6.4 Power Spectral Density

6.4.1 Regulation

§15.247(e) : For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

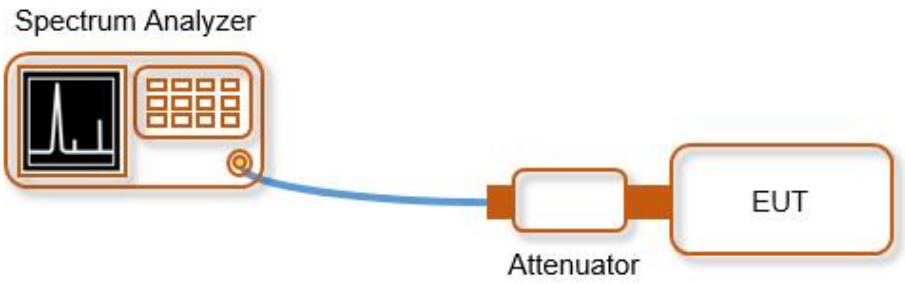
6.4.2 Test Procedure

The method of measurement used to test this DTS device is ANSI C63.10-2020.

The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span >1.5 times the DTS bandwidth.
c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = No faster than coupled (auto) time.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

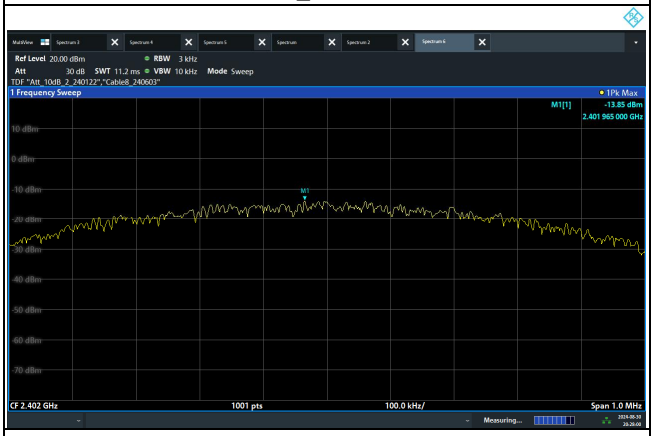
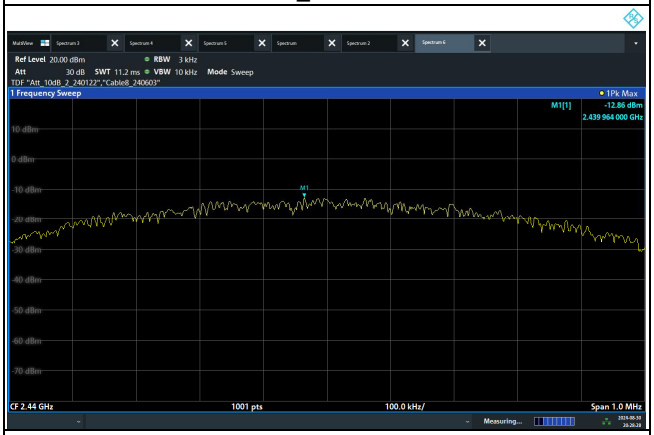
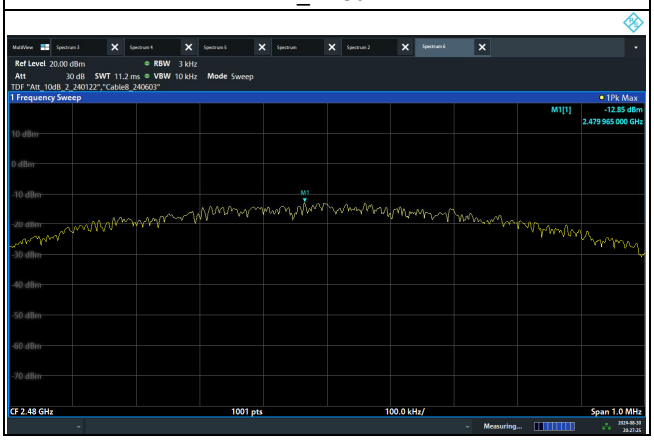
6.4.3 Test Setup



6.4.4 Test Result

Test Mode	Channel	Frequency [MHz]	3 kHz PSD [dBm]	Limit [dBm]	Margin [dB]
LE1M	0	2 402	-13.85	8	21.85
	19	2 440	-12.86		20.86
	39	2 480	-12.85		20.85

Test Plot of Power Spectral Density

Power Spectral Density
LE1M_2 402 MHz

LE1M_2 440 MHz

LE1M_2 480 MHz


6.5 Spurious Emission, Band edge and Restricted Bands

6.5.1 Regulation

§15.247(d) : In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 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 paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

§15.209(a) : Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permItted under other sections of this part, e.g., §§15.231 and 15.241.

§15.205(a) : Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

1Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

2Above 38.6

§15.205 (b) : Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

6.5.2 Test Procedure

Spurious RF Conducted Emissions

a) Establish a reference level by using the following procedure:
   1) Set instrument center frequency to DTS channel center frequency.
   2) Set the span to ≥ 1.5 times the DTS bandwidth.
   3) Set the RBW = 100 kHz.
   4) Set the VBW ≥ [3 × RBW].
   5) Detector = peak.
   6) Sweep time = No faster than coupled (auto) time.
   7) Trace mode = max hold.
   8) Allow trace to fully stabilize.
   9) Use the peak marker function to determine the maximum PSD level.

b) Establish an emission level by using the following procedure:
   1) Set the center frequency and span to encompass frequency range to be measured.
   2) Set the RBW = 100 kHz.
   3) Set the VBW ≥ [3 × RBW].
   4) d) Detector = peak.
   5) e) Sweep time = No faster than coupled (auto) time.

6) f) Trace mode = max hold.
7) g) Allow trace to fully stabilize.
8) h) Use the peak marker function to determine the maximum amplitude level.

Spurious Radiated Emissions

1. The preliminary radiated measurement were performed to determine the frequency producing the maximum emissions in an semi-anechoic chamber at a distance of 3 meters.
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360º.
3. The antenna polarization was also changed from vertical to horizontal. The spectrum was scanned from 9 kHz to 30 MHz using the loop antenna, and from 30 to 1000 MHz using the Bi-Log antenna, and from 1000 MHz to 26500 MHz using the horn antenna.
4. To obtain the final measurement data, the EUT was arranged on a turntable situated on a 4 x 4 meter in an semi-anechoic chamber. The EUT was tested at a distance 3 meters.
5. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector fuction with specified bandwidth.
6. The 0.8 m height is for below 1 GHz testing, and 1.5 m is for above 1GHz testing.

- Procedure for unwanted emissions measurements below 1 000 MHz

a) The procedure for unwanted emissions measurements below 1 000 MHz is as follows:
   1) Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
   2) RBW =

Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1000 MHz	100 kHz to 120 kHZ

   3) Detector = CISPR Quasi-peak
   4) Sweep time = auto couple
   5) Compliance shall be determined using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

- Procedure for peak unwanted emissions measurements above 1 000 MHz

The procedure for peak unwanted emissions measurements above 1 000 MHz is as follows:

a) Peak emission levels are measured by setting the instrument as follows:
   1) RBW = 1 MHz.
   2) VBW ≥ [3 × RBW].
   3) Detector = peak.
   4) Sweep time = No faster than coupled (auto) time.
   5) Trace mode = max hold.
   6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not ontinuous, then the time required for the trace to stabilize will increase by a factor of pproximately 1 / D, where D is the duty cycle. For example, at 50 % duty cycle, the easurement time will increase by a factor of two, relative to measurement time for ontinuous transmission.

- Procedure for average unwanted emissions measurements above 1 000 MHz

Option 1)

a) The procedure full power method is as follows:

1) RBW = 1 MHz.
2) VBW ≥ [3 × RBW].
3) Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4) 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.
5) Sweep time = auto.
6) Perform a trace average of at least 100 traces.

Option 2)

b) The procedure duty cycle correction method is as followes:

1) RBW = 1 MHz.
2) VBW ≥ [3 × RBW].
3) Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4) 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.
5) Sweep time = auto.
6) Perform a trace average of at least 100 traces.
7) 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.
   - If power averaging (rms) mode, then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.

Option 3)

c) The procedure Reduced VBW method is as follows:

1) RBW = 1 MHz.
2) VBW ≥ 1/*T*
3) Video bandwidth mode or display mode:
   - The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS (power averaging) and setting the average-VBW type to power (rms).
   - As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear

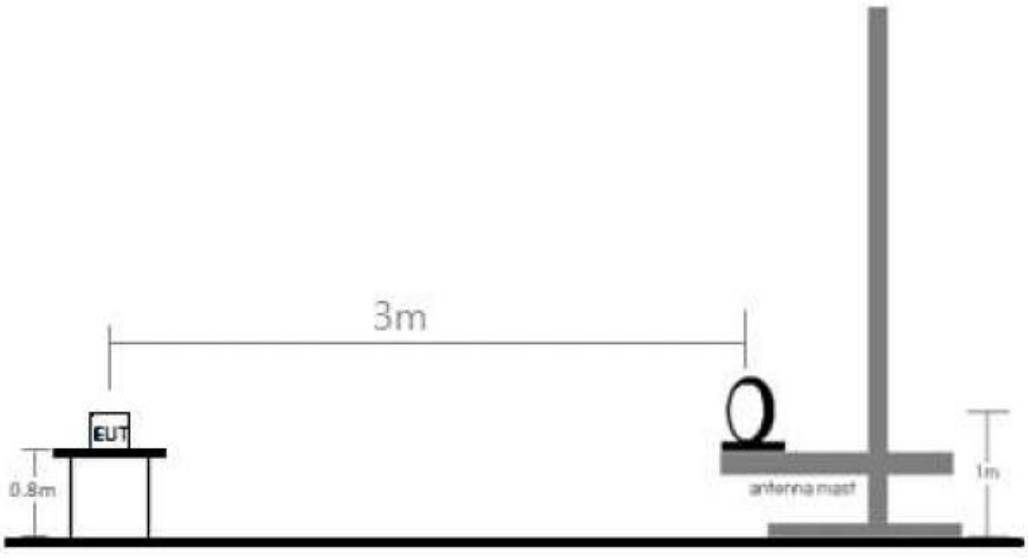
display mode to accomplish this. Others have a setting for average-VBW type, which can be set to "voltage" regardless of the display mode.

4) Detector = Peak
5) Sweep time = auto
6) Trace mode = max hold
7) Allow max hold to run for at least [50 x (1/D)] traces.

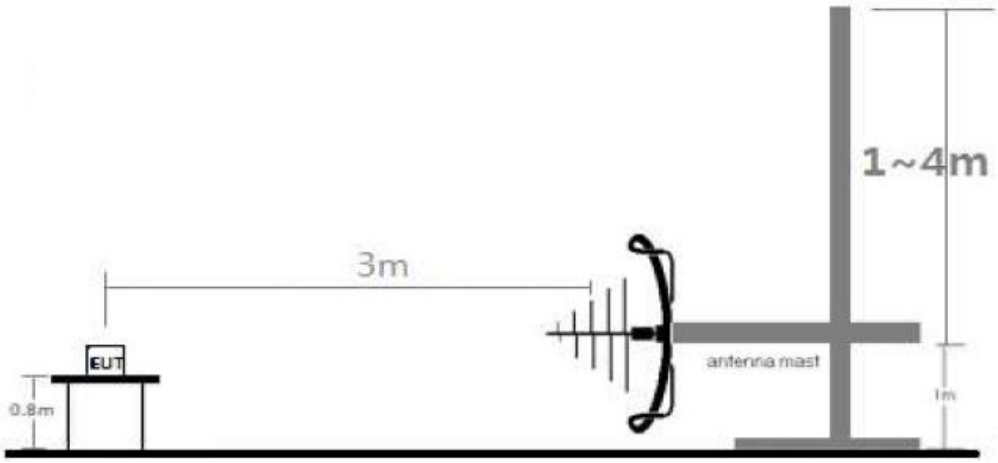
- Sample Calculation

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m] + Duty Cycle Correction [dB]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

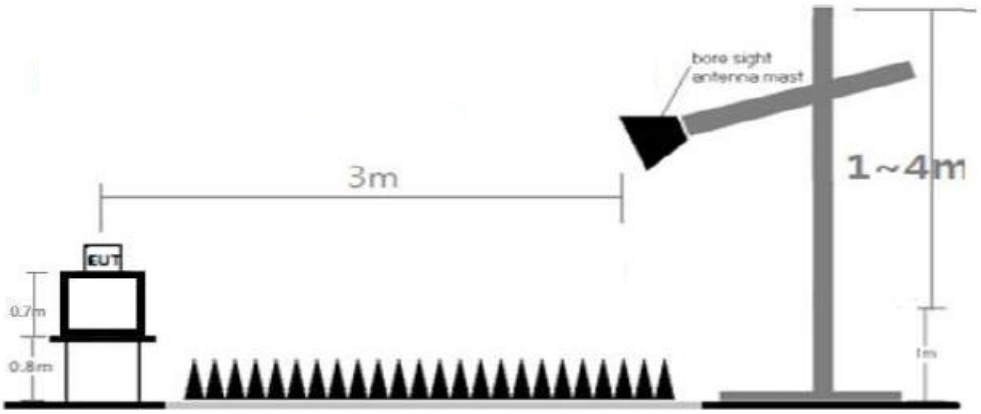
6.5.3 Test Setup

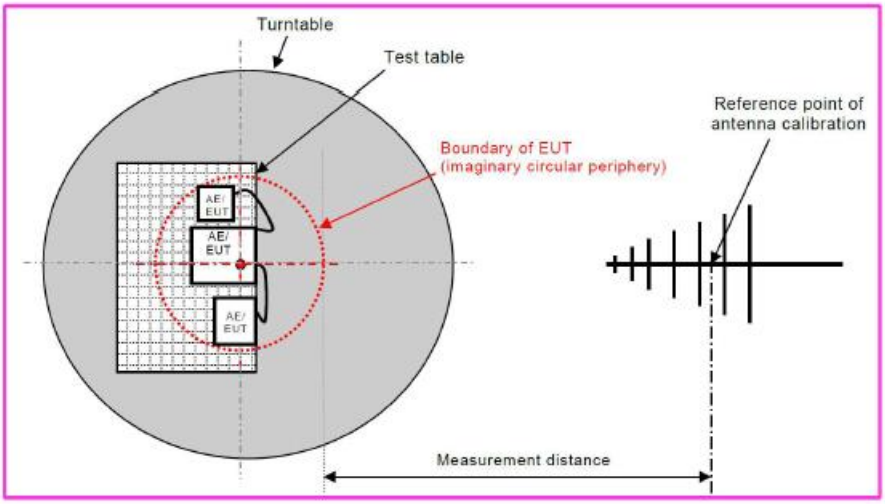


[Radiated Emission Test Setup Below 30 MHz]

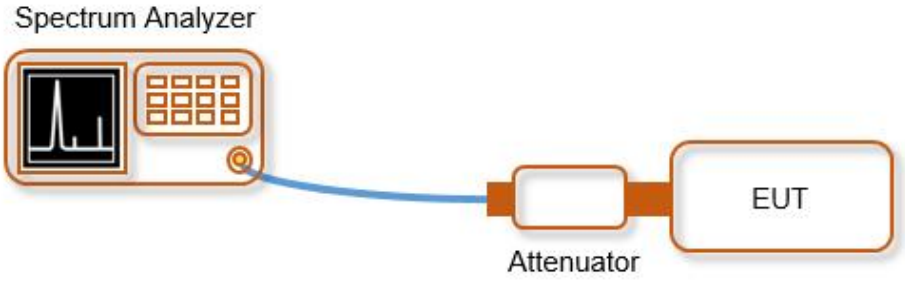


[Radiated Emission Test Setup Below 1 GHz]





[Radiated Emission Test Setup Above 1 GHz]

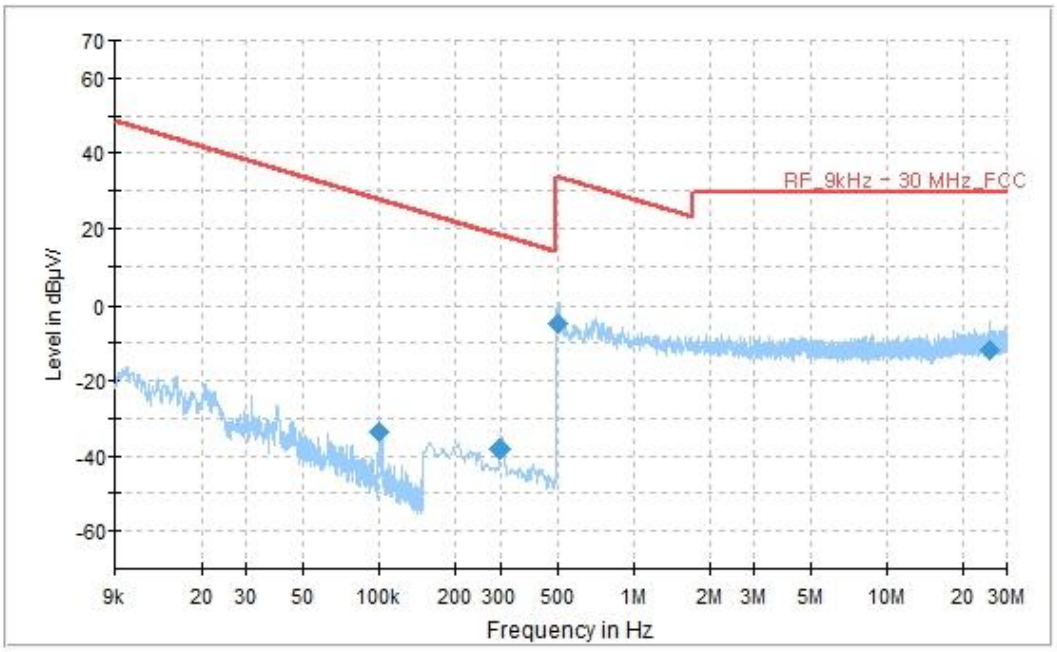


[Conducted Spurious Emission]

6.5.4 Test Result

Radiated Emission (Below 30 MHz)

Worst case - RE(Below 30 MHz)_LE1M_2 480 MHz

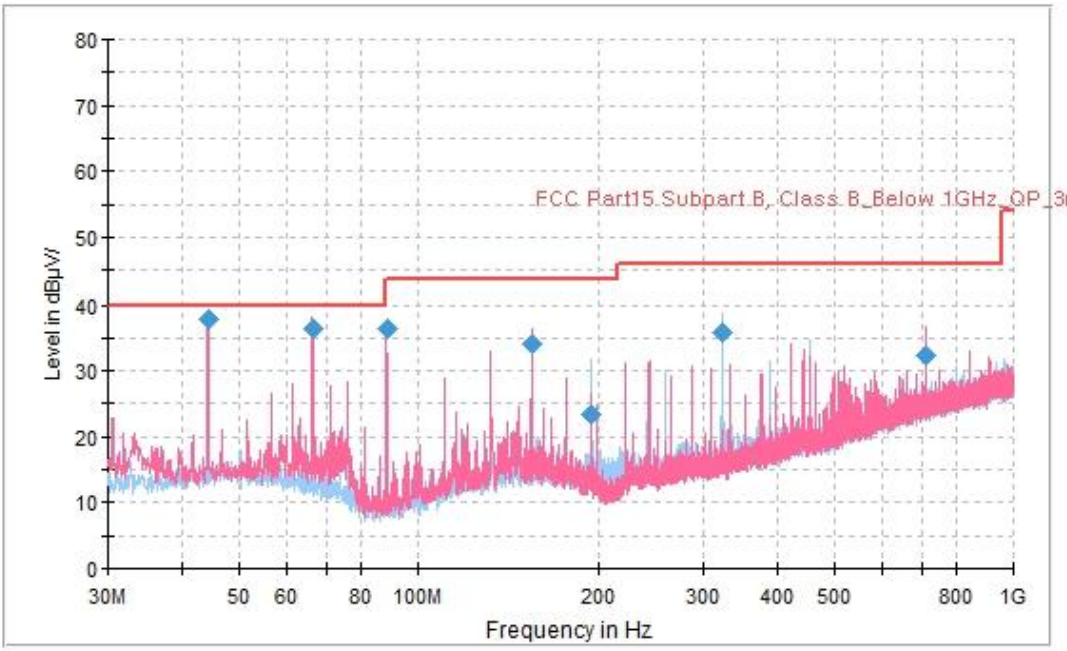


Frequency [MHz]	Quasi-peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Distance Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
0.100	26.36	-33.84	-80	27.56	61.40	100	Parallel	150	-60.20
0.299	22.11	-38.19	-80	18.08	56.27	100	Parallel	150	-60.30
0.505	15.41	-4.79	-40	33.53	38.32	100	Parallel	156	-20.20
25.876	6.45	-11.85	-40	29.54	41.39	100	Parallel	40	-18.30

Note)
1. Quasi Peak(dBuV/m) = QP Reading Value(dBµV) + Correction Factor(dB/m) + Distance Factor(dB)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m)
4. We tested three kind of Antenna Pol (Parallel, Perpendicular, Ground parallel) and reported worst case antenna Pol.

Radiated Emission (Below 1 GHz)

Worst case - RE(Below 1 GHz)_LE1M_2 480 MHz

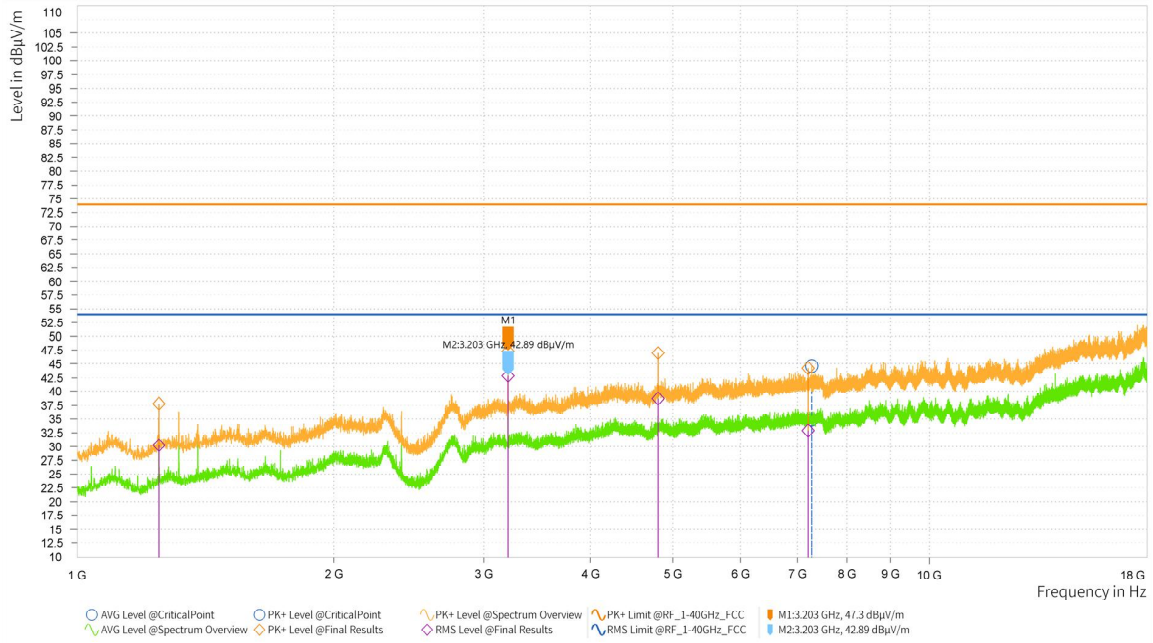


Frequency [MHz]	Quasi-Peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
44.233	44.48	36.98	40.00	3.02	100	V	157	-7.50
66.381	45.27	36.27	40.00	3.73	100	V	199	-9.00
88.476	49.63	36.43	43.50	7.07	100	V	2	-13.20
154.807	41.04	33.94	43.50	9.56	100	V	248	-7.10
194.019	32.74	23.34	43.50	20.16	100	H	60	-9.40
323.970	40.59	35.79	46.00	10.21	100	H	111	-4.80
712.270	28.36	32.36	46.00	13.64	100	V	2	4.00

Note)
1. Quasi Peak(dBµV/m) = Quasi Peak Reading Value(dBµV) + Correction Factor(dB/m)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m).

Radiated Emission (Above 1 GHz)

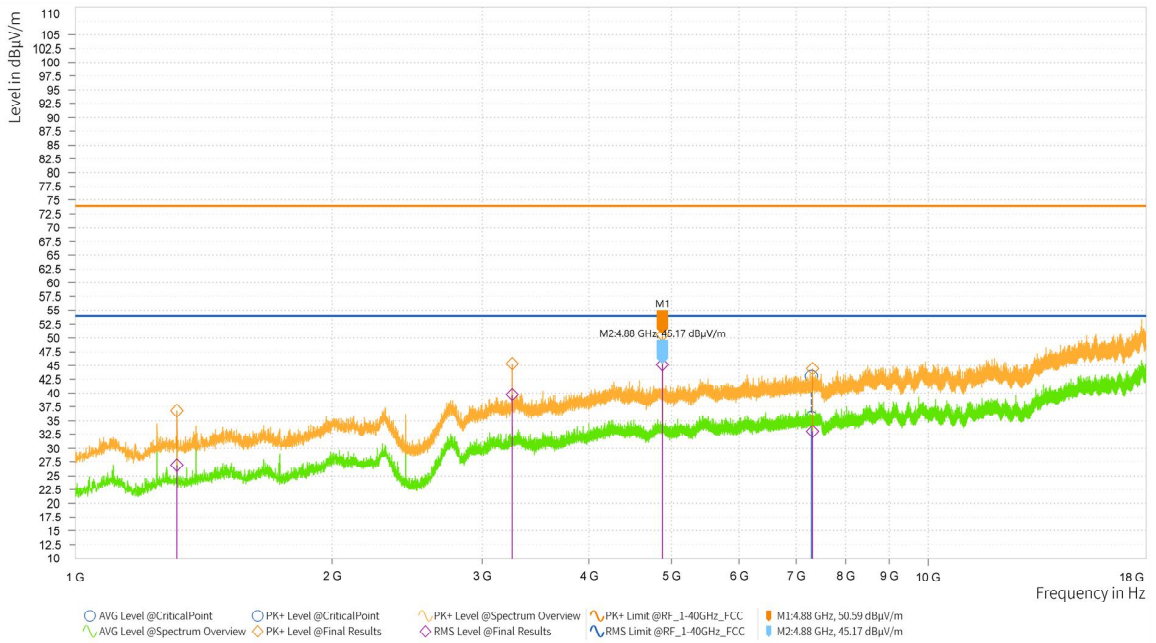
RE(Above 1 GHz) _LE1M_2 402 MHz



	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
	1 247.000	53.61	37.79	46.08	31.04	0.78	2.00	V	74.3	-15.82	36.21	74.00	22.96	54.00
	3 202.500	53.89	47.30	49.48	43.67	0.78	2.00	H	176.1	-6.59	26.70	74.00	10.33	54.00
*	4 804.500	49.93	47.01	41.66	39.52	0.78	1.00	V	0.1	-2.92	26.99	74.00	14.48	54.00
	7 206.000	44.18	44.25	32.83	33.68	0.78	3.00	H	208.1	0.07	29.75	74.00	20.32	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

RE(Above 1 GHz) _LE1M_2 440 MHz

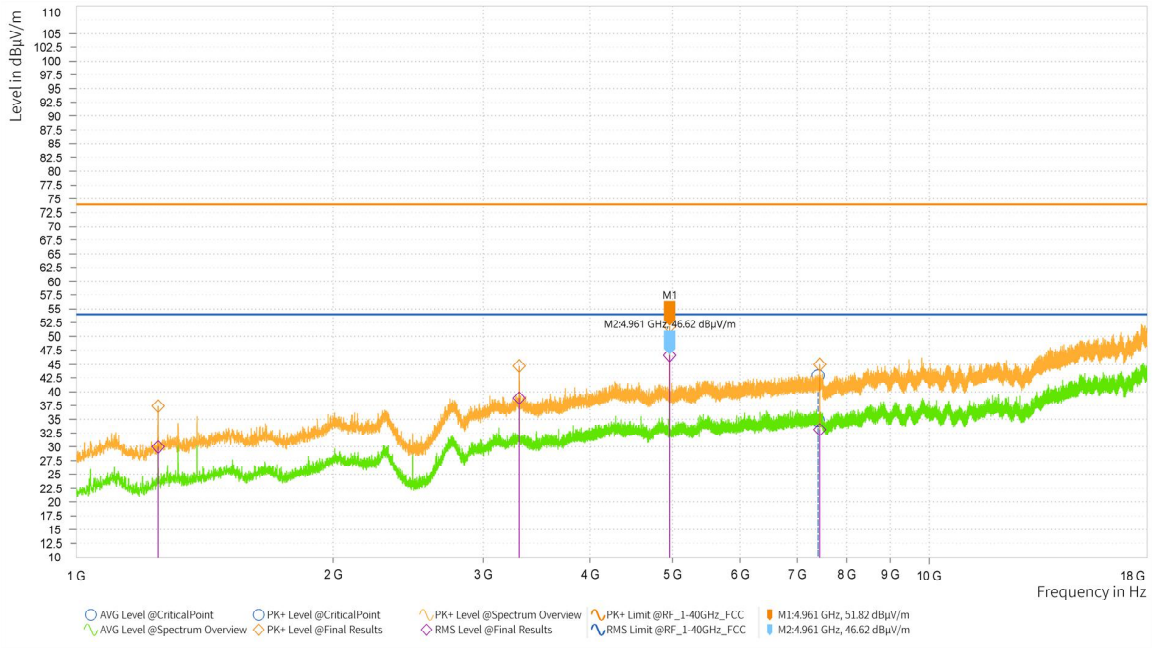


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
	1 316.000	52.46	36.84	42.52	27.68	0.78	2.00	H	360.0	-15.62	37.16	74.00	26.32	54.00
	3 253.000	51.82	45.37	46.19	40.52	0.78	2.00	H	174.6	-6.45	28.63	74.00	13.48	54.00
*	4 879.500	53.18	50.59	47.76	45.95	0.78	1.00	V	289.3	-2.59	23.41	74.00	8.05	54.00
*	7 320.000	44.30	44.47	32.86	33.81	0.78	2.00	H	99.1	0.17	29.53	74.00	20.19	54.00

Note)

1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

RE(Above 1 GHz) _LE1M_2 480 MHz

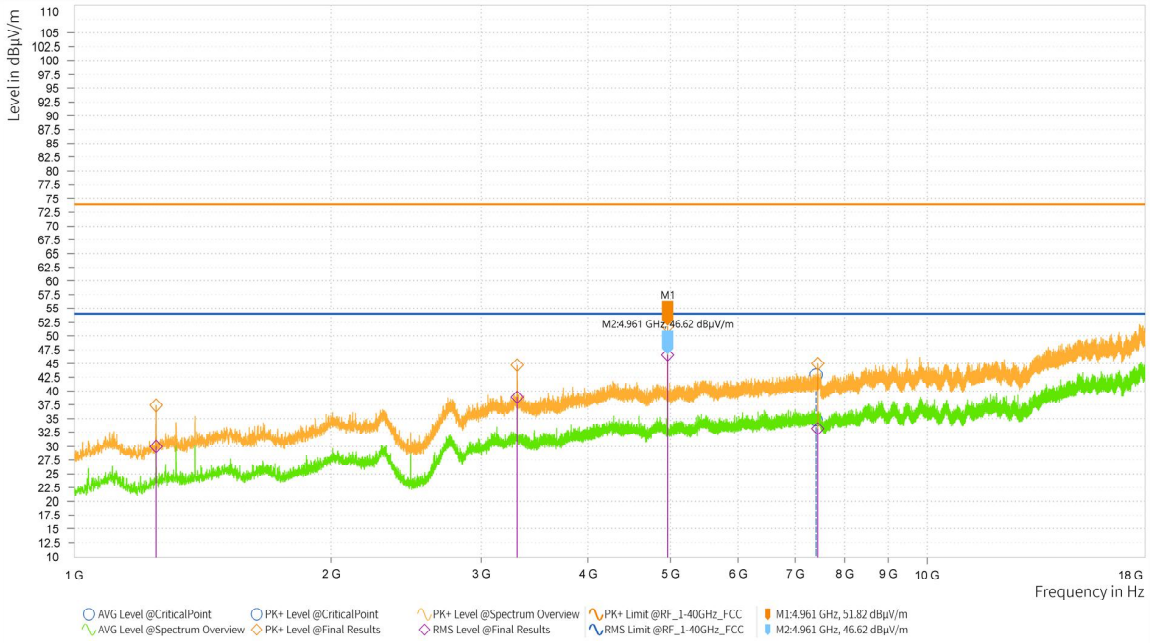


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
	1 247.000	53.26	37.44	45.82	30.78	0.78	2.00	V	100.0	-15.82	36.56	74.00	23.22	54.00
	3 306.500	51.06	44.74	45.21	39.67	0.78	1.00	H	348.2	-6.32	29.26	74.00	14.33	54.00
*	4 960.500	54.30	51.82	49.10	47.40	0.78	1.00	V	286.2	-2.48	22.18	74.00	6.60	54.00
*	7 440.000	44.74	45.02	32.89	33.95	0.78	3.00	H	62.2	0.28	28.98	74.00	20.05	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

Radiated Emission (Above 18 GHz)

Worst Case - RE(Above 18 GHz)_ LE1M_2 480 MHz

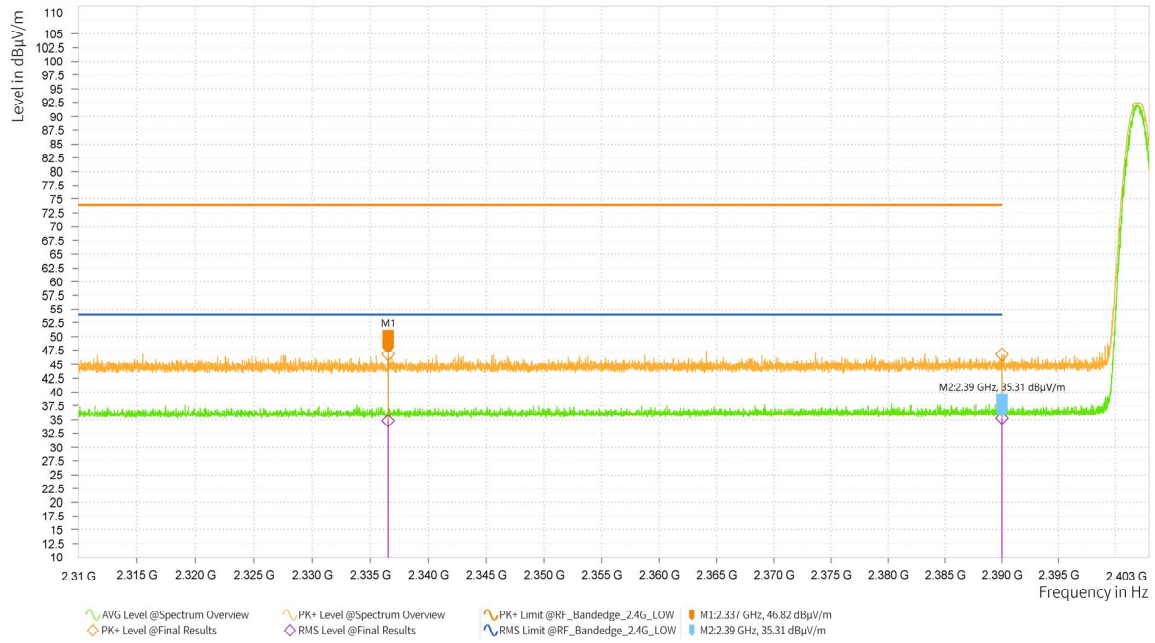


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
*	22 359.000	54.32	48.09	43.15	37.70	0.78	1.00	H	160.1	-6.23	25.91	74.00	16.30	54.00
	33 573.000	53.20	53.61	41.98	43.17	0.78	1.00	H	221.7	0.41	20.39	74.00	10.83	54.00
	39 074.000	52.03	56.32	40.82	45.89	0.78	3.00	H	1.1	4.29	17.68	74.00	8.11	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

Restricted Band Edge

Band Edge_LE1M_2 402 MHz

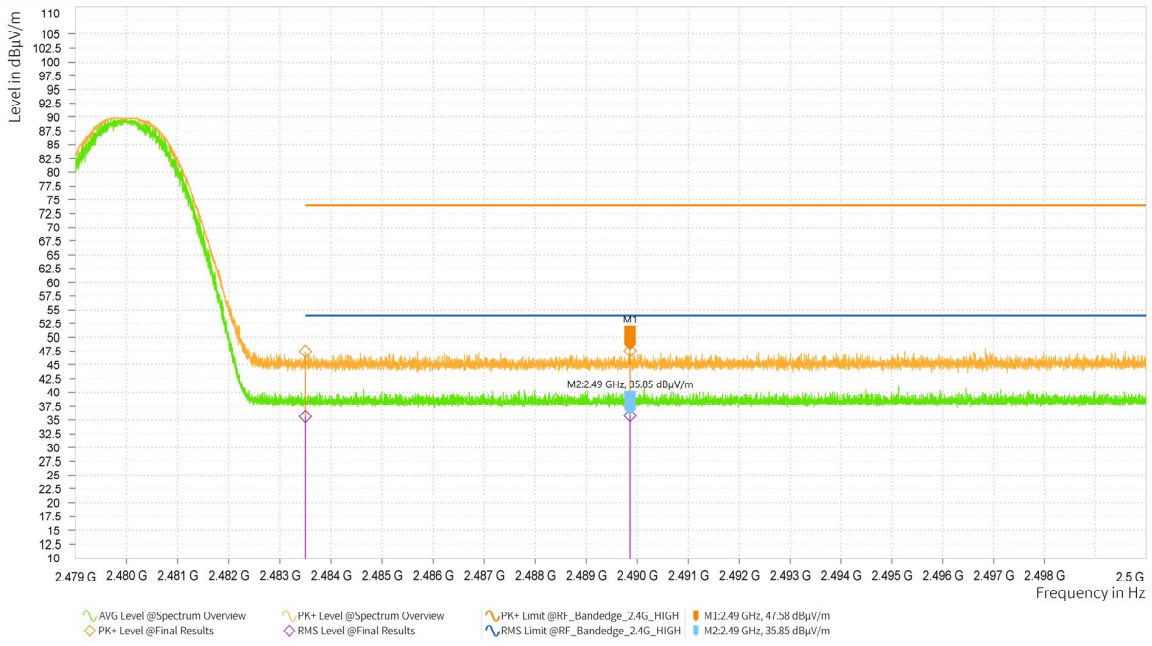


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
*	2 336.538	47.76	46.82	35.77	35.61	0.78	1.00	H	323.4	-0.94	27.18	74.00	18.39	54.00
*	2 390.000	47.43	46.76	35.98	36.09	0.78	1.00	H	356.6	-0.67	27.24	74.00	17.91	54.00

Note)

1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

Band Edge_LE1M_2 480 MHz

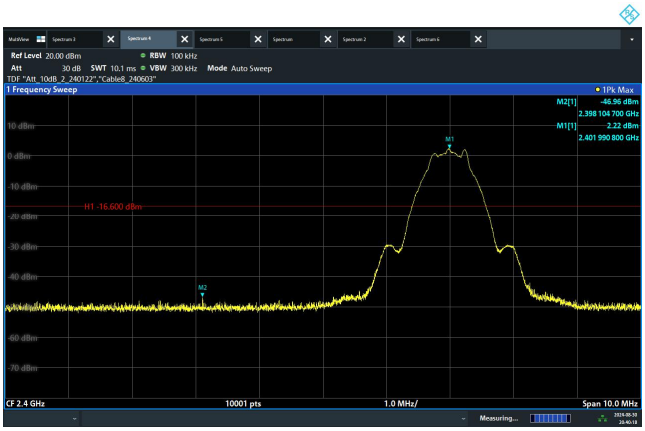
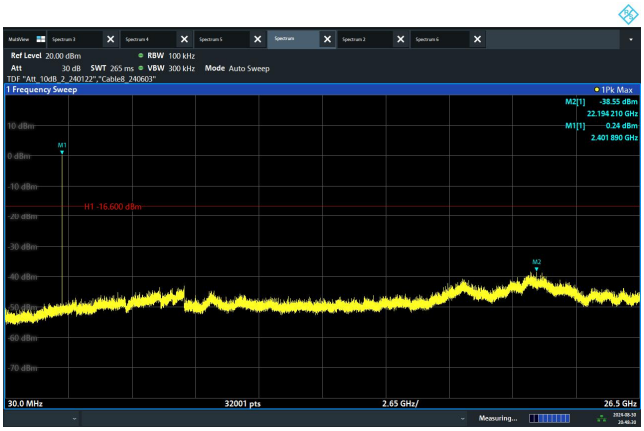
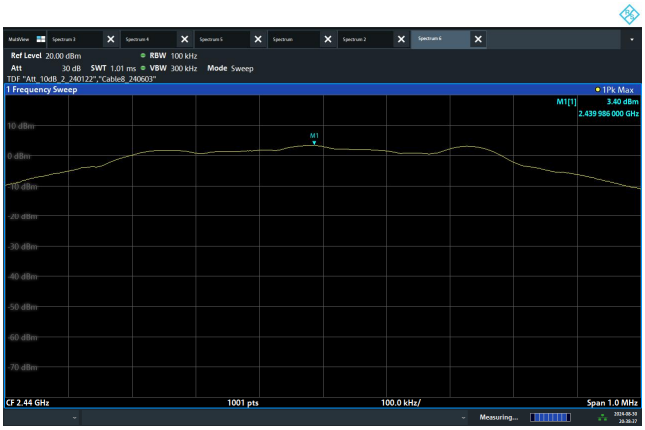
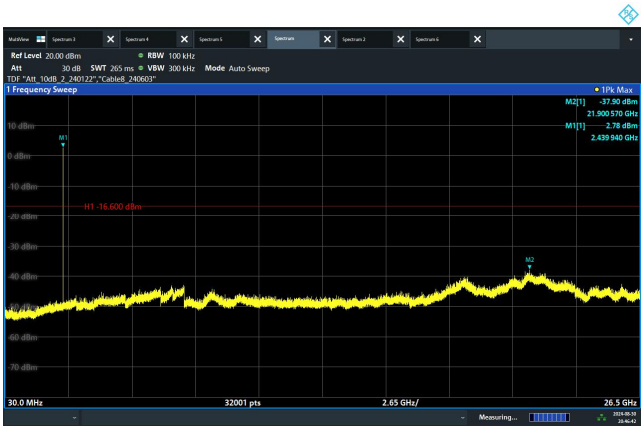
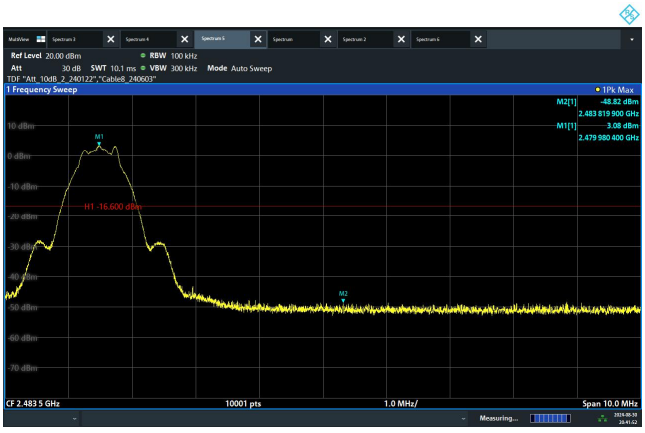
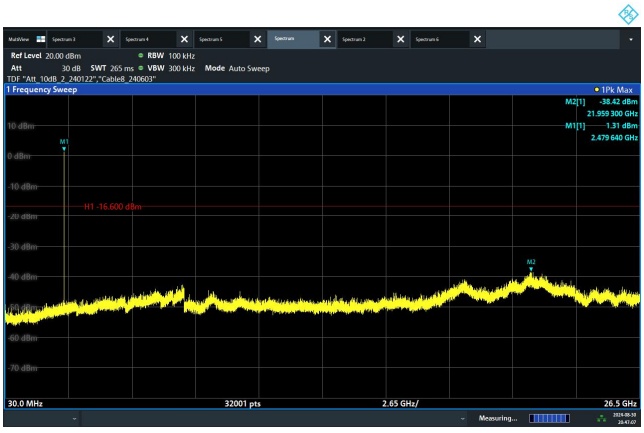


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
*	2 483.500	47.43	47.49	35.61	36.45	0.78	3.00	H	257.7	0.06	26.51	74.00	17.55	54.00
*	2 489.859	47.44	47.58	35.71	36.63	0.78	2.00	V	53.8	0.14	26.42	74.00	17.37	54.00

Note)

1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value (dBuV) + Correction Factor(dB/m) + DCCF
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

Test Plot of Conducted Spurious Emissions

LE1M	
Band edge_2 402 MHz	**Spurious_2 402 MHz**
	
Reference Level_2 440 MHz	**Spurious_2 440 MHz**
	
Band edge_2 480 MHz	**Spurious_2 480 MHz**
	

6.6 AC Conducted Emissionss (150 kHz to 30 MHz)

6.6.1 Regulation

§15.207(a) : Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

	Conducted limit (dBμV)	
Frequency of emission (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

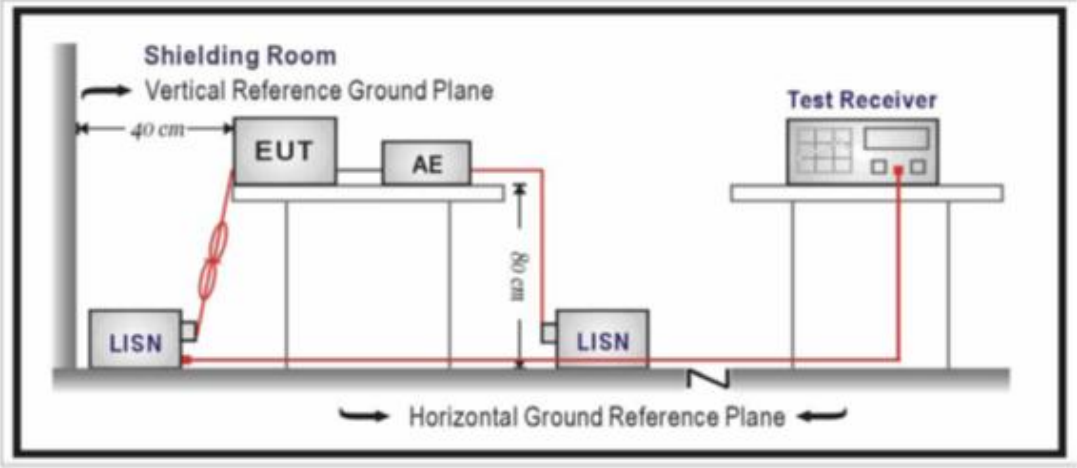
* Decreases with the logarithm of the frequency.

6.6.2 Test Procedure

a) The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm / 50 μH of coupling impedance for the measuring instrument.
b) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c) The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

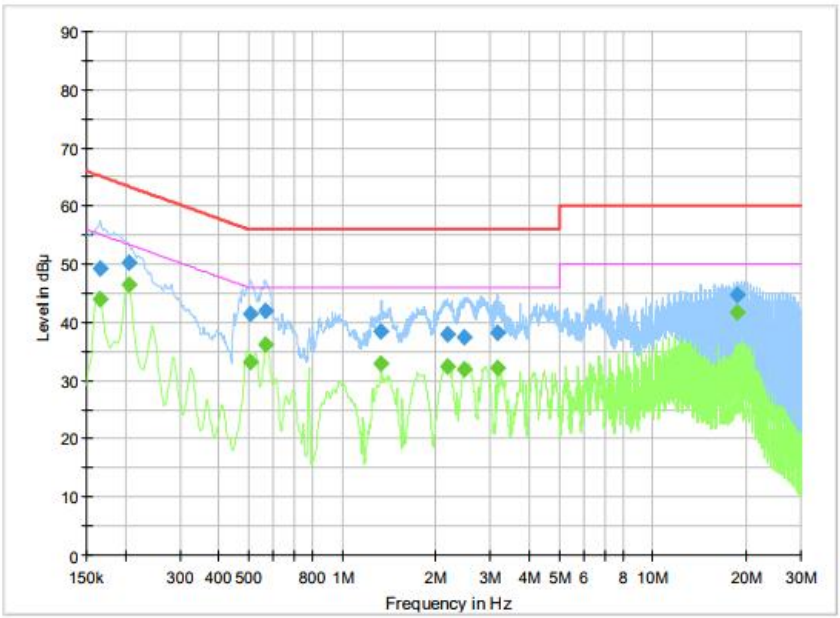
Remark : The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

6.6.3 Test Setup



6.6.4 Test Result

Worst Case - LE1M_2 480 MHz



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.166	49.20	---	65.17	15.97	9.0	N	ON	10.1
0.166	---	43.93	55.17	11.25	9.0	N	ON	10.1
0.206	50.24	---	63.36	13.12	9.0	N	ON	10.1
0.206	---	46.56	53.36	6.80	9.0	N	ON	10.1
0.508	41.41	---	56.00	14.59	9.0	N	ON	9.9
0.508	---	33.10	46.00	12.90	9.0	N	ON	9.9
0.564	---	36.17	46.00	9.83	9.0	N	ON	9.9
0.564	42.08	---	56.00	13.92	9.0	N	ON	9.9
1.334	38.52	---	56.00	17.48	9.0	N	ON	9.6
1.334	---	32.87	46.00	13.13	9.0	N	ON	9.6
2.171	---	32.38	46.00	13.62	9.0	N	ON	9.5
2.171	38.00	---	56.00	18.00	9.0	N	ON	9.5
2.479	37.44	---	56.00	18.56	9.0	N	ON	9.5
2.479	---	31.86	46.00	14.14	9.0	N	ON	9.5

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
3.167	38.21	---	56.00	17.79	9.0	N	ON	9.6
3.167	---	32.29	46.00	13.71	9.0	N	ON	9.6
18.751	---	41.84	50.00	8.16	9.0	L1	ON	9.8
18.751	44.70	---	60.00	15.30	9.0	L1	ON	9.8

Note)
1. Final Value (QP and/or CAV) = Reading Value (QP and/or CAV) + Corr. (LISN Insertion Loss + Cable Loss)
2. Margin (QP and/or CAV) = Limit – Final Value (QP and/or CAV)
3. Two graphs measured for both Live (L1) and Neutral (N) of the LISN are combined into one graph.

- END of report -