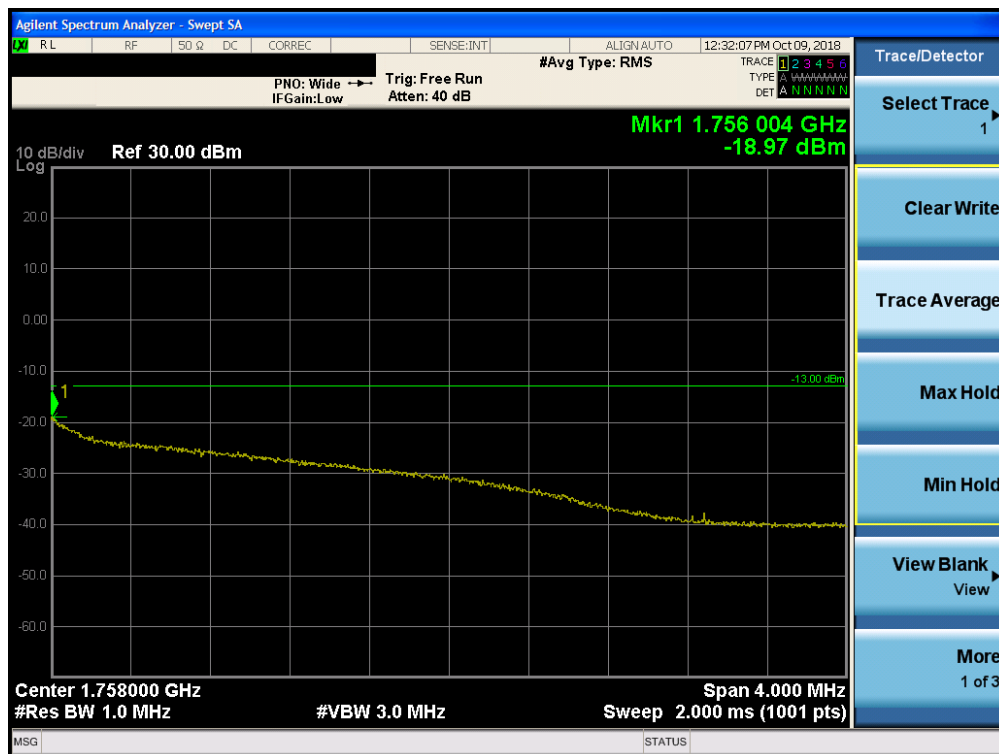




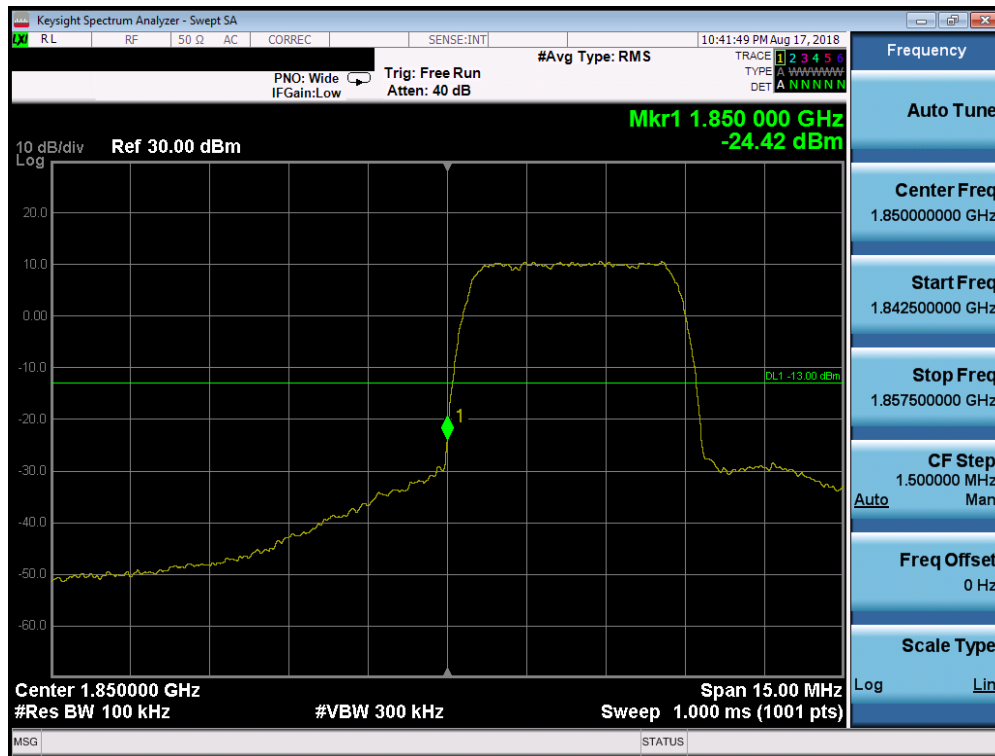
Plot 7-63. Band Edge Plot (AWS WCDMA Mode - High Channel)



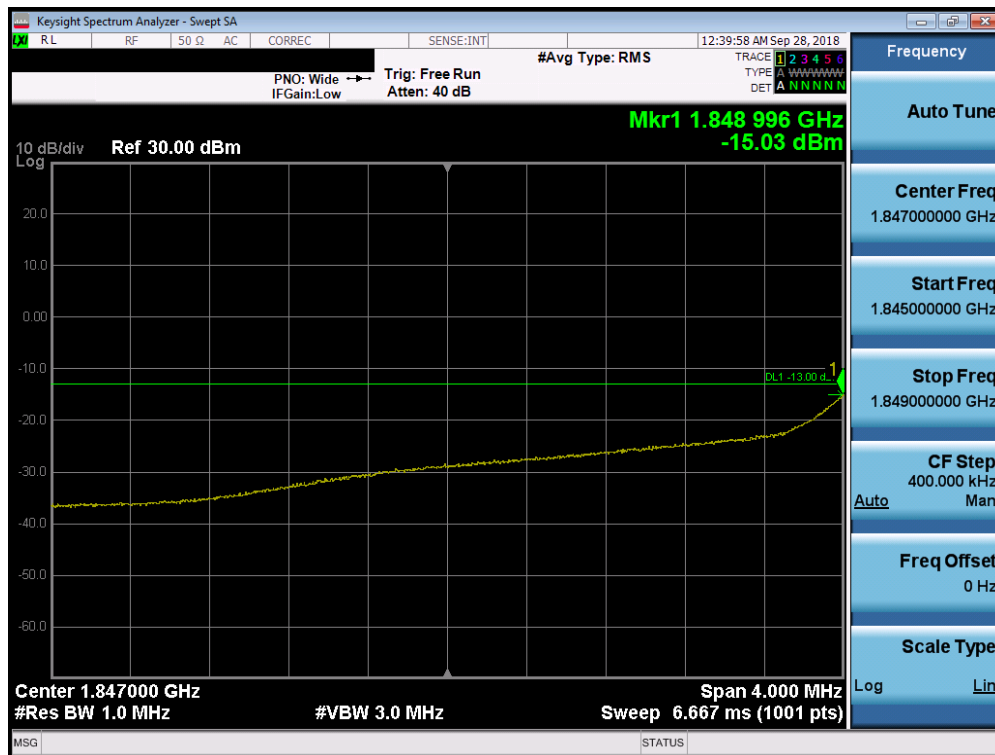
Plot 7-64. Extended Band Edge Plot (AWS WCDMA Mode - High Channel)

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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## PCS WCDMA Mode

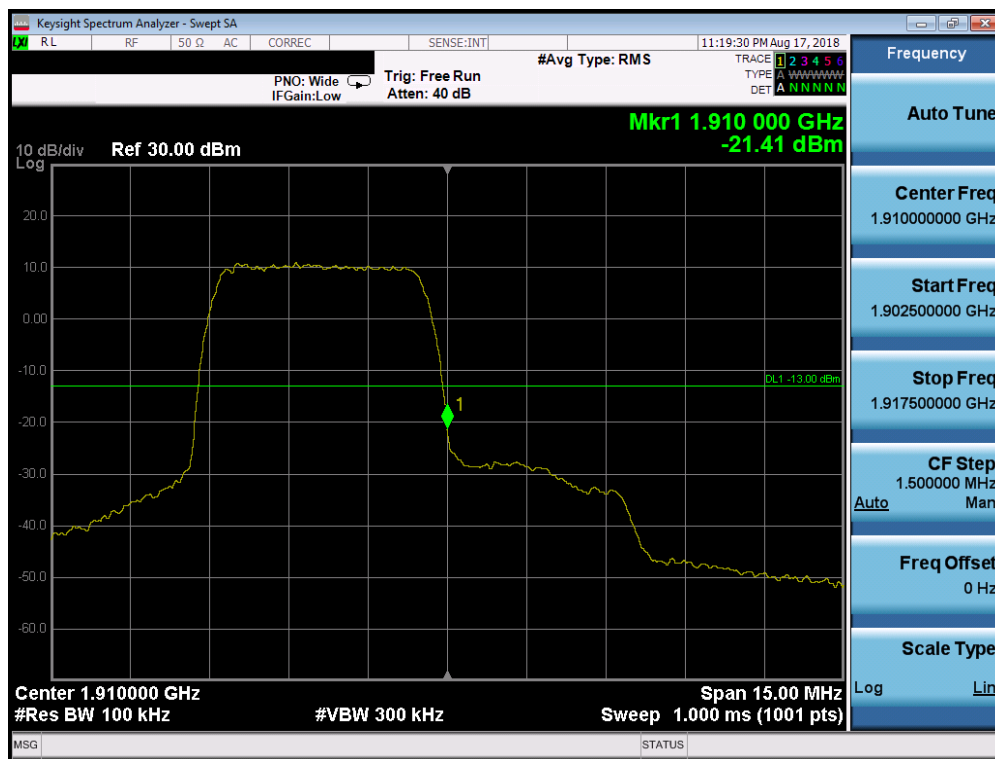


Plot 7-65. Band Edge Plot (PCS WCDMA Mode - Low Channel)



Plot 7-66. Extended Band Edge Plot (PCS WCDMA Mode - Low Channel)

FCC ID: BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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Plot 7-67. Band Edge Plot (PCS WCDMA Mode - High Channel)



Plot 7-68. Extended Band Edge Plot (PCS WCDMA Mode - High Channel)

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## 7.5 Peak-Average Ratio

### Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

### Test Procedure Used

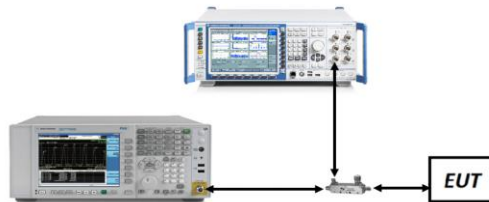
KDB 971168 D01 v03r01 – Section 5.7.1

### Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

### Test Setup

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

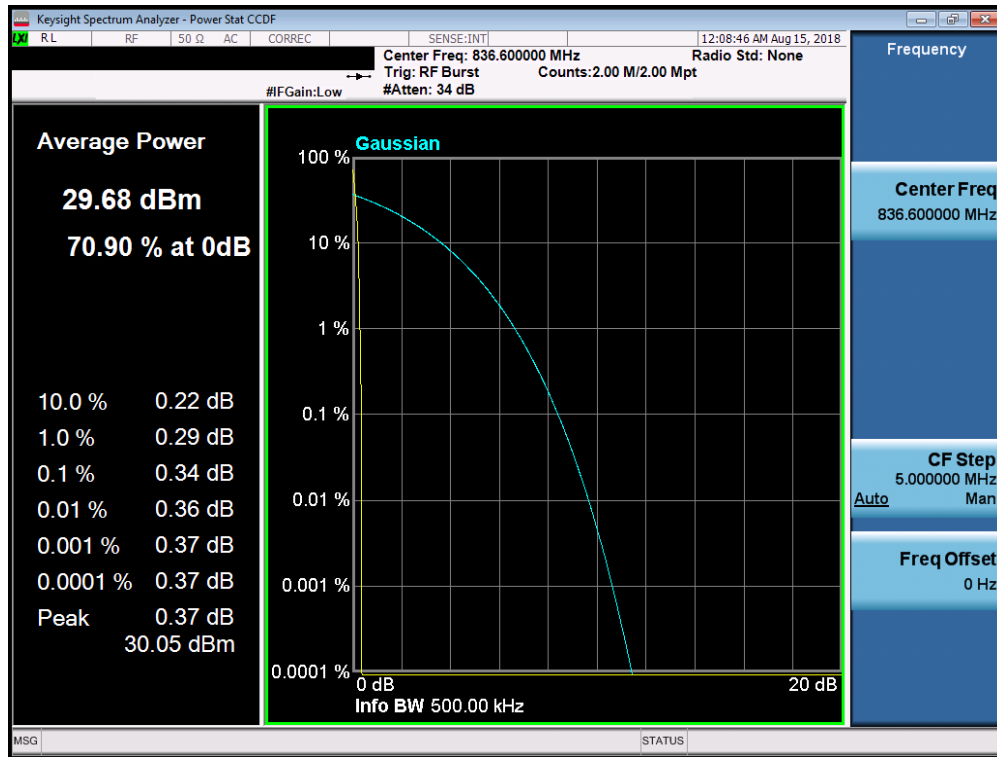


**Figure 7-4. Test Instrument & Measurement Setup**

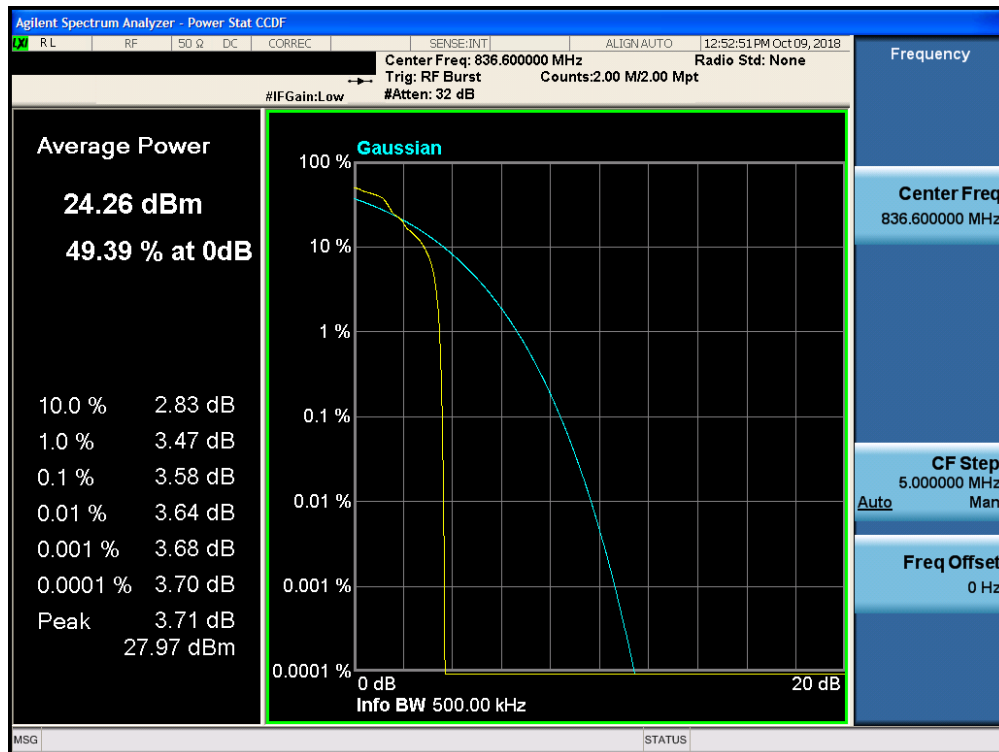
### Test Notes

1. All ports were tested and only the worst case data were reported.
2. Refer to Table 2-1 Section 2.3 of this test report for correlation between Antennas and Ports.

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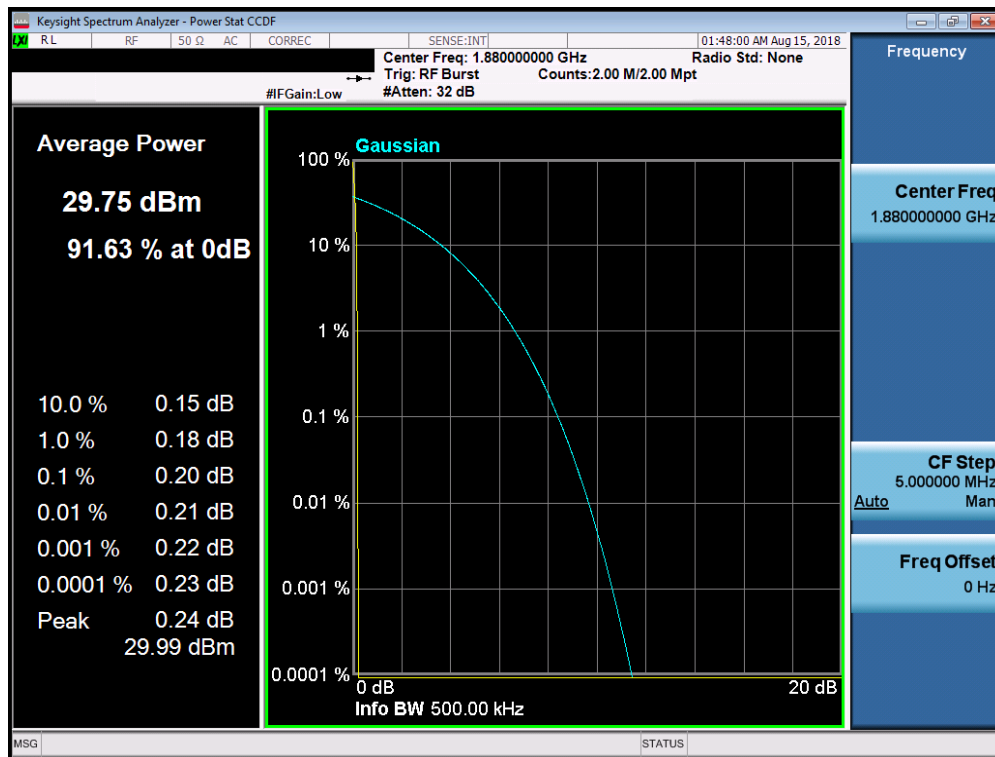


Plot 7-69. Peak-Average Ratio Plot (Cellular GPRS Mode)

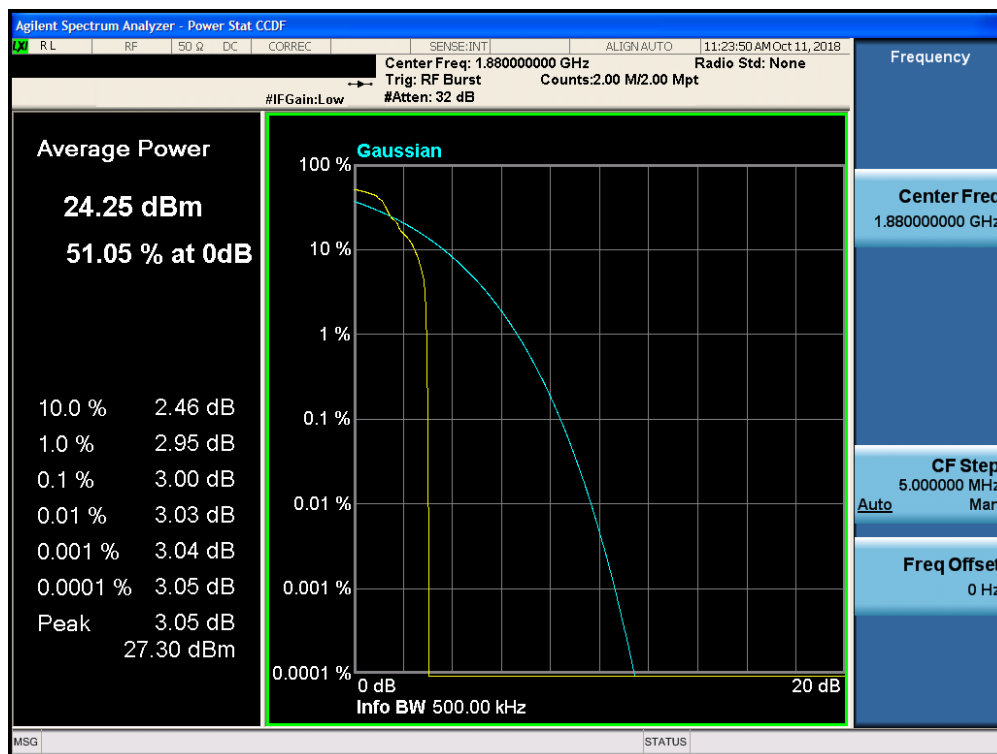


Plot 7-70. Peak-Average Ratio Plot (EDGE850 Mode)

FCC ID: BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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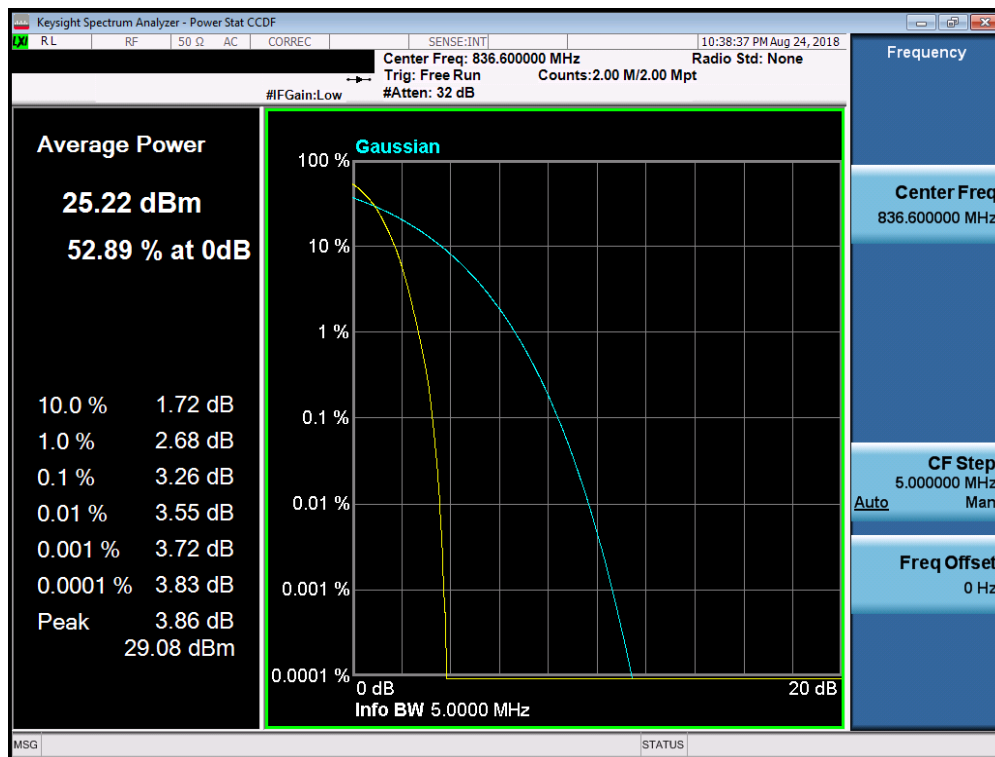


Plot 7-71. Peak-Average Ratio Plot (PCS GPRS Mode)

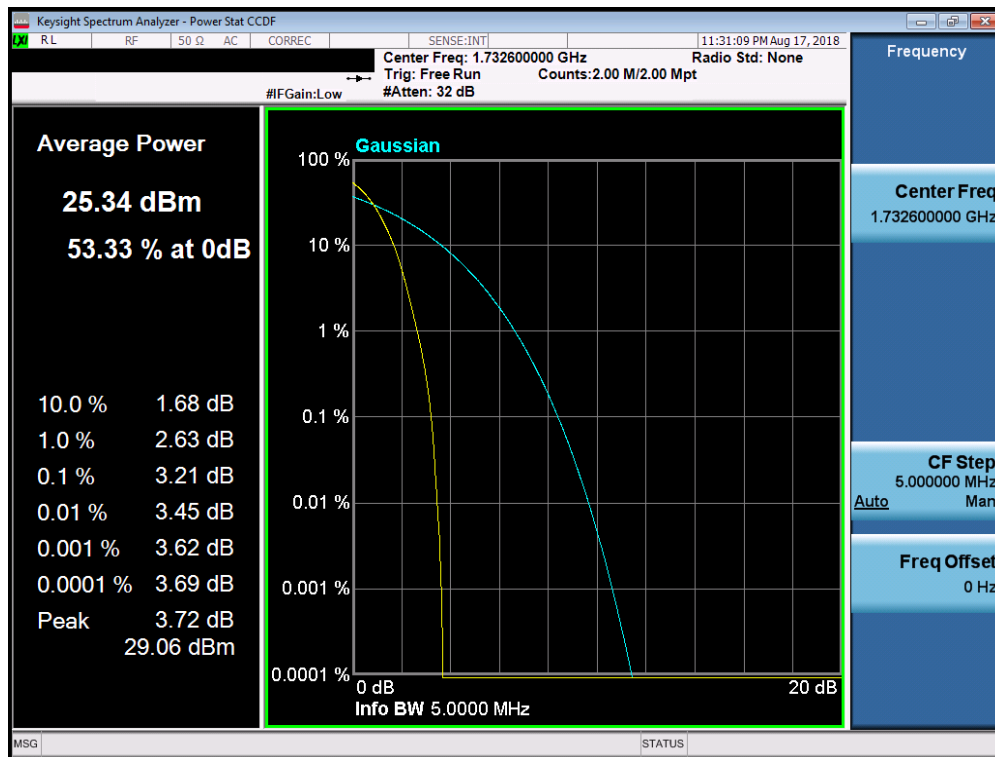


Plot 7-72. Peak-Average Ratio Plot (EDGE1900 Mode)

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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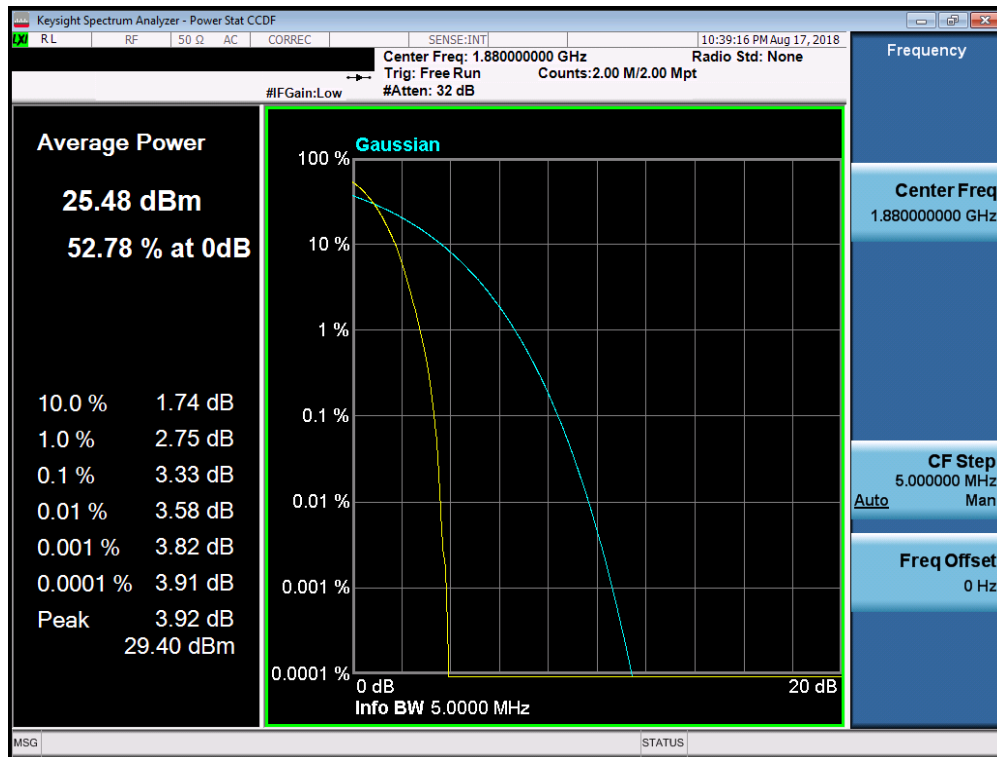


Plot 7-73. Peak-Average Ratio Plot (Cellular WCDMA Mode)



Plot 7-74. Peak-Average Ratio Plot (AWS WCDMA Mode)

FCC ID: BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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**Plot 7-75. Peak-Average Ratio Plot (PCS WCDMA Mode)**

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## 7.6 Radiated Power (ERP/EIRP)

### Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

### Test Settings

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured is:

$$\text{ERP/EIRP} = \text{PMeas} - \text{LC} + \text{GT}$$

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm)

PMeas = measured transmitter output power or PSD, in dBW or dBm

LC = signal attenuation in the connecting cable between the transmitter and antenna in dB

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

### Test Setup

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



**Figure 7-5. ERP/EIRP Measurement Setup**

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## Test Notes

- 1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest power is reported in GPRS mode while transmitting with one slot active.
- 2) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1."
- 3) This unit was tested with its standard battery.
- 4) The Ant. Gains (GT) are listed in dBi.
- 5) Refer to Table 2-1 Section 2.3 of this test report for correlation between Antennas and Ports.

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## 7.6.1 Port A Radiated Power (ERP/EIRP)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.20	GPRS850	30.00	-3.80	24.05	0.254	38.45	-14.40	26.20	0.417	40.61	-14.41
836.60	GPRS850	29.90	-3.80	23.95	0.248	38.45	-14.50	26.10	0.407	40.61	-14.51
848.80	GPRS850	30.10	-3.80	<b>24.15</b>	<b>0.260</b>	38.45	-14.30	<b>26.30</b>	<b>0.427</b>	40.61	-14.31
824.20	EDGE850	24.60	-3.80	<b>18.65</b>	0.073	38.45	-19.80	<b>20.80</b>	<b>0.120</b>	40.61	-19.81

Table 7-2. ERP/EIRP (Cellular GPRS)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
826.40	WCDMA850	25.41	-3.80	19.46	0.088	38.45	-18.99	21.61	0.145	40.61	-19.00
836.60	WCDMA850	25.41	-3.80	19.46	0.088	38.45	-18.99	21.61	0.145	40.61	-19.00
846.60	WCDMA850	25.50	-3.80	<b>19.55</b>	<b>0.090</b>	38.45	-18.90	<b>21.70</b>	<b>0.148</b>	40.61	-18.91

Table 7-3. ERP/EIRP (Cellular WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	25.24	-2.80	22.44	0.175	30.00	-7.56
1732.60	WCDMA1700	25.48	-2.80	<b>22.68</b>	<b>0.185</b>	30.00	-7.32
1752.60	WCDMA1700	25.48	-2.80	<b>22.68</b>	<b>0.185</b>	30.00	-7.32

Table 7-4. EIRP (AWS WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	30.00	-2.20	<b>27.80</b>	<b>0.603</b>	33.01	-5.21
1880.00	GPRS1900	30.00	-2.20	<b>27.80</b>	<b>0.603</b>	33.01	-5.21
1909.80	GPRS1900	30.00	-2.20	<b>27.80</b>	<b>0.603</b>	33.01	-5.21
1909.80	EDGE1900	25.00	-2.20	<b>22.80</b>	0.191	33.01	-10.21

Table 7-5. EIRP (PCS GPRS)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	25.32	-2.20	23.12	0.205	33.01	-9.89
1880.00	WCDMA1900	25.28	-2.20	23.08	0.203	33.01	-9.93
1907.60	WCDMA1900	25.33	-2.20	<b>23.13</b>	<b>0.206</b>	33.01	-9.88

Table 7-6. EIRP (PCS WCDMA)

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## 7.6.2 Port B Radiated Power (ERP/EIRP)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.20	GPRS850	27.50	-3.20	<b>22.15</b>	<b>0.164</b>	38.45	-16.30	<b>24.30</b>	<b>0.269</b>	40.61	-16.31
836.60	GPRS850	27.36	-3.20	22.01	0.159	38.45	-16.44	24.16	0.261	40.61	-16.45
848.80	GPRS850	27.39	-3.20	22.04	0.160	38.45	-16.41	24.19	0.262	40.61	-16.42
824.20	EDGE850	21.95	-3.20	<b>16.60</b>	0.046	38.45	-21.85	<b>18.75</b>	0.075	40.61	-21.86

Table 7-7. ERP/EIRP (Cellular GPRS)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
826.40	WCDMA850	23.72	-3.20	18.37	0.069	38.45	-20.08	20.52	0.113	40.61	-20.09
836.60	WCDMA850	23.74	-3.20	18.39	0.069	38.45	-20.06	20.54	0.113	40.61	-20.07
846.60	WCDMA850	23.75	-3.20	<b>18.40</b>	<b>0.069</b>	38.45	-20.05	<b>20.55</b>	<b>0.114</b>	40.61	-20.06

Table 7-8. ERP/EIRP (Cellular WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	22.25	-3.80	<b>18.45</b>	<b>0.070</b>	30.00	-11.55
1732.50	WCDMA1700	22.16	-3.80	18.36	0.069	30.00	-11.64
1752.50	WCDMA1700	22.17	-3.80	18.37	0.069	30.00	-11.63

Table 7-9. EIRP (AWS WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	26.75	-2.40	<b>24.35</b>	<b>0.272</b>	33.01	-8.66
1880.00	GPRS1900	26.72	-2.40	24.32	0.270	33.01	-8.69
1909.80	GPRS1900	26.60	-2.40	24.20	0.263	33.01	-8.81
1850.20	EDGE1900	21.75	-2.40	<b>19.35</b>	0.086	33.01	-13.66

Table 7-10. EIRP (PCS GPRS)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	22.25	-2.40	<b>19.85</b>	<b>0.097</b>	33.01	-13.16
1880.00	WCDMA1900	22.12	-2.40	19.72	0.094	33.01	-13.29
1907.60	WCDMA1900	22.20	-2.40	19.80	0.095	33.01	-13.21

**Table 7-11. EIRP (PCS WCDMA)**

<b>FCC ID:</b> BCGA2014		<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
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### 7.6.3 Port C Radiated Power (ERP/EIRP)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	24.50	-3.00	<b>21.50</b>	<b>0.141</b>	30.00	-8.50
1732.50	WCDMA1700	24.35	-3.00	21.35	0.136	30.00	-8.65
1752.50	WCDMA1700	24.30	-3.00	21.30	0.135	30.00	-8.70

Table 7-12. EIRP (AWS WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	29.00	-2.20	26.80	0.479	33.01	-6.21
1880.00	GPRS1900	29.14	-2.20	<b>26.94</b>	<b>0.494</b>	33.01	-6.07
1909.80	GPRS1900	29.12	-2.20	26.92	0.492	33.01	-6.09
1850.20	EDGE1900	24.10	-2.20	<b>21.90</b>	0.155	33.01	-11.11

Table 7-13. EIRP (PCS GPRS)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	24.43	-2.20	<b>22.23</b>	<b>0.167</b>	33.01	-10.78
1880.00	WCDMA1900	24.40	-2.20	22.20	0.166	33.01	-10.81
1907.60	WCDMA1900	24.42	-2.20	22.22	0.167	33.01	-10.79

Table 7-14. EIRP (PCS WCDMA)

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## 7.6.4 Port D Radiated Power (ERP/EIRP)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	24.50	-3.00	<b>21.50</b>	<b>0.141</b>	30.00	-8.50
1732.50	WCDMA1700	24.35	-3.00	21.35	0.136	30.00	-8.65
1752.50	WCDMA1700	24.30	-3.00	21.30	0.135	30.00	-8.70

Table 7-15. EIRP (AWS WCDMA)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	26.53	-1.40	<b>25.13</b>	<b>0.326</b>	33.01	-7.88
1880.00	GPRS1900	26.47	-1.40	25.07	0.322	33.01	-7.94
1909.80	GPRS1900	26.51	-1.40	25.11	0.324	33.01	-7.90
1850.20	EDGE1900	21.60	-1.40	<b>20.20</b>	0.105	33.01	-12.81

Table 7-16. EIRP (PCS GPRS)

Frequency [MHz]	Mode	Conducted Power [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	22.00	-1.40	<b>20.60</b>	<b>0.115</b>	33.01	-12.41
1880.00	WCDMA1900	21.88	-1.40	20.48	0.112	33.01	-12.53
1907.60	WCDMA1900	21.82	-1.40	20.42	0.110	33.01	-12.59

Table 7-17. EIRP (PCS WCDMA)

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## 7.7 Radiated Spurious Emissions Measurements

### Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

### Test Settings

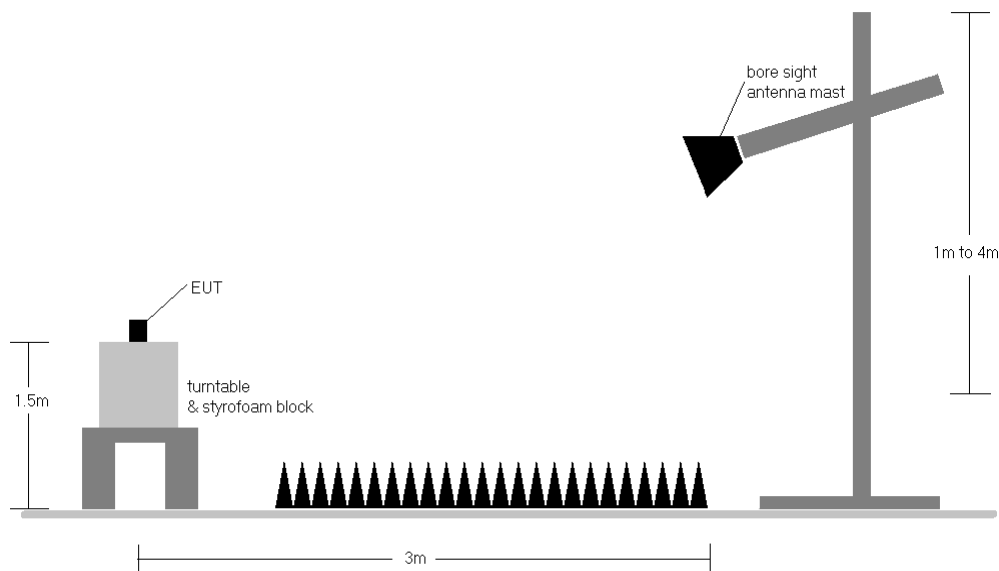
1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $\geq 2 \times$  span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

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## Test Setup

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



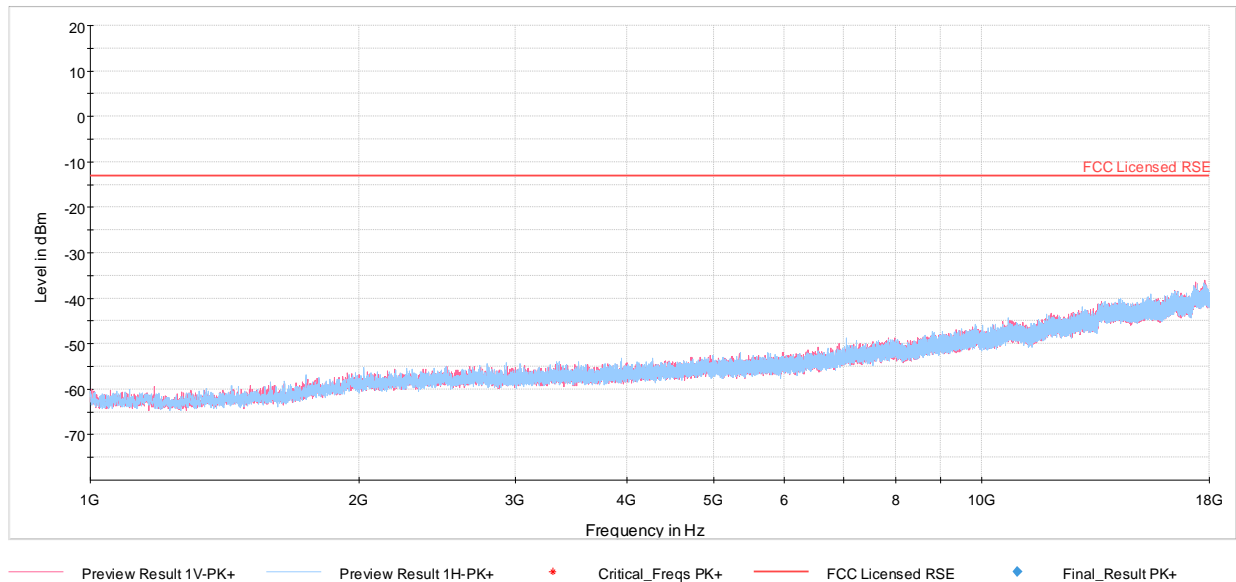
**Figure 7-6. Test Instrument & Measurement Setup**

## Test Notes

- 1) This device employs GSM, GPRS, and EDGE capabilities. The EUT was tested under all configurations and the highest power is reported in GPRS mode while transmitting with one slot active.
- 2) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1."
- 3) This unit was tested with its standard battery.
- 4) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 5) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 6) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

<b>FCC ID:</b> BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1C1806050011-02-R1.BCG	<b>Test Dates:</b> 07/26/2018 - 10/12/2018	<b>EUT Type:</b> Tablet Device	Page 67 of 111

## 7.7.1 ANT 3 (Port A) Radiated Spurious Emissions Measurements Cellular GPRS Mode



**Plot 7-76. Radiated Spurious Data (Cellular GPRS Mode)**

OPERATING FREQUENCY: 824.20 MHz  
CHANNEL: 128  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1648.40	H	106	178	-54.69	4.48	-50.21	-37.2
2472.60	H	252	369	-56.02	5.58	-50.44	-37.4
3296.80	H	-	-	-61.87	7.22	-54.65	-41.7
4121.00	H	-	-	-61.36	7.75	-53.61	-40.6

**Table 7-18. Radiated Spurious Data (Cellular GPRS Mode – Ch. 128)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 68 of 111

OPERATING FREQUENCY: 836.60 MHz  
 CHANNEL: 190  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.20	H	150	181	-51.45	4.46	-46.99	-34.0
2509.80	H	262	236	-55.40	5.62	-49.79	-36.8
3346.40	H	-	-	-60.66	7.24	-53.42	-40.4
4183.00	H	-	-	-60.98	7.68	-53.30	-40.3

**Table 7-19. Radiated Spurious Data (Cellular GPRS Mode – Ch. 190)**

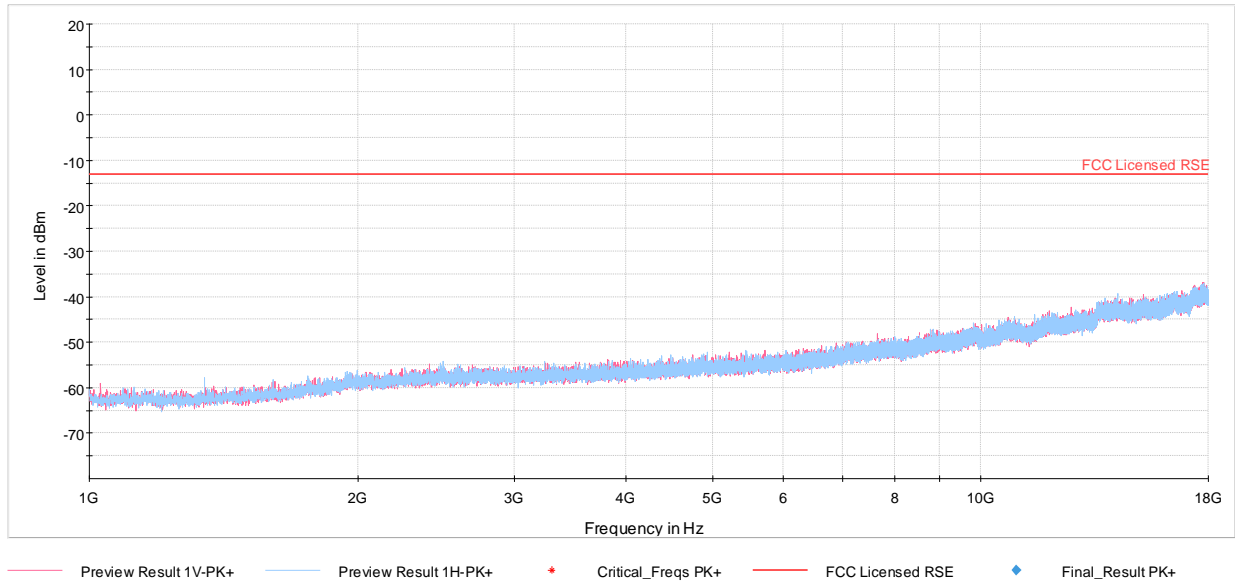
OPERATING FREQUENCY: 848.80 MHz  
 CHANNEL: 251  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1697.60	H	110	172	-49.89	4.44	-45.45	-32.4
2546.40	H	170	270	-55.81	5.68	-50.13	-37.1
3395.20	H	-	-	-61.70	7.26	-54.44	-41.4
4244.00	H	-	-	-61.12	7.61	-53.51	-40.5

**Table 7-20. Radiated Spurious Data (Cellular GPRS Mode – Ch. 251)**

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 69 of 111

## Cellular WCDMA Mode



**Plot 7-77. Radiated Spurious Data (Cellular WCDMA Mode)**

OPERATING FREQUENCY: 826.40 MHz  
 CHANNEL: 4132  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1652.80	H	-	-	-71.21	4.47	-66.74	-53.7
2479.20	H	-	-	-68.34	5.58	-62.75	-49.8
3305.60	H	-	-	-70.01	7.22	-62.79	-49.8

**Table 7-21. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 70 of 111

OPERATING FREQUENCY: 836.60 MHz  
 CHANNEL: 4183  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.20	H	-	-	-70.86	4.46	-66.41	-53.4
2509.80	H	-	-	-68.48	5.62	-62.86	-49.9
3346.40	H	-	-	-69.84	7.24	-62.60	-49.6

**Table 7-22. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)**

OPERATING FREQUENCY: 846.60 MHz  
 CHANNEL: 4233  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

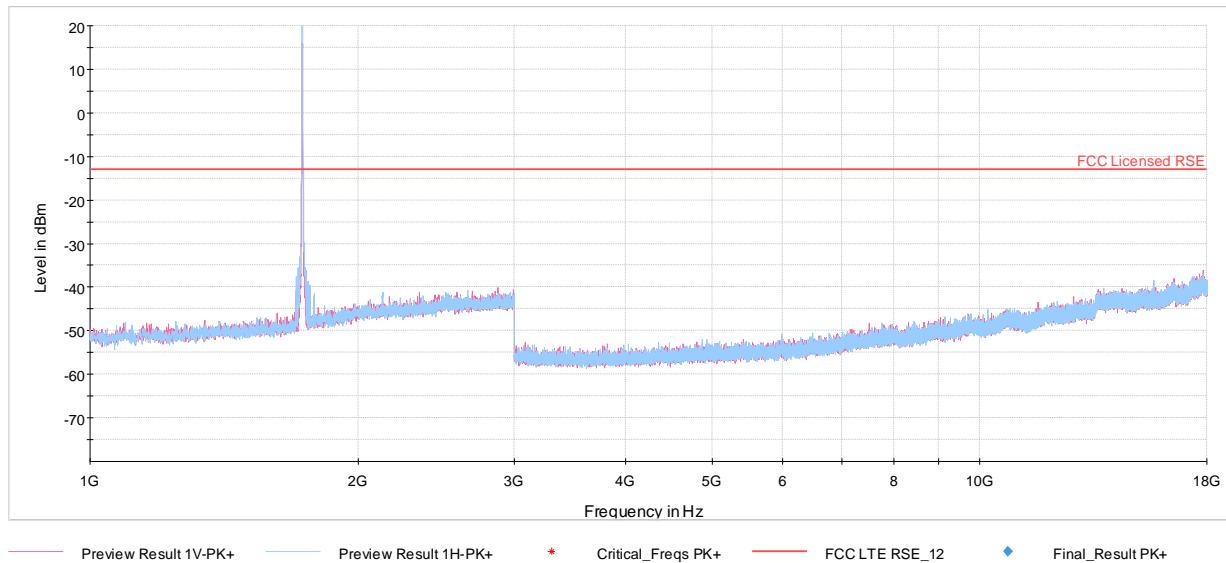
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1693.20	H	-	-	-70.81	4.44	-66.37	-53.4
2539.80	H	-	-	-68.47	5.67	-62.80	-49.8
3386.40	H	-	-	-69.69	7.26	-62.44	-49.4

**Table 7-23. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)**

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 71 of 111

## 7.7.2 ANT 4b (Port A) Radiated Spurious Emissions Measurements

### AWS WCDMA Mode



**Plot 7-78. Radiated Spurious Data (AWS WCDMA Mode)**

OPERATING FREQUENCY: 1712.40 MHz  
 CHANNEL: 1312  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3424.80	H	-	-	-70.26	7.53	-62.72	-49.7
5137.20	H	-	-	-70.73	9.79	-60.94	-47.9
6849.60	H	-	-	-68.63	10.96	-57.67	-44.7

**Table 7-24. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1312)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 72 of 111

OPERATING FREQUENCY: 1732.60 MHz  
 CHANNEL: 1413  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3465.20	H	-	-	-69.85	7.62	-62.22	-49.2
5197.80	H	-	-	-70.12	9.75	-60.37	-47.4
6930.40	H	-	-	-68.76	11.05	-57.71	-44.7

Table 7-25. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1413)

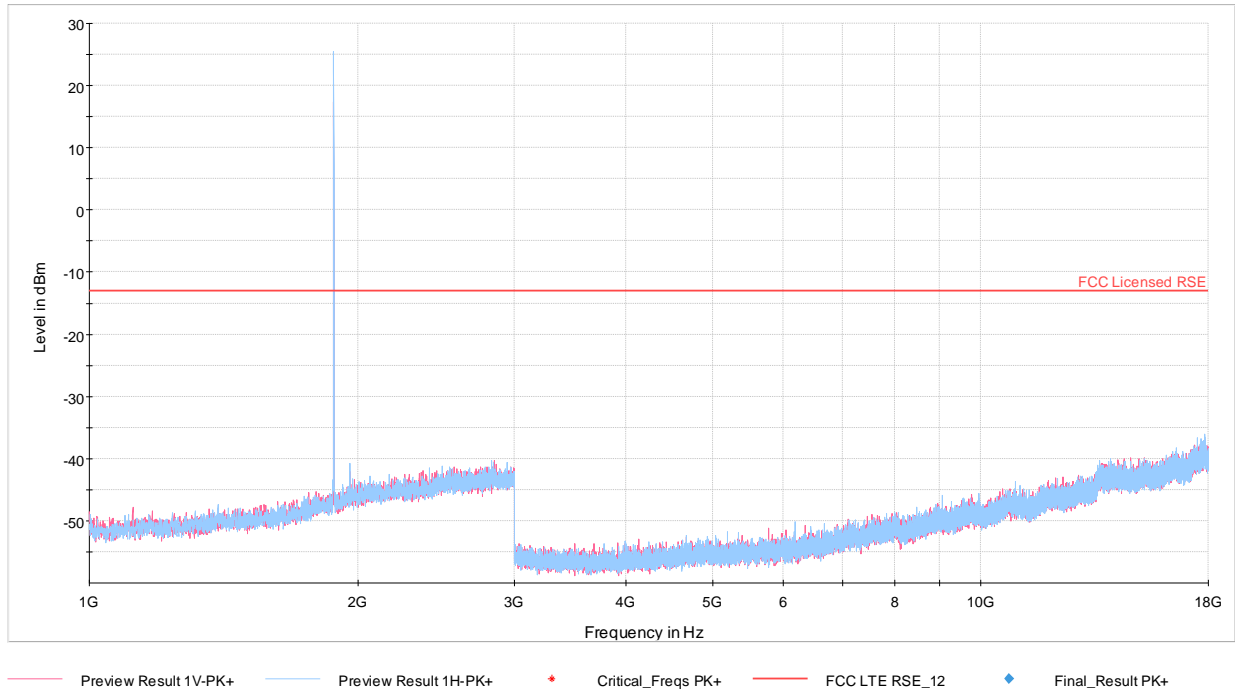
OPERATING FREQUENCY: 1752.60 MHz  
 CHANNEL: 1513  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3505.20	H	-	-	-70.00	7.68	-62.32	-49.3
5257.80	H	-	-	-70.01	9.74	-60.27	-47.3
7010.40	H	-	-	-68.70	11.08	-57.61	-44.6

Table 7-26. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1513)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 73 of 111

## PCS GPRS Mode



**Plot 7-79. Radiated Spurious Data (PCS GPRS Mode)**

OPERATING FREQUENCY: 1850.20 MHz  
 CHANNEL: 512  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3700.40	H	-	-	-60.13	7.10	-53.04	-40.0
5550.60	V	297	172	-57.40	10.07	-47.33	-34.3
7400.80	V	-	-	-58.43	11.59	-46.85	-33.8

**Table 7-27. Radiated Spurious Data (PCS GPRS Mode – Ch. 512)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 74 of 111



OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 661  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	V	-	-	-58.54	7.10	-51.44	-38.4
5640.00	V	277	154	-56.21	10.04	-46.16	-33.2
7520.00	H	-	-	-58.46	11.68	-46.78	-33.8

Table 7-28. Radiated Spurious Data (PCS GPRS Mode – Ch. 661)

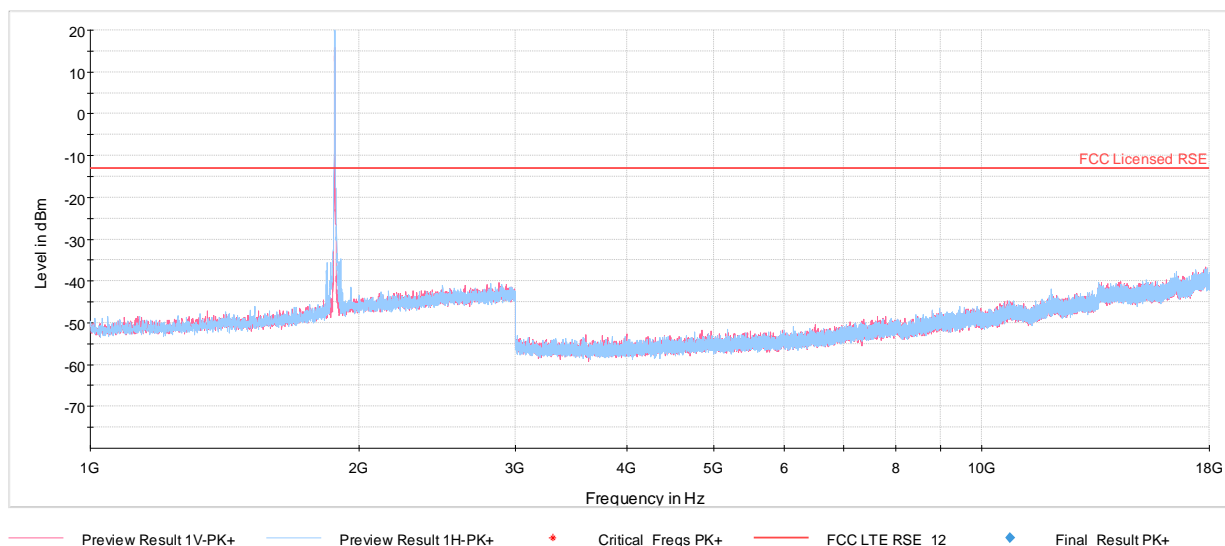
OPERATING FREQUENCY: 1909.80 MHz  
 CHANNEL: 810  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3819.60	V	-	-	-59.52	7.31	-52.21	-39.2
5729.40	V	301	154	-54.58	10.05	-44.53	-31.5
7639.20	V	-	-	-58.54	11.75	-46.79	-33.8

Table 7-29. Radiated Spurious Data (PCS GPRS Mode – Ch. 810)

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 75 of 111

## PCS WCDMA Mode



**Plot 7-80. Radiated Spurious Data (PCS WCDMA Mode)**

OPERATING FREQUENCY: 1852.40 MHz  
 CHANNEL: 9262  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3704.80	H	-	-	-69.61	7.09	-62.51	-49.5
5557.20	H	-	-	-70.46	10.07	-60.39	-47.4
7409.60	H	-	-	-68.20	11.60	-56.60	-43.6

**Table 7-30. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 76 of 111

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 9400  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-69.03	7.10	-61.93	-48.9
5640.00	H	-	-	-69.12	10.04	-59.07	-46.1
7520.00	H	-	-	-68.49	11.68	-56.81	-43.8

Table 7-31. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

OPERATING FREQUENCY: 1907.60 MHz  
 CHANNEL: 9538  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

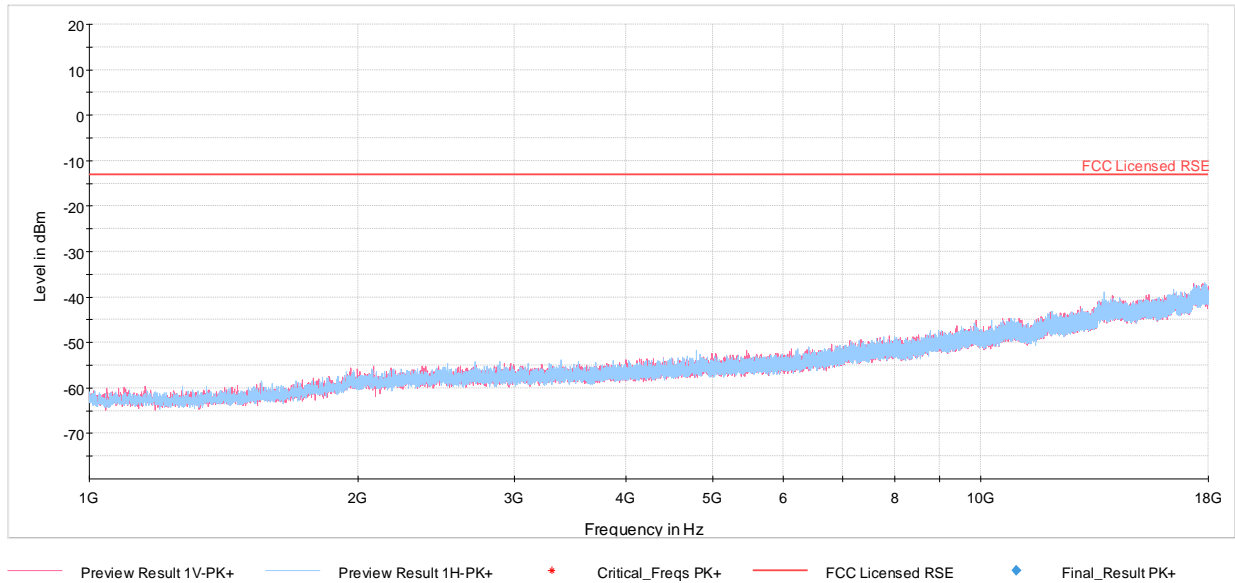
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3815.20	H	-	-	-69.01	7.29	-61.73	-48.7
5722.80	H	-	-	-69.91	10.05	-59.86	-46.9
7630.40	H	-	-	-68.32	11.75	-56.57	-43.6

Table 7-32. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 77 of 111

### 7.7.3 ANT 1 (Port B) Radiated Spurious Emissions Measurements

#### Cellular GPRS Mode



**Plot 7-81. Radiated Spurious Data (Cellular GPRS Mode)**

OPERATING FREQUENCY: 824.20 MHz  
 CHANNEL: 128  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1648.40	H	192	52	-62.99	4.48	-58.51	-45.5
2472.60	H	164	60	-62.74	5.58	-57.16	-44.2
3296.80	H	-	-	-64.75	7.22	-57.53	-44.5
4121.00	H	-	-	-60.93	7.75	-53.17	-40.2

**Table 7-33. Radiated Spurious Data (Cellular GPRS Mode – Ch. 128)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 78 of 111

OPERATING FREQUENCY: 836.60 MHz  
CHANNEL: 190  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.20	H	203	47	-62.83	4.46	-58.38	-45.4
2509.80	H	133	29	-62.96	5.62	-57.34	-44.3
3346.40	H	-	-	-64.37	7.24	-57.13	-44.1
4183.00	H	-	-	-60.78	7.68	-53.11	-40.1

Table 7-34. Radiated Spurious Data (Cellular GPRS Mode – Ch. 190)

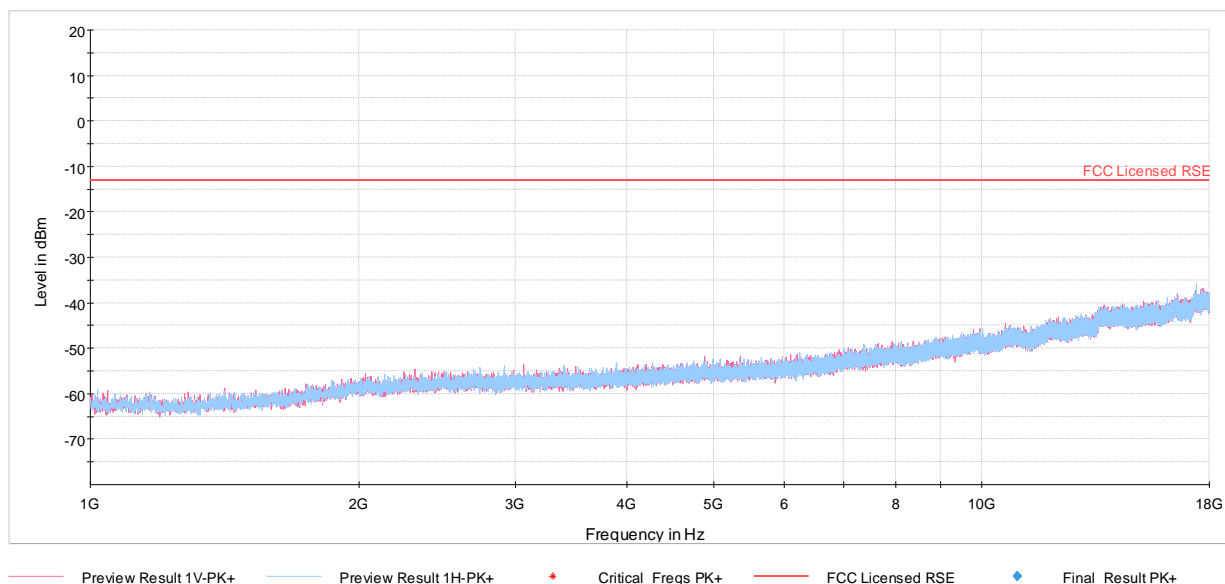
OPERATING FREQUENCY: 848.80 MHz  
CHANNEL: 251  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1697.60	H	127	47	-60.49	4.44	-56.05	-43.1
2546.40	H	181	33	-54.52	5.68	-48.85	-35.8
3395.20	H	-	-	-64.21	7.26	-56.95	-44.0
4244.00	H	-	-	-61.52	7.61	-53.91	-40.9

Table 7-35. Radiated Spurious Data (Cellular GPRS Mode – Ch. 251)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 79 of 111

## Cellular WCDMA Mode



**Plot 7-82. Radiated Spurious Data (Cellular WCDMA Mode)**

OPERATING FREQUENCY: 826.40 MHz  
 CHANNEL: 4132  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1652.80	H	-	-	-71.26	4.47	-66.79	-53.8
2479.20	H	-	-	-68.37	5.58	-62.78	-49.8
3305.60	H	-	-	-69.81	7.22	-62.59	-49.6

**Table 7-36. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4132)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 80 of 111

OPERATING FREQUENCY: 836.60 MHz  
CHANNEL: 4183  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.20	H	-	-	-71.04	4.46	-66.59	-53.6
2509.80	H	-	-	-68.09	5.62	-62.47	-49.5
3346.40	H	-	-	-69.75	7.24	-62.51	-49.5

Table 7-37. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4183)

OPERATING FREQUENCY: 846.60 MHz  
CHANNEL: 4233  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

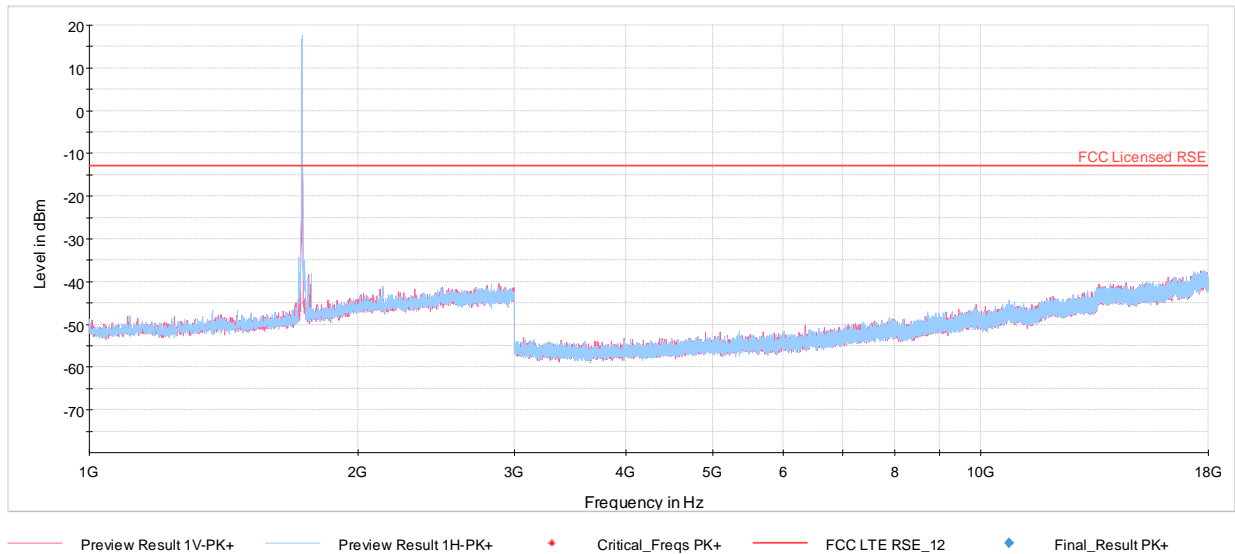
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1693.20	H	-	-	-62.22	4.44	-57.78	-44.8
2539.80	H	-	-	-59.67	5.67	-54.00	-41.0
3386.40	H	-	-	-61.83	7.26	-54.58	-41.6

Table 7-38. Radiated Spurious Data (Cellular WCDMA Mode – Ch. 4233)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 81 of 111

## 7.7.4 ANT 2b (Port B) Radiated Spurious Emissions Measurements

### AWS WCDMA Mode



**Plot 7-83. Radiated Spurious Data (AWS WCDMA Mode)**

OPERATING FREQUENCY: 1712.40 MHz  
CHANNEL: 1312  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3424.80	H	-	-	-70.00	7.53	-62.46	-49.5
5137.20	H	-	-	-70.59	9.79	-60.80	-47.8
6849.60	H	-	-	-68.63	10.96	-57.67	-44.7

**Table 7-39. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1312)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 82 of 111



OPERATING FREQUENCY: 1732.60 MHz  
 CHANNEL: 1413  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3465.20	H	-	-	-69.90	7.62	-62.27	-49.3
5197.80	H	-	-	-70.18	9.75	-60.43	-47.4
6930.40	H	-	-	-68.69	11.05	-57.64	-44.6

Table 7-40. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1413)

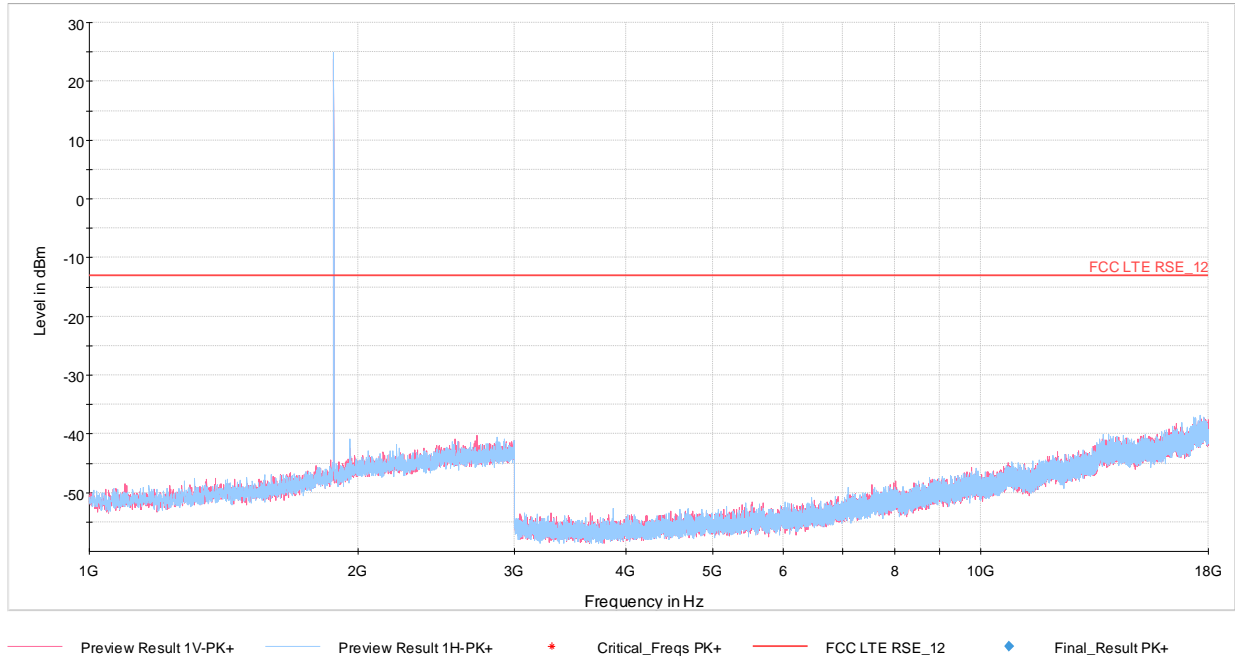
OPERATING FREQUENCY: 1752.60 MHz  
 CHANNEL: 1513  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3505.20	H	-	-	-70.00	7.68	-62.32	-49.3
5257.80	H	-	-	-69.93	9.74	-60.19	-47.2
7010.40	H	-	-	-68.79	11.08	-57.70	-44.7

Table 7-41. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1513)

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 83 of 111

## PCS GPRS Mode



**Plot 7-84. Radiated Spurious Data (PCS GPRS Mode)**

OPERATING FREQUENCY: 1850.20 MHz

CHANNEL: 512

MODULATION SIGNAL: GPRS (GMSK)

DISTANCE: 3 meters

LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3700.40	H	155	135	-62.49	7.10	-55.40	-42.4
5550.60	V	291	271	-60.25	10.07	-50.18	-37.2
7400.80	V	-	-	-58.17	11.59	-46.58	-33.6

**Table 7-42. Radiated Spurious Data (PCS GPRS Mode – Ch. 512)**

FCC ID: BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 84 of 111

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 661  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-61.71	7.10	-54.60	-41.6
5640.00	H	-	-	-60.68	10.04	-50.64	-37.6
7520.00	H	-	-	-58.41	11.68	-46.73	-33.7

Table 7-43. Radiated Spurious Data (PCS GPRS Mode – Ch. 661)

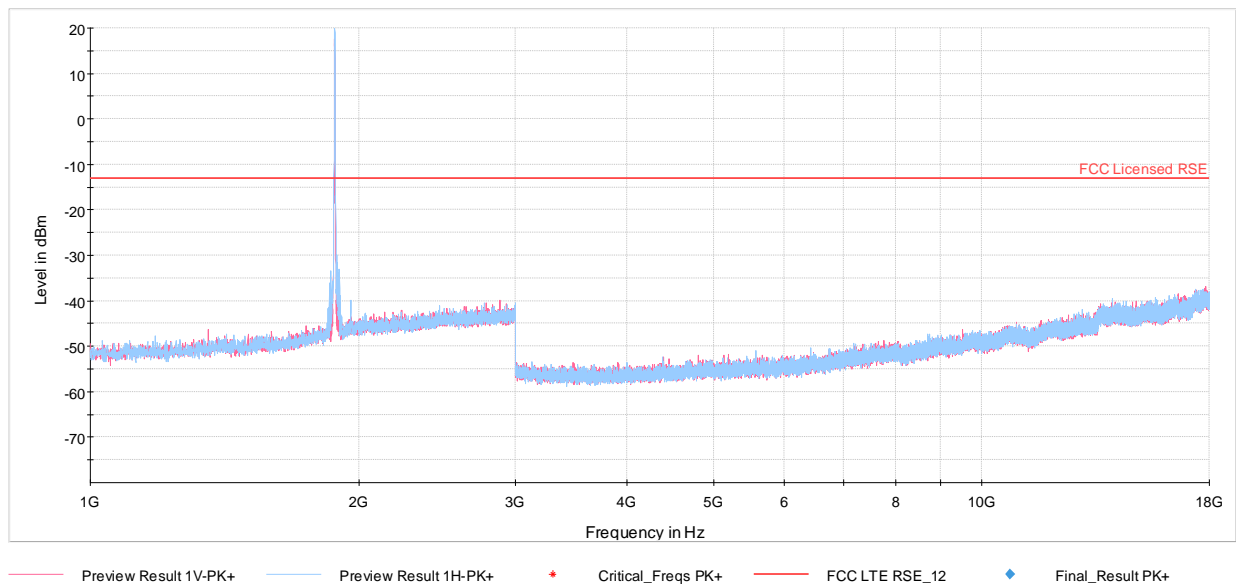
OPERATING FREQUENCY: 1909.80 MHz  
 CHANNEL: 810  
 MODULATION SIGNAL: GPRS (GMSK)  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3819.60	H	-	-	-62.10	7.31	-54.79	-41.8
5729.40	H	-	-	-61.50	10.05	-51.46	-38.5
7639.20	H	-	-	-58.63	11.75	-46.88	-33.9

Table 7-44. Radiated Spurious Data (PCS GPRS Mode – Ch. 810)

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 85 of 111

## PCS WCDMA Mode



**Plot 7-85. Radiated Spurious Data (PCS WCDMA Mode)**

OPERATING FREQUENCY: 1852.40 MHz  
 CHANNEL: 9262  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3704.80	H	-	-	-69.65	7.09	-62.55	-49.6
5557.20	H	-	-	-70.39	10.07	-60.32	-47.3
7409.60	H	-	-	-68.29	11.60	-56.69	-43.7

**Table 7-45. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 86 of 111

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 9400  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-69.04	7.10	-61.94	-48.9
5640.00	H	-	-	-69.24	10.04	-59.19	-46.2
7520.00	H	-	-	-68.34	11.68	-56.66	-43.7

Table 7-46. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 9400  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

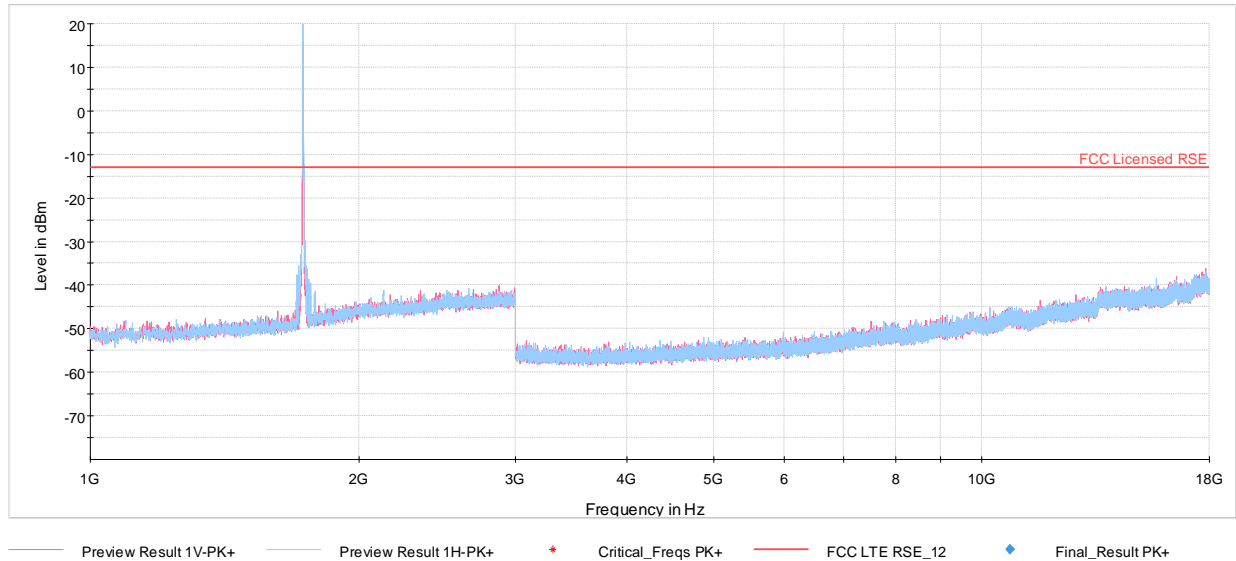
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-69.04	7.10	-61.94	-48.9
5640.00	H	-	-	-69.24	10.04	-59.19	-46.2
7520.00	H	-	-	-68.34	11.68	-56.66	-43.7

Table 7-47. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 87 of 111

## 7.7.5 ANT 4a (Port C) Radiated Spurious Emissions Measurements

### AWS WCDMA Mode



**Plot 7-86. Radiated Spurious Data (AWS WCDMA Mode)**

OPERATING FREQUENCY: 1712.40 MHz  
CHANNEL: 1312  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3424.80	H	-	-	-70.12	7.53	-62.58	-49.6
5137.20	H	-	-	-70.74	9.79	-60.95	-47.9
6849.60	H	-	-	-68.38	10.96	-57.42	-44.4

**Table 7-48. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1312)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 88 of 111

OPERATING FREQUENCY: 1732.60 MHz  
CHANNEL: 1413  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3465.20	H	-	-	-69.97	7.62	-62.34	-49.3
5197.80	H	-	-	-70.05	9.75	-60.30	-47.3
6930.40	H	-	-	-68.66	11.05	-57.61	-44.6

Table 7-49. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1413)

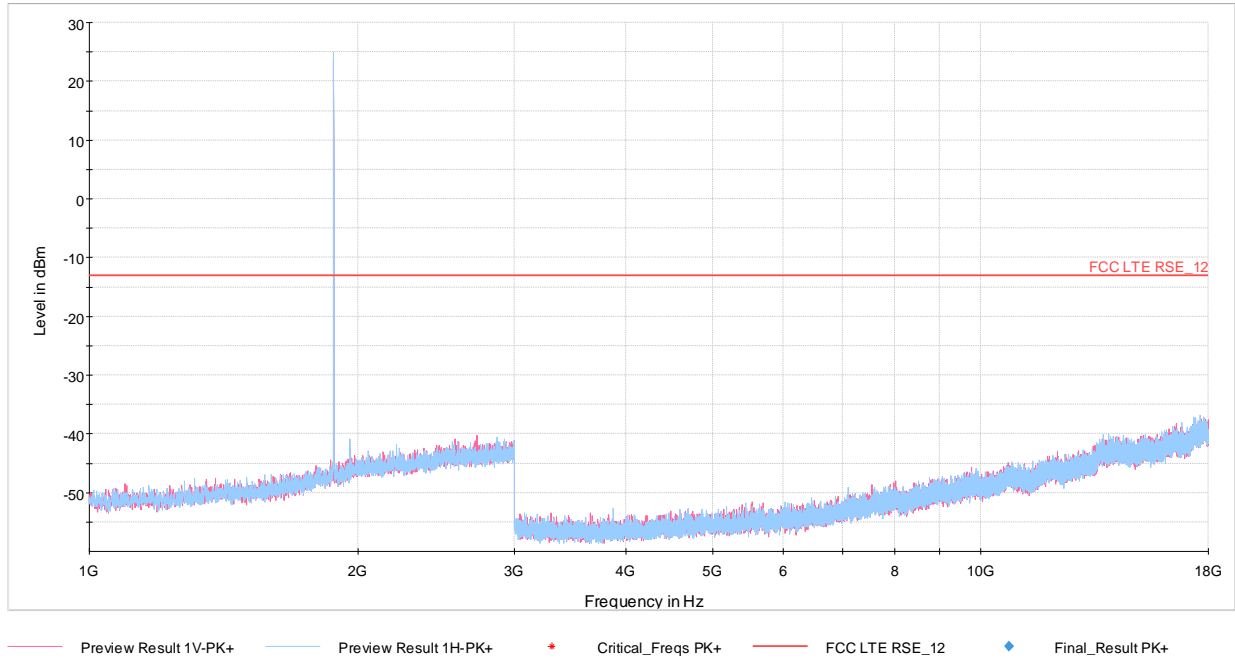
OPERATING FREQUENCY: 1752.60 MHz  
CHANNEL: 1513  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3505.20	H	-	-	-70.18	7.68	-62.50	-49.5
5257.80	H	-	-	-69.98	9.74	-60.24	-47.2
7010.40	H	-	-	-68.63	11.08	-57.54	-44.5

Table 7-50. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1513)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 89 of 111

## PCS GPRS Mode



**Plot 7-87. Radiated Spurious Data (PCS GPRS Mode)**

OPERATING FREQUENCY: 1850.20 MHz  
CHANNEL: 512  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3700.40	H	-	-	-62.37	7.10	-55.28	-42.3
5550.60	H	-	-	-60.67	10.07	-50.60	-37.6
7400.80	H	-	-	-57.80	11.59	-46.21	-33.2

**Table 7-51. Radiated Spurious Data (PCS GPRS Mode – Ch. 512)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 90 of 111



OPERATING FREQUENCY: 1880.00 MHz  
CHANNEL: 661  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-61.74	7.10	-54.64	-41.6
5640.00	H	-	-	-60.95	10.04	-50.91	-37.9
7520.00	H	-	-	-58.64	11.68	-46.96	-34.0

Table 7-52. Radiated Spurious Data (PCS GPRS Mode – Ch. 661)

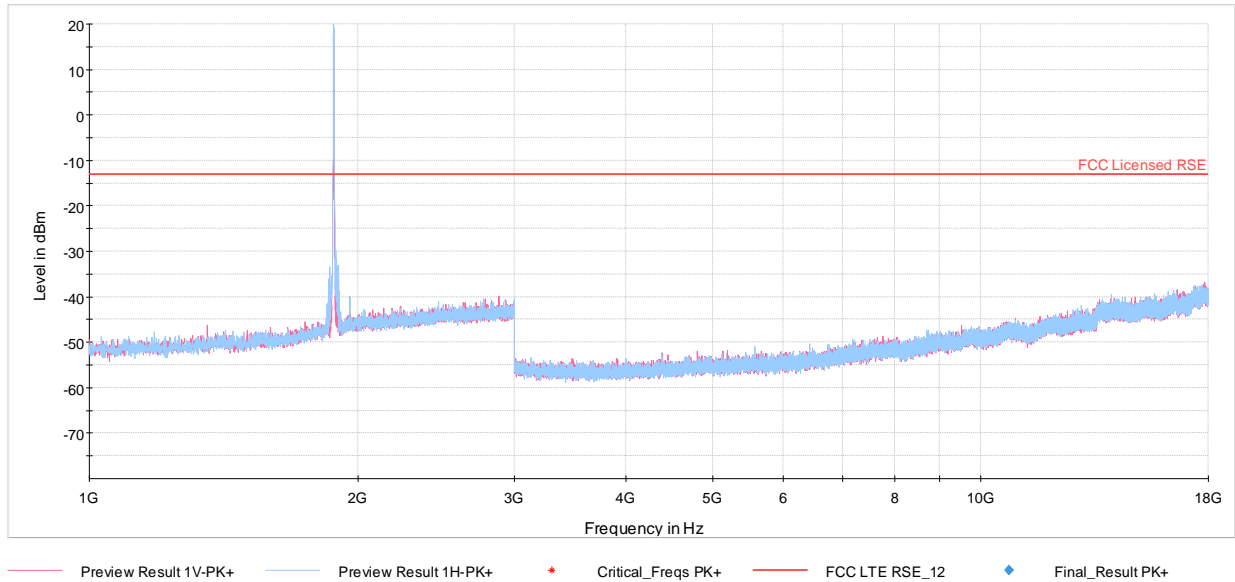
OPERATING FREQUENCY: 1909.80 MHz  
CHANNEL: 810.00  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3819.60	H	-	-	-61.36	7.31	-54.05	-41.1
5729.40	H	-	-	-60.56	10.05	-50.51	-37.5
7639.20	H	-	-	-58.69	11.75	-46.94	-33.9

Table 7-53. Radiated Spurious Data (PCS GPRS Mode – Ch. 810)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 91 of 111

## PCS WCDMA Mode



**Plot 7-88. Radiated Spurious Data (PCS WCDMA Mode)**

OPERATING FREQUENCY: 1852.40 MHz  
 CHANNEL: 9262  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3704.80	H	-	-	-69.58	7.09	-62.48	-49.5
5557.20	H	-	-	-70.48	10.07	-60.41	-47.4
7409.60	H	-	-	-68.30	11.60	-56.70	-43.7

**Table 7-54. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 92 of 111

OPERATING FREQUENCY: 1880.00 MHz  
CHANNEL: 9400  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-69.22	7.10	-62.12	-49.1
5640.00	H	-	-	-69.61	10.04	-59.56	-46.6
7520.00	H	-	-	-68.42	11.68	-56.74	-43.7

Table 7-55. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

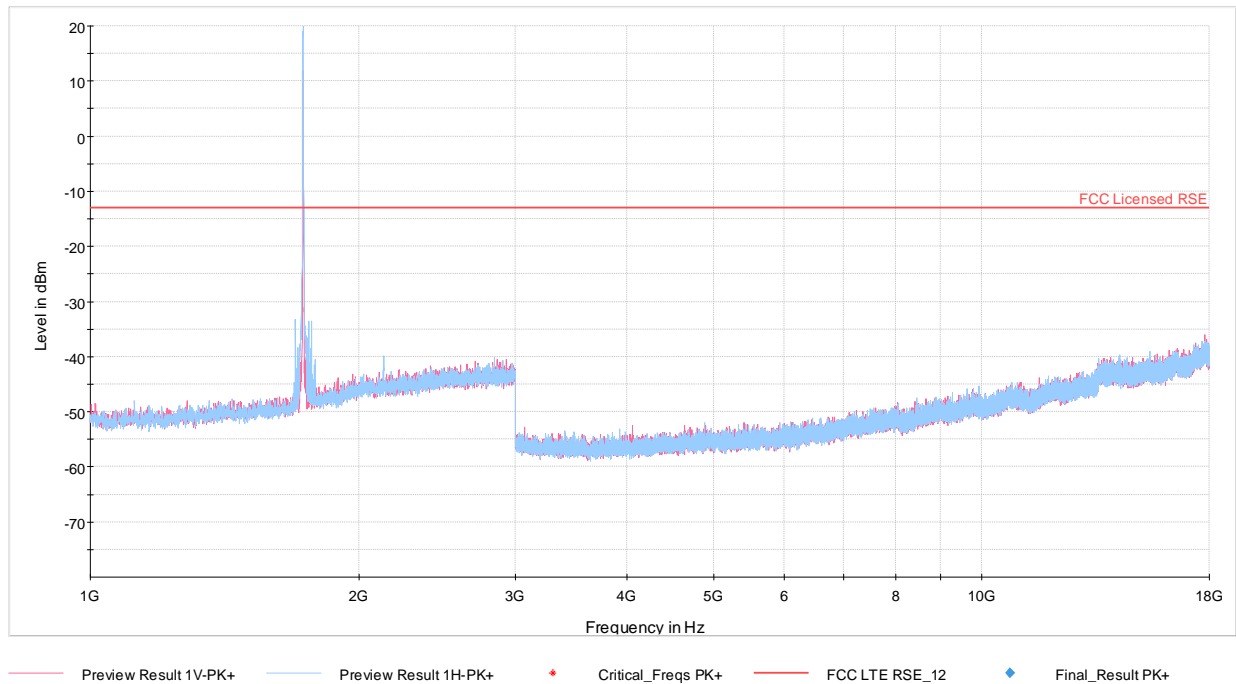
OPERATING FREQUENCY: 1907.60 MHz  
CHANNEL: 9538  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3815.20	H	-	-	-69.26	7.29	-61.98	-49.0
5722.80	H	-	-	-69.93	10.05	-59.88	-46.9
7630.40	H	-	-	-68.34	11.75	-56.59	-43.6

Table 7-56. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 93 of 111

## 7.7.6 ANT 2a (Port D) Radiated Spurious Emissions Measurements AWS WCDMA Mode



**Plot 7-89. Radiated Spurious Data (AWS WCDMA Mode)**

OPERATING FREQUENCY: 1712.40 MHz  
CHANNEL: 1312  
MODULATION SIGNAL: WCDMA  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3424.80	H	-	-	-70.10	7.53	-62.56	-49.6
5137.20	H	-	-	-70.80	9.79	-61.01	-48.0
6849.60	H	-	-	-68.63	10.96	-57.67	-44.7

**Table 7-57. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1312)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 94 of 111

OPERATING FREQUENCY: 1732.60 MHz  
 CHANNEL: 1413  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3465.20	H	-	-	-70.06	7.62	-62.43	-49.4
5197.80	H	-	-	-70.17	9.75	-60.42	-47.4
6930.40	H	-	-	-68.90	11.05	-57.85	-44.9

Table 7-58. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1413)

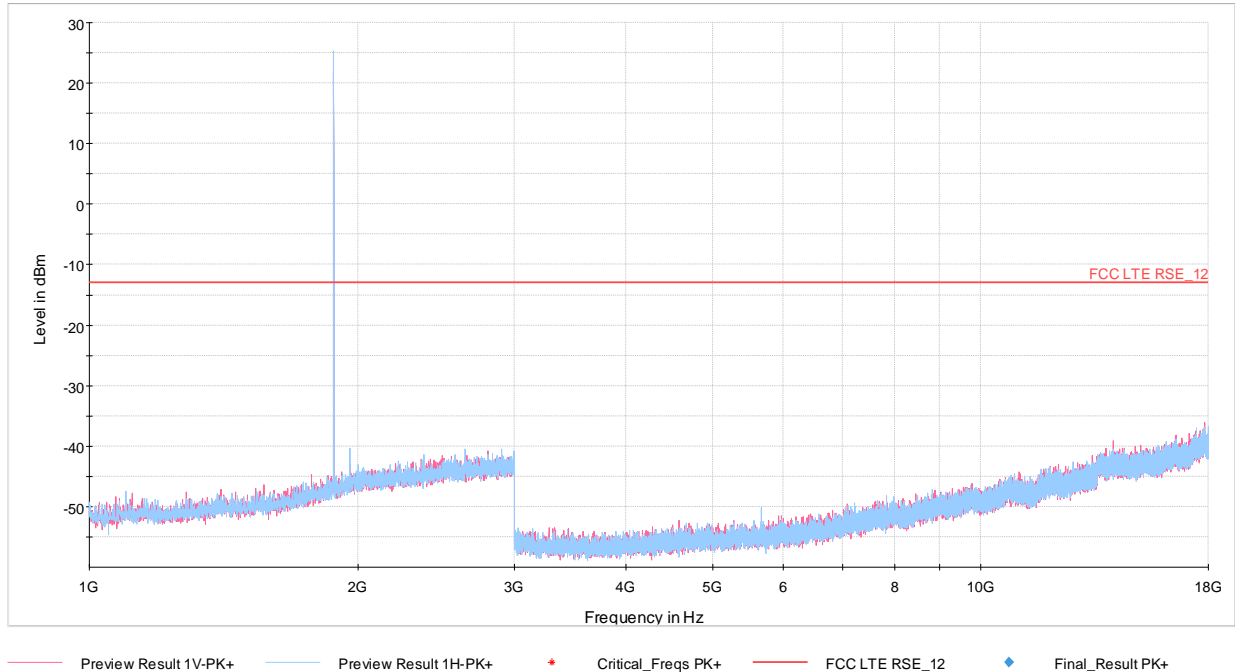
OPERATING FREQUENCY: 1752.60 MHz  
 CHANNEL: 1513  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3505.20	H	-	-	-70.18	7.68	-62.50	-49.5
5257.80	H	-	-	-69.86	9.74	-60.12	-47.1
7010.40	H	-	-	-68.94	11.08	-57.85	-44.9

Table 7-59. Radiated Spurious Data (AWS WCDMA Mode – Ch. 1513)

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 95 of 111

## PCS GPRS Mode



**Plot 7-90. Radiated Spurious Data (PCS GPRS Mode)**

OPERATING FREQUENCY: 1850.20 MHz  
CHANNEL: 512  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3700.40	H	-	-	-62.44	7.10	-55.34	-42.3
5550.60	H	126	348	-58.85	10.07	-48.78	-35.8
7400.80	H	-	-	-58.60	11.59	-47.01	-34.0

**Table 7-60. Radiated Spurious Data (PCS GPRS Mode – Ch. 512)**

FCC ID: BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device		Page 96 of 111

OPERATING FREQUENCY: 1880.00 MHz  
CHANNEL: 661.00  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-61.71	7.10	-54.61	-41.6
5640.00	H	120	342	-59.13	10.04	-49.09	-36.1
7520.00	H	-	-	-58.89	11.68	-47.21	-34.2

Table 7-61. Radiated Spurious Data (PCS GPRS Mode – Ch. 661)

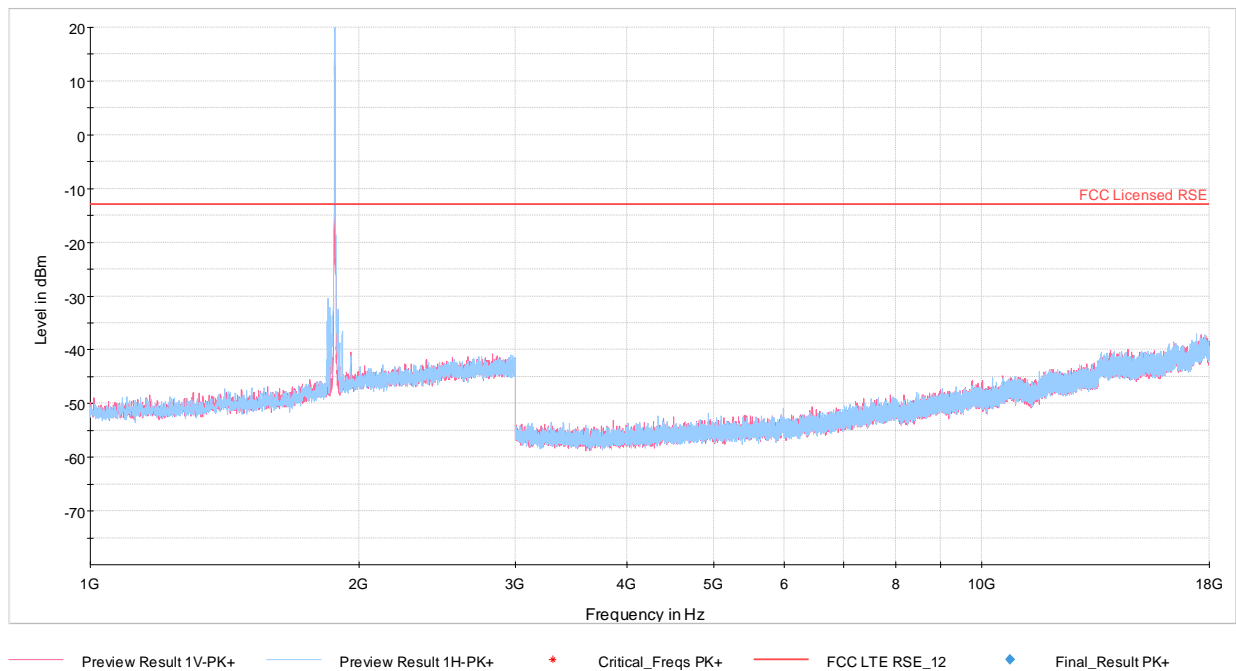
OPERATING FREQUENCY: 1909.80 MHz  
CHANNEL: 810.00  
MODULATION SIGNAL: GPRS (GMSK)  
DISTANCE: 3 meters  
LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3819.60	H	-	-	-62.00	7.31	-54.69	-41.7
5729.40	H	105	343	-59.95	10.05	-49.90	-36.9
7639.20	H	-	-	-59.05	11.75	-47.30	-34.3

Table 7-62. Radiated Spurious Data (PCS GPRS Mode – Ch. 810)

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806050011-02-R1.BCG	Test Dates: 07/26/2018 - 10/12/2018	EUT Type: Tablet Device	Page 97 of 111

## PCS WCDMA Mode



**Plot 7-91. Radiated Spurious Data (PCS WCDMA Mode)**

OPERATING FREQUENCY: 1852.40 MHz  
 CHANNEL: 9262  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3704.80	H	-	-	-69.67	7.09	-62.57	-49.6
5557.20	H	-	-	-70.53	10.07	-60.46	-47.5
7409.60	H	-	-	-68.22	11.60	-56.62	-43.6

**Table 7-63. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9262)**

FCC ID: BCGA2014		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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OPERATING FREQUENCY: 1880.00 MHz  
 CHANNEL: 9400  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3760.00	H	-	-	-68.84	7.10	-61.74	-48.7
5640.00	H	-	-	-69.74	10.04	-59.69	-46.7
7520.00	H	-	-	-68.56	11.68	-56.88	-43.9

Table 7-64. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9400)

OPERATING FREQUENCY: 1907.60 MHz  
 CHANNEL: 9538  
 MODULATION SIGNAL: WCDMA  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3815.20	H	-	-	-69.03	7.29	-61.75	-48.7
5722.80	H	-	-	-69.92	10.05	-59.87	-46.9
7630.40	H	-	-	-68.48	11.75	-56.73	-43.7

Table 7-65. Radiated Spurious Data (PCS WCDMA Mode – Ch. 9538)

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## 7.8 Frequency Stability / Temperature Variation

### Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

***For Part 22, RSS-132, and RSS-133, the frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency. For Part 24, Part 27, and RSS-139, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.***

### Test Procedure Used

ANSI/TIA-603-E-2016

### Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

### Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

### Test Notes

None

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation

OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL: 190

REFERENCE VOLTAGE: 3.80 VDC

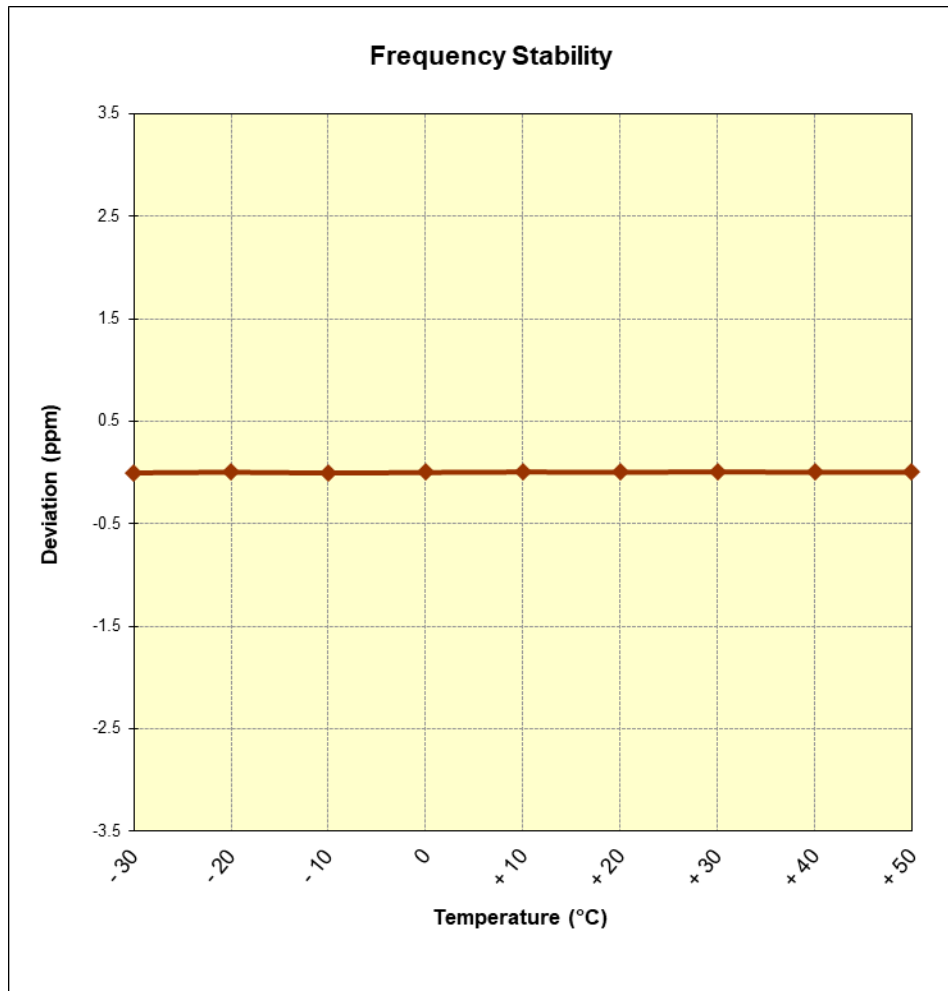
DEVIATION LIMIT:  $\pm 0.00025$  % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,600,003	3	0.0000003
100 %		- 20	836,600,004	4	0.0000005
100 %		- 10	836,600,002	2	0.0000003
100 %		0	836,600,003	3	0.0000004
100 %		+ 10	836,600,004	4	0.0000005
100 %		+ 20	836,600,004	4	0.0000004
100 %		+ 30	836,600,005	5	0.0000005
100 %		+ 40	836,600,004	4	0.0000004
100 %		+ 50	836,600,004	4	0.0000004
BATT. ENDPOINT	3.40	+ 20	836,600,004	4	0.0000004

**Table 7-66. Frequency Stability Data (Cellular GPRS Mode – Ch. 190)**

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation



**Figure 7-7. Frequency Stability Graph (Cellular GPRS Mode – Ch. 190)**

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<b>Test Report S/N:</b> 1C1806050011-02-R1.BCG	<b>Test Dates:</b> 07/26/2018 - 10/12/2018	<b>EUT Type:</b> Tablet Device	Page 102 of 111

## Frequency Stability / Temperature Variation

OPERATING FREQUENCY:	836,600,000	Hz
CHANNEL:	4183	
REFERENCE VOLTAGE:	3.80	VDC
DEVIATION LIMIT:	$\pm 0.00025$ % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	836,600,003	3	0.0000003
100 %		- 20	836,600,004	4	0.0000005
100 %		- 10	836,600,002	2	0.0000003
100 %		0	836,600,003	3	0.0000004
100 %		+ 10	836,600,004	4	0.0000005
100 %		+ 20	836,600,004	4	0.0000004
100 %		+ 30	836,600,005	5	0.0000005
100 %		+ 40	836,600,004	4	0.0000004
100 %		+ 50	836,600,004	4	0.0000004
BATT. ENDPOINT	3.40	+ 20	836,600,004	4	0.0000004

**Table 7-67. Frequency Stability Data (Cellular WCDMA Mode – Ch. 4183)**

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation

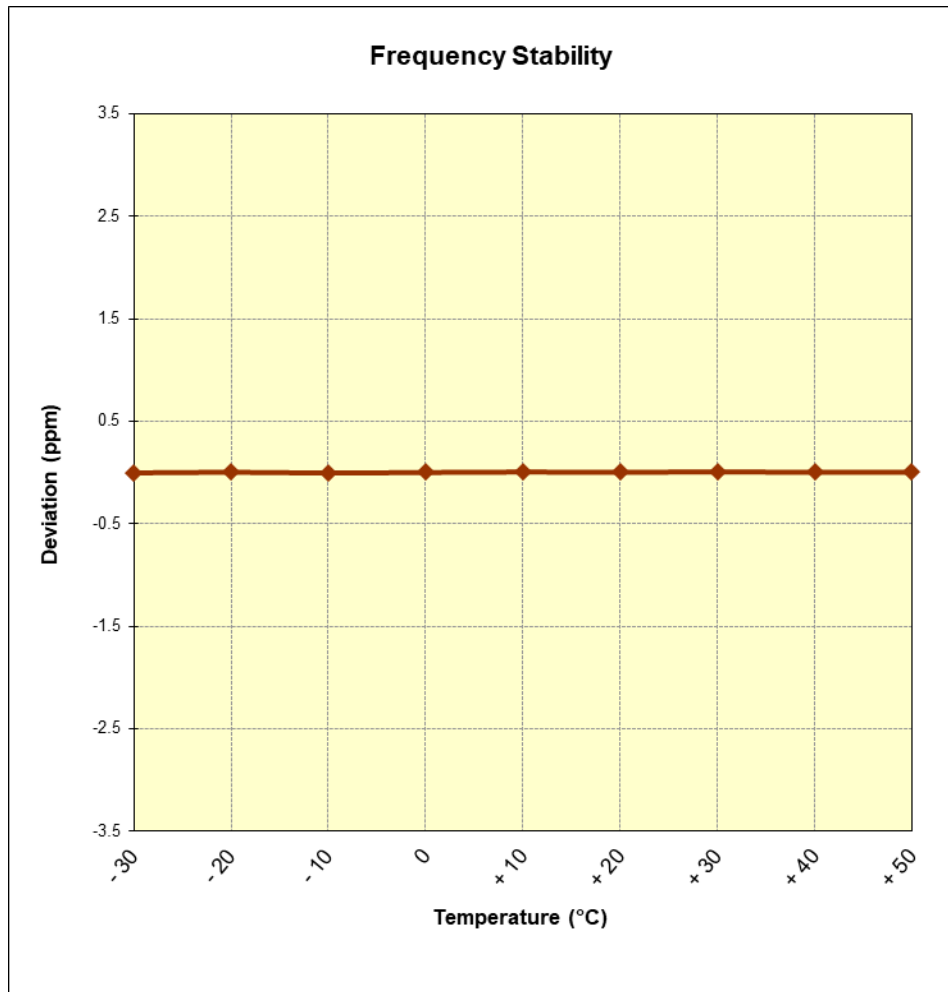


Figure 7-8. Frequency Stability Graph (Cellular WCDMA Mode – Ch. 4183)

FCC ID: BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation

OPERATING FREQUENCY: 1,732,600,000 Hz  
CHANNEL: 1413  
REFERENCE VOLTAGE: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	1,732,600,007	7	0.0000004
100 %		- 20	1,732,600,008	8	0.0000005
100 %		- 10	1,732,600,008	8	0.0000005
100 %		0	1,732,600,007	7	0.0000004
100 %		+ 10	1,732,600,008	8	0.0000004
100 %		+ 20	1,732,600,007	7	0.0000004
100 %		+ 30	1,732,600,009	9	0.0000005
100 %		+ 40	1,732,600,009	9	0.0000005
100 %		+ 50	1,732,600,009	9	0.0000005
BATT. ENDPOINT	3.40	+ 20	1,732,600,006	6	0.0000003

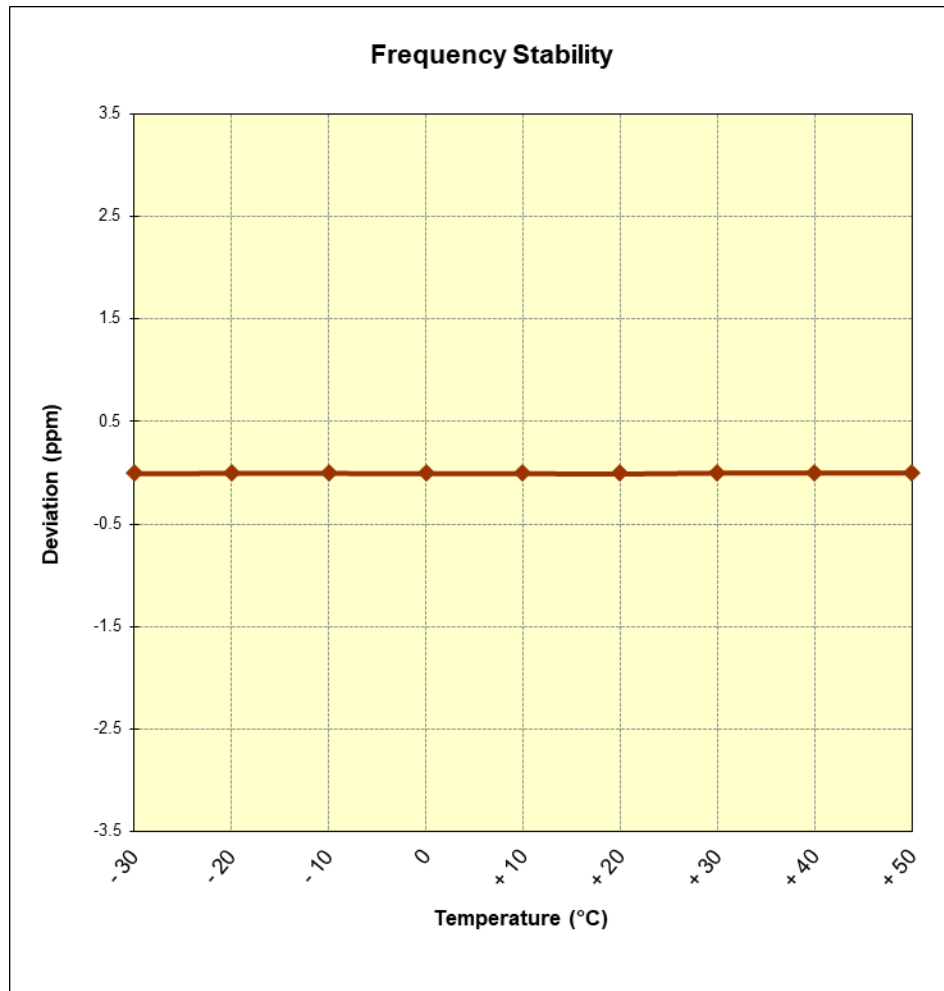
**Table 7-68. Frequency Stability Data (AWS WCDMA Mode – Ch. 1413)**

### Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation



**Figure 7-9. Frequency Stability Graph (AWS WCDMA Mode – Ch. 1413)**

<b>FCC ID:</b> BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
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## Frequency Stability / Temperature Variation

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 661

REFERENCE VOLTAGE: 3.80 VDC

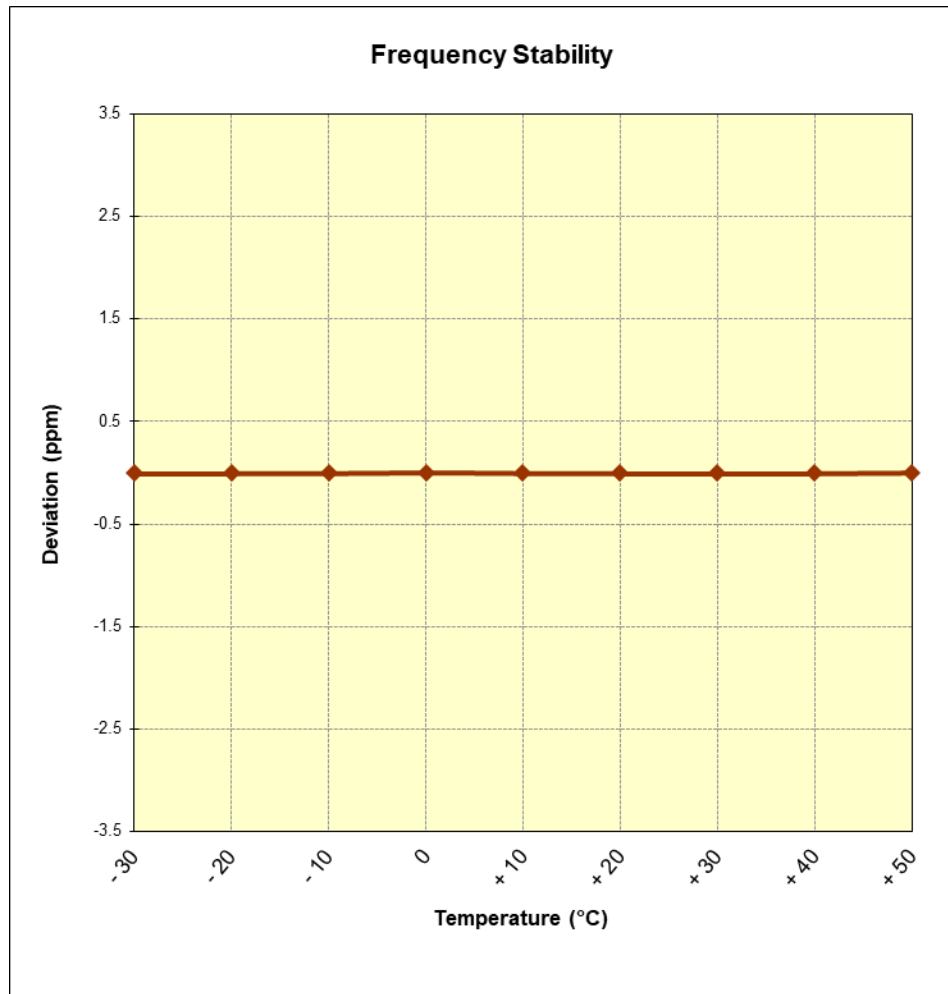
DEVIATION LIMIT:  $\pm 0.00025$  % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	1,880,000,006	6	0.0000003
100 %		- 20	1,880,000,007	7	0.0000004
100 %		- 10	1,880,000,007	7	0.0000004
100 %		0	1,880,000,009	9	0.0000005
100 %		+ 10	1,880,000,007	7	0.0000004
100 %		+ 20	1,880,000,007	7	0.0000004
100 %		+ 30	1,880,000,006	6	0.0000003
100 %		+ 40	1,880,000,007	7	0.0000004
100 %		+ 50	1,880,000,008	8	0.0000004
BATT. ENDPOINT	3.40	+ 20	1,880,000,007	7	0.0000004

**Table 7-69. Frequency Stability Data (PCS GPRS Mode – Ch. 661)**

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation



**Figure 7-10. Frequency Stability Graph (PCS GPRS Mode – Ch. 661)**

<b>FCC ID:</b> BCGA2014	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1C1806050011-02-R1.BCG	<b>Test Dates:</b> 07/26/2018 - 10/12/2018	<b>EUT Type:</b> Tablet Device	Page 108 of 111

## Frequency Stability / Temperature Variation

OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 9400

REFERENCE VOLTAGE: 3.80 VDC

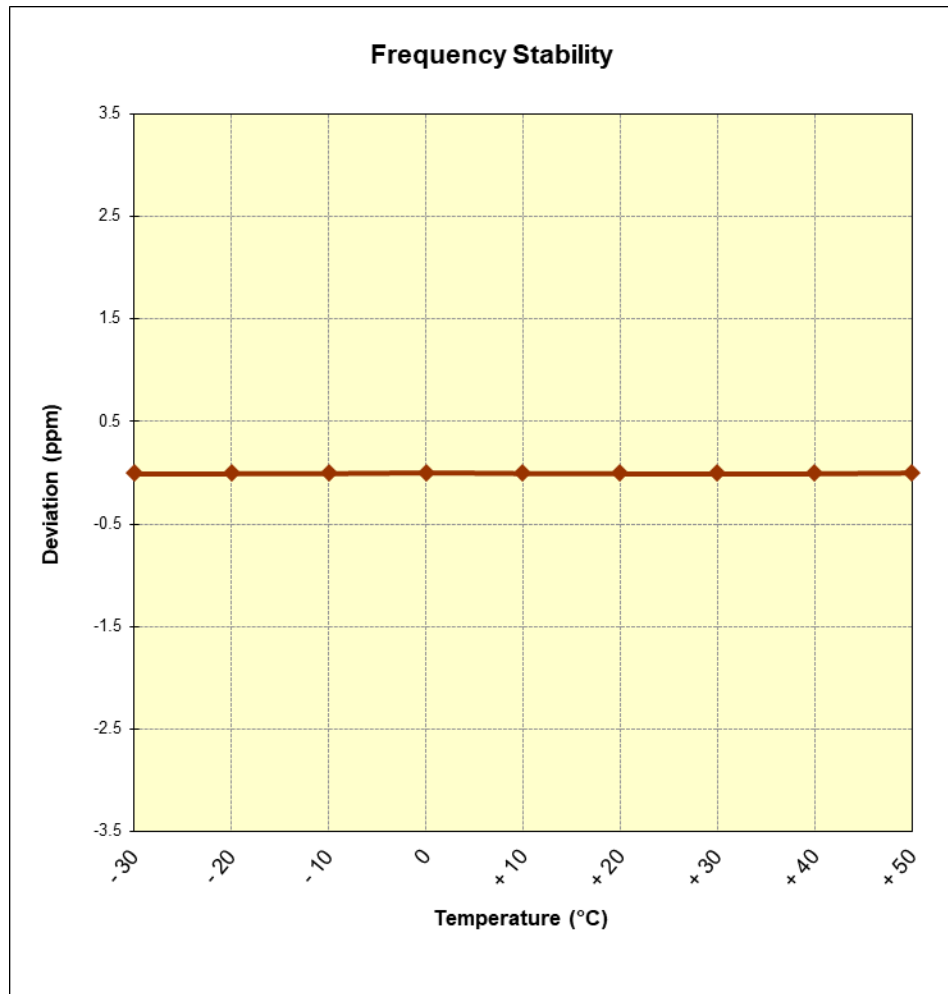
DEVIATION LIMIT:  $\pm 0.00025$  % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	- 30	1,880,000,006	6	0.0000003
100 %		- 20	1,880,000,007	7	0.0000004
100 %		- 10	1,880,000,007	7	0.0000004
100 %		0	1,880,000,009	9	0.0000005
100 %		+ 10	1,880,000,007	7	0.0000004
100 %		+ 20	1,880,000,007	7	0.0000004
100 %		+ 30	1,880,000,006	6	0.0000003
100 %		+ 40	1,880,000,007	7	0.0000004
100 %		+ 50	1,880,000,008	8	0.0000004
BATT. ENDPOINT	3.40	+ 20	1,880,000,007	7	0.0000004

**Table 7-70. Frequency Stability Data (PCS WCDMA Mode – Ch. 9400)**

FCC ID: BCGA2014	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Frequency Stability / Temperature Variation



**Figure 7-11. Frequency Stability Graph (PCS WCDMA Mode – Ch. 9400)**

<b>FCC ID:</b> BCGA2014	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1C1806050011-02-R1.BCG	<b>Test Dates:</b> 07/26/2018 - 10/12/2018	<b>EUT Type:</b> Tablet Device	Page 110 of 111

## 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2014** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules and RSS-132, RSS-133, RSS-139 of the Innovation, Science and Economic Development Canada Rules.

<b>FCC ID:</b> BCGA2014		<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Quality Manager
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