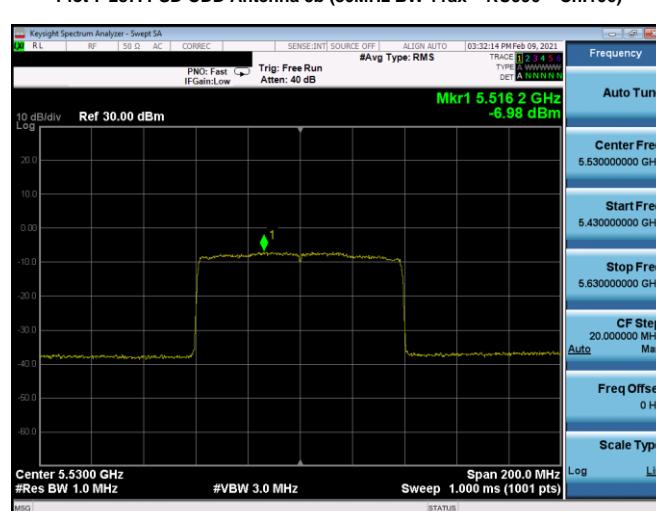
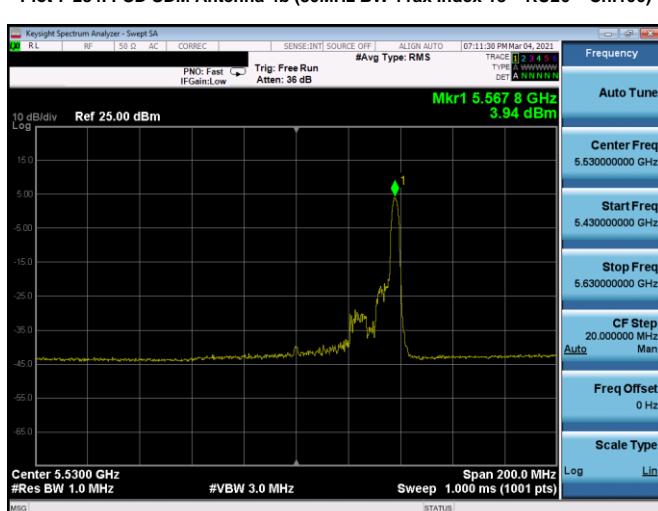
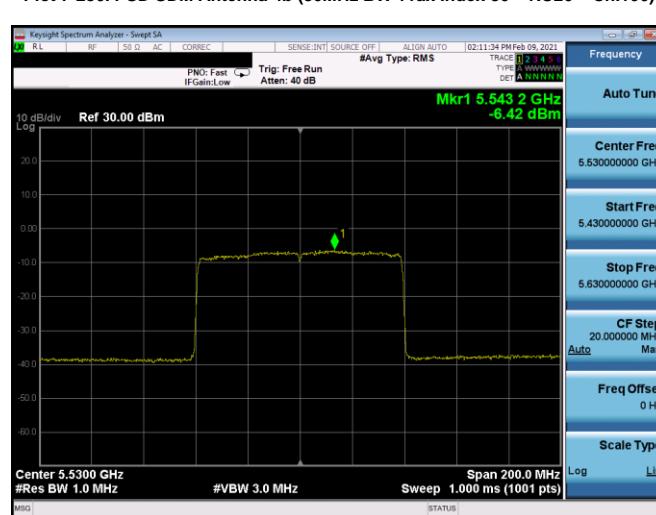
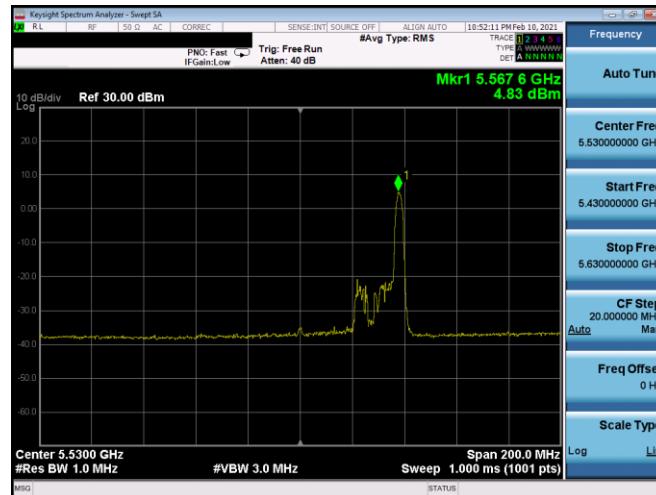
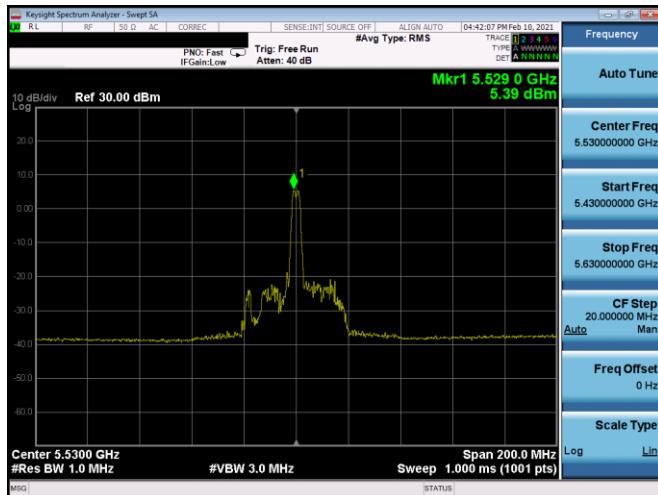


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Test Report S/N: 1C2101020002-16-R1.BCG	Test Dates: 12/12/2020 - 3/10/2021	EUT Type: Tablet Device	Page 115 of 257

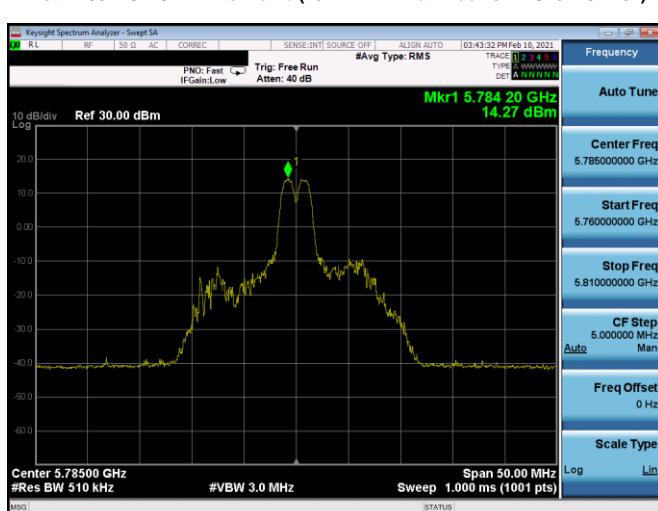
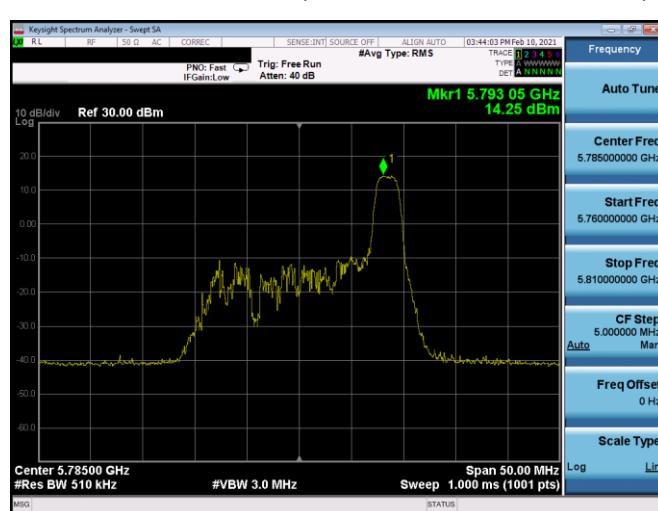
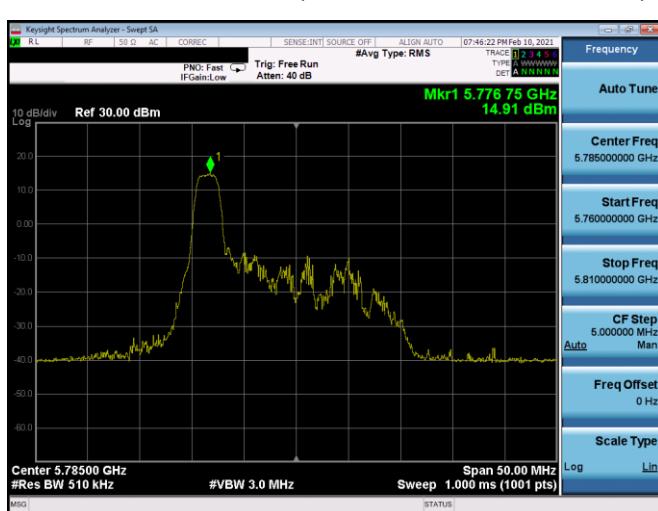
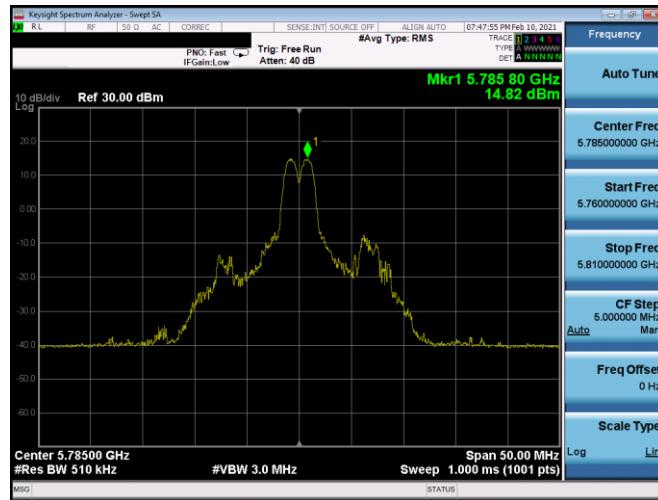
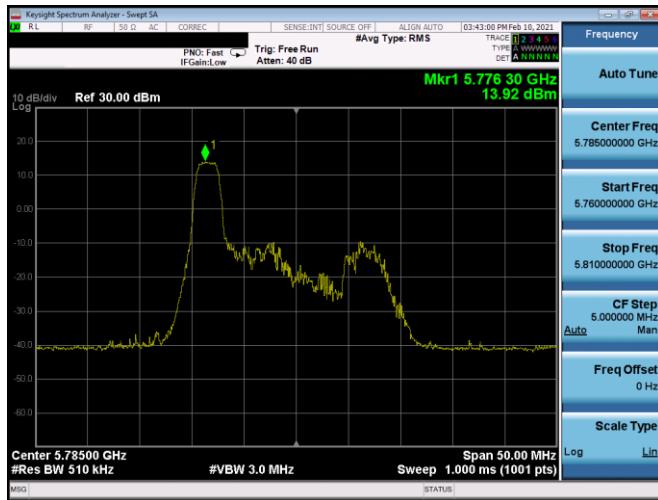
	Frequency [MHz]	Channel No.	802.11 Mode	Mode	RU Size	RU Index	Data Rate [Mbps]	Antenna 5b Power Density [dBm/500kHz]	Antenna 4b Power Density [dBm/500kHz]	Summed Power Density [dBm/500kHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	CDD	26	0	270/286.8 (MCS11)	14.30	14.22	17.27	28.78	-11.51
					26	4	270/286.8 (MCS11)	14.57	14.44	17.51	28.78	-11.27
					26	8	270/286.8 (MCS11)	14.80	14.38	17.60	28.78	-11.17
	5785	157	ax (20MHz)	CDD	26	0	270/286.8 (MCS11)	13.92	14.91	17.45	28.78	-11.32
					26	4	270/286.8 (MCS11)	14.27	14.82	17.56	28.78	-11.22
					26	8	270/286.8 (MCS11)	14.25	14.62	17.45	28.78	-11.33
	5825	165	ax (20MHz)	CDD	26	0	270/286.8 (MCS11)	14.45	14.48	17.47	28.78	-11.30
					26	4	270/286.8 (MCS11)	14.59	14.93	17.78	28.78	-11.00
					26	8	270/286.8 (MCS11)	14.50	14.55	17.54	28.78	-11.24
	5755	151	ax (40MHz)	CDD	26	0	542/573.6 (MCS11)	13.94	13.82	16.89	28.78	-11.89
					26	8	542/573.6 (MCS11)	14.73	14.84	17.80	28.78	-10.98
					26	17	542/573.6 (MCS11)	14.32	14.28	17.31	28.78	-11.47
	5795	159	ax (40MHz)	CDD	26	0	542/573.6 (MCS11)	13.64	14.51	17.11	28.78	-11.67
					26	8	542/573.6 (MCS11)	14.64	14.86	17.76	28.78	-11.02
					26	17	542/573.6 (MCS11)	14.21	14.67	17.46	28.78	-11.32
	5775	155	ax (80MHz)	CDD	26	0	1134/1201 (MCS11)	9.22	9.89	12.58	28.78	-16.20
					26	18	1134/1201 (MCS11)	9.35	9.53	12.45	28.78	-16.33
					26	36	1134/1201 (MCS11)	9.35	9.74	12.56	28.78	-16.22

Table 7-78. Band 3 Power Spectral Density Measurements CDD (RU26)

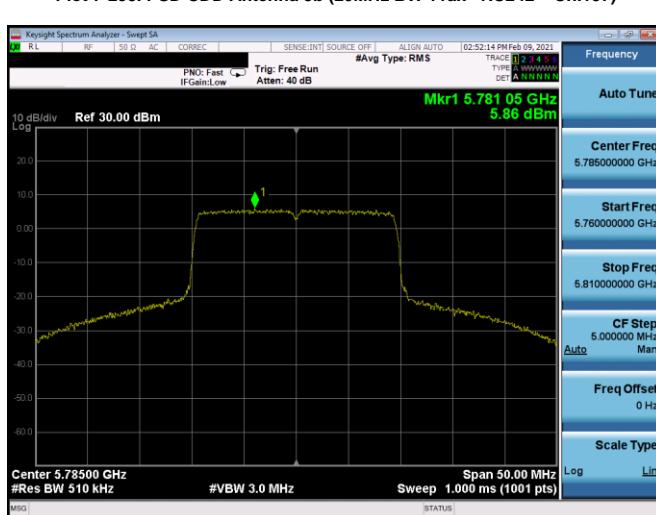
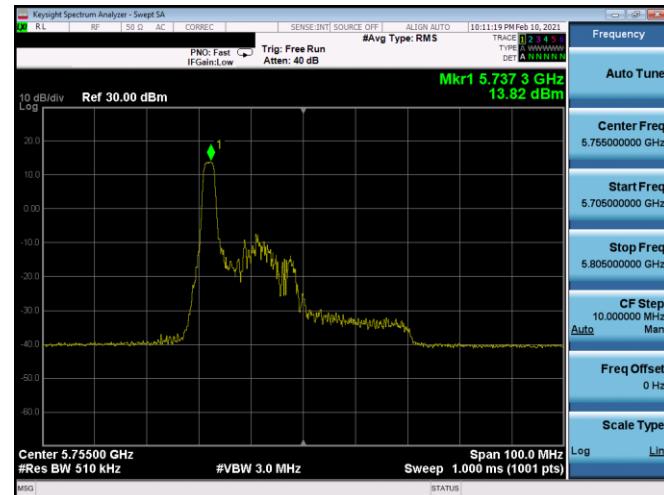
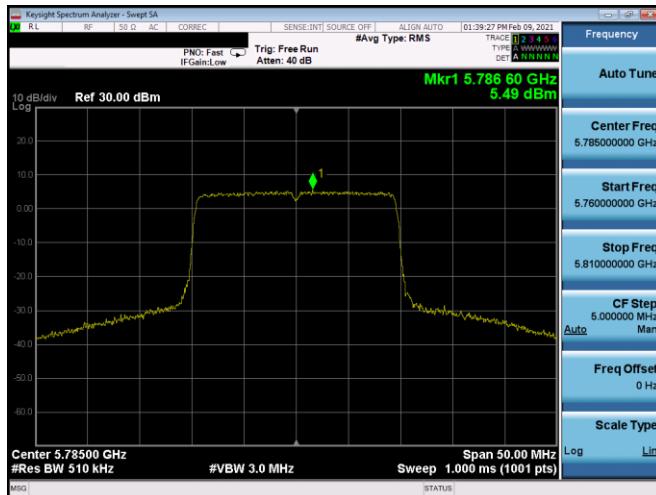
	Frequency [MHz]	Channel No.	802.11 Mode	Mode	RU Size	RU Index	Data Rate [Mbps]	Antenna 5b Power Density [dBm/500kHz]	Antenna 4b Power Density [dBm/500kHz]	Summed Power Density [dBm/500kHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	CDD	242	61	270/286.8 (MCS11)	5.51	5.37	8.45	28.78	-20.33
	5785	157	ax (20MHz)	CDD	242	61	270/286.8 (MCS11)	5.49	5.86	8.69	28.78	-20.09
	5825	165	ax (20MHz)	CDD	242	61	270/286.8 (MCS11)	5.14	5.46	8.31	28.78	-20.46
	5755	151	ax (40MHz)	CDD	484	65	542/573.6 (MCS11)	2.52	2.50	5.52	28.78	-23.26
	5795	159	ax (40MHz)	CDD	484	65	542/573.6 (MCS11)	2.42	2.69	5.57	28.78	-23.21
	5775	155	ax (80MHz)	CDD	996	67	1134/1201 (MCS11)	-4.63	-4.19	-1.39	28.78	-30.17

Table 7-79. Band 3 Power Spectral Density Measurements CDD (Fully-loaded RU)

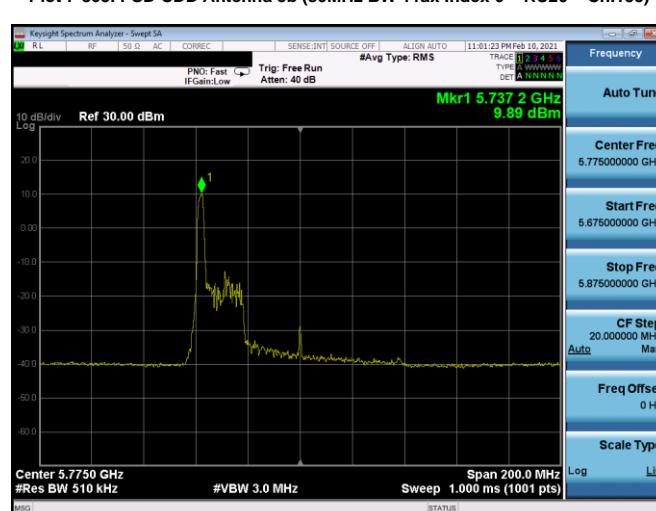
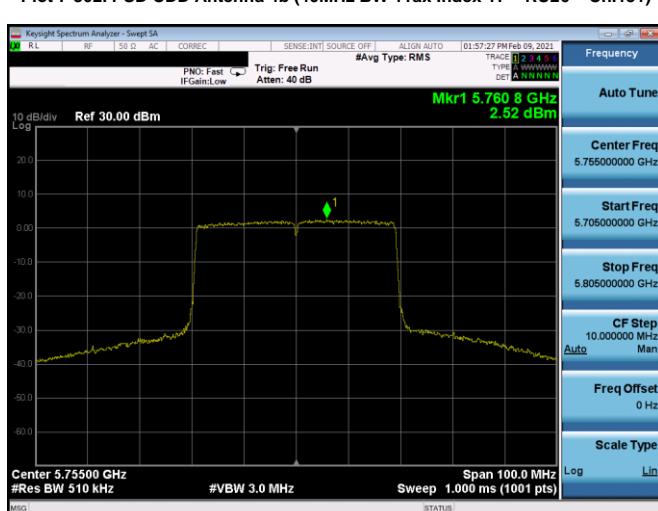
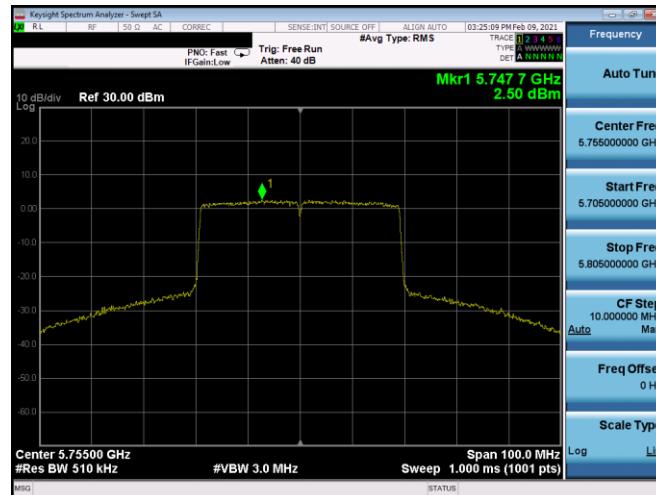
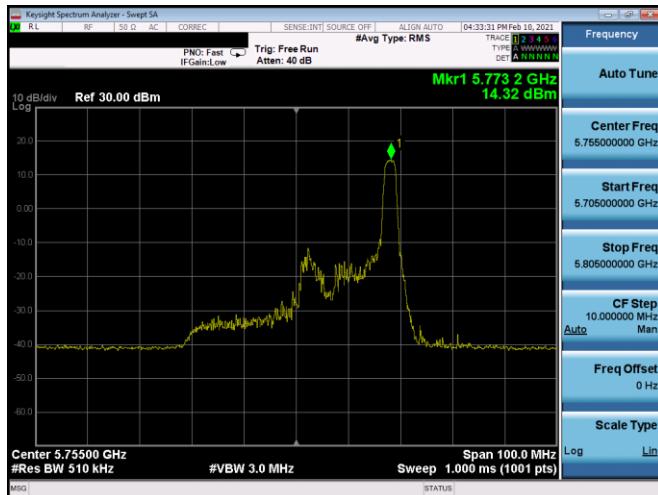
FCC ID: BCGA2301	 PCTEST® Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)					Approved by: Quality Manager
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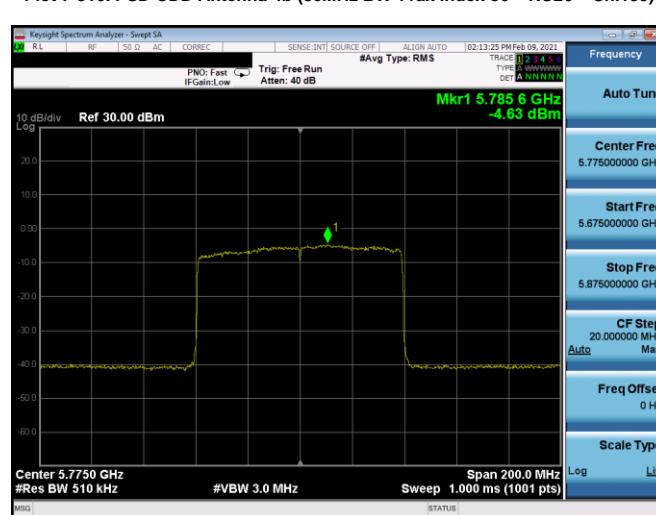
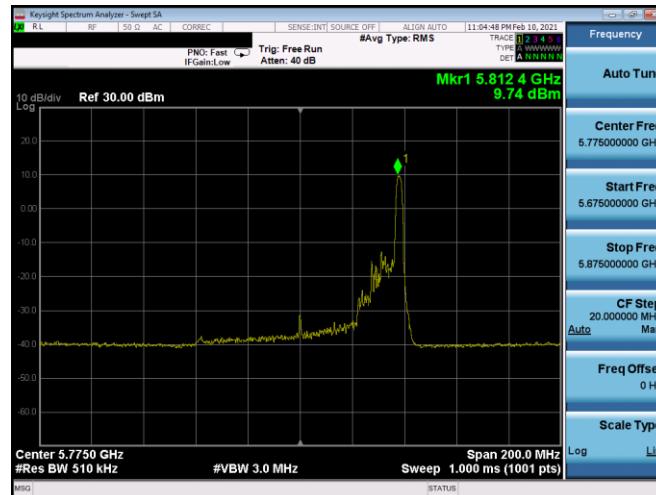
FCC ID: BCGA2301 IC: 579C-A2301	PCTEST® Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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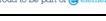
FCC ID: BCGA2301	IC: 579C-A2301
Test Report S/N: 1C2101020002-16-R1.BCG	Test Dates: 12/12/2020 - 3/10/2021

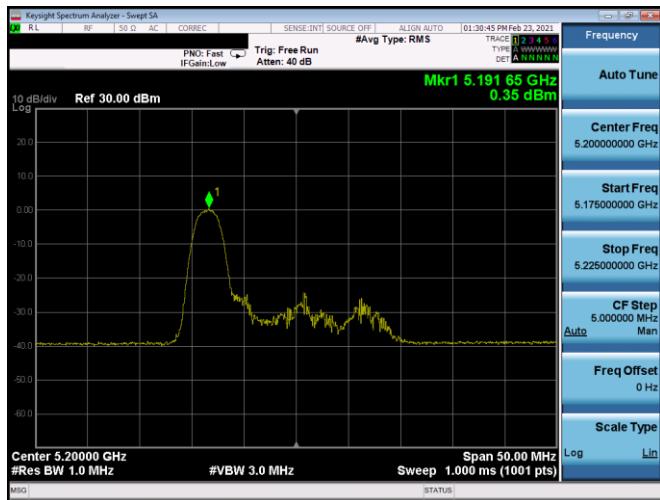
Frequency [MHz]	Channel No.	802.11 Mode	Mode	RU Size	RU Index	Data Rate [Mbps]	Antenna 5b Power Density [dBm/MHz]	Antenna 4b Power Density [dBm/MHz]	Summed Power Density [dBm/MHz]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	SDM	26	0	270/286.8 (MCS11)	0.36	-0.37	3.02	3.81	6.83	10.0	-3.17
				26	4	270/286.8 (MCS11)	-0.01	-0.87	2.59	3.81	6.40	10.0	-3.60
				26	8	270/286.8 (MCS11)	0.29	-0.48	2.93	3.81	6.74	10.0	-3.26
	5200	40	SDM	26	0	270/286.8 (MCS11)	0.35	-0.09	3.15	3.81	6.95	10.0	-3.05
				26	4	270/286.8 (MCS11)	-0.35	-0.57	2.55	3.81	6.36	10.0	-3.64
				26	8	270/286.8 (MCS11)	0.29	-0.22	3.05	3.81	6.86	10.0	-3.14
	5240	48	SDM	26	0	270/286.8 (MCS11)	0.63	-0.36	3.17	3.81	6.98	10.0	-3.02
				26	4	270/286.8 (MCS11)	-0.01	-0.83	2.61	3.81	6.42	10.0	-3.58
				26	8	270/286.8 (MCS11)	0.59	-0.26	3.20	3.81	7.00	10.0	-3.00
	5190	38	SDM	26	0	542/573.6 (MCS11)	-0.12	0.06	2.98	3.81	6.79	10.0	-3.21
				26	8	542/573.6 (MCS11)	0.99	0.67	3.84	3.81	7.65	10.0	-2.35
				26	17	542/573.6 (MCS11)	0.19	0.19	3.20	3.81	7.01	10.0	-2.99
	5230	46	SDM	26	0	542/573.6 (MCS11)	0.10	0.08	3.10	3.81	6.91	10.0	-3.09
				26	8	542/573.6 (MCS11)	1.13	0.92	4.04	3.81	7.85	10.0	-2.15
				26	17	542/573.6 (MCS11)	0.58	0.49	3.55	3.81	7.35	10.0	-2.65
	5210	42	SDM	26	0	1134/1201 (MCS11)	-2.28	-1.75	1.00	3.81	4.81	10.0	-5.19
				26	18	1134/1201 (MCS11)	-1.72	-1.56	1.37	3.81	5.18	10.0	-4.82
				26	36	1134/1201 (MCS11)	-2.06	-1.90	1.03	3.81	4.84	10.0	-5.16

Table 7-80. ISED Band 1 e.i.r.p. Power Spectral Density Measurements SDM (RU26)

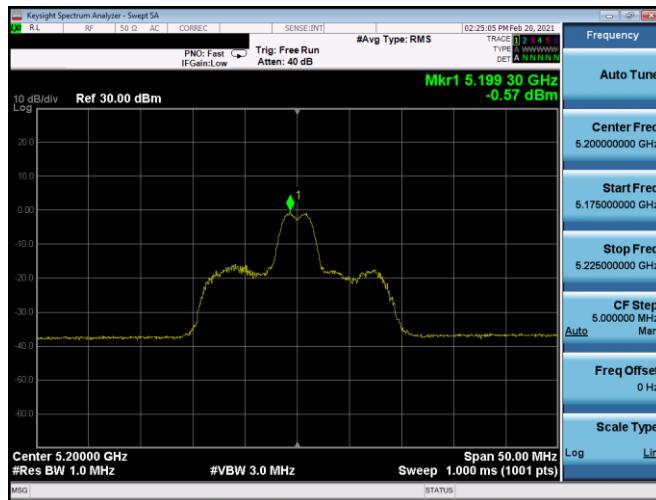
Frequency [MHz]	Channel No.	802.11 Mode	Mode	RU Size	RU Index	Data Rate [Mbps]	Antenna 5b Power Density [dBm/MHz]	Antenna 4b Power Density [dBm/MHz]	Summed Power Density [dBm/MHz]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	SDM	242	61	270/286.8 (MCS11)	-0.67	-0.89	2.23	3.81	6.04	10.0	-3.96
	5200	40	SDM	242	61	270/286.8 (MCS11)	-0.75	-0.73	2.27	3.81	6.08	10.0	-3.92
	5240	48	SDM	242	61	270/286.8 (MCS11)	-0.42	-0.66	2.47	3.81	6.28	10.0	-3.72
	5190	38	CDD	484	65	542/573.6 (MCS11)	-2.72	-3.97	-2.49	6.55	4.06	9.5	-5.39
	5230	46	SDM	484	65	542/573.6 (MCS11)	-0.22	-0.08	2.86	3.81	6.67	10.0	-3.33
	5210	42	CDD	996	67	1134/1201 (MCS11)	-5.65	-5.77	-2.70	6.55	3.85	9.5	-5.60

Table 7-81. ISED Band 1 e.i.r.p. Power Spectral Density Measurements CDD/SDM (Fully-loaded RU)

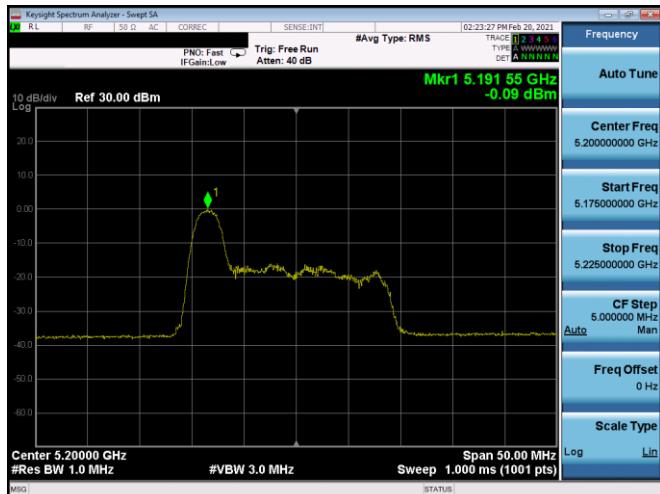
FCC ID: BCGA2301	 PCTEST® Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)						Approved by: Quality Manager
Test Report S/N: 1C2101020002-16-R1.BCG	Test Dates: 12/12/2020 - 3/10/2021	EUT Type: Tablet Device						



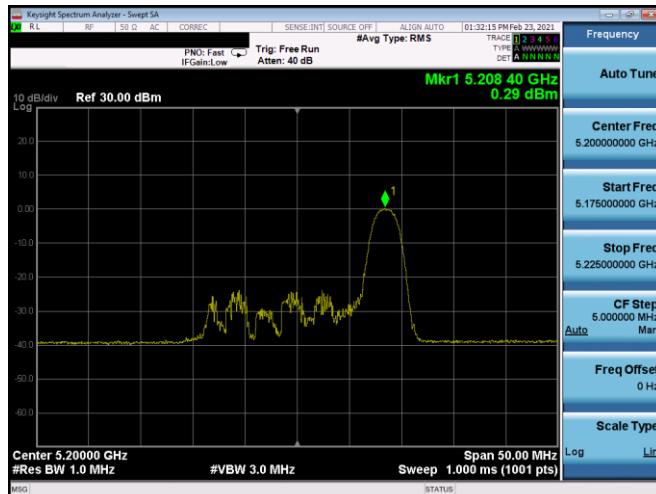
Plot 7-313. ISED PSD SDM Antenna 5b (20MHz BW 11ax Index 0 – RU26 – Ch.40)



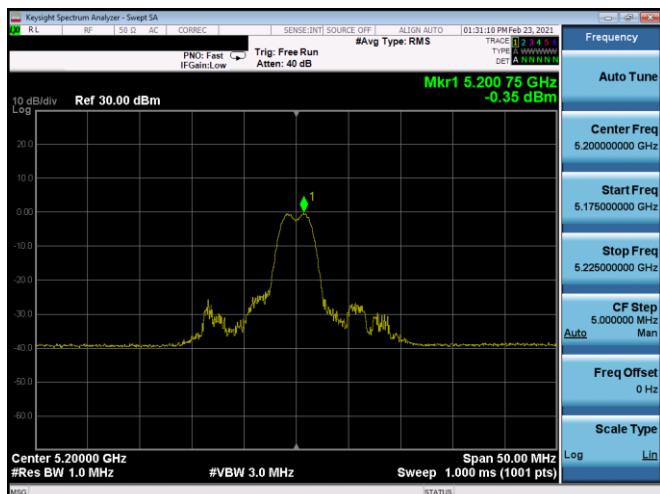
Plot 7-316. ISED PSD SDM Antenna 4b (20MHz BW 11ax Index 4 – RU26 – Ch.40)



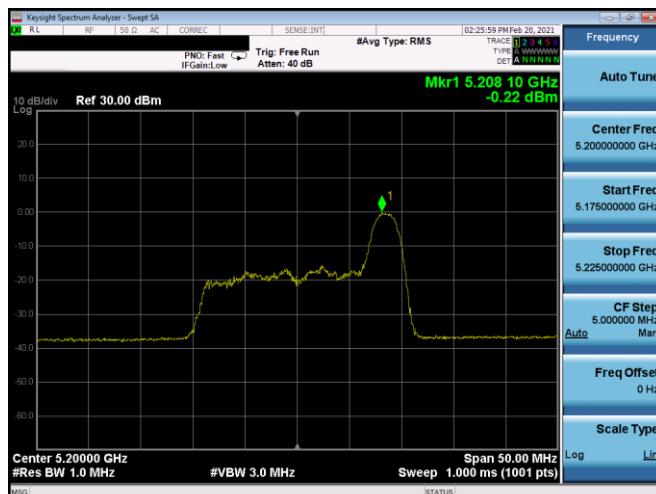
Plot 7-314. ISED PSD SDM Antenna 4b (20MHz BW 11ax Index 0 – RU26 – Ch.40)



Plot 7-317. ISED PSD SDM Antenna 5b (20MHz BW 11ax Index 8 – RU26 – Ch.40)

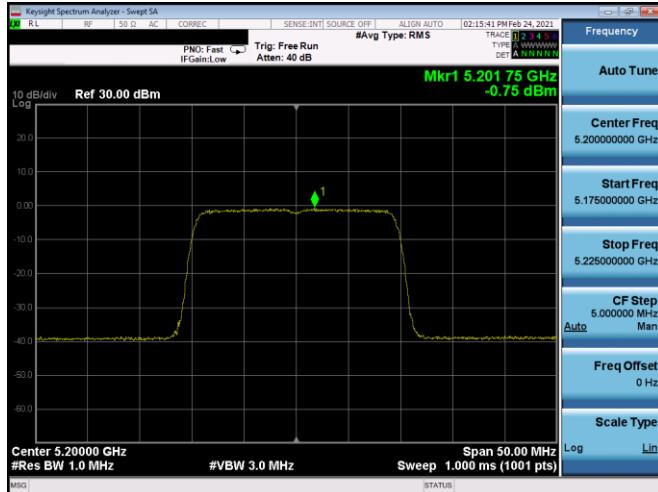


Plot 7-315. ISED PSD SDM Antenna 5b (20MHz BW 11ax Index 4 – RU26 – Ch.40)

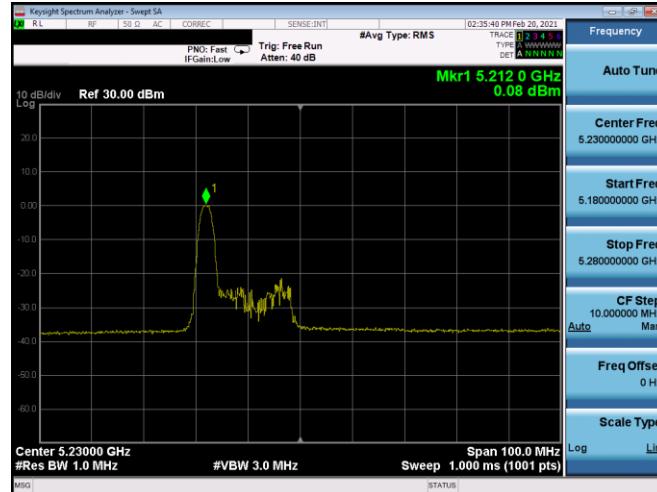


Plot 7-318. ISED PSD SDM Antenna 4b (20MHz BW 11ax Index 8 – RU26 – Ch.40)

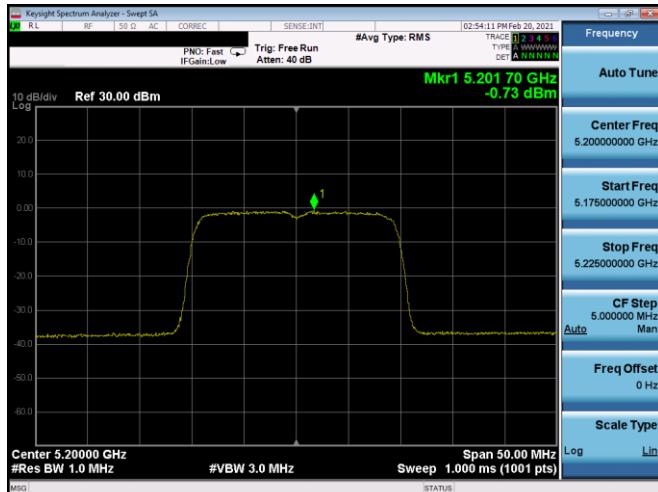
FCC ID: BCGA2301	PCTEST® Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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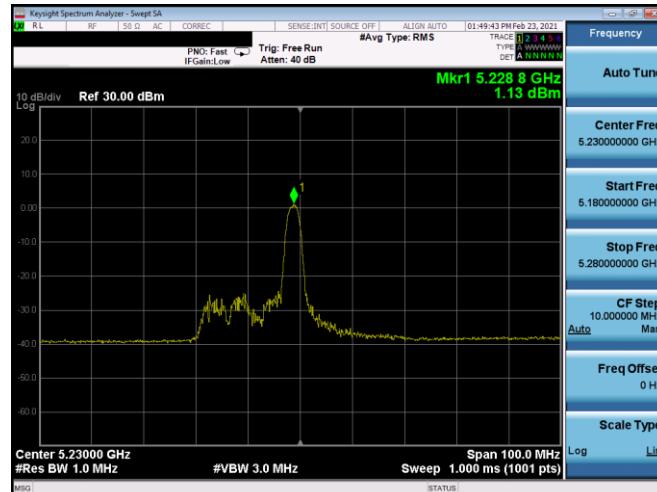
Plot 7-319. ISED PSD SDM Antenna 5b (20MHz BW 11ax- RU242 - Ch.40)



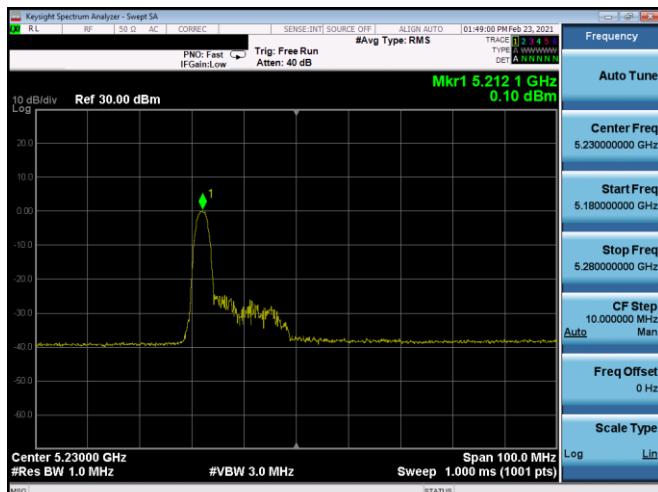
Plot 7-322. ISED PSD SDM Antenna 4b (40MHz BW 11ax Index 0 - RU26 - Ch.46)



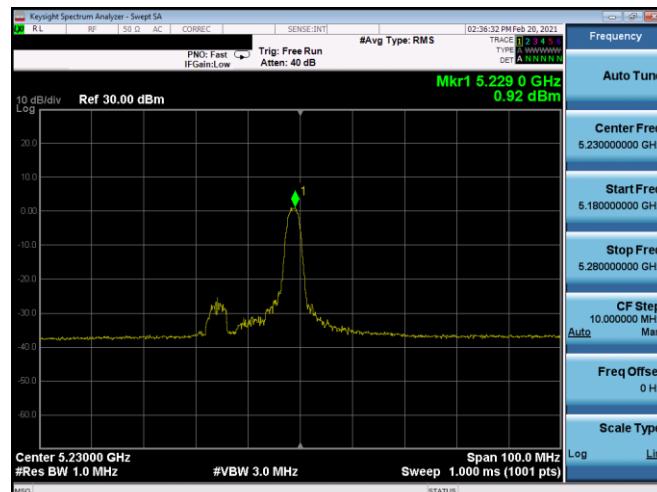
Plot 7-320. ISED PSD SDM Antenna 4b (20MHz BW 11ax- RU242 - Ch.40)



Plot 7-323. ISED PSD SDM Antenna 5b (40MHz BW 11ax Index 8 - RU26 - Ch.46)

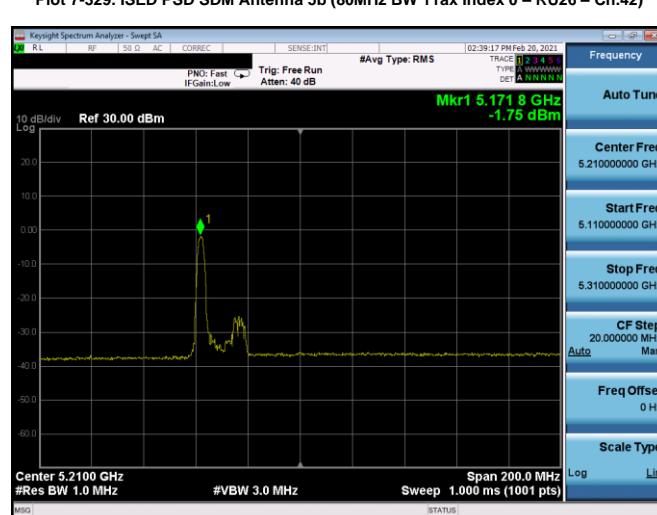
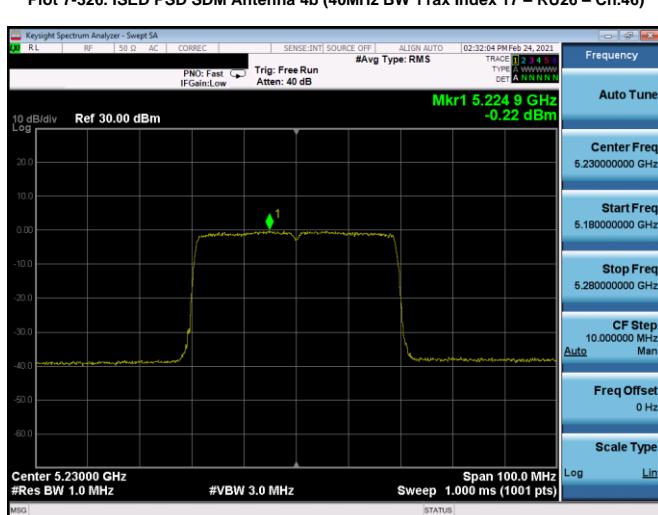
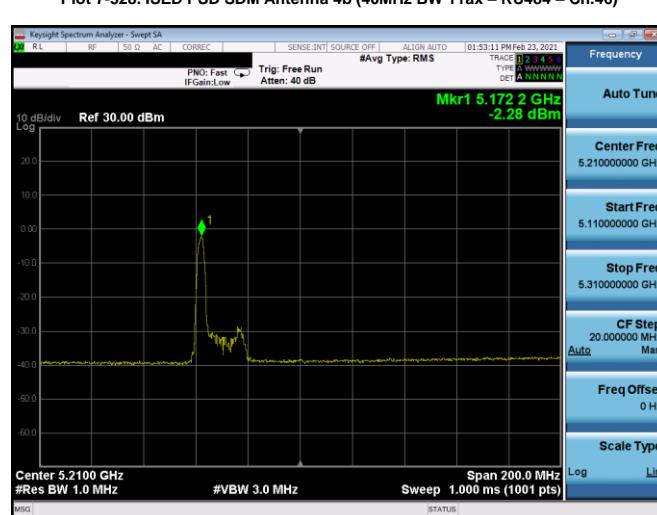
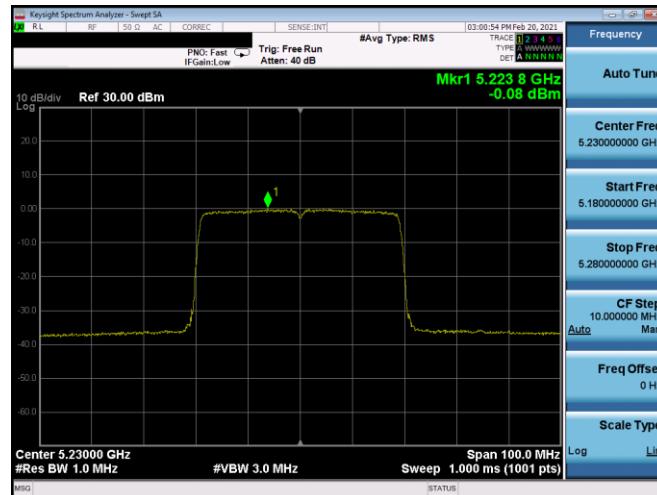
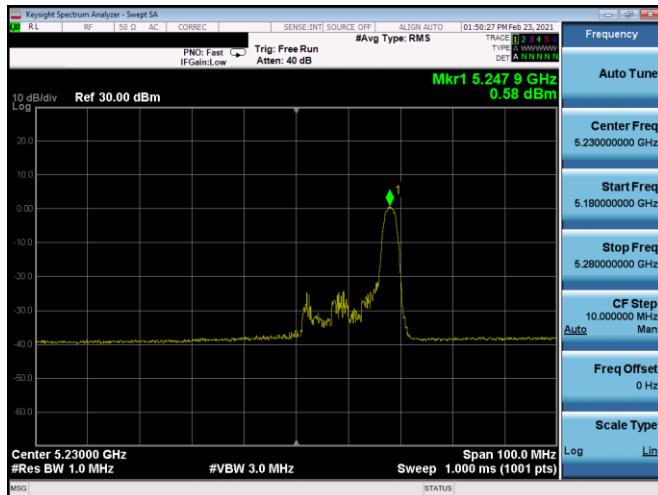


Plot 7-321. ISED PSD SDM Antenna 5b (40MHz BW 11ax Index 0 - RU26 - Ch.46)

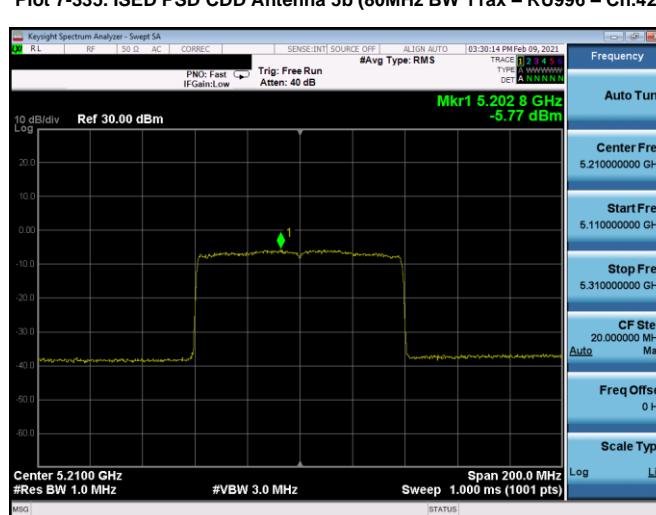
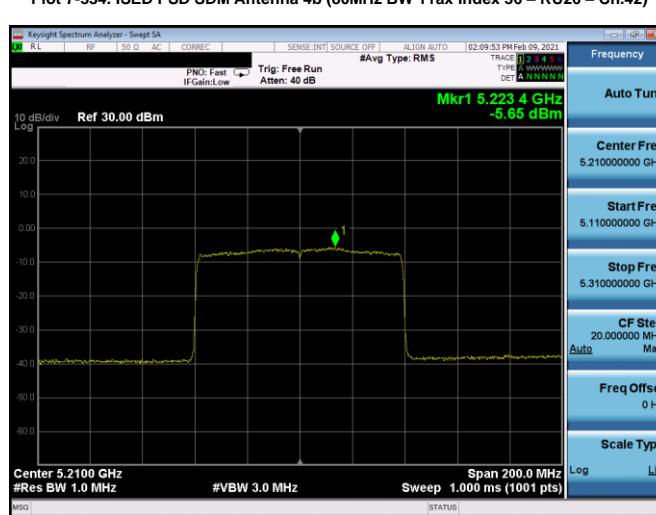
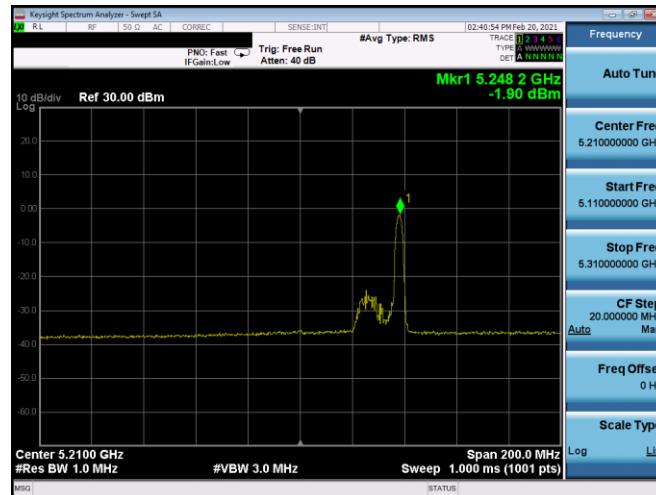
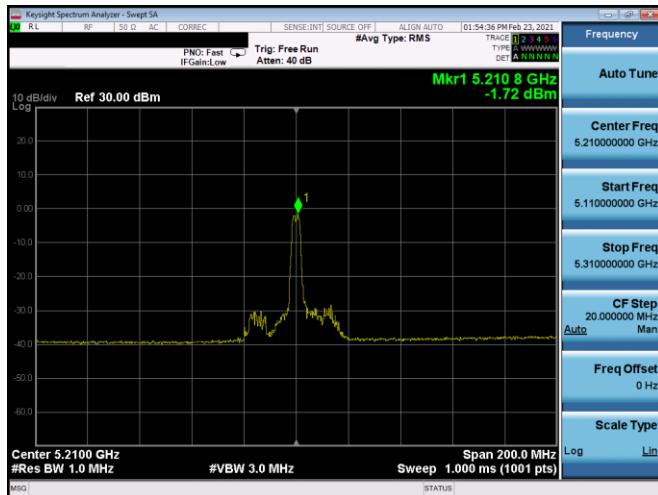


Plot 7-324. ISED PSD SDM Antenna 4b (40MHz BW 11ax Index 8 - RU26 - Ch.46)

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Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E2), the power spectral density at Antenna 5b and Antenna 4b were first measured separately during CDD/SDM transmission as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample Directional Gain Calculation:

For correlated signals, assuming the antenna gain is 5.5 dBi for Antenna 5b and 1.0 dBi for Antenna 4b.

$$\begin{aligned}
 \text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{\text{ANT}}] \text{ dBi} \\
 &= 10 \log[(10^{5.5/20} + 10^{1.0/20} / 2] \text{ dBi} \\
 &= 6.55 \text{ dBi}
 \end{aligned}$$

For uncorrelated signals, assuming the antenna gain is 5.5 dBi for Antenna 5b and 1.0 dBi for Antenna 4b.

$$\begin{aligned}
 \text{Directional gain} &= 10 \log[(10^{G_1/10} + 10^{G_2/10} + \dots + 10^{G_N/10}) / N_{\text{ANT}}] \text{ dBi} \\
 &= 10 \log[(10^{5.5/10} + 10^{1.0/10} / 2] \text{ dBi} \\
 &= 3.81 \text{ dBi}
 \end{aligned}$$

Sample CDD Calculation:

Assuming the average conducted power spectral density was measured to be 8.91 dBm for Antenna 5b and 8.95 dBm for Antenna 4b.

$$\text{Antenna 5b} + \text{Antenna 4b} = \text{CDD/SDM}$$

$$(0.36 \text{ dBm} + -0.37 \text{ dBm}) = (1.086 \text{ mW} + 0.918 \text{ mW}) = 2.004 \text{ mW} = 3.02 \text{ dBm}$$

Sample e.i.r.p Power Spectral Density Calculation:

Assuming the average CDD/SDM power density was calculated to be 3.02 dBm with directional gain of 3.81 dBi.

$$\text{e.i.r.p. Power Spectral Density(dBm)} = \text{Power Spectral Density (dBm)} + \text{directional gain (dBi)}$$

$$3.02 \text{ dBm} + 3.81 \text{ dBi} = 6.83 \text{ dBm}$$

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7.6 Radiated Spurious Emission – Above 1GHz

§15.407(b) §15.205 §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 its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. RU26, 52 Tones, RU106, RU242, RU484 and RU996), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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 7-82 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μ V/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-82. Radiated Limits

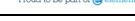
Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5
 KDB 789033 D02 v02r01 – Section G

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times$ span/RBW)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

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Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Test Setup

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

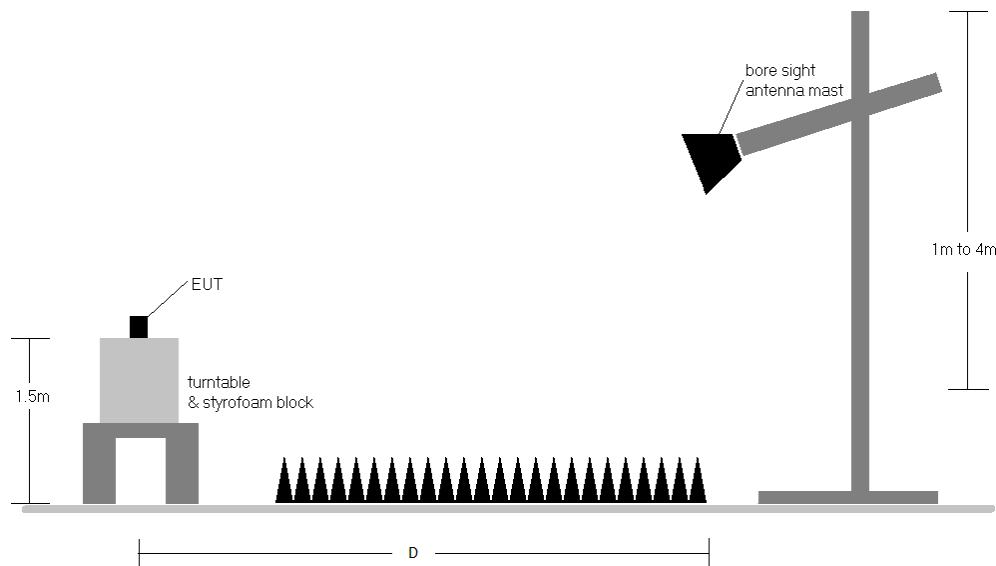


Figure 7-5. Test Instrument & Measurement Setup

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Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-82.
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-82. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dB μ V/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dB μ V/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas.
6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. 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.
8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
9. Per RSS-247 Section 6.2.3, transmission on channels which overlap the 5600-5650 MHz is prohibited. This device operates under these frequencies only under the control of a certified master device and does not support active scanning on these channels. This device does not transmit any beacons or initiate any transmissions in UNII Bands 2A or 2C.
10. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of 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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Sample Calculations

Determining Spurious Emissions Levels

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

Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 0 was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

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