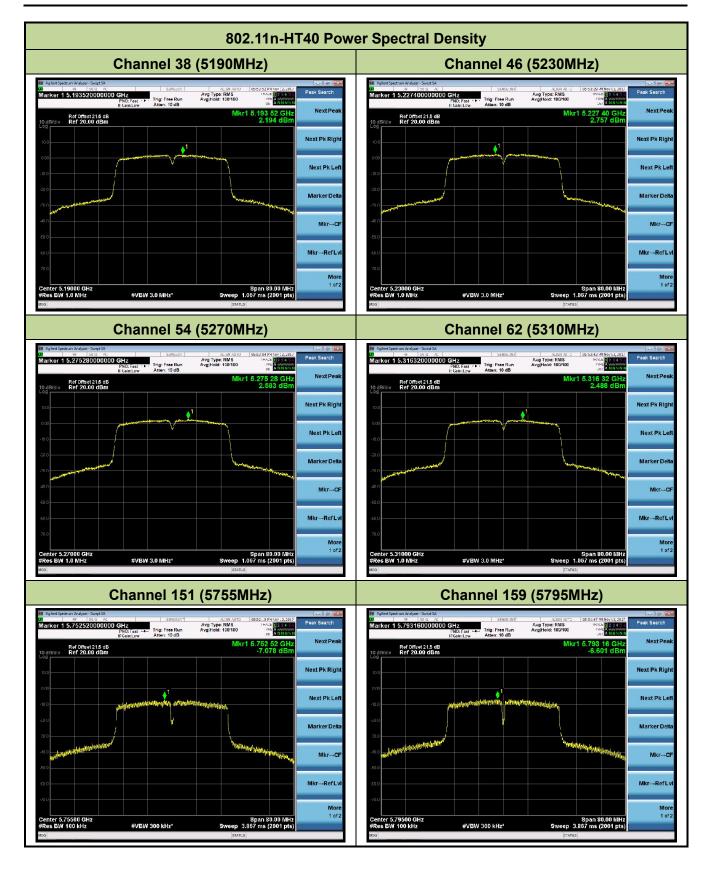


FCC ID: 2AC6AC70 Page Number: 42 of 119





FCC ID: 2AC6AC70 Page Number: 43 of 119



7.7. Frequency Stability Measurement

7.7.1.Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

7.7.2.Test Procedure Used

Frequency Stability Under Temperature Variations:

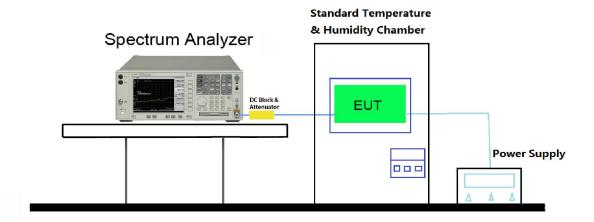
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

7.7.3.Test Setup



FCC ID: 2AC6AC70 Page Number: 44 of 119



7.7.4.Test Result

Test Engineer	Hunk Li	Temperature	-30 ~ 50°C
Test Time	2017/11/05	Relative Humidity	48 ~ 55%RH
Test Mode	5180MHz (Carrier Mode)	Test Site	TR3

Voltage	Power	Temp	Frequency Tolerance (ppm)				
(%)	(VAC)	(°C)	0 minutes	2 minutes	5 minutes	10 minutes	
		- 30	4.33	4.28	4.18	3.72	
		- 20	3.51	4.18	4.44	4.31	
		- 10	3.12	3.27	3.58	3.67	
		0	2.80	2.03	3.45	3.23	
100%	3.8V	+ 10	1.84	1.47	2.25	2.56	
		+ 20 (Ref)	1.14	1.13	1.38	2.24	
		+ 30	-1.04	-0.12	-1.17	-1.74	
		+ 40	-1.32	-1.49	-1.63	-1.43	
		+ 50	-1.33	-1.48	-2.26	-2.20	
115%	4.37	+ 20	-1.23	-1.44	-2.54	-2.47	
85%	3.23	+ 20	-2.00	-2.55	-3.23	-3.45	

Note: Frequency Tolerance (ppm) = $\{[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)\} *10⁶.$

FCC ID: 2AC6AC70 Page Number: 45 of 119



7.8. Radiated Spurious Emission Measurement

7.8.1.Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

CTX must not exceed the limits shown in Table per Section 13.203.									
FCC Part 15 Subpart C Paragraph 15.209									
Frequency [MHz]	Measured Distance [Meters]								
0.009 - 0.490	2400/F (kHz)	300							
0.490 – 1.705	24000/F (kHz)	30							
1.705 - 30	30	30							
30 - 88	100	3							
88 - 216	150	3							
216 - 960	200	3							
Above 960	500	3							

7.8.2.Test Procedure Used

KDB 789033 D02v02 - Section G

7.8.3.Test Setting

Quasi-Peak& Average Measurements below 30MHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = 200Hz for 9kHz to 150kHz frequency; RBW = 9kHz for 0.15MHz to 30MHz frequency
- 4. Detector = CISPR quasi-peak or power average (Average)
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

FCC ID: 2AC6AC70 Page Number: 46 of 119



Quasi-Peak Measurements below 1GHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = 120 kHz
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

Peak Measurements above 1GHz

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

Average Measurements above 1GHz (Method AD)

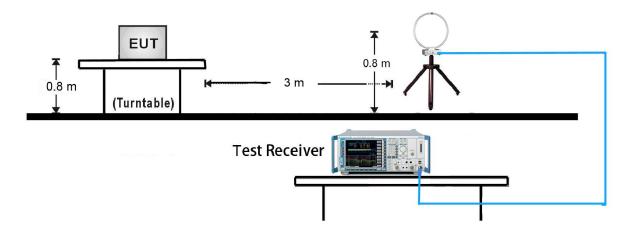
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. If duty cycle ≥ 98%, VBW ≤ RBW/100 but not less than 10Hz; If duty cycle < 98%, set VBW ≥ 1/T.
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- 7. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98% duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

FCC ID: 2AC6AC70 Page Number: 47 of 119

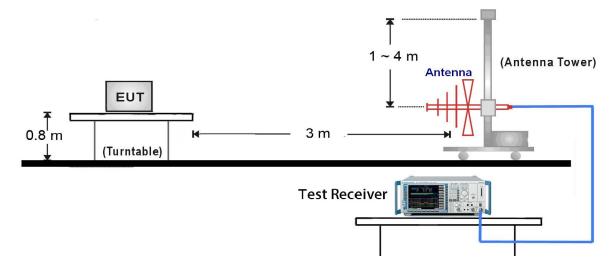


7.8.4.Test Setup

9kHz ~ 30MHz Test Setup:



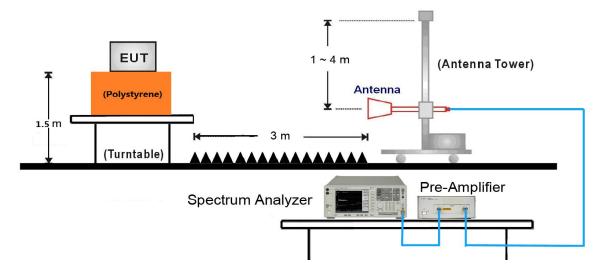
30MHz ~ 1GHz Test Setup:



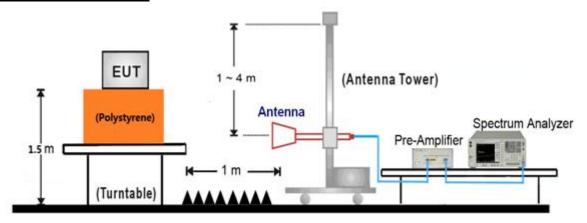
FCC ID: 2AC6AC70 Page Number: 48 of 119



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



FCC ID: 2AC6AC70 Page Number: 49 of 119



7.8.5.Test Result

Product	Mobile Data Terminal	Temperature	26°C			
Test Engineer	Will Yan	Relative Humidity	56%			
Test Site	AC1	Test Date	2017/11/19			
Test Mode:	802.11a	Test Channel:	36			
Remark:	Average measurement was no	t performed if peak l	evel lower than average			
	limit.					
	2. Other frequency was 20dB bel	ow limit line within 1	-18GHz, there is not show			
	in the report.					

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7774.5	34.5	8.2	42.7	68.2	-25.5	Peak	Horizontal
*	8828.5	34.8	9.1	43.9	68.2	-24.3	Peak	Horizontal
	9423.5	33.3	10.6	43.9	74.0	-30.1	Peak	Horizontal
	11047.0	35.4	12.9	48.3	74.0	-25.7	Peak	Horizontal
*	7800.0	33.5	8.4	41.8	68.2	-26.4	Peak	Vertical
*	8922.0	35.7	9.1	44.8	68.2	-23.4	Peak	Vertical
	9364.0	35.1	10.5	45.6	74.0	-28.4	Peak	Vertical
	11455.0	34.9	12.7	47.6	74.0	-26.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBµV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 50 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11a	Test Channel:	44					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.	limit.						
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7876.5	35.7	8.4	44.1	68.2	-24.1	Peak	Horizontal
*	8735.0	33.9	8.9	42.8	68.2	-25.4	Peak	Horizontal
	9423.5	32.1	10.6	42.6	74.0	-31.4	Peak	Horizontal
	11089.5	33.9	12.8	46.7	74.0	-27.3	Peak	Horizontal
*	7859.5	35.3	8.4	43.7	68.2	-24.5	Peak	Vertical
*	8769.0	34.1	8.9	43.1	68.2	-25.1	Peak	Vertical
	9432.0	34.9	10.5	45.4	74.0	-28.6	Peak	Vertical
	11123.5	35.3	12.7	48.1	74.0	-25.9	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 51 of 119



Product	Mobile Data Terminal	Temperature	26°C
Test Engineer	Will Yan	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/19
Test Mode:	802.11a	Test Channel:	48
Remark:	 Average measurement was no limit. Other frequency was 20dB bel in the report. 		Ç

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7885.0	33.1	8.3	41.5	68.2	-26.7	Peak	Horizontal
*	8735.0	33.7	8.9	42.6	68.2	-25.6	Peak	Horizontal
	9372.5	34.1	10.5	44.6	74.0	-29.4	Peak	Horizontal
	11106.5	34.5	12.8	47.3	74.0	-26.7	Peak	Horizontal
*	7910.5	31.5	8.4	39.9	68.2	-28.3	Peak	Vertical
*	8811.5	31.0	9.0	40.0	68.2	-28.2	Peak	Vertical
	9474.5	32.3	10.6	42.9	74.0	-31.1	Peak	Vertical
	10834.5	34.1	12.7	46.8	74.0	-27.2	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 52 of 119



Product	Mobile Data Terminal	Temperature	26°C				
Test Engineer	Will Yan	Relative Humidity	56%				
Test Site	AC1	Test Date	2017/11/19				
Test Mode:	802.11a	Test Channel:	52				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average				
	limit.	limit.					
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show						
	in the report.						

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7919.0	33.8	8.4	42.3	68.2	-25.9	Peak	Horizontal
*	8743.5	33.2	9.0	42.2	68.2	-26.0	Peak	Horizontal
	9423.5	32.8	10.6	43.3	74.0	-30.7	Peak	Horizontal
	10894.0	34.4	12.9	47.3	74.0	-26.7	Peak	Horizontal
*	7774.5	35.1	8.2	43.3	68.2	-24.9	Peak	Vertical
*	8896.5	34.8	9.2	44.0	68.2	-24.2	Peak	Vertical
	9457.5	34.5	10.5	45.0	74.0	-29.0	Peak	Vertical
	11013.0	34.8	13.0	47.8	74.0	-26.2	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 53 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11a	Test Channel:	60					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.	limit.						
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7893.5	34.8	8.3	43.2	68.2	-25.0	Peak	Horizontal
*	8854.0	34.0	9.1	43.1	68.2	-25.1	Peak	Horizontal
	9321.5	33.9	10.4	44.3	74.0	-29.7	Peak	Horizontal
	10851.5	34.9	12.8	47.6	74.0	-26.4	Peak	Horizontal
*	7834.0	33.5	8.4	41.9	68.2	-26.3	Peak	Vertical
*	8735.0	31.7	8.9	40.7	68.2	-27.5	Peak	Vertical
	9338.5	31.9	10.4	42.4	74.0	-31.6	Peak	Vertical
	10970.5	32.8	13.1	45.9	74.0	-28.1	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 54 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date 2017/11/19						
Test Mode:	802.11a	Test Channel: 64						
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7817.0	33.5	8.4	41.9	68.2	-26.3	Peak	Horizontal
*	8667.0	34.6	8.9	43.5	68.2	-24.7	Peak	Horizontal
	9338.5	33.2	10.4	43.7	74.0	-30.3	Peak	Horizontal
	10945.0	35.2	13.1	48.2	74.0	-25.8	Peak	Horizontal
*	7936.0	33.3	8.5	41.8	68.2	-26.4	Peak	Vertical
*	8803.0	32.8	8.9	41.7	68.2	-26.5	Peak	Vertical
	9398.0	32.6	10.5	43.2	74.0	-30.8	Peak	Vertical
	10741.0	36.1	12.5	48.6	74.0	-25.4	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 55 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11a	Test Channel:	149					
Remark:	Average measurement was no	t performed if peak I	evel lower than average					
	limit.	limit.						
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7825.5	33.8	8.4	42.2	68.2	-26.0	Peak	Horizontal
*	8828.5	34.5	9.1	43.6	68.2	-24.6	Peak	Horizontal
	9389.5	33.3	10.5	43.8	74.0	-30.2	Peak	Horizontal
	10834.5	34.3	12.7	47.1	74.0	-26.9	Peak	Horizontal
*	7910.5	31.8	8.4	40.2	68.2	-28.0	Peak	Vertical
*	8667.0	33.2	8.9	42.1	68.2	-26.1	Peak	Vertical
	9406.5	34.4	10.6	45.0	74.0	-29.0	Peak	Vertical
	10919.5	33.9	13.0	46.9	74.0	-27.1	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 56 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11a	Test Channel: 157						
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7842.5	32.2	8.4	40.6	68.2	-27.6	Peak	Horizontal
*	8735.0	33.4	8.9	42.3	68.2	-25.9	Peak	Horizontal
	9304.5	31.7	10.4	42.1	74.0	-31.9	Peak	Horizontal
	11013.0	32.9	13.0	45.9	74.0	-28.1	Peak	Horizontal
*	7944.5	32.6	8.5	41.1	68.2	-27.1	Peak	Vertical
*	8811.5	33.0	9.0	42.0	68.2	-26.2	Peak	Vertical
	9423.5	32.3	10.6	42.9	74.0	-31.1	Peak	Vertical
	10834.5	33.7	12.7	46.4	74.0	-27.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 57 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11a	Test Channel: 165						
Remark:	Average measurement was no	t performed if peak I	evel lower than average					
	limit.	limit.						
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7842.5	32.8	8.4	41.2	68.2	-27.0	Peak	Horizontal
*	8769.0	31.7	8.9	40.7	68.2	-27.5	Peak	Horizontal
	9304.5	29.9	10.4	40.3	74.0	-33.7	Peak	Horizontal
	10945.0	34.1	13.1	47.2	74.0	-26.8	Peak	Horizontal
*	7808.5	32.3	8.4	40.7	68.2	-27.5	Peak	Vertical
*	8811.5	31.7	9.0	40.7	68.2	-27.5	Peak	Vertical
	9457.5	35.6	10.5	46.1	74.0	-27.9	Peak	Vertical
	11421.0	35.2	12.6	47.8	74.0	-26.2	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 58 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel: 36						
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7842.5	33.5	8.4	41.9	68.2	-26.3	Peak	Horizontal
*	8862.5	33.2	9.1	42.3	68.2	-25.9	Peak	Horizontal
	9474.5	32.7	10.6	43.3	74.0	-30.7	Peak	Horizontal
	11523.0	34.2	12.7	46.9	74.0	-27.1	Peak	Horizontal
*	7876.5	31.8	8.4	40.2	68.2	-28.0	Peak	Vertical
*	8692.5	32.4	9.0	41.4	68.2	-26.8	Peak	Vertical
	9432.0	31.9	10.5	42.4	74.0	-31.6	Peak	Vertical
	10919.5	31.5	13.0	44.5	74.0	-29.5	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 59 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel:	44					
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7876.5	32.8	8.4	41.2	68.2	-27.0	Peak	Horizontal
*	8777.5	32.8	8.9	41.7	68.2	-26.5	Peak	Horizontal
	9406.5	34.0	10.6	44.5	74.0	-29.5	Peak	Horizontal
	10877.0	35.0	12.9	47.8	74.0	-26.2	Peak	Horizontal
*	7842.5	32.6	8.4	41.0	68.2	-27.2	Peak	Vertical
*	8692.5	32.4	9.0	41.4	68.2	-26.8	Peak	Vertical
	9381.0	30.7	10.5	41.2	74.0	-32.8	Peak	Vertical
	10783.5	33.8	12.6	46.4	74.0	-27.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 60 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date 2017/11/19						
Test Mode:	802.11n-HT20	Test Channel:	48					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7953.0	35.1	8.6	43.7	68.2	-24.5	Peak	Horizontal
*	8769.0	33.6	8.9	42.5	68.2	-25.7	Peak	Horizontal
	9364.0	32.1	10.5	42.6	74.0	-31.4	Peak	Horizontal
	11089.5	34.4	12.8	47.2	74.0	-26.8	Peak	Horizontal
*	7902.0	33.7	8.3	42.1	68.2	-26.1	Peak	Vertical
*	8837.0	33.0	9.1	42.2	68.2	-26.0	Peak	Vertical
	9423.5	31.5	10.6	42.0	74.0	-32.0	Peak	Vertical
	11072.5	33.4	12.8	46.2	74.0	-27.8	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 61 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel:	52					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7825.5	32.2	8.4	40.6	68.2	-27.6	Peak	Horizontal
*	8624.5	31.5	8.8	40.3	68.2	-27.9	Peak	Horizontal
	9415.0	30.9	10.6	41.5	74.0	-32.5	Peak	Horizontal
	10647.5	33.8	12.3	46.1	74.0	-27.9	Peak	Horizontal
*	7902.0	33.1	8.3	41.4	68.2	-26.8	Peak	Vertical
*	8735.0	32.8	8.9	41.7	68.2	-26.5	Peak	Vertical
	9483.0	31.9	10.6	42.4	74.0	-31.6	Peak	Vertical
	11123.5	34.0	12.7	46.7	74.0	-27.3	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 62 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel:	60					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7995.5	33.8	8.7	42.5	68.2	-25.7	Peak	Horizontal
*	8624.5	33.6	8.8	42.4	68.2	-25.8	Peak	Horizontal
	9338.5	33.3	10.4	43.7	74.0	-30.3	Peak	Horizontal
	11370.0	34.9	12.6	47.5	74.0	-26.5	Peak	Horizontal
*	7910.5	34.2	8.4	42.6	68.2	-25.6	Peak	Vertical
*	8888.0	34.5	9.2	43.7	68.2	-24.5	Peak	Vertical
	9440.5	33.4	10.5	43.9	74.0	-30.1	Peak	Vertical
	11370.0	34.9	12.6	47.5	74.0	-26.5	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 63 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel:	64					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7910.5	34.2	8.4	42.6	68.2	-25.6	Peak	Horizontal
*	8845.5	32.2	9.1	41.3	68.2	-26.9	Peak	Horizontal
	9423.5	32.8	10.6	43.3	74.0	-30.7	Peak	Horizontal
	10953.5	34.5	13.1	47.5	74.0	-26.5	Peak	Horizontal
*	7851.0	33.0	8.4	41.4	68.2	-26.8	Peak	Vertical
*	8820.0	33.0	9.0	42.1	68.2	-26.1	Peak	Vertical
	9389.5	32.8	10.5	43.3	74.0	-30.7	Peak	Vertical
	11072.5	34.4	12.8	47.3	74.0	-26.7	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 64 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date 2017/11/19						
Test Mode:	802.11n-HT20	Test Channel:	149					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7851.0	33.0	8.4	41.4	68.2	-26.8	Peak	Horizontal
*	8777.5	32.0	8.9	40.9	68.2	-27.3	Peak	Horizontal
	9338.5	33.2	10.4	43.6	74.0	-30.4	Peak	Horizontal
	11081.0	34.6	12.9	47.4	74.0	-26.6	Peak	Horizontal
*	7800.0	32.1	8.4	40.5	68.2	-27.7	Peak	Vertical
*	8667.0	32.4	8.9	41.3	68.2	-26.9	Peak	Vertical
	9389.5	33.6	10.5	44.2	74.0	-29.8	Peak	Vertical
	11004.5	33.4	13.0	46.4	74.0	-27.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 65 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT20	Test Channel:	157					
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7995.5	34.0	8.7	42.7	68.2	-25.5	Peak	Horizontal
*	8760.5	31.0	9.0	40.0	68.2	-28.2	Peak	Horizontal
	9483.0	32.6	10.6	43.2	74.0	-30.8	Peak	Horizontal
	11395.5	34.2	12.6	46.8	74.0	-27.2	Peak	Horizontal
*	7842.5	32.4	8.4	40.8	68.2	-27.4	Peak	Vertical
*	8658.5	32.5	8.8	41.4	68.2	-26.8	Peak	Vertical
	9389.5	32.0	10.5	42.5	74.0	-31.5	Peak	Vertical
	11149.0	33.8	12.6	46.4	74.0	-27.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 66 of 119



Product	Mobile Data Terminal	Temperature	26°C				
Test Engineer	Will Yan	Relative Humidity	56%				
Test Site	AC1	Test Date	2017/11/19				
Test Mode:	802.11n-HT20	Test Channel:	165				
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average				
	limit.						
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show						
	in the report.						

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7808.5	32.4	8.4	40.7	68.2	-27.5	Peak	Horizontal
*	8692.5	31.5	9.0	40.5	68.2	-27.7	Peak	Horizontal
	9415.0	34.0	10.6	44.6	74.0	-29.4	Peak	Horizontal
	11021.5	34.8	13.0	47.8	74.0	-26.2	Peak	Horizontal
*	7876.5	35.7	8.4	44.1	68.2	-24.1	Peak	Vertical
*	8947.5	32.1	9.0	41.1	68.2	-27.1	Peak	Vertical
	9406.5	33.9	10.6	44.5	74.0	-29.5	Peak	Vertical
	11361.5	34.2	12.6	46.8	74.0	-27.2	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 67 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT40	Test Channel: 38						
Remark:	Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7902.0	33.6	8.3	41.9	68.2	-26.3	Peak	Horizontal
*	8854.0	33.7	9.1	42.8	68.2	-25.4	Peak	Horizontal
	9457.5	33.8	10.5	44.3	74.0	-29.7	Peak	Horizontal
	10987.5	34.7	13.0	47.7	74.0	-26.3	Peak	Horizontal
*	7808.5	32.8	8.4	41.1	68.2	-27.1	Peak	Vertical
*	8913.5	32.1	9.1	41.3	68.2	-26.9	Peak	Vertical
	9483.0	31.5	10.6	42.1	74.0	-31.9	Peak	Vertical
	11327.5	33.9	12.5	46.4	74.0	-27.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 68 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT40	Test Channel: 46						
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7859.5	31.7	8.4	40.1	68.2	-28.1	Peak	Horizontal
*	8735.0	34.6	8.9	43.6	68.2	-24.6	Peak	Horizontal
	9457.5	32.6	10.5	43.1	74.0	-30.9	Peak	Horizontal
	11098.0	33.0	12.8	45.8	74.0	-28.2	Peak	Horizontal
*	7876.5	33.3	8.4	41.7	68.2	-26.5	Peak	Vertical
*	8811.5	33.4	9.0	42.4	68.2	-25.8	Peak	Vertical
	9381.0	33.7	10.5	44.2	74.0	-29.8	Peak	Vertical
	10945.0	34.3	13.1	47.4	74.0	-26.6	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 69 of 119



Product	Mobile Data Terminal	Temperature	26°C	
Test Engineer	Will Yan	Relative Humidity	56%	
Test Site	AC1	Test Date	2017/11/19	
Test Mode:	802.11n-HT40	Test Channel: 54		
Remark:	 Average measurement was no limit. Other frequency was 20dB bel in the report. 		Ç	

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7808.5	34.3	8.4	42.6	68.2	-25.6	Peak	Horizontal
*	8760.5	32.2	9.0	41.1	68.2	-27.1	Peak	Horizontal
	9338.5	32.3	10.4	42.7	74.0	-31.3	Peak	Horizontal
	10851.5	33.7	12.8	46.5	74.0	-27.5	Peak	Horizontal
*	7893.5	31.4	8.3	39.7	68.2	-28.5	Peak	Vertical
*	8896.5	32.2	9.2	41.4	68.2	-26.8	Peak	Vertical
	9483.0	30.5	10.6	41.0	74.0	-33.0	Peak	Vertical
	10877.0	32.9	12.9	45.8	74.0	-28.2	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 70 of 119



Product	Mobile Data Terminal	Temperature	26°C
Test Engineer	Will Yan	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/19
Test Mode:	802.11n-HT40	Test Channel:	62
Remark:	 Average measurement was no limit. Other frequency was 20dB bel in the report. 		Ç

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7893.5	33.0	8.3	41.3	68.2	-26.9	Peak	Horizontal
*	8769.0	31.8	8.9	40.7	68.2	-27.5	Peak	Horizontal
	9338.5	31.7	10.4	42.2	74.0	-31.8	Peak	Horizontal
	11106.5	34.0	12.8	46.8	74.0	-27.2	Peak	Horizontal
*	7987.0	30.6	8.7	39.4	68.2	-28.8	Peak	Vertical
*	8845.5	32.0	9.1	41.1	68.2	-27.1	Peak	Vertical
	9432.0	31.5	10.5	42.0	74.0	-32.0	Peak	Vertical
	11098.0	33.8	12.8	46.6	74.0	-27.4	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 71 of 119



Product	Mobile Data Terminal	Temperature	26°C					
Test Engineer	Will Yan	Relative Humidity	56%					
Test Site	AC1	Test Date	2017/11/19					
Test Mode:	802.11n-HT40	Test Channel:	151					
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average					
	limit.							
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.							

Mark	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
	(IVII IZ)	(dBµV)	(dB)	(dBµV/m)	(ασμν/ιιι)	(ub)		
*	7868.0	31.8	8.4	40.2	68.2	-28.0	Peak	Horizontal
*	8692.5	32.3	9.0	41.3	68.2	-26.9	Peak	Horizontal
	9466.0	31.8	10.5	42.3	74.0	-31.7	Peak	Horizontal
	10945.0	33.9	13.1	46.9	74.0	-27.1	Peak	Horizontal
*	7910.5	32.2	8.4	40.6	68.2	-27.6	Peak	Vertical
*	8845.5	32.7	9.1	41.8	68.2	-26.4	Peak	Vertical
	9415.0	32.6	10.6	43.2	74.0	-30.8	Peak	Vertical
	10970.5	31.5	13.1	44.6	74.0	-29.4	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 72 of 119



Product	Mobile Data Terminal	Temperature	26°C		
Test Engineer	Will Yan	Relative Humidity	56%		
Test Site	AC1	Test Date	2017/11/19		
Test Mode:	802.11n-HT40	Test Channel:	159		
Remark:	Average measurement was not performed if peak level lower than average				
	limit.				
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show				
	in the report.				

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7995.5	33.3	8.7	42.0	68.2	-26.2	Peak	Horizontal
*	8718.0	32.3	9.0	41.3	68.2	-26.9	Peak	Horizontal
	9381.0	32.1	10.5	42.6	74.0	-31.4	Peak	Horizontal
	11004.5	33.7	13.0	46.7	74.0	-27.3	Peak	Horizontal
*	7953.0	33.8	8.6	42.4	68.2	-25.9	Peak	Vertical
*	8752.0	32.8	9.0	41.7	68.2	-26.5	Peak	Vertical
	9491.5	32.5	10.6	43.1	74.0	-30.9	Peak	Vertical
	11395.5	35.1	12.6	47.7	74.0	-26.3	Peak	Vertical

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

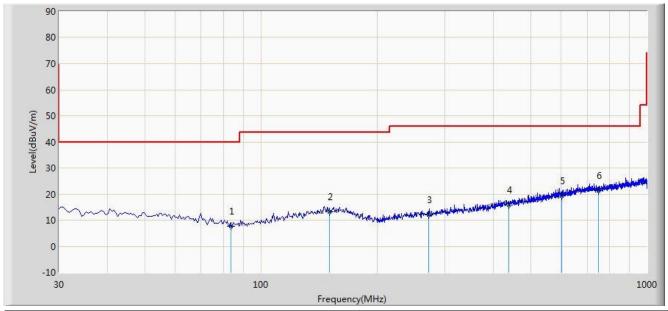
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 73 of 119



The worst case of Radiated Emission below 1GHz:

Note: There is the worst case within frequency range 30MHz~1GHz.				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz			
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Site: AC1	Time: 2017/11/19 - 17:05			



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			83.835	7.613	-2.481	-32.387	40.000	10.094	QP
2			150.280	13.295	-1.867	-30.205	43.500	15.162	QP
3			272.015	12.000	-1.562	-34.000	46.000	13.562	QP
4			439.340	15.836	-1.736	-30.164	46.000	17.572	QP
5			602.300	19.388	-1.170	-26.612	46.000	20.558	QP
6		*	749.740	21.307	-1.391	-24.693	46.000	22.698	QP

Note 1: Measure Level $(dB\mu V/m)$ = Reading Level $(dB\mu V)$ + Factor (dB)

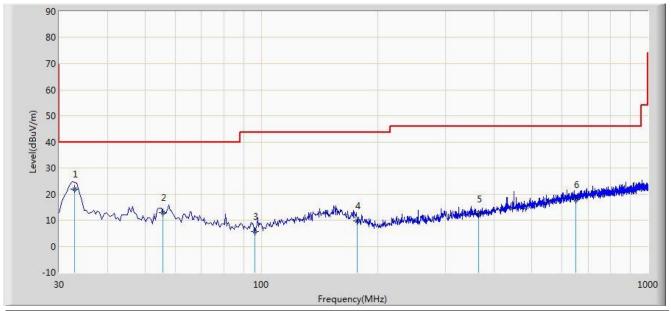
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

FCC ID: 2AC6AC70 Page Number: 74 of 119



Note: There is the worst case within frequency range 30MHz~1GHz.					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical				
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang				
Site: AC1	Time: 2017/11/19 - 17:07				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	32.910	21.777	8.050	-18.223	40.000	13.727	QP
2			55.705	12.760	-0.906	-27.240	40.000	13.667	QP
3			96.445	5.771	-4.918	-37.729	43.500	10.689	QP
4			176.955	9.792	-3.462	-33.708	43.500	13.254	QP
5			364.165	12.323	-3.436	-33.677	46.000	15.758	QP
6			650.800	17.780	-3.591	-28.220	46.000	21.371	QP

Note 1: Measure Level $(dB\mu V/m)$ = Reading Level $(dB\mu V)$ + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

FCC ID: 2AC6AC70 Page Number: 75 of 119



7.9. Radiated Restricted Band Edge Measurement

7.9.1.Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 – 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

For 15.407(b) requirement:

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

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

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

For transmitters operating in the 5.725-5.85 GHz band:

All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz

FCC ID: 2AC6AC70 Page Number: 76 of 119



above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC	FCC Part 15 Subpart C Paragraph 15.209								
Frequency	Field Strength	Measured Distance							
[MHz]	[uV/m]	[Meters]							
0.009 - 0.490	2400/F (kHz)	300							
0.490 - 1.705	24000/F (kHz)	30							
1.705 - 30	30	30							
30 - 88	100	3							
88 - 216	150	3							
216 - 960	200	3							
Above 960	500	3							

7.9.2.Test Procedure Used

KDB 789033 D02v02 - Section G

7.9.3.Test Setting

Peak Measurements above 1GHz

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

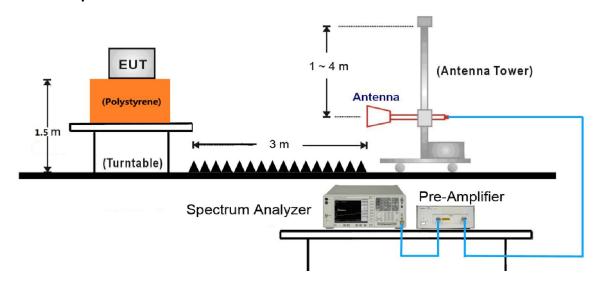
FCC ID: 2AC6AC70 Page Number: 77 of 119



Average Measurements above 1GHz (Method AD)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. If duty cycle ≥ 98%, VBW ≤ RBW/100 but not less than 10Hz; If duty cycle < 98%, set VBW ≥ 1/T.
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- 7. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98% duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

7.9.4.Test Setup

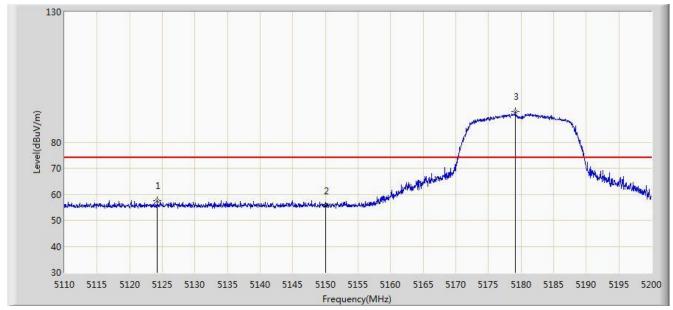


FCC ID: 2AC6AC70 Page Number: 78 of 119



7.9.5.Test Result

Site: AC1	Time: 2017/11/17 - 23:20				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5180MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5124.220	57.484	54.186	-16.516	74.000	3.297	PK
2			5150.000	55.451	52.142	-18.549	74.000	3.309	PK
3		*	5179.165	91.877	88.603	N/A	N/A	3.274	PK

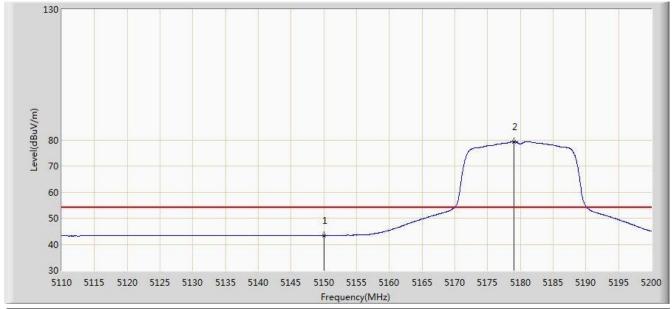
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 79 of 119



Site: AC1	Time: 2017/11/17 - 23:22					
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11a at channel 5180MHz						



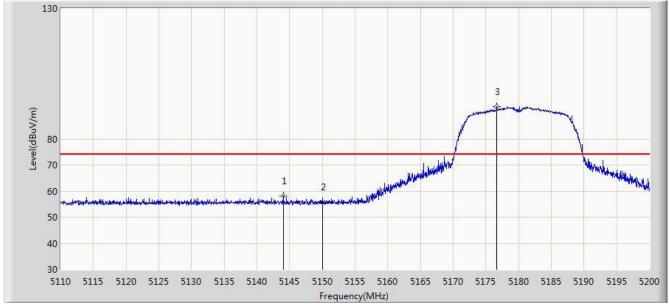
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	43.420	40.111	-10.580	54.000	3.309	AV
2		*	5179.075	79.351	76.077	N/A	N/A	3.274	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 80 of 119



Site: AC1	Time: 2017/11/17 - 23:23					
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11a at channel 5180MHz						



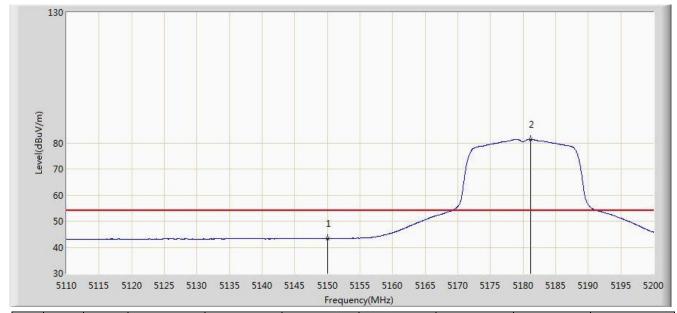
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5144.020	58.178	54.869	-15.822	74.000	3.309	PK
2			5150.000	55.708	52.399	-18.292	74.000	3.309	PK
3		*	5176.690	92.330	89.054	N/A	N/A	3.276	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 81 of 119



Site: AC1	Time: 2017/11/17 - 23:24				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5180MHz					



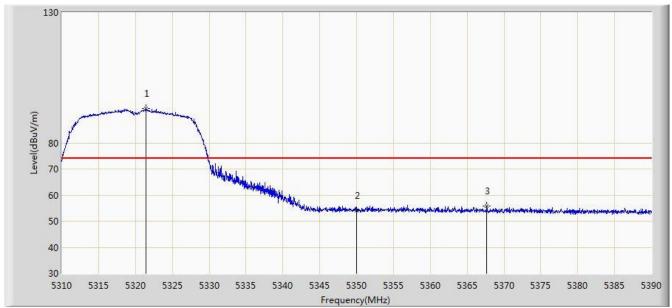
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	43.317	40.008	-10.683	54.000	3.309	AV
2		*	5181.145	81.407	78.135	N/A	N/A	3.272	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 82 of 119



Site: AC1	Time: 2017/11/18 - 00:03				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5320MHz					



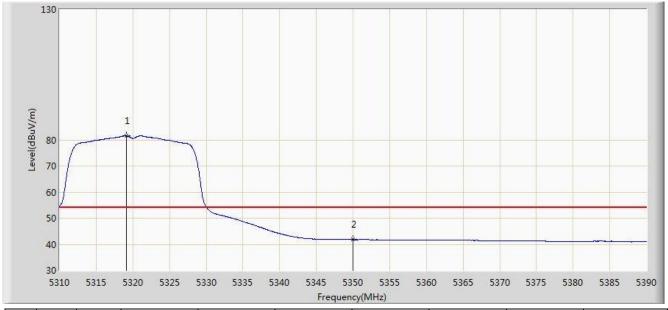
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.400	93.196	90.126	N/A	N/A	3.070	PK
2			5350.000	54.113	51.081	-19.887	74.000	3.032	PK
3			5367.680	55.934	52.921	-18.066	74.000	3.013	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 83 of 119



Site: AC1	Time: 2017/11/18 - 00:06				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5320MHz					



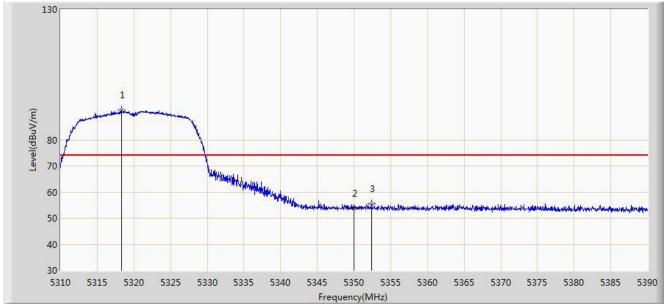
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5319.160	81.481	78.406	N/A	N/A	3.075	AV
2			5350.000	41.747	38.715	-12.253	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 84 of 119



Site: AC1	Time: 2017/11/18 - 00:06				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5320MHz					



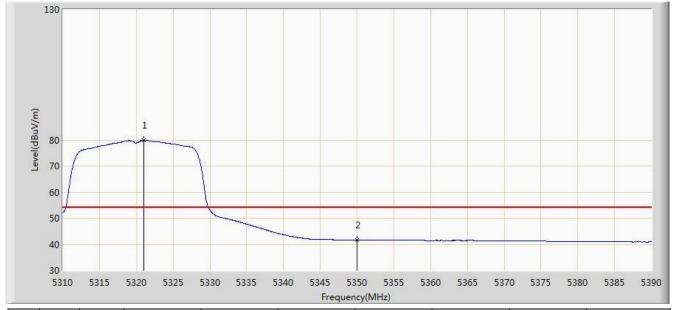
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5318.280	91.536	88.459	N/A	N/A	3.077	PK
2			5350.000	53.646	50.614	-20.354	74.000	3.032	PK
3			5352.400	55.417	52.387	-18.583	74.000	3.029	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 85 of 119



Site: AC1	Time: 2017/11/18 - 00:08				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5320MHz					



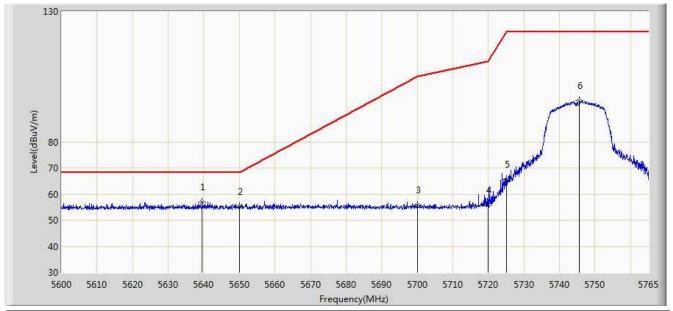
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.040	79.874	76.803	N/A	N/A	3.072	AV
2			5350.000	41.644	38.612	-12.356	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 86 of 119



Site: AC1	Time: 2017/11/18 - 00:08
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Mobile Data Terminal	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5745MHz	



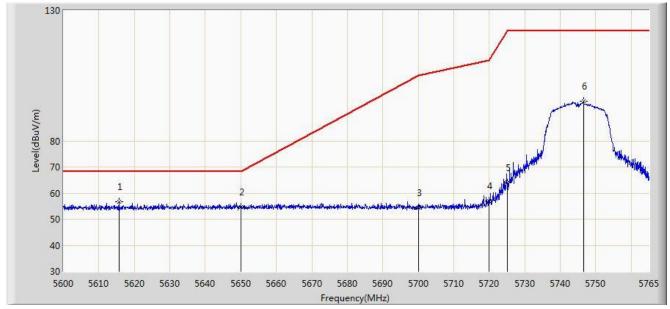
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5639.518	56.912	53.302	-11.288	68.200	3.610	PK
2			5650.000	55.135	51.508	-13.065	68.200	3.627	PK
3			5700.000	55.858	52.139	-49.342	105.200	3.719	PK
4			5720.000	55.753	51.977	-55.047	110.800	3.776	PK
5			5725.000	65.653	61.862	-56.547	122.200	3.791	PK
6			5745.612	95.757	91.902	N/A	N/A	3.855	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 87 of 119



Site: AC1	Time: 2017/11/18 - 00:13
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Mobile Data Terminal	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5745MHz	



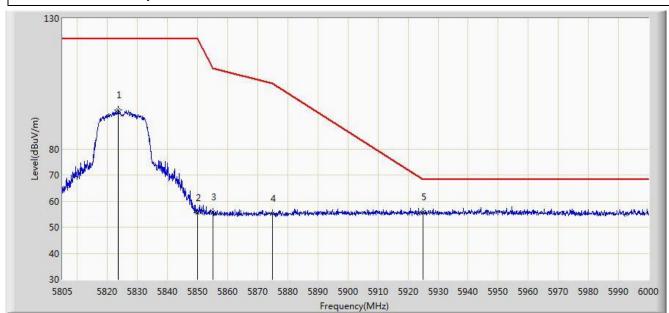
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5615.675	56.731	53.202	-11.469	68.200	3.529	PK
2			5650.000	54.574	50.947	-13.626	68.200	3.627	PK
3			5700.000	54.366	50.647	-50.834	105.200	3.719	PK
4			5720.000	57.089	53.313	-53.711	110.800	3.776	PK
5			5725.000	63.843	60.052	-58.357	122.200	3.791	PK
6			5746.520	95.185	91.327	N/A	N/A	3.858	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 88 of 119



Site: AC1	Time: 2017/11/18 - 00:15				
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11a at channel 5825MHz					



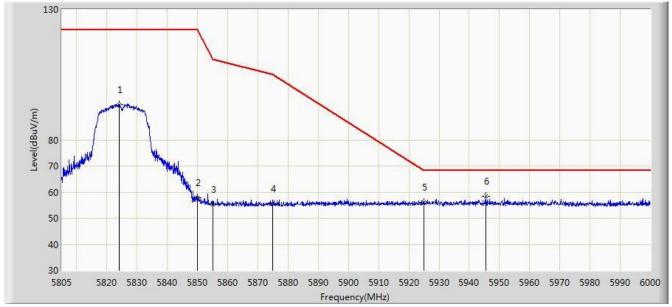
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5823.623	94.917	90.915	N/A	N/A	4.002	PK
2			5850.000	55.521	51.464	-66.679	122.200	4.058	PK
3			5855.000	55.851	51.791	-54.949	110.800	4.060	PK
4			5875.000	55.150	51.045	-50.050	105.200	4.105	PK
5		*	5925.000	55.754	51.501	-12.446	68.200	4.254	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 89 of 119



Site: AC1	Time: 2017/11/18 - 00:18					
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11a at channel 5825MHz						



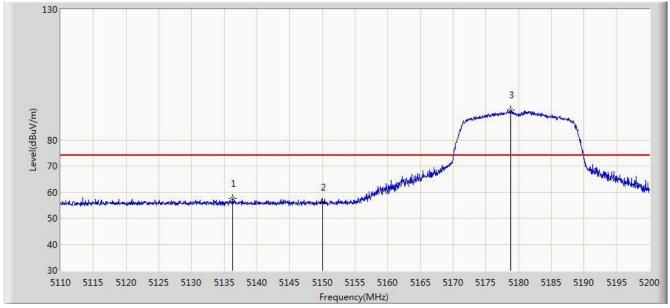
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5824.013	93.605	89.602	N/A	N/A	4.004	PK
2			5850.000	57.845	53.788	-64.355	122.200	4.058	PK
3			5855.000	55.184	51.124	-55.616	110.800	4.060	PK
4			5875.000	55.511	51.406	-49.689	105.200	4.105	PK
5			5925.000	56.083	51.830	-12.117	68.200	4.254	PK
6		*	5945.400	58.288	54.016	-9.912	68.200	4.272	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 90 of 119



Site: AC1	Time: 2017/11/18 - 00:20				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz					



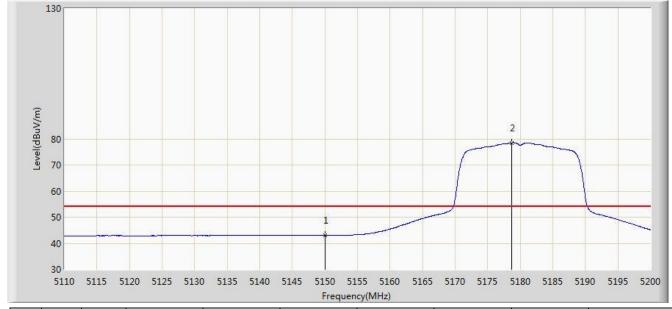
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5136.325	57.504	54.194	-16.496	74.000	3.310	PK
2			5150.000	56.041	52.732	-17.959	74.000	3.309	PK
3		*	5178.805	91.342	88.068	N/A	N/A	3.273	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 91 of 119



Site: AC1	Time: 2017/11/18 - 00:25				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz					



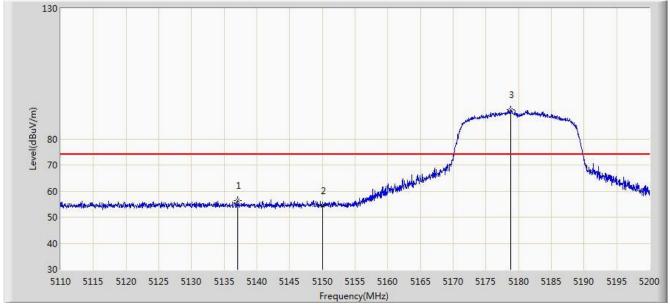
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	43.039	39.730	-10.961	54.000	3.309	AV
2		*	5178.670	78.529	75.255	N/A	N/A	3.274	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 92 of 119



Site: AC1	Time: 2017/11/18 - 00:27				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz					



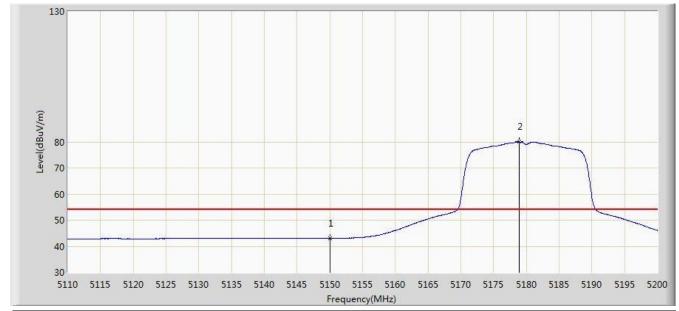
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5137.090	56.369	53.059	-17.631	74.000	3.310	PK
2			5150.000	54.475	51.166	-19.525	74.000	3.309	PK
3		*	5178.760	91.147	87.873	N/A	N/A	3.273	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 93 of 119



Site: AC1	Time: 2017/11/18 - 00:29				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz					



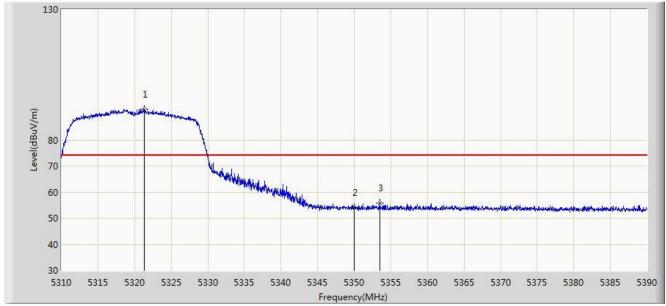
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	43.125	39.816	-10.875	54.000	3.309	AV
2		*	5178.940	80.005	76.731	N/A	N/A	3.274	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 94 of 119



Site: AC1	Time: 2017/11/18 - 00:33				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz					



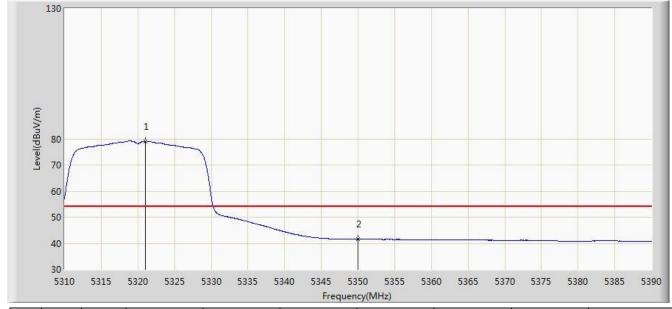
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.320	91.654	88.584	N/A	N/A	3.071	PK
2			5350.000	54.107	51.075	-19.893	74.000	3.032	PK
3			5353.480	55.906	52.877	-18.094	74.000	3.028	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 95 of 119



Site: AC1	Time: 2017/11/18 - 00:36				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.040	79.125	76.054	N/A	N/A	3.072	AV
2			5350.000	41.550	38.518	-12.450	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 96 of 119



Site: AC1	Time: 2017/11/18 - 00:36				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz					

Level(dBuV/m) Frequency(MHz)

No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.160	93.100	90.029	N/A	N/A	3.071	PK
2			5350.000	53.753	50.721	-20.247	74.000	3.032	PK
3			5355.560	56.047	53.020	-17.953	74.000	3.026	PK

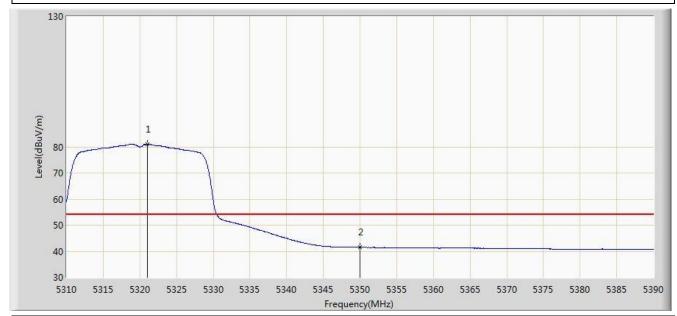
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 97 of 119



Site: AC1	Time: 2017/11/18 - 00:38				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz					



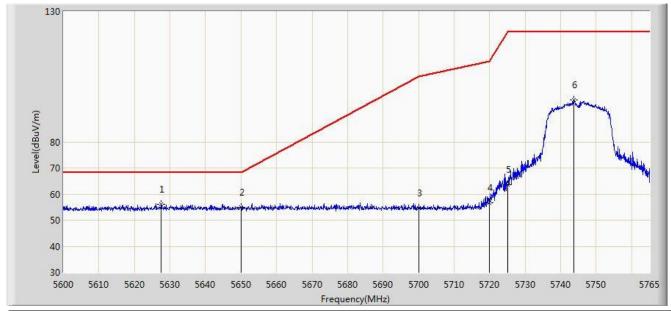
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5321.040	80.965	77.894	N/A	N/A	3.072	AV
2			5350.000	41.476	38.444	-12.524	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 98 of 119



Site: AC1	Time: 2017/11/18 - 00:39				
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz					



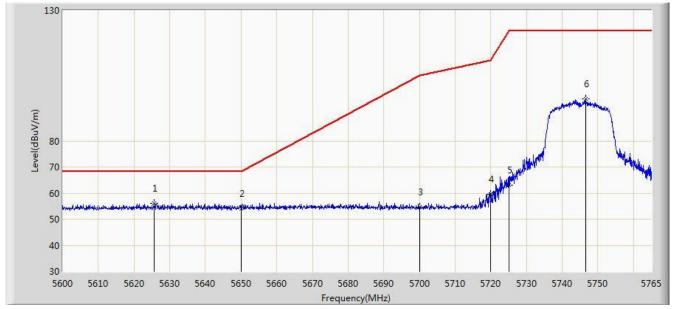
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5627.555	55.949	52.383	-12.251	68.200	3.565	PK
2			5650.000	55.017	51.390	-13.183	68.200	3.627	PK
3			5700.000	54.662	50.943	-50.538	105.200	3.719	PK
4			5720.000	56.703	52.927	-54.097	110.800	3.776	PK
5			5725.000	63.560	59.769	-58.640	122.200	3.791	PK
6			5743.632	96.115	92.267	N/A	N/A	3.847	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 99 of 119



Site: AC1	Time: 2017/11/18 - 00:42				
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz					



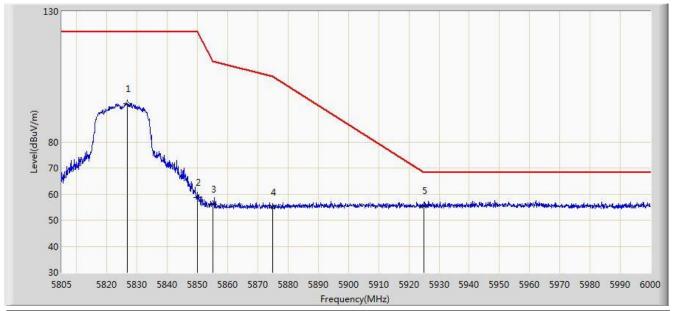
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5625.658	55.994	52.435	-12.206	68.200	3.559	PK
2			5650.000	54.114	50.487	-14.086	68.200	3.627	PK
3			5700.000	54.575	50.856	-50.625	105.200	3.719	PK
4			5720.000	59.529	55.753	-51.271	110.800	3.776	PK
5			5725.000	63.119	59.328	-59.081	122.200	3.791	PK
6			5746.520	96.020	92.162	N/A	N/A	3.858	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Page Number: 100 of 119 FCC ID: 2AC6AC70



Site: AC1	Time: 2017/11/18 - 00:44				
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz					



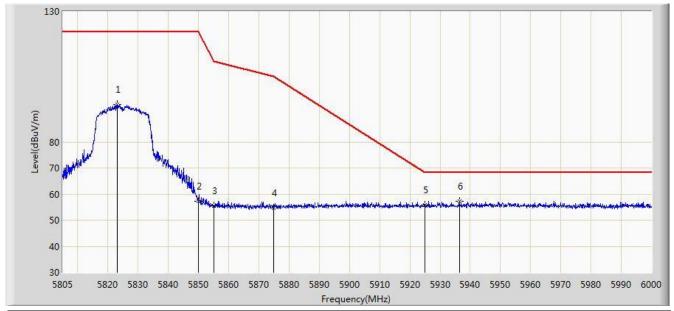
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5826.840	94.656	90.647	N/A	N/A	4.009	PK
2			5850.000	58.590	54.533	-63.610	122.200	4.058	PK
3			5855.000	55.967	51.907	-54.833	110.800	4.060	PK
4			5875.000	54.880	50.775	-50.320	105.200	4.105	PK
5		*	5925.000	55.551	51.298	-12.649	68.200	4.254	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 101 of 119



Site: AC1	Time: 2017/11/18 - 00:49				
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz					



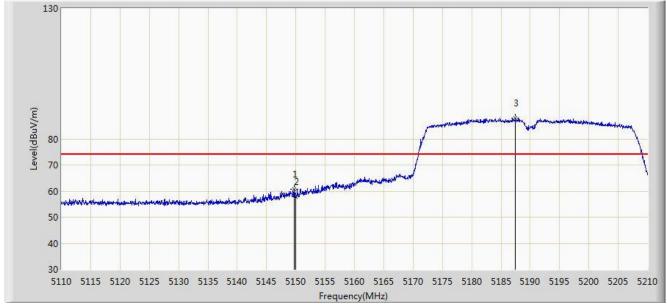
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5823.135	94.221	90.220	N/A	N/A	4.001	PK
2			5850.000	57.158	53.101	-65.042	122.200	4.058	PK
3			5855.000	55.562	51.502	-55.238	110.800	4.060	PK
4			5875.000	54.701	50.596	-50.499	105.200	4.105	PK
5			5925.000	55.832	51.579	-12.368	68.200	4.254	PK
6		*	5936.430	57.274	53.005	-10.926	68.200	4.269	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 102 of 119



Site: AC1	Time: 2017/11/18 - 00:53				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5149.750	60.608	57.299	-13.392	74.000	3.308	PK
2			5150.000	57.952	54.643	-16.048	74.000	3.309	PK
3		*	5187.450	88.078	84.814	N/A	N/A	3.264	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 103 of 119



Site: AC1	Time: 2017/11/18 - 00:56				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	45.460	42.151	-8.540	54.000	3.309	AV
2		*	5183.800	75.075	71.806	N/A	N/A	3.269	AV

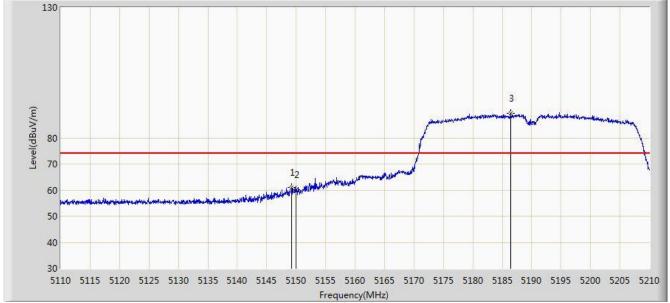
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 104 of 119



Site: AC1	Time: 2017/11/18 - 00:56				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz					

130



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5149.250	60.926	57.617	-13.074	74.000	3.309	PK
2			5150.000	60.206	56.897	-13.794	74.000	3.309	PK
3		*	5186.450	89.397	86.132	N/A	N/A	3.265	PK

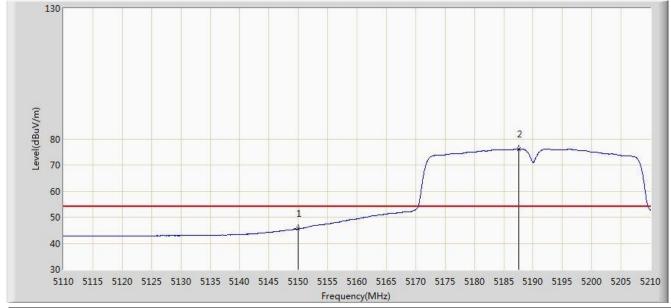
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 105 of 119



Site: AC1	Time: 2017/11/18 - 00:58				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz					



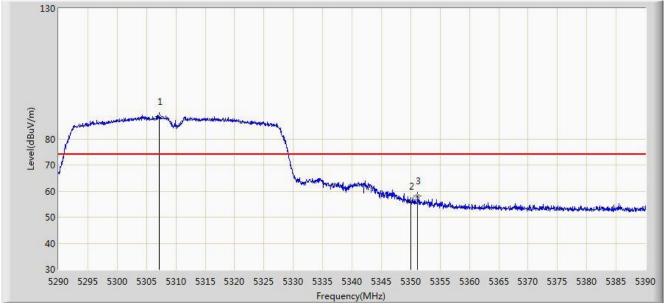
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	45.535	42.226	-8.465	54.000	3.309	AV
2		*	5187.550	76.221	72.957	N/A	N/A	3.264	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 106 of 119



Site: AC1	Time: 2017/11/18 - 01:00				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz					



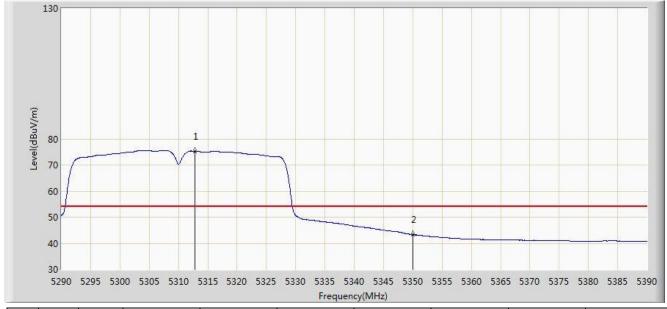
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5307.150	88.648	85.545	N/A	N/A	3.102	PK
2			5350.000	56.091	53.059	-17.909	74.000	3.032	PK
3			5351.200	58.233	55.202	-15.767	74.000	3.031	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 107 of 119



Site: AC1	Time: 2017/11/18 - 01:04				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz					



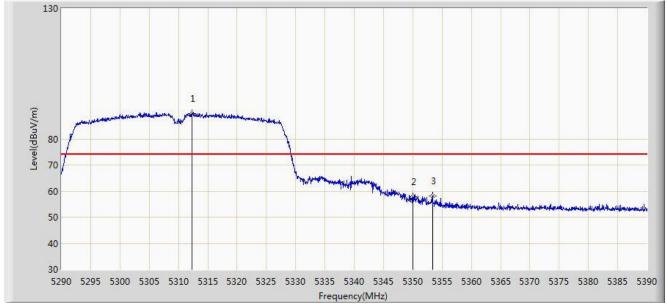
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5312.800	75.241	72.153	N/A	N/A	3.088	AV
2			5350.000	43.334	40.302	-10.666	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 108 of 119



Site: AC1	Time: 2017/11/18 - 01:05					
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz						



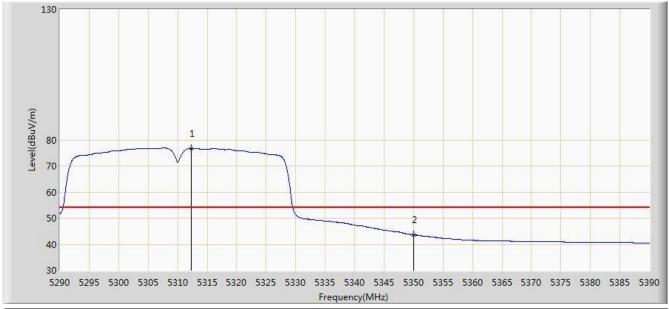
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5312.350	89.825	86.736	N/A	N/A	3.090	PK
2			5350.000	57.775	54.743	-16.225	74.000	3.032	PK
3			5353.350	58.200	55.171	-15.800	74.000	3.029	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 109 of 119



Site: AC1	Time: 2017/11/18 - 01:07				
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Mobile Data Terminal	Power: AC 120V/60Hz				
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz					



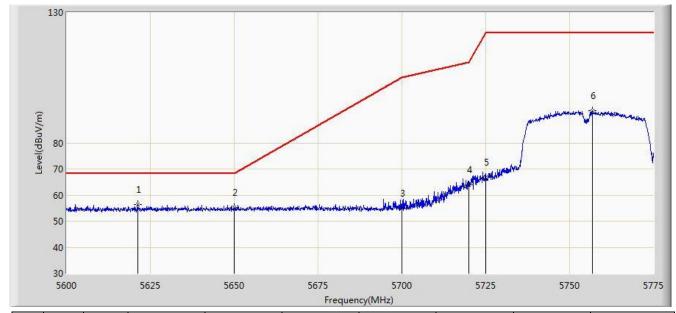
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5312.350	76.805	73.716	N/A	N/A	3.090	AV
2			5350.000	43.568	40.536	-10.432	54.000	3.032	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

FCC ID: 2AC6AC70 Page Number: 110 of 119



Site: AC1	Time: 2017/11/18 - 01:08					
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz						



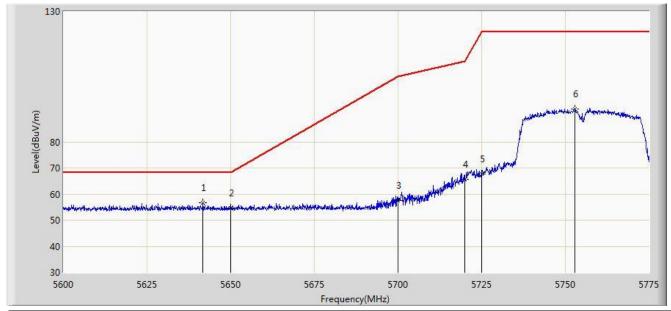
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5621.263	56.394	52.849	-11.806	68.200	3.545	PK
2			5650.000	55.091	51.464	-13.109	68.200	3.627	PK
3			5700.000	54.974	51.255	-50.226	105.200	3.719	PK
4			5720.000	63.784	60.008	-47.016	110.800	3.776	PK
5			5725.000	66.772	62.981	-55.428	122.200	3.791	PK
6			5756.712	92.287	88.391	N/A	N/A	3.896	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Page Number: 111 of 119 FCC ID: 2AC6AC70



Site: AC1	Time: 2017/11/18 - 01:11					
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz						



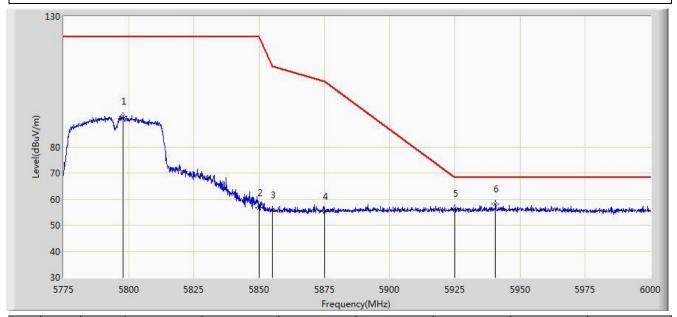
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5641.737	56.732	53.116	-11.468	68.200	3.616	PK
2			5650.000	54.540	50.913	-13.660	68.200	3.627	PK
3			5700.000	57.667	53.948	-47.533	105.200	3.719	PK
4			5720.000	65.654	61.878	-45.146	110.800	3.776	PK
5			5725.000	67.659	63.868	-54.541	122.200	3.791	PK
6			5752.862	92.692	88.810	N/A	N/A	3.882	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Page Number: 112 of 119 FCC ID: 2AC6AC70



Site: AC1	Time: 2017/11/18 - 01:14					
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz						



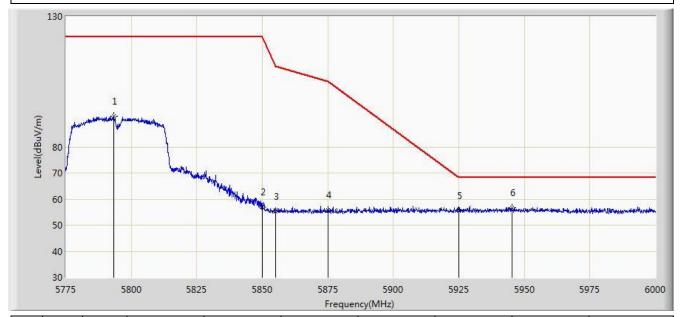
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5797.725	91.676	87.719	N/A	N/A	3.958	PK
2			5850.000	56.653	52.596	-65.547	122.200	4.058	PK
3			5855.000	55.869	51.809	-54.931	110.800	4.060	PK
4			5875.000	55.275	51.170	-49.925	105.200	4.105	PK
5			5925.000	56.398	52.145	-11.802	68.200	4.254	PK
6		*	5940.600	58.025	53.755	-10.175	68.200	4.270	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Page Number: 113 of 119 FCC ID: 2AC6AC70



Site: AC1	Time: 2017/11/18 - 01:18					
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Will Yan					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: Mobile Data Terminal	Power: AC 120V/60Hz					
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz						



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5793.450	91.661	87.709	N/A	N/A	3.952	PK
2			5850.000	57.063	53.006	-65.137	122.200	4.058	PK
3			5855.000	55.330	51.270	-55.470	110.800	4.060	PK
4			5875.000	55.664	51.559	-49.536	105.200	4.105	PK
5			5925.000	55.409	51.156	-12.791	68.200	4.254	PK
6		*	5945.212	56.806	52.534	-11.394	68.200	4.272	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Page Number: 114 of 119 FCC ID: 2AC6AC70

Report No.: 1711RSU00103



7.10. AC Conducted Emissions Measurement

7.10.1.Test Limit

FCC Part 15 Subpart C Paragraph 15.207						
Frequency (MHz)	QP (dBµV)	ΑV (dBμV)				
0.15 - 0.50	66 - 56	56 - 46				
0.50 - 5.0	56	46				
5.0 - 30	60	50				

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.10.2.Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to KDB 789033 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

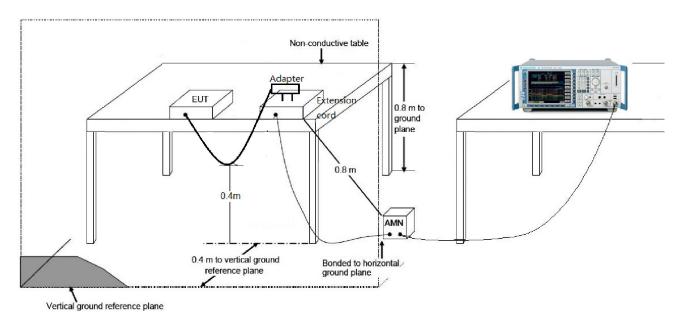
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

FCC ID: 2AC6AC70 Page Number: 115 of 119



7.10.3.Test Setup

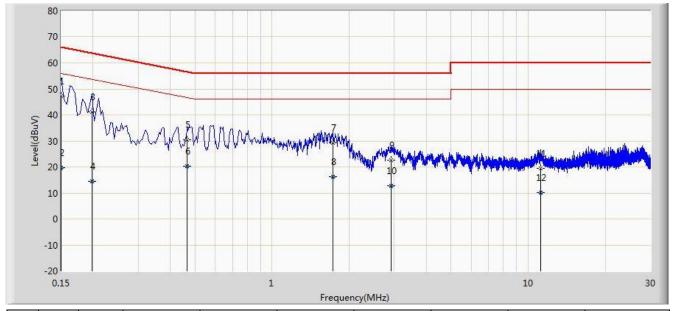


FCC ID: 2AC6AC70 Page Number: 116 of 119



7.10.4.Test Result

Site: SR2	Time: 2017/11/12 - 11:46			
Limit: FCC_Part15.207_CE_AC Power	Engineer: Polly Zong			
Probe: ENV216_101683_Filter On	Polarity: Line			
EUT: Mobile Data Terminal	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11n-HT20 at Channel 5220MHz				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1		*	0.150	47.156	35.988	-18.844	66.000	11.168	QP
2			0.150	19.600	8.431	-36.400	56.000	11.168	AV
3			0.198	41.175	31.170	-22.519	63.694	10.005	QP
4			0.198	14.567	4.562	-39.127	53.694	10.005	AV
5			0.466	30.574	20.435	-26.011	56.585	10.139	QP
6			0.466	20.268	10.129	-26.317	46.585	10.139	AV
7			1.726	29.136	19.256	-26.864	56.000	9.880	QP
8			1.726	16.239	6.359	-29.761	46.000	9.880	AV
9			2.910	22.587	12.736	-33.413	56.000	9.852	QP
10			2.910	12.680	2.829	-33.320	46.000	9.852	AV
11			11.178	19.303	9.202	-40.697	60.000	10.101	QP
12			11.178	10.213	0.112	-39.787	50.000	10.101	AV

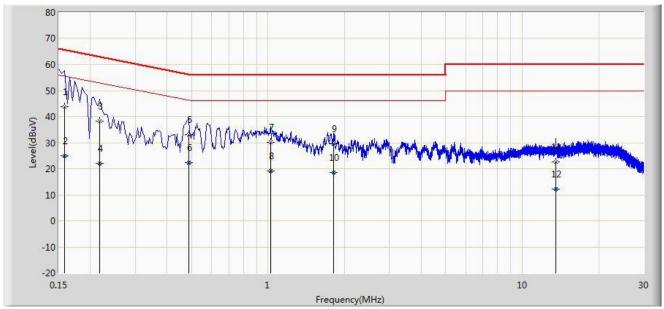
Note: Measure Level ($dB\mu V$) = Reading Level ($dB\mu V$) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

FCC ID: 2AC6AC70 Page Number: 117 of 119



Site: SR2	Time: 2017/11/12 - 11:56			
Limit: FCC_Part15.207_CE_AC Power	Engineer: Polly Zong			
Probe: ENV216_101683_Filter On	Polarity: Neutral			
EUT: Mobile Data Terminal	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11n-HT20 at Channel 5220MHz				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1		*	0.158	43.781	33.491	-21.788	65.568	10.290	QP
2			0.158	24.832	14.542	-30.737	55.568	10.290	AV
3			0.218	38.338	28.357	-24.557	62.895	9.981	QP
4			0.218	22.024	12.043	-30.871	52.895	9.981	AV
5			0.486	33.155	22.979	-23.081	56.236	10.176	QP
6			0.486	22.238	12.061	-23.998	46.236	10.176	AV
7			1.022	30.084	20.176	-25.916	56.000	9.908	QP
8			1.022	19.126	9.218	-26.874	46.000	9.908	AV
9			1.814	29.580	19.700	-26.420	56.000	9.880	QP
10			1.814	18.685	8.805	-27.315	46.000	9.880	AV
11			13.586	22.688	12.586	-37.312	60.000	10.102	QP
12			13.586	12.071	1.969	-37.929	50.000	10.102	AV

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

FCC ID: 2AC6AC70 Page Number: 118 of 119



8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Mobile Data Terminal** is in compliance with Part 15E of the FCC Rules.

FCC ID: 2AC6AC70 Page Number: 119 of 119

The End