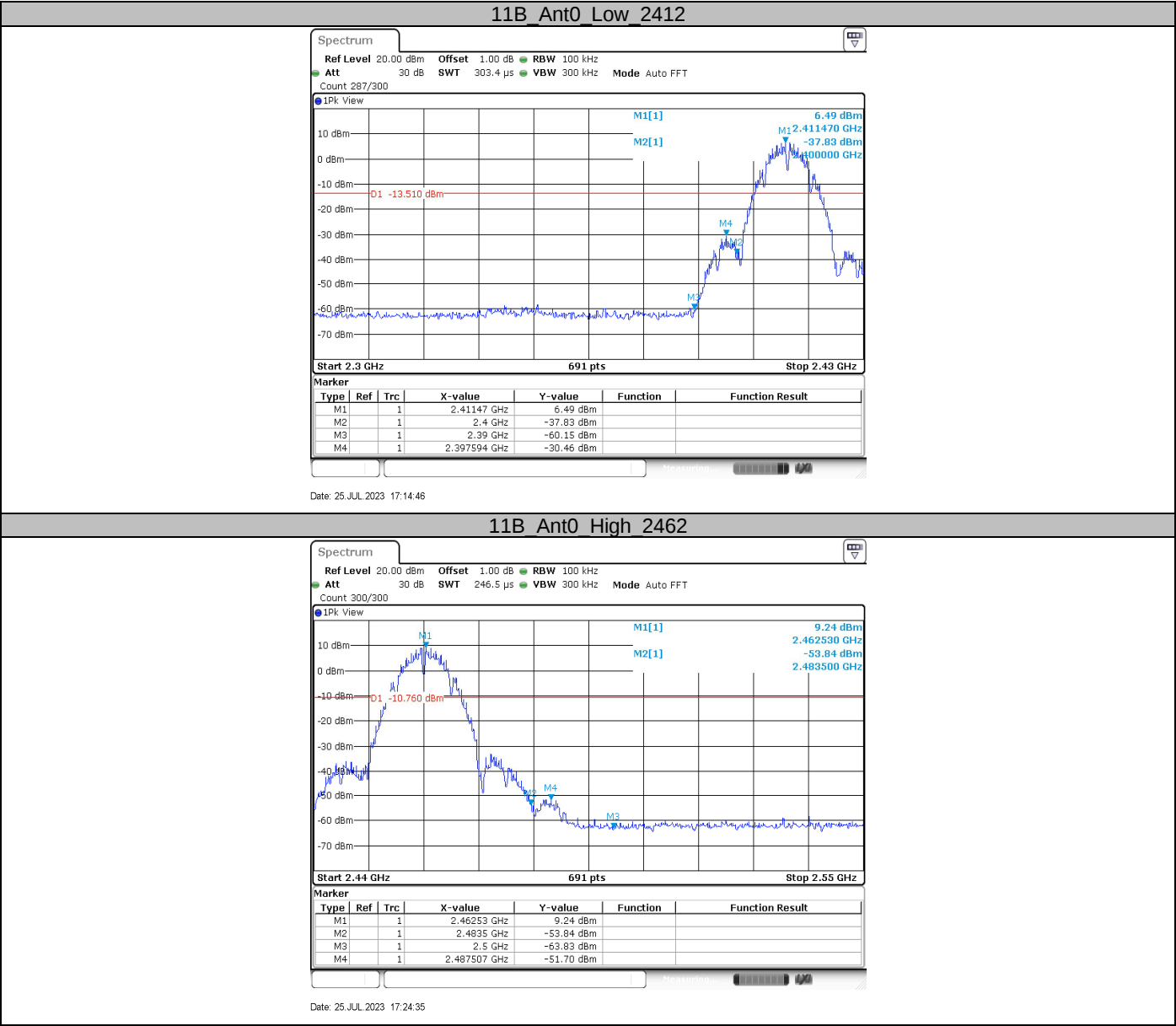




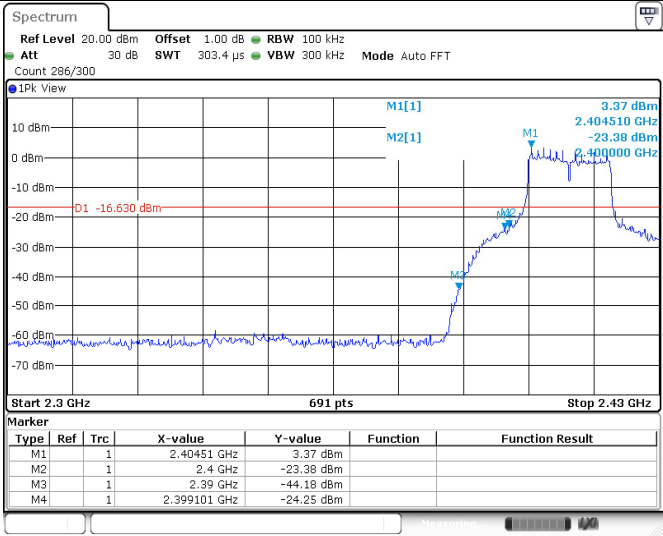
Band edge testing

Test Mode	Channel Name	Channel (MHz)	Reference Level (dBm)	Result (dBm)	Limit (dBm)	Verdict
11B	Low	2412	6.49	-30.46	<=-13.51	PASS
	High	2462	9.24	-51.7	<=-10.76	PASS
11G	Low	2412	3.37	-24.25	<=-16.63	PASS
	High	2462	4.14	-25.67	<=-15.86	PASS
11N20	Low	2412	1.87	-22.49	<=-18.13	PASS
	High	2462	7.97	-22.64	<=-12.03	PASS
11N40	Low	2422	1.36	-24.91	<=-18.64	PASS
	High	2452	3.54	-19.42	<=-16.46	PASS

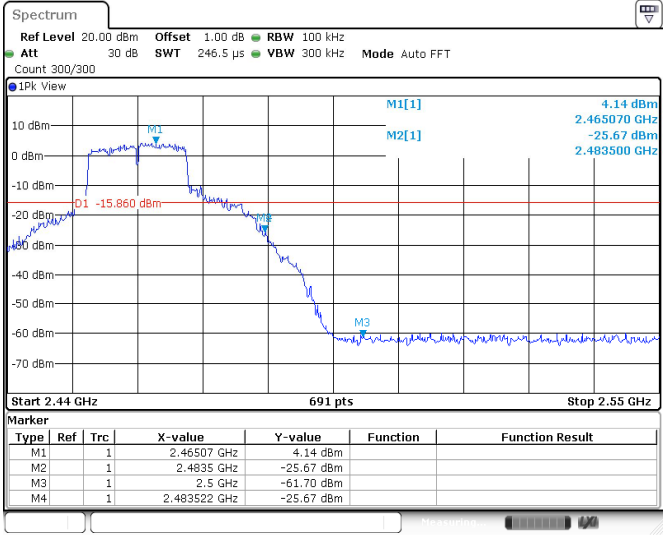




11G_Ant0_Low_2412

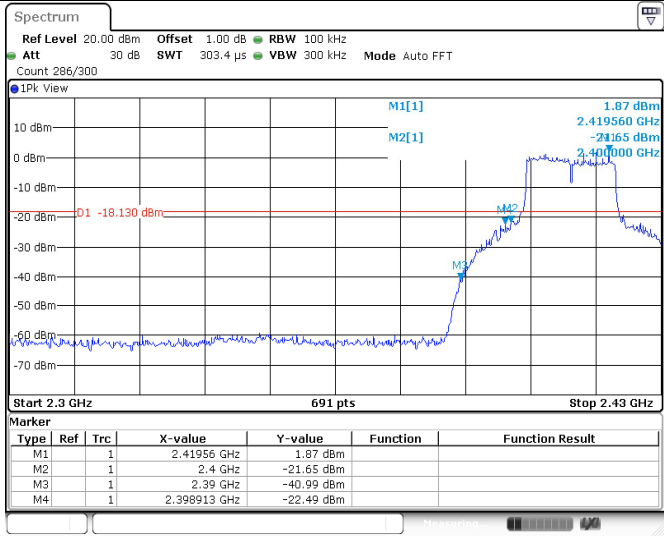


11G_Ant0_High_2462

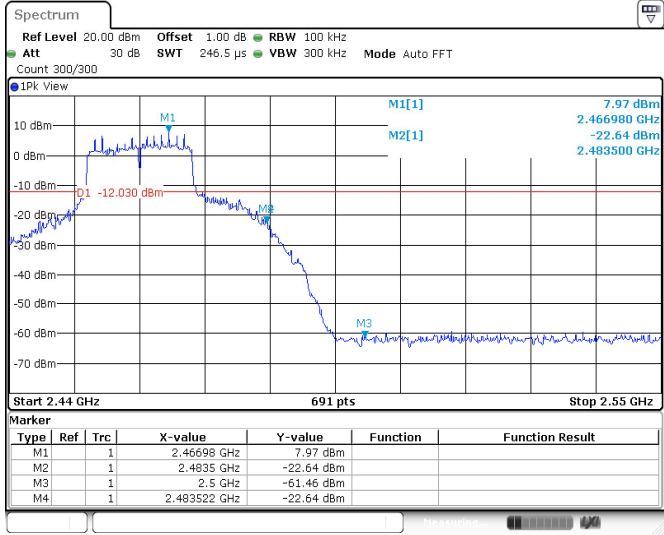




11N20_Ant0 Low 2412

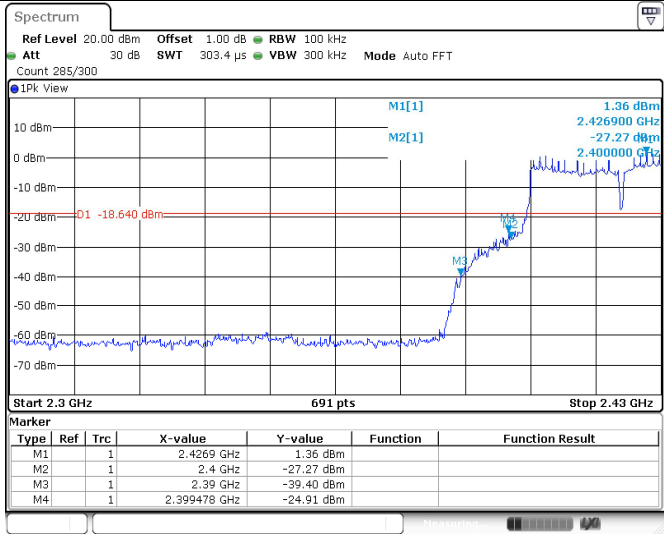


11N20_Ant0 High 2462

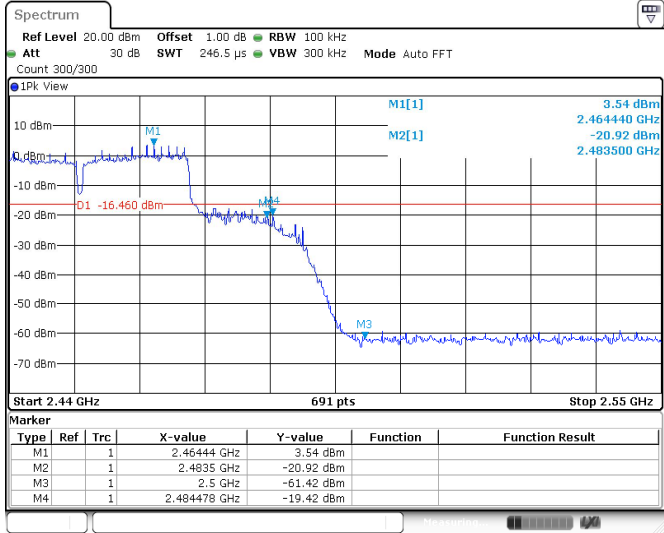




11N40_Ant0 Low 2422



11N40_Ant0 High 2452



9.6 Spurious Radiated Emissions for Transmitter

Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. Use the following spectrum analyzer settings According to C63.10
 - 1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 kHz to 120kHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 - 2) For Peak unwanted emissions Above 1GHz:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.
Procedures for average unwanted emissions measurements above 1GHz
 - a) RBW = 1MHz.
 - b) $VBW \setminus [3 \times RBW]$.
 - c) Detector = RMS (power averaging), if $[\text{span} / (\# \text{ of points in sweep})] \setminus RBW / 2$.
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 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.

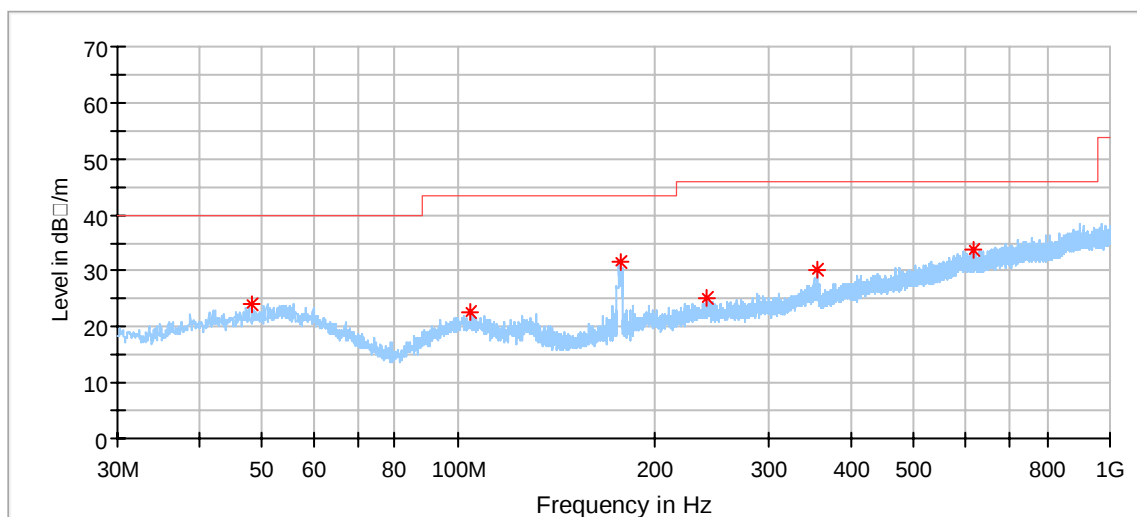
Data of measurement within frequency range 9kHz-30MHz is the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured, so test data does not present in this report.

The only worse case (802.11b_2412MHz mode) test result is listed in the report.

Transmitting spurious emission test result as below:

30MHz – 1000MHz:

11b_2412MHz

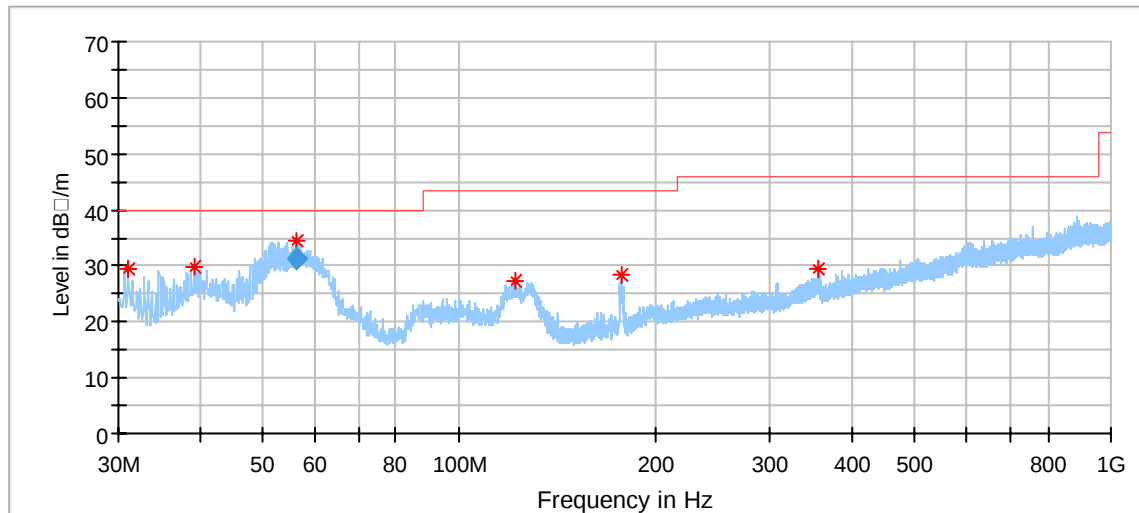


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
48.106667	24.08	40.00	15.92	200.0	H	146.0	17.94	---
104.690000	22.51	43.50	20.99	100.0	H	205.0	16.34	---
177.493889	31.74	43.50	11.76	200.0	H	256.0	14.04	---
241.190556	24.98	46.00	21.02	200.0	H	302.0	17.53	---
356.620556	30.19	46.00	15.81	100.0	H	45.0	20.32	---
617.227222	33.77	46.00	12.23	100.0	H	239.0	25.78	---

30MHz – 1000MHz:

11b_2412MHz

**Critical_Freqs**

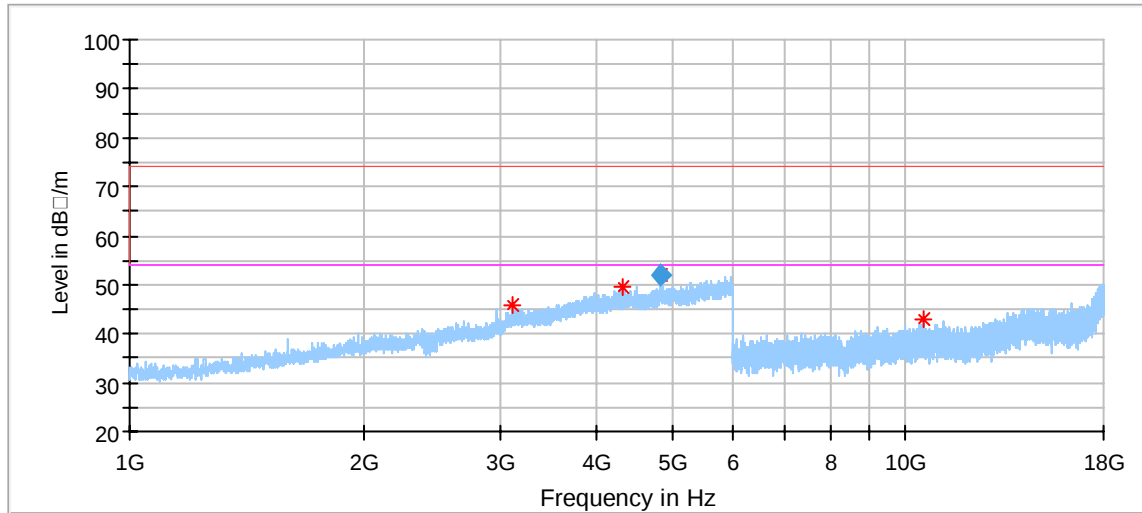
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
31.131667	29.42	40.00	10.58	100.0	V	0.0	13.84	---
39.215000	29.74	40.00	10.26	100.0	V	38.0	16.33	---
56.208845	34.42	40.00	5.58	104.0	V	175.0	17.43	---
121.718889	27.41	43.50	16.09	100.0	V	356.0	13.77	---
177.170556	28.29	43.50	15.21	200.0	V	344.0	14.01	---
356.512778	29.31	46.00	16.69	100.0	V	292.0	20.33	---

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
56.208845	31.27	40.00	8.73	104.0	V	175.0	17.54	---

1GHz -18GHz:

11b_2412MHz

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3119.000000	45.75	74.00	28.25	150.0	H	93.0	-0.36
4314.500000	49.59	74.00	24.41	150.0	H	34.0	4.01
4824.000000	52.10	74.00	21.90	150.0	H	240.0	5.24
10546.500000	42.93	74.00	31.07	150.0	H	220.0	11.77

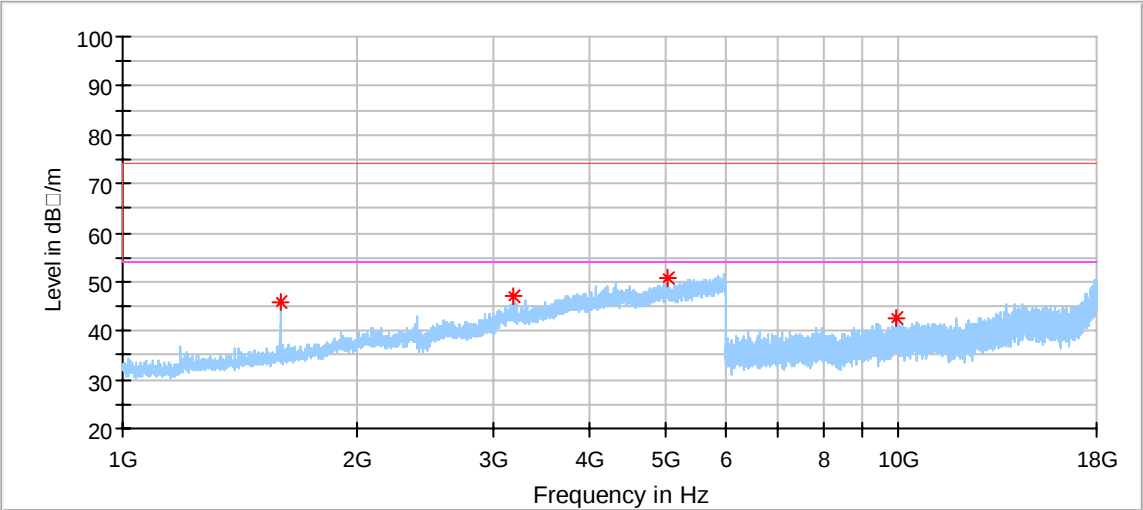
Final Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4824.000000	52.10	54.00	1.90	150.0	H	240.0	5.24



1GHz -18GHz:

11b_2412MHz



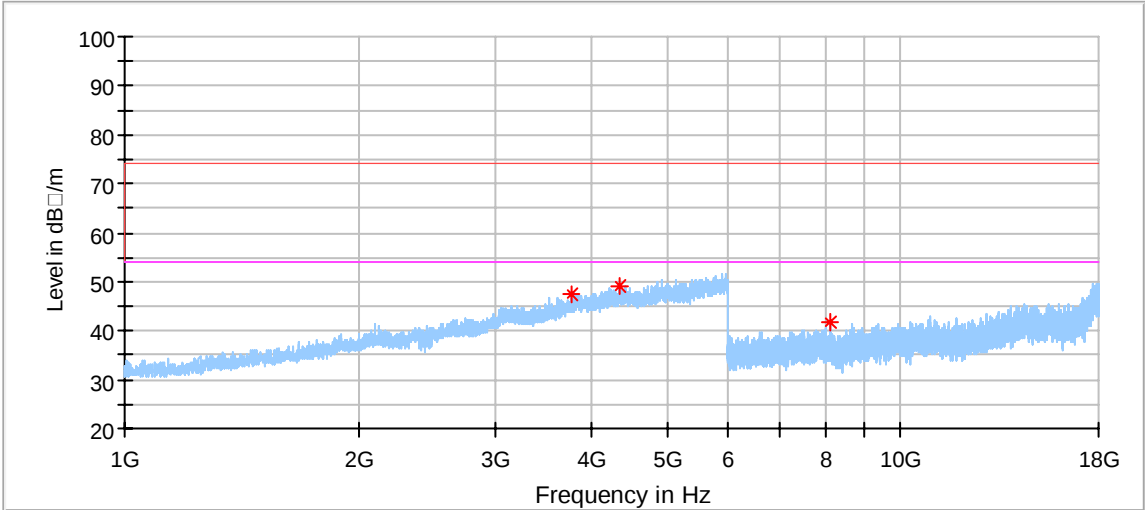
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1598.000000	45.89	74.00	28.11	150.0	V	216.0	-9.26
3198.500000	47.03	74.00	26.97	150.0	V	108.0	-0.22
5050.500000	50.97	74.00	23.03	150.0	V	252.0	5.78
9922.500000	42.43	74.00	31.57	150.0	V	187.0	11.29



1GHz -18GHz:

11b_2437MHz



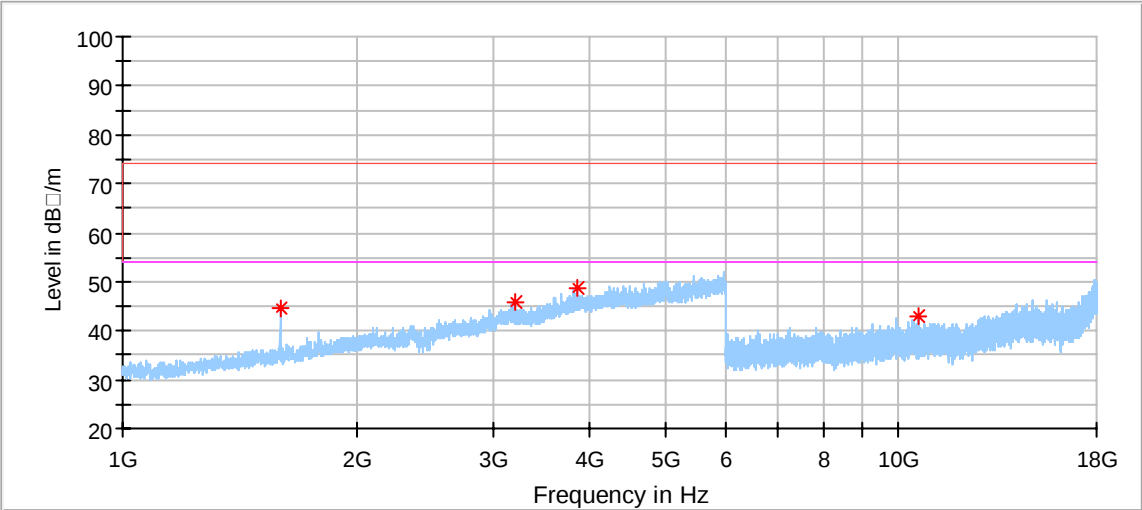
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3761.000000	47.36	74.00	26.64	150.0	H	228.0	2.32
4357.000000	49.25	74.00	24.75	150.0	H	180.0	4.19
8132.000000	41.59	74.00	32.41	150.0	H	359.0	9.46



1GHz -18GHz:

11b_2437MHz



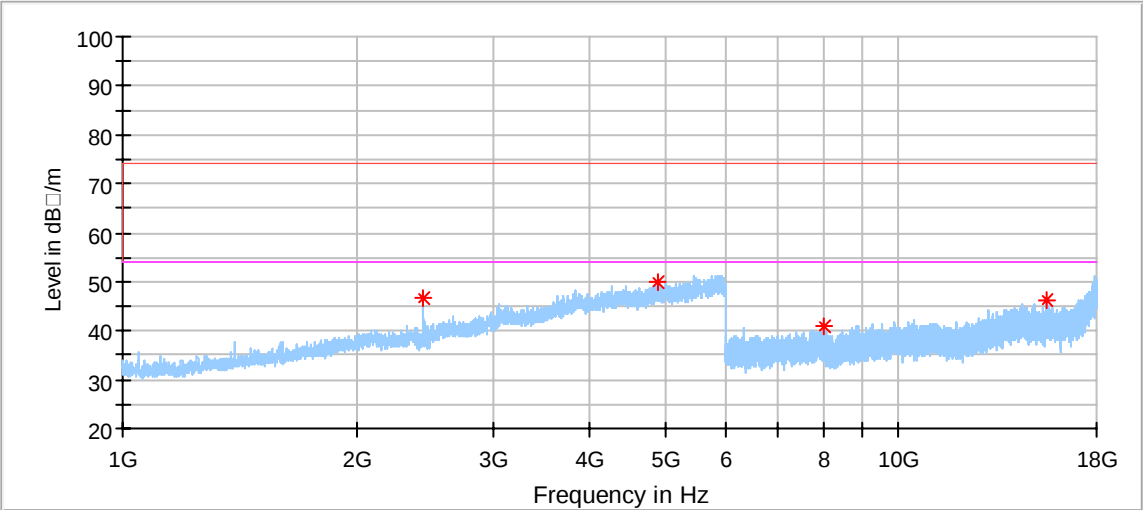
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1596.500000	44.45	74.00	29.55	150.0	V	192.0	-9.27
3199.500000	46.04	74.00	27.96	150.0	V	276.0	-0.22
3857.500000	48.51	74.00	25.49	150.0	V	156.0	2.83
10589.000000	43.08	74.00	30.92	150.0	V	130.0	11.79



1GHz -18GHz:

11b_2462MHz



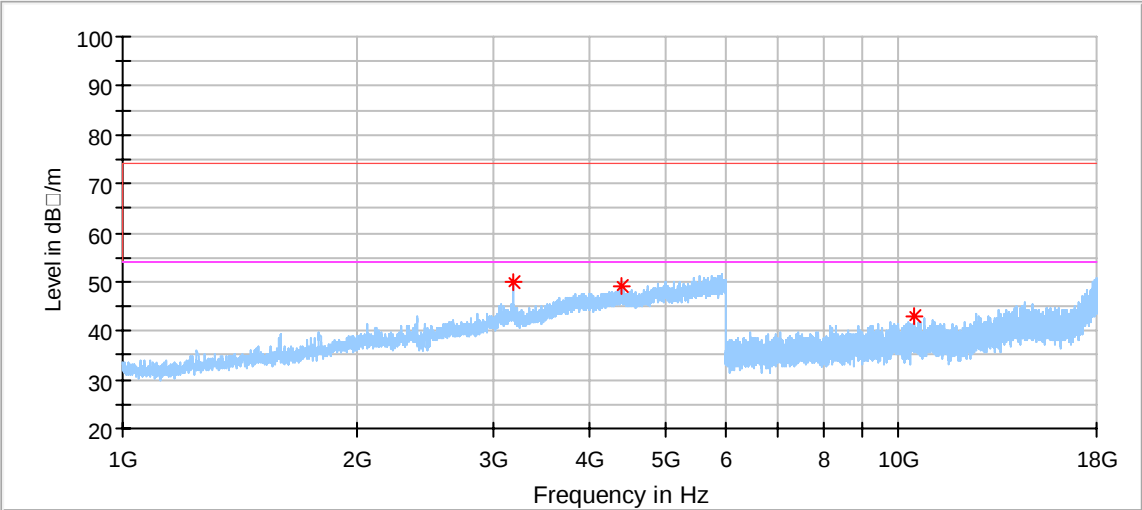
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2444.000000	46.74	74.00	27.26	150.0	H	24.0	-4.24
4888.000000	50.10	74.00	23.90	150.0	H	204.0	5.68
8003.500000	40.93	74.00	33.07	150.0	H	276.0	9.30
15495.500000	46.28	74.00	27.72	150.0	H	359.0	17.85



1GHz -18GHz:

11b_2462MHz



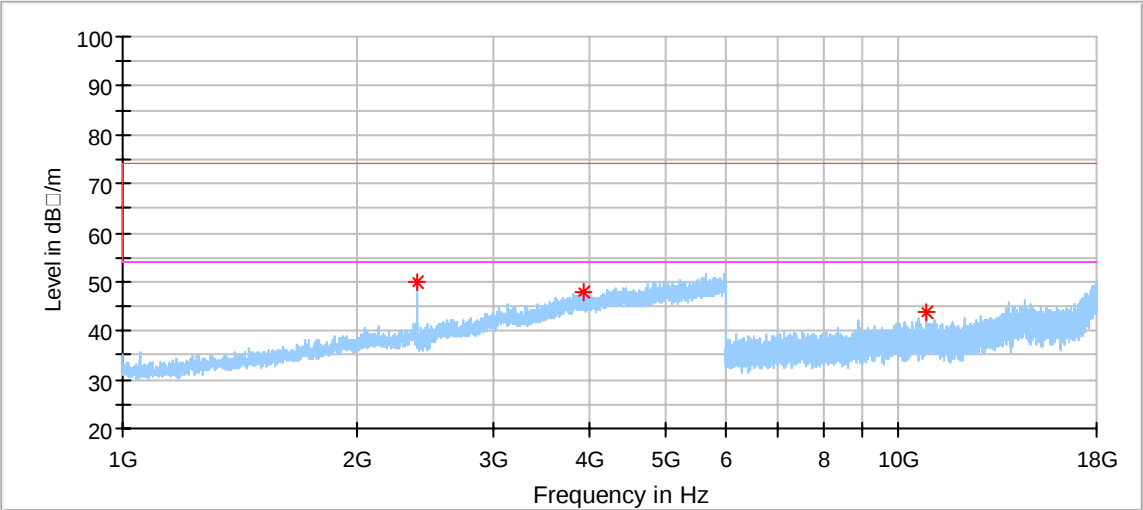
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3188.000000	50.11	74.00	23.89	150.0	V	276.0	-0.20
4407.500000	49.33	74.00	24.67	150.0	V	240.0	4.35
10507.500000	42.94	74.00	31.06	150.0	V	128.0	11.77



1GHz -18GHz:

11g_2412MHz



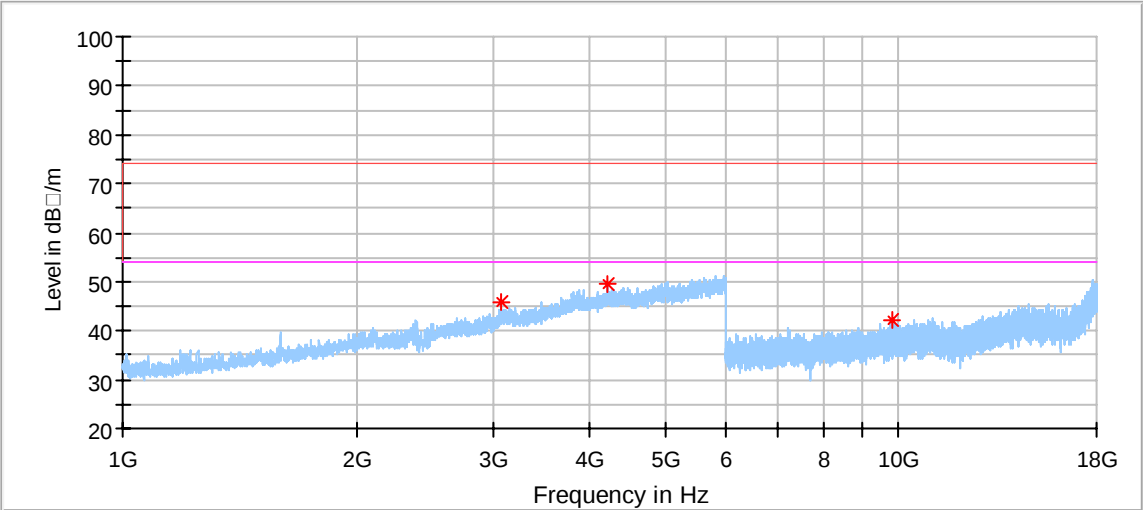
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2394.000000	50.07	74.00	23.93	150.0	H	192.0	-4.70
3926.000000	47.86	74.00	26.14	150.0	H	1.0	2.85
10878.000000	43.97	74.00	30.03	150.0	H	318.0	12.04



1GHz -18GHz:

11g_2412MHz



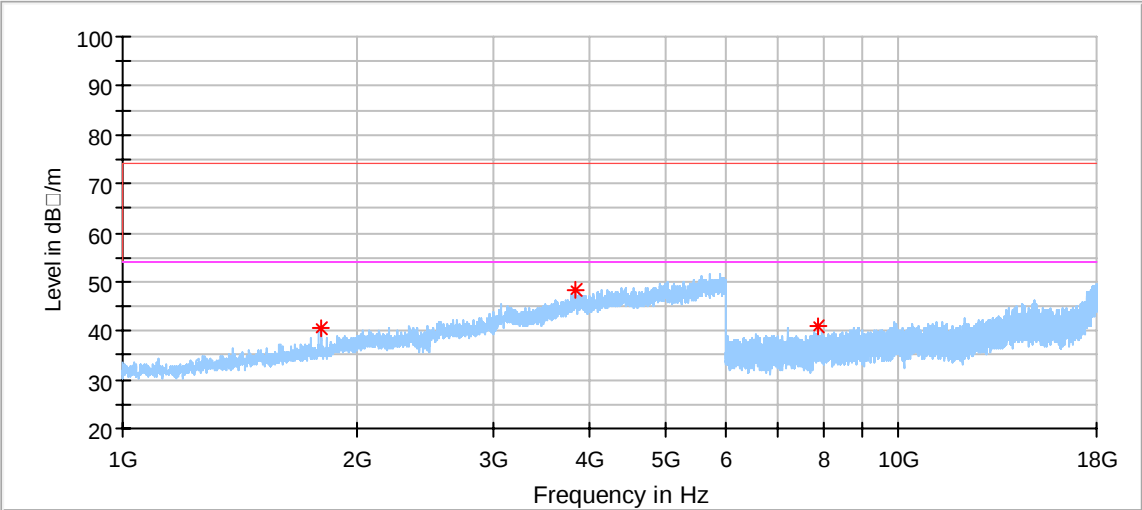
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3071.000000	45.89	74.00	28.11	150.0	V	286.0	-0.81
4226.000000	49.38	74.00	24.62	150.0	V	250.0	3.87
9821.500000	42.20	74.00	31.80	150.0	V	154.0	11.36



1GHz -18GHz:

11g_2437MHz



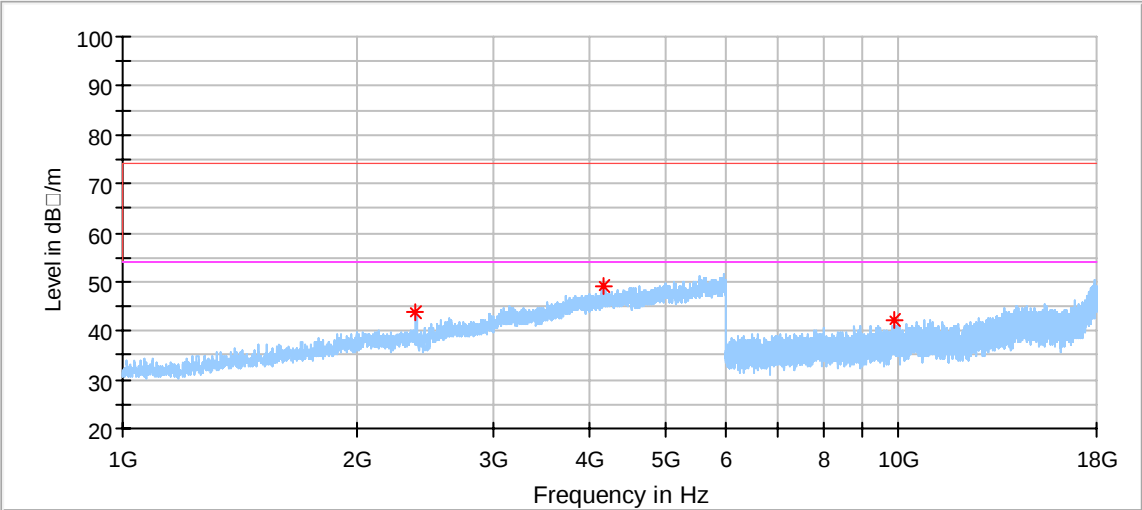
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1800.500000	40.49	74.00	33.51	150.0	H	168.0	-7.74
3833.000000	48.11	74.00	25.89	150.0	H	185.0	2.71
7897.500000	40.92	74.00	33.08	150.0	H	334.0	8.98



1GHz -18GHz:

11g_2437MHz



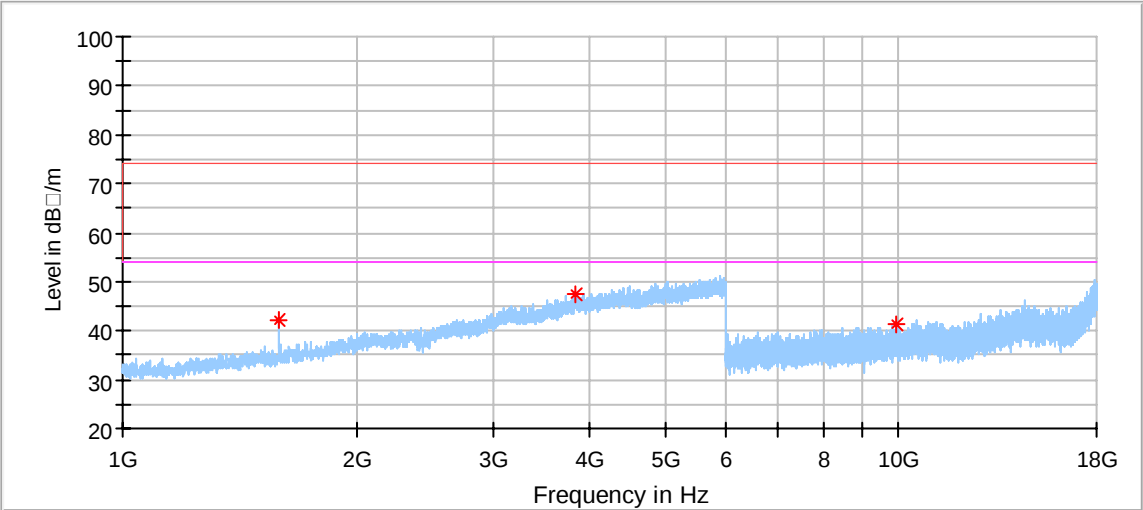
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.500000	43.87	74.00	30.13	150.0	V	239.0	-4.72
4171.000000	49.13	74.00	24.87	150.0	V	75.0	3.61
9846.000000	41.95	74.00	32.05	150.0	V	4.0	11.39



1GHz -18GHz:

11g_2462MHz



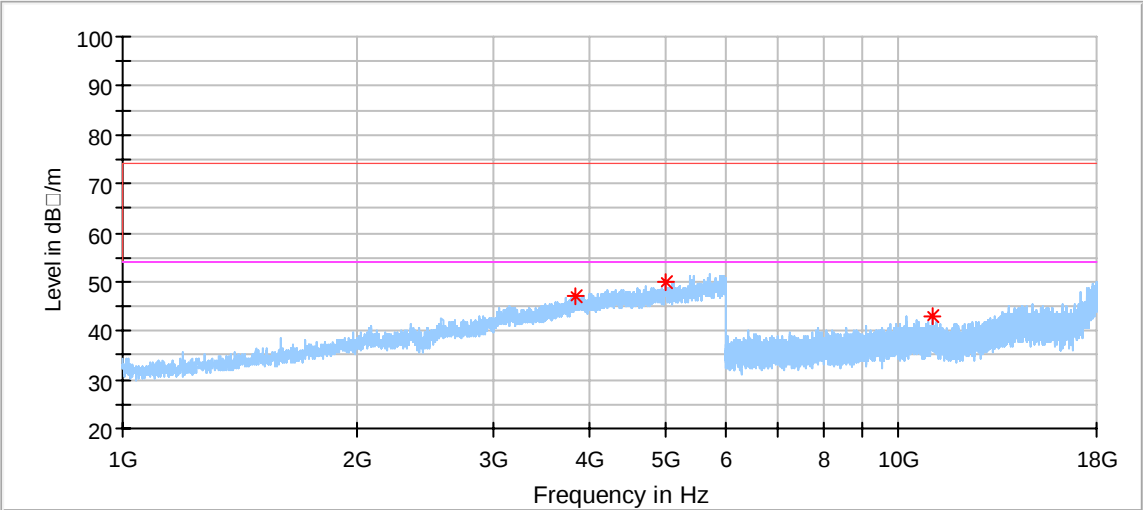
Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1593.000000	42.32	74.00	31.68	150.0	H	294.0	-9.29
3841.000000	47.44	74.00	26.56	150.0	H	198.0	2.76
9914.000000	41.53	74.00	32.47	150.0	H	355.0	11.31



1GHz -18GHz:

11g_2462MHz



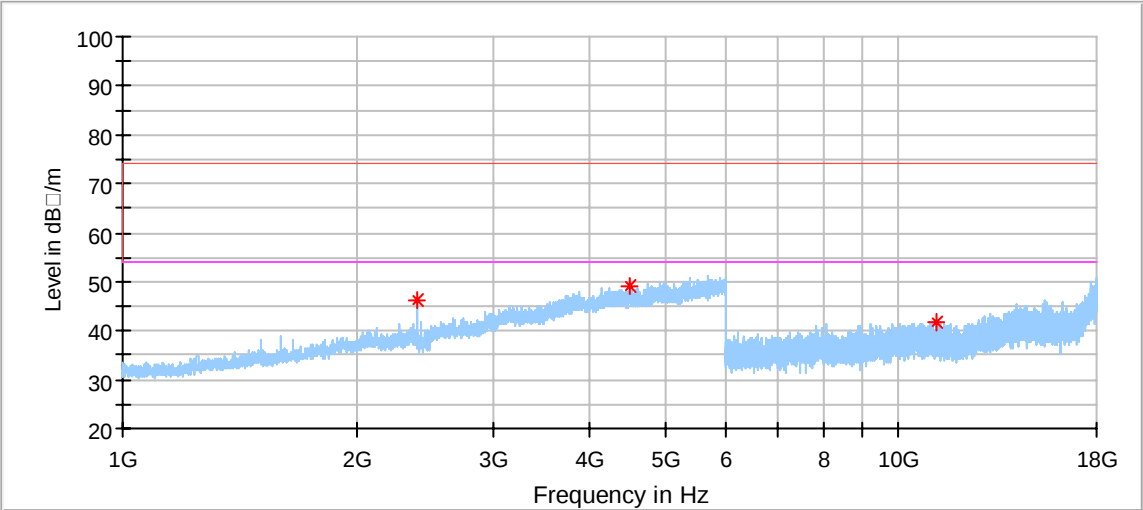
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3838.000000	47.25	74.00	26.75	150.0	V	0.0	2.74
5006.000000	49.75	74.00	24.25	150.0	V	294.0	6.08
11030.500000	42.78	74.00	31.22	150.0	V	116.0	12.21



1GHz -18GHz:

11n20_2412MHz



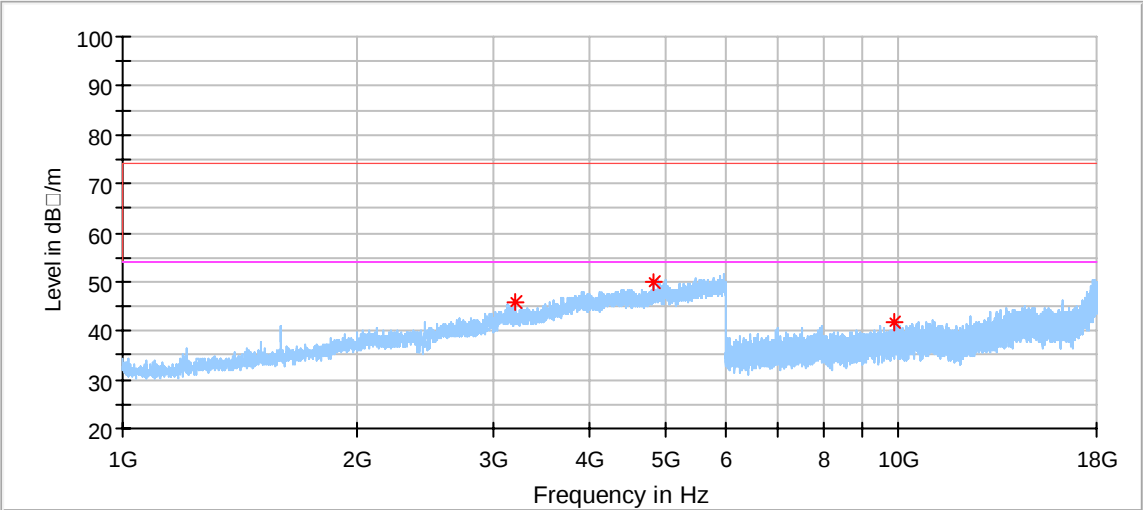
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2394.500000	46.25	74.00	27.75	150.0	H	185.0	-4.70
4503.500000	49.17	74.00	24.83	150.0	H	89.0	4.42
11199.000000	41.93	74.00	32.07	150.0	H	30.0	12.34



1GHz -18GHz:

11n20_2412MHz



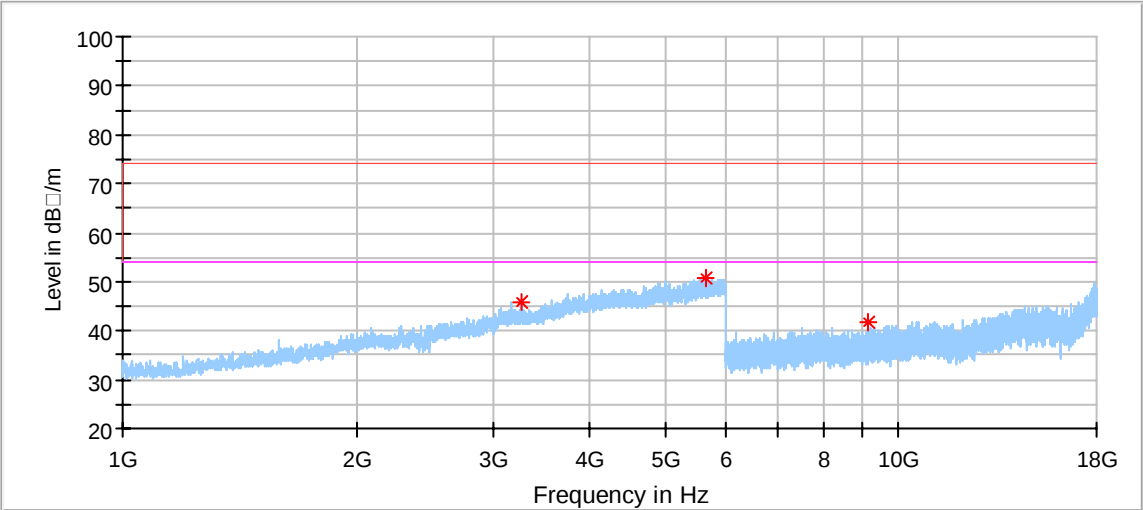
Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3203.500000	45.94	74.00	28.06	150.0	V	212.0	-0.26
4845.500000	49.99	74.00	24.01	150.0	V	294.0	5.44
9862.500000	41.54	74.00	32.46	150.0	V	334.0	11.40



1GHz -18GHz:

11n20_2437MHz

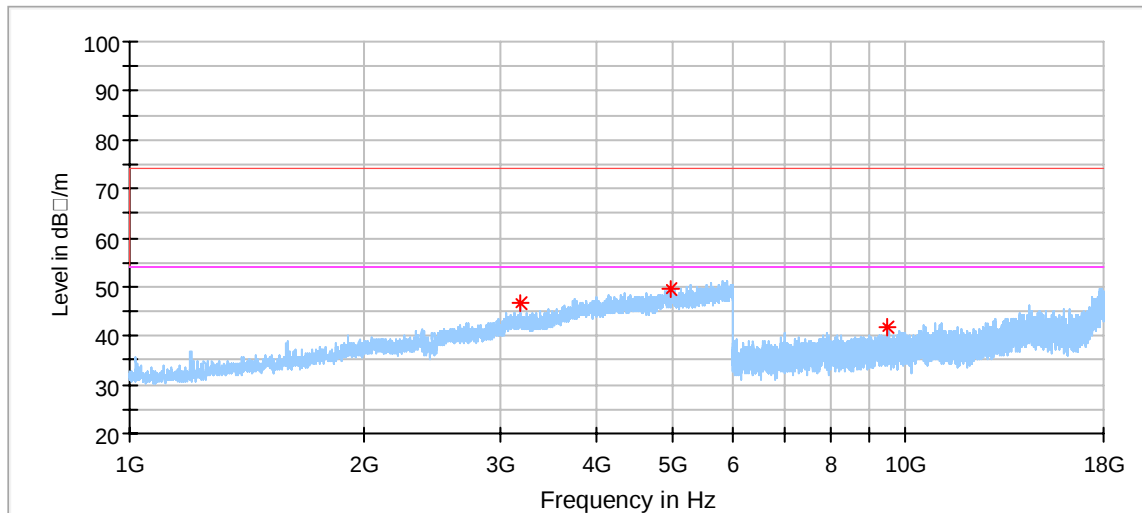


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3263.000000	45.67	74.00	28.33	150.0	H	0.0	-0.39
5659.000000	50.88	74.00	23.12	150.0	H	168.0	7.12
9157.000000	41.54	74.00	32.46	150.0	H	336.0	10.33

1GHz -18GHz:

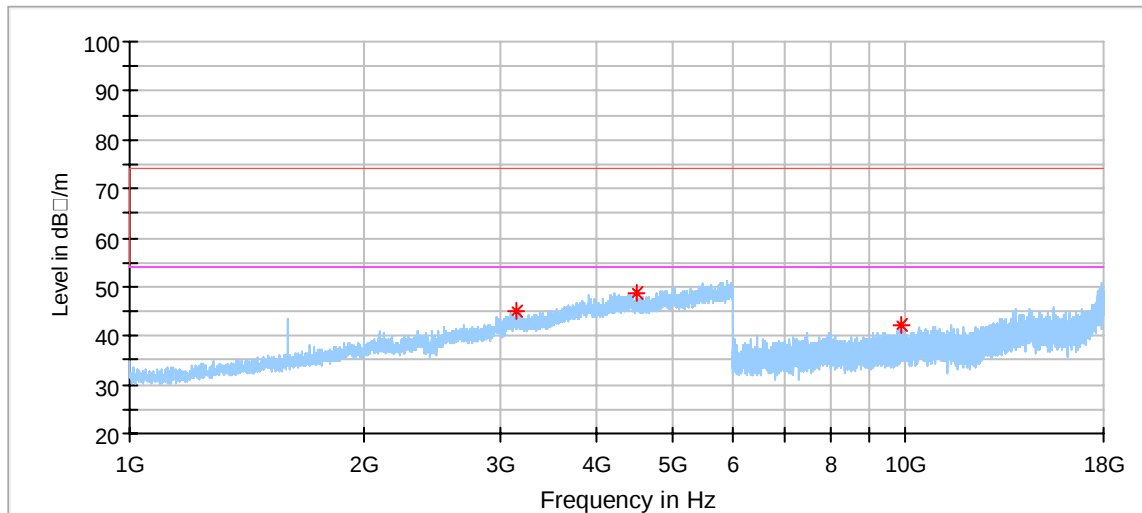
11n20_2437MHz

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3190.500000	46.78	74.00	27.22	150.0	V	277.0	-0.21
4987.500000	49.42	74.00	24.58	150.0	V	72.0	5.98
9457.000000	41.68	74.00	32.32	150.0	V	204.0	11.01

1GHz -18GHz:

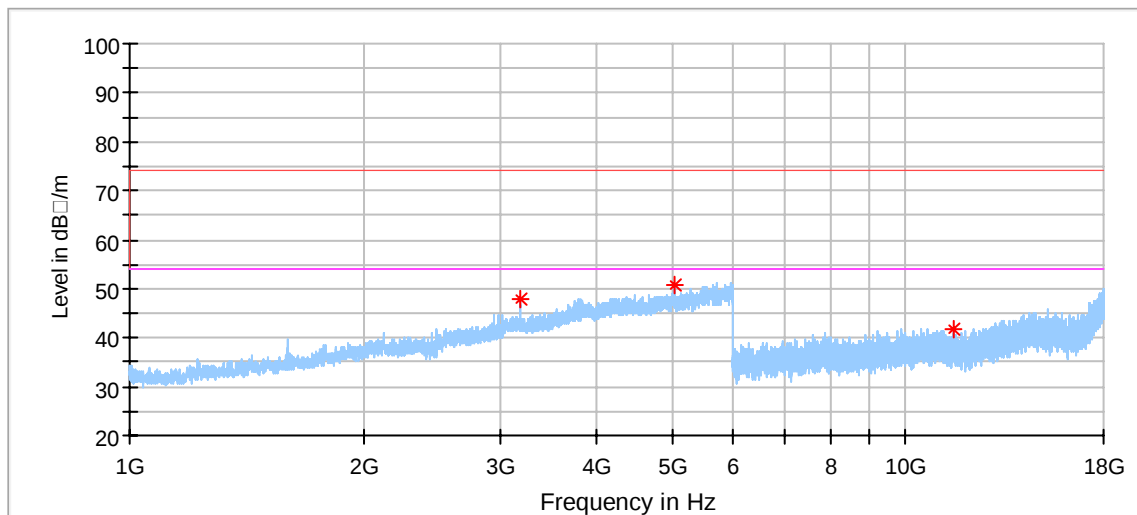
11n20_2462MHz

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3153.500000	45.13	74.00	28.87	150.0	H	21.0	-0.18
4498.000000	48.87	74.00	25.13	150.0	H	308.0	4.49
9889.500000	42.16	74.00	31.84	150.0	H	231.0	11.35

1GHz -18GHz:

11n20_2462MHz

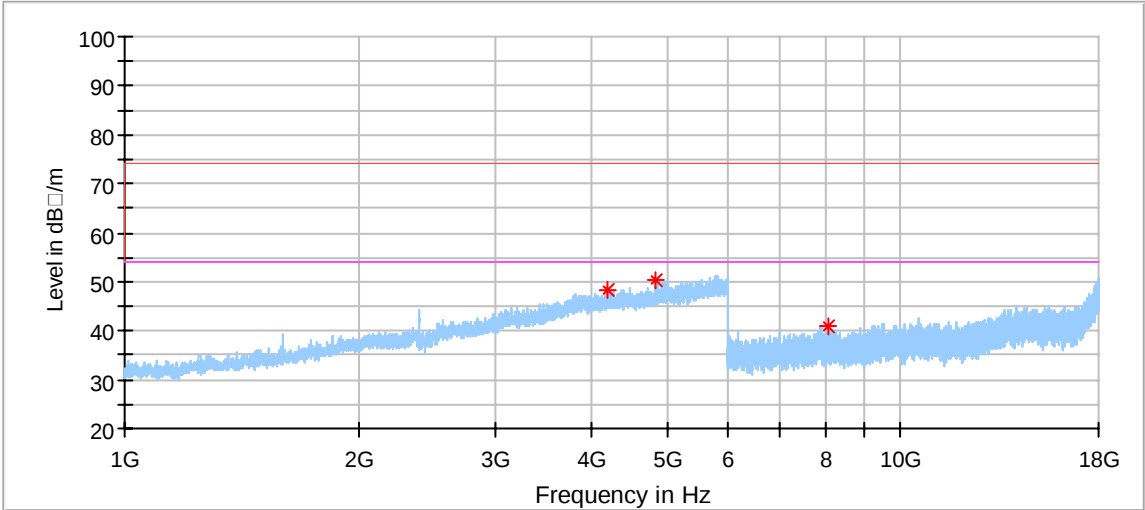
**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3188.000000	48.05	74.00	25.95	150.0	V	253.0	-0.20
5039.500000	50.76	74.00	23.24	150.0	V	308.0	5.86
11542.500000	41.65	74.00	32.35	150.0	V	285.0	11.74



1GHz -18GHz:

11n40_2422MHz



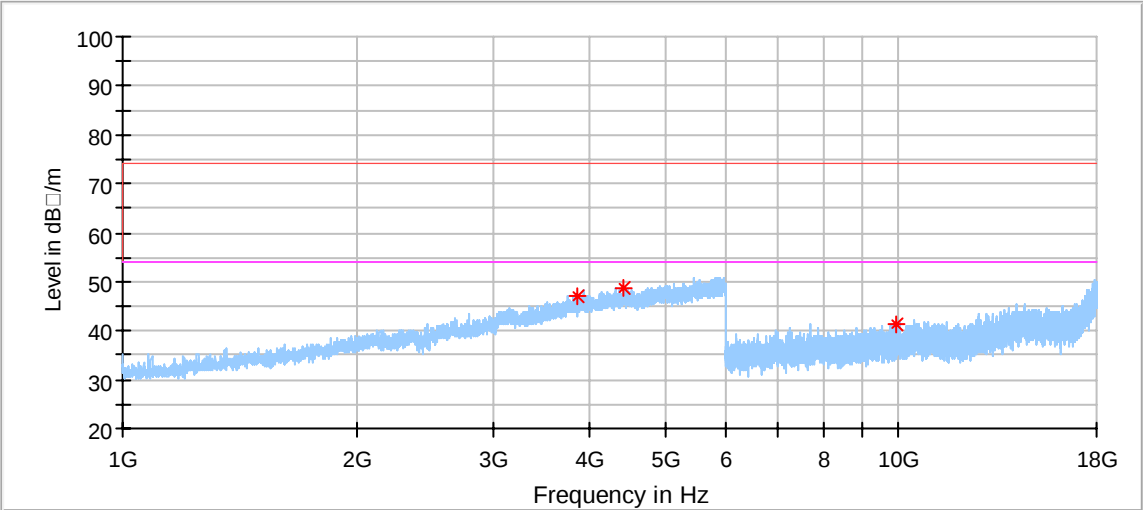
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4180.500000	48.17	74.00	25.83	150.0	H	197.0	3.65
4845.000000	50.25	74.00	23.75	150.0	H	60.0	5.44
8065.000000	41.12	74.00	32.88	150.0	H	117.0	9.38



1GHz -18GHz:

11n40_2422MHz



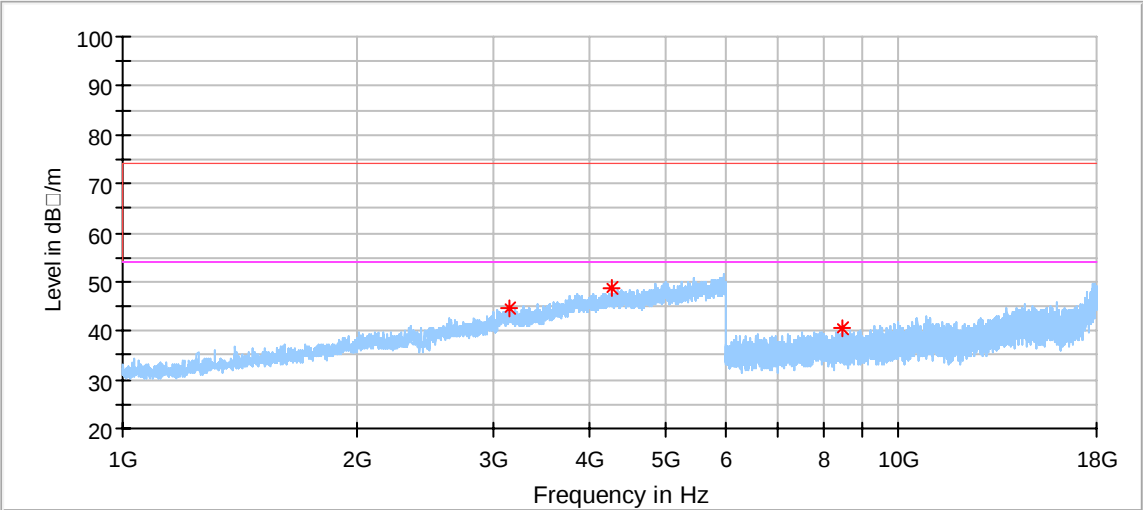
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3860.500000	47.08	74.00	26.92	150.0	V	45.0	2.84
4425.000000	48.67	74.00	25.33	150.0	V	18.0	4.31
9952.000000	41.38	74.00	32.62	150.0	V	116.0	11.24



1GHz -18GHz:

11n40_2437MHz



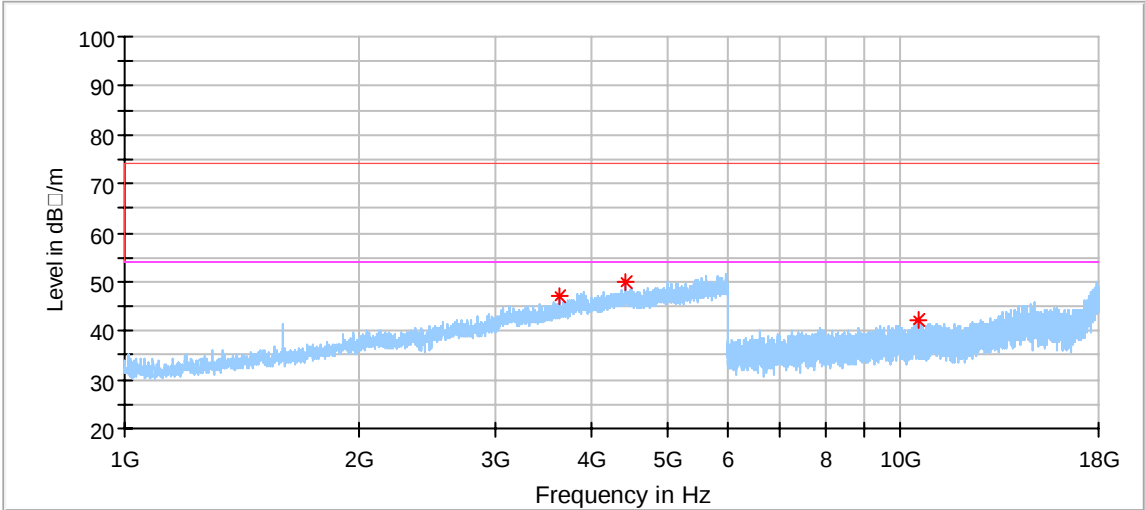
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3146.500000	44.66	74.00	29.34	150.0	H	253.0	-0.19
4265.500000	48.53	74.00	25.47	150.0	H	62.0	3.83
8446.500000	40.60	74.00	33.40	150.0	H	262.0	9.55



1GHz -18GHz:

11n40_2437MHz



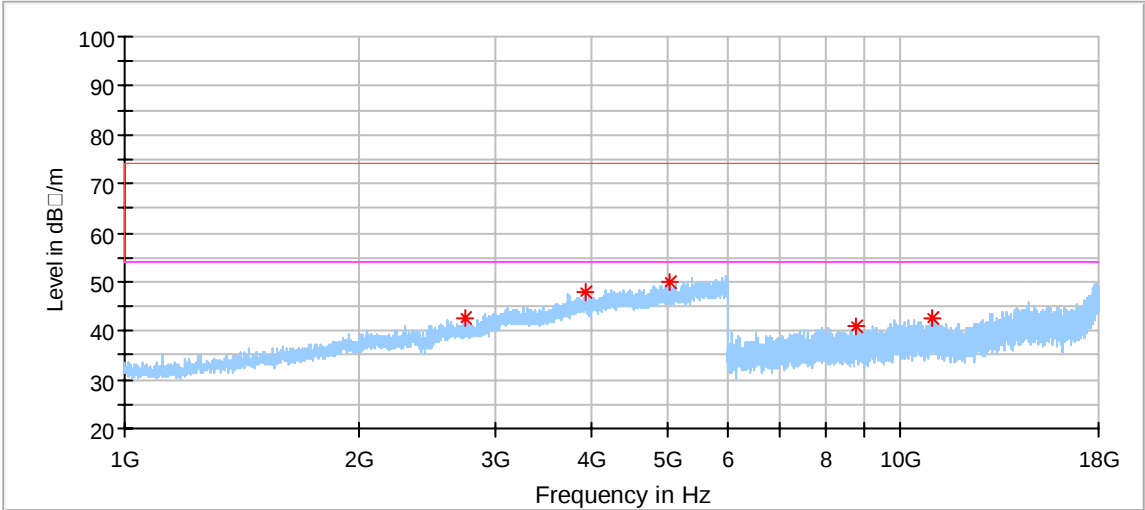
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3631.000000	47.18	74.00	26.82	150.0	V	224.0	1.54
4420.000000	49.87	74.00	24.13	150.0	V	169.0	4.32
10519.500000	42.07	74.00	31.93	150.0	V	117.0	11.77



1GHz -18GHz:

11n40_2452MHz



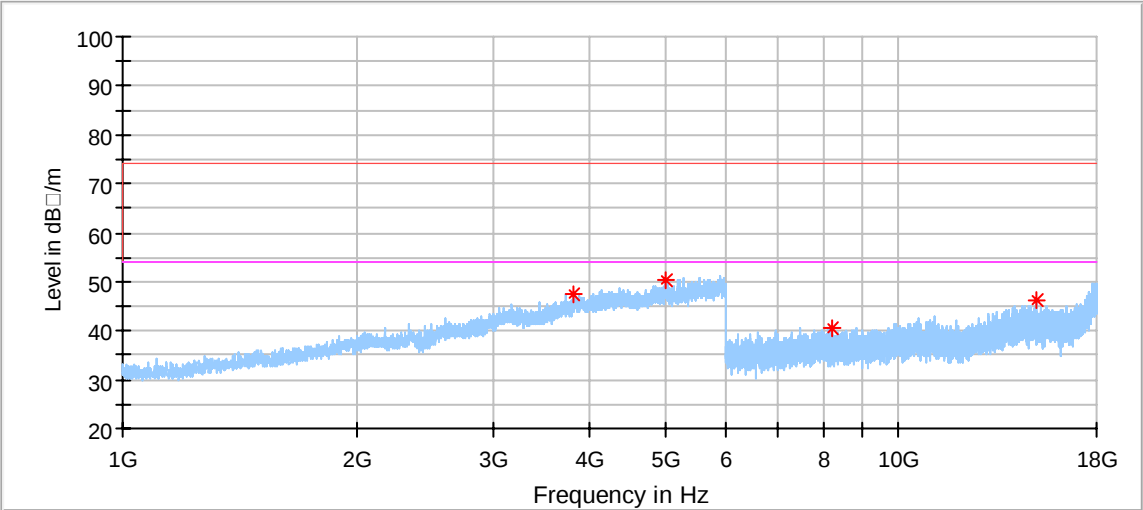
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2741.000000	42.61	74.00	31.39	150.0	H	238.0	-3.04
3916.000000	47.89	74.00	26.11	150.0	H	33.0	2.92
5031.000000	50.15	74.00	23.85	150.0	H	224.0	5.93
8780.500000	40.78	74.00	33.22	150.0	H	61.0	10.24
10983.500000	42.49	74.00	31.51	150.0	H	61.0	12.18



1GHz -18GHz:

11n40_2452MHz



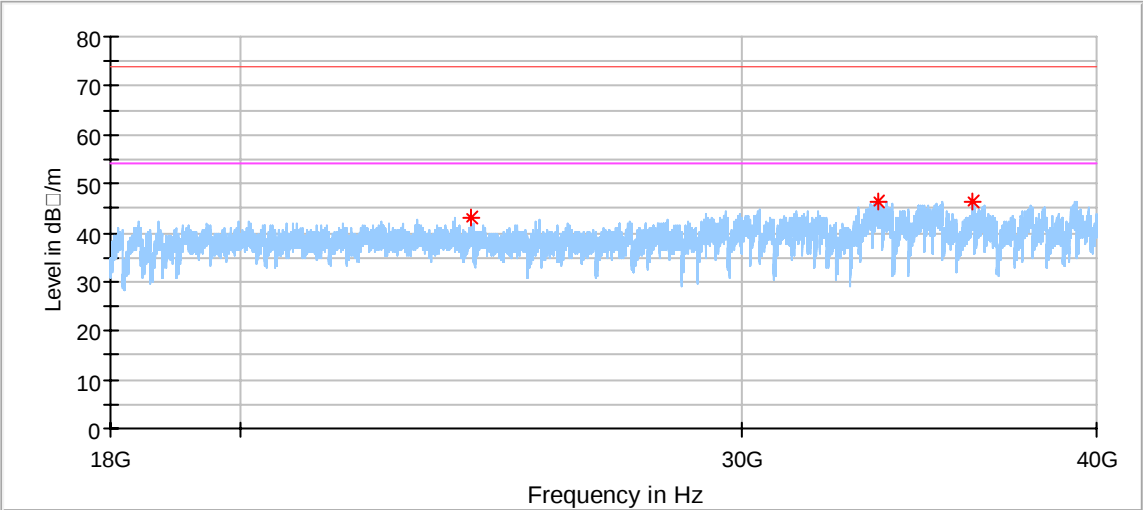
Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3819.500000	47.61	74.00	26.39	150.0	V	46.0	2.67
5018.500000	50.47	74.00	23.53	150.0	V	169.0	6.03
8214.500000	40.68	74.00	33.32	150.0	V	30.0	9.39
15016.000000	46.24	74.00	27.76	150.0	V	251.0	17.03



18GHz -40GHz:

11b_2412MHz



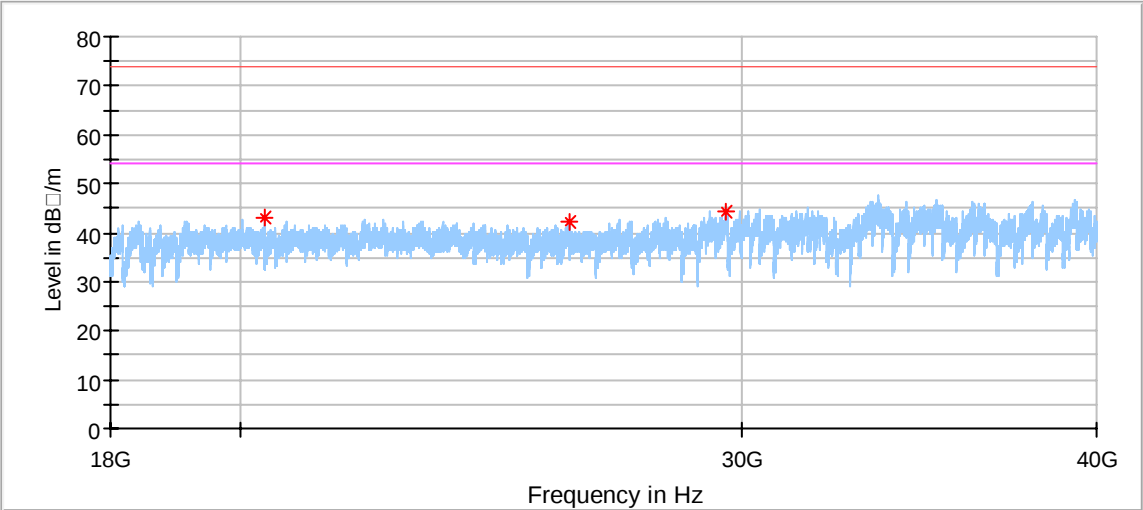
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
24100.875000	43.12	74.00	30.88	150.0	H	36.0	1.59
33509.312500	46.37	74.00	27.63	150.0	H	0.0	4.41
36195.375000	46.36	74.00	27.64	150.0	H	176.0	5.56



18GHz -40GHz:

11b_2412MHz

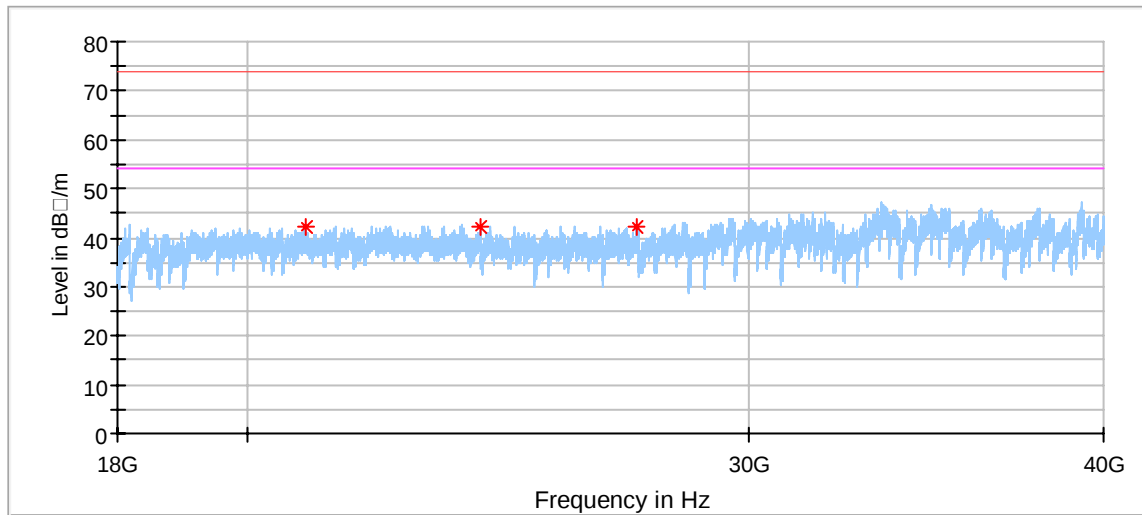


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
20391.812500	43.10	74.00	30.90	150.0	V	0.0	-0.22
26100.812500	42.41	74.00	31.59	150.0	V	335.0	2.27
29645.562500	44.25	74.00	29.75	150.0	V	243.0	3.03

18GHz -40GHz:

11b_2437MHz

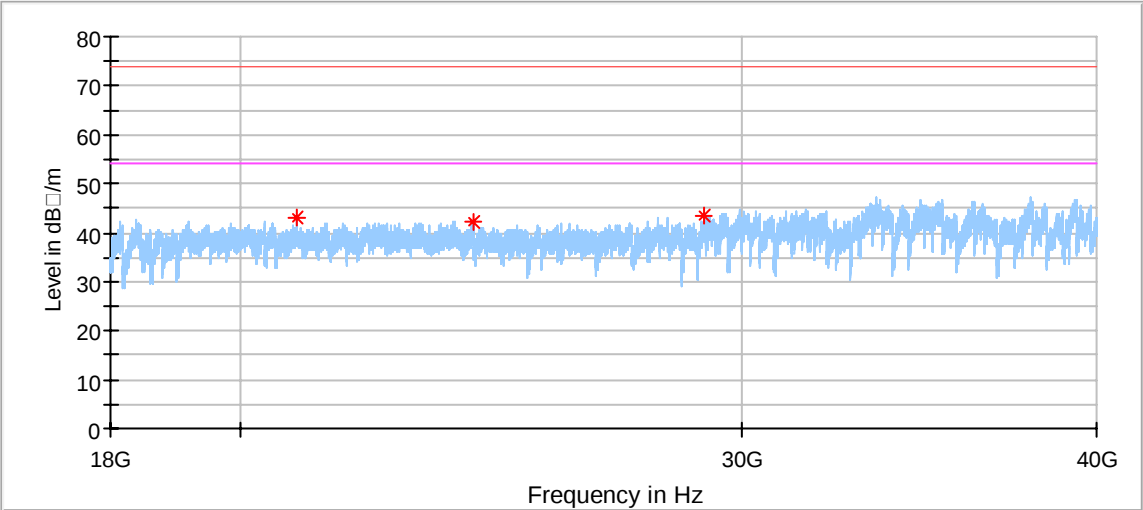
**Critical Freqs**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
20973.437500	42.18	74.00	31.82	150.0	H	195.0	0.48
24133.187500	42.32	74.00	31.68	150.0	H	180.0	1.56
27424.250000	42.19	74.00	31.81	150.0	H	349.0	2.47



18GHz -40GHz:

11b_2437MHz

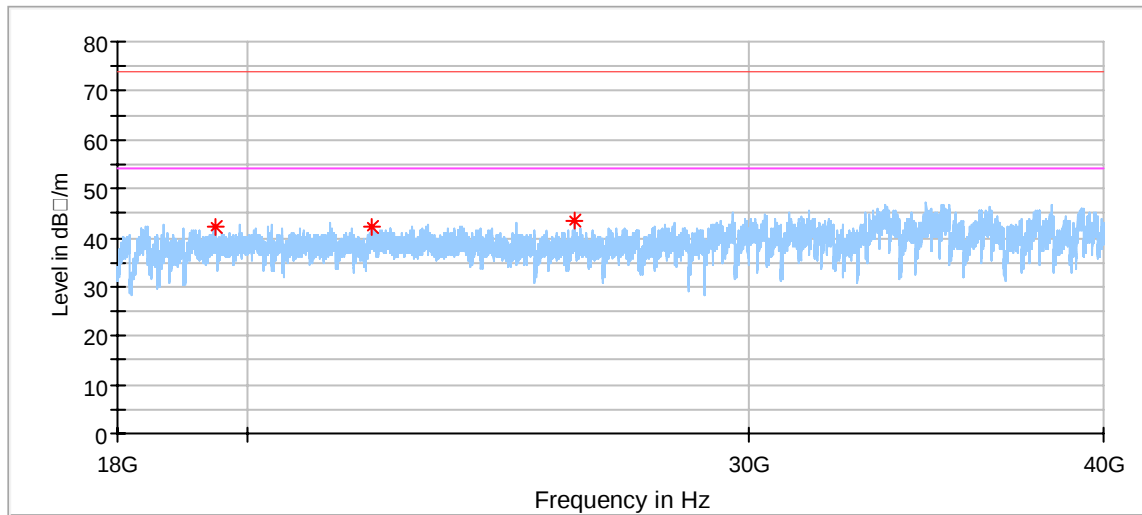


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
20927.375000	43.17	74.00	30.83	150.0	V	56.0	0.41
24135.937500	42.06	74.00	31.94	150.0	V	56.0	1.56
29114.812500	43.61	74.00	30.39	150.0	V	180.0	2.33

18GHz -40GHz:

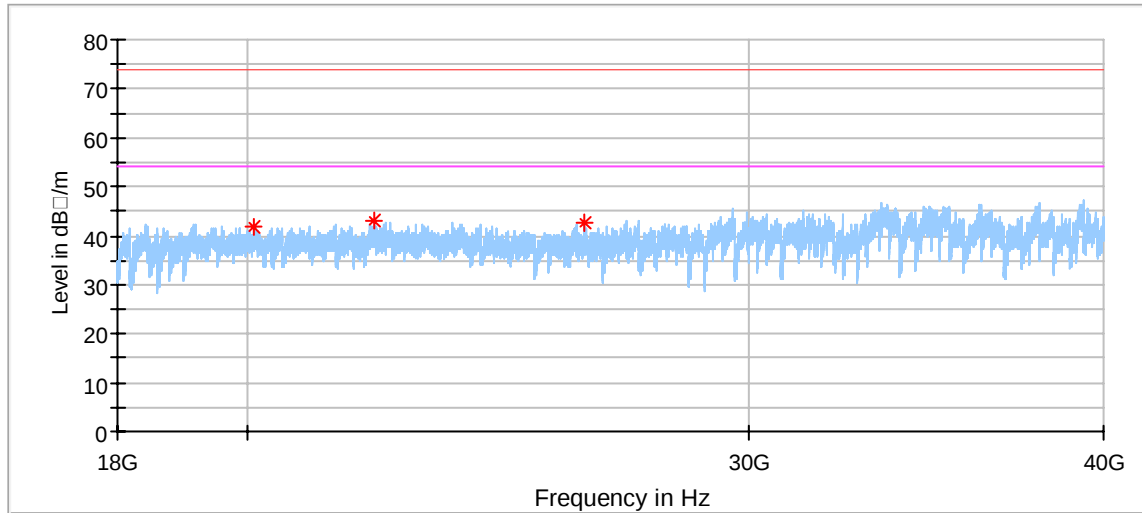
11b_2462MHz

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
19496.687500	42.33	74.00	31.67	150.0	H	3.0	-0.85
22112.625000	42.29	74.00	31.71	150.0	H	23.0	0.87
26047.875000	43.60	74.00	30.40	150.0	H	149.0	2.31

18GHz -40GHz:

11b_2462MHz

**Critical Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
20092.062500	42.04	74.00	31.96	150.0	V	243.0	-0.90
22140.812500	43.00	74.00	31.00	150.0	V	0.0	0.94
26264.437500	42.58	74.00	31.42	150.0	V	243.0	2.17

Remark:

- (1) Only the worst case data of mode 802.11b within frequency range 30MHz-1GHz and 18GHz-40GHz was put in this report.
- (2) Corrected Amplitude = Read level + Corrector factor
 Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain
 Below 1GHz: Corrector factor = Antenna Factor + Cable Loss

9.7 Conducted Emission

Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

Limit

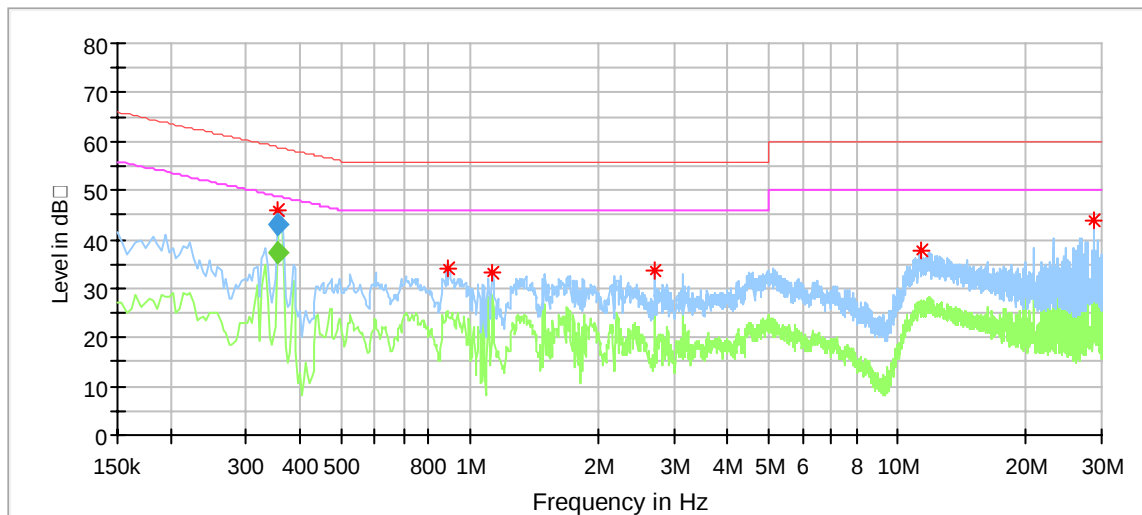
According to §15.207 & RSS-GEN 8.8, conducted emissions limit as below:

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

*Decreasing linearly with logarithm of the frequency

Conducted Emission

Product Type : Retail IoT Sensor
 M/N : AURORA V2.2
 Operating Condition : Normal Working
 Test Specification : Line
 Comment : AC 120V/60Hz



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.357500	45.78	---	58.68	12.90	L1	9.61
0.886000	34.16	---	56.00	21.84	L1	9.64
1.134000	33.30	---	56.00	22.70	L1	9.64
2.702000	33.52	---	56.00	22.48	L1	9.68
11.338000	37.57	---	60.00	22.43	L1	9.93
28.806000	44.06	---	60.00	15.94	L1	10.03

Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.357500	43.12	---	58.79	15.67	L1	9.61
0.357500	---	37.48	48.79	11.31	L1	9.61

Remark:

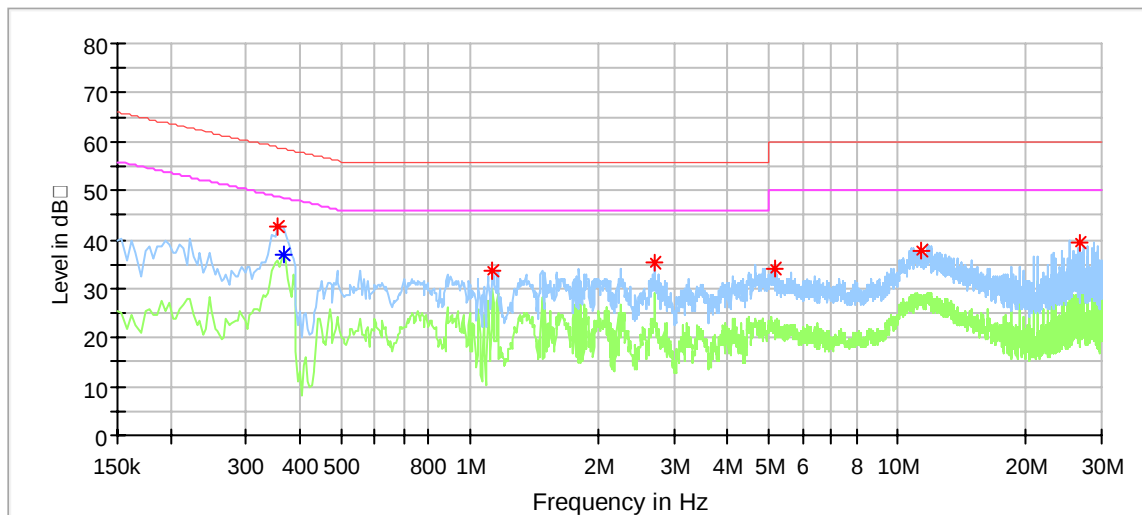
Max Peak= Read level + Corrector factor

Correct factor=cable loss + LISN factor

(The Reading Level is recorded by software which is not shown in the sheet)

Conducted Emission

Product Type : Retail IoT Sensor
 M/N : AURORA V2.2
 Operating Condition : Normal Working
 Test Specification : Neutral
 Comment : AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.354000	42.68	---	58.87	16.19	N	9.61
0.366000	---	36.94	48.59	11.65	N	9.61
1.134000	33.48	---	56.00	22.53	N	9.64
2.698000	35.12	---	56.00	20.88	N	9.68
5.194000	34.06	---	60.00	25.94	N	9.78
11.306000	37.89	---	60.00	22.11	N	9.93
26.610000	39.57	---	60.00	20.43	N	10.08

Remark:

Max Peak= Read level + Corrector factor

Correct factor=cable loss + LISN factor

(The Reading Level is recorded by software which is not shown in the sheet)

10 Test Equipment List

Radiated Emission Test 1# (9kHz – 1GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	2024-5-20
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	2024-3-5
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	2024-8-7
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	2024-5-19
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	2024-7-11
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	2024-8-1
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2024-5-28
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A

Radiated Emission 2# Test (1GHz – 40GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	2024-5-20
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	2024-4-26
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	2024-5-19
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	2024-7-11
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	2024-8-1
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2024-5-28
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A

Conducted RF Test System

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	2024-5-19
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157W	68-4-93-14-003	101226/100929	2024-5-20
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	2024-5-20
10dB Attenuator	Weinschel	4M-10	68-4-81-14-003	43152	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-005	DNF-002	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-006	DNF-003	2024-5-19
10dB Attenuator	R&S	DNF	68-4-81-14-007	DNF-004	2024-5-19
Test software	Tonscend	System for BT/WIFI	68-4-74-14-006-A13	Version 2.6.77.0518	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	2025-10-15

Conducted Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-14-001	101782	2024-5-20
LISN	Rohde & Schwarz	ENV432	68-4-87-16-001	101318	2024-5-20
Test software	Rohde & Schwarz	EMC32	68-4-90-14-003-A10	Version9.15.00	N/A
Shielding Room	TDK	CSR #1	68-4-90-19-004	----	2025-10-15

11 System Measurement Uncertainty

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

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.70dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 30MHz-1000MHz	Horizontal: 4.59dB; Vertical: 4.75dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.08dB; Vertical: 5.09dB;
Uncertainty for Radiated Emission 18000MHz-40000MHz	Horizontal: 4.52dB; Vertical: 4.51dB
Uncertainty for Conducted RF test	RF Power Conducted: 1.31dB Frequency test involved: 0.6×10^{-8} or 1%

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 and 4.3.4.

---THE END OF REPORT---