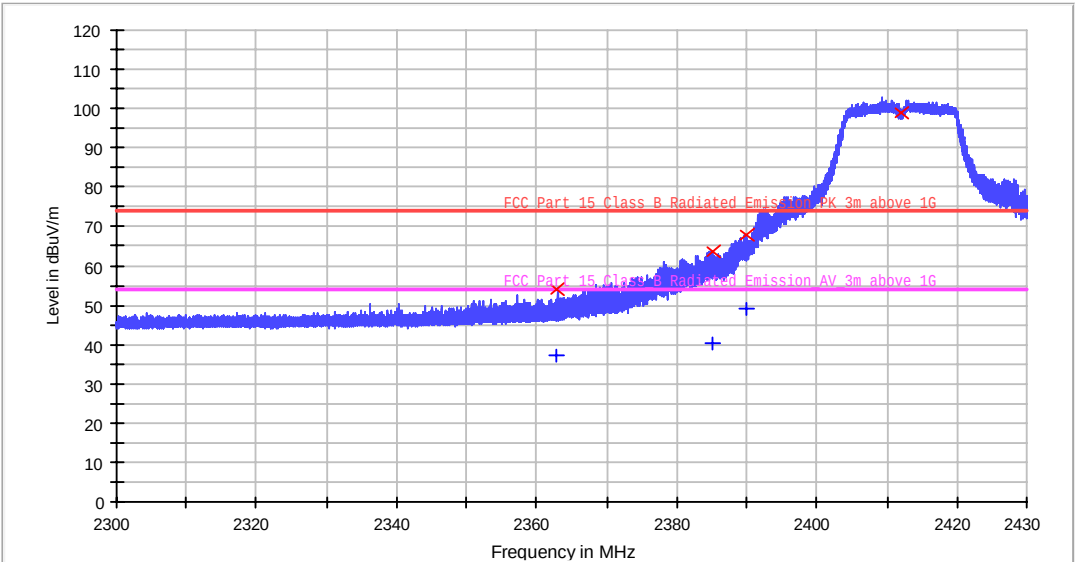


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2599.000000	44.7	---	1000.000	200.0	V	83.0	-9.5	29.3	74.0	---	---
5766.400000	44.7	---	1000.000	103.0	V	188.0	-0.8	29.3	74.0	---	---
17136.700000	53.5	43.5	1000.000	111.0	V	214.0	7.9	20.6	74.0	10.5	54.0



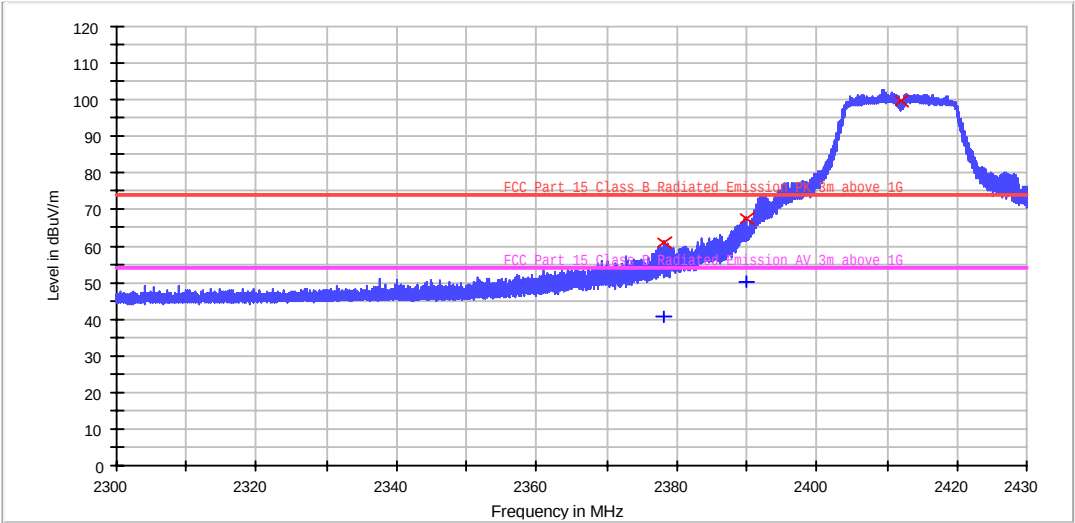
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2362.900000	54.0	37.2	1000.000	225.0	H	321.0	-0.9	20.0	74.0	16.8	54.0
2385.100000	63.6	40.3	1000.000	280.0	H	133.0	-0.8	10.5	74.0	13.7	54.0
2389.900000	67.9	49.1	1000.000	149.0	H	124.0	-0.8	6.1	74.0	4.9	54.0

RE_HF907_BRF_Pre



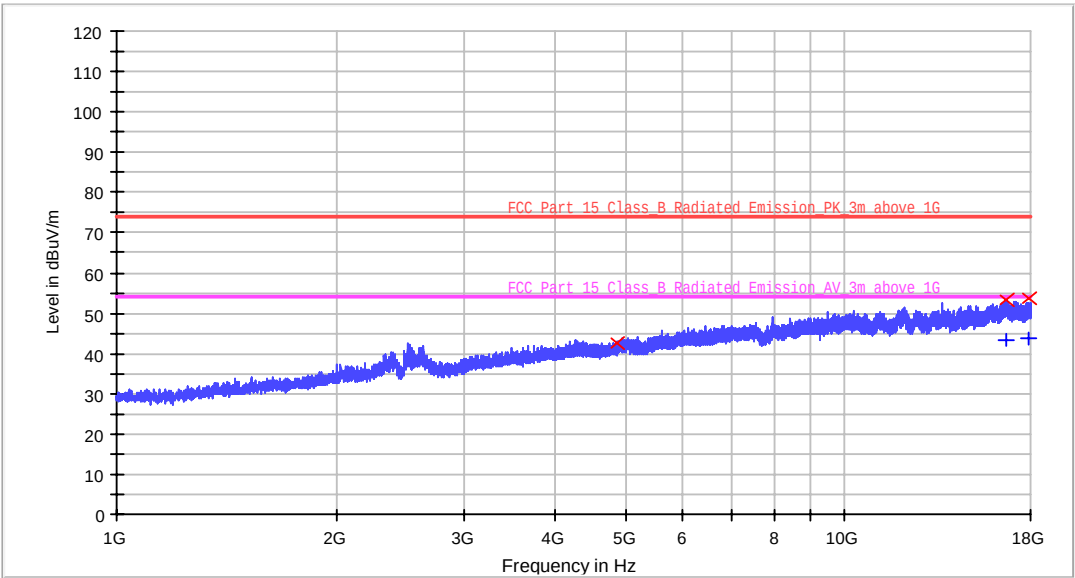
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2378.200000	61.0	40.5	1000.000	184.0	V	32.0	-0.8	13.0	74.0	13.5	54.0
2389.900000	67.3	50.3	1000.000	196.0	V	145.0	-0.8	6.7	74.0	3.7	54.0



802.11G:2437MHz

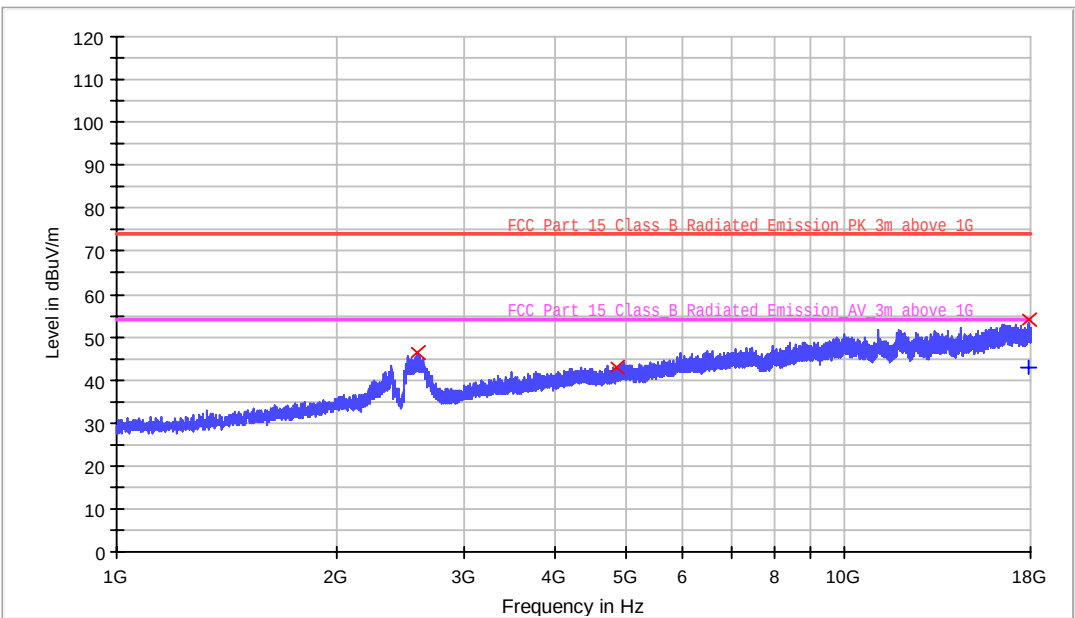
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4874.000000	42.7	---	1000.000	252.0	H	216.0	-0.4	31.3	74.0	---	---
16648.900000	53.4	43.3	1000.000	263.0	H	214.0	7.7	20.6	74.0	10.7	54.0
17914.600000	53.9	43.6	1000.000	178.0	H	132.0	8.4	20.2	74.0	10.4	54.0

RE_HF907_BRF_Pre



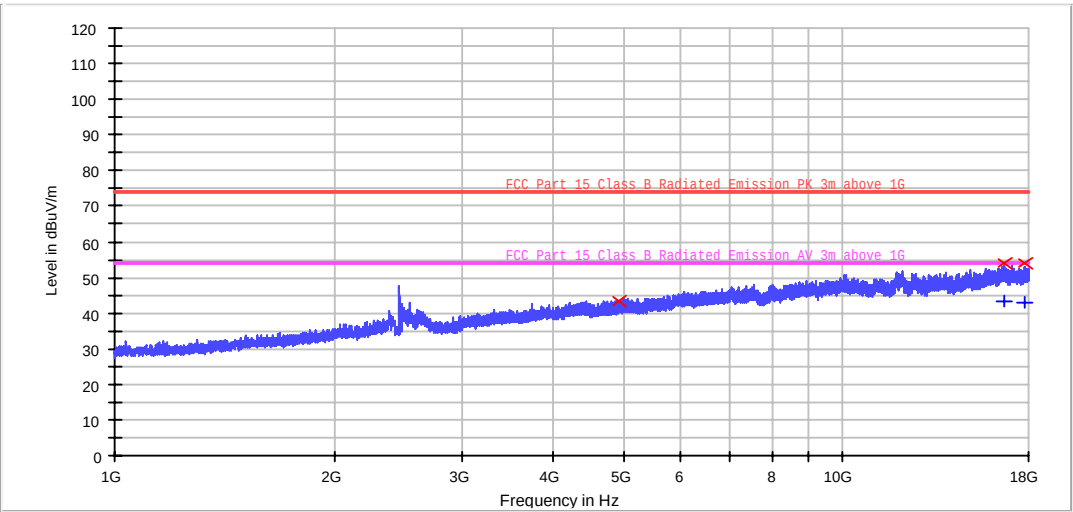
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2596.000000	46.3	---	1000.000	222.0	V	217.0	-9.5	27.7	74.0	---	---
4874.000000	43.0	---	1000.000	119.0	V	19.0	-0.2	31.0	74.0	---	---
17888.500000	54.0	43.0	1000.000	300.0	V	332.0	8.4	20.0	74.0	11.0	54.0



802.11G:2462MHz

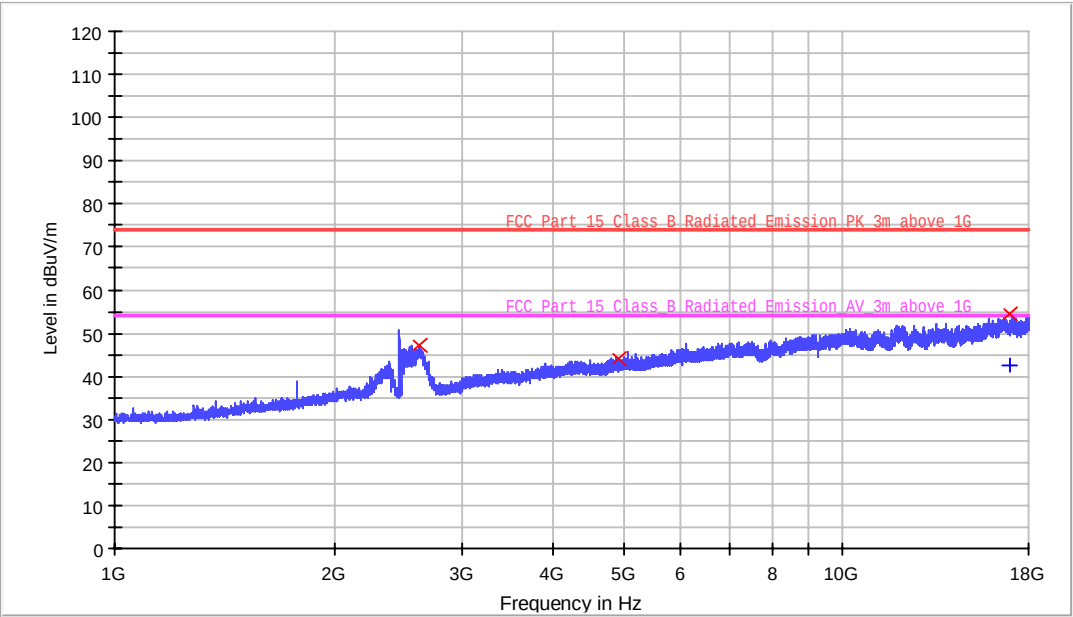
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4924.000000	43.5	---	1000.000	229.0	H	321.0	-2.0	30.5	74.0	---	---
16668.700000	53.9	43.4	1000.000	264.0	H	294.0	7.7	20.1	74.0	10.6	54.0
17787.400000	54.0	42.8	1000.000	244.0	H	0.0	8.2	20.0	74.0	11.2	54.0

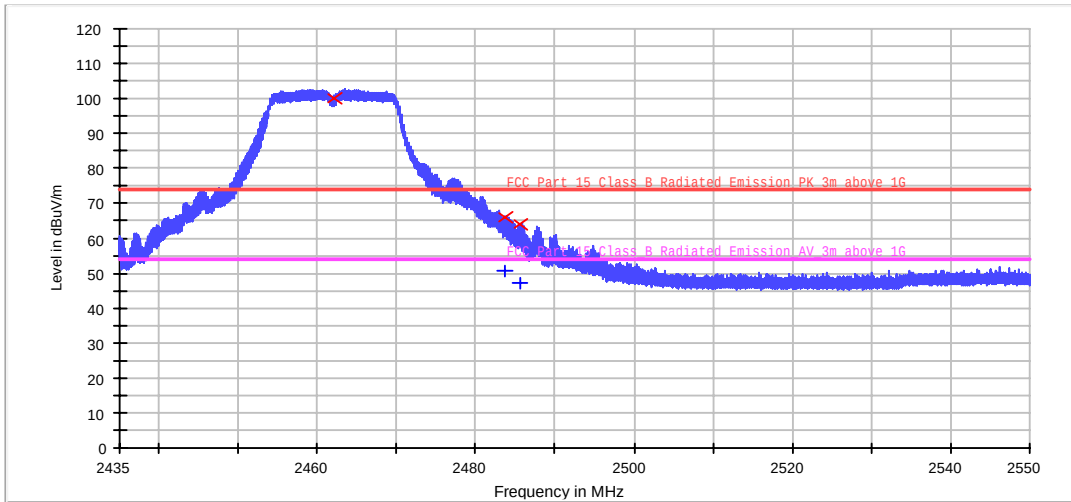
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2614.000000	47.2	---	1000.000	216.0	V	136.0	-9.5	26.8	74.0	---	---
4924.000000	44.1	---	1000.000	184.0	V	142.0	0.0	29.9	74.0	---	---
16986.800000	54.4	42.5	1000.000	132.0	V	75.0	7.6	19.6	74.0	11.5	54.0

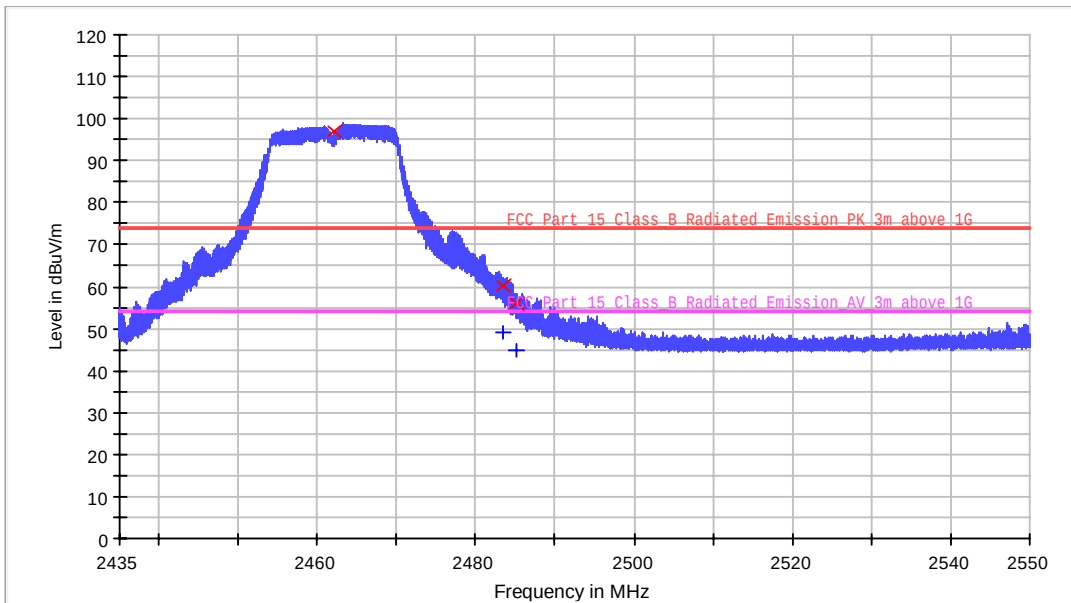
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2483.800000	66.0	50.4	1000.000	150.0	H	142.0	-0.3	8.1	74.0	3.6	54.0
2485.600000	63.9	47.1	1000.000	175.0	H	359.0	-0.3	10.1	74.0	7.0	54.0

RE_HF907_BRF_Pre

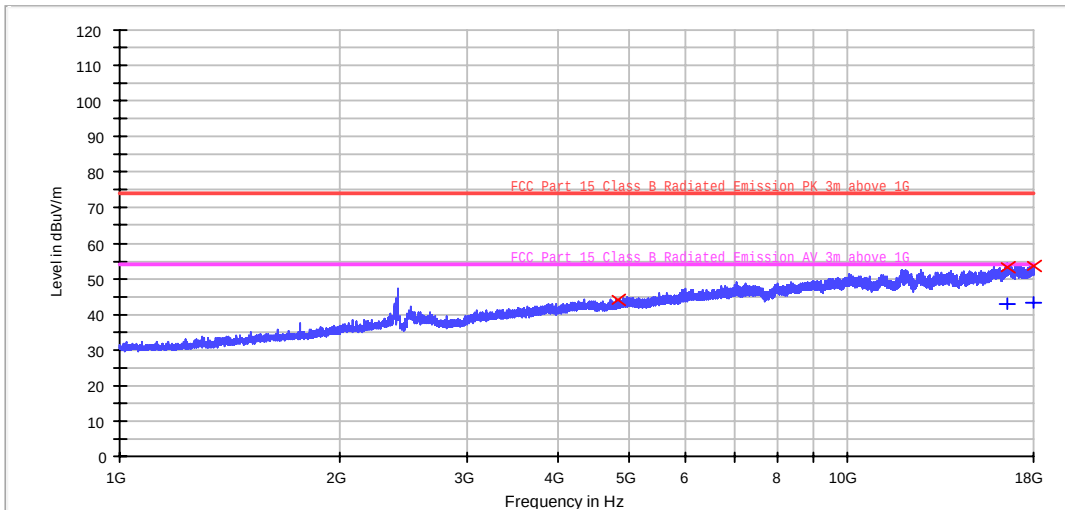


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2483.500000	60.3	49.2	1000.000	210.0	V	142.0	-0.3	13.7	74.0	4.8	54.0
2485.200000	55.9	44.8	1000.000	150.0	V	178.0	-0.3	18.1	74.0	9.2	54.0

802.11N20:2412MHz

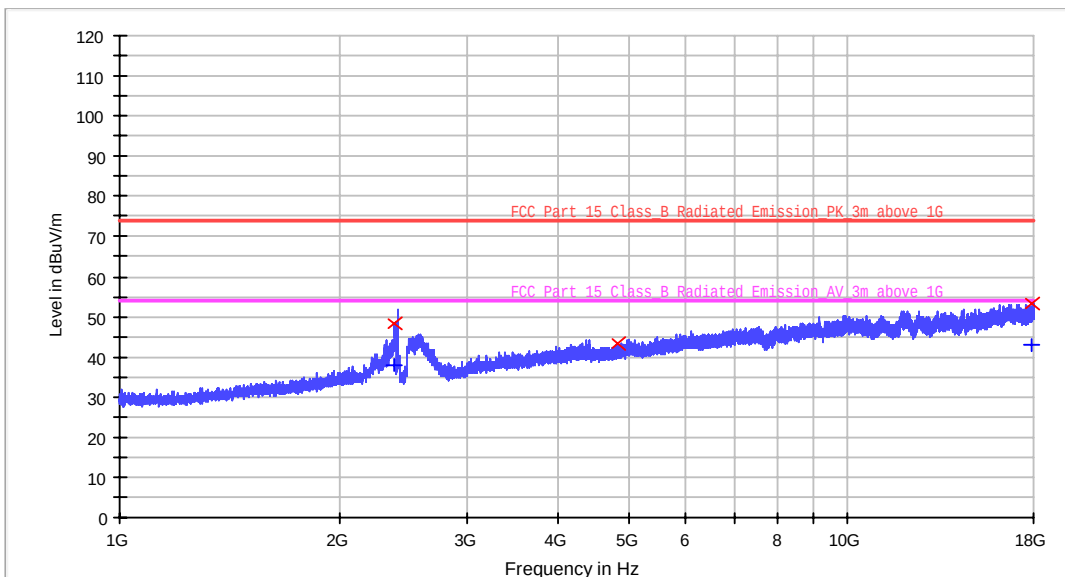
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4824.000000	44.2	---	1000.000	231.0	H	41.0	-0.2	29.8	74.0	---	---
16550.800000	53.2	43.1	1000.000	295.0	H	142.0	7.4	20.8	74.0	10.9	54.0
17963.800000	53.6	43.4	1000.000	109.0	H	165.0	8.5	20.4	74.0	10.6	54.0

RE_HF907_BRF_Pre

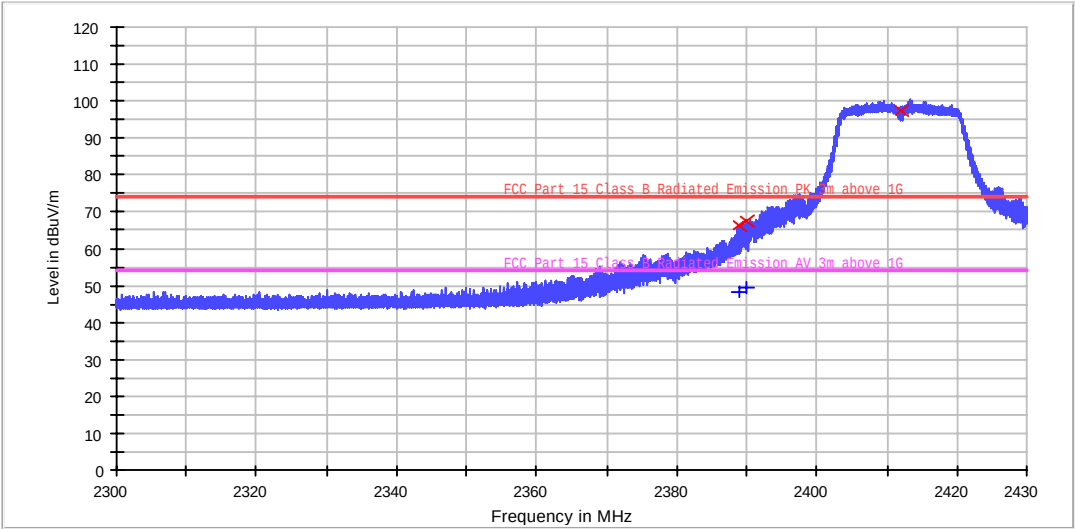


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2388.100000	48.1	37.9	1000.000	191.0	V	114.0	-6.3	25.9	74.0	16.2	54.0
4824.000000	43.2	---	1000.000	222.0	V	174.0	-3.0	30.8	74.0	---	---
17878.300000	53.3	42.8	1000.000	107.0	V	142.0	8.4	20.7	74.0	11.2	54.0



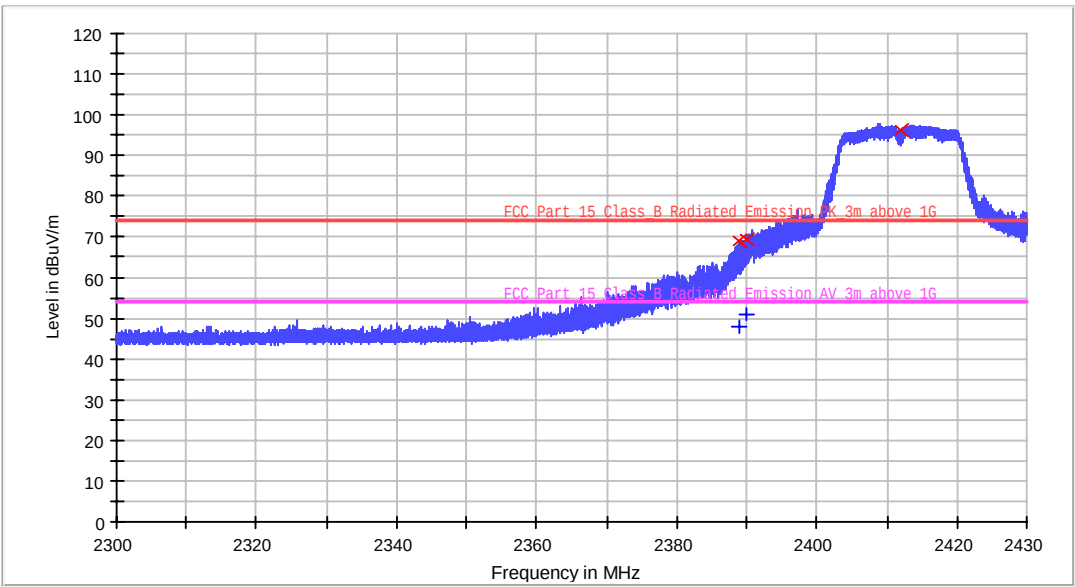
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2389.000000	66.4	48.2	1000.000	150.0	H	147.0	-0.8	7.6	74.0	5.9	54.0
2390.000000	67.3	49.5	1000.000	150.0	H	246.0	-0.8	6.7	74.0	4.5	54.0

RE_HF907_BRF_Pre



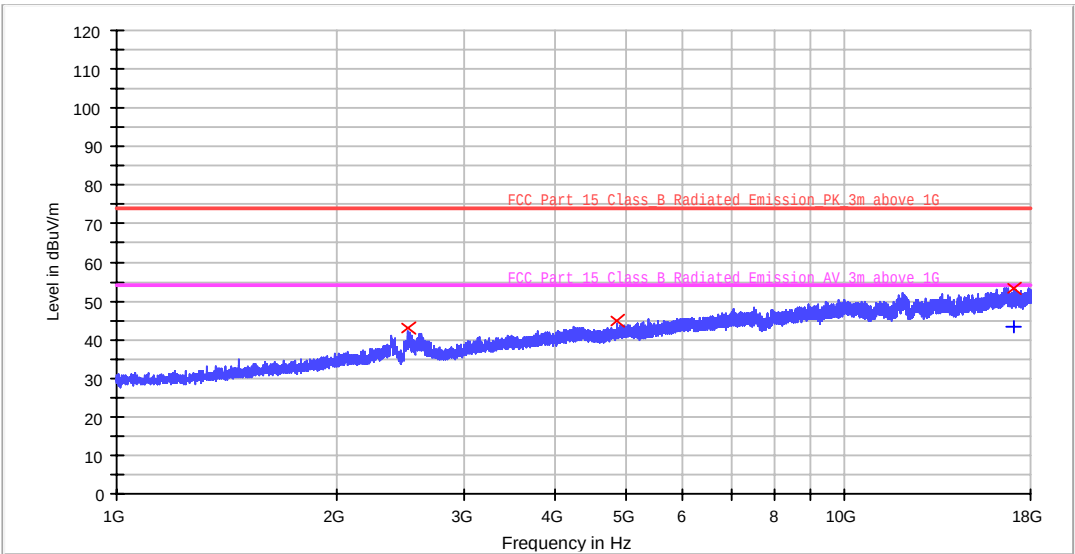
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/)	Margin - AV (dB)	Limit - AV (dBuV/)
2389.000000	69.1	47.8	1000.000	150.0	V	236.0	-0.8	4.9	74.0	6.2	54.0
2390.000000	69.4	51.0	1000.000	150.0	V	174.0	-0.8	4.6	74.0	3.0	54.0



802.11N20:2437MHz

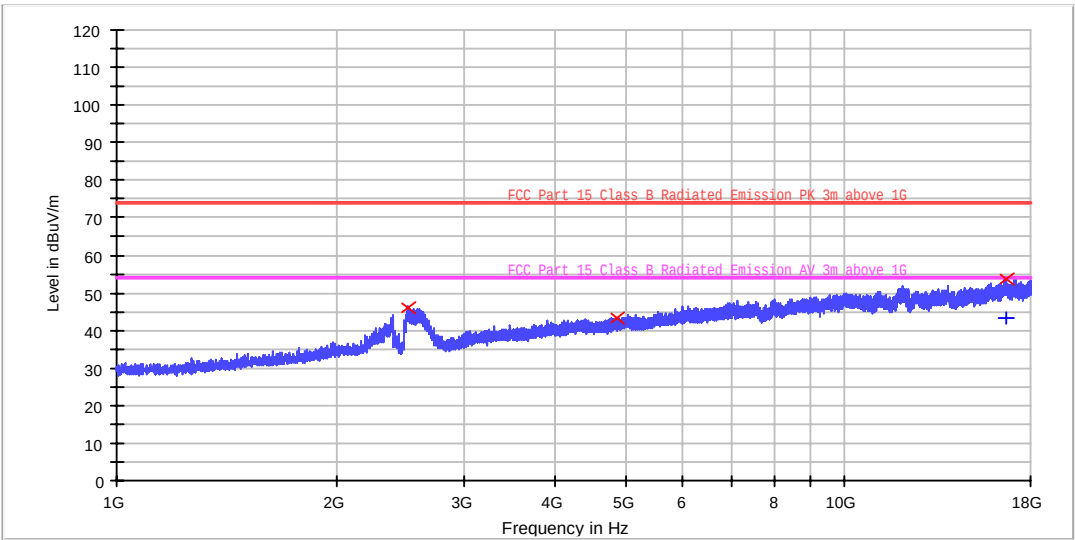
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2520.400000	43.0	---	1000.000	227.0	H	175.0	-9.3	31.0	74.0	---	---
4874.000000	44.8	---	1000.000	234.0	H	35.0	1.5	29.2	74.0	---	---
17098.600000	53.3	43.2	1000.000	258.0	H	125.0	7.8	20.7	74.0	10.8	54.0

RE_HF907_BRF_Pre



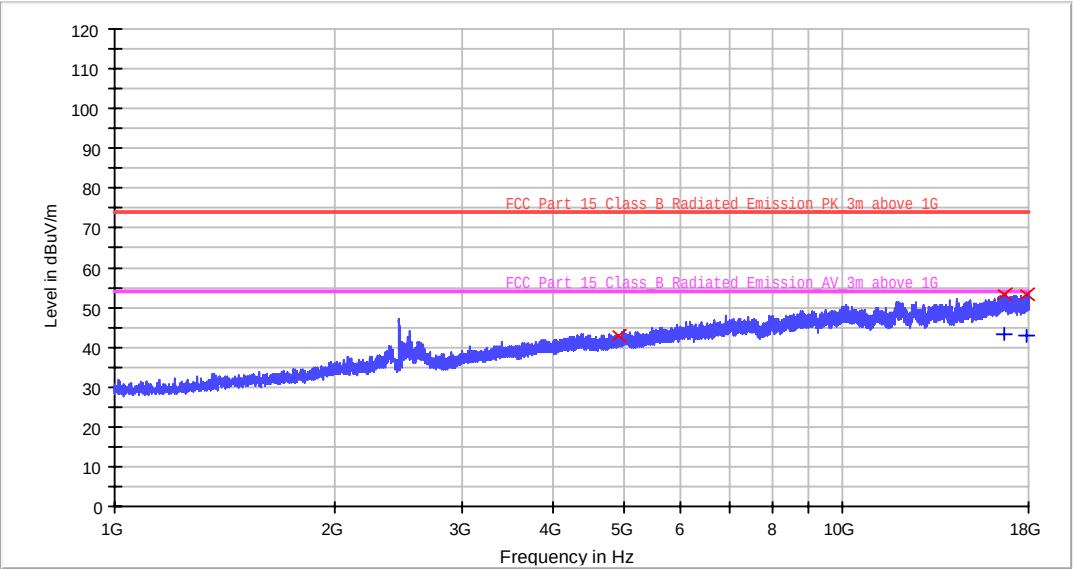
Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2514.100000	45.9	---	1000.000	201.0	V	142.0	-9.1	28.1	74.0	---	---
4874.000000	43.2	---	1000.000	127.0	V	175.0	-0.3	30.8	74.0	---	---
16683.700000	53.5	43.5	1000.000	198.0	V	135.0	7.7	20.5	74.0	10.5	54.0



802.11N20:2462MHz

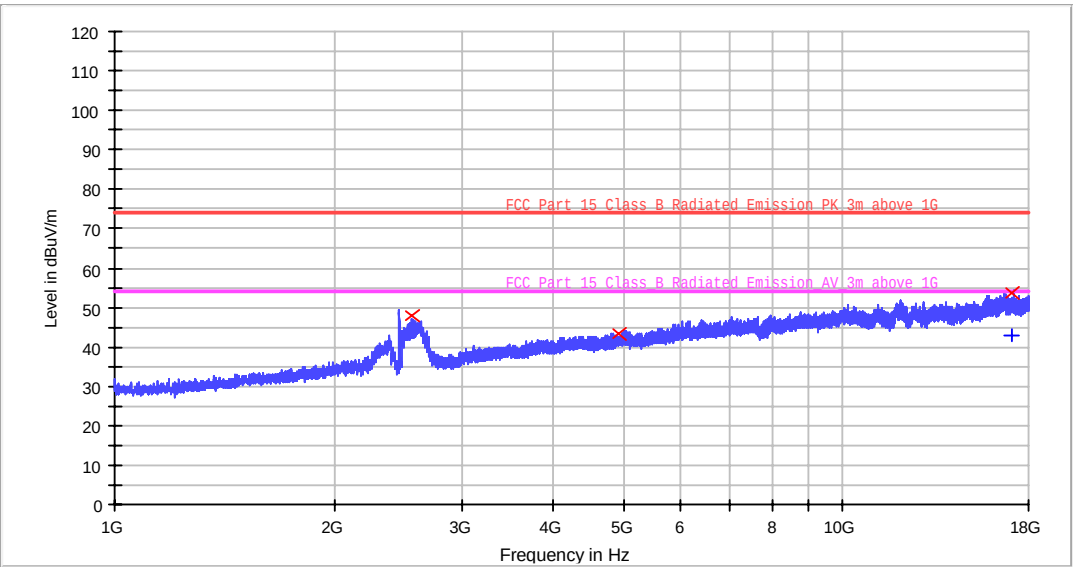
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
4924.000000	43.0	---	1000.000	128.0	H	153.0	-1.8	31.0	74.0	---	---
16681.000000	53.4	43.5	1000.000	129.0	H	47.0	7.7	20.6	74.0	10.5	54.0
17840.500000	53.2	42.8	1000.000	156.0	H	145.0	8.3	20.8	74.0	11.2	54.0

RE_HF907_BRF_Pre

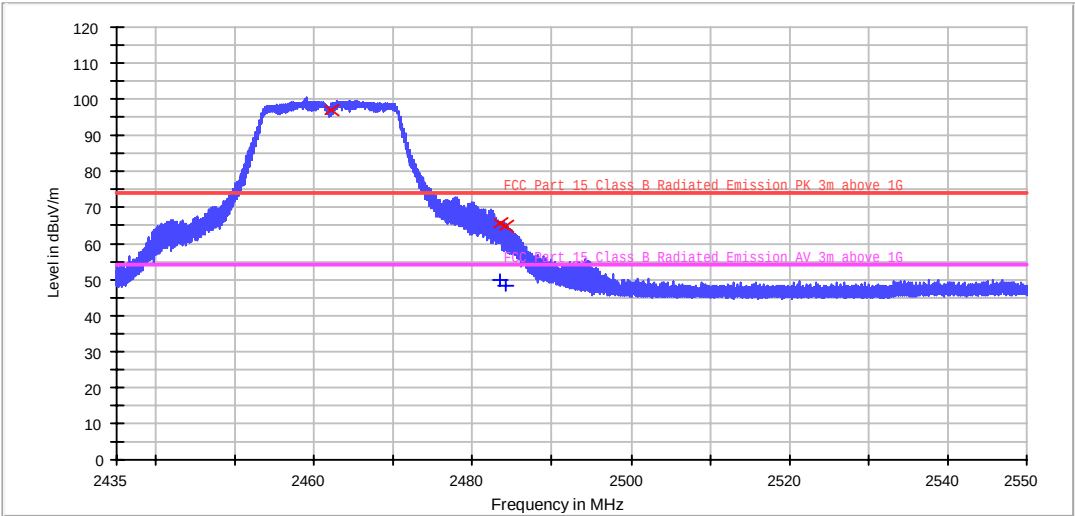


Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+	Limit - PK+	Margin - AV	Limit - AV
2560.300000	47.8	---	1000.000	214.0	V	359.0	-9.7	26.3	74.0	---	---
4924.000000	43.4	---	1000.000	258.0	V	322.0	0.3	30.7	74.0	---	---
17080.300000	53.7	43.1	1000.000	204.0	V	270.0	7.8	20.3	74.0	10.9	54.0



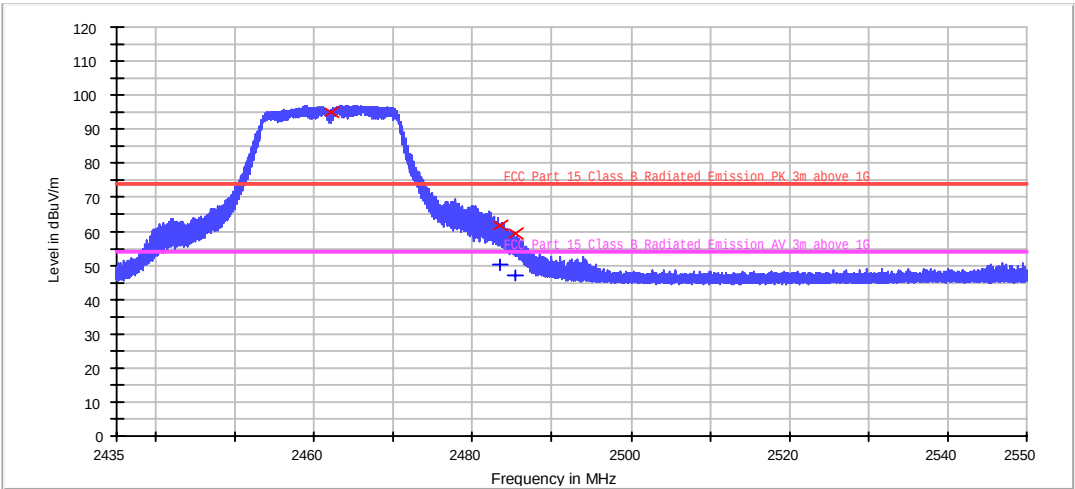
RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/	Margin - AV (dB)	Limit - AV (dBuV/
2483.500000	65.6	49.7	1000.000	150.0	H	174.0	-0.3	8.5	74.0	4.4	54.0
2484.100000	65.0	48.4	1000.000	240.0	H	145.0	-0.3	9.0	74.0	5.6	54.0

RE_HF907_BRF_Pre



Limit and Margin

Frequency (MHz)	MaxPeak (dBuV/m)	AV (dBuV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/	Margin - AV (dB)	Limit - AV (dBuV/
2483.500000	61.8	50.1	1000.000	180.0	V	176.0	-0.3	12.2	74.0	3.9	54.0
2485.300000	59.4	47.1	1000.000	190.0	V	145.0	-0.3	14.6	74.0	6.9	54.0

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	2024-2-19	2025-2-18
	Wideband power sensor	Rohde & Schwarz	NRP-Z81	105903	2024-2-10	2025-2-9
	10dB Attenuator	Aeroflex Weinschel	CG-4689	93459	2024-2-10	2025-2-9
RE	EMI Test Receiver	Rohde & Schwarz	ESR3	101906	2024-8-1	2025-7-31
	Signal Analyzer	Rohde & Schwarz	FSV40	101091	2024-8-1	2025-7-31
	Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9168	961	2024-8-30	2025-8-29
	Double-ridged waveguide horn antenna	Rohde & Schwarz	HF907	102868	2024-4-14	2025-4-13
	Pre-amplifier	Shenzhen HzEMC	HPA-081843	HYP A23026	2024-4-16	2025-4-15
	Loop antenna	Rohde & Schwarz	HFH2-Z2	100443	2024-6-26	2025-6-25
	Double Ridged Horn Antenna	ETS-Lindgren	3116C	00246076	2023-7-7	2026-7-6
	3m Semi-anechoic chamber	TDK	9X6X6	----	2024-5-8	2027-5-7
CE	EMI Test Receiver	Rohde & Schwarz	ESR3	101907	2024-8-1	2025-7-31
	LISN	Rohde & Schwarz	ENV216	101924	2024-8-1	2025-7-31

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	30MHz to 1GHz, 5.03dB (Horizontal) 5.12dB (Vertical) 1GHz to 18GHz, 5.49dB 18GHz to 40GHz, 5.63dB
Carrier power conducted measurement	50MHz~18GHz, 1.238dB
Spurious Emission Conducted Measurement	9kHz ~40GHz, 1.224dB

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2021, clause 4.4.3 and 4.5.1.



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-----