



6.6. Frequency Stability Measurement

6.6.1.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.

6.6.2.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.

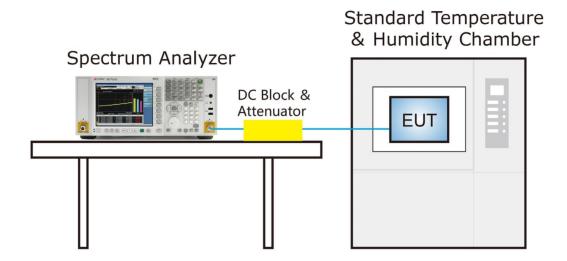
Frequency Stability Under Voltage Variations:

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.



6.6.3.Test Setup





6.6.4.Test Result

Product	Notebook	Temperature	-30 ~ 50°C
Test Engineer	Dandy Li	Relative Humidity	53%RH
Test Site	TR3	Test Time	2020/07/24
Test Mode	5180MHz (Carrier Mode)		

Voltage	Power	Temp	Frequency Tolerance	
(%)	(VAC)	(°C)	(ppm)	
		- 30	-3.09	
		- 20	-3.08	
		- 10	-3.09	
		0	-3.08	
100%	120	+ 10	-3.09	
		+ 20 (Ref)	-3.09	
		+ 30	-3.08	
		+ 40	-3.09	
		+ 50	-3.09	
115%	138	+ 20	-3.08	
85%	102	+ 20	-3.08	

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} $*10^6$.

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6.7. Radiated Spurious Emission Measurement

6.7.1.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.

FCC Part 15 Subpart C Paragraph 15.209						
Frequency	Field Strength	Measured Distance				
(MHz)	(μV/m)	(m)				
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				

6.7.2.Test Procedure Used

KDB 789033 D02v02r01- Section G

6.7.3.Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW		
9 ~ 150 kHz	200 ~ 300 Hz		
0.15 ~ 30 MHz	9 ~ 10 kHz		
30 ~ 1000 MHz	100 ~ 120 kHz		
> 1000MHz	1MHz		

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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 = as specified in Table 1
- 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 VB)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10Hz

If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration

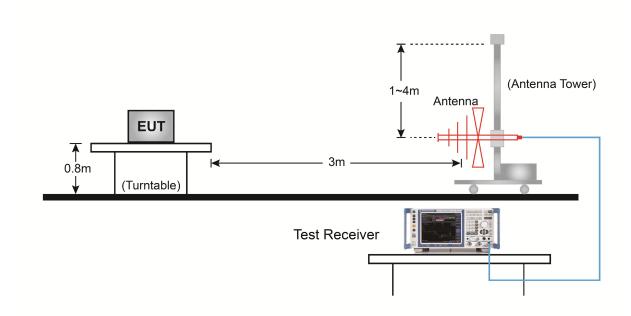
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- Trace was allowed to stabilize

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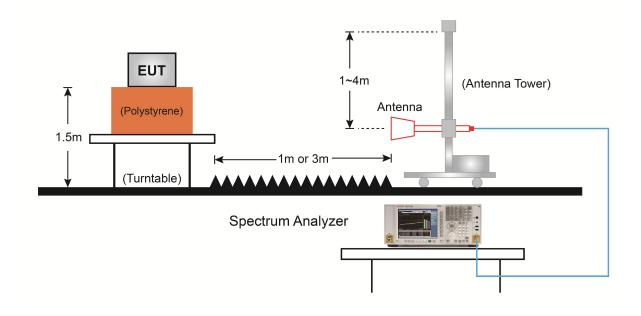


6.7.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:





6.7.5.Test Result

Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/07/26			
Test Mode:	802.11a - Main Antenna	Test Channel:	36			
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)				
	7664.0	35.3	11.4	46.7	74.0	-27.3	Peak	Horizontal
*	7910.5	34.6	12.2	46.8	68.2	-21.4	Peak	Horizontal
	8276.0	34.5	12.3	46.8	74.0	-27.2	Peak	Horizontal
*	8828.5	32.6	14.3	46.9	68.2	-21.3	Peak	Horizontal
	7443.0	36.7	12.1	48.8	74.0	-25.2	Peak	Vertical
*	7834.0	35.7	11.9	47.6	68.2	-20.6	Peak	Vertical
	8157.0	35.4	12.5	47.9	74.0	-26.1	Peak	Vertical
*	9806.0	33.5	16.8	50.3	68.2	-17.9	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)

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Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11a - Main Antenna	Test Channel:	44				
Remark:	1. Average measurement was not	performed if peak level I	ower 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)				
	8140.0	34.3	12.4	46.7	74.0	-27.3	Peak	Horizontal
*	8752.0	32.2	14.2	46.4	68.2	-21.8	Peak	Horizontal
	9160.0	31.4	15.3	46.7	74.0	-27.3	Peak	Horizontal
*	10571.0	32.5	17.7	50.2	68.2	-18.0	Peak	Horizontal
	7468.5	35.7	11.8	47.5	74.0	-26.5	Peak	Vertical
*	7859.5	35.9	12.0	47.9	68.2	-20.3	Peak	Vertical
	9432.0	32.3	16.1	48.4	74.0	-25.6	Peak	Vertical
*	10154.5	32.9	16.8	49.7	68.2	-18.5	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li					
Test Site	AC1	Test Date	2020/07/26					
Test Mode:	802.11a - Main Antenna	Test Channel:	48					
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)				
	8140.0	35.1	12.4	47.5	74.0	-26.5	Peak	Horizontal
*	8590.5	33.6	13.3	46.9	68.2	-21.3	Peak	Horizontal
	11123.5	33.1	17.5	50.6	74.0	-23.4	Peak	Horizontal
*	13206.0	32.5	18.1	50.6	68.2	-17.6	Peak	Horizontal
	8148.5	36.1	12.5	48.6	74.0	-25.4	Peak	Vertical
*	8871.0	32.8	14.3	47.1	68.2	-21.1	Peak	Vertical
	10732.5	33.9	17.7	51.6	74.0	-22.4	Peak	Vertical
*	12849.0	32.0	17.7	49.7	68.2	-18.5	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11a - Main Antenna	Test Channel:	149				
Remark:	1. Average measurement was not	performed if peak level I	ower 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)				
	8182.5	35.1	12.4	47.5	74.0	-26.5	Peak	Horizontal
*	8828.5	33.7	14.3	48.0	68.2	-20.2	Peak	Horizontal
	10877.0	33.0	18.1	51.1	74.0	-22.9	Peak	Horizontal
*	13019.0	32.0	17.9	49.9	68.2	-18.3	Peak	Horizontal
	8148.5	33.1	12.5	45.6	74.0	-28.4	Peak	Vertical
*	8692.5	32.9	14.0	46.9	68.2	-21.3	Peak	Vertical
	11472.0	33.2	17.7	50.9	74.0	-23.1	Peak	Vertical
*	13121.0	32.2	17.9	50.1	68.2	-18.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/07/26			
Test Mode:	802.11a - Main Antenna	Test Channel:	157			
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)				
	8454.5	34.3	12.6	46.9	74.0	-27.1	Peak	Horizontal
*	9874.0	33.1	16.8	49.9	68.2	-18.3	Peak	Horizontal
	11132.0	34.1	17.5	51.6	74.0	-22.4	Peak	Horizontal
*	13146.5	32.9	18.0	50.9	68.2	-17.3	Peak	Horizontal
	9432.0	31.7	16.1	47.8	74.0	-26.2	Peak	Vertical
*	9848.5	33.1	16.9	50.0	68.2	-18.2	Peak	Vertical
	12101.0	33.1	17.1	50.2	74.0	-23.8	Peak	Vertical
*	13070.0	31.4	17.9	49.3	68.2	-18.9	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/07/26			
Test Mode:	802.11a - Main Antenna	Test Channel:	165			
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)				
	7511.0	35.1	11.9	47.0	74.0	-27.0	Peak	Horizontal
*	8624.5	33.6	13.5	47.1	68.2	-21.1	Peak	Horizontal
	11004.5	32.8	18.1	50.9	74.0	-23.1	Peak	Horizontal
*	13010.5	31.0	17.9	48.9	68.2	-19.3	Peak	Horizontal
	8216.5	35.0	12.3	47.3	74.0	-26.7	Peak	Vertical
*	8905.0	32.5	14.2	46.7	68.2	-21.5	Peak	Vertical
	10826.0	33.8	18.0	51.8	74.0	-22.2	Peak	Vertical
*	12985.0	31.7	17.8	49.5	68.2	-18.7	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT20 - Main Antenna	Test Channel:	36				
Remark:	1. Average measurement was not	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)				
	8446.0	34.5	12.7	47.2	74.0	-26.8	Peak	Horizontal
*	8837.0	32.8	14.3	47.1	68.2	-21.1	Peak	Horizontal
	9415.0	32.7	15.9	48.6	74.0	-25.4	Peak	Horizontal
*	10324.5	32.2	17.4	49.6	68.2	-18.6	Peak	Horizontal
	8446.0	34.0	12.7	46.7	74.0	-27.3	Peak	Vertical
*	9780.5	32.6	16.7	49.3	68.2	-18.9	Peak	Vertical
	10843.0	33.1	17.9	51.0	74.0	-23.0	Peak	Vertical
*	12934.0	31.8	17.9	49.7	68.2	-18.5	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/07/26			
Test Mode:	802.11n-HT20 - Main Antenna	Test Channel:	44			
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)				
	8378.0	34.5	12.3	46.8	74.0	-27.2	Peak	Horizontal
*	8811.5	31.8	14.3	46.1	68.2	-22.1	Peak	Horizontal
	10953.5	32.9	17.9	50.8	74.0	-23.2	Peak	Horizontal
*	12866.0	31.8	17.8	49.6	68.2	-18.6	Peak	Horizontal
	8225.0	35.0	12.4	47.4	74.0	-26.6	Peak	Vertical
*	8658.5	33.1	13.7	46.8	68.2	-21.4	Peak	Vertical
	11565.5	33.4	17.3	50.7	74.0	-23.3	Peak	Vertical
*	12917.0	32.3	17.8	50.1	68.2	-18.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT20 - Main Antenna	Test Channel:	48				
Remark:	1. Average measurement was not	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)				
	8216.5	34.7	12.3	47.0	74.0	-27.0	Peak	Horizontal
*	8692.5	32.5	14.0	46.5	68.2	-21.7	Peak	Horizontal
	11574.0	33.8	17.4	51.2	74.0	-22.8	Peak	Horizontal
*	13180.5	33.1	18.1	51.2	68.2	-17.0	Peak	Horizontal
	7460.0	41.1	11.9	53.0	74.0	-21.0	Peak	Vertical
*	7978.5	35.9	12.4	48.3	68.2	-19.9	Peak	Vertical
	11123.5	34.0	17.5	51.5	74.0	-22.5	Peak	Vertical
*	12781.0	32.5	17.5	50.0	68.2	-18.2	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/07/26			
Test Mode:	802.11n-HT20 - Main Antenna	Test Channel:	149			
Remark:	1. Average measurement was not	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 (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
		(dBµV)		(dBµV/m)				
	8157.0	34.5	12.5	47.0	74.0	-27.0	Peak	Horizontal
*	8616.0	33.3	13.5	46.8	68.2	-21.4	Peak	Horizontal
	11021.5	32.3	17.9	50.2	74.0	-23.8	Peak	Horizontal
*	13129.5	32.6	17.9	50.5	68.2	-17.7	Peak	Horizontal
	7443.0	34.8	12.1	46.9	74.0	-27.1	Peak	Vertical
*	8616.0	31.8	13.5	45.3	68.2	-22.9	Peak	Vertical
	11319.0	33.4	17.4	50.8	74.0	-23.2	Peak	Vertical
*	12840.5	33.3	17.7	51.0	68.2	-17.2	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT20 - Main Antenna	2.11n-HT20 - Main Antenna Test Channel: 157					
Remark:	1. Average measurement was not	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)				
	7715.0	35.3	11.4	46.7	74.0	-27.3	Peak	Horizontal
*	9602.0	31.1	16.2	47.3	68.2	-20.9	Peak	Horizontal
	11463.5	33.6	17.7	51.3	74.0	-22.7	Peak	Horizontal
*	12934.0	31.6	17.9	49.5	68.2	-18.7	Peak	Horizontal
	7460.0	48.9	-2.0	46.9	74.0	-27.1	Peak	Vertical
*	7902.0	48.2	-2.2	46.0	68.2	-22.2	Peak	Vertical
	10877.0	45.0	5.6	50.6	74.0	-23.4	Peak	Vertical
*	12908.5	42.6	6.2	48.8	68.2	-19.4	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT20 - Main Antenna	2.11n-HT20 - Main Antenna Test Channel: 165					
Remark:	1. Average measurement was not	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)				
	7664.0	35.1	11.4	46.5	74.0	-27.5	Peak	Horizontal
*	9823.0	32.1	16.9	49.0	68.2	-19.2	Peak	Horizontal
	10953.5	33.4	17.9	51.3	74.0	-22.7	Peak	Horizontal
*	12925.5	32.2	17.8	50.0	68.2	-18.2	Peak	Horizontal
	7468.5	34.3	11.8	46.1	74.0	-27.9	Peak	Vertical
*	7910.5	33.4	12.2	45.6	68.2	-22.6	Peak	Vertical
	11191.5	33.1	17.5	50.6	74.0	-23.4	Peak	Vertical
*	13036.0	31.7	17.9	49.6	68.2	-18.6	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT40 - Main Antenna	Test Channel:	38				
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)				
	7477.0	35.1	11.7	46.8	74.0	-27.2	Peak	Horizontal
*	7885.0	34.5	12.1	46.6	68.2	-21.6	Peak	Horizontal
	10953.5	33.5	17.9	51.4	74.0	-22.6	Peak	Horizontal
*	13138.0	32.7	18.0	50.7	68.2	-17.5	Peak	Horizontal
	7468.5	36.1	11.8	47.9	74.0	-26.1	Peak	Vertical
*	8735.0	32.9	14.0	46.9	68.2	-21.3	Peak	Vertical
	10783.5	33.5	17.8	51.3	74.0	-22.7	Peak	Vertical
*	13622.5	33.8	19.1	52.9	68.2	-15.3	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT40 - Main Antenna	Test Channel:	46				
Remark:	1. Average measurement was not	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)				
	8165.5	35.3	12.4	47.7	74.0	-26.3	Peak	Horizontal
*	8667.0	32.4	13.8	46.2	68.2	-22.0	Peak	Horizontal
	10851.5	32.7	18.0	50.7	74.0	-23.3	Peak	Horizontal
*	13010.5	32.2	17.9	50.1	68.2	-18.1	Peak	Horizontal
	7681.0	32.9	12.9	45.8	74.0	-28.2	Peak	Vertical
*	8616.0	32.3	14.3	46.6	68.2	-21.6	Peak	Vertical
	10698.5	33.1	18.3	51.4	74.0	-22.6	Peak	Vertical
*	12849.0	29.9	19.4	49.3	68.2	-18.9	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT40 - Main Antenna	n-HT40 - Main Antenna Test Channel: 151					
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)				
	8378.0	34.2	12.3	46.5	74.0	-27.5	Peak	Horizontal
*	8862.5	32.4	14.4	46.8	68.2	-21.4	Peak	Horizontal
	10970.5	33.1	17.9	51.0	74.0	-23.0	Peak	Horizontal
*	12857.5	32.5	17.8	50.3	68.2	-17.9	Peak	Horizontal
	7451.5	34.6	12.0	46.6	74.0	-27.4	Peak	Vertical
*	8718.0	32.8	13.9	46.7	68.2	-21.5	Peak	Vertical
	10775.0	33.7	17.8	51.5	74.0	-22.5	Peak	Vertical
*	13240.0	32.9	18.2	51.1	68.2	-17.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11n-HT40 - Main Antenna	1n-HT40 - Main Antenna 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)				
	8089.0	34.3	12.7	47.0	74.0	-27.0	Peak	Horizontal
*	8803.0	32.5	14.2	46.7	68.2	-21.5	Peak	Horizontal
	10962.0	34.0	17.8	51.8	74.0	-22.2	Peak	Horizontal
*	13104.0	32.9	17.8	50.7	68.2	-17.5	Peak	Horizontal
	7443.0	35.4	12.1	47.5	74.0	-26.5	Peak	Vertical
*	8752.0	32.5	14.2	46.7	68.2	-21.5	Peak	Vertical
	11047.0	32.9	17.7	50.6	74.0	-23.4	Peak	Vertical
*	12874.5	31.9	17.8	49.7	68.2	-18.5	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li		
Test Site	AC1	Test Date	2020/07/26		
Test Mode:	802.11ac-VHT20 - Main Antenna	Test Channel:	36		
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)				
	7366.5	33.7	11.9	45.6	74.0	-28.4	Peak	Horizontal
*	8820.0	32.7	14.3	47.0	68.2	-21.2	Peak	Horizontal
	11013.0	33.3	18.0	51.3	74.0	-22.7	Peak	Horizontal
*	13010.5	31.0	17.9	48.9	68.2	-19.3	Peak	Horizontal
	7494.0	35.5	11.8	47.3	74.0	-26.7	Peak	Vertical
*	8743.5	32.1	14.1	46.2	68.2	-22.0	Peak	Vertical
	11489.0	34.2	17.7	51.9	74.0	-22.1	Peak	Vertical
*	13044.5	31.7	17.9	49.6	68.2	-18.6	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li		
Test Site	AC1	Test Date	2020/07/26		
Test Mode:	802.11ac-VHT20 - Main Antenna	Test Channel:	44		
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)				
	7519.5	35.4	11.8	47.2	74.0	-26.8	Peak	Horizontal
*	8709.5	32.5	13.9	46.4	68.2	-21.8	Peak	Horizontal
	11115.0	33.8	17.5	51.3	74.0	-22.7	Peak	Horizontal
*	12900.0	31.5	17.7	49.2	68.2	-19.0	Peak	Horizontal
	7443.0	37.1	12.1	49.2	74.0	-24.8	Peak	Vertical
*	8616.0	33.4	13.5	46.9	68.2	-21.3	Peak	Vertical
	10970.5	32.8	17.9	50.7	74.0	-23.3	Peak	Vertical
*	12951.0	31.5	18.0	49.5	68.2	-18.7	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li					
Test Site	AC1	Test Date	2020/07/26					
Test Mode:	802.11ac-VHT20 - Main Antenna	Test Channel:	48					
Remark:	1. Average measurement was not	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)				
	8148.5	42.0	6.5	48.5	74.0	-25.5	Peak	Horizontal
*	8837.0	39.5	7.8	47.3	68.2	-20.9	Peak	Horizontal
	10970.5	38.8	10.5	49.3	74.0	-24.7	Peak	Horizontal
*	13104.0	40.5	9.3	49.8	68.2	-18.4	Peak	Horizontal
	7460.0	35.7	11.9	47.6	74.0	-26.4	Peak	Vertical
*	7851.0	34.8	11.9	46.7	68.2	-21.5	Peak	Vertical
	11132.0	33.9	17.5	51.4	74.0	-22.6	Peak	Vertical
*	12925.5	31.6	17.8	49.4	68.2	-18.8	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT20 - Main Antenna	149					
Remark:	1. Average measurement was not	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)				
	7519.5	35.3	11.8	47.1	74.0	-26.9	Peak	Horizontal
*	8752.0	33.2	14.2	47.4	68.2	-20.8	Peak	Horizontal
	11174.5	33.5	17.6	51.1	74.0	-22.9	Peak	Horizontal
*	12917.0	31.9	17.8	49.7	68.2	-18.5	Peak	Horizontal
	7443.0	34.7	12.1	46.8	74.0	-27.2	Peak	Vertical
*	8828.5	32.1	14.3	46.4	68.2	-21.8	Peak	Vertical
	11064.0	34.5	17.9	52.4	74.0	-21.6	Peak	Vertical
*	13129.5	30.2	17.9	48.1	68.2	-20.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT20 - Main Antenna	02.11ac-VHT20 - Main Antenna Test Channel: 157					
Remark:	1. Average measurement was not	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)				
	7519.5	35.0	11.8	46.8	74.0	-27.2	Peak	Horizontal
*	8616.0	32.7	13.5	46.2	68.2	-22.0	Peak	Horizontal
	11047.0	33.7	17.7	51.4	74.0	-22.6	Peak	Horizontal
*	13138.0	32.1	18.0	50.1	68.2	-18.1	Peak	Horizontal
	7468.5	35.4	11.8	47.2	74.0	-26.8	Peak	Vertical
*	8735.0	32.6	14.0	46.6	68.2	-21.6	Peak	Vertical
	10945.0	32.8	18.0	50.8	74.0	-23.2	Peak	Vertical
*	12917.0	32.0	17.8	49.8	68.2	-18.4	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT20 - Main Antenna	Test Channel:	165				
Remark:	1. Average measurement was not	performed if peak level I	ower 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)				
	8369.5	34.5	12.3	46.8	74.0	-27.2	Peak	Horizontal
*	8684.0	33.3	13.9	47.2	68.2	-21.0	Peak	Horizontal
	10741.0	35.2	17.7	52.9	74.0	-21.1	Peak	Horizontal
*	12891.5	30.1	17.7	47.8	68.2	-20.4	Peak	Horizontal
	8157.0	34.8	12.5	47.3	74.0	-26.7	Peak	Vertical
*	9772.0	32.9	16.7	49.6	68.2	-18.6	Peak	Vertical
	11038.5	34.2	17.8	52.0	74.0	-22.0	Peak	Vertical
*	12815.0	32.2	17.7	49.9	68.2	-18.3	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT40 - Main Antenna	Test Channel:	38				
Remark:	1. Average measurement was not	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)				
	8293.0	34.4	12.1	46.5	74.0	-27.5	Peak	Horizontal
*	8616.0	34.0	13.5	47.5	68.2	-20.7	Peak	Horizontal
	11642.0	34.7	16.9	51.6	74.0	-22.4	Peak	Horizontal
*	13206.0	33.0	18.1	51.1	68.2	-17.1	Peak	Horizontal
	8148.5	34.9	12.5	47.4	74.0	-26.6	Peak	Vertical
*	8743.5	33.0	14.1	47.1	68.2	-21.1	Peak	Vertical
	10979.0	33.5	18.0	51.5	74.0	-22.5	Peak	Vertical
*	12942.5	31.9	17.9	49.8	68.2	-18.4	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT40 - Main Antenna	Test Channel:	46				
Remark:	1. Average measurement was not	performed if peak level I	ower 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)				
	8148.5	35.7	12.5	48.2	74.0	-25.8	Peak	Horizontal
*	8692.5	32.3	14.0	46.3	68.2	-21.9	Peak	Horizontal
	10741.0	34.1	17.7	51.8	74.0	-22.2	Peak	Horizontal
*	13129.5	29.9	17.9	47.8	68.2	-20.4	Peak	Horizontal
	7460.0	37.6	11.9	49.5	74.0	-24.5	Peak	Vertical
*	8803.0	33.0	14.2	47.2	68.2	-21.0	Peak	Vertical
	10962.0	33.6	17.8	51.4	74.0	-22.6	Peak	Vertical
*	12925.5	31.4	17.8	49.2	68.2	-19.0	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT40 - Main Antenna	Test Channel:	151				
Remark:	1. Average measurement was not	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)				
	7468.5	34.3	11.8	46.1	74.0	-27.9	Peak	Horizontal
*	8845.5	33.3	14.3	47.6	68.2	-20.6	Peak	Horizontal
	11149.0	33.7	17.6	51.3	74.0	-22.7	Peak	Horizontal
*	12951.0	30.7	18.0	48.7	68.2	-19.5	Peak	Horizontal
	7553.5	34.7	11.7	46.4	74.0	-27.6	Peak	Vertical
*	7919.0	36.5	12.3	48.8	68.2	-19.4	Peak	Vertical
	10970.5	31.7	17.9	49.6	74.0	-24.4	Peak	Vertical
*	12934.0	32.2	17.9	50.1	68.2	-18.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT40 - Main Antenna	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)				
	7451.5	34.1	12.0	46.1	74.0	-27.9	Peak	Horizontal
*	8905.0	32.2	14.2	46.4	68.2	-21.8	Peak	Horizontal
	10843.0	33.4	17.9	51.3	74.0	-22.7	Peak	Horizontal
*	12840.5	32.6	17.7	50.3	68.2	-17.9	Peak	Horizontal
	7434.5	33.4	11.9	45.3	74.0	-28.7	Peak	Vertical
*	8743.5	32.4	14.1	46.5	68.2	-21.7	Peak	Vertical
	11030.0	33.0	17.8	50.8	74.0	-23.2	Peak	Vertical
*	13019.0	32.7	17.9	50.6	68.2	-17.6	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT80 - Main Antenna	11ac-VHT80 - Main Antenna Test Channel: 42					
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)				
	8191.0	35.0	12.4	47.4	74.0	-26.6	Peak	Horizontal
*	8769.0	32.6	14.2	46.8	68.2	-21.4	Peak	Horizontal
	11132.0	33.8	17.5	51.3	74.0	-22.7	Peak	Horizontal
*	12951.0	31.2	18.0	49.2	68.2	-19.0	Peak	Horizontal
	7468.5	36.0	11.8	47.8	74.0	-26.2	Peak	Vertical
*	8658.5	32.7	13.7	46.4	68.2	-21.8	Peak	Vertical
	11089.5	33.7	17.8	51.5	74.0	-22.5	Peak	Vertical
*	13044.5	32.3	17.9	50.2	68.2	-18.0	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/07/26				
Test Mode:	802.11ac-VHT80 - Main Antenna	Test Channel:	155				
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)				
	7672.5	36.5	11.5	48.0	74.0	-26.0	Peak	Horizontal
*	8675.5	32.9	13.8	46.7	68.2	-21.5	Peak	Horizontal
	11038.5	33.2	17.8	51.0	74.0	-23.0	Peak	Horizontal
*	13155.0	33.1	18.0	51.1	68.2	-17.1	Peak	Horizontal
	7460.0	34.5	11.9	46.4	74.0	-27.6	Peak	Vertical
*	8701.0	32.5	14.0	46.5	68.2	-21.7	Peak	Vertical
	11115.0	34.4	17.5	51.9	74.0	-22.1	Peak	Vertical
*	12993.5	32.3	17.8	50.1	68.2	-18.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/08/08			
Test Mode:	802.11a - Aux Antenna	1a - Aux Antenna Test Channel: 36				
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 (MHz)	Reading Level (dBµV)	Factor (dB)	Measure Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
	7502.5	42.5	3.4	45.9	74.0	-28.1	Peak	Horizontal
*	8828.5	41.8	5.1	46.9	68.2	-21.3	Peak	Horizontal
	11531.5	43.3	7.1	50.4	74.0	-23.6	Peak	Horizontal
*	13733.0	44.0	7.4	51.4	68.2	-16.8	Peak	Horizontal
	8157.0	44.2	3.7	47.9	74.0	-26.1	Peak	Vertical
*	9806.0	43.3	7.0	50.3	68.2	-17.9	Peak	Vertical
	11293.5	43.9	7.0	50.9	74.0	-23.1	Peak	Vertical
*	12925.5	43.4	6.6	50.0	68.2	-18.2	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	802.11a - Aux Antenna	Test Channel:	44				
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)				
	8233.5	42.7	3.4	46.1	74.0	-27.9	Peak	Horizontal
*	9831.5	42.5	7.1	49.6	68.2	-18.6	Peak	Horizontal
	11429.5	43.6	7.2	50.8	74.0	-23.2	Peak	Horizontal
*	13112.5	43.5	6.6	50.1	68.2	-18.1	Peak	Horizontal
	8378.0	42.6	3.3	45.9	74.0	-28.1	Peak	Vertical
*	10154.5	42.7	7.0	49.7	68.2	-18.5	Peak	Vertical
	11429.5	43.8	7.2	51.0	74.0	-23.0	Peak	Vertical
*	13860.5	45.1	7.8	52.9	68.2	-15.3	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li			
Test Site	AC1	Test Date	2020/08/08			
Test Mode:	802.11a - Aux Antenna	Test Channel:	48			
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)				
	8140.0	43.9	3.7	47.6	74.0	-26.4	Peak	Horizontal
*	9857.0	42.1	7.1	49.2	68.2	-19.0	Peak	Horizontal
	11531.5	44.3	7.1	51.4	74.0	-22.6	Peak	Horizontal
*	12976.5	43.0	6.6	49.6	68.2	-18.6	Peak	Horizontal
	7451.5	43.3	3.6	46.9	74.0	-27.1	Peak	Vertical
*	7902.0	43.0	3.5	46.5	68.2	-21.7	Peak	Vertical
	8395.0	42.7	3.4	46.1	74.0	-27.9	Peak	Vertical
*	8735.0	41.6	4.8	46.4	68.2	-21.8	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	802.11a - Aux Antenna	.11a - Aux Antenna Test Channel: 149					
Remark:	1. Average measurement was not	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)				
	8242.0	42.4	3.4	45.8	74.0	-28.2	Peak	Horizontal
*	8769.0	40.5	5.0	45.5	68.2	-22.7	Peak	Horizontal
	9092.0	40.6	5.5	46.1	74.0	-27.9	Peak	Horizontal
*	9814.5	41.0	7.1	48.1	68.2	-20.1	Peak	Horizontal
	9092.0	39.2	5.5	44.7	74.0	-29.3	Peak	Vertical
*	9721.0	42.2	6.9	49.1	68.2	-19.1	Peak	Vertical
	11472.0	43.6	7.2	50.8	74.0	-23.2	Peak	Vertical
*	12951.0	41.9	6.7	48.6	68.2	-19.6	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	802.11a - Aux Antenna	11a - Aux Antenna Test Channel: 157					
Remark:	1. Average measurement was not	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)				
	8250.5	42.5	3.4	45.9	74.0	-28.1	Peak	Horizontal
*	8735.0	41.9	4.8	46.7	68.2	-21.5	Peak	Horizontal
	9109.0	41.1	5.6	46.7	74.0	-27.3	Peak	Horizontal
*	9814.5	42.4	7.1	49.5	68.2	-18.7	Peak	Horizontal
	8131.5	42.6	3.8	46.4	74.0	-27.6	Peak	Vertical
*	8845.5	42.3	5.1	47.4	68.2	-20.8	Peak	Vertical
	9109.0	39.2	5.6	44.8	74.0	-29.2	Peak	Vertical
*	9772.0	42.1	7.0	49.1	68.2	-19.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	02.11a - Aux Antenna Test Channel: 165						
Remark:	1. Average measurement was not	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)				
	7511.0	43.5	3.5	47.0	74.0	-27.0	Peak	Horizontal
*	7902.0	43.3	3.5	46.8	68.2	-21.4	Peak	Horizontal
	8216.5	43.7	3.5	47.2	74.0	-26.8	Peak	Horizontal
*	8624.5	42.7	4.4	47.1	68.2	-21.1	Peak	Horizontal
	7451.5	43.9	3.6	47.5	74.0	-26.5	Peak	Vertical
*	7953.0	42.5	3.8	46.3	68.2	-21.9	Peak	Vertical
	8216.5	43.8	3.5	47.3	74.0	-26.7	Peak	Vertical
*	8837.0	41.1	5.0	46.1	68.2	-22.1	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	802.11n-HT20 - Aux Antenna	Test Channel:	36				
Remark:	1. Average measurement was not	performed if peak level I	ower 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)				
	8446.0	43.5	3.7	47.2	74.0	-26.8	Peak	Horizontal
*	10120.5	42.6	7.0	49.6	68.2	-18.6	Peak	Horizontal
	11455.0	43.7	7.1	50.8	74.0	-23.2	Peak	Horizontal
*	12934.0	43.5	6.6	50.1	68.2	-18.1	Peak	Horizontal
	7468.5	45.5	3.4	48.9	74.0	-25.1	Peak	Vertical
*	8837.0	42.1	5.0	47.1	68.2	-21.1	Peak	Vertical
	11557.0	43.3	6.8	50.1	74.0	-23.9	Peak	Vertical
*	13792.5	43.8	7.9	51.7	68.2	-16.5	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li				
Test Site	AC1	Test Date	2020/08/08				
Test Mode:	802.11n-HT20 - Aux Antenna	2.11n-HT20 - Aux Antenna Test Channel: 44					
Remark:	1. Average measurement was not	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)				
	7613.0	43.5	3.3	46.8	74.0	-27.2	Peak	Horizontal
*	8684.0	41.7	4.7	46.4	68.2	-21.8	Peak	Horizontal
	9092.0	41.4	5.5	46.9	74.0	-27.1	Peak	Horizontal
*	10197.0	43.8	7.2	51.0	68.2	-17.2	Peak	Horizontal
	7587.5	43.1	3.3	46.4	74.0	-27.6	Peak	Vertical
*	8658.5	42.2	4.7	46.9	68.2	-21.3	Peak	Vertical
	11565.5	43.9	6.9	50.8	74.0	-23.2	Peak	Vertical
*	13665.0	45.0	7.6	52.6	68.2	-15.6	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li		
Test Site	AC1	Test Date	2020/08/08		
Test Mode:	802.11n-HT20 - Aux Antenna	Test Channel:	48		
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)				
	7434.5	42.8	3.6	46.4	74.0	-27.6	Peak	Horizontal
*	8837.0	41.9	5.0	46.9	68.2	-21.3	Peak	Horizontal
	11455.0	42.9	7.1	50.0	74.0	-24.0	Peak	Horizontal
*	12934.0	42.4	6.6	49.0	68.2	-19.2	Peak	Horizontal
	8420.5	43.5	3.5	47.0	74.0	-27.0	Peak	Vertical
*	9891.0	42.9	7.0	49.9	68.2	-18.3	Peak	Vertical
	12177.5	44.5	6.2	50.7	74.0	-23.3	Peak	Vertical
*	13733.0	43.9	7.4	51.3	68.2	-16.9	Peak	Vertical

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



Product	Notebook	Test Engineer	Messiah Li		
Test Site	AC1	Test Date	2020/08/08		
Test Mode:	802.11n-HT20 - Aux Antenna	Test Channel:	149		
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)				
	8327.0	42.5	3.2	45.7	74.0	-28.3	Peak	Horizontal
*	9806.0	43.5	7.0	50.5	68.2	-17.7	Peak	Horizontal
	11582.5	42.8	6.9	49.7	74.0	-24.3	Peak	Horizontal
*	13614.0	44.3	7.7	52.0	68.2	-16.2	Peak	Horizontal
	8293.0	43.9	3.3	47.2	74.0	-26.8	Peak	Vertical
*	9780.5	42.1	7.0	49.1	68.2	-19.1	Peak	Vertical
	12305.0	43.2	5.9	49.1	74.0	-24.9	Peak	Vertical
*	13546.0	41.4	7.7	49.1	68.2	-19.1	Peak	Vertical

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