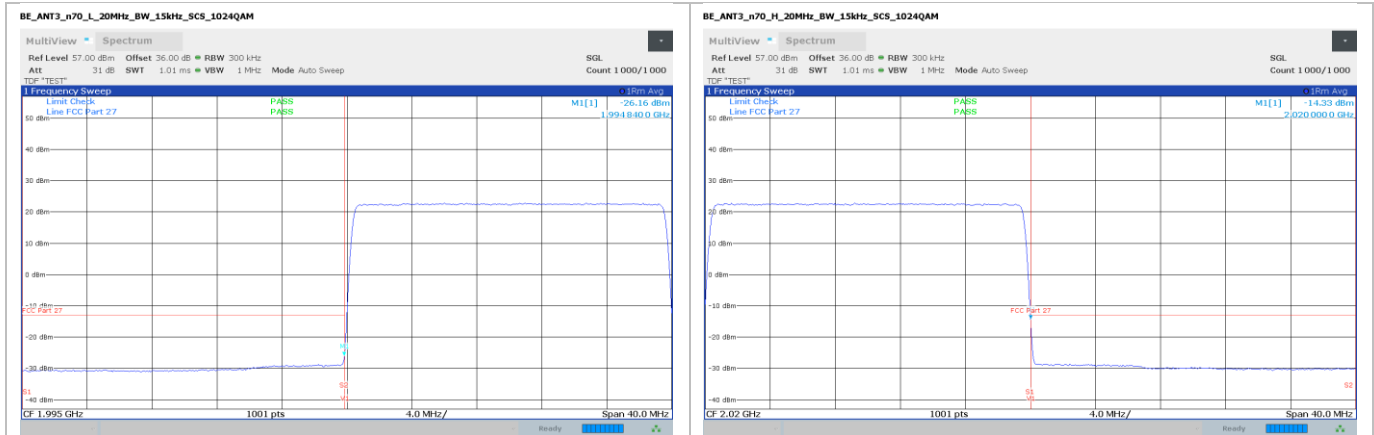


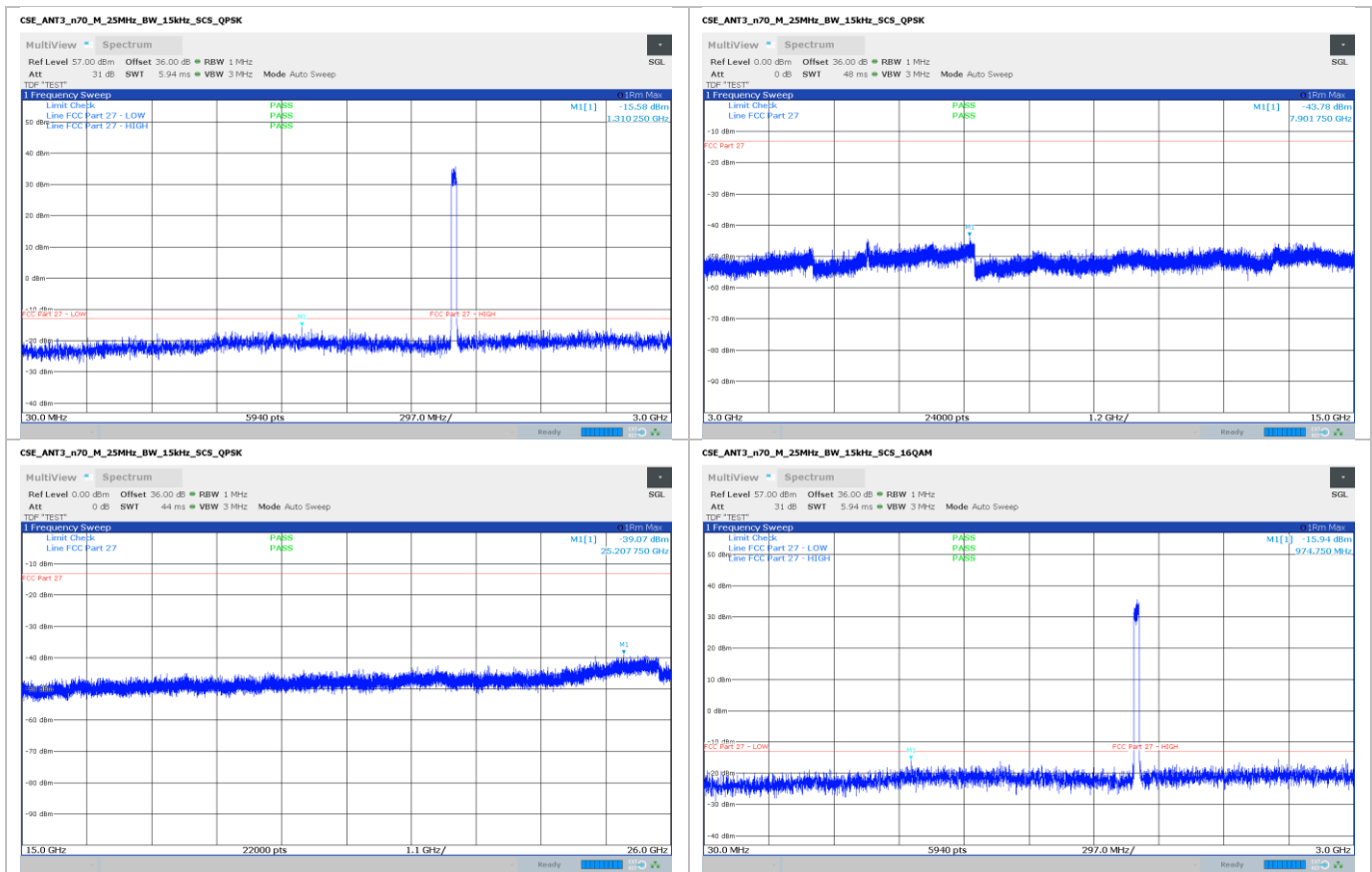
Section 8
Test name
Specification

Testing data
FCC 27.53(m) Emission limits
FCC Part 27



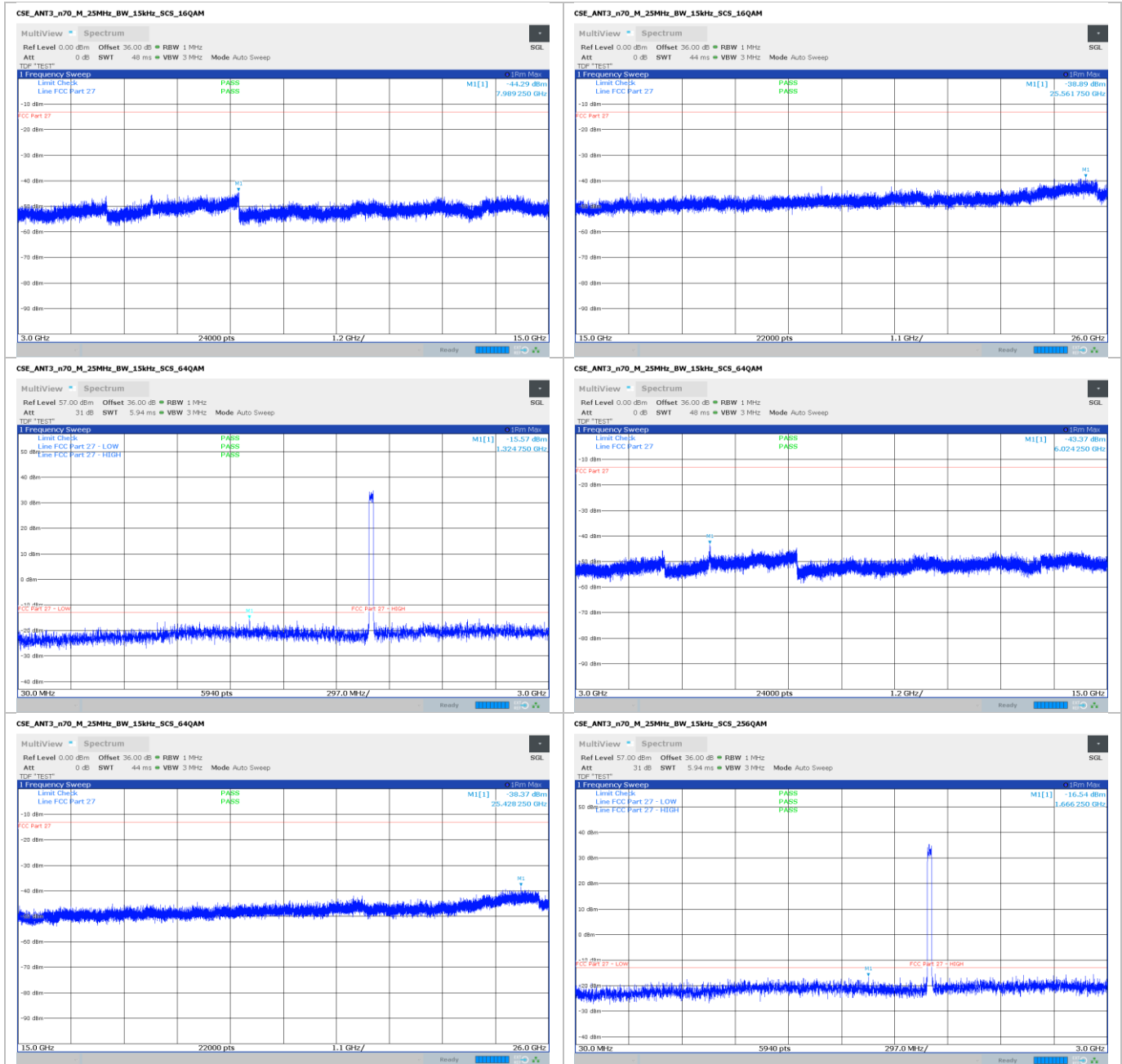
Band n70 – conducted spurious emissions

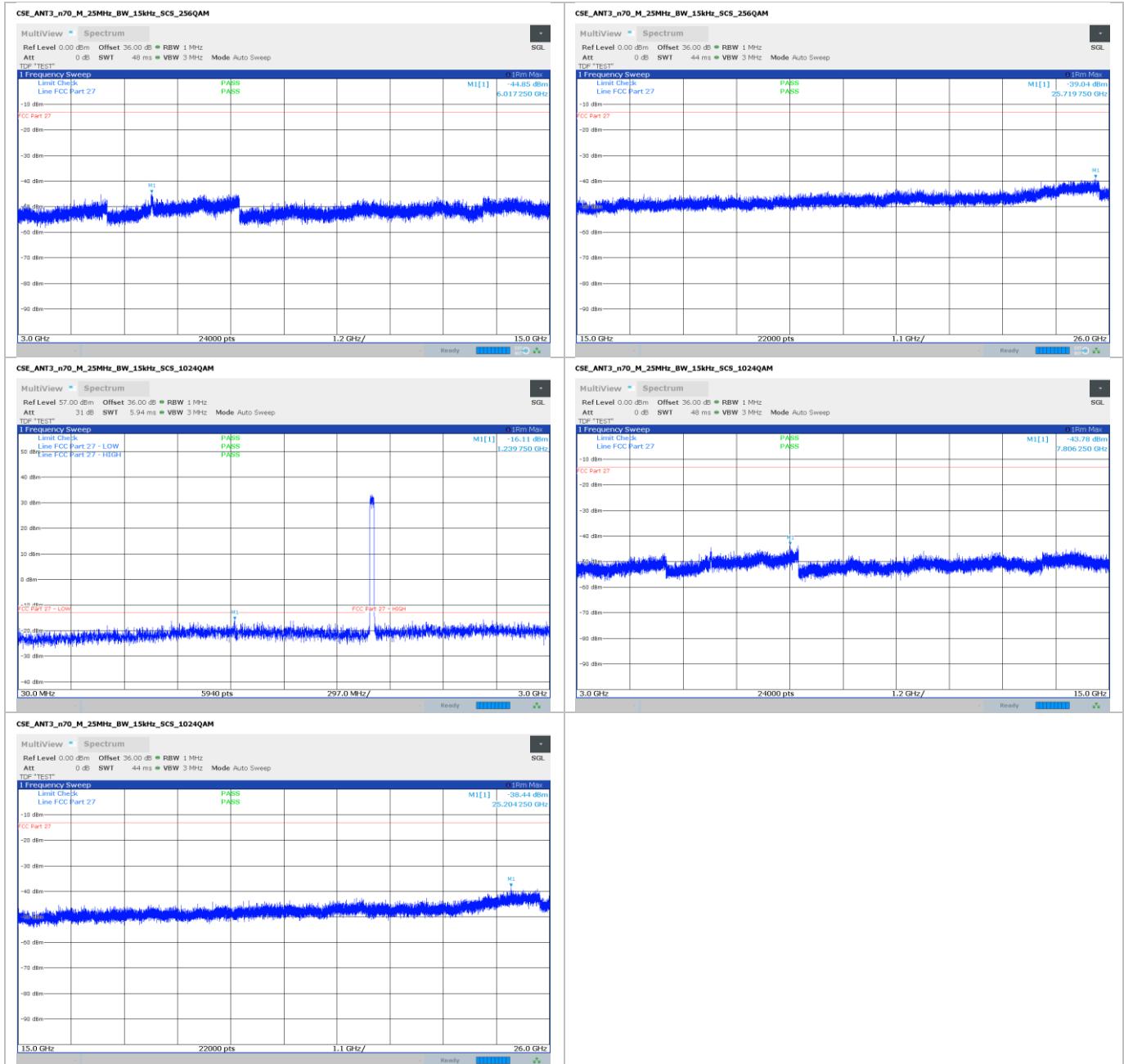
25 MHz



Section 8
Test name
Specification

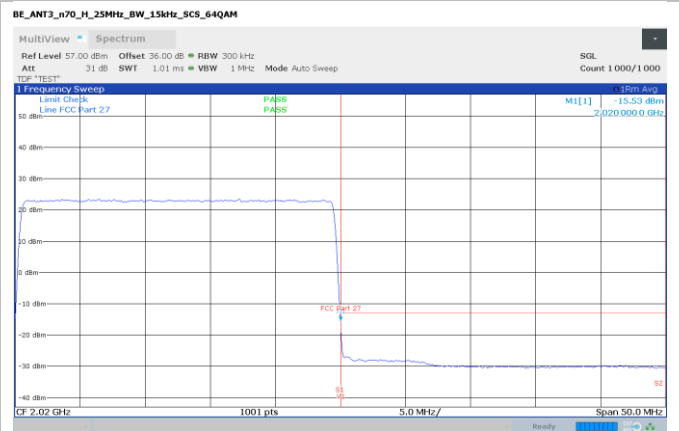
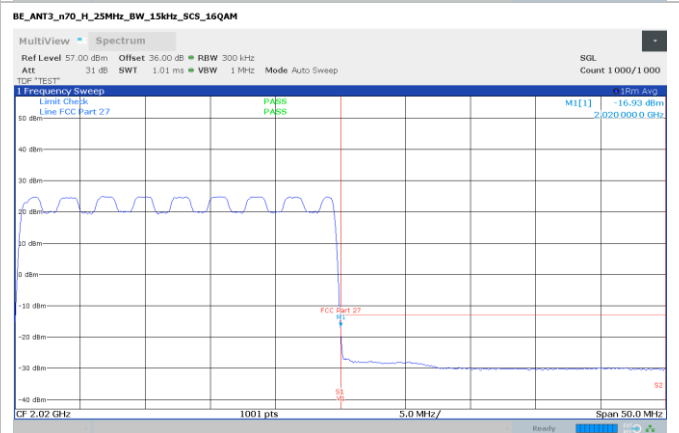
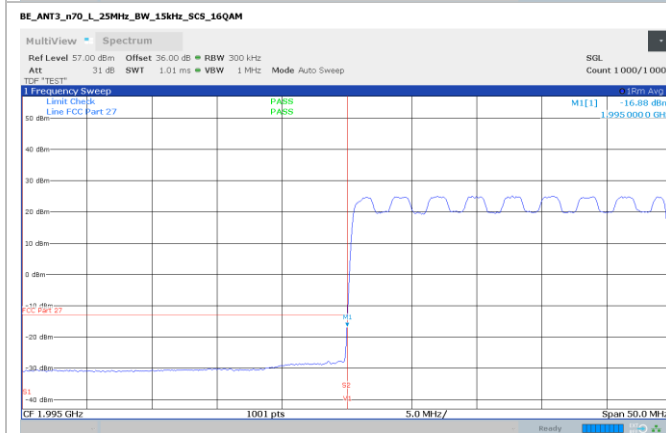
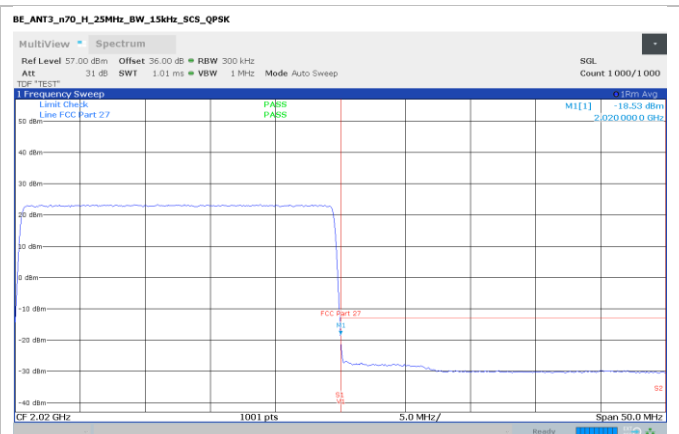
Testing data
FCC 27.53(m) Emission limits
FCC Part 27





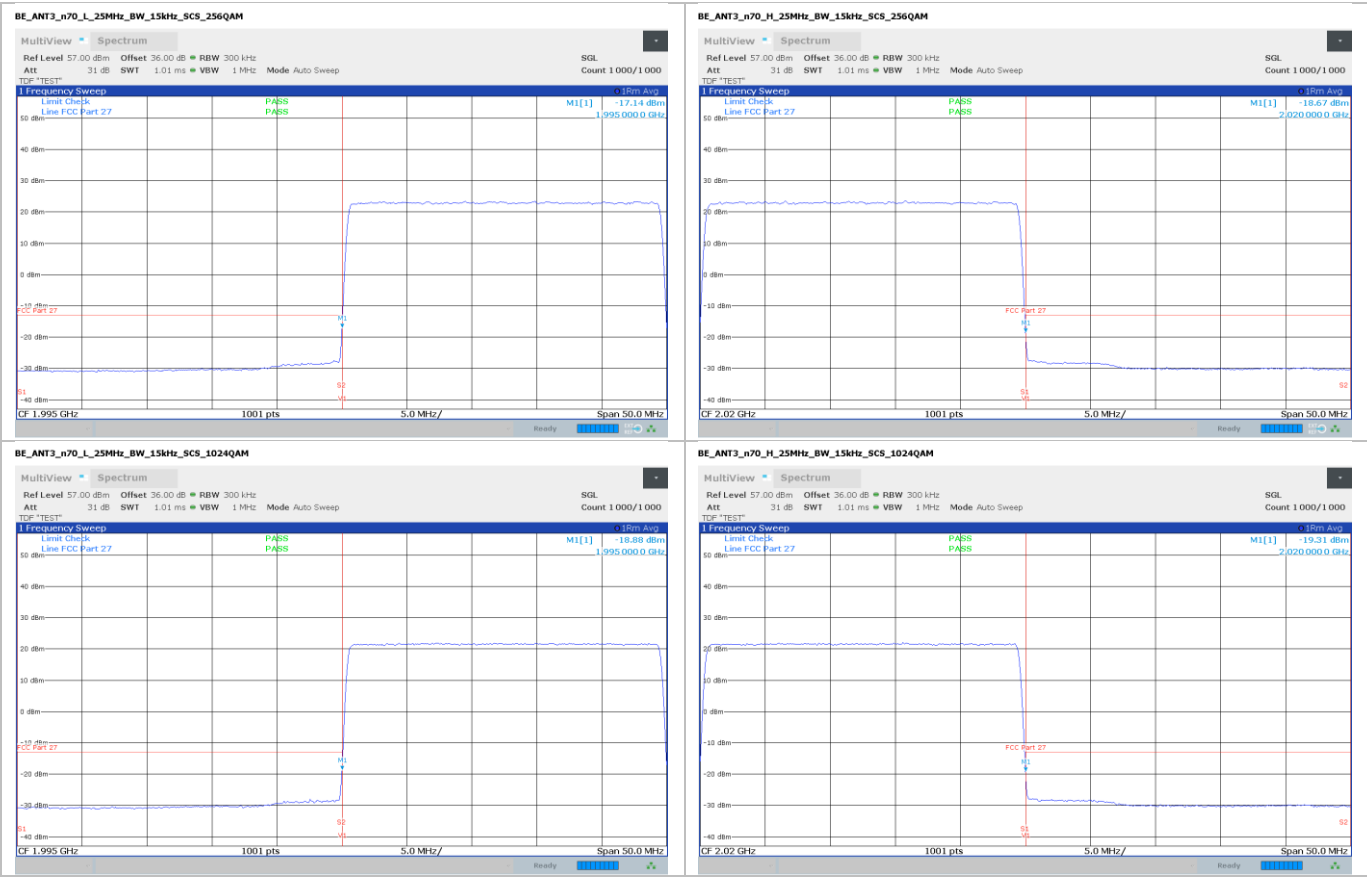
Band n70 – band edge

25 MHz



Section 8
Test name
Specification

Testing data
FCC 27.53(m) Emission limits
FCC Part 27



Band n70 – radiated spurious emissions

5 MHz, HIGH channel, 256 QAM

Full Spectrum

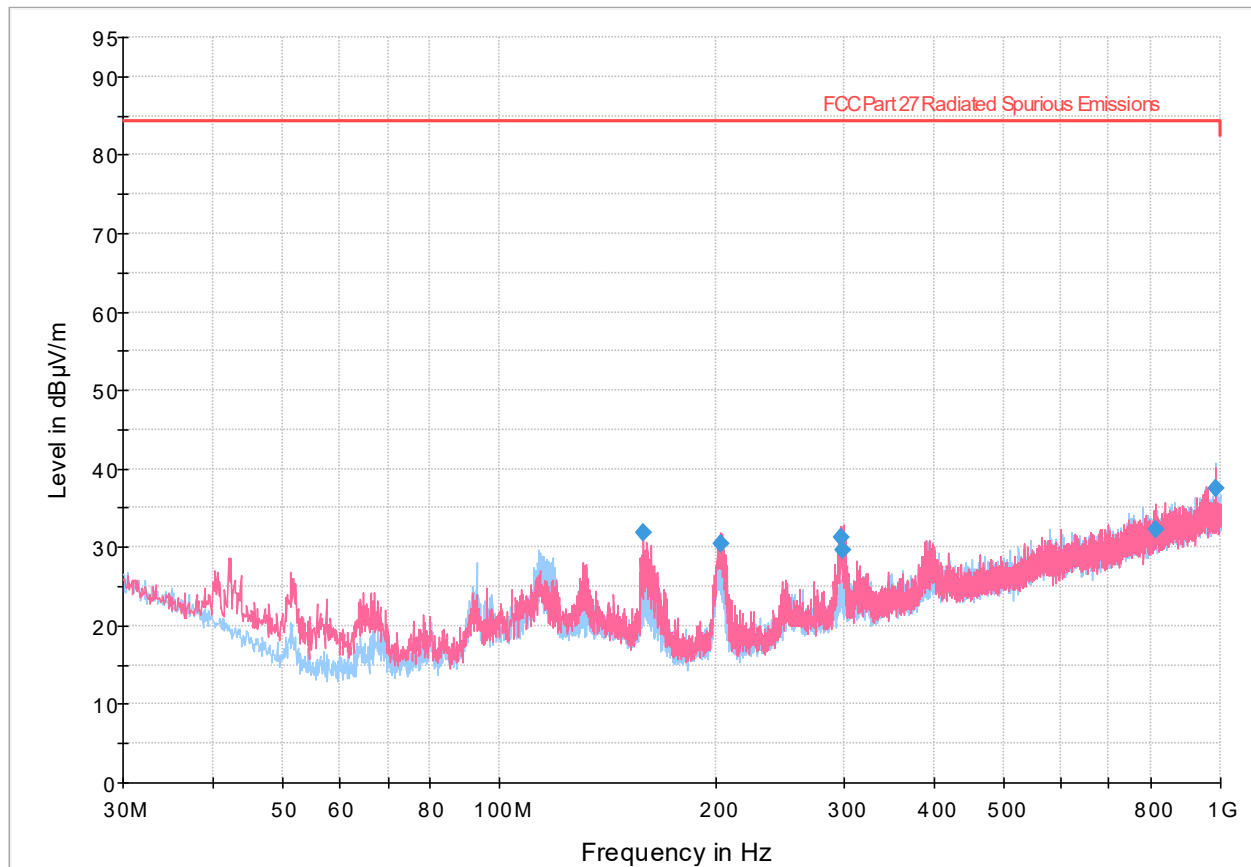


Figure 8.6-13: Radiated emissions spectral plot (30 MHz - 1 GHz)

Table 8.6-13: Radiated emissions results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
158.468000	31.93	84.38	52.45	5000.0	120.000	100.0	V	97.0	18.9
202.518000	30.44	84.38	53.94	5000.0	120.000	100.0	V	170.0	17.9
297.274000	31.24	84.38	53.14	5000.0	120.000	100.0	V	120.0	22.0
298.517000	29.72	84.38	54.66	5000.0	120.000	110.0	V	112.0	22.0
812.539000	32.21	84.38	52.17	5000.0	120.000	206.0	V	22.0	32.5
983.042000	37.59	84.38	46.79	5000.0	120.000	247.0	H	72.0	34.6

Notes:

¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

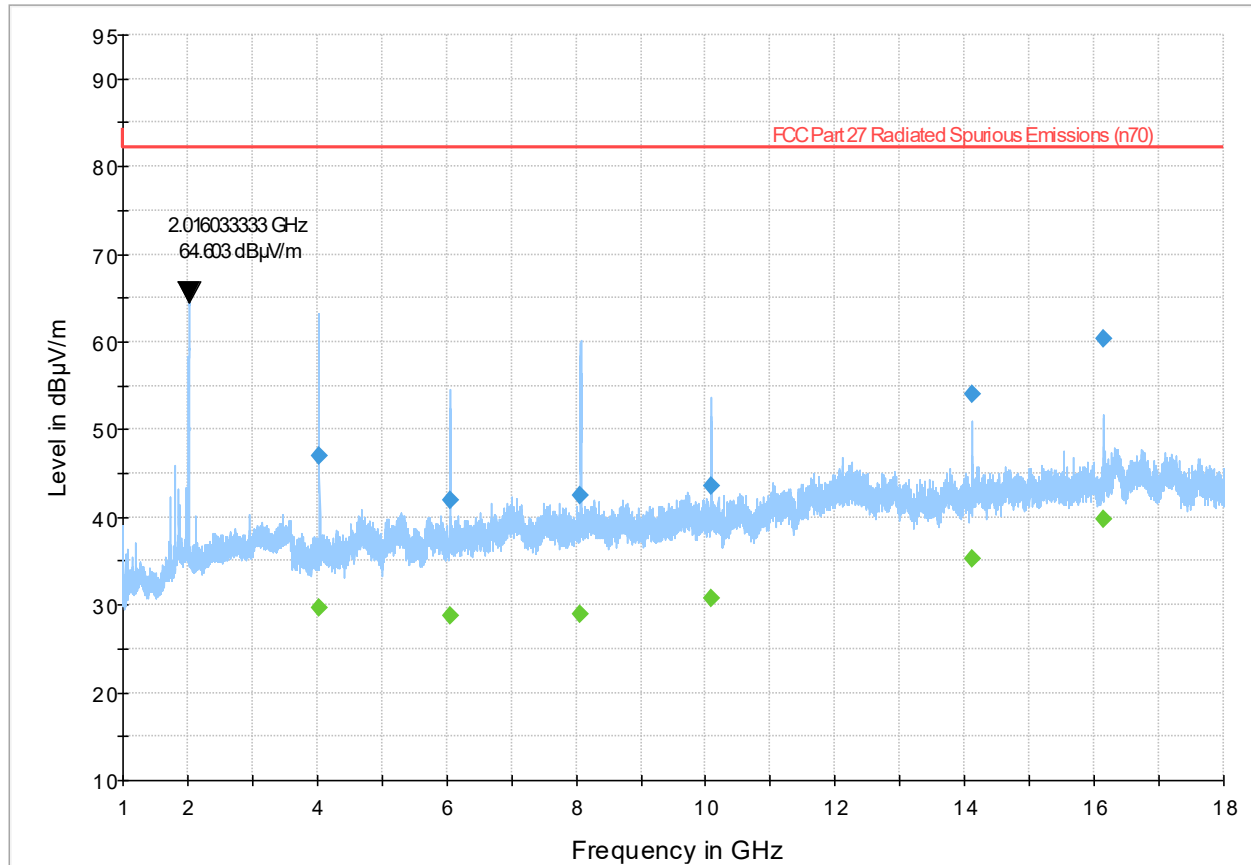


Figure 8.6-14: Radiated emissions spectral plot (1 GHz - 18 GHz)

Table 8.6-14: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4038.566667	46.98	---	82.23	35.25	5000.0	1000.000	118.0	H	224.0	-3.6
4038.566667	---	29.71	---	---	5000.0	1000.000	118.0	H	224.0	-3.6
6047.900000	42.00	---	82.23	40.23	5000.0	1000.000	382.0	H	234.0	-0.6
6047.900000	---	28.79	---	---	5000.0	1000.000	382.0	H	234.0	-0.6
8065.833333	42.42	---	82.23	39.81	5000.0	1000.000	222.0	H	350.0	1.7
8065.833333	---	28.87	---	---	5000.0	1000.000	222.0	H	350.0	1.7
10083.566667	43.63	---	82.23	38.60	5000.0	1000.000	236.0	H	160.0	3.8
10083.566667	---	30.81	---	---	5000.0	1000.000	236.0	H	160.0	3.8
14124.333333	53.99	---	82.23	28.24	5000.0	1000.000	115.0	H	228.0	8.2
14124.333333	---	35.26	---	---	5000.0	1000.000	115.0	H	228.0	8.2
16142.566667	60.39	---	82.23	21.84	5000.0	1000.000	120.0	H	226.0	11.4
16142.566667	---	39.75	---	---	5000.0	1000.000	120.0	H	226.0	11.4

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

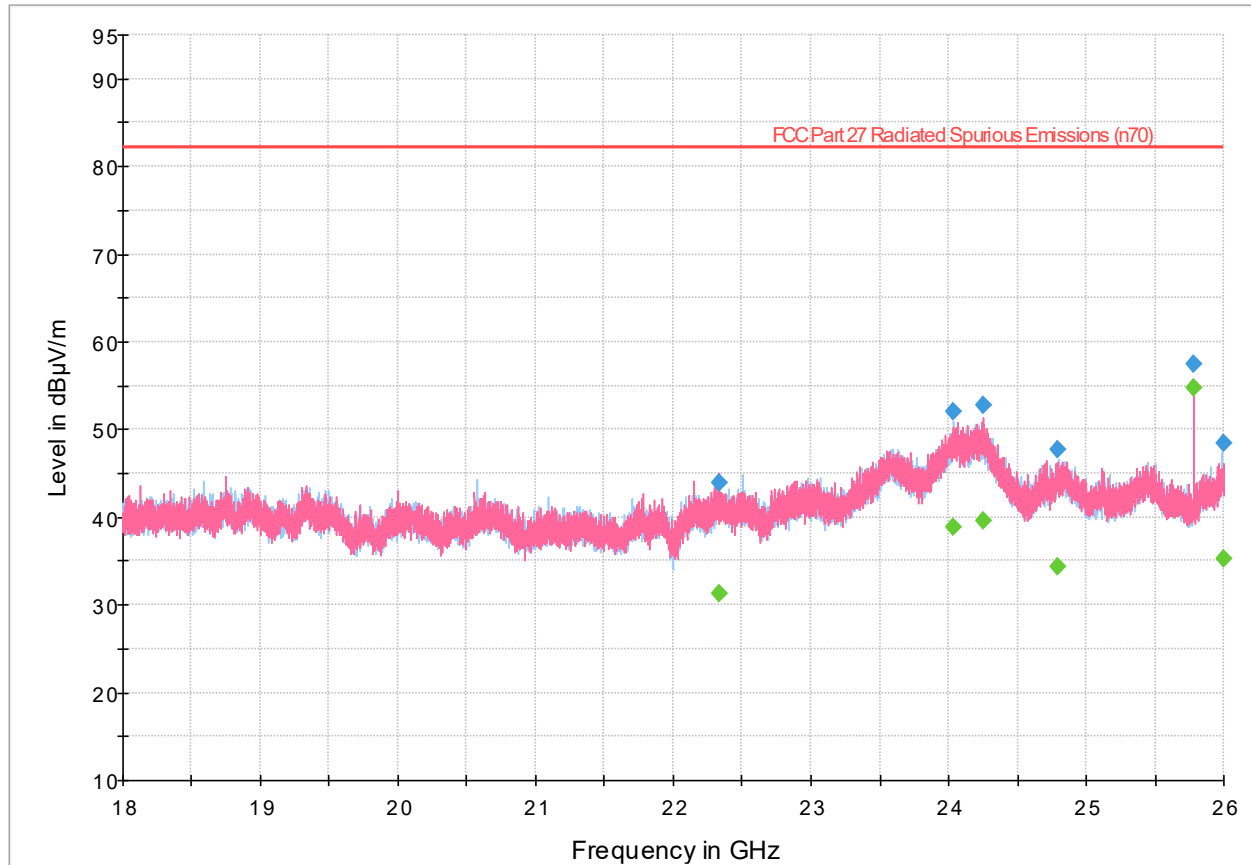


Figure 8.6-15: Radiated emissions spectral plot (18 GHz - 26 GHz)

Table 8.6-15: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
22329.700000	---	31.25	---	---	5000.0	1000.000	335.0	V	99.0	19.5
22329.700000	44.01	---	82.23	38.22	5000.0	1000.000	335.0	V	99.0	19.5
24039.400000	51.98	---	82.23	30.25	5000.0	1000.000	344.0	H	0.0	29.7
24039.400000	---	38.88	---	---	5000.0	1000.000	344.0	H	0.0	29.7
24251.700000	52.70	---	82.23	29.53	5000.0	1000.000	306.0	V	11.0	29.0
24251.700000	---	39.53	---	---	5000.0	1000.000	306.0	V	11.0	29.0
24797.600000	47.68	---	82.23	34.55	5000.0	1000.000	393.0	H	325.0	24.6
24797.600000	---	34.44	---	---	5000.0	1000.000	393.0	H	325.0	24.6
25781.300000	---	54.78	---	---	5000.0	1000.000	111.0	V	150.0	23.7
25781.300000	57.45	---	82.23	24.78	5000.0	1000.000	111.0	V	150.0	23.7
25999.100000	48.49	---	82.23	33.74	5000.0	1000.000	172.0	H	11.0	25.4
25999.100000	---	35.20	---	---	5000.0	1000.000	172.0	H	11.0	25.4

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Band n70 – radiated spurious emissions

10 MHz, LOW channel, 16 QAM

Full Spectrum

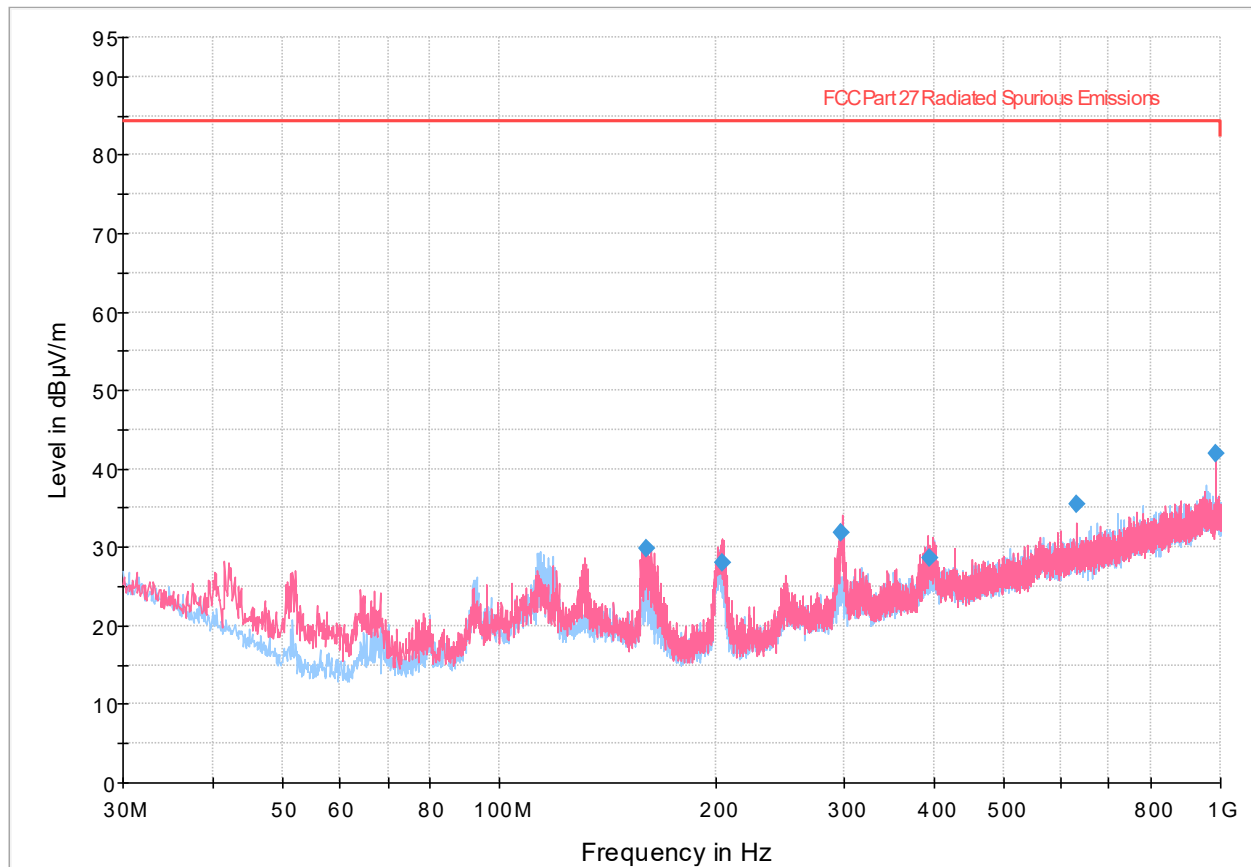


Figure 8.6-16: Radiated emissions spectral plot (30 MHz - 1 GHz)

Table 8.6-16: Radiated emissions results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
160.117000	29.94	84.38	54.44	5000.0	120.000	100.0	V	343.0	18.8
203.619000	28.00	84.38	56.38	5000.0	120.000	100.0	V	161.0	18.0
298.136000	31.86	84.38	52.52	5000.0	120.000	100.0	V	120.0	22.0
394.036000	28.55	84.38	55.83	5000.0	120.000	100.0	V	173.0	25.1
630.002000	35.56	84.38	48.82	5000.0	120.000	119.0	V	88.0	30.0
983.042000	42.05	84.38	42.33	5000.0	120.000	301.0	H	86.0	34.6

Notes:

¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

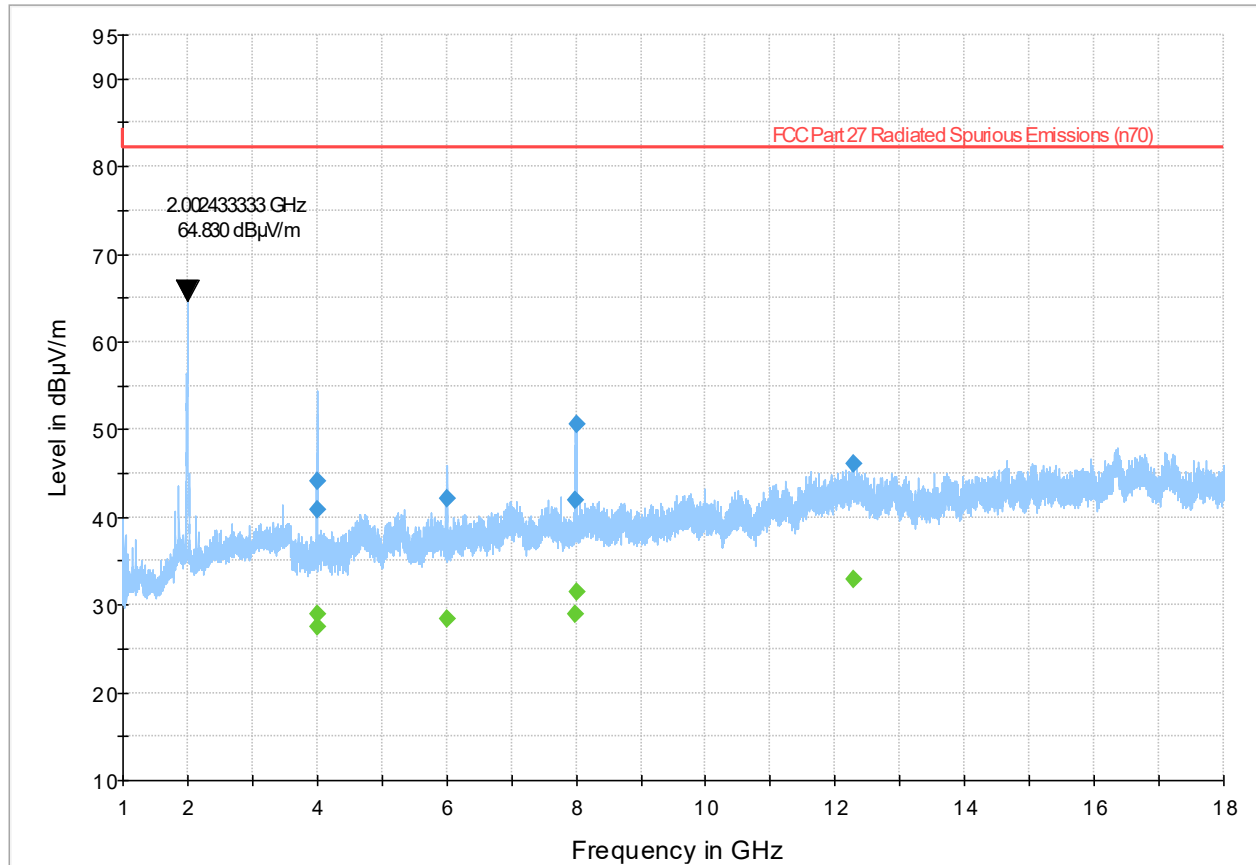


Figure 8.6-17: Radiated emissions spectral plot (1 GHz - 18 GHz)

Table 8.6-17: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3995.166667	44.18	---	82.23	38.05	5000.0	1000.000	195.0	H	210.0	-4.0
3995.166667	---	28.93	---	---	5000.0	1000.000	195.0	H	210.0	-4.0
4005.600000	40.78	---	82.23	41.45	5000.0	1000.000	347.0	H	35.0	-3.9
4005.600000	---	27.51	---	---	5000.0	1000.000	347.0	H	35.0	-3.9
6002.866667	---	28.43	---	---	5000.0	1000.000	111.0	H	328.0	-0.9
6002.866667	42.09	---	82.23	40.14	5000.0	1000.000	111.0	H	328.0	-0.9
7995.200000	41.92	---	82.23	40.31	5000.0	1000.000	231.0	H	148.0	1.8
7995.200000	---	28.90	---	---	5000.0	1000.000	231.0	H	148.0	1.8
8005.366667	---	31.53	---	---	5000.0	1000.000	140.0	H	159.0	1.7
8005.366667	50.56	---	82.23	31.67	5000.0	1000.000	140.0	H	159.0	1.7
12287.133333	46.12	---	82.23	36.11	5000.0	1000.000	246.0	V	289.0	7.1
12287.133333	---	32.93	---	---	5000.0	1000.000	246.0	V	289.0	7.1

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

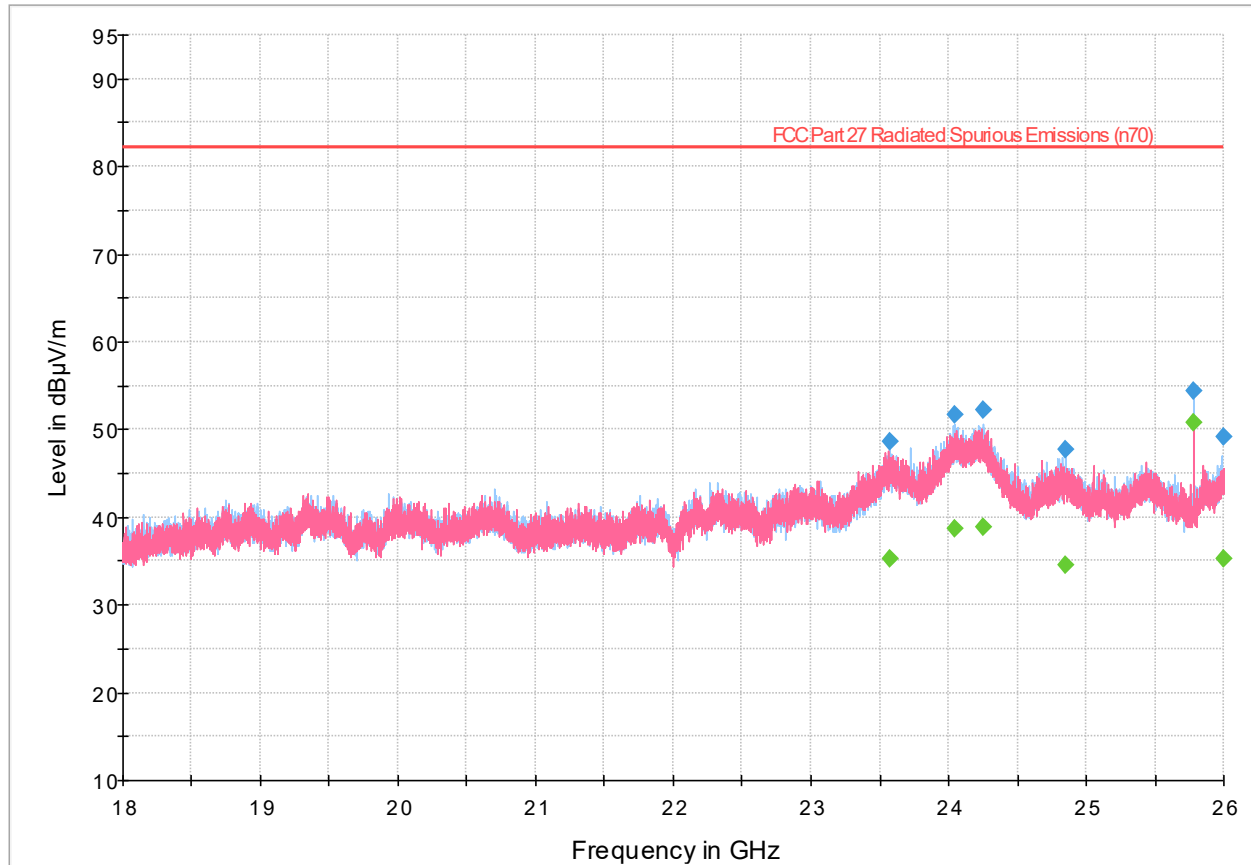


Figure 8.6-18: Radiated emissions spectral plot (18 GHz - 26 GHz)

Table 8.6-18: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23570.200000	48.69	---	82.23	33.54	5000.0	1000.000	306.0	H	266.0	25.9
23570.200000	---	35.24	---	---	5000.0	1000.000	306.0	H	266.0	25.9
24051.200000	---	38.73	---	---	5000.0	1000.000	210.0	H	22.0	29.7
24051.200000	51.64	---	82.23	30.59	5000.0	1000.000	210.0	H	22.0	29.7
24251.400000	---	38.91	---	---	5000.0	1000.000	146.0	H	11.0	29.0
24251.400000	52.21	---	82.23	30.02	5000.0	1000.000	146.0	H	11.0	29.0
24851.800000	---	34.45	---	---	5000.0	1000.000	322.0	H	264.0	24.7
24851.800000	47.76	---	82.23	34.47	5000.0	1000.000	322.0	H	264.0	24.7
25781.300000	---	50.72	---	---	5000.0	1000.000	204.0	H	184.0	23.7
25781.300000	54.40	---	82.23	27.83	5000.0	1000.000	204.0	H	184.0	23.7
25996.900000	49.21	---	82.23	33.02	5000.0	1000.000	104.0	H	226.0	25.4
25996.900000	---	35.18	---	---	5000.0	1000.000	104.0	H	226.0	25.4

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Band n70 – radiated spurious emissions

20 MHz, LOW channel, 16 QAM

Full Spectrum

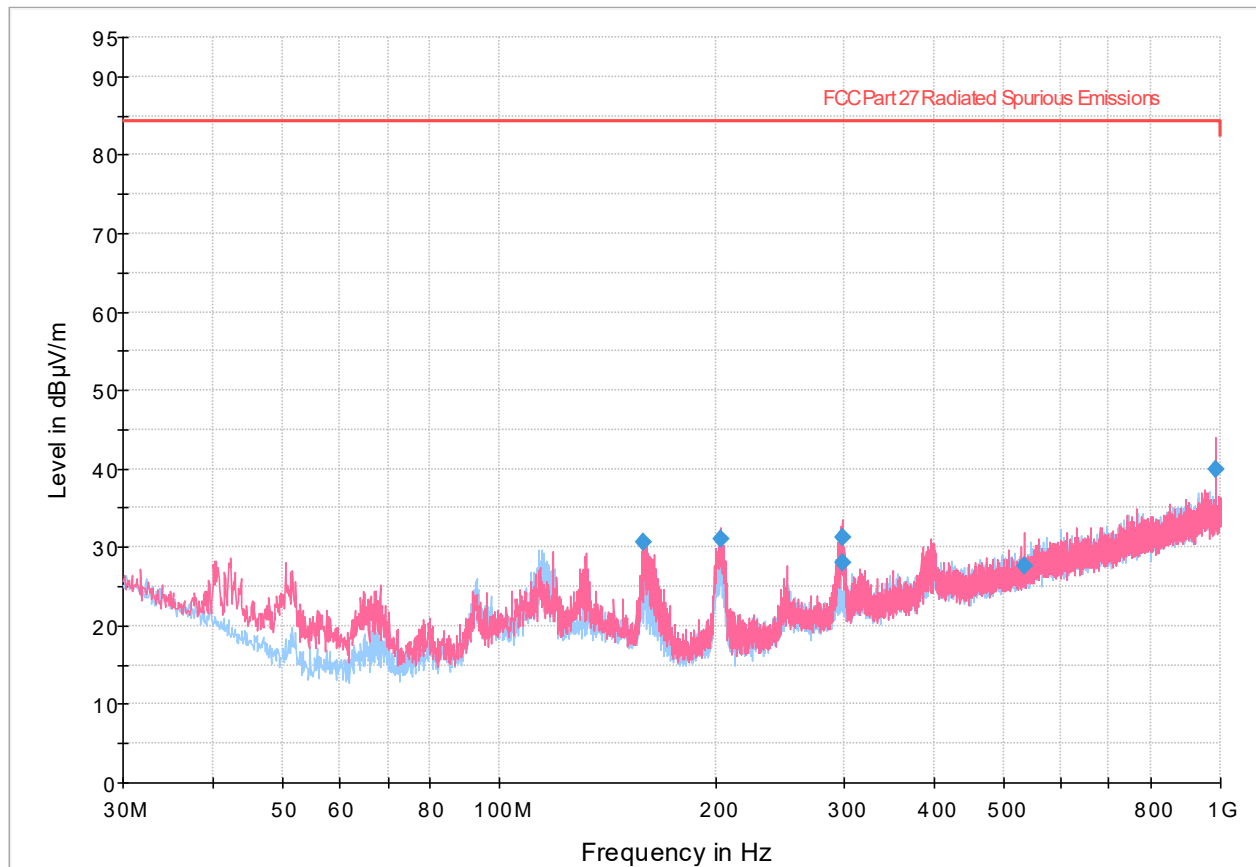


Figure 8.6-19: Radiated emissions spectral plot (30 MHz - 1 GHz)

Table 8.6-19: Radiated emissions results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
158.423000	30.68	84.38	53.70	5000.0	120.000	110.0	V	83.0	18.9
202.506000	31.02	84.38	53.36	5000.0	120.000	151.0	V	171.0	17.9
299.666000	31.21	84.38	53.17	5000.0	120.000	100.0	V	121.0	22.1
299.668000	28.09	84.38	56.29	5000.0	120.000	162.0	V	112.0	22.1
533.333000	27.55	84.38	56.83	5000.0	120.000	120.0	V	312.0	27.7
983.042000	39.99	84.38	44.39	5000.0	120.000	118.0	V	141.0	34.6

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

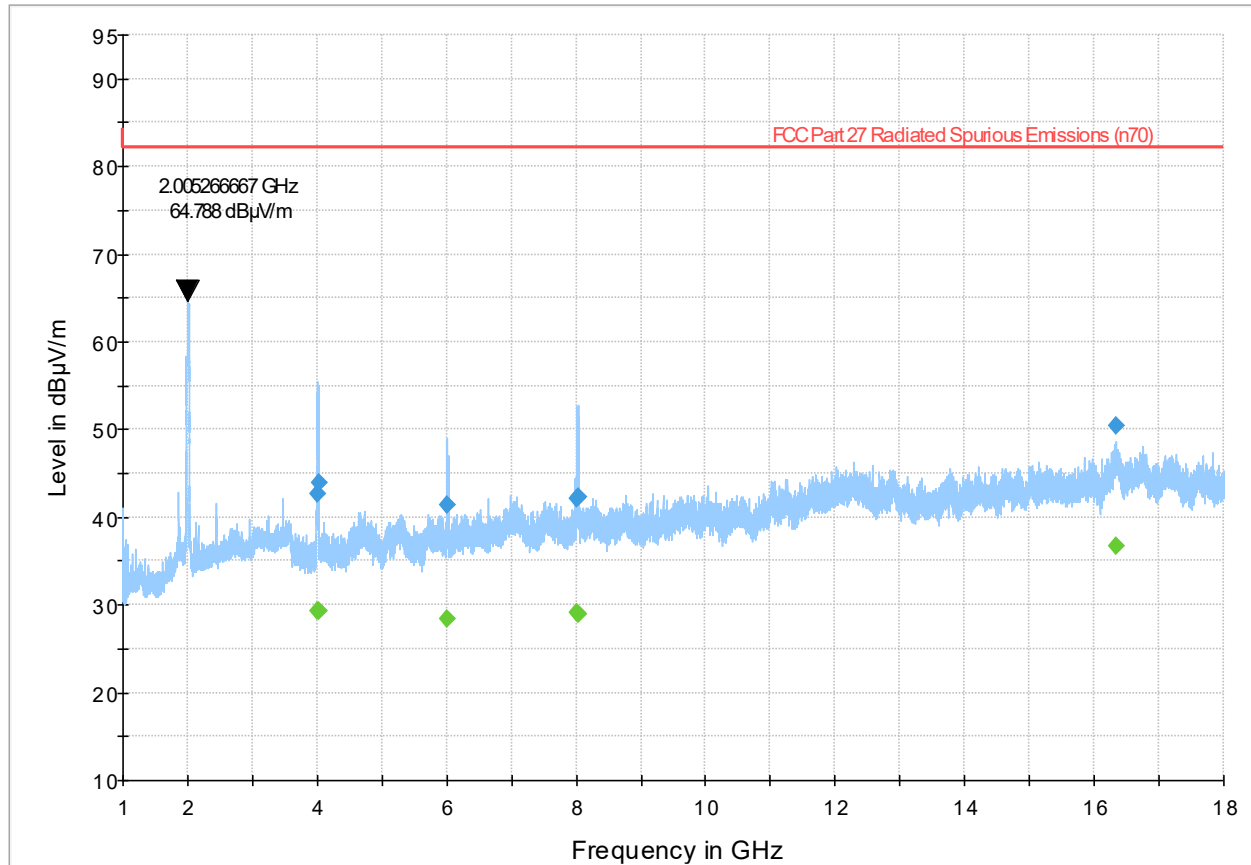


Figure 8.6-20: Radiated emissions spectral plot (1 GHz - 18 GHz)

Table 8.6-20: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4011.233333	---	29.24	---	---	5000.0	1000.000	156.0	H	186.0	-3.8
4011.233333	42.70	---	82.23	39.53	5000.0	1000.000	156.0	H	186.0	-3.8
4019.200000	---	29.30	---	---	5000.0	1000.000	193.0	H	196.0	-3.8
4019.200000	43.93	---	82.23	38.30	5000.0	1000.000	193.0	H	196.0	-3.8
6014.000000	---	28.40	---	---	5000.0	1000.000	377.0	H	352.0	-0.8
6014.000000	41.34	---	82.23	40.89	5000.0	1000.000	377.0	H	352.0	-0.8
8005.900000	---	29.08	---	---	5000.0	1000.000	157.0	H	150.0	1.7
8005.900000	42.17	---	82.23	40.06	5000.0	1000.000	157.0	H	150.0	1.7
8028.233333	---	28.86	---	---	5000.0	1000.000	233.0	H	324.0	1.7
8028.233333	42.33	---	82.23	39.90	5000.0	1000.000	233.0	H	324.0	1.7
16346.033333	---	36.71	---	---	5000.0	1000.000	296.0	V	263.0	13.2
16346.033333	50.35	---	82.23	31.88	5000.0	1000.000	296.0	V	263.0	13.2

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

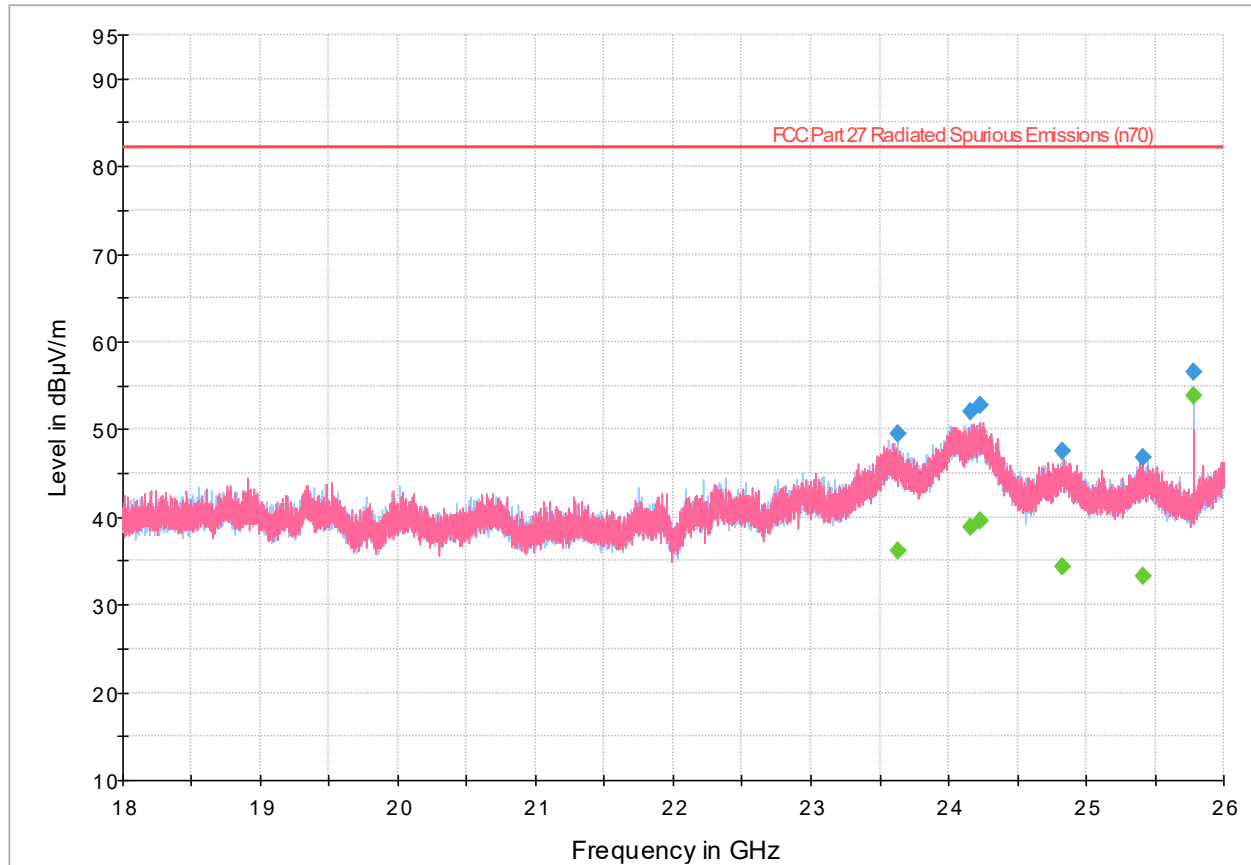


Figure 8.6-21: Radiated emissions spectral plot (18 GHz - 26 GHz)

Table 8.6-21: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23636.800000	49.51	---	82.23	32.72	5000.0	1000.000	356.0	H	10.0	25.7
23636.800000	---	36.09	---	---	5000.0	1000.000	356.0	H	10.0	25.7
24155.800000	52.06	---	82.23	30.17	5000.0	1000.000	126.0	H	356.0	29.4
24155.800000	---	38.80	---	---	5000.0	1000.000	126.0	H	356.0	29.4
24234.700000	---	39.67	---	---	5000.0	1000.000	384.0	V	346.0	29.1
24234.700000	52.78	---	82.23	29.45	5000.0	1000.000	384.0	V	346.0	29.1
24822.300000	---	34.30	---	---	5000.0	1000.000	272.0	H	187.0	24.6
24822.300000	47.57	---	82.23	34.66	5000.0	1000.000	272.0	H	187.0	24.6
25411.700000	---	33.21	---	---	5000.0	1000.000	271.0	V	123.0	23.8
25411.700000	46.86	---	82.23	35.37	5000.0	1000.000	271.0	V	123.0	23.8
25781.300000	---	53.91	---	---	5000.0	1000.000	185.0	H	125.0	23.7
25781.300000	56.53	---	82.23	25.70	5000.0	1000.000	185.0	H	125.0	23.7

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Band n70 – radiated spurious emissions

25 MHz, MID channel, QPSK

Full Spectrum

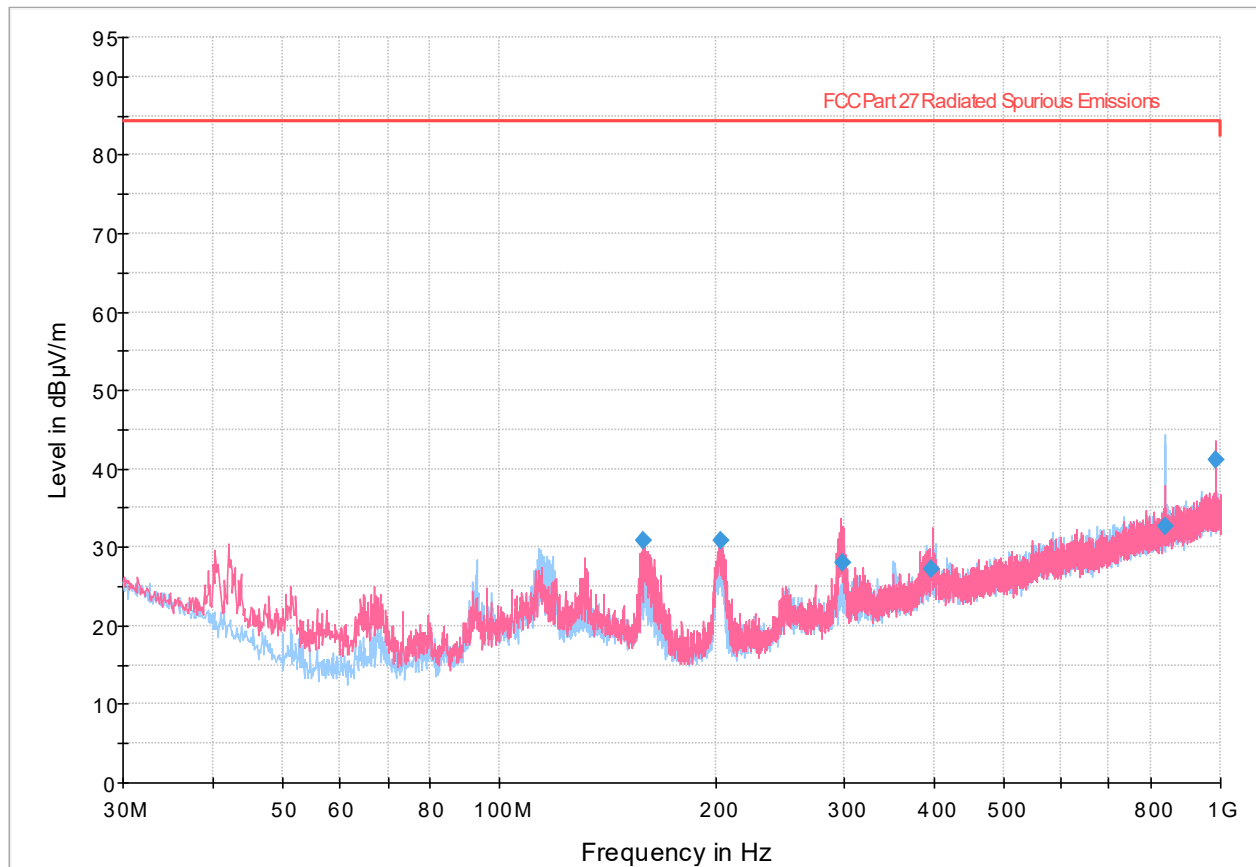


Figure 8.6-22: Radiated emissions spectral plot (30 MHz - 1 GHz)

Table 8.6-22: Radiated emissions results

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
158.468000	30.82	84.38	53.56	5000.0	120.000	100.0	V	328.0	18.9
202.527000	30.85	84.38	53.53	5000.0	120.000	161.0	V	172.0	17.9
298.195000	27.99	84.38	56.39	5000.0	120.000	182.0	V	122.0	22.0
397.377000	27.32	84.38	57.06	5000.0	120.000	110.0	V	246.0	25.2
838.107000	32.64	84.38	51.74	5000.0	120.000	204.0	H	108.0	32.9
983.042000	41.12	84.38	43.26	5000.0	120.000	119.0	V	147.0	34.6

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)
² Correction factors = antenna factor ACF (dB) + cable loss (dB)
³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

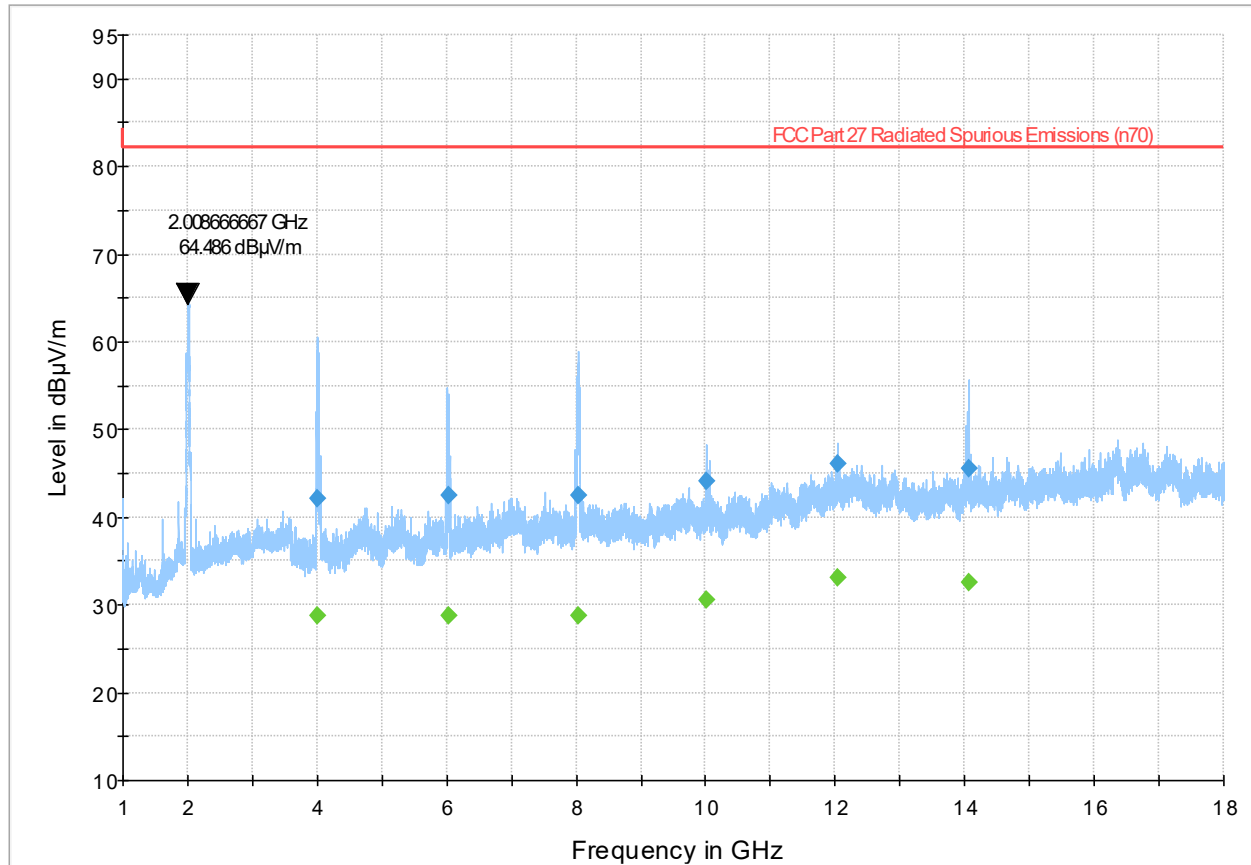


Figure 8.6-23: Radiated emissions spectral plot (1 GHz - 18 GHz)

Table 8.6-23: Radiated emissions results

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4002.366667	42.15	---	82.23	40.08	5000.0	1000.000	161.0	V	195.0	-3.9
4002.366667	---	28.85	---	---	5000.0	1000.000	161.0	V	195.0	-3.9
6021.666667	42.48	---	82.23	39.75	5000.0	1000.000	167.0	V	0.0	-0.8
6021.666667	---	28.70	---	---	5000.0	1000.000	167.0	V	0.0	-0.8
8022.800000	42.55	---	82.23	39.68	5000.0	1000.000	397.0	V	236.0	1.7
8022.800000	---	28.85	---	---	5000.0	1000.000	397.0	V	236.0	1.7
10018.166667	44.02	---	82.23	38.21	5000.0	1000.000	380.0	V	160.0	3.6
10018.166667	---	30.66	---	---	5000.0	1000.000	380.0	V	160.0	3.6
12047.700000	46.11	---	82.23	36.12	5000.0	1000.000	199.0	V	197.0	6.4
12047.700000	---	33.05	---	---	5000.0	1000.000	199.0	V	197.0	6.4
14064.666667	45.49	---	82.23	36.74	5000.0	1000.000	206.0	V	160.0	8.3
14064.666667	---	32.49	---	---	5000.0	1000.000	206.0	V	160.0	8.3

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Full Spectrum

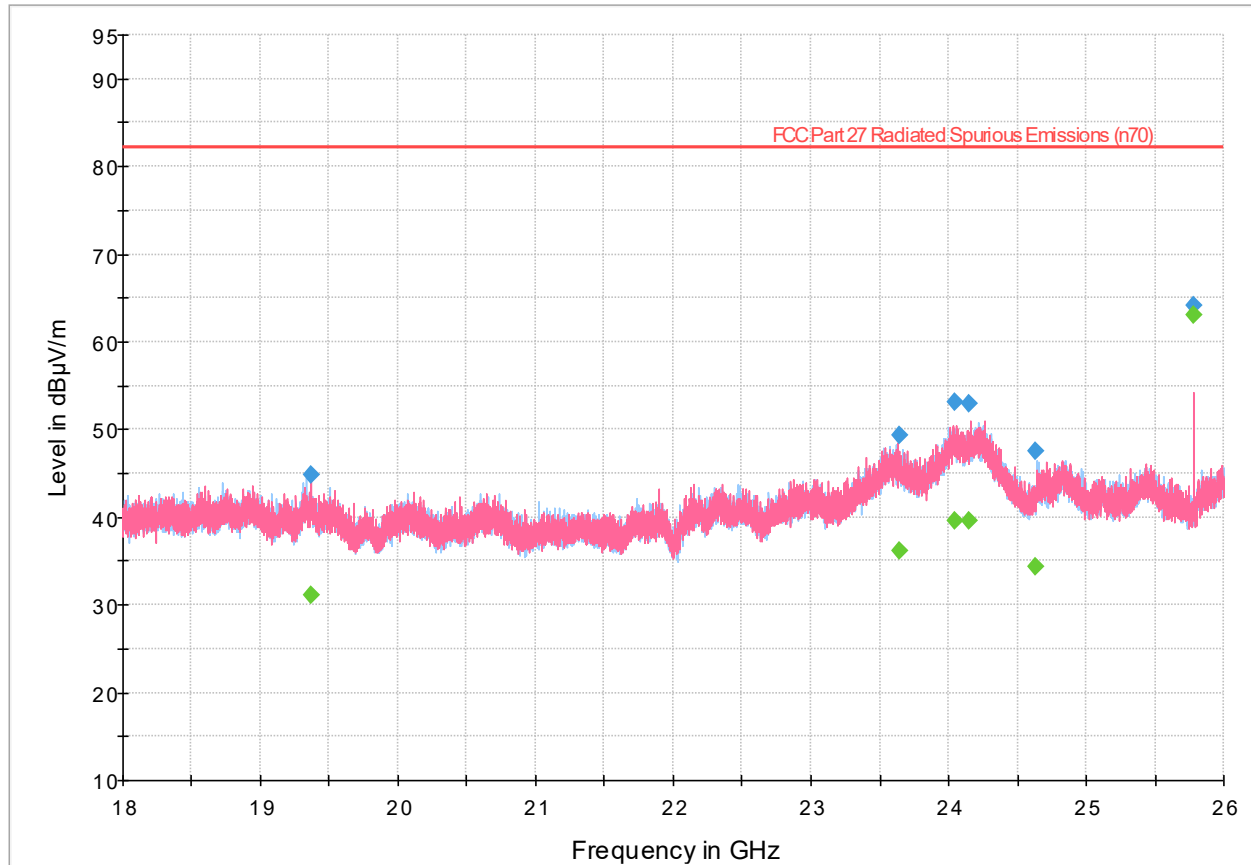


Figure 8.6-24: Radiated emissions spectral plot (18 GHz - 26 GHz)

Table 8.6-24: Radiated emissions results

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
19362.800000	44.85	---	82.23	37.38	5000.0	1000.000	300.0	V	11.0	18.5
19362.800000	---	31.19	---	---	5000.0	1000.000	300.0	V	11.0	18.5
23642.600000	---	36.13	---	---	5000.0	1000.000	157.0	V	295.0	25.7
23642.600000	49.30	---	82.23	32.93	5000.0	1000.000	157.0	V	295.0	25.7
24045.500000	53.14	---	82.23	29.09	5000.0	1000.000	279.0	V	330.0	29.7
24045.500000	---	39.55	---	---	5000.0	1000.000	279.0	V	330.0	29.7
24152.900000	52.96	---	82.23	29.27	5000.0	1000.000	208.0	V	191.0	29.4
24152.900000	---	39.68	---	---	5000.0	1000.000	208.0	V	191.0	29.4
24633.900000	---	34.39	---	---	5000.0	1000.000	303.0	H	136.0	24.8
24633.900000	47.52	---	82.23	34.71	5000.0	1000.000	303.0	H	136.0	24.8
25781.300000	64.15	---	82.23	18.08	5000.0	1000.000	115.0	V	148.0	23.7
25781.300000	---	63.08	---	---	5000.0	1000.000	115.0	V	148.0	23.7

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

Band n70 – radiated spurious emissions

Additional requirements

Part 27.53(h)(2)(ii) For operations in the 2000-2020 MHz band, the power of any emissions below 2000 MHz shall be attenuated below the transmitter power (P) in watts by at least $70 + 10 \log_{10}(P)$ dB.

This part applies to operation in the n70 band (1995 – 2020 MHz). The EUT was evaluated on all relevant channels, bandwidths, and modulation types. The worst case data is shown below.

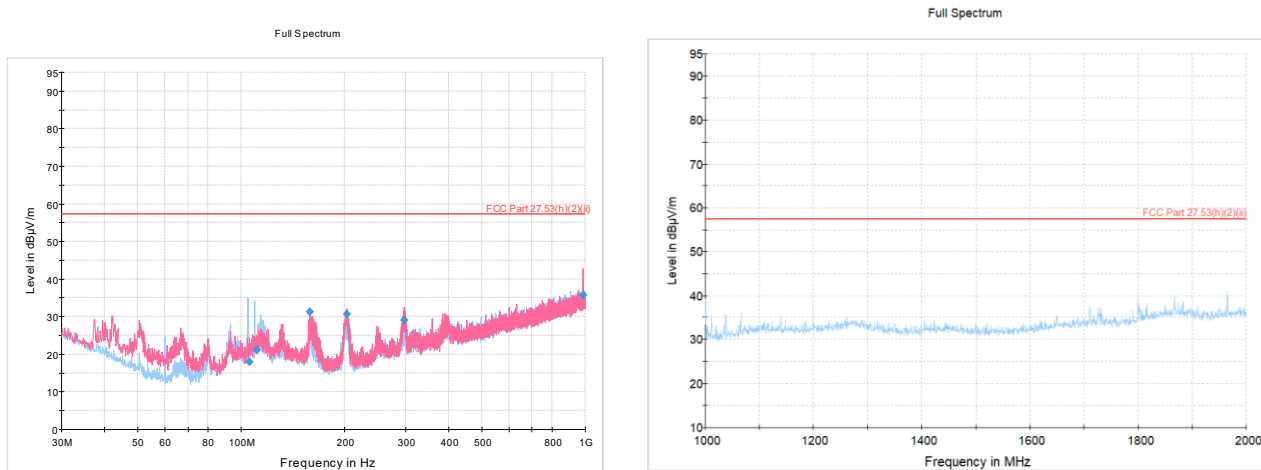


Figure 8.6-25: Radiated emissions spectral plot (30 MHz – 2000 MHz)

Table 8.6-25: Radiated emissions results

Frequency (MHz)	Quasi-peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
105.336000	17.86	57.38	39.52	5000.0	120.000	279.0	H	174.0	18.5
110.860000	21.24	57.38	36.14	5000.0	120.000	118.0	H	210.0	19.0
158.348000	31.18	57.38	26.20	5000.0	120.000	100.0	V	85.0	18.9
202.751000	30.59	57.38	26.79	5000.0	120.000	119.0	V	174.0	17.9
297.434000	28.99	57.38	28.39	5000.0	120.000	150.0	V	121.0	22.0
982.962000	35.74	57.38	21.64	5000.0	120.000	225.0	V	0.0	34.6

Notes: ¹ Field strength (dB V/m) = receiver/spectrum analyzer value (dB V) + correction factor (dB)

² Correction factors = antenna factor ACF (dB) + cable loss (dB)

³ Emissions that were continuously present for a minimum of 1 second and occurred more than once for every 15 seconds observation period were considered valid emissions. The maximum value of valid emissions has been recorded.

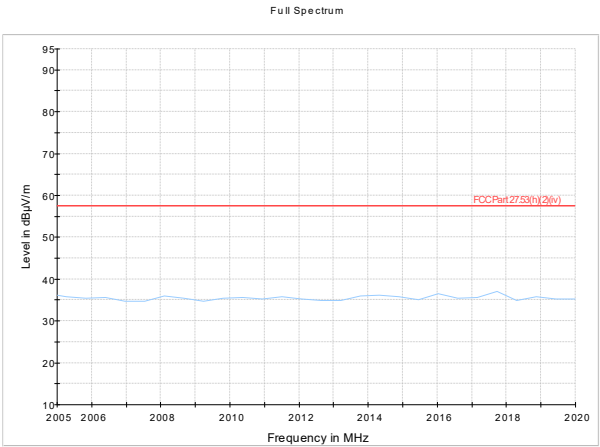
Note: The above measurements were performed with all four antenna ports terminated in 50 ohm loads. As a worst case assessment, we can assume that the highest permitted antenna gain is uniform across the frequency range. In this case, the highest permitted antenna gain is 21.64 dBi which. Applying this worst case antenna gain to the measured data, the EUT still complies with the limits of Part 27.53(h)(2)(ii).

Part 27.53(h)(2)(iii) For operations in the 1915-1920 MHz band, the power of any emission between 1930-1995 MHz shall be attenuated below the transmitter power (P) in watts by at least $70 + 10 \log_{10}(P)$ dB.

Not applicable to the EUT.

Part 27.53(h)(2) (iv) For operations in the 1995-2000 MHz band, the power of any emission between 2005-2020 MHz shall be attenuated below the transmitter power (P) in watts by at least $70 + 10 \log_{10}(P)$ dB.

This part applies to operation in the n70 band (1995 – 2020 MHz) when the EUT is transmitting on the LOW channel with 5 MHz channel bandwidth (center frequency 1997.5 MHz). The EUT was evaluated on all relevant channels, bandwidths, and modulation types. The worst case data is shown below.



- Notes:
- ¹ No detectable emissions were observed.
 - ² Peak detector used with 1 MHz resolution bandwidth.
 - ³ EUT rotated 360 degrees, antenna height varied from 1 to 4 m. Vertical and horizontal polarizations checked. Above plot is worst case.

8.7 FCC 27.54 Frequency Stability

8.7.1 Definitions and limits

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

8.7.2 Test summary

Test date	July 29, 2022	Temperature	21 °C
Test engineer	Lan Sayasane, EMC Test Engineer	Air pressure	1005 mbar
Verdict	Pass	Relative humidity	64%

8.7.3 Observations, settings and special notes

The EUT was configured to continuously transmit an un-modulated continuous wave signal. The frequency measurement was performed using the marker-signal count functionality of the spectrum analyzer. The only requirement from Part 27 is that the carrier stays within the allocated band.

8.7.4 Test data

Band n66:

Table 8.7-1: Frequency stability results, band n66

Test conditions	Frequency, MHz
+55 °C, Nominal	2.114999
+50 °C, Nominal	2.114999
+40 °C, Nominal	2.114999
+30 °C, Nominal	2.114999
+20 °C, 58 VDC	2.114999
+20 °C, Nominal	2.114999
+20 °C, 36 VDC	2.114999
+10 °C, Nominal	2.114999
0 °C, Nominal	2.114999
-10 °C, Nominal	2.114999
-20 °C, Nominal	2.114999
-30 °C, Nominal	2.114999
-40 °C, Nominal	2.114999

Band n70:

Table 8.7-2: Frequency stability results, band n70

Test conditions	Frequency, MHz
+55 °C, Nominal	1.997499
+50 °C, Nominal	1.997499
+40 °C, Nominal	1.997499
+30 °C, Nominal	1.997499
+20 °C, 58 VDC	1.997499
+20 °C, Nominal	1.997499
+20 °C, 36 VDC	1.997499
+10 °C, Nominal	1.997499
0 °C, Nominal	1.997499
-10 °C, Nominal	1.997499
-20 °C, Nominal	1.997499
-30 °C, Nominal	1.997499
-40 °C, Nominal	1.997499

Section 9. Block diagrams of test setups

9.1 Radiated emissions set-up

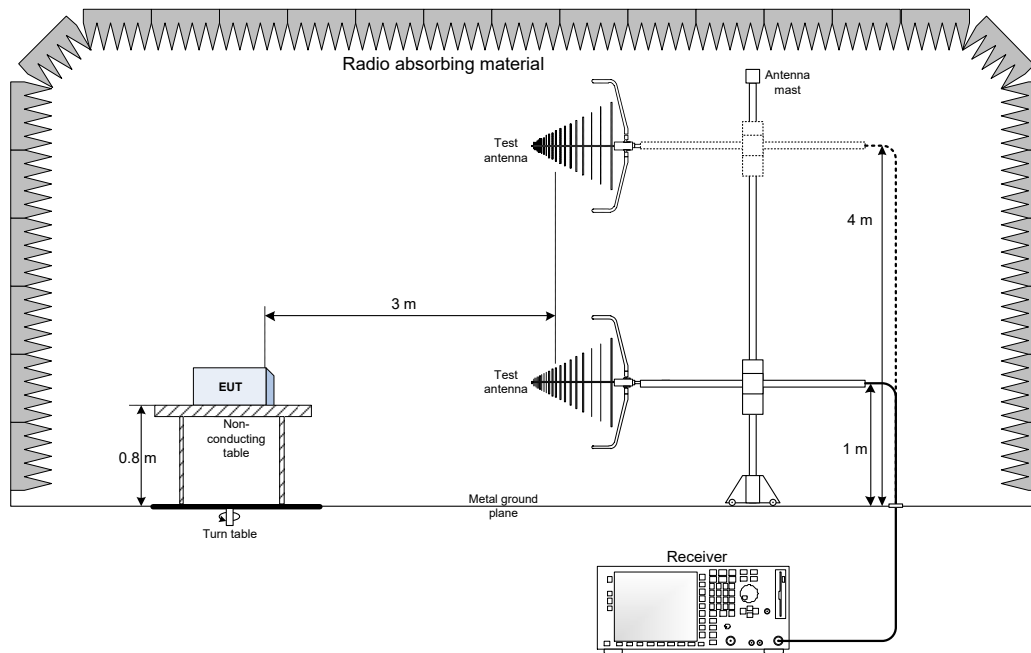


Figure 9.1-1: Below 1 GHz setup

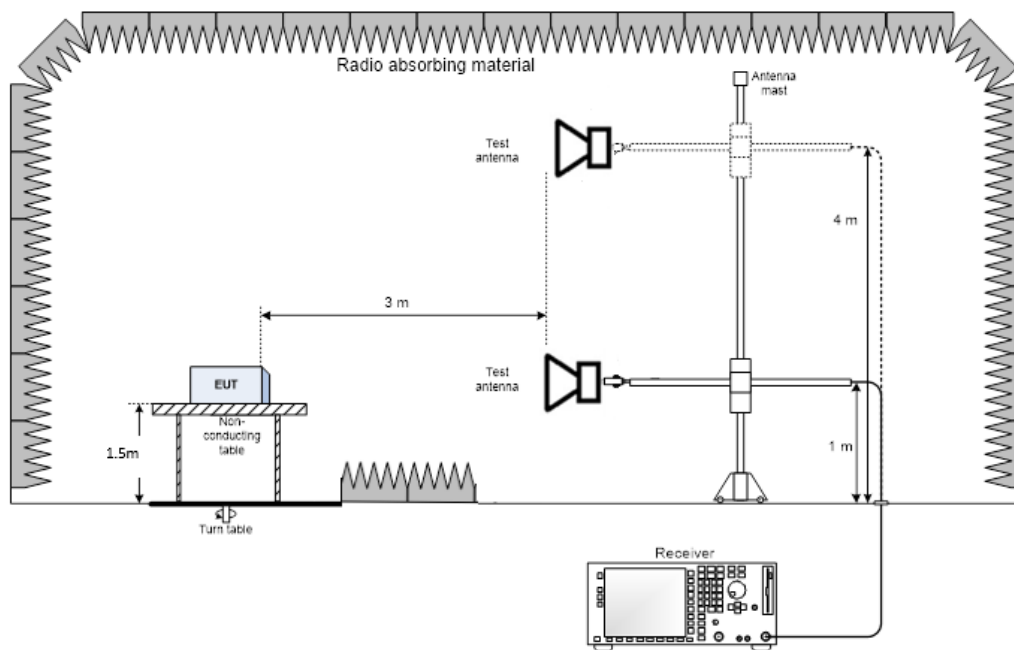


Figure 9.1-2: Above 1 GHz setup