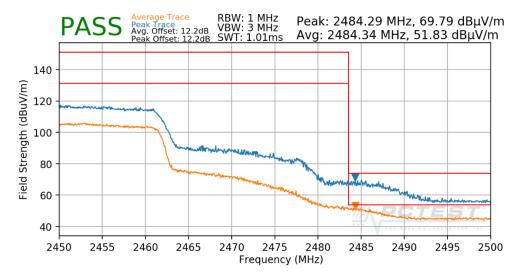


Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

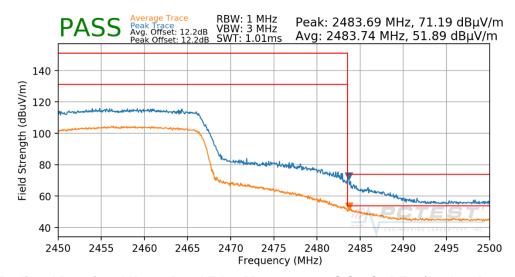
802.11ax OFDMA
MCS0
61
3 Meters
2452MHz
9



Plot 7-151. Radiated Restricted Upper Band Edge Measurement SISO CORE 0 (Peak & Average) – RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2457MHz
10



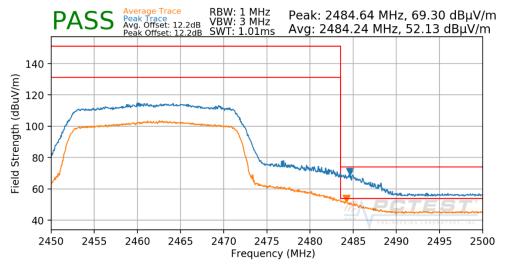
Plot 7-152. Radiated Restricted Upper Band Edge Measurement SISO CORE 0 (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

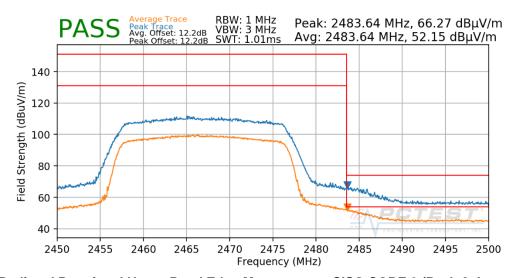
802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-153. Radiated Restricted Upper Band Edge Measurement SISO CORE 0 (Peak & Average) - RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2467MHz
12



Plot 7-154. Radiated Restricted Upper Band Edge Measurement SISO CORE 0 (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# 7.7.5 SISO Core 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:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

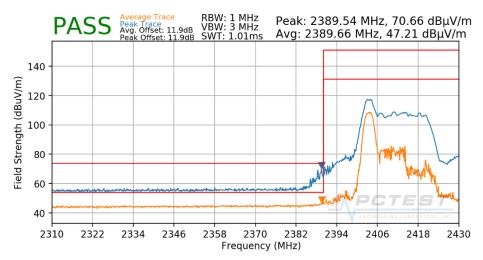
Channel:

802.11ax OFDMA

MCS0

3 Meters

2412MHz



Plot 7-155. Radiated Restricted Lower Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

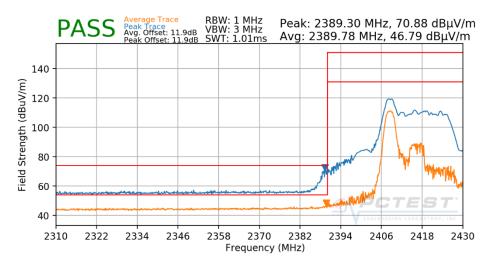
Channel:

802.11ax OFDMA

MCS0

3 Meters

2417MHz



Plot 7-156. Radiated Restricted Lower Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

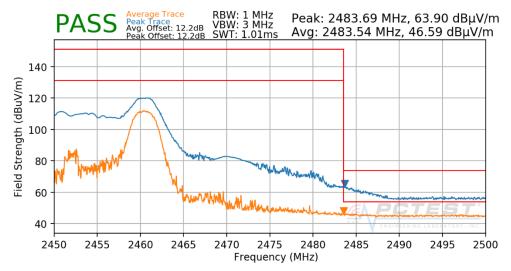
MCS0

8

3 Meters

2452MHz

9



Plot 7-157. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

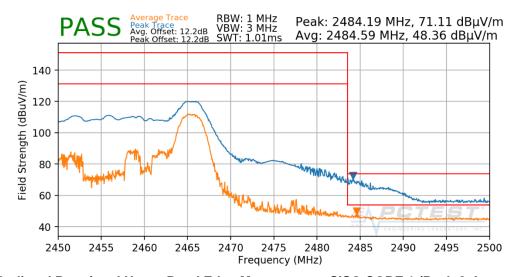
MCS0

8

3 Meters

2457MHz

10



Plot 7-158. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 440 of 425
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Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

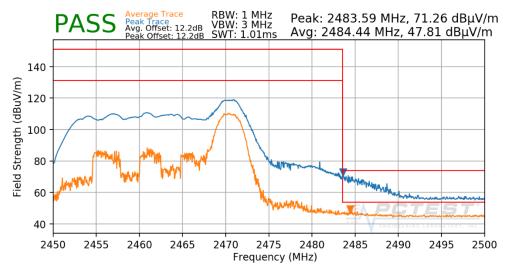
MCS0

8

3 Meters

2462MHz

11



Plot 7-159. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

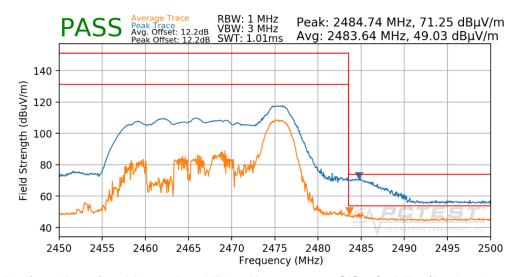
MCS0

8

3 Meters

2467MHz

12



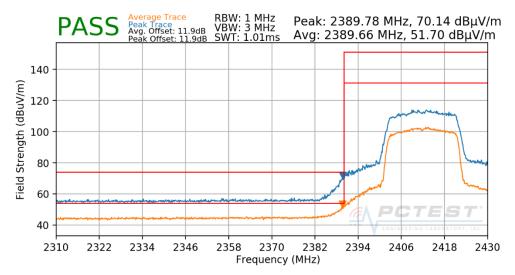
Plot 7-160. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) - RU26)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 120 of 125
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

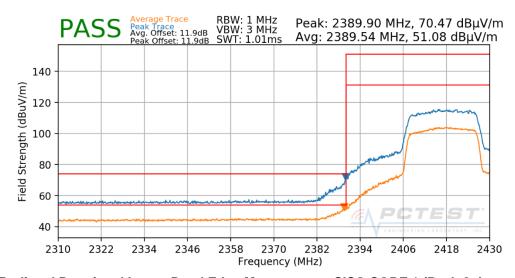
802.11ax OFDMA
MCS0
61
3 Meters
2412MHz
1



Plot 7-161. Radiated Restricted Lower Band Edge Measurement SISO CORE 1 (Peak & Average) – RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2417MHz
2



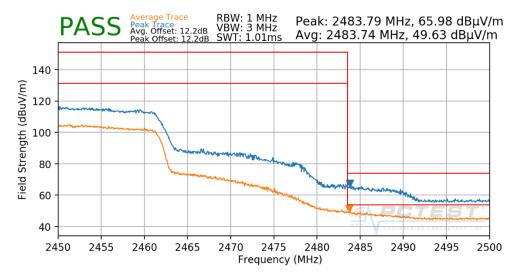
Plot 7-162. Radiated Restricted Lower Band Edge Measurement SISO CORE 1 (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 101 of 105
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2452MHz
9



Plot 7-163. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) – RU242)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

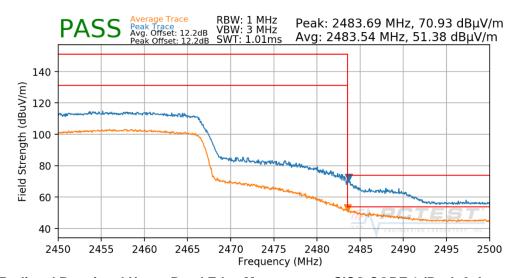
MCS0

61

3 Meters

2457MHz

10



Plot 7-164. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-165. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) - RU242)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

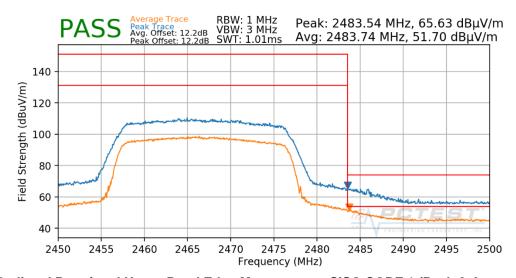
MCS0

61

3 Meters

2467MHz

12



Plot 7-166. Radiated Restricted Upper Band Edge Measurement SISO CORE 1 (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# 7.7.6 CDD 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:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

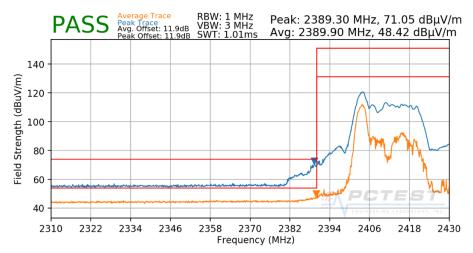
802.11ax OFDMA

MCS0

3 Meters

2412MHz

1



Plot 7-167. Radiated Restricted Lower Band Edge Measurement CDD (Peak & Average) - RU26)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

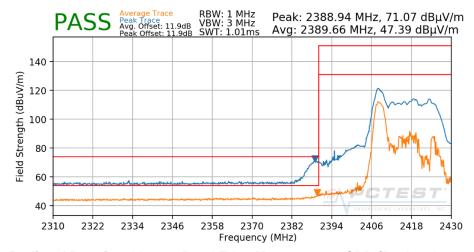
802.11ax OFDMA

MCS0

3 Meters

2417MHz

2



Plot 7-168. Radiated Restricted Lower Band Edge Measurement CDD (Peak & Average) - RU26)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dags 424 of 425
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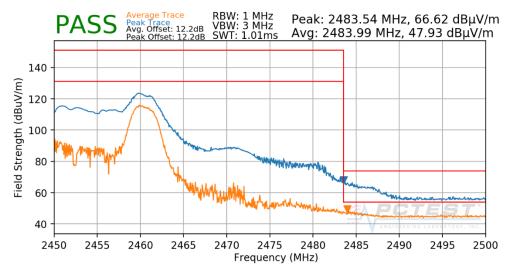


Channel:

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:

802.11ax OFDMA
MCS0
8
3 Meters
2457MHz

9

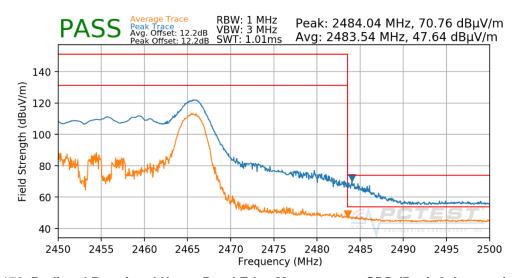


Plot 7-169. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU26)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0

8
3 Meters
2457MHz
10



Plot 7-170. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU26)

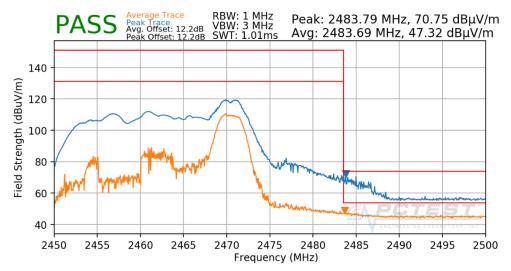
FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 405 of 405
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:

802.11ax OFDMA
MCS0
8
3 Meters
2462MHz

Operating Frequency: 2462MHz
Channel: 11

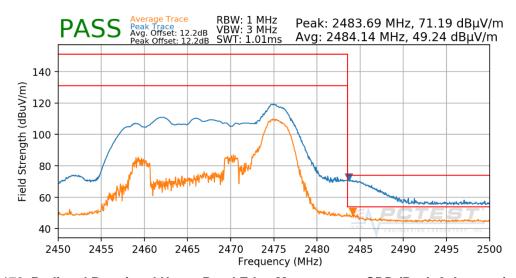


Plot 7-171. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU26)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0

8
3 Meters
2467MHz
12



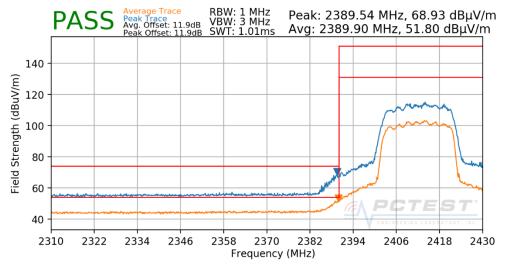
Plot 7-172. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU26)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 100 of 105
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

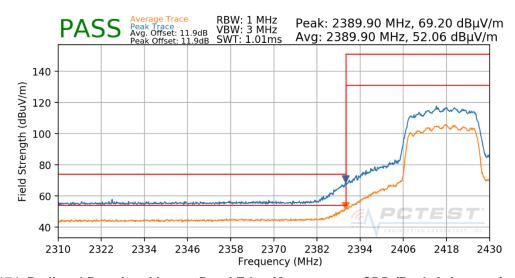
802.11ax OFDMA
MCS0
61
3 Meters
2412MHz



Plot 7-173. Radiated Restricted Lower Band Edge Measurement CDD (Peak & Average) - RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2417MHz



Plot 7-174. Radiated Restricted Lower Band Edge Measurement CDD (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 407 of 405
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Worst Case Mode:

Worst Case Transfer Rate:

RU Index:

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

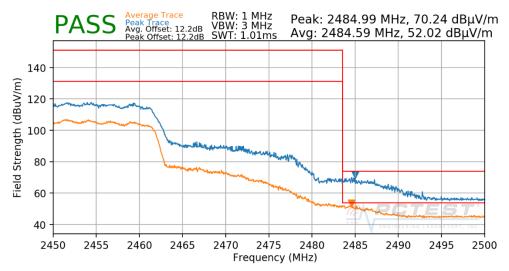
MCS0

61

3 Meters

2457MHz

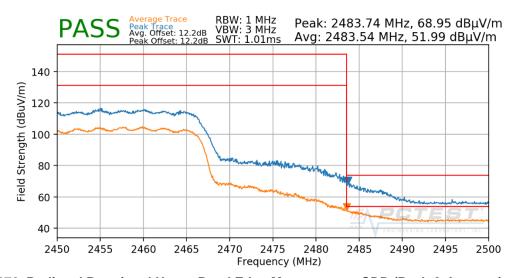
9



Plot 7-175. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2457MHz
10



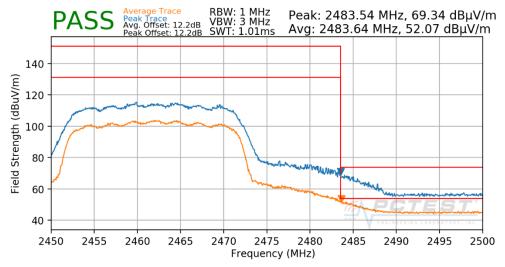
Plot 7-176. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 400 of 405
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

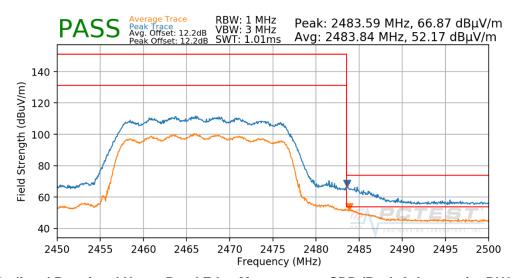
802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-177. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) - RU242)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2467MHz
12



Plot 7-178. Radiated Restricted Upper Band Edge Measurement CDD (Peak & Average) – RU242)

FCC ID: BCGA2232	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogg 420 of 425
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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 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-38 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [µV/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 7-38. 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

#### **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.

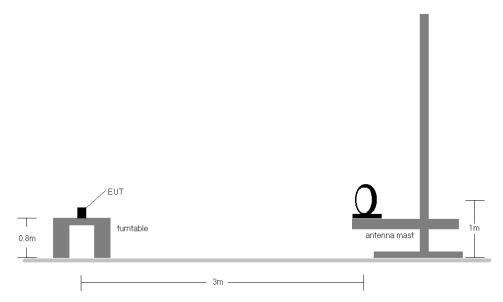


Figure 7-7. Radiated Test Setup < 30Mhz

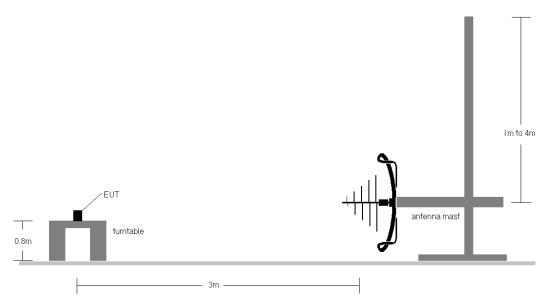


Figure 7-8. Radiated Test Setup < 1GHz

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#### **Test Notes**

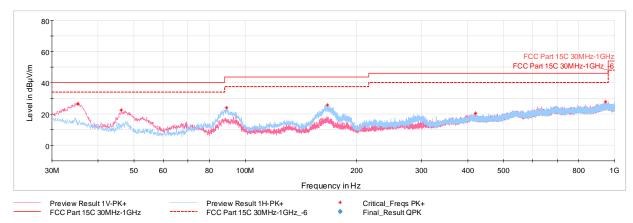
- 1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen(8.10) are below the limit shown in Table 7-38.
- 2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
- 3. This unit was tested with its standard battery.
- 4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector on emissions that were within 6dB of the limit. 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.
- 10. All antenna configurations were investigated and only the worst case is reported.
- 11. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

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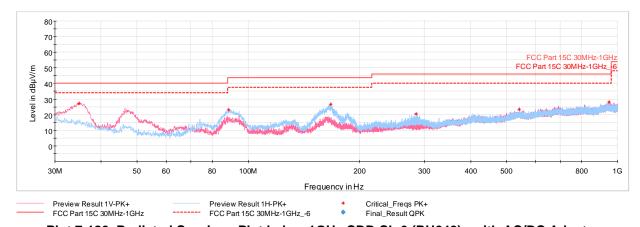


## **CDD Radiated Spurious Emissions Measurements (Below 1GHz)**

§15.209; RSS-Gen [8.9]



Plot 7-179. Radiated Spurious Plot below 1GHz CDD Ch.6 (RU26), with AC/DC Adapter



Plot 7-180. Radiated Spurious Plot below 1GHz CDD Ch.6 (RU242), with AC/DC Adapter

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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]
35.24	Max Peak	V	100	292	-65.62	-14.77	26.61	40.00	-13.39
46.20	Max Peak	V	100	15	-64.12	-20.44	22.44	40.00	-17.56
89.07	Max Peak	Н	250	212	-62.06	-20.94	24.00	43.52	-19.52
167.11	Max Peak	Н	100	76	-63.60	-17.76	25.64	43.52	-17.88
419.84	Max Peak	V	100	246	-77.76	-8.70	20.54	46.02	-25.48
945.20	Max Peak	Н	100	246	-79.49	0.32	27.83	46.02	-18.19

Table 7-39. Radiated Spurious Emissions below 1GHz CDD Ch.6 (RU26), with AC/DC Adapter

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]
34.90	Max Peak	V	100	310	-65.25	-14.56	27.19	40.00	-12.81
88.64	Max Peak	Н	250	188	-62.77	-21.00	23.23	43.52	-20.29
167.26	Max Peak	Н	100	81	-62.61	-17.75	26.64	43.52	-16.89
284.67	Max Peak	Н	100	40	-71.99	-14.44	20.57	46.02	-25.45
541.19	Max Peak	V	100	152	-78.82	-4.70	23.48	46.02	-22.55
947.14	Max Peak	Н	250	160	-79.21	0.33	28.12	46.02	-17.90

Table 7-40. Radiated Spurious Emissions below 1GHz CDD Ch.6 (RU242), with AC/DC Adapter

FCC ID: BCGA2232	PCTEST	merconcenter ner on		
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### 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2232** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules and RSS-247 of the Innovation, Science and Economic Development Canada Rules.

FCC ID: BCGA2232	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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