



### 7.6. Frequency Stability Measurement

#### 7.6.1.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.

The transmitter center frequency tolerance shall be ±20 ppm maximum for the 5GHz band (IEEE 802.11 specification).

#### 7.6.2.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.

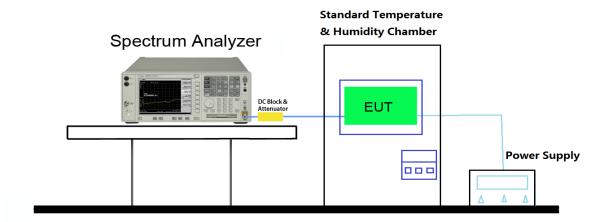
Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, recordthe maximum frequency change.

FCC ID: Q9DAPIN0303 Page Number: 78 of 287

Report No.: 1711TW0103-U7



# 7.6.3.Test Setup





### 7.6.4.Test Result

Test Engineer	Kevin Ker	Temperature	-30 ~ 50°C
Test Time	2017/10/18	Relative Humidity	48 ~ 55%RH
Test Mode	5320MHz (Carrier Mode)	Test Site	SR2

Voltage	Power	Temp	Frequency Tolerance
(%)	(VAC)	(°C)	(ppm)
		- 30	-5.58
		- 20	-5.89
		- 10	-6.12
		0	-6.33
100%	120	+ 10	-6.84
		+ 20 (Ref)	-7.01
		+ 30	-7.28
		+ 40	-9.17
		+ 50	-9.22
115%	138	+ 20	-7.14
85%	102	+ 20	-7.56

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

FCC ID: Q9DAPIN0303 Page Number: 80 of 287



## 7.7. Radiated Spurious Emission Measurement

#### 7.7.1.Test Limit

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

The first made flot exceeds the limited offerm in Table per dedicting 10:200.							
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					

#### 7.7.2.Test Procedure Used

KDB 789033 D02v01r04 - Section G

# 7.7.3.Test Setting

### **Quasi-Peak& Average Measurements below30MHz**

- 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: Q9DAPIN0303 Page Number: 81 of 287



### **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)

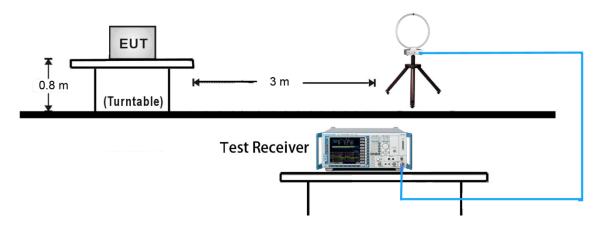
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (Average)
- 5. Number of measurement points = 1001 (Number of points must be  $> 2 \times \text{span/RBW}$ )
- 6. Sweep time = auto
- 7. Trace was averaged over at 100 sweeps

FCC ID: Q9DAPIN0303 Page Number: 82 of 287

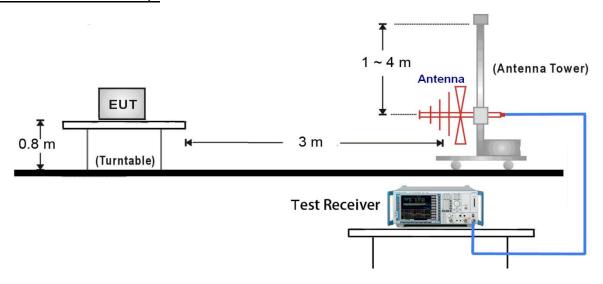


# 7.7.4.Test Setup

# 9kHz ~30MHz Test Setup:



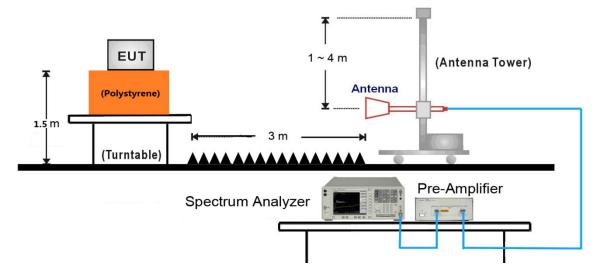
### 30MHz ~ 1GHz Test Setup:



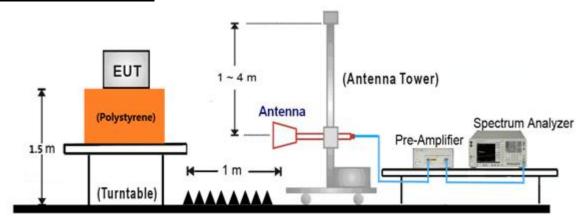
FCC ID: Q9DAPIN0303 Page Number: 83 of 287



## 1GHz ~ 18GHz Test Setup:



# 18GHz ~ 40GHz Test Setup:

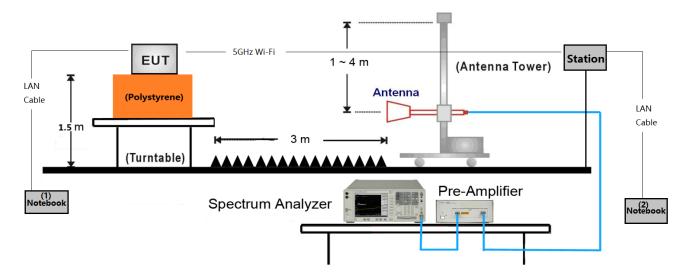


Note: This item was performed with the WIFI antenna connected.

FCC ID: Q9DAPIN0303 Page Number: 84 of 287



Additional Beam-Forming Mode Test Setup (Apply to all BF radiated emission test frequency range)



Make the EUT connect with the station by 5GHz wireless.

Input some commands in the notebook (1) to open the EUT Beam Forming function, and setup the related test channel & data rate & power setting.

Make the notebook (1) ping with notebook (2) using the "iperf" software that can produce one bigger duty cycle waveform.

Beam-Forming Mode						
Test Mode	T = Transmission Duration (ms)					
802.11n-HT20	91.30	1.752				
802.11n-HT40	90.78	1.683				
802.11ac-VHT20	91.09	1.748				
802.11ac-VHT40	90.78	1.683				
802.11ac-VHT80	93.33	1.862				



#### 7.7.5.Test Result

Product	ACCESS POINT	Temperature	26°C		
Test Engineer	Kevin Ker	Relative Humidity	57 %		
Test Site	AC1	Test Date	2017/10/18		
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	52		
Remark:	1. Average measurement was no	t performed if peak	evel lower than average		
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall		
	within the restricted bands.				
	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show				
	in the report.				

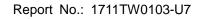
Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8692.5	31.0	13.7	44.7	68.2	-23.5	Peak	Horizontal
*	10231.0	33.1	16.4	49.5	68.2	-18.7	Peak	Horizontal
	11429.5	30.2	19.2	49.4	54.0	-4.6	Peak	Horizontal
	15654.0	31.6	20.4	52.0	54.0	-2.0	Peak	Horizontal
*	8718.0	29.5	13.8	43.3	68.2	-24.9	Peak	Vertical
*	9967.5	32.9	15.3	48.2	68.2	-20.0	Peak	Vertical
	11378.5	29.3	19.1	48.4	54.0	-5.6	Peak	Vertical
	15560.5	31.3	20.6	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 86 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	60			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8786.0	30.2	13.9	44.1	68.2	-24.1	Peak	Horizontal
*	9721.0	31.4	14.7	46.1	68.2	-22.1	Peak	Horizontal
	11455.0	29.8	19.2	49.0	54.0	-5.0	Peak	Horizontal
	15492.5	31.1	20.7	51.8	54.0	-2.2	Peak	Horizontal
*	8828.5	29.5	14.0	43.5	68.2	-24.7	Peak	Vertical
*	9857.0	30.3	16.2	46.5	68.2	-21.7	Peak	Vertical
	11378.5	29.5	19.1	48.6	54.0	-5.4	Peak	Vertical
	15773.0	31.6	20.4	52.0	54.0	-2.0	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: Q9DAPIN0303 Page Number: 87 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	64				
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.						
	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)				
*	8777.5	29.7	13.9	43.6	68.2	-24.6	Peak	Horizontal
*	9942.0	31.2	15.3	46.5	68.2	-21.7	Peak	Horizontal
	11234.0	28.5	18.8	47.3	54.0	-6.7	Peak	Horizontal
	15934.5	30.6	20.3	50.9	54.0	-3.1	Peak	Horizontal
*	8752.0	28.9	13.9	42.8	68.2	-25.4	Peak	Vertical
*	9993.0	30.9	15.4	46.3	68.2	-21.9	Peak	Vertical
	11786.5	29.3	18.8	48.1	54.0	-5.9	Peak	Vertical
	15526.5	30.1	20.6	50.7	54.0	-3.3	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: Q9DAPIN0303 Page Number: 88 of 287





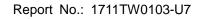
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	100			
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)	(3.2)	(dBµV/m)	(	(3.2)		
*	8777.5	30.2	13.9	44.1	68.2	-24.1	Peak	Horizontal
*	9899.5	31.3	15.4	46.7	68.2	-21.5	Peak	Horizontal
	11191.5	29.8	18.7	48.5	54.0	-5.5	Peak	Horizontal
	15577.5	31.8	20.5	52.3	54.0	-1.7	Peak	Horizontal
*	8769.0	30.6	13.9	44.5	68.2	-23.7	Peak	Vertical
*	10069.5	30.1	15.6	45.7	68.2	-22.5	Peak	Vertical
	11259.5	28.4	18.8	47.2	54.0	-6.8	Peak	Vertical
	15696.5	30.5	20.5	51.0	54.0	-3.0	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: Q9DAPIN0303 Page Number: 89 of 287





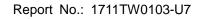
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	120			
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8735.0	30.6	13.9	44.5	68.2	-23.7	Peak	Horizontal
*	9976.0	30.0	15.3	45.3	68.2	-22.9	Peak	Horizontal
	11302.0	28.6	18.9	47.5	54.0	-6.5	Peak	Horizontal
	15773.0	30.6	20.4	51.0	54.0	-3.0	Peak	Horizontal
*	8837.0	29.6	14.0	43.6	68.2	-24.6	Peak	Vertical
*	9933.5	30.3	15.3	45.6	68.2	-22.6	Peak	Vertical
	11684.5	29.2	19.2	48.4	54.0	-5.6	Peak	Vertical
	15764.5	30.8	20.4	51.2	54.0	-2.8	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: Q9DAPIN0303 Page Number: 90 of 287





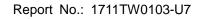
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	140			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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
		(αυμν)		(dDp v/III)				
*	8777.5	29.8	13.9	43.7	68.2	-24.5	Peak	Horizontal
*	10035.5	30.9	15.5	46.4	68.2	-21.8	Peak	Horizontal
	11735.5	29.4	19.0	48.4	54.0	-5.6	Peak	Horizontal
	15509.5	30.6	20.6	51.2	54.0	-2.8	Peak	Horizontal
*	8760.5	29.7	13.9	43.6	68.2	-24.6	Peak	Vertical
*	10324.5	31.9	16.7	48.6	68.2	-19.6	Peak	Vertical
	11404.0	34.4	19.1	53.5	54.0	-0.5	Peak	Vertical
	15781.5	30.5	20.4	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 91 of 287





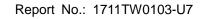
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11a - Ant 0 + 1 (CDD Mode)	Test Channel:	144			
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)	<b>.</b> . ,			
*	8743.5	30.1	13.9	44.0	68.2	-24.2	Peak	Horizontal
*	9993.0	30.8	15.4	46.2	68.2	-22.0	Peak	Horizontal
	11438.0	30.7	19.2	49.9	54.0	-4.1	Peak	Horizontal
	15773.0	30.6	20.4	51.0	54.0	-3.0	Peak	Horizontal
*	8820.0	29.3	14.0	43.3	68.2	-24.9	Peak	Vertical
*	9942.0	30.6	15.3	45.9	68.2	-22.3	Peak	Vertical
	11438.0	33.2	19.2	52.4	54.0	-1.6	Peak	Vertical
	15441.5	30.1	20.9	51.0	54.0	-3.0	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: Q9DAPIN0303 Page Number: 92 of 287





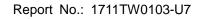
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11n-HT20 - Ant 0 + 1	Took Channalı	50			
Test Mode:	(CDD Mode)	Test Channel:	52			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8769.0	29.2	13.9	43.1	68.2	-25.1	Peak	Horizontal
*	10061.0	30.4	15.6	46.0	68.2	-22.2	Peak	Horizontal
	11480.5	29.7	19.3	49.0	54.0	-5.0	Peak	Horizontal
	15492.5	30.8	20.7	51.5	54.0	-2.5	Peak	Horizontal
*	8786.0	29.5	13.9	43.4	68.2	-24.8	Peak	Vertical
*	10180.0	30.1	16.1	46.2	68.2	-22.0	Peak	Vertical
	11531.5	29.4	19.4	48.8	54.0	-5.2	Peak	Vertical
	15730.5	31.1	20.5	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 93 of 287





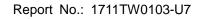
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11n-HT20 - Ant 0 + 1	Took Ohamaali	60			
Test Mode:	(CDD Mode)	Test Channel:	60			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8786.0	29.6	13.9	43.5	68.2	-24.7	Peak	Horizontal
*	10129.0	32.8	15.9	48.7	68.2	-19.5	Peak	Horizontal
	11446.5	30.0	19.2	49.2	54.0	-4.8	Peak	Horizontal
	15611.5	31.8	20.5	52.3	54.0	-1.7	Peak	Horizontal
*	8794.5	29.2	13.9	43.1	68.2	-25.1	Peak	Vertical
*	9916.5	30.4	15.3	45.7	68.2	-22.5	Peak	Vertical
	11327.5	29.1	18.9	48.0	54.0	-6.0	Peak	Vertical
	15518.0	30.2	20.6	50.8	54.0	-3.2	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: Q9DAPIN0303 Page Number: 94 of 287





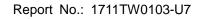
Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11n-HT20 - Ant 0 + 1 (CDD Mode)	Test Channel:	64
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
		(dBµV)		(dBµV/m)				
*	8811.5	29.5	14.0	43.5	68.2	-24.7	Peak	Horizontal
*	9738.0	31.6	14.8	46.4	68.2	-21.8	Peak	Horizontal
	11429.5	29.4	19.2	48.6	54.0	-5.4	Peak	Horizontal
	15569.0	32.7	20.6	53.3	54.0	-0.7	Peak	Horizontal
*	8752.0	29.9	13.9	43.8	68.2	-24.4	Peak	Vertical
*	9772.0	30.8	14.9	45.7	68.2	-22.5	Peak	Vertical
	11582.5	29.8	19.5	49.3	54.0	-4.7	Peak	Vertical
	15458.5	31.1	20.8	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 95 of 287





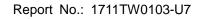
Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11n-HT20 - Ant 0 + 1 (CDD Mode)	Test Channel:	100
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8692.5	32.9	13.7	46.6	68.2	-21.6	Peak	Horizontal
*	9857.0	31.0	16.2	47.2	68.2	-21.0	Peak	Horizontal
	11072.5	30.4	18.6	49.0	54.0	-5.0	Peak	Horizontal
	15696.5	30.7	20.5	51.2	54.0	-2.8	Peak	Horizontal
*	8735.0	30.8	13.9	44.7	68.2	-23.5	Peak	Vertical
*	10010.0	31.7	15.4	47.1	68.2	-21.1	Peak	Vertical
	11650.5	29.3	19.3	48.6	54.0	-5.4	Peak	Vertical
	15492.5	31.6	20.7	52.3	54.0	-1.7	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: Q9DAPIN0303 Page Number: 96 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11n-HT20 - Ant 0 + 1	To all Objects also	400			
Test Mode:	(CDD Mode)	Test Channel:	120			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8777.5	29.6	13.9	43.5	68.2	-24.7	Peak	Horizontal
*	10112.0	32.2	15.8	48.0	68.2	-20.2	Peak	Horizontal
	11880.0	30.6	18.6	49.2	54.0	-4.8	Peak	Horizontal
	15560.5	31.1	20.6	51.7	54.0	-2.3	Peak	Horizontal
*	8692.5	30.5	13.7	44.2	68.2	-24.0	Peak	Vertical
*	9865.5	30.7	16.0	46.7	68.2	-21.5	Peak	Vertical
	11327.5	29.3	18.9	48.2	54.0	-5.8	Peak	Vertical
	15747.5	30.9	20.4	51.3	54.0	-2.7	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: Q9DAPIN0303 Page Number: 97 of 287





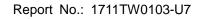
Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11n-HT20 - Ant 0 + 1 (CDD Mode)	Test Channel:	140
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8769.0	29.8	13.9	43.7	68.2	-24.5	Peak	Horizontal
*	9797.5	31.3	15.1	46.4	68.2	-21.8	Peak	Horizontal
	11370.0	29.8	19.0	48.8	54.0	-5.2	Peak	Horizontal
	15424.5	30.6	20.9	51.5	54.0	-2.5	Peak	Horizontal
*	8786.0	29.0	13.9	42.9	68.2	-25.3	Peak	Vertical
*	9874.0	31.9	15.8	47.7	68.2	-20.5	Peak	Vertical
	11412.5	34.3	19.1	53.4	54.0	-0.6	Peak	Vertical
	15645.5	31.5	20.4	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 98 of 287





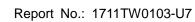
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11n-HT20 - Ant 0 + 1	Test Channel:	144			
Test Mode.	(CDD Mode)	rest Charmer.	144			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8854.0	31.2	14.0	45.2	68.2	-23.0	Peak	Horizontal
*	10120.5	31.3	15.8	47.1	68.2	-21.1	Peak	Horizontal
	11642.0	31.1	19.4	50.5	54.0	-3.5	Peak	Horizontal
	15433.0	31.4	20.9	52.3	54.0	-1.7	Peak	Horizontal
*	8786.0	29.2	13.9	43.1	68.2	-25.1	Peak	Vertical
*	9993.0	30.7	15.4	46.1	68.2	-22.1	Peak	Vertical
	11429.5	34.2	19.2	53.4	54.0	-0.6	Peak	Vertical
	15832.5	30.7	20.4	51.1	54.0	-2.9	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: Q9DAPIN0303 Page Number: 99 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11n-HT40 - Ant 0 + 1	To all Objects also	E4			
Test Mode:	(CDD Mode)	Test Channel:	54			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8786.0	29.3	13.9	43.2	68.2	-25.0	Peak	Horizontal
*	9908.0	30.1	15.3	45.4	68.2	-22.8	Peak	Horizontal
	11242.5	28.8	18.8	47.6	54.0	-6.4	Peak	Horizontal
	15773.0	30.1	20.4	50.5	54.0	-3.5	Peak	Horizontal
*	8769.0	29.7	13.9	43.6	68.2	-24.6	Peak	Vertical
*	9857.0	32.1	16.2	48.3	68.2	-19.9	Peak	Vertical
	11429.5	29.7	19.2	48.9	54.0	-5.1	Peak	Vertical
	15509.5	31.1	20.6	51.7	54.0	-2.3	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: Q9DAPIN0303 Page Number: 100 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11n-HT40 - Ant 0 + 1	Test Channel:	62			
rest Mode.	(CDD Mode)	Test Channel.	02			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8769.0	29.6	13.9	43.5	68.2	-24.7	Peak	Horizontal
*	9882.5	30.9	15.6	46.5	68.2	-21.7	Peak	Horizontal
	11174.5	28.8	18.7	47.5	54.0	-6.5	Peak	Horizontal
	15526.5	30.3	20.6	50.9	54.0	-3.1	Peak	Horizontal
*	8726.5	29.3	13.8	43.1	68.2	-25.1	Peak	Vertical
*	10146.0	31.6	16.0	47.6	68.2	-20.6	Peak	Vertical
	11667.5	31.0	19.3	50.3	54.0	-3.7	Peak	Vertical
	15926.0	31.5	20.4	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 101 of 287





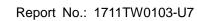
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11n-HT40 - Ant 0 + 1	Took Ohamaali	100			
Test Mode:	(CDD Mode)	Test Channel:	102			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8692.5	31.2	13.7	44.9	68.2	-23.3	Peak	Horizontal
*	10052.5	31.2	15.5	46.7	68.2	-21.5	Peak	Horizontal
	11344.5	28.9	19.0	47.9	54.0	-6.1	Peak	Horizontal
	15722.0	30.7	20.5	51.2	54.0	-2.8	Peak	Horizontal
*	8692.5	31.1	13.7	44.8	68.2	-23.4	Peak	Vertical
*	9755.0	33.4	14.8	48.2	68.2	-20.0	Peak	Vertical
	11931.0	30.6	18.6	49.2	54.0	-4.8	Peak	Vertical
	15654.0	31.2	20.4	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 102 of 287





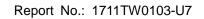
Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11n-HT40 - Ant 0 + 1 (CDD Mode)	Test Channel:	118
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8735.0	30.0	13.9	43.9	68.2	-24.3	Peak	Horizontal
*	9874.0	29.6	15.8	45.4	68.2	-22.8	Peak	Horizontal
	11897.0	28.8	18.6	47.4	54.0	-6.6	Peak	Horizontal
	15824.0	30.3	20.4	50.7	54.0	-3.3	Peak	Horizontal
*	8718.0	30.1	13.8	43.9	68.2	-24.3	Peak	Vertical
*	9899.5	30.6	15.4	46.0	68.2	-22.2	Peak	Vertical
	11251.0	28.6	18.8	47.4	54.0	-6.6	Peak	Vertical
	15543.5	30.3	20.6	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 103 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11n-HT40 - Ant 0 + 1	Took Channalı	404			
Test Mode:	(CDD Mode)	Test Channel:	134			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8743.5	29.6	13.9	43.5	68.2	-24.7	Peak	Horizontal
*	10171.5	30.5	16.1	46.6	68.2	-21.6	Peak	Horizontal
	11174.5	29.8	18.7	48.5	54.0	-5.5	Peak	Horizontal
	15662.5	30.9	20.4	51.3	54.0	-2.7	Peak	Horizontal
*	8726.5	29.4	13.8	43.2	68.2	-25.0	Peak	Vertical
*	9857.0	31.7	16.2	47.9	68.2	-20.3	Peak	Vertical
	11285.0	29.2	18.8	48.0	54.0	-6.0	Peak	Vertical
	15518.0	30.3	20.6	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 104 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Toot Mode.	802.11n-HT40 - Ant 0 + 1	Took Channal	140			
Test Mode:	(CDD Mode)	Test Channel:	142			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8726.5	29.1	13.8	42.9	68.2	-25.3	Peak	Horizontal
*	10248.0	32.4	16.4	48.8	68.2	-19.4	Peak	Horizontal
	11548.5	30.4	19.4	49.8	54.0	-4.2	Peak	Horizontal
	15764.5	30.6	20.4	51.0	54.0	-3.0	Peak	Horizontal
*	8522.5	31.0	13.0	44.0	68.2	-24.2	Peak	Vertical
*	9857.0	31.6	16.2	47.8	68.2	-20.4	Peak	Vertical
	11404.0	31.0	19.1	50.1	54.0	-3.9	Peak	Vertical
	15637.0	31.5	20.4	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 105 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11ac-VHT20 - Ant 0 + 1		52			
Test Mode.	(CDD Mode)	Test Channel:	JZ			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8786.0	29.1	13.9	43.0	68.2	-25.2	Peak	Horizontal
*	10044.0	33.0	15.5	48.5	68.2	-19.7	Peak	Horizontal
	11395.5	31.3	19.1	50.4	54.0	-3.6	Peak	Horizontal
	15764.5	30.7	20.4	51.1	54.0	-2.9	Peak	Horizontal
*	8811.5	29.6	14.0	43.6	68.2	-24.6	Peak	Vertical
*	10086.5	32.6	15.7	48.3	68.2	-19.9	Peak	Vertical
	11242.5	30.1	18.8	48.9	54.0	-5.1	Peak	Vertical
	15560.5	31.0	20.6	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 106 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT20 - Ant 0 + 1	Took Channalı	60			
Test Mode:	(CDD Mode)	Test Channel:	60			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8777.5	29.4	13.9	43.3	68.2	-24.9	Peak	Horizontal
*	9993.0	32.5	15.4	47.9	68.2	-20.3	Peak	Horizontal
	11174.5	29.3	18.7	48.0	54.0	-6.0	Peak	Horizontal
	16036.5	30.8	20.3	51.1	54.0	-2.9	Peak	Horizontal
*	8760.5	29.6	13.9	43.5	68.2	-24.7	Peak	Vertical
*	9695.5	33.1	14.6	47.7	68.2	-20.5	Peak	Vertical
	11489.0	30.5	19.3	49.8	54.0	-4.2	Peak	Vertical
	15441.5	31.4	20.9	52.3	54.0	-1.7	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: Q9DAPIN0303 Page Number: 107 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT20 - Ant 0 + 1	To all Oh are a all	0.4			
Test Mode:	(CDD Mode)	Test Channel:	64			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8837.0	29.0	14.0	43.0	68.2	-25.2	Peak	Horizontal
*	9967.5	31.2	15.3	46.5	68.2	-21.7	Peak	Horizontal
	11608.0	33.2	19.4	52.6	54.0	-1.4	Peak	Horizontal
	15518.0	30.4	20.6	51.0	54.0	-3.0	Peak	Horizontal
*	8786.0	29.3	13.9	43.2	68.2	-25.0	Peak	Vertical
*	9806.0	31.3	15.2	46.5	68.2	-21.7	Peak	Vertical
	11905.5	30.9	18.6	49.5	54.0	-4.5	Peak	Vertical
	15501.0	31.5	20.6	52.1	54.0	-1.9	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: Q9DAPIN0303 Page Number: 108 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT20 - Ant 0 + 1	Took Ohamaali	400			
Test Mode:	(CDD Mode)	Test Channel:	100			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8718.0	30.2	13.8	44.0	68.2	-24.2	Peak	Horizontal
*	10027.0	31.9	15.4	47.3	68.2	-20.9	Peak	Horizontal
	11684.5	29.5	19.2	48.7	54.0	-5.3	Peak	Horizontal
	15492.5	30.7	20.7	51.4	54.0	-2.6	Peak	Horizontal
*	8845.5	29.2	14.0	43.2	68.2	-25.0	Peak	Vertical
*	10035.5	31.8	15.5	47.3	68.2	-20.9	Peak	Vertical
	12118.0	31.5	18.9	50.4	54.0	-3.6	Peak	Vertical
	15543.5	32.6	20.6	53.2	54.0	-0.8	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: Q9DAPIN0303 Page Number: 109 of 287





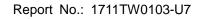
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Toot Mode	802.11ac-VHT20 - Ant 0 + 1	Toot Channel	120			
Test Mode:	(CDD Mode)	Test Channel:	120			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8590.5	32.6	13.4	46.0	68.2	-22.2	Peak	Horizontal
*	9857.0	32.3	16.2	48.5	68.2	-19.7	Peak	Horizontal
	11225.5	29.7	18.8	48.5	54.0	-5.5	Peak	Horizontal
	15696.5	30.6	20.5	51.1	54.0	-2.9	Peak	Horizontal
*	8760.5	29.3	13.9	43.2	68.2	-25.0	Peak	Vertical
*	9925.0	31.6	15.3	46.9	68.2	-21.3	Peak	Vertical
	11846.0	29.7	18.7	48.4	54.0	-5.6	Peak	Vertical
	15518.0	30.5	20.6	51.1	54.0	-2.9	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: Q9DAPIN0303 Page Number: 110 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT20 - Ant 0 + 1	Test Channel:	440			
Test Mode:	(CDD Mode)	140				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8718.0	29.5	13.8	43.3	68.2	-24.9	Peak	Horizontal
*	10205.5	31.4	16.2	47.6	68.2	-20.6	Peak	Horizontal
	11531.5	29.3	19.4	48.7	54.0	-5.3	Peak	Horizontal
	15645.5	31.4	20.4	51.8	54.0	-2.2	Peak	Horizontal
*	8514.0	31.9	12.9	44.8	68.2	-23.4	Peak	Vertical
*	9959.0	32.3	15.3	47.6	68.2	-20.6	Peak	Vertical
	11400.0	35.0	19.1	54.1	74.0	-19.9	Peak	Vertical
	11400.0	23.0	19.1	42.1	54.0	-11.9	Average	Vertical
	15603.0	33.7	20.5	54.2	74.0	-19.8	Peak	Vertical
	15603.0	22.1	20.5	42.6	54.0	-11.4	Average	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: Q9DAPIN0303 Page Number: 111 of 287





Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11ac-VHT20 - Ant 0 + 1 (CDD Mode)	Test Channel:	144
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8718.0	30.0	13.8	43.8	68.2	-24.4	Peak	Horizontal
*	9721.0	31.3	14.7	46.0	68.2	-22.2	Peak	Horizontal
	11684.5	29.6	19.2	48.8	54.0	-5.2	Peak	Horizontal
	15611.5	31.5	20.5	52.0	54.0	-2.0	Peak	Horizontal
*	8539.5	31.0	13.1	44.1	68.2	-24.1	Peak	Vertical
*	9823.0	31.1	15.6	46.7	68.2	-21.5	Peak	Vertical
	11429.5	34.8	19.2	54.0	54.0	-0.0	Peak	Vertical
	15560.5	31.0	20.6	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 112 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT40 - Ant 0 + 1	To all Objects all	E4			
Test Mode:	(CDD Mode)	Test Channel: 54				
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8743.5	30.8	13.9	44.7	68.2	-23.5	Peak	Horizontal
*	9950.5	30.8	15.3	46.1	68.2	-22.1	Peak	Horizontal
	11285.0	29.2	18.8	48.0	54.0	-6.0	Peak	Horizontal
	15773.0	30.8	20.4	51.2	54.0	-2.8	Peak	Horizontal
*	8752.0	30.2	13.9	44.1	68.2	-24.1	Peak	Vertical
*	9984.5	30.5	15.4	45.9	68.2	-22.3	Peak	Vertical
	11225.5	29.2	18.8	48.0	54.0	-6.0	Peak	Vertical
	15560.5	30.7	20.6	51.3	54.0	-2.7	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: Q9DAPIN0303 Page Number: 113 of 287





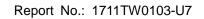
Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11ac-VHT40 - Ant 0 + 1 (CDD Mode)	Test Channel:	62
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8726.5	30.3	13.8	44.1	68.2	-24.1	Peak	Horizontal
*	9933.5	30.5	15.3	45.8	68.2	-22.4	Peak	Horizontal
	11718.5	29.4	19.0	48.4	54.0	-5.6	Peak	Horizontal
	15526.5	30.6	20.6	51.2	54.0	-2.8	Peak	Horizontal
*	8752.0	30.4	13.9	44.3	68.2	-23.9	Peak	Vertical
*	9950.5	31.1	15.3	46.4	68.2	-21.8	Peak	Vertical
	11174.5	29.8	18.7	48.5	54.0	-5.5	Peak	Vertical
	15866.5	31.0	20.4	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 114 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT40 - Ant 0 + 1	Took Channalı	400			
Test Mode:	(CDD Mode)	Test Channel:	102			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8658.5	31.0	13.6	44.6	68.2	-23.6	Peak	Horizontal
*	9831.5	31.0	15.9	46.9	68.2	-21.3	Peak	Horizontal
	11378.5	29.3	19.1	48.4	54.0	-5.6	Peak	Horizontal
	15824.0	30.8	20.4	51.2	54.0	-2.8	Peak	Horizontal
*	8658.5	31.1	13.6	44.7	68.2	-23.5	Peak	Vertical
*	10095.0	30.9	15.7	46.6	68.2	-21.6	Peak	Vertical
	11336.0	29.2	19.0	48.2	54.0	-5.8	Peak	Vertical
	15773.0	31.4	20.4	51.8	54.0	-2.2	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: Q9DAPIN0303 Page Number: 115 of 287





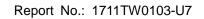
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT40 - Ant 0 + 1	Took Channalı	44.0			
Test Mode:	(CDD Mode) Test Channel		118			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8667.0	30.5	13.6	44.1	68.2	-24.1	Peak	Horizontal
*	10035.5	31.9	15.5	47.4	68.2	-20.8	Peak	Horizontal
	11701.5	28.8	19.1	47.9	54.0	-6.1	Peak	Horizontal
	15501.0	30.5	20.6	51.1	54.0	-2.9	Peak	Horizontal
*	8726.5	30.0	13.8	43.8	68.2	-24.4	Peak	Vertical
*	10129.0	32.3	15.9	48.2	68.2	-20.0	Peak	Vertical
	11829.0	29.9	18.7	48.6	54.0	-5.4	Peak	Vertical
	15569.0	31.9	20.6	52.5	54.0	-1.5	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: Q9DAPIN0303 Page Number: 116 of 287





Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11ac-VHT40 - Ant 0 + 1 (CDD Mode)	Test Channel:	134
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8726.5	30.3	13.8	44.1	68.2	-24.1	Peak	Horizontal
*	10035.5	32.3	15.5	47.8	68.2	-20.4	Peak	Horizontal
	11531.5	29.6	19.4	49.0	54.0	-5.0	Peak	Horizontal
	15739.0	30.5	20.4	50.9	54.0	-3.1	Peak	Horizontal
*	8769.0	29.7	13.9	43.6	68.2	-24.6	Peak	Vertical
*	9959.0	31.1	15.3	46.4	68.2	-21.8	Peak	Vertical
	11497.5	29.4	19.3	48.7	54.0	-5.3	Peak	Vertical
	15671.0	30.5	20.4	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 117 of 287





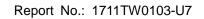
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Took Mode.	802.11ac-VHT40 - Ant 0 + 1	Took Channalı	440			
Test Mode:	(CDD Mode)	Test Channel:	142			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	ge limit for emissions fall			
	within the restricted bands.					
	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)				
*	8709.5	30.3	13.8	44.1	68.2	-24.1	Peak	Horizontal
*	10214.0	29.9	16.3	46.2	68.2	-22.0	Peak	Horizontal
	11174.5	30.8	18.7	49.5	54.0	-4.5	Peak	Horizontal
	15569.0	30.5	20.6	51.1	54.0	-2.9	Peak	Horizontal
*	8735.0	29.8	13.9	43.7	68.2	-24.5	Peak	Vertical
*	9916.5	30.3	15.3	45.6	68.2	-22.6	Peak	Vertical
	11667.5	29.6	19.3	48.9	54.0	-5.1	Peak	Vertical
	15492.5	30.2	20.7	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 118 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11ac-VHT80 - Ant 0 + 1	Test Channel:	58			
	(CDD Mode)					
Remark:	Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8616.0	30.9	13.5	44.4	68.2	-23.8	Peak	Horizontal
*	9772.0	30.8	14.9	45.7	68.2	-22.5	Peak	Horizontal
	11837.5	28.6	18.7	47.3	54.0	-6.7	Peak	Horizontal
	15781.5	30.2	20.4	50.6	54.0	-3.4	Peak	Horizontal
*	8709.5	30.6	13.8	44.4	68.2	-23.8	Peak	Vertical
*	10197.0	30.4	16.2	46.6	68.2	-21.6	Peak	Vertical
	11327.5	30.0	18.9	48.9	54.0	-5.1	Peak	Vertical
	15509.5	30.6	20.6	51.2	54.0	-2.8	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: Q9DAPIN0303 Page Number: 119 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
Test Mode:	802.11ac-VHT80 - Ant 0 + 1	Test Channel:	106			
TOST WOOD.	(CDD Mode)					
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8667.0	30.0	13.6	43.6	68.2	-24.6	Peak	Horizontal
*	9814.5	31.7	15.4	47.1	68.2	-21.1	Peak	Horizontal
	11761.0	29.1	18.9	48.0	54.0	-6.0	Peak	Horizontal
	15509.5	30.7	20.6	51.3	54.0	-2.7	Peak	Horizontal
*	8777.5	28.9	13.9	42.8	68.2	-25.4	Peak	Vertical
*	9874.0	30.4	15.8	46.2	68.2	-22.0	Peak	Vertical
	11795.0	28.8	18.8	47.6	54.0	-6.4	Peak	Vertical
	15781.5	30.1	20.4	50.5	54.0	-3.5	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: Q9DAPIN0303 Page Number: 120 of 287





Product	ACCESS POINT	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	57 %
Test Site	AC1	Test Date	2017/10/18
Test Mode:	802.11ac-VHT80 - Ant 0 + 1 (CDD Mode)	Test Channel:	122
Remark:	<ol> <li>Average measurement was no limit. So the margin was calcul within the restricted bands.</li> <li>Other frequency was 20dB bel in the report.</li> </ol>	ated using the avera	age limit for emissions fall

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	8633.0	30.1	13.5	43.6	68.2	-24.6	Peak	Horizontal
*	9857.0	31.8	16.2	48.0	68.2	-20.2	Peak	Horizontal
	11582.5	30.4	19.5	49.9	54.0	-4.1	Peak	Horizontal
	15628.5	32.7	20.4	53.1	54.0	-0.9	Peak	Horizontal
*	8718.0	29.8	13.8	43.6	68.2	-24.6	Peak	Vertical
*	9899.5	30.5	15.4	45.9	68.2	-22.3	Peak	Vertical
	11446.5	31.3	19.2	50.5	54.0	-3.5	Peak	Vertical
	15509.5	32.4	20.6	53.0	54.0	-1.0	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: Q9DAPIN0303 Page Number: 121 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT80 - Ant 0 + 1	Test Channel:	400			
Test Mode:	(CDD Mode)	138				
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8701.0	30.0	13.8	43.8	68.2	-24.4	Peak	Horizontal
*	9865.5	30.8	16.0	46.8	68.2	-21.4	Peak	Horizontal
	11106.5	29.6	18.6	48.2	54.0	-5.8	Peak	Horizontal
	15747.5	30.6	20.4	51.0	54.0	-3.0	Peak	Horizontal
*	8735.0	30.0	13.9	43.9	68.2	-24.3	Peak	Vertical
*	9848.5	31.0	16.1	47.1	68.2	-21.1	Peak	Vertical
	11438.0	29.3	19.2	48.5	54.0	-5.5	Peak	Vertical
	15764.5	30.5	20.4	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 122 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (N4 )	802.11n-HT20 - Ant 0 + 1	T ( O)	50			
Test Mode:	(Beam-Forming Mode)	Test Channel:	52			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8276.0	31.0	11.9	42.9	68.2	-25.3	Peak	Horizontal
*	10078.0	30.9	15.6	46.5	68.2	-21.7	Peak	Horizontal
	11455.0	30.7	19.2	49.9	54.0	-4.1	Peak	Horizontal
	14872.0	29.7	22.3	52.0	54.0	-2.0	Peak	Horizontal
*	8097.5	31.8	12.3	44.1	68.2	-24.1	Peak	Vertical
*	10129.0	31.5	15.9	47.4	68.2	-20.8	Peak	Vertical
	11395.5	29.9	19.1	49.0	54.0	-5.0	Peak	Vertical
	15084.5	29.9	21.6	51.5	54.0	-2.5	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: Q9DAPIN0303 Page Number: 123 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (M)	802.11n-HT20 - Ant 0 + 1	T ( O )	00			
Test Mode:	(Beam-Forming Mode)	Test Channel:	60			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	32.0	11.9	43.9	68.2	-24.3	Peak	Horizontal
*	10052.5	32.2	15.5	47.7	68.2	-20.5	Peak	Horizontal
	11540.0	30.9	19.4	50.3	54.0	-3.7	Peak	Horizontal
	15220.5	32.2	21.4	53.6	54.0	-0.4	Peak	Horizontal
*	8140.0	31.1	12.2	43.3	68.2	-24.9	Peak	Vertical
*	9942.0	31.3	15.3	46.6	68.2	-21.6	Peak	Vertical
	11429.5	29.6	19.2	48.8	54.0	-5.2	Peak	Vertical
	14948.5	30.7	22.0	52.7	54.0	-1.3	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: Q9DAPIN0303 Page Number: 124 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11n-HT20 - Ant 0 + 1	To all Oh are a all	0.4			
Test Mode:	(Beam-Forming Mode)	Test Channel:	64			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8199.5	30.5	12.0	42.5	68.2	-25.7	Peak	Horizontal
*	10035.5	31.1	15.5	46.6	68.2	-21.6	Peak	Horizontal
	11089.5	30.7	18.6	49.3	54.0	-4.7	Peak	Horizontal
	15016.5	31.1	21.7	52.8	54.0	-1.2	Peak	Horizontal
*	8165.5	31.8	12.1	43.9	68.2	-24.3	Peak	Vertical
*	10035.5	31.3	15.5	46.8	68.2	-21.4	Peak	Vertical
	11480.5	29.9	19.3	49.2	54.0	-4.8	Peak	Vertical
	15033.5	30.6	21.7	52.3	54.0	-1.7	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: Q9DAPIN0303 Page Number: 125 of 287





Product	ACCESS POINT	Temperature	26°C					
Test Engineer	Kevin Ker	Relative Humidity	57 %					
Test Site	AC1	Test Date	2017/10/18					
To at Maralan	802.11n-HT20 - Ant 0 + 1	To all Objects all	400					
Test Mode:	(Beam-Forming Mode)	Test Channel:	100					
Remark:	1. Average measurement was no	t performed if peak	evel lower than average					
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall					
	within the restricted bands.							
	2. Other frequency was 20dB bel	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)				
*	8276.0	31.2	11.9	43.1	68.2	-25.1	Peak	Horizontal
*	10078.0	30.6	15.6	46.2	68.2	-22.0	Peak	Horizontal
	11480.5	30.6	19.3	49.9	54.0	-4.1	Peak	Horizontal
	14991.0	31.2	21.8	53.0	54.0	-1.0	Peak	Horizontal
*	8199.5	30.8	12.0	42.8	68.2	-25.4	Peak	Vertical
*	10027.0	32.2	15.4	47.6	68.2	-20.6	Peak	Vertical
	11412.5	30.4	19.1	49.5	54.0	-4.5	Peak	Vertical
	14931.5	29.9	22.1	52.0	54.0	-2.0	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: Q9DAPIN0303 Page Number: 126 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11n-HT20 - Ant 0 + 1	To all Oh are a all	100			
Test Mode:	(Beam-Forming Mode)	Test Channel:	120			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	30.8	12.1	42.9	68.2	-25.3	Peak	Horizontal
*	10001.5	31.3	15.4	46.7	68.2	-21.5	Peak	Horizontal
	11081.0	30.1	18.6	48.7	54.0	-5.3	Peak	Horizontal
	15118.5	29.9	21.6	51.5	54.0	-2.5	Peak	Horizontal
*	8140.0	31.7	12.2	43.9	68.2	-24.3	Peak	Vertical
*	10035.5	31.2	15.5	46.7	68.2	-21.5	Peak	Vertical
	11327.5	28.9	18.9	47.8	54.0	-6.2	Peak	Vertical
	14880.5	30.5	22.3	52.8	54.0	-1.2	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: Q9DAPIN0303 Page Number: 127 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (N4 )	802.11n-HT20 - Ant 0 + 1	T ( O)	4.40				
Test Mode:	(Beam-Forming Mode)	Test Channel:	140				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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)				
*	8199.5	31.4	12.0	43.4	68.2	-24.8	Peak	Horizontal
*	10035.5	30.2	15.5	45.7	68.2	-22.5	Peak	Horizontal
	11310.5	28.3	18.9	47.2	54.0	-6.8	Peak	Horizontal
	14897.5	29.4	22.2	51.6	54.0	-2.4	Peak	Horizontal
*	8174.0	30.4	12.0	42.4	68.2	-25.8	Peak	Vertical
*	9916.5	30.1	15.3	45.4	68.2	-22.8	Peak	Vertical
	11293.5	28.7	18.9	47.6	54.0	-6.4	Peak	Vertical
	14863.5	28.9	22.4	51.3	54.0	-2.7	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: Q9DAPIN0303 Page Number: 128 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
Table Markey	802.11n-HT20 - Ant 0 + 1	To all Objects of	444				
Test Mode:	(Beam-Forming Mode)	Test Channel:	144				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.						
	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)				
*	8131.5	29.8	12.2	42.0	68.2	-26.2	Peak	Horizontal
*	9942.0	29.4	15.3	44.7	68.2	-23.5	Peak	Horizontal
	11021.5	28.9	18.5	47.4	54.0	-6.6	Peak	Horizontal
	15093.0	29.4	21.6	51.0	54.0	-3.0	Peak	Horizontal
*	8174.0	30.7	12.0	42.7	68.2	-25.5	Peak	Vertical
*	10044.0	29.4	15.5	44.9	68.2	-23.3	Peak	Vertical
	11429.5	28.7	19.2	47.9	54.0	-6.1	Peak	Vertical
	14846.5	29.0	22.4	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 129 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11n-HT40 - Ant 0 + 1	T ( O)	5.4				
Test Mode:	(Beam-Forming Mode)	Test Channel:	54				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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)				
*	8174.0	31.5	12.0	43.5	68.2	-24.7	Peak	Horizontal
*	10035.5	31.3	15.5	46.8	68.2	-21.4	Peak	Horizontal
	11157.5	30.4	18.7	49.1	54.0	-4.9	Peak	Horizontal
	15033.5	30.2	21.7	51.9	54.0	-2.1	Peak	Horizontal
*	8131.5	31.4	12.2	43.6	68.2	-24.6	Peak	Vertical
*	9993.0	30.3	15.4	45.7	68.2	-22.5	Peak	Vertical
	11098.0	29.4	18.6	48.0	54.0	-6.0	Peak	Vertical
	15203.5	29.9	21.4	51.3	54.0	-2.7	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: Q9DAPIN0303 Page Number: 130 of 287





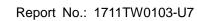
Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11n-HT40 - Ant 0 + 1	T ( O )	00				
Test Mode:	(Beam-Forming Mode)	Test Channel:	62				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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)				
*	8225.0	30.9	11.9	42.8	68.2	-25.4	Peak	Horizontal
*	10078.0	30.1	15.6	45.7	68.2	-22.5	Peak	Horizontal
	11106.5	30.2	18.6	48.8	54.0	-5.2	Peak	Horizontal
	15084.5	30.5	21.6	52.1	54.0	-1.9	Peak	Horizontal
*	8148.5	31.9	12.1	44.0	68.2	-24.2	Peak	Vertical
*	10035.5	30.5	15.5	46.0	68.2	-22.2	Peak	Vertical
	10877.0	30.8	18.2	49.0	54.0	-5.0	Peak	Vertical
	15127.0	30.4	21.6	52.0	54.0	-2.0	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: Q9DAPIN0303 Page Number: 131 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T ( ) ( )	802.11n-HT40 - Ant 0 + 1	T ( O )	100			
Test Mode:	(Beam-Forming Mode)	Test Channel:	102			
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	31.8	11.9	43.7	68.2	-24.5	Peak	Horizontal
*	10171.5	29.6	16.1	45.7	68.2	-22.5	Peak	Horizontal
	11361.5	29.5	19.0	48.5	54.0	-5.5	Peak	Horizontal
	15322.5	30.5	21.2	51.7	54.0	-2.3	Peak	Horizontal
*	8131.5	31.4	12.2	43.6	68.2	-24.6	Peak	Vertical
*	9993.0	29.9	15.4	45.3	68.2	-22.9	Peak	Vertical
	11327.5	28.6	18.9	47.5	54.0	-6.5	Peak	Vertical
	15212.0	30.0	21.4	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 132 of 287





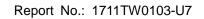
Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11n-HT40 - Ant 0 + 1	T ( O)	440				
Test Mode:	(Beam-Forming Mode)	Test Channel:	118				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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)				
*	8199.5	29.8	12.0	41.8	68.2	-26.4	Peak	Horizontal
*	9993.0	30.5	15.4	45.9	68.2	-22.3	Peak	Horizontal
	11463.5	30.6	19.3	49.9	54.0	-4.1	Peak	Horizontal
	15025.0	30.8	21.7	52.5	54.0	-1.5	Peak	Horizontal
*	8191.0	29.7	12.0	41.7	68.2	-26.5	Peak	Vertical
*	10052.5	29.8	15.5	45.3	68.2	-22.9	Peak	Vertical
	11710.0	28.4	19.1	47.5	54.0	-6.5	Peak	Vertical
	15161.0	30.5	21.5	52.0	54.0	-2.0	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: Q9DAPIN0303 Page Number: 133 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11n-HT40 - Ant 0 + 1	T ( O)	404				
Test Mode:	(Beam-Forming Mode)	Test Channel:	134				
Remark:	1. Average measurement was no	t performed if peak	evel lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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)				
*	8199.5	30.0	12.0	42.0	68.2	-26.2	Peak	Horizontal
*	10044.0	29.9	15.5	45.4	68.2	-22.8	Peak	Horizontal
	11021.5	29.1	18.5	47.6	54.0	-6.4	Peak	Horizontal
	14914.5	29.6	22.1	51.7	54.0	-2.3	Peak	Horizontal
*	8199.5	32.2	12.0	44.2	68.2	-24.0	Peak	Vertical
*	9993.0	30.7	15.4	46.1	68.2	-22.1	Peak	Vertical
	11072.5	29.1	18.6	47.7	54.0	-6.3	Peak	Vertical
	14897.5	29.2	22.2	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 134 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11n-HT40 - Ant 0 + 1	To all Oh are a all	4.40			
Test Mode:	(Beam-Forming Mode)	Test Channel:	142			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8174.0	30.5	12.0	42.5	68.2	-25.7	Peak	Horizontal
*	9959.0	29.4	15.3	44.7	68.2	-23.5	Peak	Horizontal
	11361.5	29.9	19.0	48.9	54.0	-5.1	Peak	Horizontal
	14846.5	29.5	22.4	51.9	54.0	-2.1	Peak	Horizontal
*	8242.0	29.0	11.9	40.9	68.2	-27.3	Peak	Vertical
*	10035.5	29.8	15.5	45.3	68.2	-22.9	Peak	Vertical
	11378.5	28.2	19.1	47.3	54.0	-6.7	Peak	Vertical
	14846.5	28.5	22.4	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 135 of 287





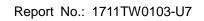
Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11ac-VHT20 - Ant 0 + 1	T ( O)	50				
Test Mode:	(Beam-Forming Mode)	Test Channel:	52				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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	31.6	11.9	43.5	68.2	-24.7	Peak	Horizontal
*	9993.0	29.9	15.4	45.3	68.2	-22.9	Peak	Horizontal
	11174.5	29.1	18.7	47.8	54.0	-6.2	Peak	Horizontal
	15101.5	29.7	21.6	51.3	54.0	-2.7	Peak	Horizontal
*	8208.0	29.6	11.9	41.5	68.2	-26.7	Peak	Vertical
*	9993.0	30.0	15.4	45.4	68.2	-22.8	Peak	Vertical
	11208.5	28.4	18.8	47.2	54.0	-6.8	Peak	Vertical
	15084.5	30.3	21.6	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 136 of 287





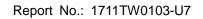
Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
T (M)	802.11ac-VHT20 - Ant 0 + 1	T ( O )	00				
Test Mode:	(Beam-Forming Mode)	Test Channel:	60				
Remark:	1. Average measurement was no	t performed if peak	level lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.	within the restricted bands.					
	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	30.5	12.3	42.8	68.2	-25.4	Peak	Horizontal
*	9967.5	31.3	15.3	46.6	68.2	-21.6	Peak	Horizontal
	11582.5	30.8	19.5	50.3	54.0	-3.7	Peak	Horizontal
	14872.0	29.9	22.3	52.2	54.0	-1.8	Peak	Horizontal
*	8242.0	31.2	11.9	43.1	68.2	-25.1	Peak	Vertical
*	10052.5	30.3	15.5	45.8	68.2	-22.4	Peak	Vertical
	11276.5	28.4	18.8	47.2	54.0	-6.8	Peak	Vertical
	15076.0	30.3	21.6	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 137 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (N4 )	802.11ac-VHT20 - Ant 0 + 1		0.4			
Test Mode:	(Beam-Forming Mode)	Test Channel:	64			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8199.5	30.0	12.0	42.0	68.2	-26.2	Peak	Horizontal
*	10120.5	29.6	15.8	45.4	68.2	-22.8	Peak	Horizontal
	11506.0	29.9	19.4	49.3	54.0	-4.7	Peak	Horizontal
	14957.0	29.7	22.0	51.7	54.0	-2.3	Peak	Horizontal
*	8140.0	29.9	12.2	42.1	68.2	-26.1	Peak	Vertical
*	9993.0	29.6	15.4	45.0	68.2	-23.2	Peak	Vertical
	11072.5	28.7	18.6	47.3	54.0	-6.7	Peak	Vertical
	14991.0	29.6	21.8	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 138 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT20 - Ant 0 + 1	To all Objects also	400			
Test Mode:	(Beam-Forming Mode)	Test Channel:	100			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8123.0	30.8	12.2	43.0	68.2	-25.2	Peak	Horizontal
*	9942.0	30.1	15.3	45.4	68.2	-22.8	Peak	Horizontal
	11174.5	29.4	18.7	48.1	54.0	-5.9	Peak	Horizontal
	14948.5	30.5	22.0	52.5	54.0	-1.5	Peak	Horizontal
*	8165.5	30.8	12.1	42.9	68.2	-25.3	Peak	Vertical
*	9950.5	31.9	15.3	47.2	68.2	-21.0	Peak	Vertical
	11480.5	31.0	19.3	50.3	54.0	-3.7	Peak	Vertical
	14906.0	29.6	22.2	51.8	54.0	-2.2	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: Q9DAPIN0303 Page Number: 139 of 287





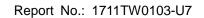
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT20 - Ant 0 + 1	To all Oh are a all	120			
Test Mode:	(Beam-Forming Mode)	ming Mode) Test Channel:				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8225.0	29.6	11.9	41.5	68.2	-26.7	Peak	Horizontal
*	9942.0	30.1	15.3	45.4	68.2	-22.8	Peak	Horizontal
	11387.0	29.8	19.1	48.9	54.0	-5.1	Peak	Horizontal
	15169.5	30.1	21.5	51.6	54.0	-2.4	Peak	Horizontal
*	8225.0	30.9	11.9	42.8	68.2	-25.4	Peak	Vertical
*	9984.5	30.0	15.4	45.4	68.2	-22.8	Peak	Vertical
	10775.0	28.9	17.8	46.7	54.0	-7.3	Peak	Vertical
	15067.5	29.9	21.6	51.5	54.0	-2.5	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: Q9DAPIN0303 Page Number: 140 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (M)	802.11ac-VHT20 - Ant 0 + 1	T ( O)	4.40			
Test Mode:	(Beam-Forming Mode)	Test Channel:	140			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	30.2	12.3	42.5	68.2	-25.7	Peak	Horizontal
*	9993.0	31.1	15.4	46.5	68.2	-21.7	Peak	Horizontal
	11166.0	30.4	18.7	49.1	54.0	-4.9	Peak	Horizontal
	14880.5	30.3	22.3	52.6	54.0	-1.4	Peak	Horizontal
*	8165.5	31.0	12.1	43.1	68.2	-25.1	Peak	Vertical
*	10120.5	32.2	15.8	48.0	68.2	-20.2	Peak	Vertical
	11667.5	29.5	19.3	48.8	54.0	-5.2	Peak	Vertical
	14838.0	29.6	22.5	52.1	54.0	-1.9	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: Q9DAPIN0303 Page Number: 141 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT20 - Ant 0 + 1	To all Objects also	444			
Test Mode:	(Beam-Forming Mode) Test Channel:		144			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8225.0	29.5	11.9	41.4	68.2	-26.8	Peak	Horizontal
*	9908.0	29.8	15.3	45.1	68.2	-23.1	Peak	Horizontal
	11123.5	29.3	18.6	47.9	54.0	-6.1	Peak	Horizontal
	15135.5	29.8	21.5	51.3	54.0	-2.7	Peak	Horizontal
*	8131.5	29.1	12.2	41.3	68.2	-26.9	Peak	Vertical
*	9959.0	30.5	15.3	45.8	68.2	-22.4	Peak	Vertical
	11540.0	30.3	19.4	49.7	54.0	-4.3	Peak	Vertical
	14710.5	28.9	22.8	51.7	54.0	-2.3	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: Q9DAPIN0303 Page Number: 142 of 287





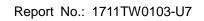
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT40 - Ant 0 + 1	Test Channel:	E4			
Test Mode:	(Beam-Forming Mode)	54				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8276.0	30.5	11.9	42.4	68.2	-25.8	Peak	Horizontal
*	10180.0	29.5	16.1	45.6	68.2	-22.6	Peak	Horizontal
	11429.5	29.3	19.2	48.5	54.0	-5.5	Peak	Horizontal
	14838.0	29.3	22.5	51.8	54.0	-2.2	Peak	Horizontal
*	8199.5	30.1	12.0	42.1	68.2	-26.1	Peak	Vertical
*	9993.0	29.8	15.4	45.2	68.2	-23.0	Peak	Vertical
	11565.5	29.7	19.5	49.2	54.0	-4.8	Peak	Vertical
	14863.5	29.2	22.4	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 143 of 287





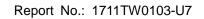
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT40 - Ant 0 + 1	To all Oh are a all	50			
Test Mode:	(Beam-Forming Mode)	Test Channel:	52			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	29.9	12.1	42.0	68.2	-26.2	Peak	Horizontal
*	9950.5	30.4	15.3	45.7	68.2	-22.5	Peak	Horizontal
	11676.0	29.0	19.2	48.2	54.0	-5.8	Peak	Horizontal
	14999.5	29.7	21.8	51.5	54.0	-2.5	Peak	Horizontal
*	8259.0	31.0	11.9	42.9	68.2	-25.3	Peak	Vertical
*	10044.0	30.2	15.5	45.7	68.2	-22.5	Peak	Vertical
	11395.5	29.3	19.1	48.4	54.0	-5.6	Peak	Vertical
	15084.5	29.9	21.6	51.5	54.0	-2.5	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: Q9DAPIN0303 Page Number: 144 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
To at Maralan	802.11ac-VHT40 - Ant 0 + 1	To all Objects of	400				
Test Mode:	(Beam-Forming Mode)	Test Channel:	102				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.						
	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)				
*	8199.5	29.4	12.0	41.4	68.2	-26.8	Peak	Horizontal
*	9942.0	29.8	15.3	45.1	68.2	-23.1	Peak	Horizontal
	11412.5	29.8	19.1	48.9	54.0	-5.1	Peak	Horizontal
	14991.0	29.5	21.8	51.3	54.0	-2.7	Peak	Horizontal
*	8250.5	30.8	11.9	42.7	68.2	-25.5	Peak	Vertical
*	9959.0	29.5	15.3	44.8	68.2	-23.4	Peak	Vertical
	11429.5	29.5	19.2	48.7	54.0	-5.3	Peak	Vertical
	14957.0	29.9	22.0	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 145 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT40 - Ant 0 + 1	To all Objects also	440			
Test Mode:	(Beam-Forming Mode) Test Channel:		118			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	30.4	11.9	42.3	68.2	-25.9	Peak	Horizontal
*	9942.0	29.9	15.3	45.2	68.2	-23.0	Peak	Horizontal
	11599.5	31.5	19.4	50.9	54.0	-3.1	Peak	Horizontal
	14965.5	30.3	21.9	52.2	54.0	-1.8	Peak	Horizontal
*	8191.0	31.8	12.0	43.8	68.2	-24.4	Peak	Vertical
*	10035.5	30.8	15.5	46.3	68.2	-21.9	Peak	Vertical
	11472.0	31.4	19.3	50.7	54.0	-3.3	Peak	Vertical
	15084.5	30.3	21.6	51.9	54.0	-2.1	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: Q9DAPIN0303 Page Number: 146 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (M)	802.11ac-VHT40 - Ant 0 + 1	T ( O)	404			
Test Mode:	(Beam-Forming Mode)	Test Channel:	134			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	30.6	11.9	42.5	68.2	-25.7	Peak	Horizontal
*	10188.5	29.3	16.2	45.5	68.2	-22.7	Peak	Horizontal
	11344.5	29.1	19.0	48.1	54.0	-5.9	Peak	Horizontal
	14863.5	29.1	22.4	51.5	54.0	-2.5	Peak	Horizontal
*	8250.5	30.4	11.9	42.3	68.2	-25.9	Peak	Vertical
*	9993.0	29.9	15.4	45.3	68.2	-22.9	Peak	Vertical
	11489.0	30.0	19.3	49.3	54.0	-4.7	Peak	Vertical
	14685.0	29.5	22.8	52.3	54.0	-1.7	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: Q9DAPIN0303 Page Number: 147 of 287





Product	ACCESS POINT	Temperature	26°C				
Test Engineer	Kevin Ker	Relative Humidity	57 %				
Test Site	AC1	Test Date	2017/10/18				
Took Mode.	802.11ac-VHT40 - Ant 0 + 1	Took Ohamaali	440				
Test Mode:	(Beam-Forming Mode)	Test Channel:	142				
Remark:	1. Average measurement was no	t performed if peak l	evel lower than average				
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall				
	within the restricted bands.						
	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)				
*	8259.0	29.2	11.9	41.1	68.2	-27.1	Peak	Horizontal
*	10146.0	31.4	16.0	47.4	68.2	-20.8	Peak	Horizontal
	11174.5	30.3	18.7	49.0	54.0	-5.0	Peak	Horizontal
	14736.0	29.4	22.7	52.1	54.0	-1.9	Peak	Horizontal
*	8165.5	30.0	12.1	42.1	68.2	-26.1	Peak	Vertical
*	10001.5	28.9	15.4	44.3	68.2	-23.9	Peak	Vertical
	11429.5	28.1	19.2	47.3	54.0	-6.7	Peak	Vertical
	14974.0	29.0	21.9	50.9	54.0	-3.1	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: Q9DAPIN0303 Page Number: 148 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT80 - Ant 0 + 1	To all Objects also	50			
Test Mode:	(Beam-Forming Mode)	Test Channel:	58			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8199.5	31.9	12.0	43.9	68.2	-24.3	Peak	Horizontal
*	10018.5	30.5	15.4	45.9	68.2	-22.3	Peak	Horizontal
	11455.0	30.5	19.2	49.7	54.0	-4.3	Peak	Horizontal
	14855.0	29.0	22.4	51.4	54.0	-2.6	Peak	Horizontal
*	8259.0	29.4	11.9	41.3	68.2	-26.9	Peak	Vertical
*	9899.5	30.0	15.4	45.4	68.2	-22.8	Peak	Vertical
	11438.0	29.7	19.2	48.9	54.0	-5.1	Peak	Vertical
	14923.0	29.3	22.1	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 149 of 287





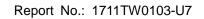
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (N4 )	802.11ac-VHT80 - Ant 0 + 1	T ( O)	400			
Test Mode:	(Beam-Forming Mode)	Test Channel:	106			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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	32.0	12.1	44.1	68.2	-24.1	Peak	Horizontal
*	9993.0	30.4	15.4	45.8	68.2	-22.4	Peak	Horizontal
	11310.5	29.4	18.9	48.3	54.0	-5.7	Peak	Horizontal
	15178.0	30.2	21.4	51.6	54.0	-2.4	Peak	Horizontal
*	8242.0	30.5	11.9	42.4	68.2	-25.8	Peak	Vertical
*	9916.5	30.2	15.3	45.5	68.2	-22.7	Peak	Vertical
	11701.5	28.8	19.1	47.9	54.0	-6.1	Peak	Vertical
	14829.5	29.0	22.5	51.5	54.0	-2.5	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: Q9DAPIN0303 Page Number: 150 of 287





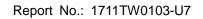
Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
To at Mardan	802.11ac-VHT80 - Ant 0 + 1	To all Objects also	400			
Test Mode:	(Beam-Forming Mode)	Test Channel:	122			
Remark:	1. Average measurement was no	t performed if peak	evel lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8199.5	30.0	12.0	42.0	68.2	-26.2	Peak	Horizontal
*	10180.0	29.6	16.1	45.7	68.2	-22.5	Peak	Horizontal
	11812.0	28.4	18.7	47.1	54.0	-6.9	Peak	Horizontal
	14948.5	29.9	22.0	51.9	54.0	-2.1	Peak	Horizontal
*	8276.0	30.7	11.9	42.6	68.2	-25.6	Peak	Vertical
*	10061.0	29.5	15.6	45.1	68.2	-23.1	Peak	Vertical
	11531.5	29.1	19.4	48.5	54.0	-5.5	Peak	Vertical
	15016.5	29.9	21.7	51.6	54.0	-2.4	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: Q9DAPIN0303 Page Number: 151 of 287





Product	ACCESS POINT	Temperature	26°C			
Test Engineer	Kevin Ker	Relative Humidity	57 %			
Test Site	AC1	Test Date	2017/10/18			
T (N4 )	802.11ac-VHT80 - Ant 0 + 1	T ( O)	100			
Test Mode:	(Beam-Forming Mode)	Test Channel:	138			
Remark:	1. Average measurement was no	t performed if peak	level lower than average			
	limit. So the margin was calcul	ated using the avera	age limit for emissions fall			
	within the restricted bands.					
	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)				
*	8208.0	29.4	11.9	41.3	68.2	-26.9	Peak	Horizontal
*	10001.5	29.8	15.4	45.2	68.2	-23.0	Peak	Horizontal
	11200.0	28.7	18.7	47.4	54.0	-6.6	Peak	Horizontal
	15237.5	30.2	21.3	51.5	54.0	-2.5	Peak	Horizontal
*	8174.0	29.9	12.0	41.9	68.2	-26.3	Peak	Vertical
*	9950.5	29.8	15.3	45.1	68.2	-23.1	Peak	Vertical
	11021.5	29.0	18.5	47.5	54.0	-6.5	Peak	Vertical
	15076.0	29.8	21.6	51.4	54.0	-2.6	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: Q9DAPIN0303 Page Number: 152 of 287

1000



-10

## The worst case of Radiated Emission below 1GHz:

Note: There is the worst case within frequency range 30MHz~1GHz.				
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Site: AC1	Time: 2017/11/06 - 18:22			

90 80 70 60 (E/Ng 90 30 20 10

No	Flag	Mark	Frequency	Measure	Reading	Margin	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			54.250	15.926	1.120	-24.074	40.000	14.806	QP
2			178.895	18.790	7.940	-24.710	43.500	10.850	QP
3			235.155	17.602	4.340	-28.398	46.000	13.262	QP
4		*	338.945	27.866	12.210	-18.134	46.000	15.656	QP
5			367.075	22.658	6.540	-23.342	46.000	16.118	QP
6			401.025	23.373	6.590	-22.627	46.000	16.783	QP

Frequency(MHz)

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

100

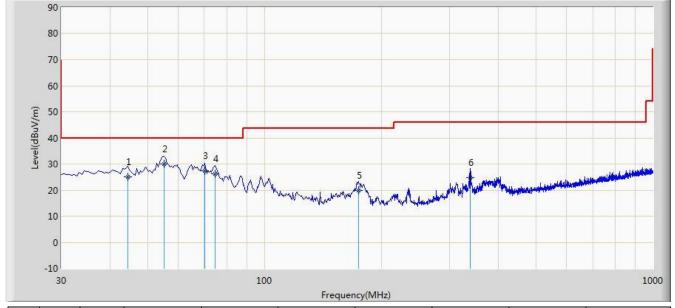
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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:  $9kHz \sim 30MHz$ ,  $18GHz \sim 40GHz$ ), therefore no data appear in the report.

FCC ID: Q9DAPIN0303 Page Number: 153 of 287



EUT: ACCESS POINT	Power: AC 120V/60Hz	
Probe: VULB9162_0.03-8GHz	Polarity: Vertical	
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker	
Site: AC1	Time: 2017/11/06 - 18:23	



No	Flag	Mark	Frequency	Measure	Reading	Margin	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			44.550	25.210	10.454	-14.790	40.000	14.756	QP
2		*	55.220	30.078	15.430	-9.922	40.000	14.648	QP
3			70.255	27.384	16.540	-12.616	40.000	10.844	QP
4			74.620	26.366	16.540	-13.634	40.000	9.826	QP
5			174.530	19.947	9.430	-23.553	43.500	10.517	QP
6			338.945	24.886	9.230	-21.114	46.000	15.656	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 ~ 40GHz), therefore no data appear in the report.



## 7.8. Radiated RestrictedBand Edge Measurement

#### 7.8.1.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
<sup>1</sup> 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	( <sup>2</sup> )
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 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Refer to KDB 789033 D02v01r04 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with

FCC ID: Q9DAPIN0303 Page Number: 155 of 287



both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

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

FCC Part 15 Subpart C Paragraph 15.209							
Frequency	Frequency Field Strength Measur						
[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					

### 7.8.2.Test Procedure Used

KDB 789033 D02v01r04 - Section G

# 7.8.3.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: Q9DAPIN0303 Page Number: 156 of 287

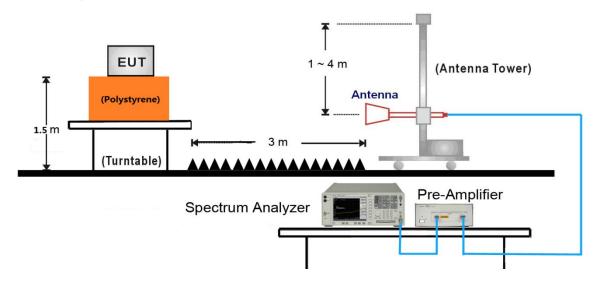
Report No.: 1711TW0103-U7



## 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.

# 7.8.4.Test Setup

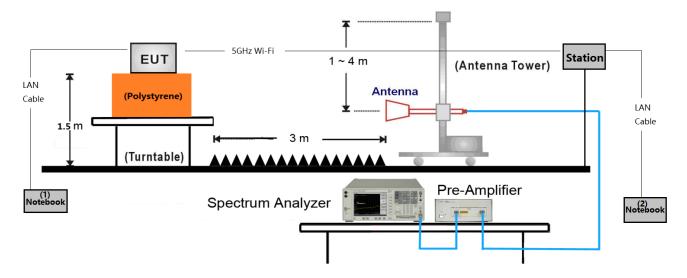


Note: This item was performed with the WIFI antenna connected.

FCC ID: Q9DAPIN0303 Page Number: 157 of 287



## Additional Beam-Forming Mode Test Setup



Make the EUT connect with the station by 5GHz wireless.

Input some commands in the notebook (1) to open the EUT Beam Forming function, and setup the related test channel & data rate & power setting.

Make the notebook (1) ping with notebook (2) using the "iperf" software that can produce one bigger duty cycle waveform.

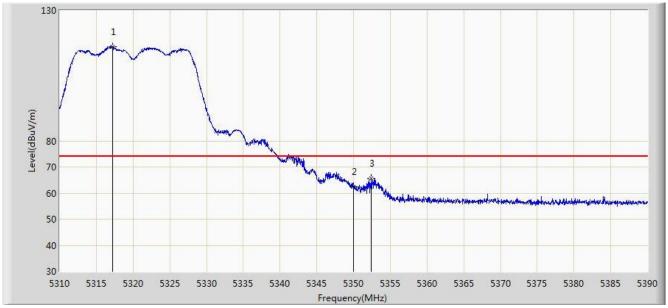
Beam-Forming Mode							
Test Mode	Duty Cycle (%)	T = Transmission Duration (ms)					
802.11n-HT20	91.30	1.752					
802.11n-HT40	90.78	1.683					
802.11ac-VHT20	91.09	1.748					
802.11ac-VHT40	90.78	1.683					
802.11ac-VHT80	93.33	1.862					

FCC ID: Q9DAPIN0303 Page Number: 158 of 287



## 7.8.5.Test Result

Site: AC1	Time: 2017/10/17 - 20:41			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5320MHz Ant 0 + 1 (CDD Mode)				

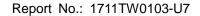


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5317.240	116.196	112.353	N/A	N/A	3.843	PK
2			5350.000	62.396	58.491	-11.604	74.000	3.904	PK
3			5352.440	65.650	61.741	-8.350	74.000	3.909	PK

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 159 of 287





Site: AC1	Time: 2017/10/17 - 20:39			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5320MHz Ant 0 + 1 (CDD Mode)				



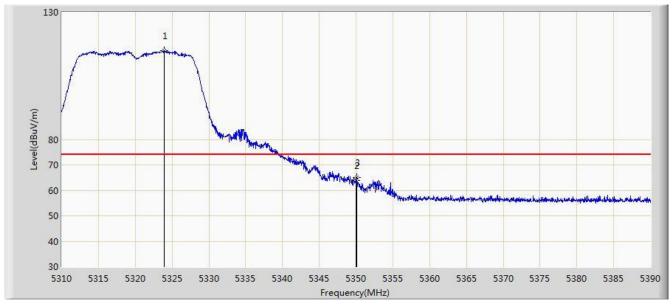
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5322.200	105.817	101.964	N/A	N/A	3.853	AV
2			5350.000	48.118	44.213	-5.882	54.000	3.904	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 160 of 287

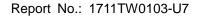


Site: AC1	Time: 2017/10/17 - 20:42			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5320MHz Ant 0 + 1 (CDD Mode)				



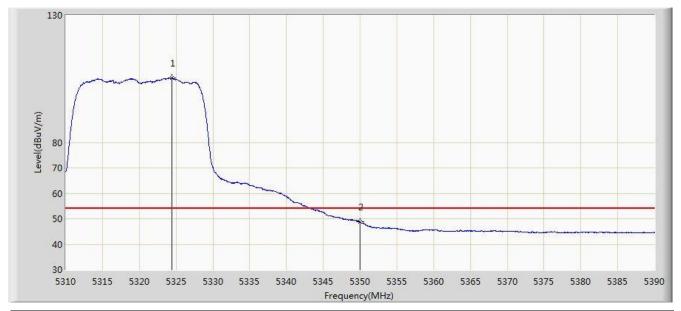
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5323.920	114.817	110.961	N/A	N/A	3.856	PK
2			5350.000	63.949	60.044	-10.051	74.000	3.904	PK
3			5350.120	65.043	61.138	-8.957	74.000	3.905	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)





Site: AC1	Time: 2017/10/17 - 20:43			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5320MHz Ant 0 + 1 (CDD Mode)				



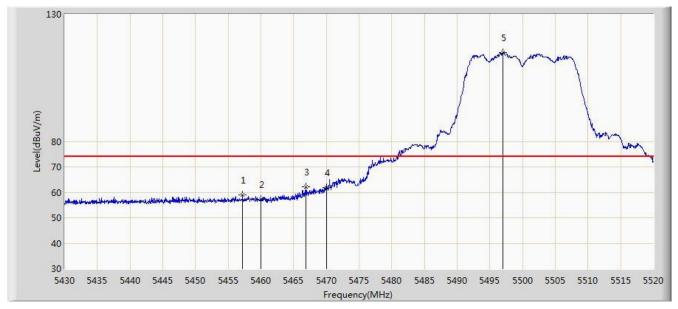
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5324.440	105.311	101.454	N/A	N/A	3.857	AV
2			5350.000	48.736	44.831	-5.264	54.000	3.904	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 162 of 287



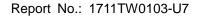
Site: AC1	Time: 2017/10/17 - 20:45			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5500MHz Ant 0 + 1 (CDD Mode)				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5457.180	58.949	54.775	-15.051	74.000	4.174	PK
2			5460.000	57.230	53.050	-16.770	74.000	4.180	PK
3			5466.900	62.067	57.872	-6.133	68.200	4.196	PK
4			5470.000	62.006	57.804	-6.194	68.200	4.202	PK
5		*	5497.005	115.055	110.791	N/A	N/A	4.264	PK

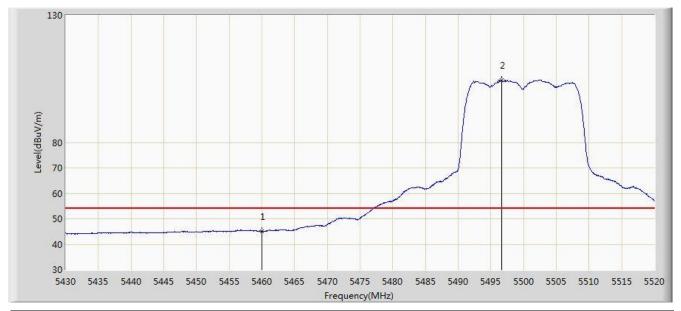
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 163 of 287





Site: AC1	Time: 2017/10/17 - 20:47			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Horizontal			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5500MHz Ant 0 + 1 (CDD Mode)				



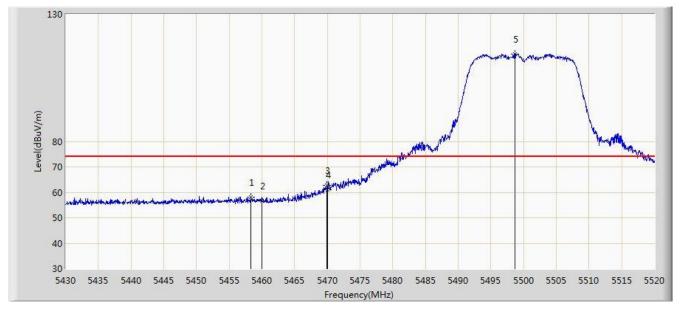
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5460.000	45.096	40.916	-8.904	54.000	4.180	AV
2		*	5496.600	104.505	100.242	N/A	N/A	4.263	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 164 of 287



Site: AC1	Time: 2017/10/17 - 20:48			
Limit: FCC_Part15.209_RE(3m)	Engineer: Kevin Ker			
Probe: BBHA9120D_1GHz_18GHz	Polarity: Vertical			
EUT: ACCESS POINT	Power: AC 120V/60Hz			
Test Mode: Transmit by 802.11a at Channel 5500MHz Ant 0 + 1 (CDD Mode)				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5458.350	58.260	54.083	-15.740	74.000	4.177	PK
2			5460.000	56.732	52.552	-17.268	74.000	4.180	PK
3			5469.915	62.849	58.647	-5.351	68.200	4.202	PK
4			5470.000	61.133	56.931	-7.067	68.200	4.202	PK
5		*	5498.715	114.368	110.100	N/A	N/A	4.268	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

FCC ID: Q9DAPIN0303 Page Number: 165 of 287