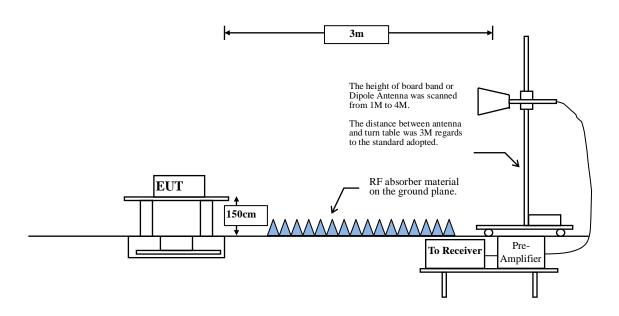


### 4. Band Edge

# 4.1. Test Setup



### 4.2. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15	FCC Part 15 Subpart C Paragraph 15.209 Limits									
Frequency MHz	uV/m @3m	dBμV/m@3m								
30-88	100	40								
88-216	150	43.5								
216-960	200	46								
Above 960	500	54								

Remarks:

- 1. RF Voltage ( $dB\mu V$ ) = 20 log RF Voltage (uV)
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

The final test results meets all the applicable FCC rules, including FCC Part 15C and Part 22H, Part 24E, Part 27 Part 90.



#### 4.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.



## **RBW and VBW Parameter setting:**

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

 $VBW \ge 3MHz$ .

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle  $\geq 98$  %

 $VBW \ge 1/T$ , when duty cycle < 98 %

( T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

5GHz band	Duty Cycle	Т	1/T	VBW
	(%)	(ms)	(Hz)	(Hz)
802.11a	94.51	2.0449	489	500
802.11ac20	94.43	1.9159	522	1000
802.11ac40	90.97	0.9493	1053	2000
802.11ac80	83.25	0.4609	2170	3000

Note: Duty Cycle Refer to Section 5

# 4.4. Uncertainty

±4.08 dB below 1GHz

±4.22 dB above 1GHz



# 4.5. Test Result of Band Edge

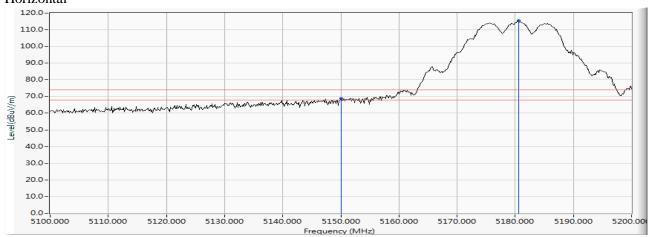
Product : Rugged Tablet
Test Item : Band Edge Data

Test Date : 2019/09/05

Test Mode : Mode 1:802.11a\_Band 1+GSM850\_863.4MHz+NFC-Channel 36

(5180MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	52.778	68.963	-5.037	74.000	PEAK
2	*	5180.580	15.836	99.756	115.592	41.592	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

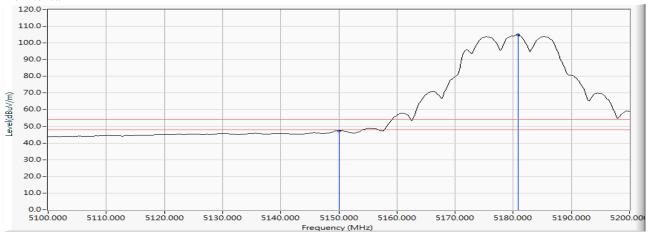


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/05

Test Mode : Mode 1:802.11a\_Band 1+GSM850\_863.4MHz+NFC-Channel 36

(5180MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	31.163	47.348	-6.652	54.000	AVERAGE
2	*	5180.870	15.833	89.102	104.935	50.935	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

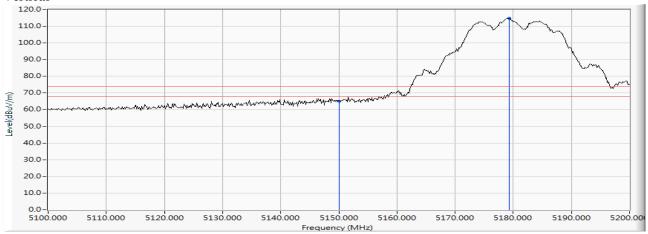


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/05

Test Mode : Mode 1:802.11a\_Band 1+GSM850\_863.4MHz+NFC-Channel 36

(5180MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	48.765	64.950	-9.050	74.000	PEAK
2	*	5179.275	15.851	98.884	114.735	40.735	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



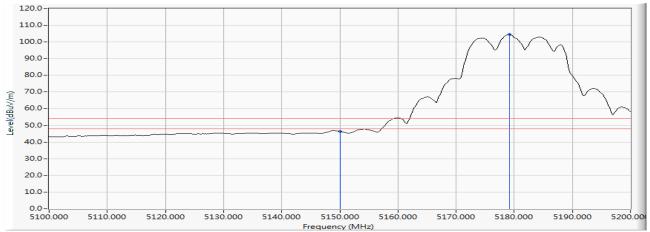
Product : Rugged Tablet
Test Item : Band Edge Data
Test Data : 2010/00/05

Test Date : 2019/09/05

Test Mode : Mode 1:802.11a\_Band 1+GSM850\_863.4MHz+NFC-Channel 36

(5180MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	30.114	46.299	-7.701	54.000	AVERAGE
2	*	5179.130	15.852	88.587	104.439	50.439	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

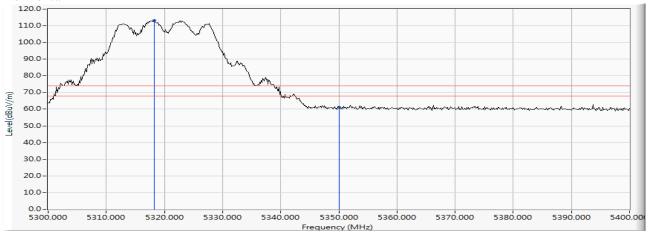


Test Date 2019/09/05

Test Mode Mode 5:802.11a\_Band 2a+WCDMA Band V\_863.6MHz+NFC -Channel 64

(5320MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5318.261	15.557	97.634	113.190	39.190	74.000	PEAK
2		5350.000	15.865	45.202	61.066	-12.934	74.000	PEAK

- All readings above 1GHz are performed with peak and/or average measurements as necessary.
- Measurement Level = Reading Level + Correct Factor.
- 2. 3. The average measurement was not performed when the peak measured data under the limit of average detection.

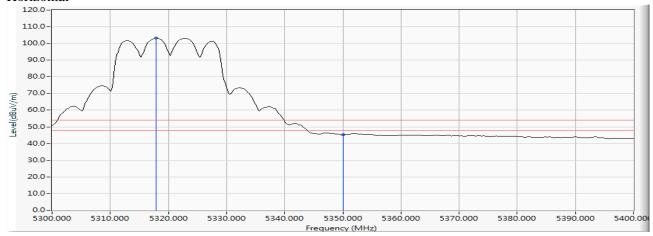


Test Date : 2019/09/05

Test Mode : Mode 5:802.11a\_Band 2a+WCDMA Band V\_863.6MHz+NFC -Channel 64

(5320MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5317.826	15.551	87.668	103.220	49.220	54.000	PEAK
2	2	5350.000	15.865	29.343	45.207	-8.793	54.000	PEAK

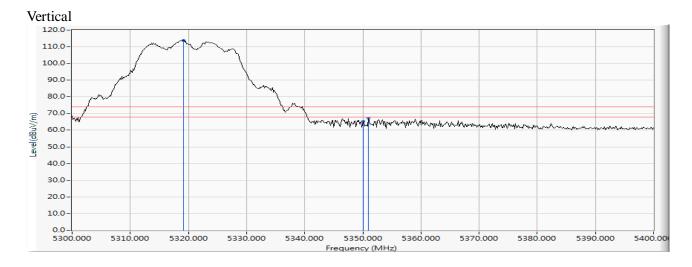
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Product Rugged Tablet Test Item Band Edge Data Test Date 2019/09/05

Test Mode Mode 5:802.11a\_Band 2a+WCDMA Band V\_863.6MHz+NFC -Channel 64

(5320MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5319.130	15.564	98.418	113.982	39.982	74.000	PEAK
2		5350.000	15.865	49.381	65.245	-8.755	74.000	PEAK
3		5351.014	15.874	51.479	67.353	-6.647	74.000	PEAK

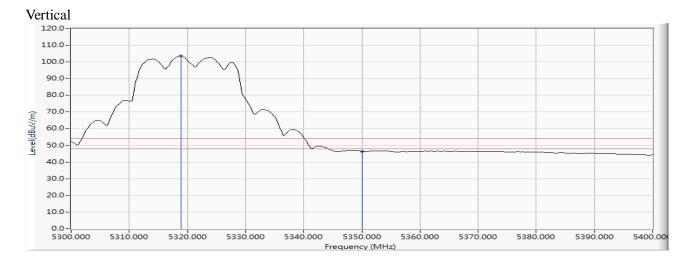
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection.



Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/05

Test Mode : Mode 5:802.11a\_Band 2a+WCDMA Band V\_863.6MHz+NFC -Channel 64

(5320MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5318.841	15.562	88.115	103.677	49.677	54.000	AVERAGE
2		5350.000	15.865	30.525	46.389	-7.611	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

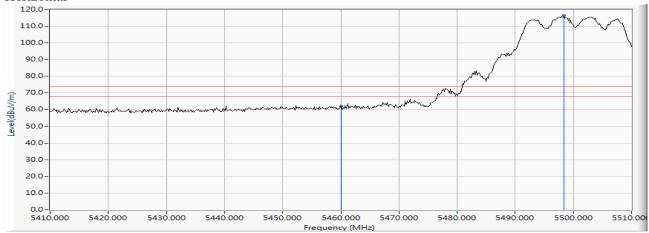


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/05

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	45.306	62.176	-11.824	74.000	PEAK
2	*	5498.406	17.169	99.355	116.523	42.523	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

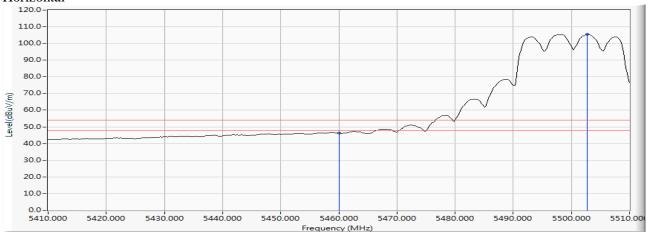


Test Date : 2019/09/05

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	29.306	46.176	-7.824	54.000	AVERAGE
2	*	5502.754	17.192	88.306	105.497	51.497	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

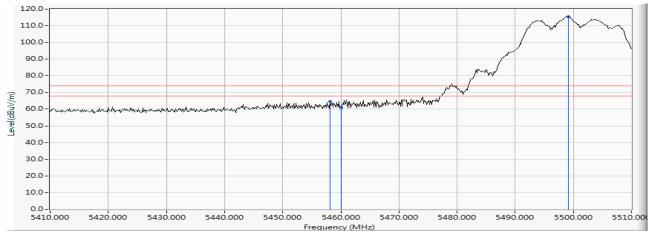


Test Date : 2019/09/05

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5458.116	16.853	47.696	64.549	-9.451	74.000	PEAK
2		5460.000	16.870	44.095	60.965	-13.035	74.000	PEAK
3	*	5499.130	17.173	98.227	115.399	41.399	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

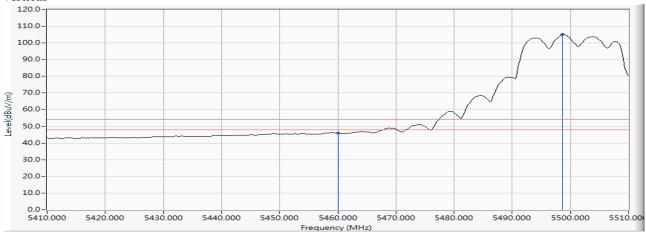


Product Rugged Tablet Test Item Band Edge Data Test Date 2019/09/05

Test Mode Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

# Vertical 120.0



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	29.142	46.012	-7.988	54.000	AVERAGE
2	*	5498.696	17.170	87.903	105.073	51.073	54.000	AVERAGE

- All readings above 1GHz are performed with peak and/or average measurements as necessary.
- Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection.

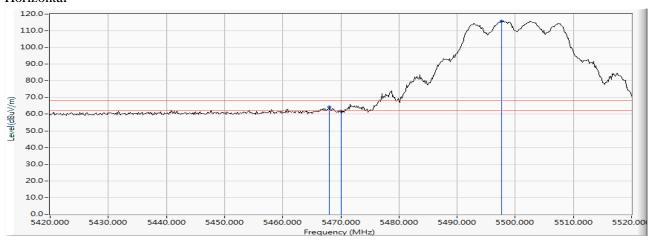


Test Date : 2019/09/06

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5467.971	16.939	47.250	64.189	-4.031	68.220	PEAK
2		5470.000	16.957	44.667	61.624	-6.596	68.220	PEAK
3	*	5497.681	17.165	98.583	115.748	47.528	68.220	PEAK

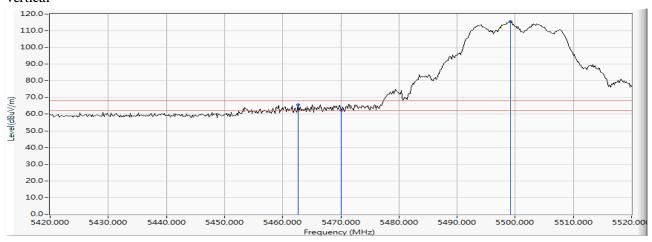


Test Date : 2019/09/06

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

100 (5500MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5462.609	16.892	48.701	65.593	-2.627	68.220	PEAK
2		5470.000	16.957	45.577	62.534	-5.686	68.220	PEAK
3	*	5499.130	17.173	98.254	115.426	47.206	68.220	PEAK

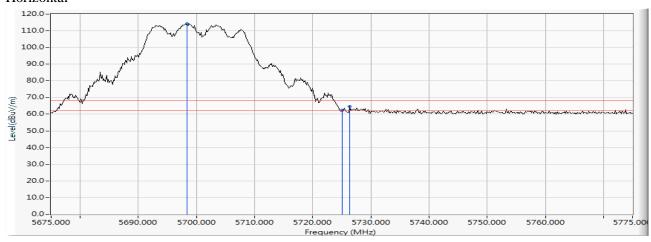


Test Date : 2019/09/06

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

140 (5700MHz)

### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5698.333	16.639	97.600	114.239	46.019	68.220	PEAK
2		5725.000	16.624	45.632	62.256	-5.964	68.220	PEAK
3		5726.304	16.624	48.094	64.718	-3.502	68.220	PEAK

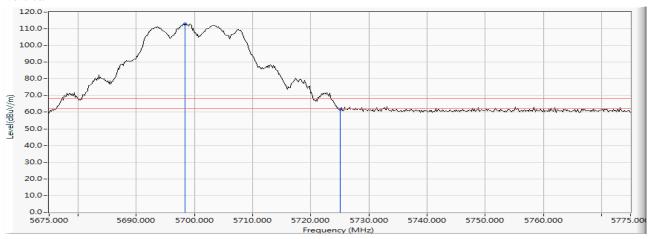


Test Date : 2019/09/06

Test Mode : Mode 9:802.11a\_Band 2c+LTE FDD Band 12\_10M 707.5MHz+NFC -Channel

140 (5700MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5698.333	16.639	96.215	112.854	44.634	68.220	PEAK
2		5725.000	16.624	45.248	61.872	-6.348	68.220	PEAK

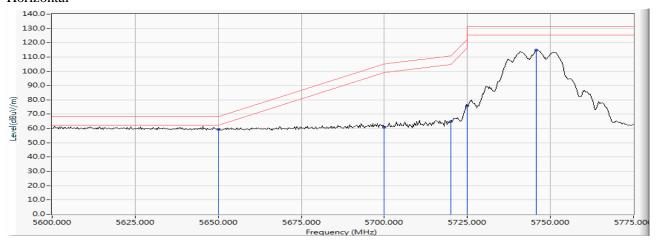


Test Date : 2019/09/06

Test Mode : Mode 13:802.11a\_Band 3+LTE FDD Band 26\_15M 831.5MHz+NFC -Channel

149 (5745MHz)

### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5650.000	16.772	42.396	59.168	-9.052	68.220	PEAK
2		5700.000	16.636	44.139	60.775	-44.425	105.200	PEAK
3		5720.000	16.623	48.125	64.748	-46.052	110.800	PEAK
4		5725.000	16.624	59.160	75.784	-46.416	122.200	PEAK
5		5745.833	16.632	98.167	114.798	-16.402	131.200	PEAK



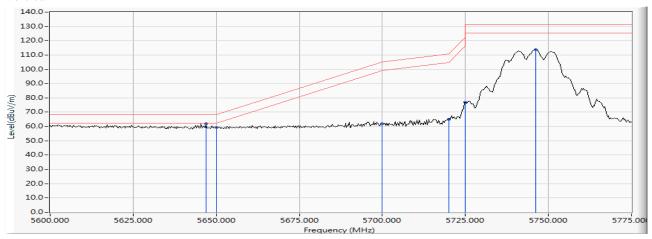
Product Rugged Tablet Test Item Band Edge Data Test Date 2019/09/06

Test Mode

 $Mode~13:802.11a\_Band~3+LTE~FDD~Band~26\_15M~831.5MHz+NFC~-Channel$ 

149 (5745MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5646.920	16.781	45.313	62.095	-6.125	68.220	PEAK
2		5650.000	16.772	42.370	59.142	-9.078	68.220	PEAK
3		5700.000	16.636	45.124	61.760	-43.440	105.200	PEAK
4		5720.000	16.623	48.456	65.079	-45.721	110.800	PEAK
5		5725.000	16.624	60.350	76.974	-45.226	122.200	PEAK
6		5746.087	16.631	97.257	113.889	-17.311	131.200	PEAK

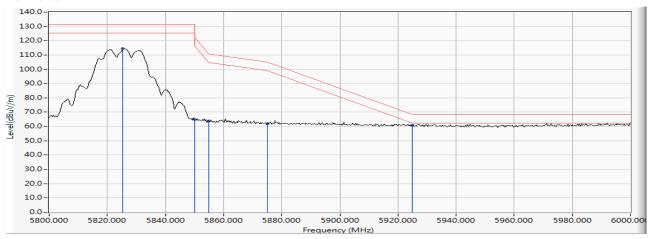


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/06

Test Mode : Mode 13:802.11a\_Band 3+LTE FDD Band 26\_15M 831.5MHz+NFC -Channel

165 (5825MHz)

### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5825.217	16.956	97.655	114.611	-16.589	131.200	PEAK
2		5850.000	17.081	47.688	64.769	-57.431	122.200	PEAK
3		5855.000	17.106	46.577	63.683	-47.117	110.800	PEAK
4		5875.000	17.208	44.786	61.994	-43.206	105.200	PEAK
5	*	5925.000	17.361	43.460	60.821	-7.399	68.220	PEAK

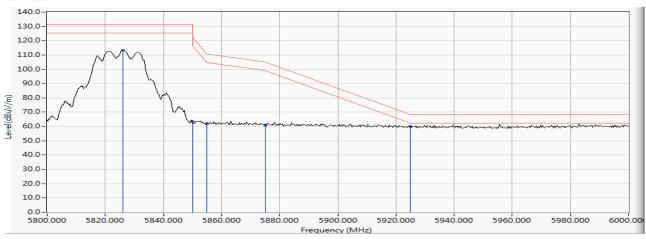


Product Rugged Tablet Test Item Band Edge Data Test Date 2019/09/06

Test Mode  $Mode~13:802.11a\_Band~3+LTE~FDD~Band~26\_15M~831.5MHz+NFC~-Channel$ 

165 (5825MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5826.087	16.960	96.382	113.342	-17.858	131.200	PEAK
2		5850.000	17.081	46.214	63.295	-58.905	122.200	PEAK
3		5855.000	17.106	45.009	62.115	-48.685	110.800	PEAK
4		5875.000	17.208	43.731	60.939	-44.261	105.200	PEAK
5	*	5925.000	17.361	42.549	59.910	-8.310	68.220	PEAK

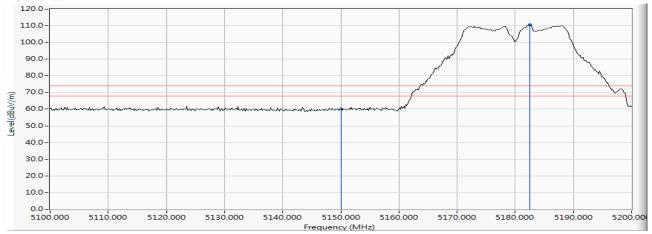


Test Date : 2019/09/05

Test Mode : Mode 2:802.11n20\_Band 1+GSM1900\_1880MHz+NFC -Channel 36

(5180MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	44.074	60.259	-13.741	74.000	PEAK
2	*	5182.464	15.814	94.744	110.558	36.558	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

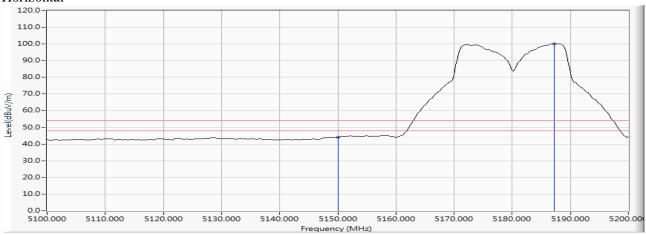


Test Date : 2019/09/05

Test Mode : Mode 2:802.11n20\_Band 1+GSM1900\_1880MHz+NFC -Channel 36

(5180MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	27.740	43.925	-10.075	54.000	AVERAGE
2	*	5187.247	15.761	84.365	100.125	46.125	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

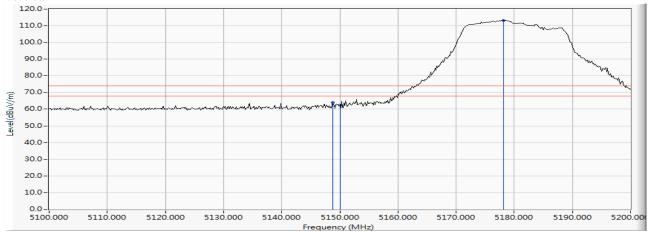


Test Date : 2019/09/05

Test Mode : Mode 2:802.11n20\_Band 1+GSM1900\_1880MHz+NFC -Channel 36

(5180MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5148.841	16.198	47.849	64.047	-9.953	74.000	PEAK
2		5150.000	16.185	46.090	62.275	-11.725	74.000	PEAK
3	*	5178.116	15.865	97.442	113.306	39.306	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

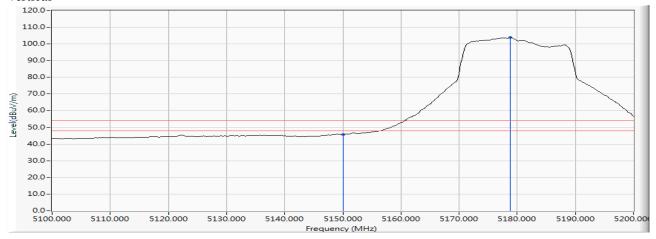


Test Date : 2019/09/05

Test Mode : Mode 2:802.11n20\_Band 1+GSM1900\_1880MHz+NFC -Channel 36

(5180MHz)

### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	29.551	45.736	-8.264	54.000	AVERAGE
2	*	5178.841	15.856	87.975	103.831	49.831	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

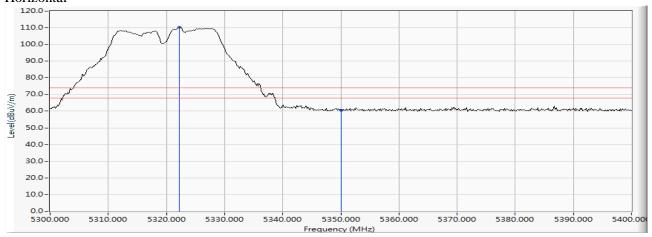


Test Date : 2019/09/05

Test Mode : Mode 6:802.11n20\_Band 2a+LTE FDD Band 2\_20M 1880MHz+NFC -Channel

64 (5320MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5322.174	15.595	94.620	110.214	36.214	74.000	PEAK
2	2	5350.000	15.865	44.752	60.616	-13.384	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

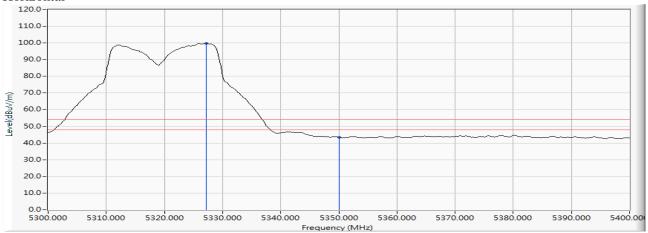


Test Date : 2019/09/05

Test Mode : Mode 6:802.11n20\_Band 2a+LTE FDD Band 2\_20M 1880MHz+NFC -Channel

64 (5320MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5327.246	15.644	84.172	99.815	45.815	54.000	AVERAGE
2		5350.000	15.865	27.707	43.571	-10.429	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

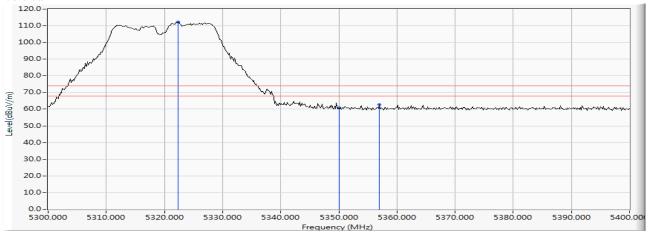


Test Date : 2019/09/05

Test Mode : Mode 6:802.11n20\_Band 2a+LTE FDD Band 2\_20M 1880MHz+NFC -Channel

64 (5320MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5322.319	15.596	96.582	112.178	38.178	74.000	PEAK
2		5350.000	15.865	44.844	60.708	-13.292	74.000	PEAK
3		5356.957	15.932	46.786	62.718	-11.282	74.000	PEAK

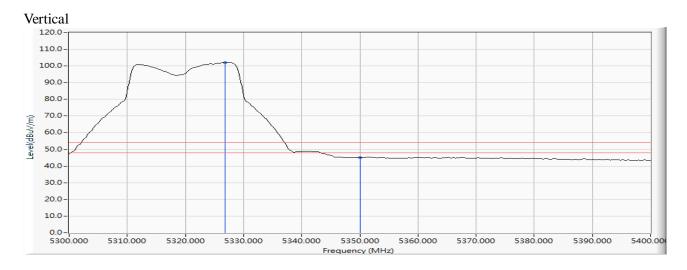
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Date : 2019/09/05

Test Mode : Mode 6:802.11n20\_Band 2a+LTE FDD Band 2\_20M 1880MHz+NFC -Channel

64 (5320MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5326.812	15.638	86.409	102.048	48.048	54.000	AVERAGE
2		5350.000	15.865	29.046	44.910	-9.090	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

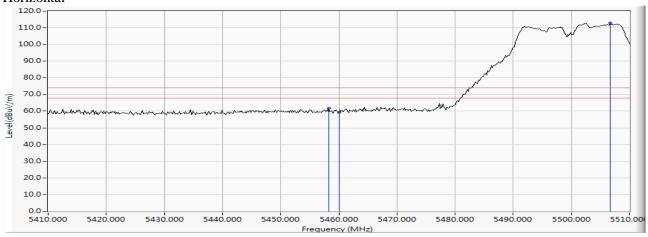


Test Date : 2019/09/05

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M 782.5MHz+NFC

-Channel 100 (5500MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5458.261	16.855	44.842	61.697	-12.303	74.000	PEAK
2		5460.000	16.870	42.315	59.185	-14.815	74.000	PEAK
3	*	5506.667	17.198	95.670	112.868	38.868	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

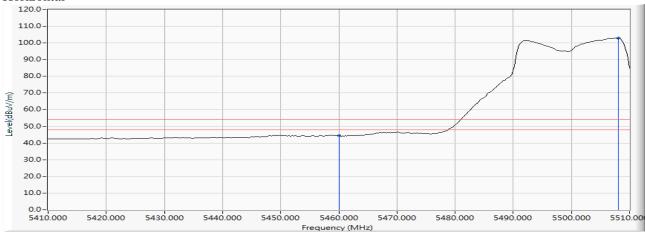


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/05

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M 782.5MHz+NFC

-Channel 100 (5500MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	27.402	44.272	-9.728	54.000	AVERAGE
2	*	5508.116	17.193	85.634	102.828	48.828	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

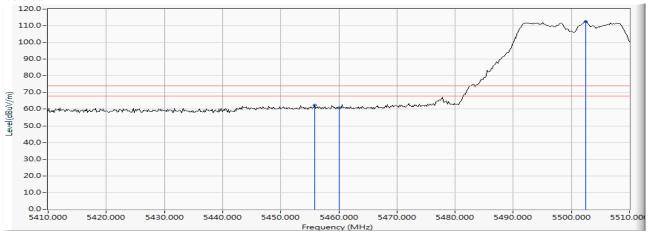


Test Date : 2019/09/05

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M 782.5MHz+NFC

-Channel 100 (5500MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5455.797	16.834	45.485	62.318	-11.682	74.000	PEAK
2		5460.000	16.870	43.917	60.787	-13.213	74.000	PEAK
3	*	5502.464	17.190	95.295	112.485	38.485	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

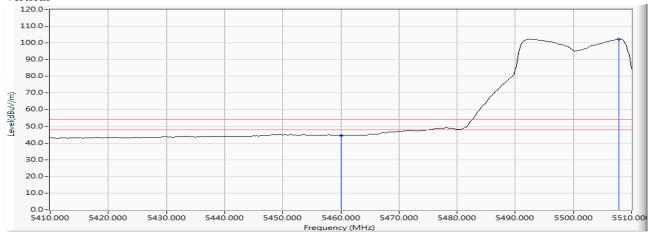


Test Date : 2019/09/05

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M 782.5MHz+NFC

-Channel 100 (5500MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	27.661	44.531	-9.469	54.000	AVERAGE
2	*	5507.826	17.195	85.203	102.397	48.397	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

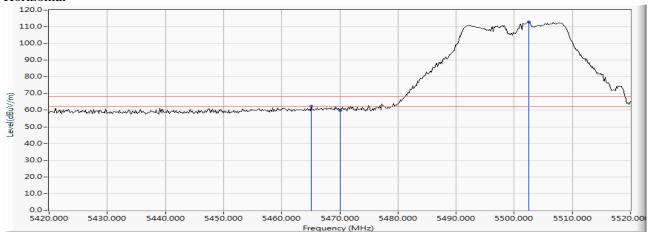


Test Date : 2019/09/06

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M

782.5MHz+NFC-Channel 100 (5500MHz)

#### Horizontal



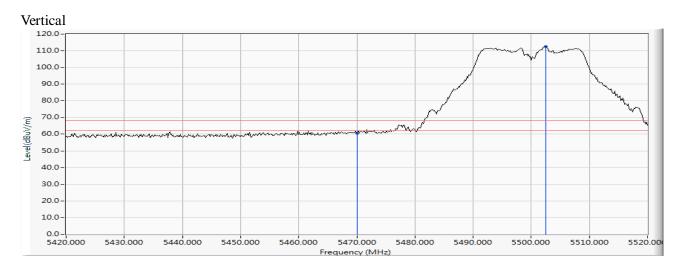
		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5465.072	16.913	45.580	62.494	-5.726	68.220	PEAK
2		5470.000	16.957	42.890	59.847	-8.373	68.220	PEAK
3	*	5502.464	17.190	95.647	112.837	44.617	68.220	PEAK



1est Date . 2019/09/00

Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M

782.5MHz+NFC-Channel 100 (5500MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5470.000	16.957	43.529	60.486	-7.734	68.220	PEAK
2	*	5502.464	17.190	95.281	112.471	44.251	68.220	PEAK

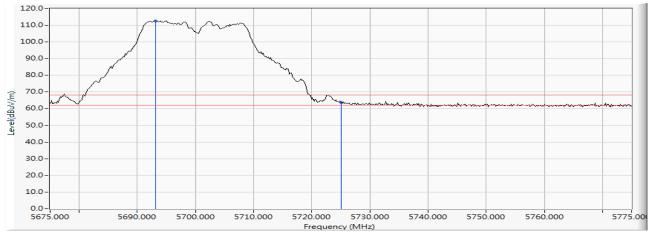


Test Date : 2019/09/06

 $Test\ Mode \quad : \quad Mode\ 10:802.11n20\_Band\ 2c+LTE\ FDD\ Band\ 13\_10M\ 782.5MHz+NFC-Channel$ 

140 (5700MHz)

# Horizontal



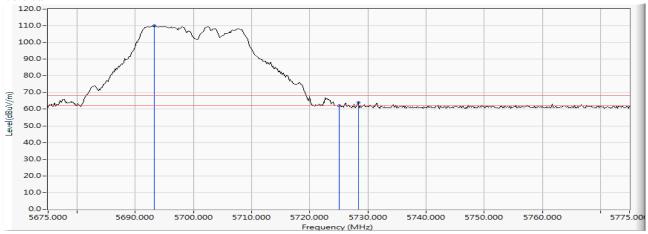
		Frequency (MHz)	Correct Factor	Reading Level	Measure Level	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5693.116	,	(* - /	( /	ζ- /	( /	PEAK
2		5725.000	16.624	46.998	63.622	-4.598	68.220	PEAK



Test Mode : Mode 10:802.11n20\_Band 2c+LTE FDD Band 13\_10M

782.5MHz+NFC-Channel 140 (5700MHz)

## Vertical



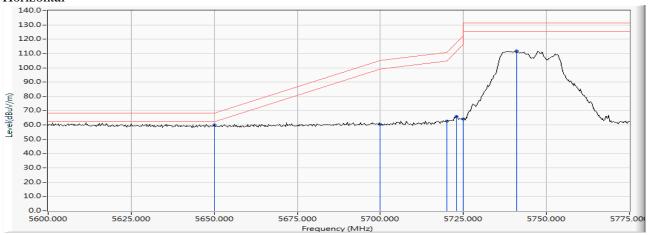
			Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
			(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
	1	*	5693.261	16.645	93.411	110.057	41.837	68.220	PEAK
Ī	2		5725.000	16.624	45.617	62.241	-5.979	68.220	PEAK
	3		5728.333	16.623	47.397	64.021	-4.199	68.220	PEAK



Test Mode : Mode 14:802.11n20\_Band 3+GSM850\_863.4MHz+NFC-Channel 149

(5745MHz)

# Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5650.000	16.772	43.326	60.098	-8.122	68.220	PEAK
2		5700.000	16.636	43.687	60.323	-44.877	105.200	PEAK
3		5720.000	16.623	45.917	62.540	-48.260	110.800	PEAK
4		5723.007	16.624	49.298	65.922	-51.734	117.656	PEAK
5		5725.000	16.624	47.701	64.325	-57.875	122.200	PEAK
6		5741.014	16.624	95.055	111.679	-19.521	131.200	PEAK

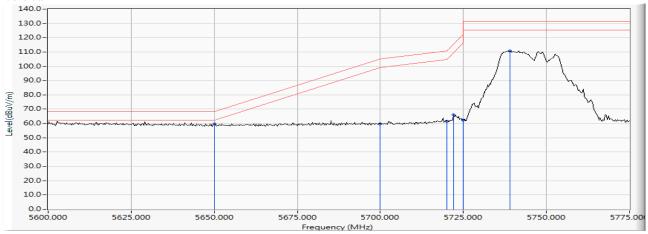


Test Date : 2019/09/06

Test Mode : Mode 14:802.11n20\_Band 3+GSM850\_863.4MHz+NFC-Channel 149

(5745MHz)

# Vertical

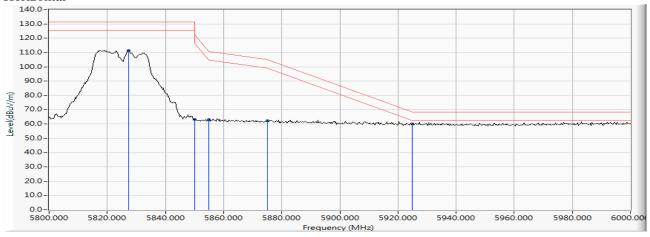


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5650.000	16.772	42.997	59.769	-8.451	68.220	PEAK
2		5700.000	16.636	43.024	59.660	-45.540	105.200	PEAK
3		5720.000	16.623	44.893	61.516	-49.284	110.800	PEAK
4		5721.993	16.624	49.598	66.221	-49.123	115.344	PEAK
5		5725.000	16.624	45.709	62.333	-59.867	122.200	PEAK
6		5738.986	16.625	94.023	110.648	-20.552	131.200	PEAK



Test Mode : Mode 14:802.11n20\_Band 3+GSM850\_863.4MHz+NFC-Channel 165 (5825MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5827.246	16.966	94.626	111.592	-19.608	131.200	PEAK
2		5850.000	17.081	45.974	63.055	-59.145	122.200	PEAK
3		5855.000	17.106	45.903	63.009	-47.791	110.800	PEAK
4		5875.000	17.208	45.259	62.467	-42.733	105.200	PEAK
5	*	5925.000	17.361	42.776	60.137	-8.083	68.220	PEAK

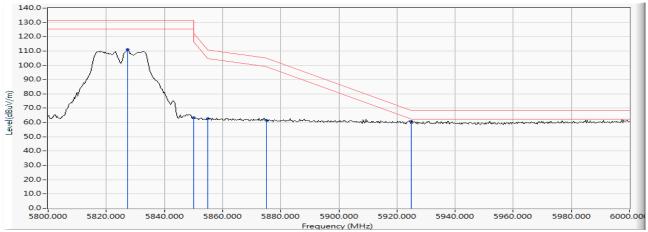


Test Date : 2019/09/06

Test Mode : Mode 14:802.11n20\_Band 3+GSM850\_863.4MHz+NFC-Channel 165

(5825MHz)

## Vertical



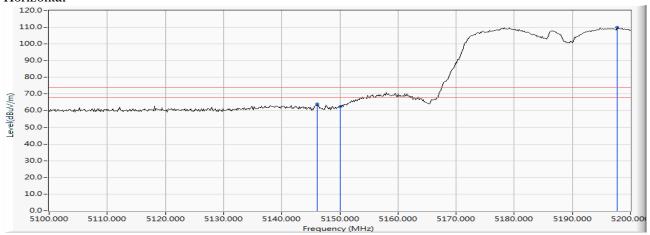
		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5827.246	16.966	94.000	110.966	-20.234	131.200	PEAK
2		5850.000	17.081	46.172	63.253	-58.947	122.200	PEAK
3		5855.000	17.106	45.615	62.721	-48.079	110.800	PEAK
4		5875.000	17.208	44.353	61.561	-43.639	105.200	PEAK
5	*	5925.000	17.361	43.336	60.697	-7.523	68.220	PEAK



Test Mode : Mode 3:802.11n40\_Band 1+WCDMA BandII\_1880MHz+NFC-Channel 38

(5190MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5146.087	16.230	47.895	64.125	-9.875	74.000	PEAK
2		5150.000	16.185	46.133	62.318	-11.682	74.000	PEAK
3	*	5197.681	15.641	94.497	110.138	36.138	74.000	PEAK

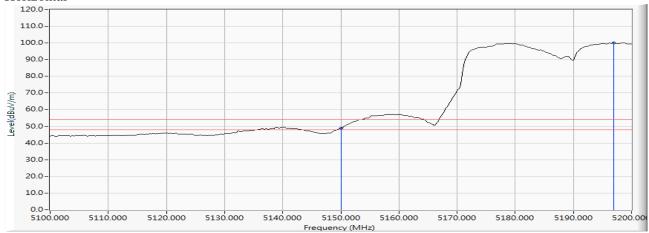
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 3:802.11n40\_Band 1+WCDMA BandII\_1880MHz+NFC-Channel 38

(5190MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	32.710	48.895	-5.105	54.000	AVERAGE
2	*	5196.957	15.649	84.459	100.109	46.109	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

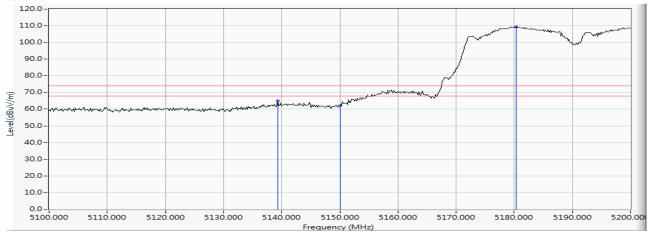


Test Date : 2019/09/05

Test Mode : Mode 3:802.11n40\_Band 1+WCDMA BandII\_1880MHz+NFC-Channel 38

(5190MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5139.275	16.307	48.665	64.972	-9.028	74.000	PEAK
2		5150.000	16.185	45.794	61.979	-12.021	74.000	PEAK
3	*	5180.290	15.840	93.429	109.268	35.268	74.000	PEAK

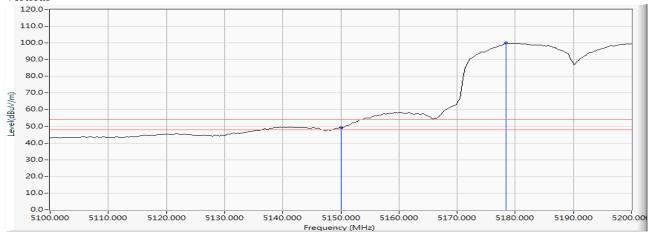
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode Mode 3:802.11n40\_Band 1+WCDMA BandII\_1880MHz+NFC-Channel 38

(5190MHz)

# Vertical 120.0



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5150.000	16.185	32.979	49.164	-4.836	54.000	AVERAGE
2	*	5178.406	15.861	84.123	99.984	45.984	54.000	AVERAGE

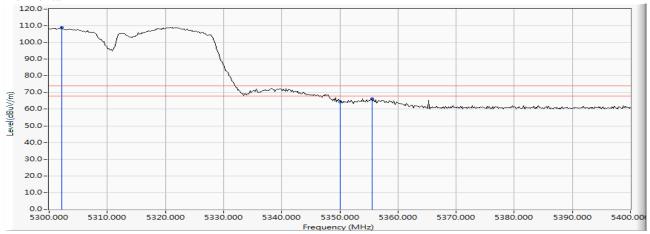
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 7:802.11n40\_Band 2a+LTE FDD Band 4\_20M

1732.5MHz+NFC-Channel 62 (5310MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5302.174	15.401	93.624	109.025	35.025	74.000	PEAK
2		5350.000	15.865	48.541	64.405	-9.595	74.000	PEAK
3		5355.507	15.919	50.430	66.348	-7.652	74.000	PEAK

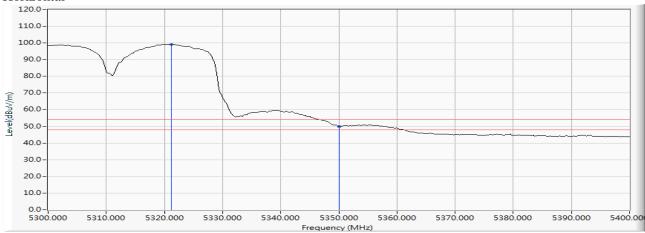
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 7:802.11n40\_Band 2a+LTE FDD Band 4\_20M

1732.5MHz+NFC-Channel 62 (5310MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5321.159	15.584	83.661	99.245	45.245	54.000	AVERAGE
2		5350.000	15.865	33.973	49.837	-4.163	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

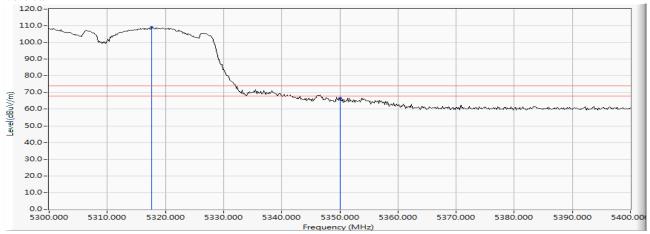


Test Date : 2019/09/05

Test Mode : Mode 7:802.11n40\_Band 2a+LTE FDD Band 4\_20M

1732.5MHz+NFC-Channel 62 (5310MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5317.681	15.550	93.382	108.933	34.933	74.000	PEAK
2		5350.000	15.865	50.889	66.753	-7.247	74.000	PEAK

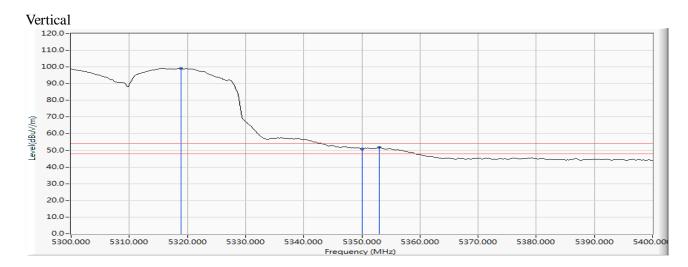
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Date : 2019/09/05

Test Mode : Mode 7:802.11n40\_Band 2a+LTE FDD Band 4\_20M

1732.5MHz+NFC-Channel 62 (5310MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5318.841	15.562	83.625	99.187	45.187	54.000	AVERAGE
2	2	5350.000	15.865	34.985	50.849	-3.151	54.000	AVERAGE
3	3	5353.043	15.893	35.915	51.809	-2.191	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

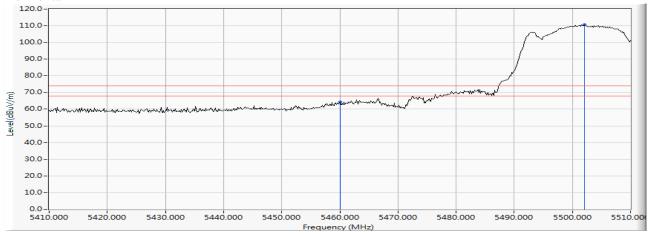


Test Date : 2019/09/05

Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	47.437	64.307	-9.693	74.000	PEAK
2	*	5502.029	17.188	93.503	110.691	36.691	74.000	PEAK

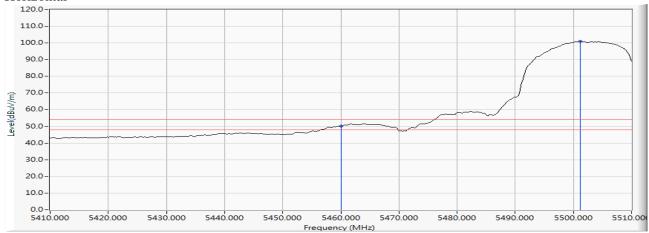
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	33.208	50.078	-3.922	54.000	AVERAGE
2	*	5501.159	17.183	83.831	101.014	47.014	54.000	AVERAGE

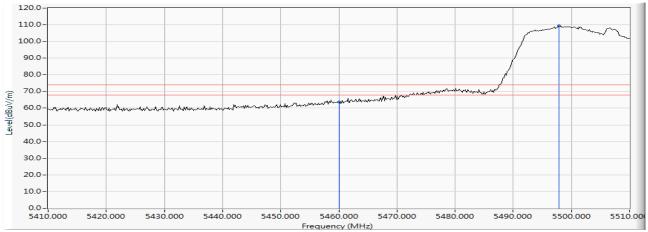
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	46.924	63.794	-10.206	74.000	PEAK
2	*	5497.826	17.165	92.141	109.306	35.306	74.000	PEAK

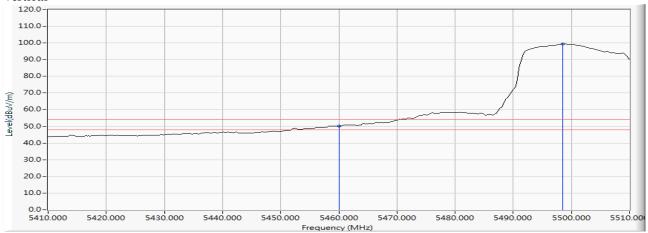
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

# Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	33.238	50.108	-3.892	54.000	AVERAGE
2	*	5498.551	17.170	82.314	99.483	45.483	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

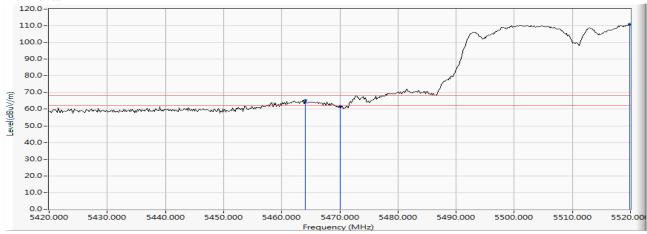


Test Date : 2019/09/06

Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5464.058	16.905	48.432	65.337	-2.883	68.220	PEAK
2		5470.000	16.957	44.918	61.875	-6.345	68.220	PEAK
3	*	5519.855	17.158	93.677	110.835	42.615	68.220	PEAK

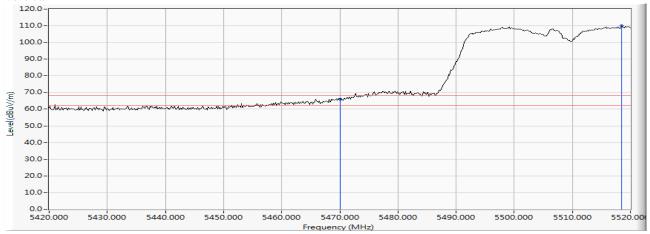


Test Date : 2019/09/06

Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 102 (5510MHz)

## Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5470.000	16.957	48.959	65.916	-2.304	68.220	PEAK
2	*	5518.406	17.162	92.788	109.951	41.731	68.220	PEAK

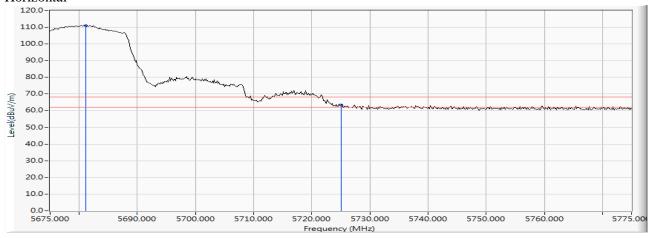


Test Date : 2019/09/06

Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 134 (5670MHz)

# Horizontal



		Frequency (MHz)	Correct Factor	Reading Level	Measure Level	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5681.087	,	94.441	111.121	42.901	68.220	PEAK
2		5725.000	16.624	46.741	63.365	-4.855	68.220	PEAK

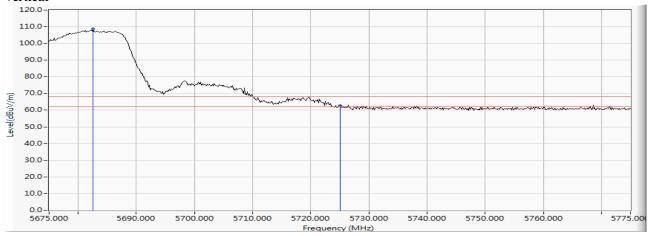


Test Date : 2019/09/06

Test Mode : Mode 11:802.11n40\_Band 2c+LTE FDD Band 17\_10M

710MHz+NFC-Channel 134 (5670MHz)

## Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5682.536	16.676	91.933	108.608	40.388	68.220	PEAK
2		5725.000	16.624	46.236	62.860	-5.360	68.220	PEAK

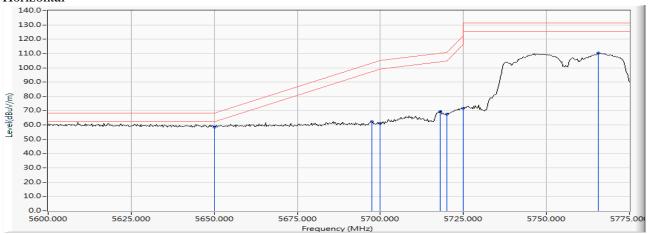


Test Date 2019/09/06

Test Mode Mode 15:802.11n40\_Band 3+GSM1900\_1880MHz+NFC-Channel 151

(5755MHz)

# Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5650.000	16.772	41.804	58.576	-9.644	68.220	PEAK
2		5697.391	16.640	45.600	62.240	-41.030	103.270	PEAK
3		5700.000	16.636	44.719	61.355	-43.845	105.200	PEAK
4		5717.935	16.623	52.665	69.288	-40.934	110.222	PEAK
5		5720.000	16.623	51.116	67.739	-43.061	110.800	PEAK
6		5725.000	16.624	55.099	71.723	-50.477	122.200	PEAK
7		5765.616	16.689	93.651	110.340	-20.860	131.200	PEAK

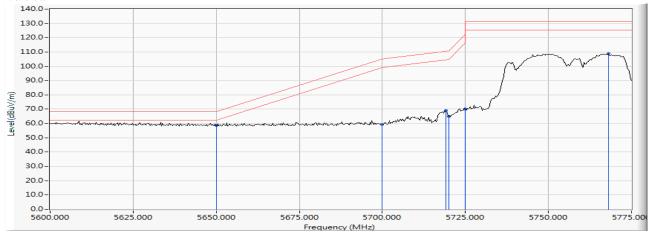


Test Date : 2019/09/06

Test Mode : Mode 15:802.11n40\_Band 3+GSM1900\_1880MHz+NFC-Channel 151

(5755MHz)

## Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5650.000	16.772	41.616	58.388	-9.832	68.220	PEAK
2		5700.000	16.636	42.737	59.373	-45.827	105.200	PEAK
3		5719.203	16.624	52.577	69.200	-41.377	110.577	PEAK
4		5720.000	16.623	48.242	64.865	-45.935	110.800	PEAK
5		5725.000	16.624	53.380	70.004	-52.196	122.200	PEAK
6		5768.152	16.699	92.089	108.788	-22.412	131.200	PEAK

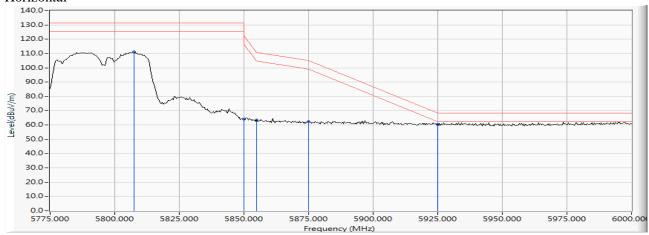


Test Date : 2019/09/06

Test Mode : Mode 15:802.11n40\_Band 3+GSM1900\_1880MHz+NFC-Channel 159

(5795MHz)

# Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5807.609	16.868	94.391	111.258	-19.942	131.200	PEAK
2		5850.000	17.081	47.092	64.173	-58.027	122.200	PEAK
3		5855.000	17.106	46.302	63.408	-47.392	110.800	PEAK
4		5875.000	17.208	45.232	62.440	-42.760	105.200	PEAK
5	*	5925.000	17.361	43.185	60.546	-7.674	68.220	PEAK

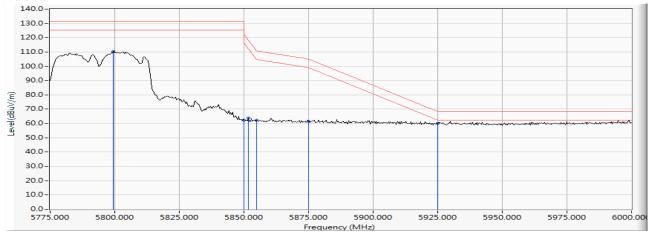


Test Date : 2019/09/06

Test Mode : Mode 15:802.11n40\_Band 3+GSM1900\_1880MHz+NFC-Channel 159

(5795MHz)

## Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5799.457	16.830	93.625	110.454	-20.746	131.200	PEAK
2		5850.000	17.081	45.121	62.202	-59.998	122.200	PEAK
3		5851.630	17.090	46.811	63.901	-54.583	118.484	PEAK
4		5855.000	17.106	45.254	62.360	-48.440	110.800	PEAK
5		5875.000	17.208	44.330	61.538	-43.662	105.200	PEAK
6	*	5925.000	17.361	42.702	60.063	-8.157	68.220	PEAK

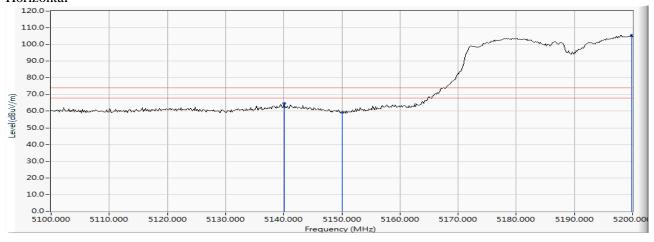


Test Date : 2019/09/05

Test Mode : Mode 4:802.11ac-80\_Band 1+WCDMA BandIV\_1732.6MHz+NFC -Channel 42

(5210MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5140.145	16.297	48.425	64.723	-9.277	74.000	PEAK
2		5150.000	16.185	43.155	59.340	-14.660	74.000	PEAK
3	*	5199.855	15.618	89.839	105.457	31.457	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

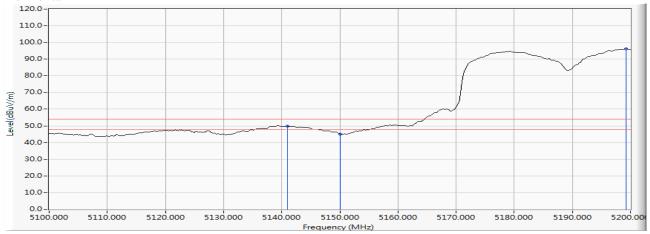


Test Date : 2019/09/05

Test Mode : Mode 4:802.11ac-80\_Band 1+WCDMA BandIV\_1732.6MHz+NFC -Channel 42

(5210MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5141.014	16.287	33.531	49.819	-4.181	54.000	AVERAGE
2		5150.000	16.185	28.726	44.911	-9.089	54.000	AVERAGE
3	*	5199.275	15.624	80.571	96.195	42.195	54.000	AVERAGE

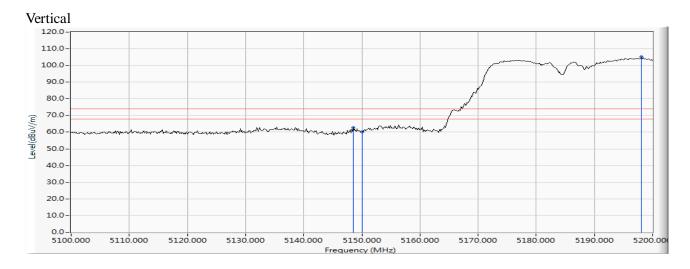
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Date : 2019/09/05

Test Mode : Mode 4:802.11ac-80\_Band 1+WCDMA BandIV\_1732.6MHz+NFC -Channel 42

(5210MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5148.551	16.202	46.679	62.880	-11.120	74.000	PEAK
2		5150.000	16.185	44.096	60.281	-13.719	74.000	PEAK
3	*	5198.116	15.637	89.429	105.065	31.065	74.000	PEAK

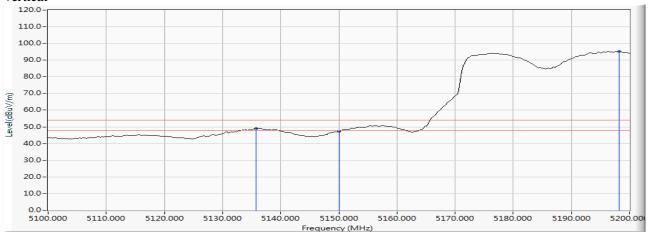
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 4:802.11ac-80\_Band 1+WCDMA BandIV\_1732.6MHz+NFC -Channel 42

(5210MHz)

# Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5135.797	16.347	32.684	49.031	-4.969	54.000	AVERAGE
2		5150.000	16.185	31.006	47.191	-6.809	54.000	AVERAGE
3	*	5198.261	15.635	79.599	95.234	41.234	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

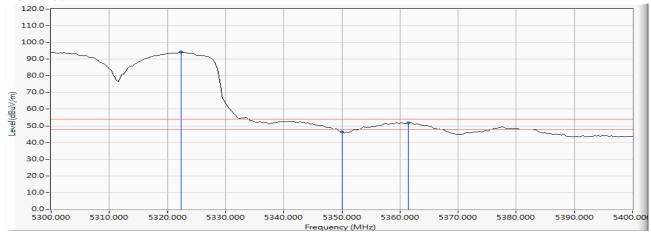


Test Date : 2019/09/05

Test Mode : Mode 8:802.11ac80\_Band 2a+LTE FDD Band 5\_10M 836.5MHz+NFC -Channel

58 (5290MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5322.319	15.596	78.613	94.209	40.209	54.000	AVERAGE
2		5350.000	15.865	30.386	46.250	-7.750	54.000	AVERAGE
3		5361.449	15.974	35.780	51.755	-2.245	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

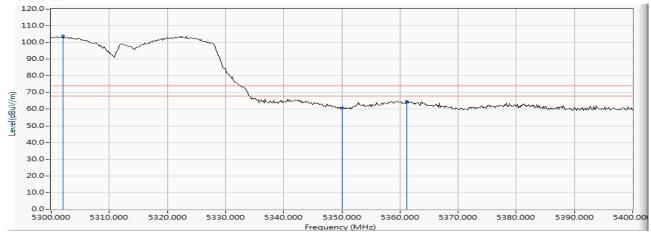


Test Date : 2019/09/05

Test Mode : Mode 8:802.11ac80\_Band 2a+LTE FDD Band 5\_10M 836.5MHz+NFC -Channel

58 (5290MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5302.029	15.399	88.438	103.837	29.837	74.000	PEAK
2		5350.000	15.865	44.989	60.853	-13.147	74.000	PEAK
3		5361.159	15.972	48.807	64.779	-9.221	74.000	PEAK

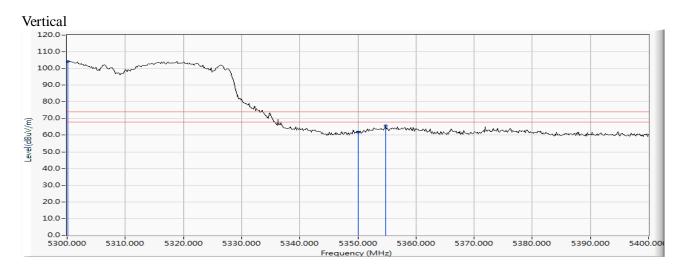
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Date : 2019/09/05

Test Mode : Mode 8:802.11ac80\_Band 2a+LTE FDD Band 5\_10M 836.5MHz+NFC -Channel

58 (5290MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5300.145	15.385	88.926	104.311	30.311	74.000	PEAK
2		5350.000	15.865	45.808	61.672	-12.328	74.000	PEAK
3		5354.783	15.910	49.854	65.765	-8.235	74.000	PEAK

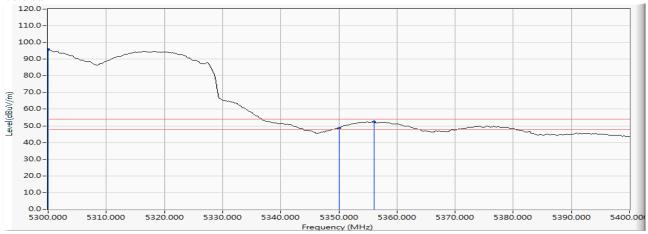
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Mode : Mode 8:802.11ac80\_Band 2a+LTE FDD Band 5\_10M 836.5MHz+NFC -Channel

58 (5290MHz)

#### Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5300.000	15.385	80.440	95.824	41.824	54.000	AVERAGE
2		5350.000	15.865	32.862	48.726	-5.274	54.000	AVERAGE
3		5356.087	15.923	36.436	52.359	-1.641	54.000	AVERAGE

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

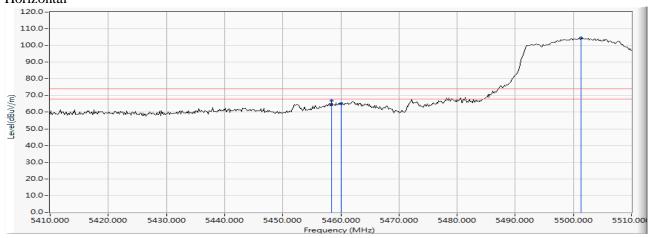


Test Date : 2019/09/05

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC -Channel

106 (5530MHz)

## Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5458.406	16.856	49.954	66.810	-7.190	74.000	PEAK
2		5460.000	16.870	48.316	65.186	-8.814	74.000	PEAK
3	*	5501.304	17.184	87.446	104.630	30.630	74.000	PEAK

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

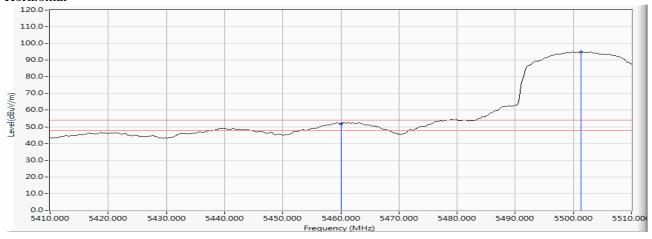


Test Date : 2019/09/05

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC -Channel

106 (5530MHz)

#### Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	34.890	51.760	-2.240	54.000	AVERAGE
2	*	5501.304	17.184	77.780	94.964	40.964	54.000	AVERAGE

# Note:

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.



Test Date : 2019/09/05

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC

-Channel 106 (5530MHz)

#### Vertical 110.0 100.0 90.0 70.0 Level(dBuV/m) 60.0 50.0 40.0 30.0 20.0 10.0 0.0 5410.000 5420.000 5430.000 5440.000 5450.000 5460.000 5470.000 5480.000 5490.000 5500.000 5510.00 Frequency (MHz)

		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	49.651	66.521	-7.479	74.000	PEAK
2	*	5497.826	17.165	87.422	104.587	30.587	74.000	PEAK

# Note:

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

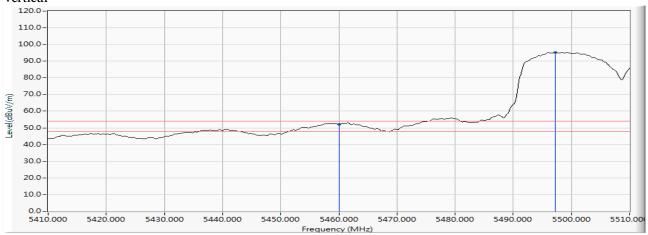


Test Date : 2019/09/05

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC

-Channel 106 (5530MHz)

# Vertical



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	35.309	52.179	-1.821	54.000	AVERAGE
2	*	5497.246	17.162	78.207	95.369	41.369	54.000	AVERAGE

# Note:

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection.

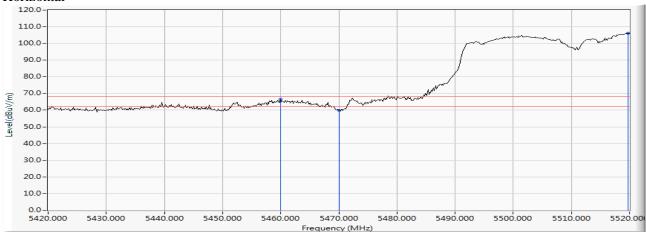


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/06

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC

-Channel 106 (5530MHz)

### Horizontal



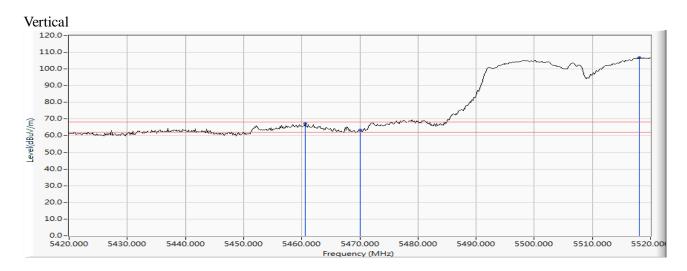
		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.000	16.870	49.618	66.488	-1.732	68.220	PEAK
2		5470.000	16.957	42.747	59.704	-8.516	68.220	PEAK
3	*	5519.710	17.158	89.063	106.222	38.002	68.220	PEAK



Test Date : 2019/09/06

Test Mode : Mode 12:802.11ac80\_Band 2c+LTE FDD Band 25\_20M 1882.5MHz+NFC

-Channel 106 (5530MHz)



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5460.580	16.875	50.207	67.082	-1.138	68.220	PEAK
2		5470.000	16.957	46.485	63.442	-4.778	68.220	PEAK
3	*	5518.116	17.163	89.790	106.954	38.734	68.220	PEAK

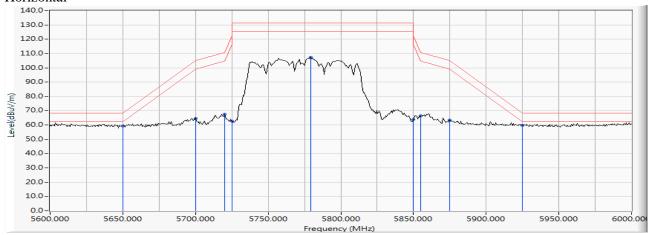


Test Date : 2019/09/06

Test Mode : Mode 16:802.11ac80\_Band 3+WCDMA Band II\_1880MHz+NFC -Channel 155

(5775MHz)

# Horizontal



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		5650.000	16.772	42.662	59.434	-8.786	68.220	PEAK
2		5700.000	16.636	47.890	64.526	-40.674	105.200	PEAK
3		5720.000	16.623	50.971	67.594	-43.206	110.800	PEAK
4		5725.000	16.624	46.130	62.754	-59.446	122.200	PEAK
5		5779.130	16.743	90.433	107.176	-24.024	131.200	PEAK
6		5850.000	17.081	46.676	63.757	-58.443	122.200	PEAK
7		5855.000	17.106	49.300	66.406	-44.394	110.800	PEAK
8		5875.000	17.208	46.295	63.503	-41.697	105.200	PEAK
9	*	5925.000	17.361	42.456	59.817	-8.403	68.220	PEAK

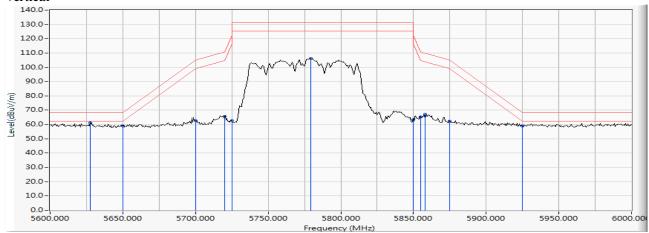


Product : Rugged Tablet
Test Item : Band Edge Data
Test Date : 2019/09/06

Test Mode : Mode 16:802.11ac80\_Band 3+WCDMA Band II\_1880MHz+NFC -Channel 155

(5775MHz)

#### Vertical

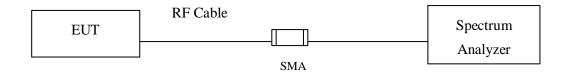


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	5627.826	16.838	44.506	61.344	-6.876	68.220	PEAK
2		5650.000	16.772	42.286	59.058	-9.162	68.220	PEAK
3		5700.000	16.636	46.167	62.803	-42.397	105.200	PEAK
4		5720.000	16.623	48.982	65.605	-45.195	110.800	PEAK
5		5725.000	16.624	46.031	62.655	-59.545	122.200	PEAK
6		5779.130	16.743	89.310	106.053	-25.147	131.200	PEAK
7		5850.000	17.081	46.528	63.609	-58.591	122.200	PEAK
8		5855.000	17.106	48.387	65.493	-45.307	110.800	PEAK
9		5857.971	17.121	50.155	67.276	-42.692	109.968	PEAK
10		5875.000	17.208	44.970	62.178	-43.022	105.200	PEAK
11		5925.000	17.361	41.567	58.928	-9.292	68.220	PEAK



# 5. Duty Cycle

# 5.1. Test Setup



# 5.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to U-NII test procedure of KDB789033 for compliance to FCC 47CFR 15.407 requirements.

# 5.3. Uncertainty

± 2.31msec



# 5.4. Test Result of Duty Cycle

Product : Rugged Tablet
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:

 $Duty\ Cycle = Ton\ /\ (Ton\ +\ Toff)$ 

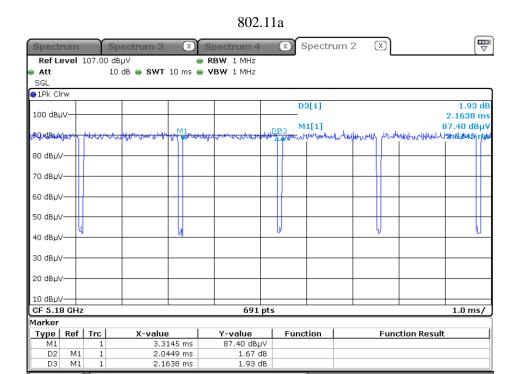
Duty Factor = 10 Log (1/Duty Cycle)

# Results:

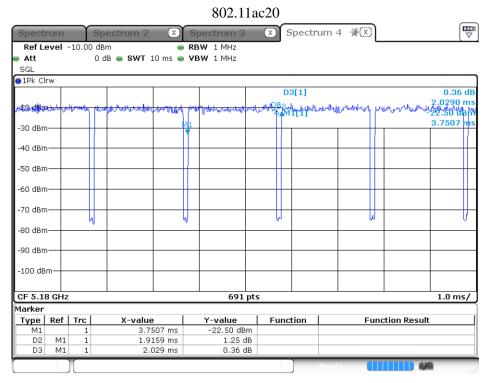
5GHz band	Ton	Ton + Toff	Duty Cycle	Duty Factor
	(ms)	(ms)	(%)	(dB)
802.11a	2.0449	2.1638	94.51	0.25
802.11ac20	1.9159	2.0290	94.43	0.25
802.11ac40	0.9493	1.0435	90.97	0.41
802.11ac80	0.4609	0.5536	83.25	0.80

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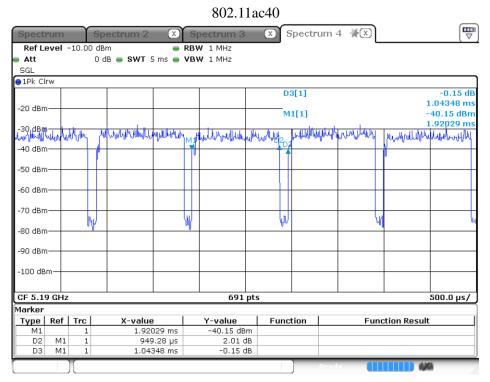


Date: 5.NOV.2019 05:01:37

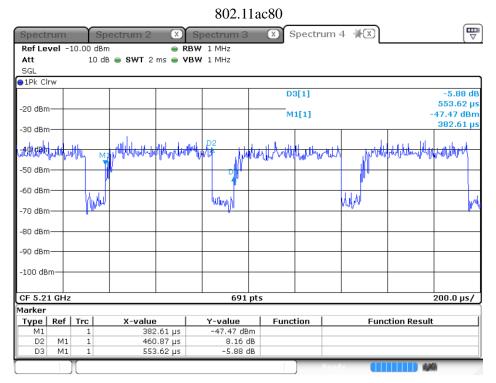


Date: 5.NOV.2019 23:14:16





Date: 5.NOV.2019 23:40:28



Date: 6.NOV.2019 00:09:50



o. EMI Reduction Method During Compliance Testi	6.	EMI Reduction Method During Compliance	Testing
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No modification was made during testing.

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