

8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit }_{[dB\mu V/m]}$

Radiated Band Edge Measurement Offset

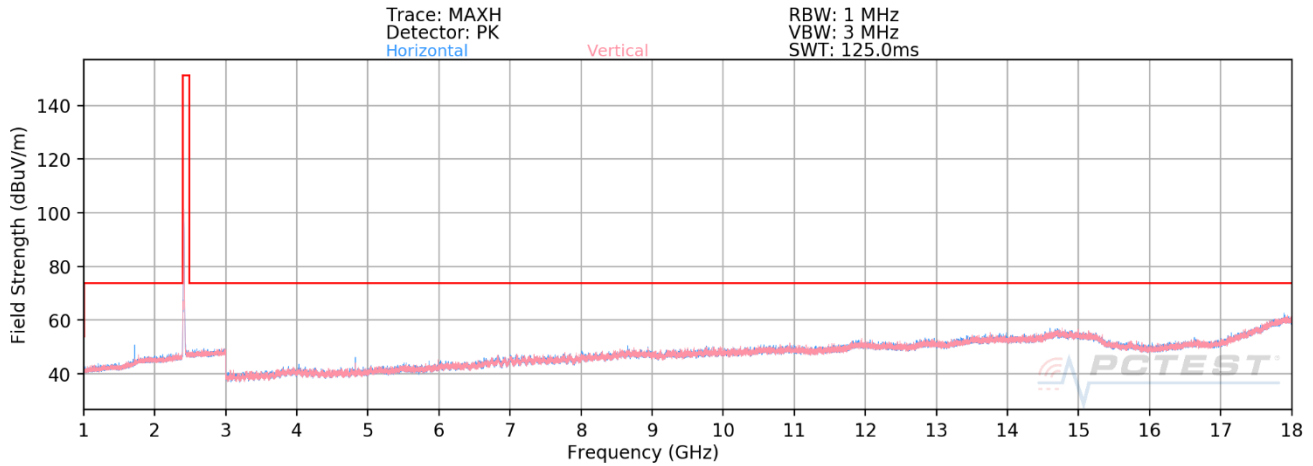
- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

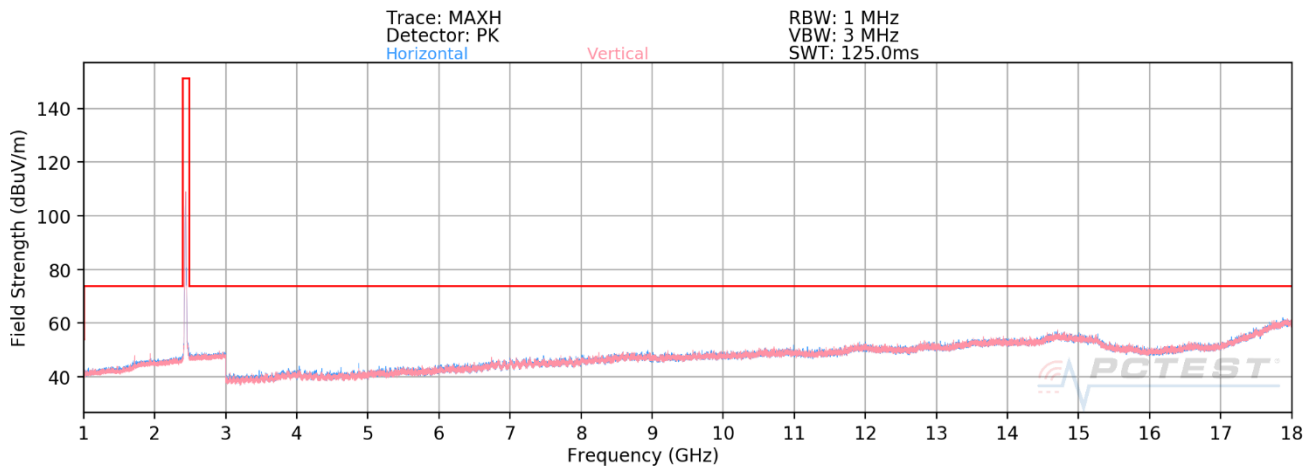
FCC ID: V7MESLCTGA	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 82 of 106

7.7.1 SISO Antenna-1 Radiated Spurious Emission Measurements

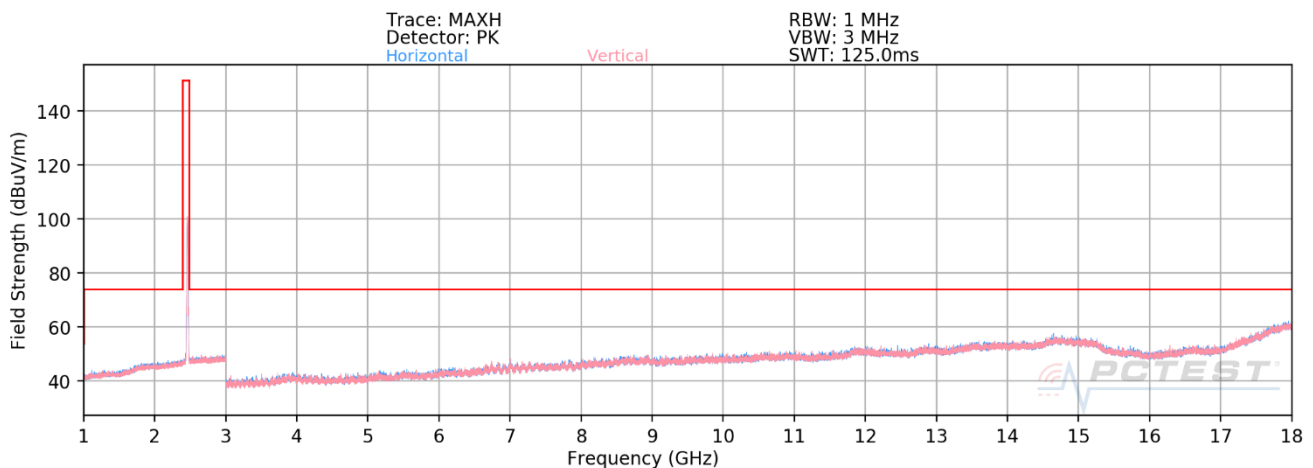
§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]



Plot 7-109. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11b – Ch. 1)



Plot 7-110. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11b – Ch. 6)

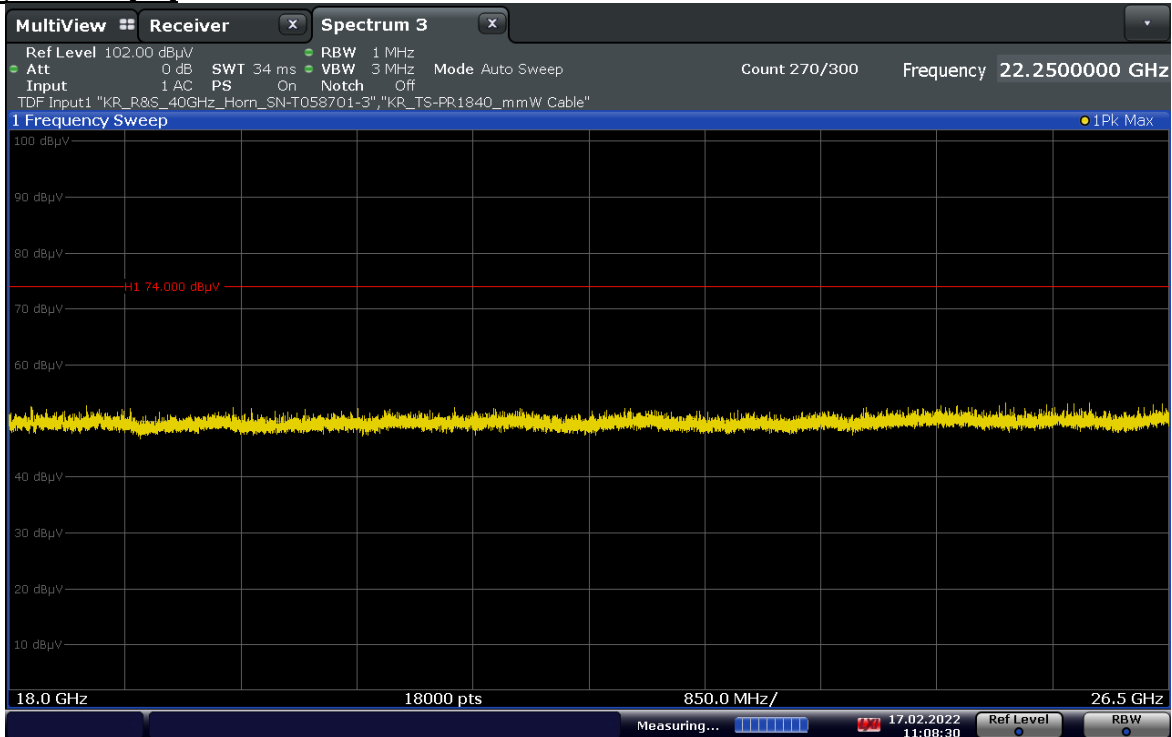


Plot 7-111. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11b – Ch. 11)

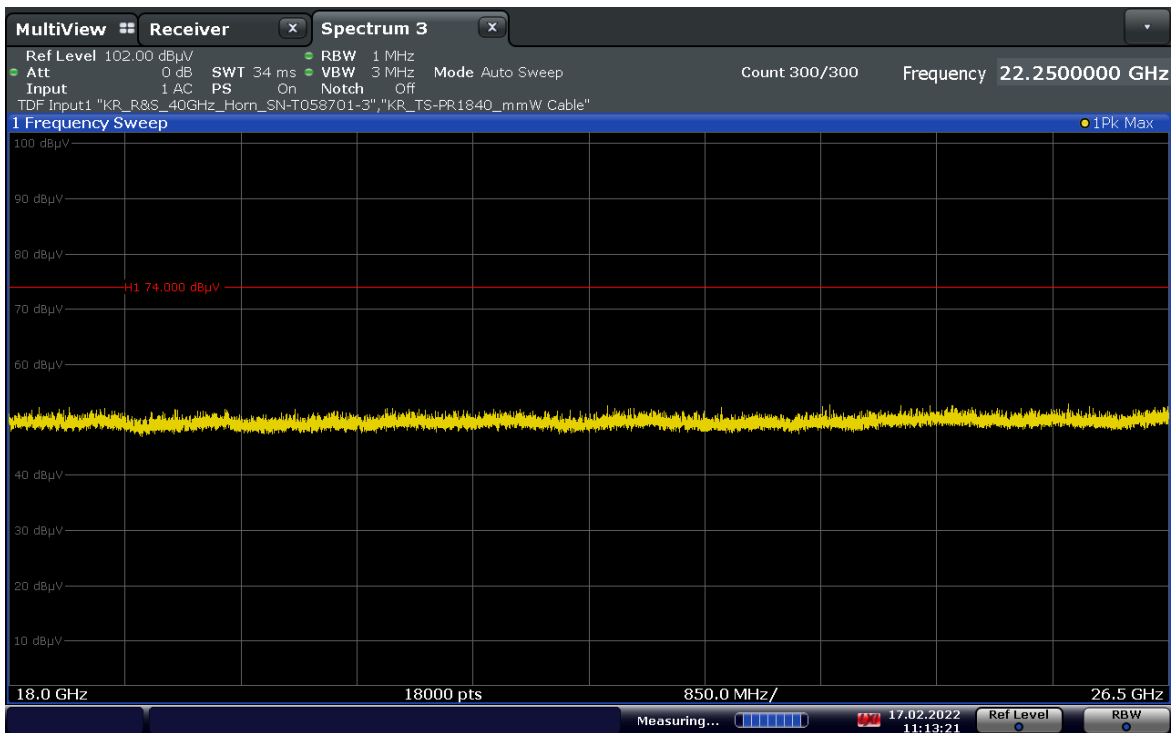
FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 83 of 106

SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

\$15.209; RSS-Gen [8.9]



Plot 7-112. Radiated Spurious Plot above 18GHz SISO ANT1 – H Pol



Plot 7-113. Radiated Spurious Plot above 18GHz SISO ANT1 – V Pol

FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 84 of 106

SISO Antenna-1 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2412MHz
Channel: 01

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4824.00	Avg	H	189	293	-69.33	2.13	39.80	53.98	-14.18
4824.00	Peak	H	189	293	-63.40	2.13	45.73	73.98	-28.25
12060.00	Avg	H	-	-	-81.73	15.10	40.37	53.98	-13.60
12060.00	Peak	H	-	-	-71.12	15.10	50.98	73.98	-22.99

Table 7-14. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2437MHz
Channel: 06

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4874.00	Avg	H	174	316	-71.55	2.70	38.15	53.98	-15.83
4874.00	Peak	H	174	316	-64.60	2.70	45.10	73.98	-28.88
7311.00	Avg	H	-	-	-80.38	8.43	35.05	53.98	-18.93
7311.00	Peak	H	-	-	-69.33	8.43	46.10	73.98	-27.88
12185.00	Avg	H	-	-	-82.41	15.61	40.20	53.98	-13.78
12185.00	Peak	H	-	-	-70.99	15.61	51.62	73.98	-22.36

Table 7-15. Radiated Measurements SISO ANT1

FCC ID: V7MESLCTGA		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 85 of 106

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2462MHz
Channel: 11

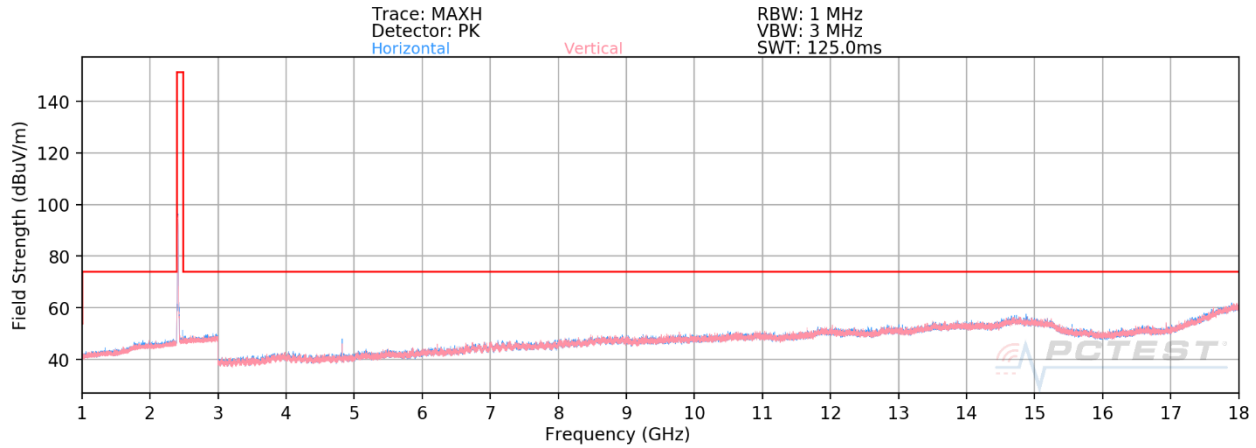
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4924.00	Avg	H	172	345	-78.07	2.72	31.65	53.98	-22.33
4924.00	Peak	H	172	345	-67.23	2.72	42.49	73.98	-31.49
7386.00	Avg	H	-	-	-80.02	9.12	36.10	53.98	-17.88
7386.00	Peak	H	-	-	-69.21	9.12	46.91	73.98	-27.07
12310.00	Avg	H	-	-	-82.81	15.53	39.72	53.98	-14.26
12310.00	Peak	H	-	-	-72.18	15.53	50.35	73.98	-23.63

Table 7-16. Radiated Measurements SISO ANT1

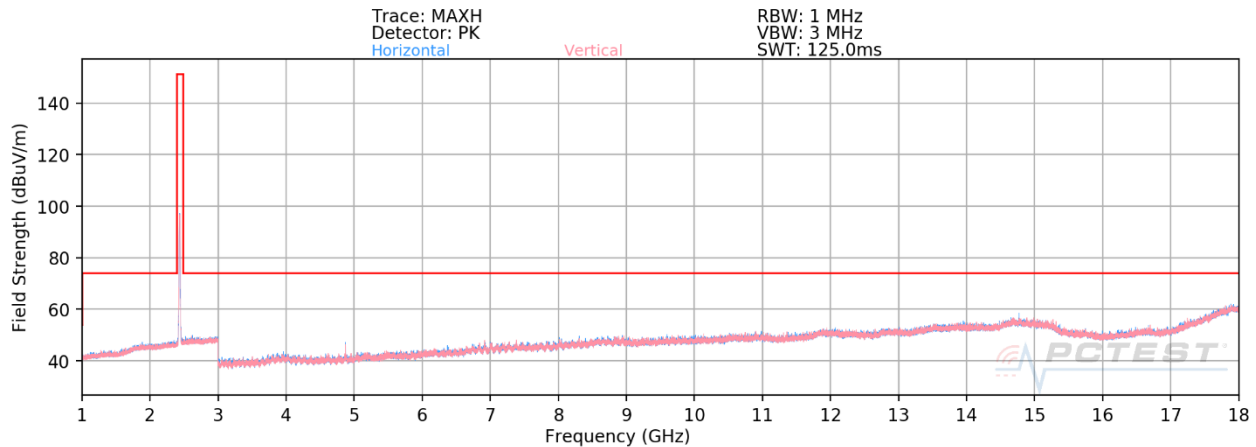
FCC ID: V7MESLCTGA		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 86 of 106

7.7.2 SISO Antenna-2 Radiated Spurious Emission Measurements

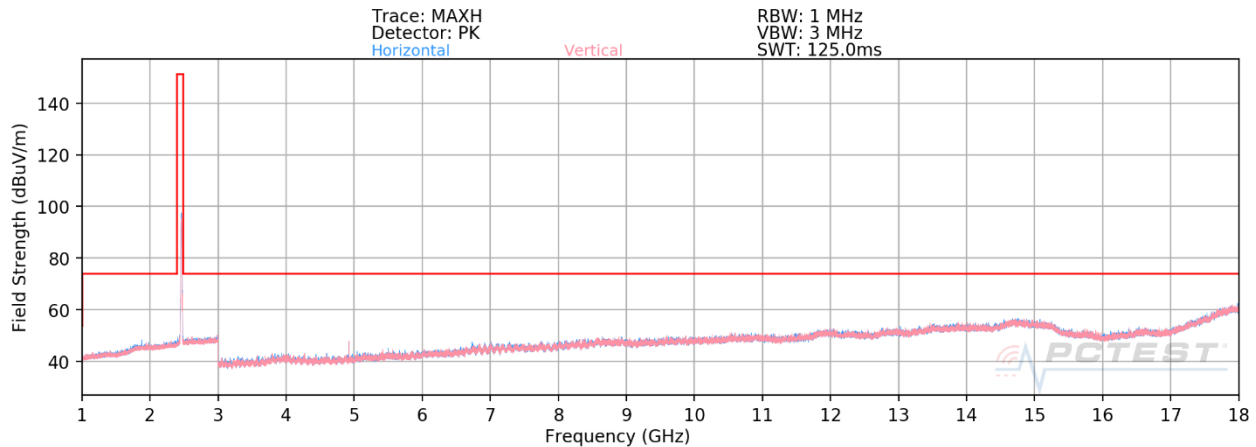
§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]



Plot 7-114. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 1)



Plot 7-115. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 6)

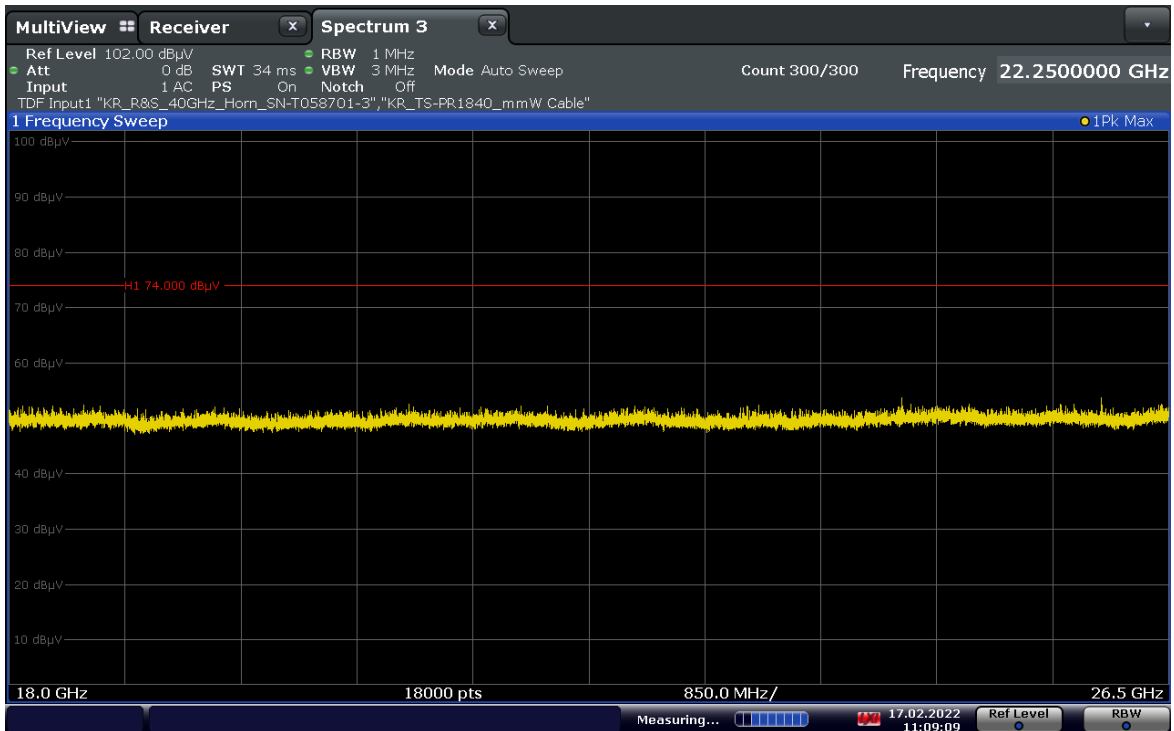


Plot 7-116. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 11)

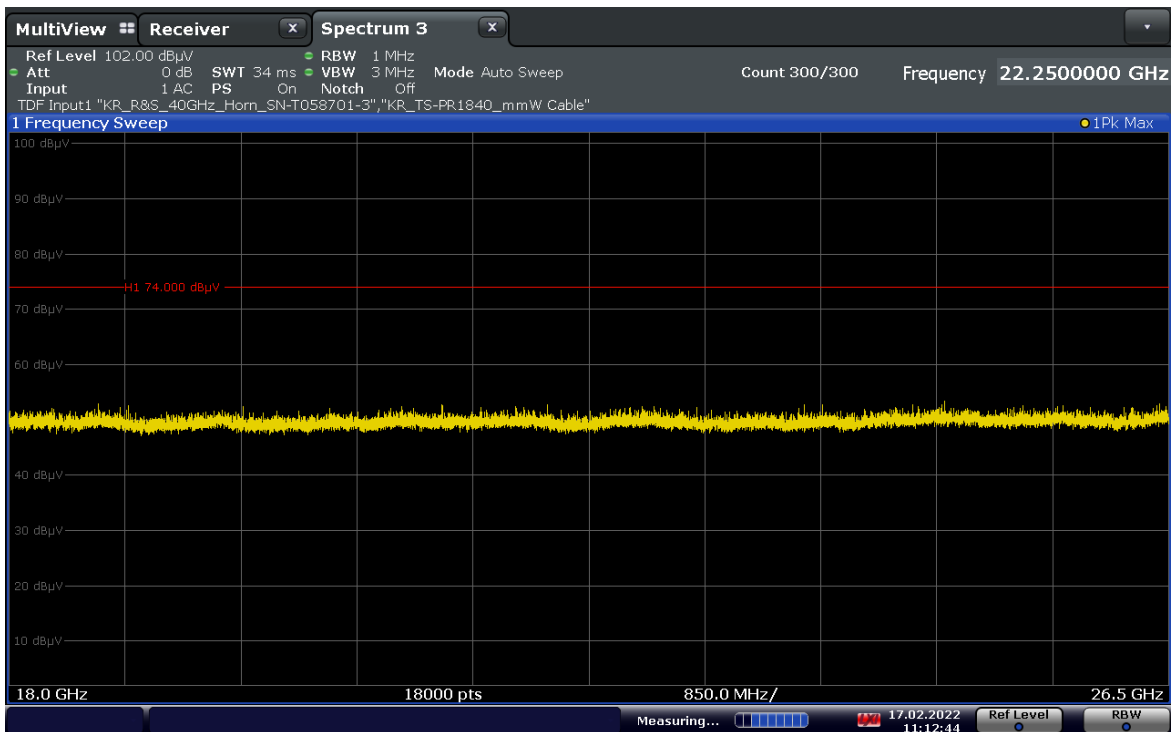
FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 87 of 106

SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209; RSS-Gen [8.9]



Plot 7-117. Radiated Spurious Plot above 18GHz SISO ANT2 – H Pol



Plot 7-118. Radiated Spurious Plot above 18GHz SISO ANT2 – V Pol

FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 88 of 106

SISO Antenna-2 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2412MHz
Channel: 01

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4824.00	Avg	H	190	17	-65.32	2.13	43.81	53.98	-10.17
4824.00	Peak	H	190	17	-61.45	2.13	47.68	73.98	-26.30
12060.00	Avg	H	-	-	-81.72	15.10	40.38	53.98	-13.59
12060.00	Peak	H	-	-	-70.48	15.10	51.62	73.98	-22.35

Table 7-17. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2437MHz
Channel: 06

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4874.00	Avg	H	177	17	-66.88	2.70	42.82	53.98	-11.16
4874.00	Peak	H	177	17	-62.10	2.70	47.60	73.98	-26.38
7311.00	Avg	H	-	-	-80.59	8.43	34.84	53.98	-19.14
7311.00	Peak	H	-	-	-69.46	8.43	45.97	73.98	-28.01
12185.00	Avg	H	-	-	-82.30	15.61	40.31	53.98	-13.67
12185.00	Peak	H	-	-	-70.96	15.61	51.65	73.98	-22.33

Table 7-18. Radiated Measurements SISO ANT2

FCC ID: V7MESLCTGA		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 89 of 106

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2462MHz
Channel: 11

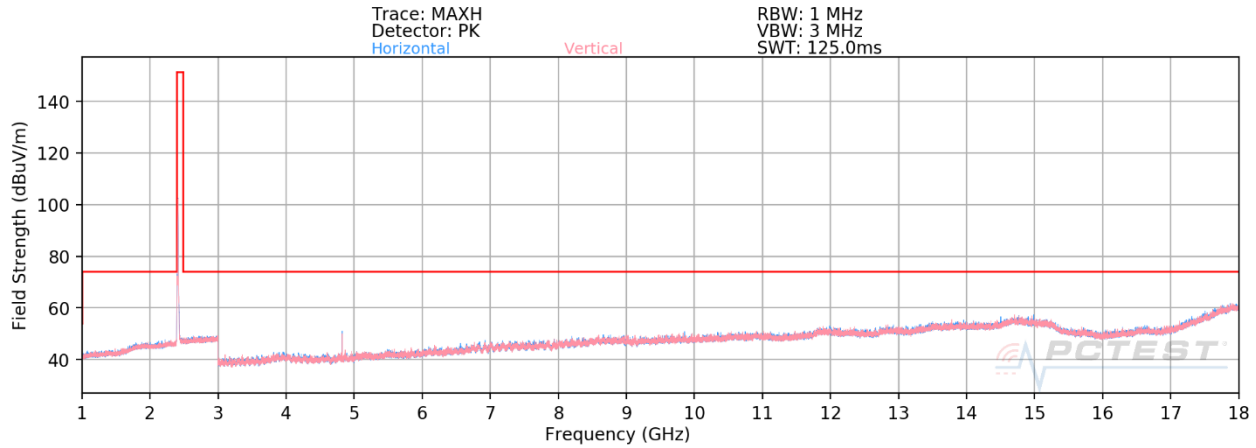
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4924.00	Avg	H	181	13	-75.75	2.72	33.97	53.98	-20.01
4924.00	Peak	H	181	13	-67.08	2.72	42.64	73.98	-31.34
7386.00	Avg	H	-	-	-80.05	9.12	36.07	53.98	-17.91
7386.00	Peak	H	-	-	-68.94	9.12	47.18	73.98	-26.80
12310.00	Avg	H	-	-	-82.96	15.53	39.57	53.98	-14.41
12310.00	Peak	H	-	-	-71.40	15.53	51.13	73.98	-22.85

Table 7-19. Radiated Measurements SISO ANT2

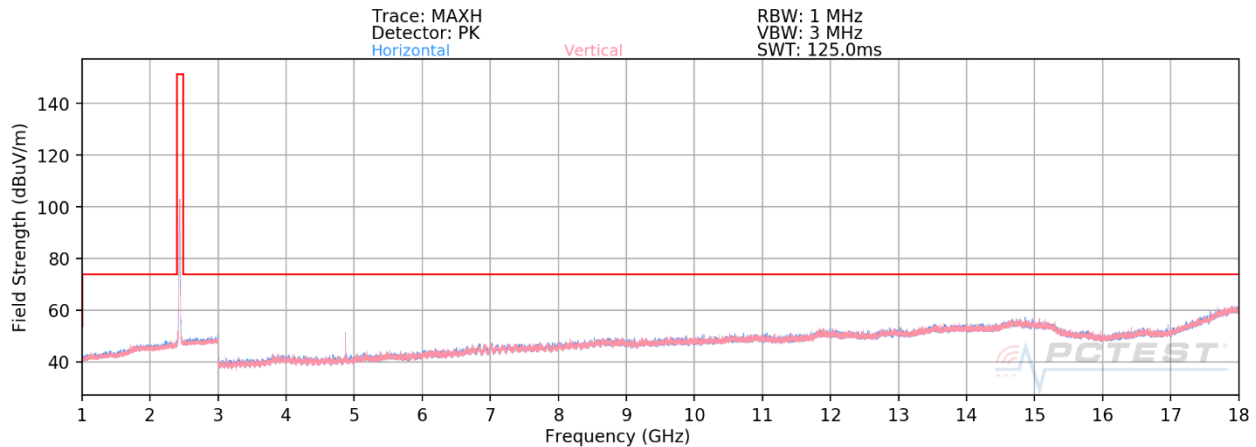
FCC ID: V7MESLCTGA	 PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 90 of 106

7.7.3 MIMO/CDD Radiated Spurious Emission Measurements

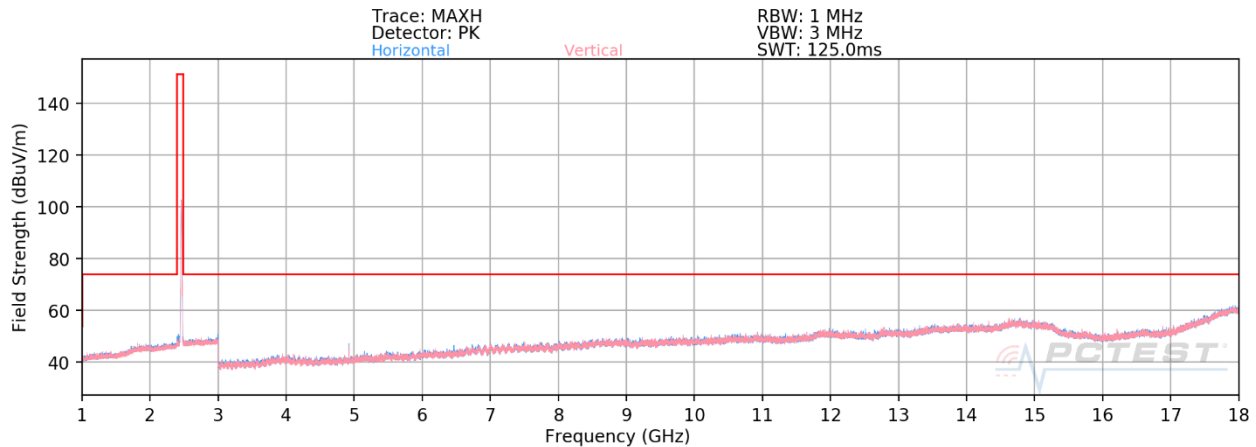
§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]



Plot 7-119. Radiated Spurious Plot above 1GHz MIMO/CDD (802.11b – Ch. 1)



Plot 7-120. Radiated Spurious Plot above 1GHz MIMO/CDD (802.11b – Ch. 6)

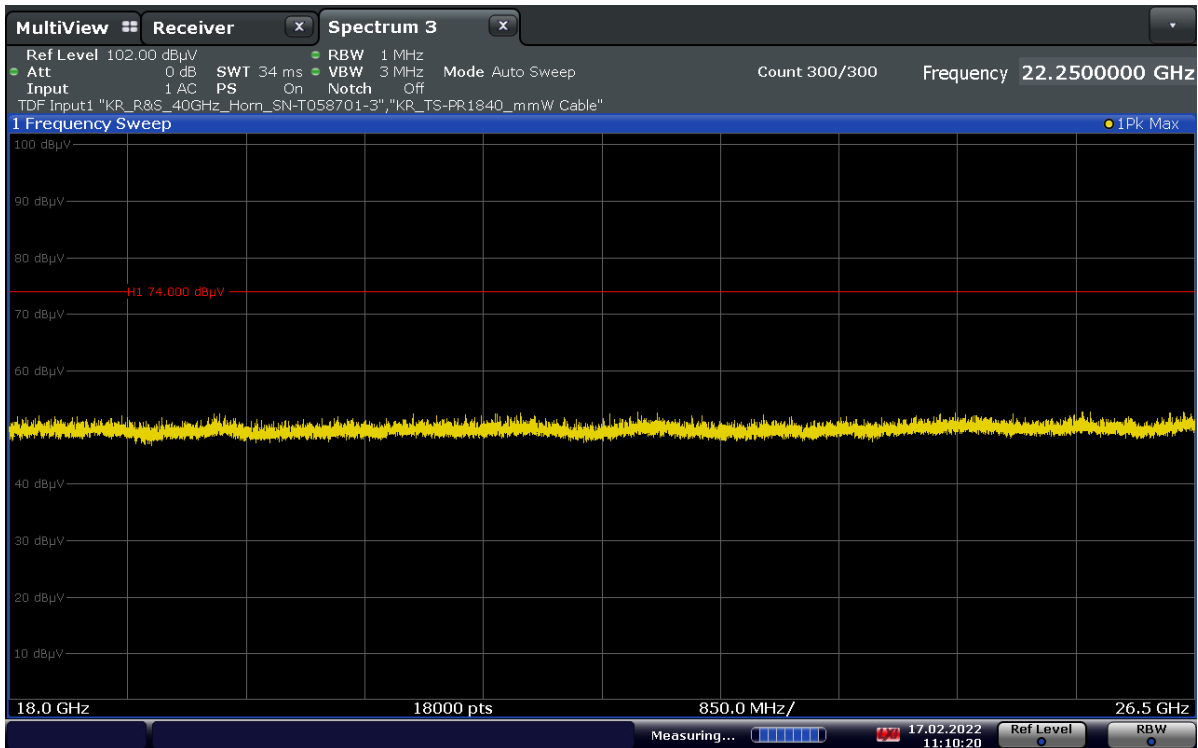


Plot 7-121. Radiated Spurious Plot above 1GHz MIMO/CDD (802.11b – Ch. 11)

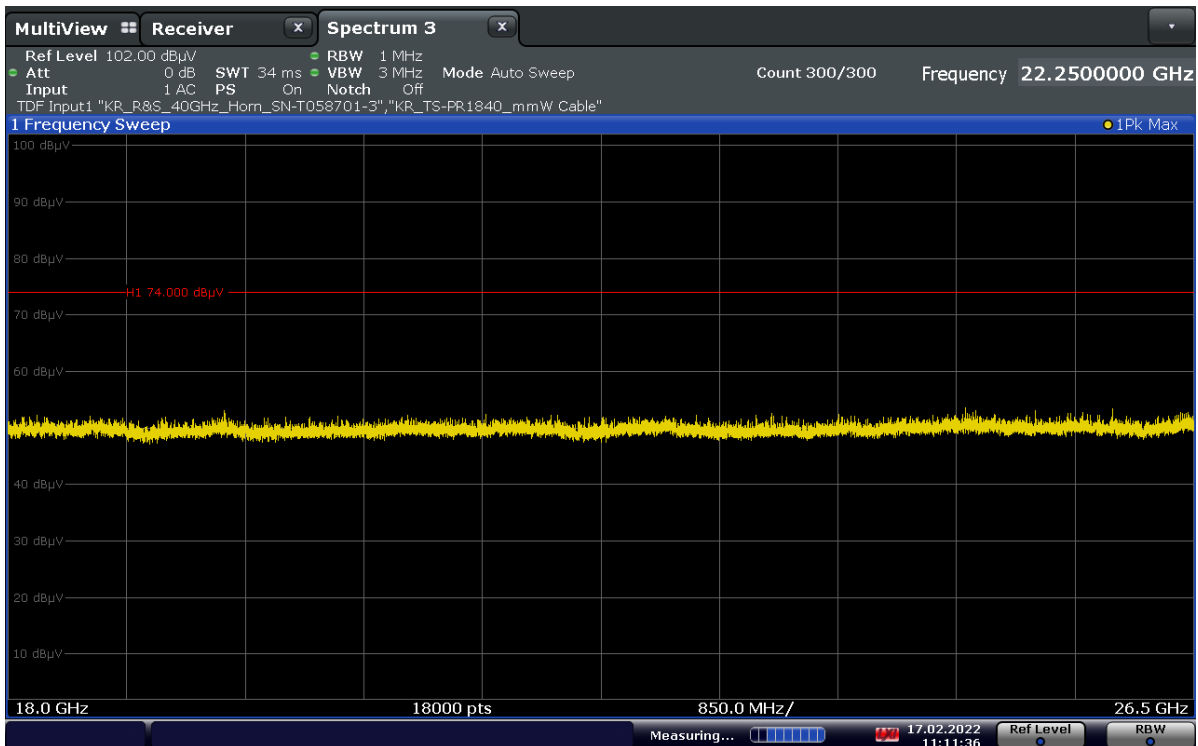
FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 91 of 106

MIMO/CDD Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209; RSS-Gen [8.9]



Plot 7-122. Radiated Spurious Plot above 18GHz MIMO/CDD – H Pol



Plot 7-123. Radiated Spurious Plot above 18GHz MIMO/CDD – V Pol

FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 92 of 106

MIMO/CDD Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2412MHz
Channel: 01

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4824.00	Avg	H	206	13	-61.18	2.13	47.95	53.98	-6.03
4824.00	Peak	H	206	13	-58.36	2.13	50.77	73.98	-23.21
12060.00	Avg	H	-	-	-81.95	15.10	40.15	53.98	-13.82
12060.00	Peak	H	-	-	-71.21	15.10	50.89	73.98	-23.08

Table 7-20. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2437MHz
Channel: 06

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4874.00	Avg	H	176	11	-61.97	2.70	47.73	53.98	-6.25
4874.00	Peak	H	176	11	-58.60	2.70	51.10	73.98	-22.88
7311.00	Avg	H	-	-	-80.43	8.43	35.00	53.98	-18.98
7311.00	Peak	H	-	-	-69.17	8.43	46.26	73.98	-27.72
12185.00	Avg	H	-	-	-82.43	15.61	40.18	53.98	-13.80
12185.00	Peak	H	-	-	-71.02	15.61	51.59	73.98	-22.39


Table 7-21. Radiated Measurements MIMO/CDD

FCC ID: V7MESLCTGA		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 93 of 106

Worst Case Mode: 802.11b
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 3 Meters
 Operating Frequency: 2462MHz
 Channel: 11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4924.00	Avg	H	168	3	-73.94	2.72	35.78	53.98	-18.20
4924.00	Peak	H	168	3	-65.75	2.72	43.97	73.98	-30.01
7386.00	Avg	H	-	-	-80.14	9.12	35.98	53.98	-18.00
7386.00	Peak	H	-	-	-69.55	9.12	46.57	73.98	-27.41
12310.00	Avg	H	-	-	-82.94	15.53	39.59	53.98	-14.39
12310.00	Peak	H	-	-	-72.28	15.53	50.25	73.98	-23.73

Table 7-22. Radiated Measurements MIMO/CDD

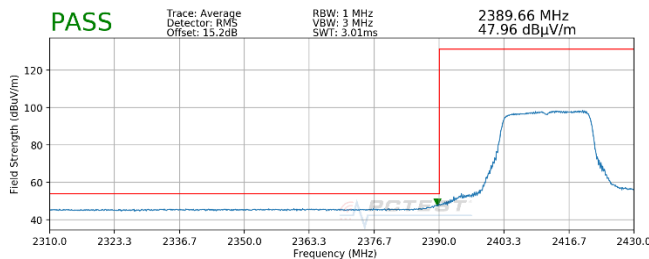
FCC ID: V7MESLCTGA		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 94 of 106

7.7.4 SISO Antenna-1 Radiated Restricted Band Edge Measurements

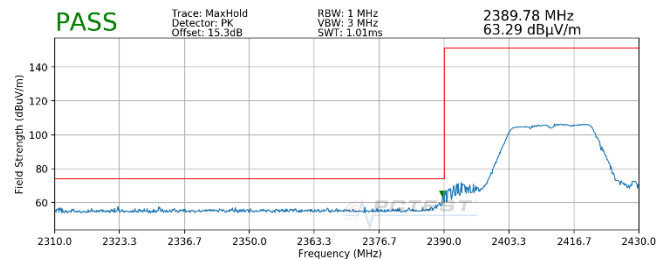
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

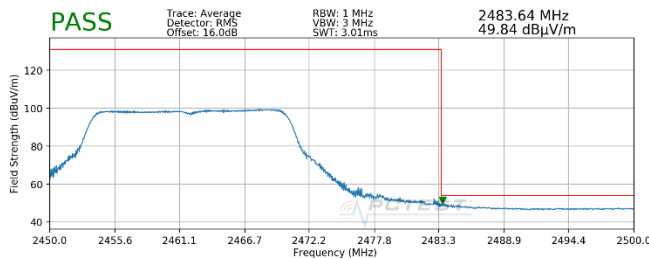


Plot 7-124. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Average)

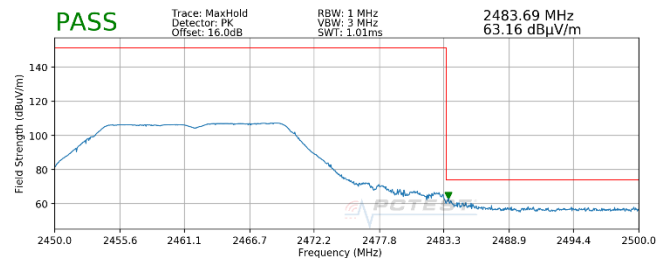


Plot 7-125. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Peak)

Worst Case Mode:	802.11g
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11



Plot 7-126. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average)



Plot 7-127. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak)

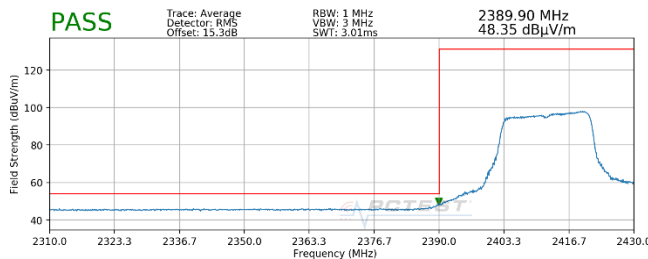
FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 95 of 106

7.7.5 SISO Antenna-2 Radiated Restricted Band Edge Measurements

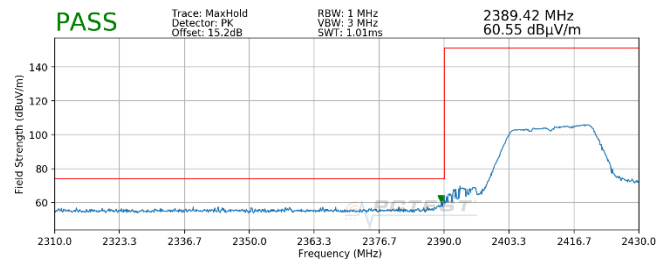
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

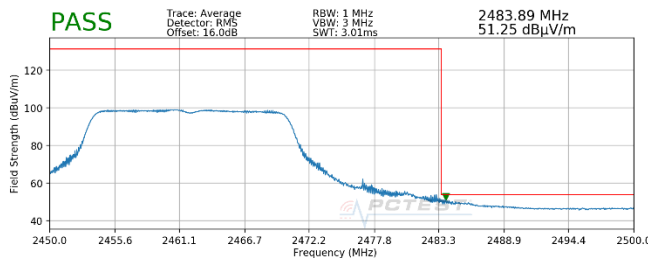


Plot 7-128. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average)

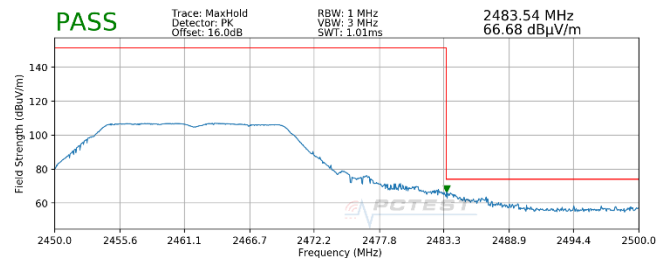


Plot 7-129. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak)

Worst Case Mode:	802.11g
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11



Plot 7-130. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average)



Plot 7-131. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak)

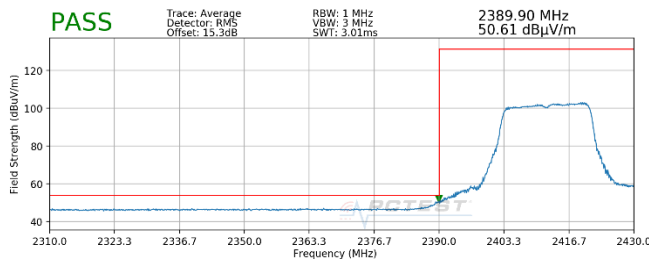
FCC ID: V7MESLCTGA	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1M2202090014-03.V7M	Test Dates: 02/11/2022 ~ 02/28/2022	EUT Type: LTE Indoor CPE	Page 96 of 106

7.7.6 MIMO Radiated Restricted Band Edge Measurements

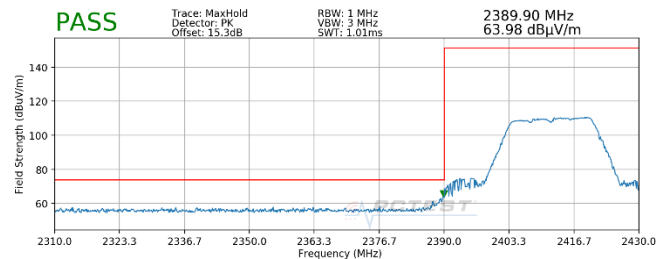
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

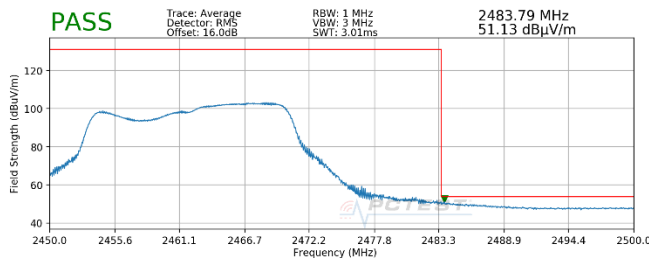


Plot 7-132. Radiated Restricted Lower Band Edge Measurement MIMO (Average)

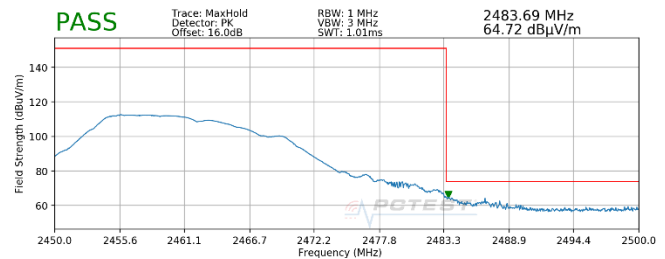


Plot 7-133. Radiated Restricted Lower Band Edge Measurement MIMO (Peak)

Worst Case Mode:	802.11g
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11



Plot 7-134. Radiated Restricted Upper Band Edge Measurement MIMO (Average)



Plot 7-135. Radiated Restricted Upper Band Edge Measurement MIMO (Peak)

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7.8 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-23 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μ V/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-23. Radiated Limits


Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

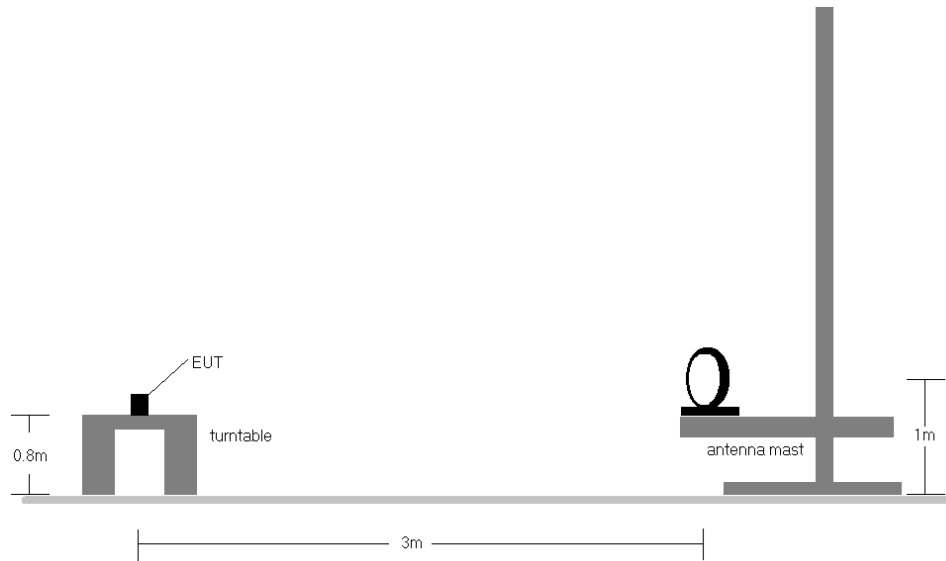


Figure 7-7. Radiated Test Setup < 30Mhz

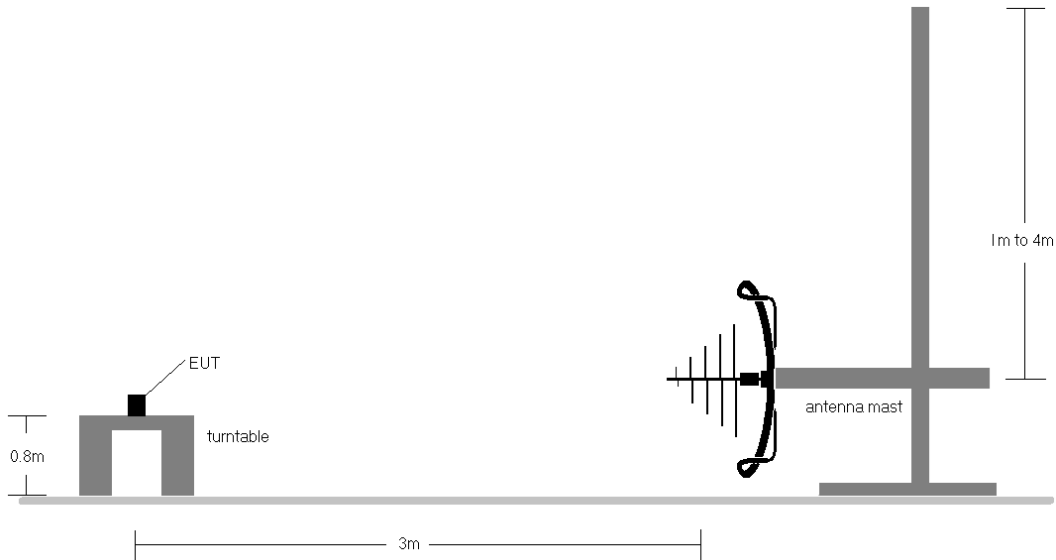



Figure 7-8. Radiated Test Setup < 1GHz

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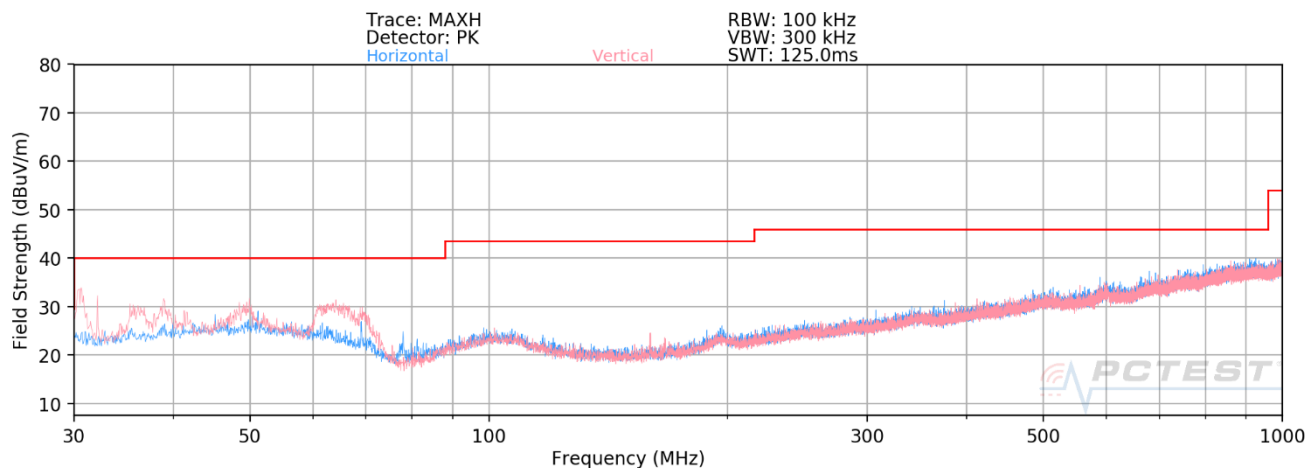
Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen(8.10) are below the limit shown in Table 7-23.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. The unit was tested while powered by a DC power source.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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MIMO Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-136. Radiated Spurious Plot below 1GHz MIMO

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
32.60	Quasi-Peak	V	104	138	-96.80	10.80	21.00	40.00	-19.00
35.35	Quasi-Peak	V	131	352	-84.10	11.78	34.68	40.00	-5.32
51.05	Quasi-Peak	V	117	154	-96.20	14.51	25.31	40.00	-14.69
69.12	Quasi-Peak	V	115	157	-94.30	10.55	23.25	40.00	-16.75
167.15	Quasi-Peak	V	132	140	-98.12	9.84	18.72	43.52	-24.80
595.55	Quasi-Peak	V	115	175	-105.60	21.07	22.47	46.02	-23.55

Table 7-24. Radiated Spurious Emissions below 1GHz MIMO

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7.9 Line-Conducted Test Data

§15.207; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

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

Table 7-25. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2


Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

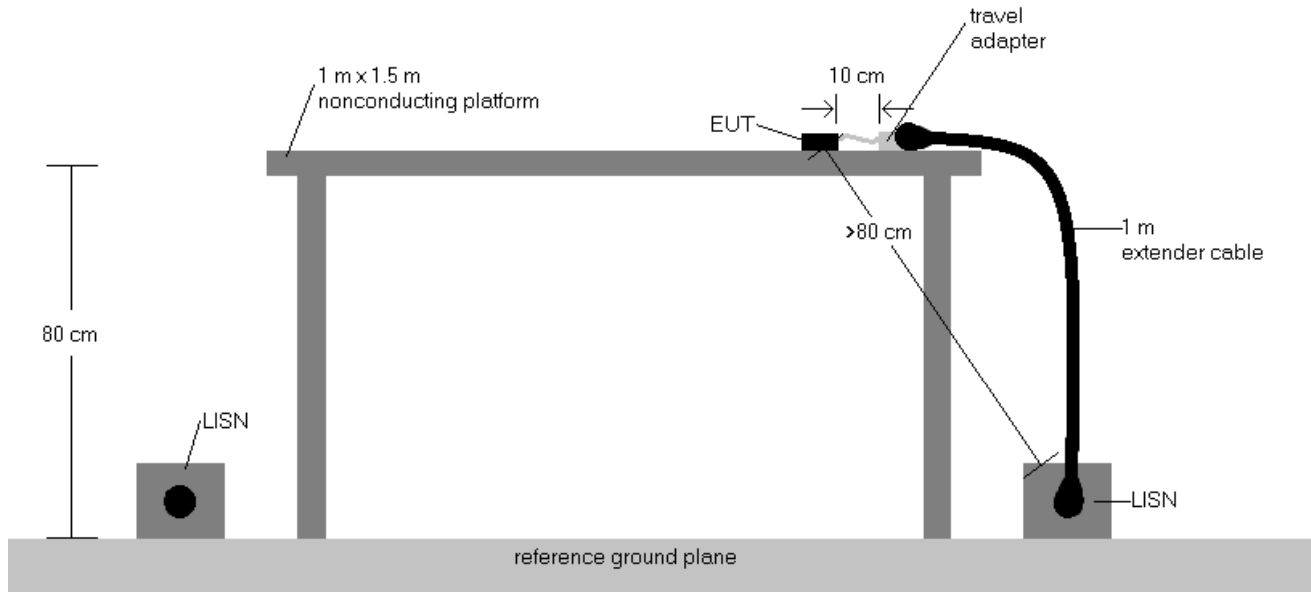
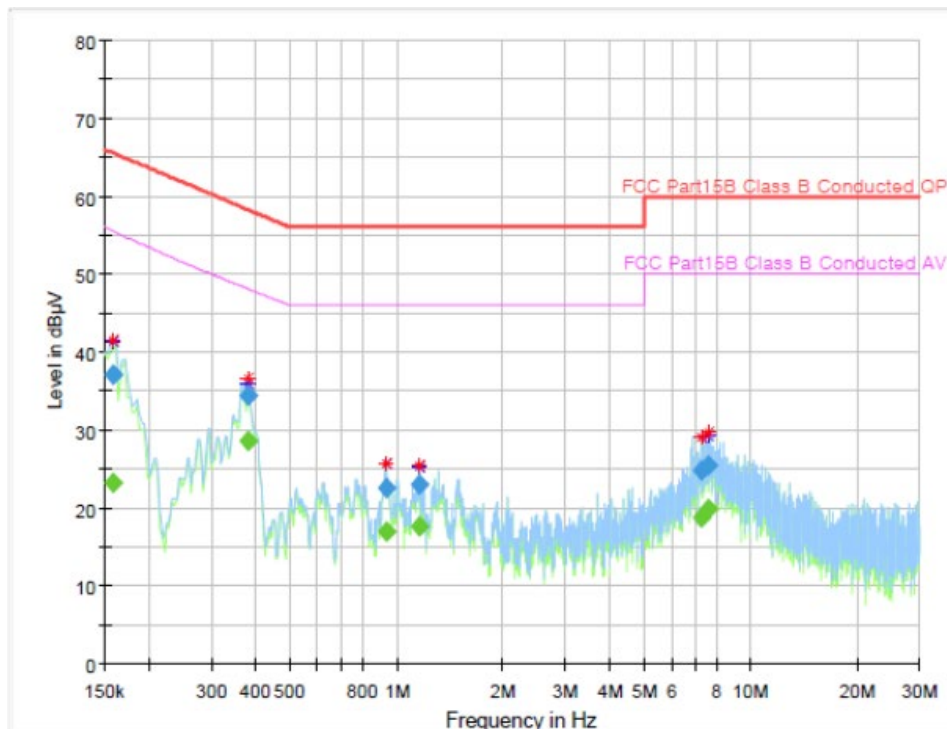


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen(8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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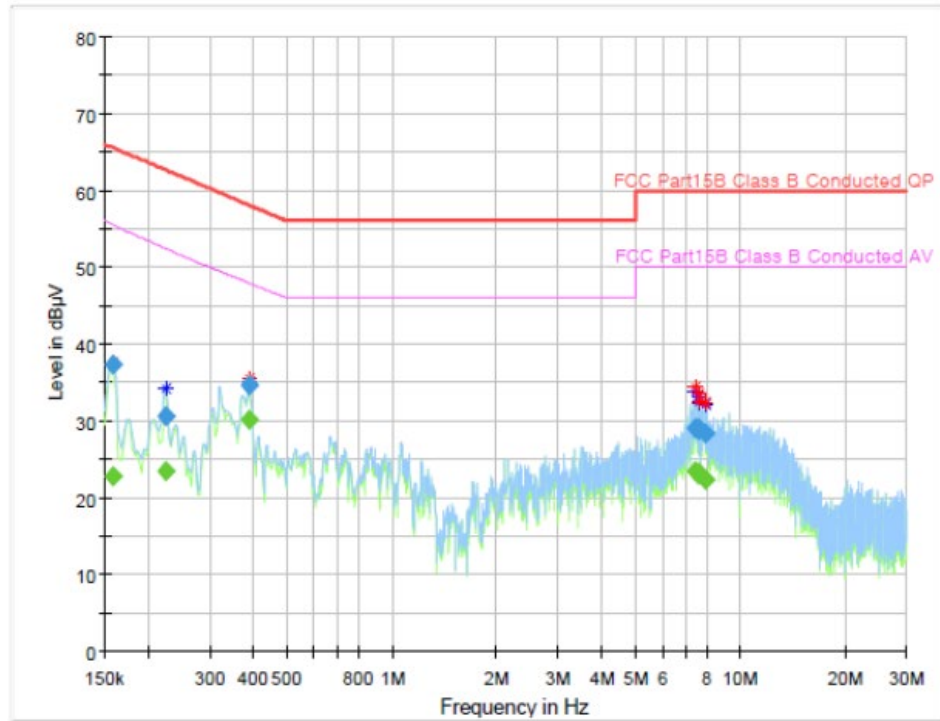
Plot 7-137. Line Conducted Plot with 802.11b (L1)

Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.158955	---	23.18	55.47	32.30	1000.0	9.000	L1	9.9
0.158955	37.19	---	65.52	28.33	1000.0	9.000	L1	9.9
0.382830	---	28.54	48.05	19.51	1000.0	9.000	L1	9.9
0.382830	34.33	---	58.22	23.89	1000.0	9.000	L1	9.9
0.935055	---	17.09	46.00	28.91	1000.0	9.000	L1	9.8
0.935055	22.61	---	56.00	33.39	1000.0	9.000	L1	9.8
1.158930	---	17.61	46.00	28.39	1000.0	9.000	L1	9.8
1.158930	23.06	---	56.00	32.94	1000.0	9.000	L1	9.8
7.287135	---	18.74	50.00	31.26	1000.0	9.000	L1	10.1
7.287135	24.80	---	60.00	35.20	1000.0	9.000	L1	10.1
7.633395	---	19.83	50.00	30.17	1000.0	9.000	L1	10.1
7.633395	25.58	---	60.00	34.42	1000.0	9.000	L1	10.1

Table 7-26. Line Conducted Data with 802.11b (L1)

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Plot 7-138. Line Conducted Plot with 802.11b (N)

Final Result


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.158955	---	22.70	55.47	32.77	1000.0	9.000	N	9.9
0.158955	37.39	---	65.52	28.13	1000.0	9.000	N	9.9
0.224625	---	23.46	52.43	28.97	1000.0	9.000	N	9.8
0.224625	30.62	---	62.65	32.02	1000.0	9.000	N	9.8
0.388800	---	30.26	47.93	17.67	1000.0	9.000	N	9.9
0.388800	34.74	---	58.09	23.35	1000.0	9.000	N	9.9
7.427430	---	23.36	50.00	26.64	1000.0	9.000	N	10.1
7.427430	28.96	---	60.00	31.04	1000.0	9.000	N	10.1
7.582650	---	22.96	50.00	27.04	1000.0	9.000	N	10.1
7.582650	28.73	---	60.00	31.27	1000.0	9.000	N	10.1
7.606530	---	23.22	50.00	26.78	1000.0	9.000	N	10.1
7.606530	29.02	---	60.00	30.98	1000.0	9.000	N	10.1
7.970700	---	22.41	50.00	27.59	1000.0	9.000	N	10.1
7.970700	28.28	---	60.00	31.72	1000.0	9.000	N	10.1

Table 7-27. Line Conducted Data with 802.11b (N)

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8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Seowon Intech LTE Indoor CPE FCC ID: V7MESLCTGA** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules.

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