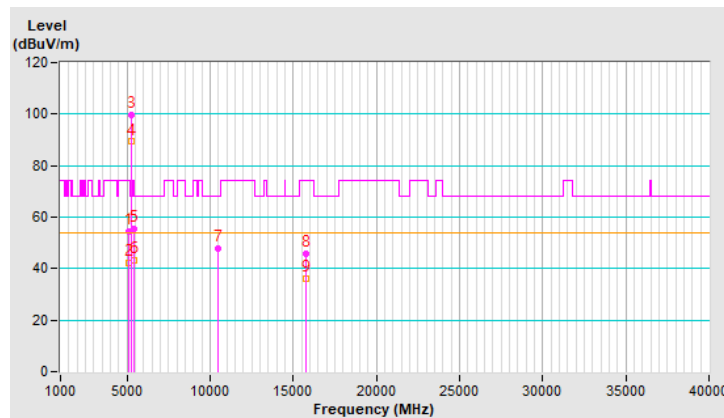


操作模式：	發射 802.11ax (HE160)	調變技術：	OFDMA
基本波頻率：	CH 50 : 5250 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=5.1kHz
量測場地溫度：	25.0°C	量測場地濕度：	75.0%RH
測試日期：	109 年 7 月 31 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5136.58	54.4 PK	74.0	-19.6	1.20 H	50	51.4	3.0
2	5136.58	42.2 AV	54.0	-11.8	1.20 H	50	39.2	3.0
3	*5250.00	99.8 PK			1.20 H	50	97.0	2.8
4	*5250.00	89.3 AV			1.20 H	50	86.5	2.8
5	5406.14	55.6 PK	74.0	-18.4	1.20 H	50	52.5	3.1
6	5406.14	43.2 AV	54.0	-10.8	1.20 H	50	40.1	3.1
7	#10500.00	47.8 PK	68.2	-20.4	1.47 H	209	34.2	13.6
8	15750.00	45.9 PK	74.0	-28.1	1.56 H	136	32.7	13.2
9	15750.00	36.0 AV	54.0	-18.0	1.56 H	136	22.8	13.2
10	21000.00	-	-	-	-	-	-	-
11	#26250.00	-	-	-	-	-	-	-
12	31500.00	-	-	-	-	-	-	-
13	#36750.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

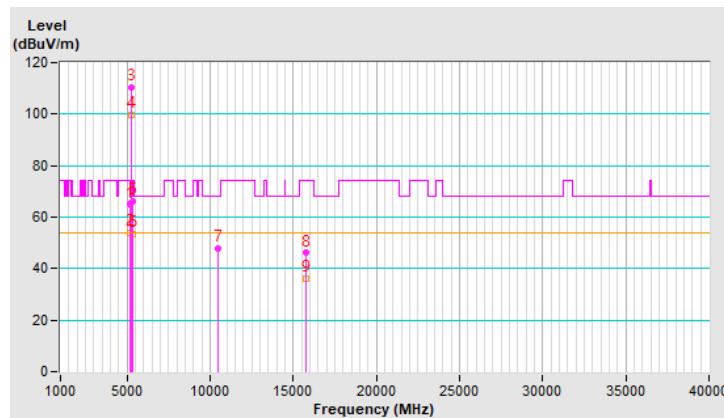


操作模式：	發射 802.11ax (HE160)	調變技術：	OFDMA
基本波頻率：	CH 50 : 5250 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=5.1kHz
量測場地溫度：	25.0℃	量測場地濕度：	75.0%RH
測試日期：	109 年 7 月 31 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.9 PK	74.0	-9.1	1.80 V	15	61.9	3.0
2	5150.00	53.8 AV	54.0	-0.2	1.80 V	15	50.8	3.0
3	*5250.00	110.2 PK			1.80 V	15	107.4	2.8
4	*5250.00	99.8 AV			1.80 V	15	97.0	2.8
5	5350.00	66.1 PK	74.0	-7.9	1.80 V	15	63.1	3.0
6	5350.00	53.3 AV	54.0	-0.7	1.80 V	15	50.3	3.0
7	#10500.00	48.0 PK	68.2	-20.2	1.51 V	232	34.4	13.6
8	15750.00	46.1 PK	74.0	-27.9	1.56 V	141	32.9	13.2
9	15750.00	36.1 AV	54.0	-17.9	1.56 V	141	22.9	13.2
10	21000.00	-	-	-	-	-	-	-
11	#26250.00	-	-	-	-	-	-	-
12	31500.00	-	-	-	-	-	-	-
13	#36750.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

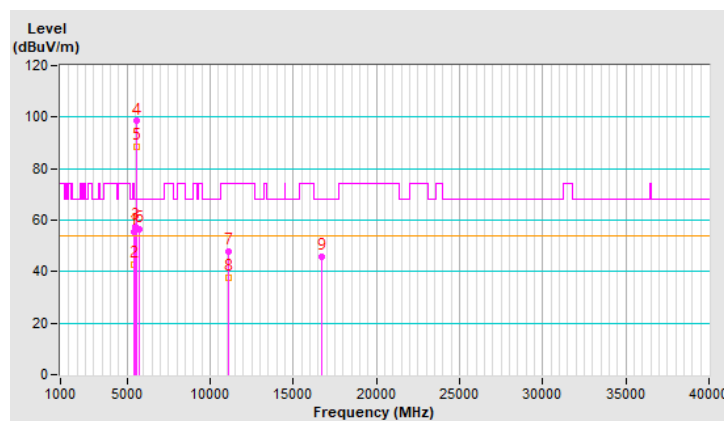


操作模式：	發射 802.11ax (HE160)	調變技術：	OFDMA
基本波頻率：	CH 114 : 5570 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=5.1kHz
量測場地溫度：	25.0°C	量測場地濕度：	75.0%RH
測試日期：	109 年 7 月 31 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5431.86	55.5 PK	74.0	-18.5	1.08 H	46	52.3	3.2
2	5431.86	42.6 AV	54.0	-11.4	1.08 H	46	39.4	3.2
3	#5466.35	57.4 PK	68.2	-10.8	1.08 H	46	54.2	3.2
4	*5570.00	98.4 PK			1.08 H	46	95.1	3.3
5	*5570.00	88.5 AV			1.08 H	46	85.2	3.3
6	#5734.31	56.4 PK	68.2	-11.8	1.08 H	46	52.6	3.8
7	11140.00	47.7 PK	74.0	-26.3	1.47 H	210	34.4	13.3
8	11140.00	37.8 AV	54.0	-16.2	1.47 H	210	24.5	13.3
9	#16710.00	45.8 PK	68.2	-22.4	1.56 H	129	29.2	16.6
10	22280.00	-	-	-	-	-	-	-
11	#27850.00	-	-	-	-	-	-	-
12	#33420.00	-	-	-	-	-	-	-
13	38990.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

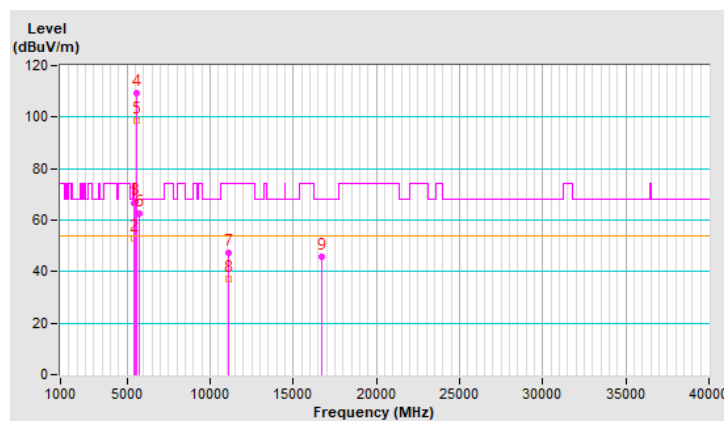


操作模式：	發射 802.11ax (HE160)	調變技術：	OFDMA
基本波頻率：	CH 114 : 5570 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=5.1kHz
量測場地溫度：	25.0°C	量測場地濕度：	75.0%RH
測試日期：	109 年 7 月 31 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5456.69	66.8 PK	74.0	-7.2	1.69 V	7	63.6	3.2
2	5456.69	53.1 AV	54.0	-0.9	1.69 V	7	49.9	3.2
3	#5462.16	67.2 PK	68.2	-1.0	1.69 V	7	64.0	3.2
4	*5570.00	109.5 PK			1.69 V	7	106.2	3.3
5	*5570.00	98.6 AV			1.69 V	7	95.3	3.3
6	#5739.05	62.4 PK	68.2	-5.8	1.69 V	7	58.6	3.8
7	11140.00	47.2 PK	74.0	-26.8	1.45 V	207	33.9	13.3
8	11140.00	37.3 AV	54.0	-16.7	1.45 V	207	24.0	13.3
9	#16710.00	45.9 PK	68.2	-22.3	1.52 V	135	29.3	16.6
10	22280.00	-	-	-	-	-	-	-
11	#27850.00	-	-	-	-	-	-	-
12	#33420.00	-	-	-	-	-	-	-
13	38990.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.



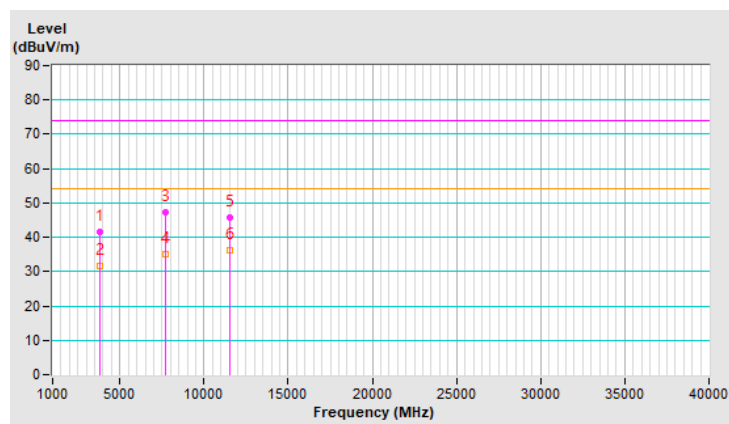
9.6.2 接收諧波

操作模式：	接收		
基本波頻率：	CH 151 : 5755 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3MHz
量測場地溫度：	25.0°C	量測場地濕度：	75.0%RH
測試日期：	109 年 8 月 3 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3836.67	41.4 PK	74.0	-32.6	1.00 H	54	41.1	0.3
2	3836.67	31.5 AV	54.0	-22.5	1.00 H	54	31.2	0.3
3	7673.33	47.2 PK	74.0	-26.8	1.43 H	233	37.9	9.3
4	7673.33	35.2 AV	54.0	-18.8	1.43 H	233	25.9	9.3
5	11510.00	45.9 PK	74.0	-28.1	1.45 H	119	32.1	13.8
6	11510.00	36.2 AV	54.0	-17.8	1.45 H	119	22.4	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

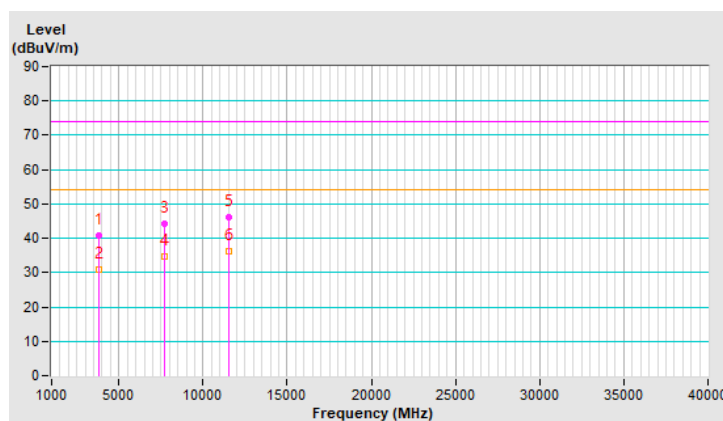


操作模式：	接收		
基本波頻率：	CH 151 : 5755 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3MHz
量測場地溫度：	25.0°C	量測場地濕度：	75.0%RH
測試日期：	109年8月3日	測試者：	楊立豪

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3836.67	40.8 PK	74.0	-33.2	1.18 V	211	40.5	0.3
2	3836.67	30.9 AV	54.0	-23.1	1.18 V	211	30.6	0.3
3	7673.33	44.2 PK	74.0	-29.8	1.45 V	215	34.9	9.3
4	7673.33	34.7 AV	54.0	-19.3	1.45 V	215	25.4	9.3
5	11510.00	46.2 PK	74.0	-27.8	1.53 V	136	32.4	13.8
6	11510.00	36.2 AV	54.0	-17.8	1.53 V	136	22.4	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.



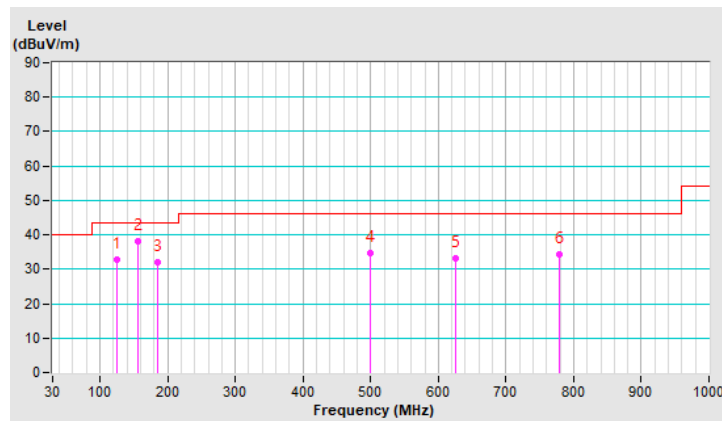
9.6.3 其它不必要之訊號

操作模式：	發射接收 802.11ax (HE40)	調變技術：	OFDMA
基本波頻率：	CH 151 : 5755 MHz	檢測器與頻寬：	(QP) RB=120kHz
量測場地溫度：	27.0°C	量測場地濕度：	72.0%RH
測試日期：	109 年 8 月 1 日	測試者：	柯其宗

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	125.01	32.9 QP	43.5	-10.6	1.00 H	234	42.1	-9.2
2	156.59	38.1 QP	43.5	-5.4	1.00 H	116	45.5	-7.4
3	185.69	31.9 QP	43.5	-11.6	1.00 H	352	41.8	-9.9
4	500.01	34.5 QP	46.0	-11.5	1.50 H	1	35.8	-1.3
5	625.00	33.1 QP	46.0	-12.9	1.00 H	118	31.0	2.1
6	777.92	34.2 QP	46.0	-11.8	1.50 H	139	29.2	5.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

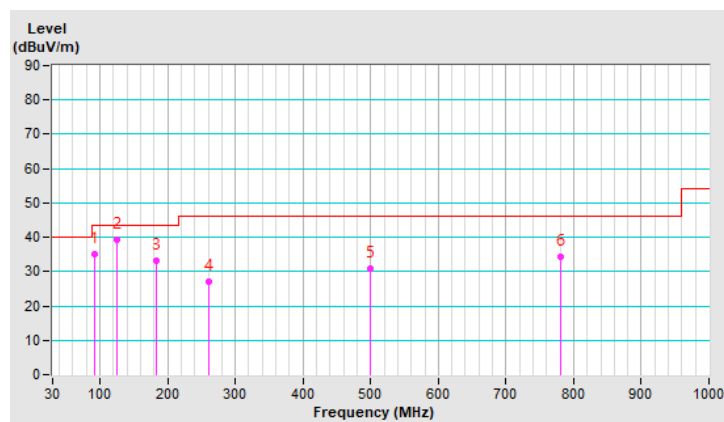


操作模式：	發射接收 802.11ax (HE40)	調變技術：	OFDMA
基本波頻率：	CH 151：5755 MHz	檢測器與頻寬：	(QP) RB=120kHz
量測場地溫度：	27.0°C	量測場地濕度：	72.0%RH
測試日期：	109 年 8 月 1 日	測試者：	柯其宗

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	91.64	35.1 QP	43.5	-8.4	2.00 V	343	48.5	-13.4
2	125.01	39.1 QP	43.5	-4.4	2.00 V	72	48.3	-9.2
3	182.34	33.0 QP	43.5	-10.5	1.00 V	297	42.4	-9.4
4	260.33	27.0 QP	46.0	-19.0	1.00 V	184	35.1	-8.1
5	499.99	30.7 QP	46.0	-15.3	1.50 V	360	32.0	-1.3
6	781.51	34.4 QP	46.0	-11.6	1.00 V	40	29.3	5.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



9.7 量測結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

9.8 配置照片

請參照 Test Setup Photos (BV 報告編號: BBQZ-WTW-P21020221)

10 電源線傳導干擾之量測

10.1 適用標準

請見本報告 3.1 節第(1)項的規定。

10.2 量測方法

將待測物置於 0.8 米高的非金屬桌面，使其操作在工作狀態，待測物電源線接至電源線阻抗穩定網路上，從測試接收機記錄頻率由 0.15 MHz 至 30 MHz 之間之電源線傳導放射強度。

10.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 30, 2019	Aug. 29, 2020
Software BVADT	BVADT_Conf_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 The measurement uncertainty is 1.9 dB, which is calculated as per the document CISPR 16-4-2 This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

10.4 測試配置

同 5.4 節

10.5 干擾值之計算

餘裕度 Margin(dB)= 結果值 Emission level (dBuV)-限制值 Limit value (dBuV)

電源傳導干擾電壓之計算公式如下

結果值 Emission level (dBuV)=校正因子 Correction Factor (dB)+儀器讀值 Reading value (dBuV)

其中校正因子 Correction Factor (dB)為：

饋線損失+電源阻抗模擬網路損失

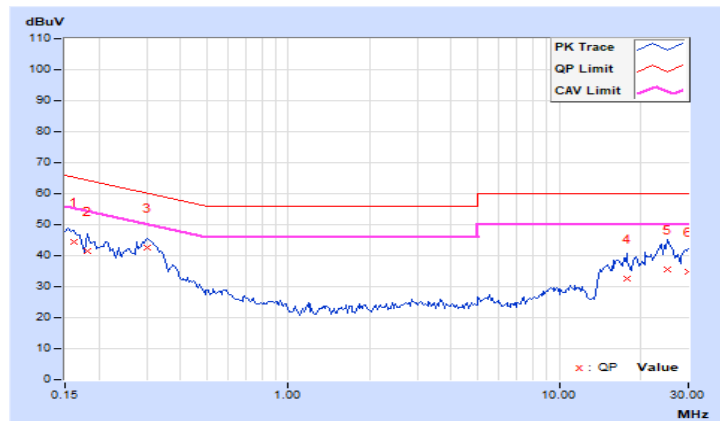
10.6 量測結果

操作模式：	發射接收 802.11ax (HE40)	基本波頻率：	CH 151 : 5755 MHz
量測頻率範圍：	150kHz ~ 30MHz	檢測器與頻寬：	準峰值 (QP) / 平均值 (AV), 9kHz
量測場地溫度：	25°C	量測場地濕度：	75%RH
測試日期：	109 年 7 月 31 日	測試者：	柯其宗

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	9.98	34.31	25.83	44.29	35.81	65.38	55.38	-21.09	-19.57
2	0.18125	9.99	31.55	23.06	41.54	33.05	64.43	54.43	-22.89	-21.38
3	0.30234	10.00	32.43	24.53	42.43	34.53	60.18	50.18	-17.75	-15.65
4	17.79297	11.23	21.41	14.64	32.64	25.87	60.00	50.00	-27.36	-24.13
5	25.25000	11.58	24.16	20.06	35.74	31.64	60.00	50.00	-24.26	-18.36
6	29.96875	11.75	22.99	13.89	34.74	25.64	60.00	50.00	-25.26	-24.36

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

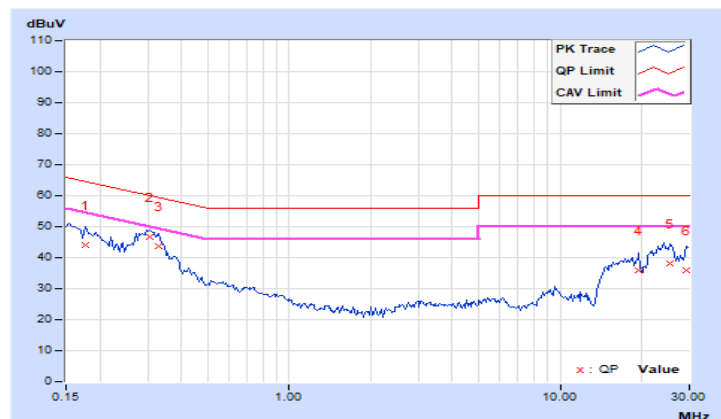


操作模式：	發射接收 802.11ax (HE40)	基本波頻率：	CH 151 : 5755 MHz
量測頻率範圍：	150kHz ~ 30MHz	檢測器與頻寬：	準峰值 (QP) / 平均值 (AV), 9kHz
量測場地溫度：	25°C	量測場地濕度：	75%RH
測試日期：	109 年 7 月 31 日	測試者：	柯其宗

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	10.00	34.11	21.54	44.11	31.54	64.61	54.61	-20.50	-23.07
2	0.30625	10.02	36.65	31.12	46.67	41.14	60.07	50.07	-13.40	-8.93
3	0.32969	10.02	33.77	26.51	43.79	36.53	59.46	49.46	-15.67	-12.93
4	19.45703	11.10	24.96	13.60	36.06	24.70	60.00	50.00	-23.94	-25.30
5	25.30859	11.26	26.86	23.65	38.12	34.91	60.00	50.00	-21.88	-15.09
6	29.35938	11.36	24.58	14.78	35.94	26.14	60.00	50.00	-24.06	-23.86

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



10.7 量測結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

10.8 配置照片

請參照 Test Setup Photos (BV 報告編號: BBQZ-WTW-P21020221)

11 傳導輸出功率量測及發射頻寬之要求

11.1 適用標準

待測物操作頻帶	適用標準
☒ 5.15 GHz~5.25 GHz	請見本報告 3.1 節第(6)項(II)及(4)項(II)的規定
☒ 5.25 GHz~5.35 GHz	請見本報告 3.1 節第(6)項(III)及(4)項(III)的規定
☒ 5.470 GHz~5.725 GHz	請見本報告 3.1 節第(6)項(III)及(4)項(III)的規定
☒ 5.725 GHz~5.850 GHz	請見本報告 3.1 節第(6)項(IV)及(4)項(IV)的規定

11.2 量測方法

傳導輸出功率量測方法：

- 將待測物輸出經由衰減器接到功率計上。
- 設定待測物處於連續發射狀態。
- 計算其最大傳導輸出功率。

對於發射的頻道其中心頻率點位於 5.250GHz，發射頻寬跨越 U-NII-1 & U-NII-2A 頻帶：

發射的頻道其中心頻率點低於 5.725GHz，但其發射頻寬跨越至 U-NII-3 頻帶：

- 將待測物輸出接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 設定頻譜掃瞄寬為 26dB occupied bandwidth。
- 設置解析頻寬為 1MHz，視訊頻寬為 3 倍的解析頻寬。
- 設置測試掃瞄點數要大於 2 倍的(span/RBW)。
- 設置檢波器為 RMS。
- 設置掃瞄時間為 auto。
- 設置 Trigger 模式為 free run (當 Duty cycle 大於 98%)；設置 Trigger 模式為 Video trigger(當 Duty cycle 小於 98%)。
- 設置 Trace mode 為 average 至少 100 次。
- 待掃描結果穩定。
- 使用頻譜的內建 band power 功能,量測 26dB bandwidth 內最大功率值。

發射頻寬量測方法：

- 將待測物輸出經由衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 最大輸出功率峰值減 26dB 的最大頻率範圍。

11.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
Voltage Meter FLUKE	179	89610322	Sep. 25, 2019	Sep. 24, 2020
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

NOTE: 1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

11.4 測試配置

峰值傳導輸出功率測試配置: 同 7.4 節
發射頻寬之量測儀器: 同 6.4 節

11.5 量測結果

操作模式	發射	測試日期	109 年 08 月 03 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

POWER OUTPUT

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	22.89	22.92	22.93	586.757	27.68	30.00	Pass
40	5200	22.77	23.05	23.43	611.364	27.86	30.00	Pass
48	5240	22.76	22.99	23.73	623.914	27.95	30.00	Pass
52	5260	17.32	17.82	15.99	154.204	21.88	24.00	Pass
60	5300	17.28	17.71	16.31	155.233	21.91	24.00	Pass
64	5320	17.23	17.66	15.95	150.544	21.78	24.00	Pass
100	5500	16.65	17.68	16.25	147.022	21.67	24.00	Pass
116	5580	16.47	16.79	16.55	137.299	21.38	24.00	Pass
140	5700	16.13	17.15	16.82	140.984	21.49	24.00	Pass
*144 (U-NII-2C Band)	5720	14.70	15.42	15.22	97.612	19.90	23.01	Pass
*144 (U-NII-3 Band)	5720	8.48	9.19	8.29	22.091	13.44	30.00	Pass
149	5745	23.28	23.74	24.35	721.676	28.58	30.00	Pass
157	5785	22.99	22.90	24.24	659.512	28.19	30.00	Pass
165	5825	22.97	23.02	24.17	659.816	28.19	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.66	24.35 > 24
60	5300	21.69	24.36 > 24
64	5320	21.66	24.35 > 24
100	5500	21.66	24.35 > 24
116	5580	21.69	24.36 > 24
140	5700	21.71	24.36 > 24
144 (U-NII-2C Band)	5720	15.92	23.01 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	21.39	21.64	22.42	458.185	26.61	30.00	Pass
40	5200	22.96	23.26	23.87	653.314	28.15	30.00	Pass
48	5240	22.98	23.19	23.84	649.161	28.12	30.00	Pass
52	5260	17.08	17.33	15.87	143.763	21.58	24.00	Pass
60	5300	17.04	17.35	15.62	141.383	21.50	24.00	Pass
64	5320	16.92	17.46	15.81	143.029	21.55	24.00	Pass
100	5500	16.29	16.48	16.50	131.691	21.20	24.00	Pass
116	5580	16.74	17.54	16.46	148.22	21.71	24.00	Pass
140	5700	16.76	17.73	16.21	148.5	21.72	24.00	Pass
*144 (U-NII-2C Band)	5720	14.59	15.14	13.87	85.811	19.34	23.00	Pass
*144 (U-NII-3 Band)	5720	8.35	9.87	8.75	24.043	13.81	30.00	Pass
149	5745	23.11	23.51	24.17	690.249	28.39	30.00	Pass
157	5785	23.35	23.22	24.03	679.096	28.32	30.00	Pass
165	5825	22.78	22.94	24.21	650.092	28.13	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.83	24.39 > 24
60	5300	21.8	24.38 > 24
64	5320	21.8	24.38 > 24
100	5500	21.81	24.38 > 24
116	5580	21.74	24.37 > 24
140	5700	21.84	24.39 > 24
144 (U-NII-2C Band)	5720	15.85	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	19.28	19.86	20.48	293.237	24.67	30.00	Pass
46	5230	22.85	22.74	23.64	611.891	27.87	30.00	Pass
54	5270	17.48	17.30	16.36	152.93	21.84	24.00	Pass
62	5310	17.57	17.52	16.32	156.496	21.95	24.00	Pass
102	5510	17.16	17.76	16.94	161.134	22.07	24.00	Pass
110	5550	17.05	18.29	16.75	165.467	22.19	24.00	Pass
134	5670	16.23	17.86	16.94	152.501	21.83	24.00	Pass
*142 (U-NII-2C Band)	5710	14.61	16.74	15.39	110.707	20.44	24.00	Pass
*142 (U-NII-3 Band)	5710	4.62	6.51	5.10	10.61	10.26	30.00	Pass
151	5755	24.30	22.87	23.99	713.407	28.53	30.00	Pass
159	5795	24.14	22.90	23.65	686.142	28.36	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.15	27.14 > 24
62	5310	41.35	27.16 > 24
102	5510	41.27	27.15 > 24
110	5550	41.17	27.14 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.51	26.5 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	20.07	20.07	20.16	307.003	24.87	30.00	Pass
58	5290	17.29	17.33	15.84	146.026	21.64	24.00	Pass
106	5530	16.28	17.83	16.61	148.95	21.73	24.00	Pass
122	5610	16.65	17.90	16.95	157.443	21.97	24.00	Pass
*138 (U-NII-2C Band)	5690	15.23	17.25	15.50	121.912	20.86	24.00	Pass
*138 (U-NII-3 Band)	5690	1.08	3.72	1.54	5.063	7.04	30.00	Pass
155	5775	23.83	23.07	24.02	696.662	28.43	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.67	30.17 > 24
122	5610	82.59	30.16 > 24
138 (U-NII-2C Band)	5690	76.2	29.81 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1 Band)	5250	9.83	9.56	9.09	30.338	14.82	30.00	Pass
*50 (U-NII-2A Band)	5250	10.07	9.85	9.10	31.686	15.01	24.00	Pass
114	5570	16.93	17.79	16.26	151.702	21.81	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.64	30.11 > 24
114	5570	163.14	33.12 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	21.42	21.78	22.49	466.755	26.69	30.00	Pass
40	5200	23.03	23.31	23.94	662.941	28.21	30.00	Pass
48	5240	23.18	23.36	24.00	675.929	28.30	30.00	Pass
52	5260	17.31	17.49	15.90	148.836	21.73	24.00	Pass
60	5300	17.19	17.52	15.83	147.136	21.68	24.00	Pass
64	5320	17.07	17.54	15.99	147.407	21.69	24.00	Pass
100	5500	16.48	16.76	16.70	138.661	21.42	24.00	Pass
116	5580	16.92	17.61	16.62	152.8	21.84	24.00	Pass
140	5700	16.96	17.86	16.39	154.305	21.88	24.00	Pass
*144 (U-NII-2C Band)	5720	14.71	15.38	14.00	89.213	19.50	23.00	Pass
*144 (U-NII-3 Band)	5720	8.59	10.02	9.00	25.217	14.02	30.00	Pass
149	5745	23.30	23.71	24.21	712.393	28.53	30.00	Pass
157	5785	23.56	23.37	24.22	708.497	28.50	30.00	Pass
165	5825	22.97	23.06	24.23	665.305	28.23	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.83	24.39 > 24
60	5300	21.8	24.38 > 24
64	5320	21.8	24.38 > 24
100	5500	21.81	24.38 > 24
116	5580	21.74	24.37 > 24
140	5700	21.84	24.39 > 24
144 (U-NII-2C Band)	5720	15.85	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	19.38	20.00	20.60	301.512	24.79	30.00	Pass
46	5230	22.97	22.78	23.75	624.961	27.96	30.00	Pass
54	5270	17.56	17.40	16.54	157.052	21.96	24.00	Pass
62	5310	17.75	17.62	16.53	162.354	22.10	24.00	Pass
102	5510	17.27	18.02	17.14	168.481	22.27	24.00	Pass
110	5550	17.31	18.42	16.87	171.97	22.35	24.00	Pass
134	5670	16.46	18.13	17.12	160.795	22.06	24.00	Pass
*142 (U-NII-2C Band)	5710	14.76	16.90	15.57	114.958	20.61	24.00	Pass
*142 (U-NII-3 Band)	5710	4.76	6.80	5.25	11.128	10.46	30.00	Pass
151	5755	24.43	22.98	24.10	732.981	28.65	30.00	Pass
159	5795	24.37	23.07	23.82	717.286	28.56	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.15	27.14 > 24
62	5310	41.35	27.16 > 24
102	5510	41.27	27.15 > 24
110	5550	41.17	27.14 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.51	26.5 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	20.19	20.33	20.35	320.759	25.06	30.00	Pass
58	5290	17.39	17.47	16.14	151.79	21.81	24.00	Pass
106	5530	16.48	17.94	16.81	154.667	21.89	24.00	Pass
122	5610	16.89	18.13	17.21	166.48	22.21	24.00	Pass
*138 (U-NII-2C Band)	5690	15.35	17.35	15.84	126.973	21.04	24.00	Pass
*138 (U-NII-3 Band)	5690	1.35	4.06	1.84	5.439	7.36	30.00	Pass
155	5775	23.92	23.10	24.07	706.048	28.49	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.67	30.17 > 24
122	5610	82.59	30.16 > 24
138 (U-NII-2C Band)	5690	76.2	29.81 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1 Band)	5250	10.02	9.89	9.21	31.892	15.04	30.00	Pass
*50 (U-NII-2A Band)	5250	10.39	10.05	9.44	33.834	15.29	24.00	Pass
114	5570	17.06	17.94	16.48	157.509	21.97	24.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.64	30.11 > 24
114	5570	163.14	33.12 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	21.18	21.49	22.41	446.33	26.50	29.86	Pass
40	5200	22.57	22.67	23.42	585.43	27.67	29.86	Pass
48	5240	22.60	22.73	23.43	589.762	27.71	29.86	Pass
52	5260	17.06	17.19	15.87	141.813	21.52	23.74	Pass
60	5300	16.91	17.34	15.62	139.766	21.45	23.74	Pass
64	5320	16.81	17.46	15.86	142.24	21.53	23.74	Pass
100	5500	16.25	16.57	16.65	133.802	21.26	23.67	Pass
116	5580	16.51	17.34	16.13	139.992	21.46	23.67	Pass
140	5700	16.64	17.49	15.98	141.864	21.52	23.67	Pass
*144 (U-NII-2C Band)	5720	14.18	14.88	13.49	79.279	18.99	22.67	Pass
*144 (U-NII-3 Band)	5720	7.92	9.47	8.40	21.964	13.42	29.71	Pass
149	5745	22.02	22.47	23.04	537.197	27.30	29.71	Pass
157	5785	22.24	22.26	23.00	535.288	27.29	29.71	Pass
165	5825	21.89	21.81	23.08	509.466	27.07	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.83	24.39 > 24
60	5300	21.8	24.38 > 24
64	5320	21.8	24.38 > 24
100	5500	21.81	24.38 > 24
116	5580	21.74	24.37 > 24
140	5700	21.84	24.39 > 24
144 (U-NII-2C Band)	5720	15.85	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	19.38	19.66	20.49	291.11	24.64	29.86	Pass
46	5230	22.77	22.34	23.49	583.987	27.66	29.86	Pass
54	5270	17.41	17.07	16.23	147.99	21.70	23.74	Pass
62	5310	17.31	17.00	15.78	141.79	21.52	23.74	Pass
102	5510	16.75	17.47	16.49	147.728	21.69	23.67	Pass
110	5550	16.64	17.73	16.15	146.634	21.66	23.67	Pass
134	5670	15.69	17.24	16.42	133.887	21.27	23.67	Pass
*142 (U-NII-2C Band)	5710	14.21	16.49	14.97	102.334	20.10	23.67	Pass
*142 (U-NII-3 Band)	5710	4.27	6.06	4.57	9.574	9.81	29.71	Pass
151	5755	23.18	21.66	22.75	542.889	27.35	29.71	Pass
159	5795	23.04	21.70	22.77	538.518	27.31	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.15	27.14 > 24
62	5310	41.35	27.16 > 24
102	5510	41.27	27.15 > 24
110	5550	41.17	27.14 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.51	26.5 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	20.08	19.96	20.03	301.636	24.79	29.86	Pass
58	5290	17.28	17.21	15.80	144.077	21.59	23.74	Pass
106	5530	16.17	17.57	16.52	143.422	21.57	23.67	Pass
122	5610	16.26	17.33	16.39	139.893	21.46	23.67	Pass
*138 (U-NII-2C Band)	5690	15.00	16.89	15.34	114.686	20.60	23.67	Pass
*138 (U-NII-3 Band)	5690	0.80	3.29	1.34	4.697	6.72	29.71	Pass
155	5775	23.23	21.77	22.61	543.082	27.35	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.67	30.17 > 24
122	5610	82.59	30.16 > 24
138 (U-NII-2C Band)	5690	76.2	29.81 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1 Band)	5250	9.39	9.22	8.77	27.863	14.45	29.86	Pass
*50 (U-NII-2A Band)	5250	9.79	9.44	8.62	29.016	14.63	23.74	Pass
114	5570	16.55	17.56	16.16	143.507	21.57	23.67	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.64	30.11 > 24
114	5570	163.1	33.12 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	21.52	21.74	22.41	465.366	26.68	29.86	Pass
40	5200	22.73	23.00	23.46	608.845	27.85	29.86	Pass
48	5240	22.87	22.94	23.69	624.315	27.95	29.86	Pass
52	5260	17.21	17.59	16.03	150.1	21.76	23.74	Pass
60	5300	17.24	17.52	15.91	148.454	21.72	23.74	Pass
64	5320	17.00	17.67	15.88	147.323	21.68	23.74	Pass
100	5500	16.47	16.55	16.78	137.19	21.37	23.67	Pass
116	5580	16.75	17.44	16.33	145.731	21.64	23.67	Pass
140	5700	16.72	17.73	16.26	148.549	21.72	23.67	Pass
*144 (U-NII-2C Band)	5720	14.29	14.99	13.73	82.008	19.14	22.67	Pass
*144 (U-NII-3 Band)	5720	8.67	9.50	8.77	23.808	13.77	29.71	Pass
149	5745	22.26	22.75	23.21	566.044	27.53	29.71	Pass
157	5785	22.46	22.23	23.16	550.321	27.41	29.71	Pass
165	5825	22.07	22.04	23.22	530.914	27.25	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.83	24.39 > 24
60	5300	21.8	24.38 > 24
64	5320	21.8	24.38 > 24
100	5500	21.81	24.38 > 24
116	5580	21.74	24.37 > 24
140	5700	21.84	24.39 > 24
144 (U-NII-2C Band)	5720	15.85	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	19.40	19.81	20.62	298.161	24.74	29.86	Pass
46	5230	22.77	22.60	23.60	600.291	27.78	29.86	Pass
54	5270	17.61	17.28	16.64	157.265	21.97	23.74	Pass
62	5310	17.46	17.35	16.01	149.946	21.76	23.74	Pass
102	5510	16.95	17.51	16.71	152.79	21.84	23.67	Pass
110	5550	16.79	18.01	16.39	154.545	21.89	23.67	Pass
134	5670	16.01	17.35	16.69	140.893	21.49	23.67	Pass
*142 (U-NII-2C Band)	5710	14.48	16.69	15.29	108.527	20.36	23.67	Pass
*142 (U-NII-3 Band)	5710	4.51	6.54	4.94	10.452	10.19	29.71	Pass
151	5755	23.41	21.89	23.01	573.792	27.59	29.71	Pass
159	5795	23.34	22.03	22.77	564.597	27.52	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain =6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.15	27.14 > 24
62	5310	41.35	27.16 > 24
102	5510	41.27	27.15 > 24
110	5550	41.17	27.14 > 24
134	5670	41.39	27.16 > 24
142 (U-NII-2C Band)	5710	35.51	26.5 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	20.22	20.33	20.36	321.733	25.07	29.86	Pass
58	5290	17.44	17.44	16.06	151.29	21.80	23.74	Pass
106	5530	16.28	17.57	16.58	145.109	21.62	23.67	Pass
122	5610	16.22	17.43	16.56	142.504	21.54	23.67	Pass
*138 (U-NII-2C Band)	5690	14.93	17.01	15.54	117.161	20.69	23.67	Pass
*138 (U-NII-3 Band)	5690	1.23	3.62	1.36	4.997	6.99	29.71	Pass
155	5775	23.34	21.95	22.85	565.202	27.52	29.71	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".
4. For UNII-3: Directional gain = 6.29dBi > 6dBi , so the power limit shall be reduced to 30-(6.29-6) = 29.71dBm.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.67	30.17 > 24
122	5610	82.59	30.16 > 24
138 (U-NII-2C Band)	5690	76.2	29.81 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1 Band)	5250	9.62	9.52	8.93	29.397	14.68	29.86	Pass
*50 (U-NII-2A Band)	5250	10.12	9.68	9.18	31.57	14.99	23.74	Pass
114	5570	16.80	17.66	16.11	147.039	21.67	23.67	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power limit shall be reduced to 30-(6.14-6) = 29.86dBm.
2. For UNII-2A: Directional gain = 6.26 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.26-6)".
3. For UNII-2C: Directional gain = 6.33 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.33-6)".

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.64	30.11 > 24
114	5570	163.14	33.12 > 24

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Chain2
36	5180	21.94	22	22.05
40	5200	21.91	22.1	22.02
48	5240	21.96	21.92	22.17
52	5260	21.83	21.86	21.66
60	5300	21.9	21.84	21.69
64	5320	21.89	21.8	21.66
100	5500	21.89	21.8	21.66
116	5580	21.94	21.86	21.69
140	5700	21.8	21.85	21.71
144 (U-NII-2C Band)	5720	15.93	15.97	15.92
144 (U-NII-3 Band)	5720	5.82	5.77	5.69
149	5745	21.89	23.85	24.81
157	5785	21.93	22.25	27.91
165	5825	21.95	22.07	28.82

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Chain2
36	5180	21.96	21.83	21.91
40	5200	21.84	22.46	22.08
48	5240	21.78	21.85	21.93
52	5260	21.98	21.83	21.83
60	5300	21.92	21.8	21.82
64	5320	21.9	21.86	21.8
100	5500	22.02	21.85	21.81
116	5580	21.78	21.79	21.74
140	5700	21.96	21.84	21.85
144 (U-NII-2C Band)	5720	15.87	15.85	15.96
144 (U-NII-3 Band)	5720	6.03	5.92	5.87
149	5745	22.19	22.68	23.09
157	5785	22.21	22.54	22.46
165	5825	21.85	22.59	24.58

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Chain2
38	5190	41.52	41.35	41.33
46	5230	41.57	41.25	41.29
54	5270	41.51	41.15	41.4
62	5310	41.55	41.36	41.35
102	5510	41.49	41.27	41.32
110	5550	41.49	41.17	41.43
134	5670	41.56	41.39	41.46
142 (U-NII-2C Band)	5710	35.71	35.51	35.74
142 (U-NII-3 Band)	5710	5.77	5.47	5.45
151	5755	49.8	41.35	50.14
159	5795	49.91	42.52	50.68

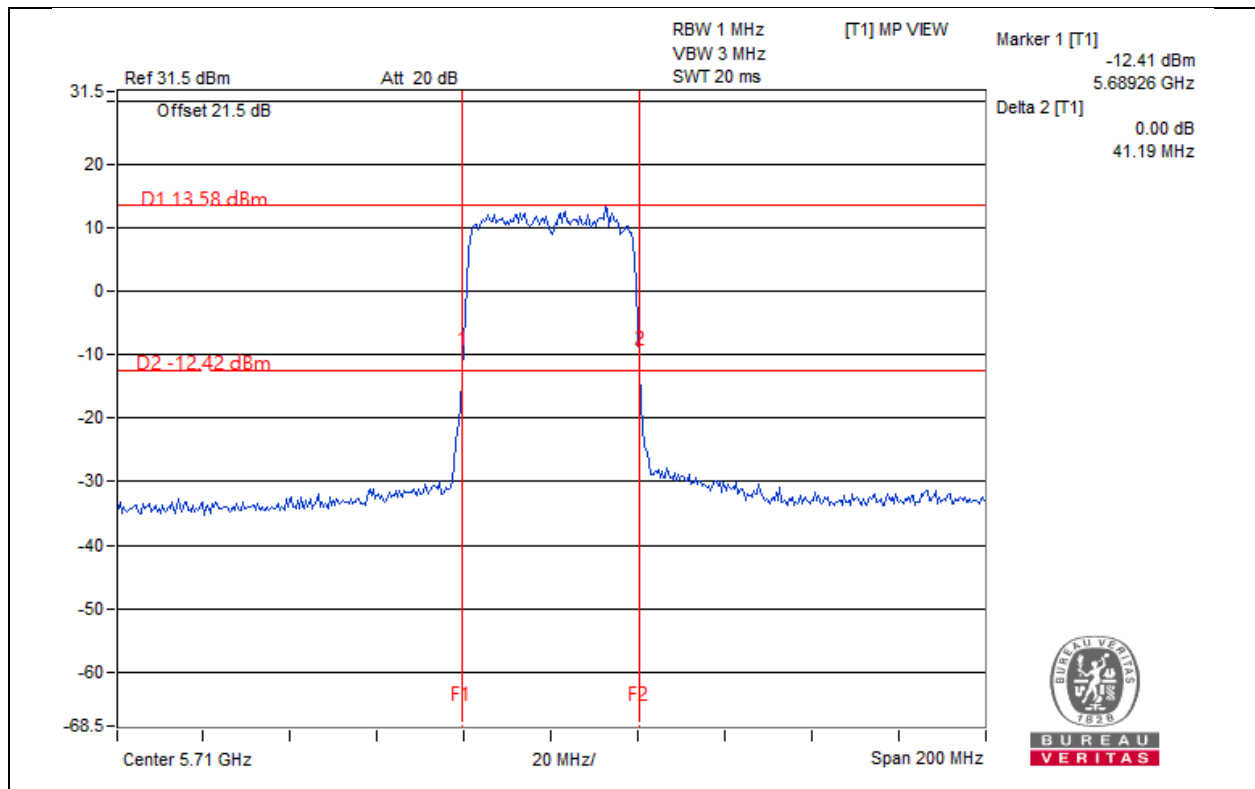
802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Chain2
42	5210	82.98	82.68	82.75
58	5290	82.74	82.5	82.45
106	5530	82.95	82.67	82.75
122	5610	82.92	82.59	82.71
138 (U-NII-2C Band)	5690	76.2	76.39	76.23
138 (U-NII-3 Band)	5690	6.01	6.31	6.07
155	5775	82.85	82.49	82.98

802.11ax (HE160)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Chain2
50 (U-NII-1 Band)	5250	81.5	81.49	81.75
50 (U-NII-2A Band)	5250	82.31	81.85	81.64
114	5570	163.2	163.29	163.14

**此測試圖僅放測試結果最差的頻道。



11.6 量測結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

12 功率頻譜密度之量測

12.1 適用標準

	待測物操作頻帶	適用標準
☒	5.15 GHz~5.25 GHz	請見本報告 3.1 節第(7)項(II)及(4)項(II)的規定
☒	5.25 GHz~5.35 GHz	請見本報告 3.1 節第(7)項(III)及(4)項(III)的規定
☒	5.470 GHz~5.725 GHz	請見本報告 3.1 節第(7)項(III)及(4)項(III)的規定
☒	5.725 GHz~5.850 GHz	請見本報告 3.1 節第(7)項(IV)及(4)項(IV)的規定

12.2 量測方法

	待測物操作頻帶	KDB 789033 D02 量測方法	KDB 662911 D01 量測方法
☒	5.15 GHz~5.25 GHz	☐ SA-1 ☐ SA-1 alternative ☒ SA-2 ☐ SA-2 alternative ☐ SA-3 ☐ SA-3 alternative	☒ Section E)2)a) ☐ Section E)2)b) ☐ Section E)2)c)
☒	5.25 GHz~5.35 GHz	☒ SA-1 ☐ SA-1 alternative ☐ SA-2 ☐ SA-2 alternative ☐ SA-3 ☐ SA-3 alternative	☒ Section E)2)a) ☐ Section E)2)b) ☐ Section E)2)c)
☒	5.470 GHz~5.725 GHz	☒ SA-1 ☐ SA-1 alternative ☐ SA-2 ☐ SA-2 alternative ☐ SA-3 ☐ SA-3 alternative	☒ Section E)2)a) ☐ Section E)2)b) ☐ Section E)2)c)
☒	5.725 GHz~5.850 GHz	☒ SA-1 ☐ SA-1 alternative ☐ SA-2 ☐ SA-2 alternative ☐ SA-3 ☐ SA-3 alternative	☐ Section E)2)a) ☒ Section E)2)b) ☐ Section E)2)c)

For 802.11b, 802.11ax (HE20), 802.11ax (HE40), 802.11ax (HE80)

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value

For U-NII-3 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

For 802.11ax (HE160)

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

12.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

12.4 測試配置

同 8.4 節

12.5 量測結果

操作模式	發射	測試日期	109 年 08 月 03 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

For U-NII-1, U-NII-2A, U-NII-2C band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
36	5180	9.48	9.80	9.74	14.45	16.86	Pass
40	5200	9.93	9.77	9.78	14.60	16.86	Pass
48	5240	9.99	9.68	10.61	14.88	16.86	Pass
52	5260	4.60	4.71	3.06	8.96	10.74	Pass
60	5300	4.37	4.59	2.91	8.79	10.74	Pass
64	5320	4.31	4.54	2.87	8.74	10.74	Pass
100	5500	3.62	4.34	3.26	8.53	10.67	Pass
116	5580	3.55	3.40	3.21	8.16	10.67	Pass
140	5700	3.26	4.22	3.45	8.43	10.67	Pass
144 (U-NII-2C Band)	5720	3.28	3.93	3.81	8.45	10.67	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power density limit shall be reduced to $17-(6.14-6) = 16.86\text{dBm}$.
3. For UNII-2A: Directional gain = 6.26dBi > 6dBi , so the power density limit shall be reduced to $11-(6.26-6) = 10.74\text{dBm}$.
4. For UNII-2C: Directional gain = 6.33dBi > 6dBi , so the power density limit shall be reduced to $11-(6.33-6) = 10.67\text{dBm}$.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
36	5180	7.95	8.36	9.05	13.25	16.86	Pass
40	5200	9.68	10.04	10.35	14.80	16.86	Pass
48	5240	9.70	9.84	10.39	14.76	16.86	Pass
52	5260	4.01	3.98	2.56	8.34	10.74	Pass
60	5300	3.64	4.05	2.39	8.19	10.74	Pass
64	5320	3.57	3.94	2.37	8.11	10.74	Pass
100	5500	2.86	3.12	2.95	7.75	10.67	Pass
116	5580	3.17	4.55	2.85	8.36	10.67	Pass
140	5700	3.26	4.20	2.53	8.16	10.67	Pass
144 (U-NII-2C Band)	5720	3.24	3.99	2.51	8.06	10.67	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power density limit shall be reduced to $17-(6.14-6) = 16.86\text{dBm}$.
3. For UNII-2A: Directional gain = 6.26dBi > 6dBi , so the power density limit shall be reduced to $11-(6.26-6) = 10.74\text{dBm}$.
4. For UNII-2C: Directional gain = 6.33dBi > 6dBi , so the power density limit shall be reduced to $11-(6.33-6) = 10.67\text{dBm}$.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
38	5190	2.62	3.30	4.23	8.21	16.86	Pass
46	5230	6.66	5.91	7.31	11.44	16.86	Pass
54	5270	1.12	0.72	-0.10	5.38	10.74	Pass
62	5310	1.40	0.77	-0.35	5.44	10.74	Pass
102	5510	0.64	1.71	0.72	5.82	10.67	Pass
110	5550	0.83	2.04	0.10	5.84	10.67	Pass
134	5670	-0.07	1.74	0.29	5.50	10.67	Pass
142 (U-NII-2C Band)	5710	-0.22	1.85	0.35	5.52	10.67	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power density limit shall be reduced to $17-(6.14-6) = 16.86\text{dBm}$.
3. For UNII-2A: Directional gain = 6.26dBi > 6dBi , so the power density limit shall be reduced to $11-(6.26-6) = 10.74\text{dBm}$.
4. For UNII-2C: Directional gain = 6.33dBi > 6dBi , so the power density limit shall be reduced to $11-(6.33-6) = 10.67\text{dBm}$.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
42	5210	0.80	0.92	1.29	5.78	16.86	Pass
58	5290	-2.11	-2.17	-3.17	2.31	10.74	Pass
106	5530	-3.04	-1.34	-2.37	2.58	10.67	Pass
122	5610	-2.60	-1.33	-2.15	2.78	10.67	Pass
138 (U-NII-2C Band)	5690	-2.86	-0.79	-2.20	2.91	10.67	Pass

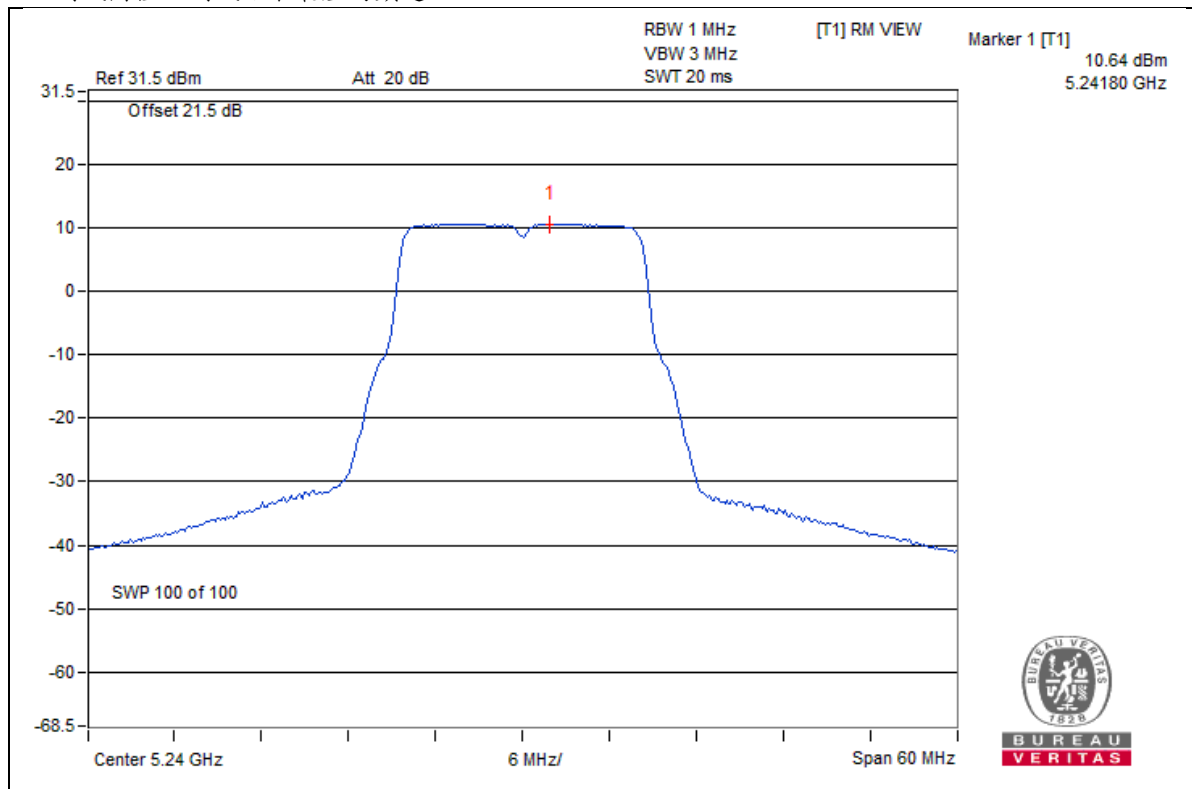
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power density limit shall be reduced to $17-(6.14-6) = 16.86\text{dBm}$.
3. For UNII-2A: Directional gain = 6.26dBi > 6dBi , so the power density limit shall be reduced to $11-(6.26-6) = 10.74\text{dBm}$.
4. For UNII-2C: Directional gain = 6.33dBi > 6dBi , so the power density limit shall be reduced to $11-(6.33-6) = 10.67\text{dBm}$.

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
50 (U-NII-1)	5250	-4.67	-4.15	-5.85	0.54	0.48	16.86	Pass
50 (U-NII-2A)	5250	-4.76	-4.26	-6.00	0.54	0.36	10.74	Pass
114	5570	-5.47	-4.07	-5.24	0.54	0.43	10.67	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: Directional gain = 6.14dBi > 6dBi , so the power density limit shall be reduced to $17-(6.14-6) = 16.86\text{dBm}$.
3. For UNII-2A: Directional gain = 6.26dBi > 6dBi , so the power density limit shall be reduced to $11-(6.26-6) = 10.74\text{dBm}$.
4. For UNII-2C: Directional gain = 6.33dBi > 6dBi , so the power density limit shall be reduced to $11-(6.33-6) = 10.67\text{dBm}$.

**此測試圖僅放測試結果最差的頻道。



CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
144 (U-NII-3 Band)	5720	-5.73	-4.65	-4.81	-0.27	1.95	29.71	Pass
149	5745	1.57	2.41	3.01	7.14	9.36	29.71	Pass
157	5785	1.45	1.55	2.55	6.65	8.87	29.71	Pass
165	5825	1.27	1.35	2.50	6.52	8.74	29.71	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.29dBi > 6dBi, so the power density limit shall be reduced to $30-(6.29-6) = 29.71\text{dBm}$.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
144 (U-NII-3 Band)	5720	-6.12	-5.49	-6.97	-1.38	0.84	29.71	Pass
149	5745	0.76	1.78	1.47	6.13	8.35	29.71	Pass
157	5785	0.89	1.33	1.37	5.97	8.19	29.71	Pass
165	5825	0.40	1.51	1.55	5.96	8.18	29.71	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.29dBi > 6dBi, so the power density limit shall be reduced to $30-(6.29-6) = 29.71\text{dBm}$.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
142 (U-NII-3 Band)	5710	-10.29	-8.02	-9.73	-4.46	-2.24	29.71	Pass
151	5755	-1.36	-2.81	-1.55	2.91	5.13	29.71	Pass
159	5795	-1.28	-2.42	-1.88	2.94	5.16	29.71	Pass

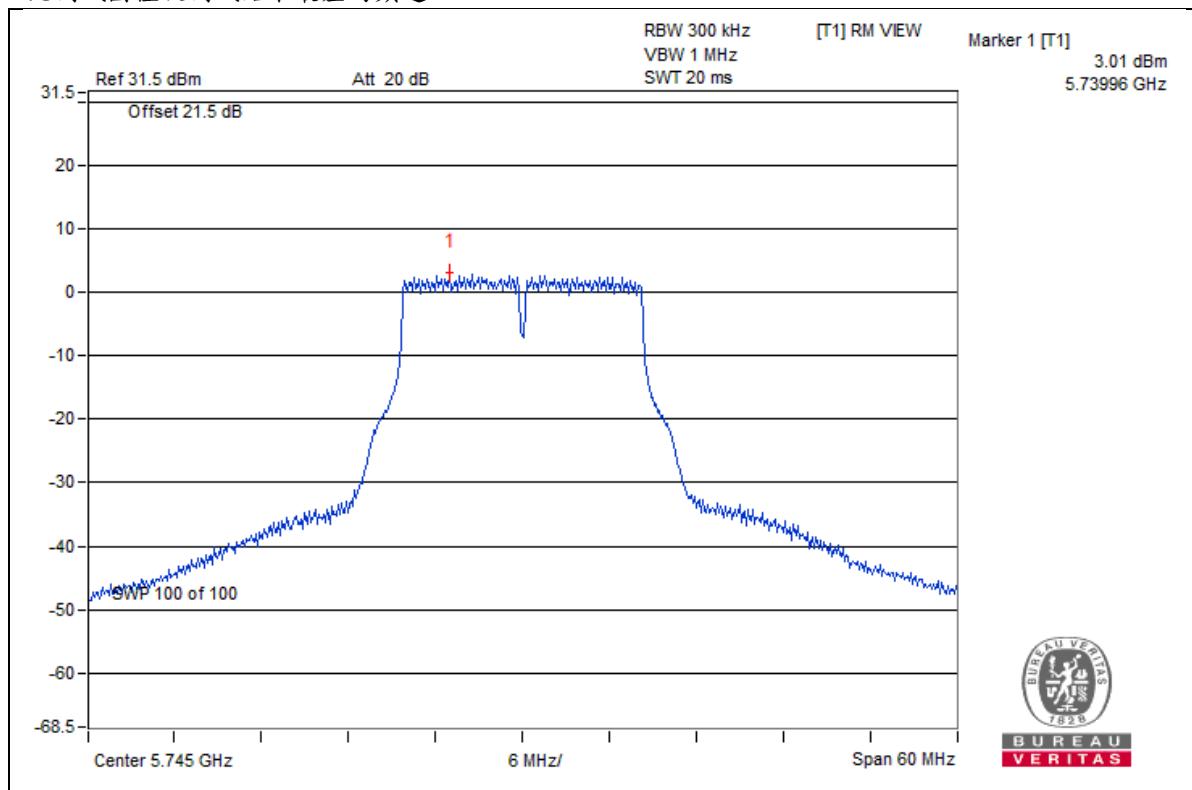
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.29dBi > 6dBi, so the power density limit shall be reduced to $30-(6.29-6) = 29.71\text{dBm}$.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
138 (U-NII-3 Band)	5710	-14.04	-11.54	-13.38	-8.08	-5.86	29.71	Pass
155	5755	-4.79	-5.20	-4.60	-0.08	2.14	29.71	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 6.29dBi > 6dBi , so the power density limit shall be reduced to $30 - (6.29 - 6) = 29.71\text{dBm}$.

**此測試圖僅放測試結果最差的頻道。



12.6 量測結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

13 6 dB 頻寬之要求

13.1 適用標準

待測物操作頻帶	適用標準
☒ 5.725 GHz~5.850 GHz	請見本報告 3.1 節第(5)項(II)的規定

13.2 量測方法

- 將待測物輸出經由衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 計算由最大輸出功率峰值減6dB的最大頻率範圍。

13.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021

NOTE:

- The test was performed in Oven room 2.
- The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

13.4 測試配置

同 6.4 節。

13.5 量測結果

操作模式	發射	測試日期	109 年 08 月 03 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
144 (U-NII-3 Band)	5720	3.18	3.18	3.18	Pass
149	5745	16.47	16.45	16.43	Pass
157	5785	16.46	16.48	16.45	Pass
165	5825	16.46	16.47	16.44	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
144 (U-NII-3 Band)	5720	4.55	4.46	4.47	Pass
149	5745	19.07	17.67	19.04	Pass
157	5785	19.05	17.69	19.04	Pass
165	5825	19.1	17.69	19	Pass

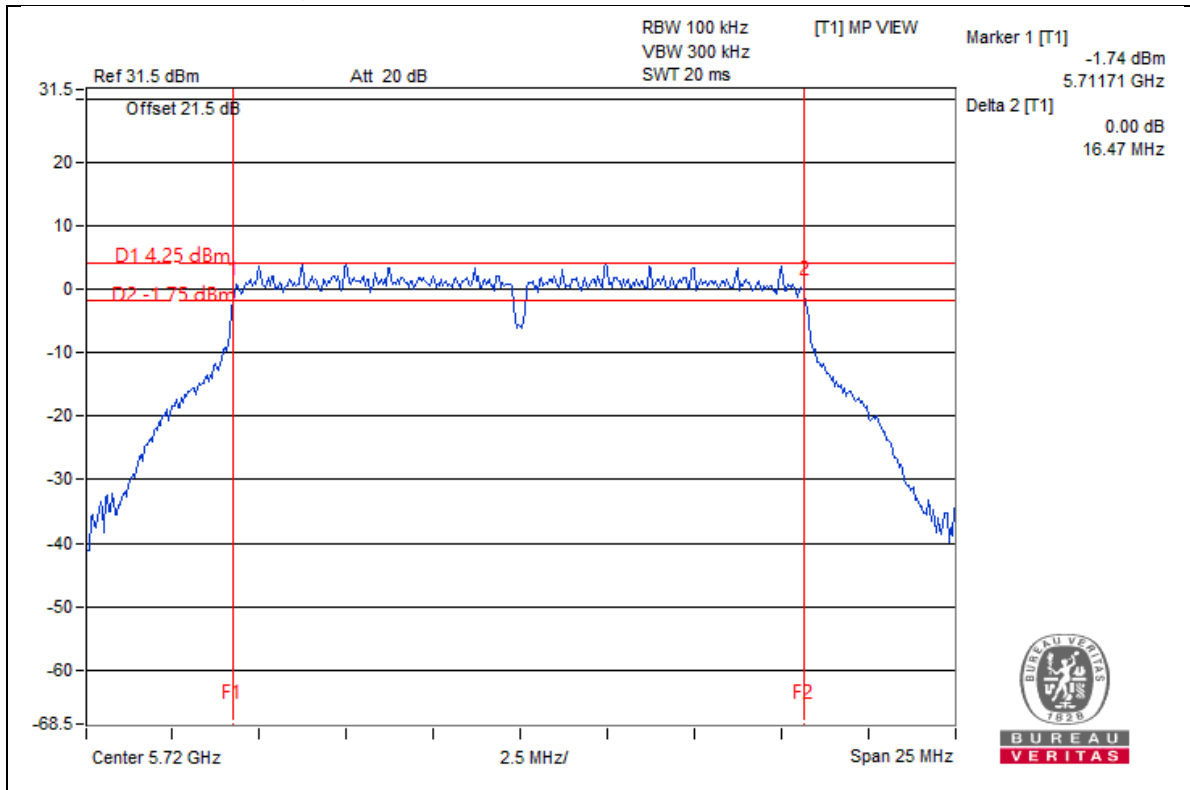
802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
142 (U-NII-3 Band)	5710	3.87	3.24	3.9	Pass
151	5755	37.86	37.86	37.75	Pass
159	5795	37.89	36.55	37.79	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
138 (U-NII-3 Band)	5690	3.76	3.8	3.72	Pass
155	5775	77.97	77.57	77.81	Pass

**此測試圖僅放測試結果最差的頻道。



13.6 量測結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

14 電波暴露量之評估

14.1 適用標準

請見本報告 3.1 節第(12)項的規定。

14.2 評估方法

a) 以 7.5 及 11.5 節所測得的最大輸出功率值再加上待測物天線的增益值(Gain)帶入下面公式換算出待測物所輻射的功率密度。

$$b) P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

14.3 評估結果

Operation Mode	Max Power (dBm)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN (2.4GHz)	29.62	917.02	3.73	25	0.27561	1	Pass
WLAN 5GHz (U-NII-1)	28.30	675.929	6.14	25	0.35384	1	Pass
WLAN 5GHz (U-NII-2A)	22.10	162.354	6.26	25	0.08737	1	Pass
WLAN 5GHz (U-NII-2C)	22.35	171.97	6.33	25	0.09405	1	Pass
WLAN 5GHz (U-NII-3)	28.65	732.981	6.29	25	0.39719	1	Pass

Note:

- 2.4GHz: The directional gain = 3.73 dBi
- 5GHz :
 - U-NII-1: The directional gain = 6.14 dBi
 - U-NII-2A: The directional gain = 6.26 dBi
 - U-NII-2C: The directional gain = 6.33 dBi
 - U-NII-3: The directional gain = 6.29 dBi

Conclusion:

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$WLAN\ 2.4GHz + WLAN\ 5GHz = 0.27561 / 1 + 0.39719 / 1 = 0.67280$$

Therefore the maximum calculations of above situations are less than the “1” limit.

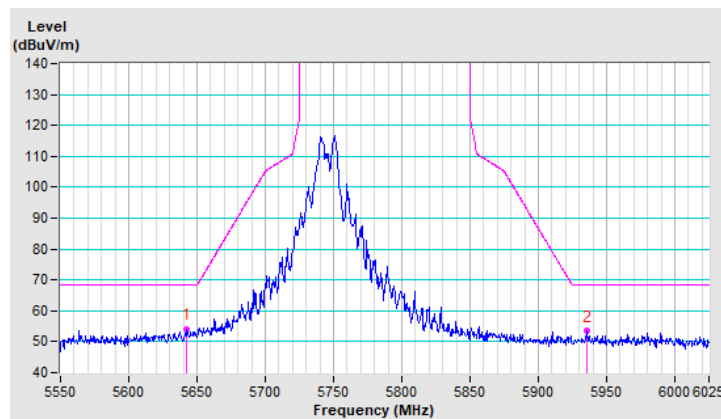
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 149：5745 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.52	53.9 PK	68.2	-14.3	1.10 H	43	50.4	3.5
2	#5935.66	53.4 PK	68.2	-14.8	1.10 H	43	49.4	4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.



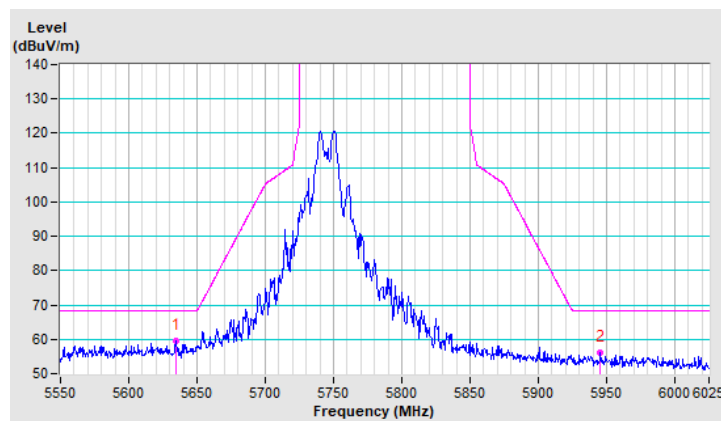
操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 149：5745 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.93	59.5 PK	68.2	-8.7	1.50 V	349	56.1	3.4
2	#5945.27	56.2 PK	68.2	-12.0	1.50 V	349	52.2	4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

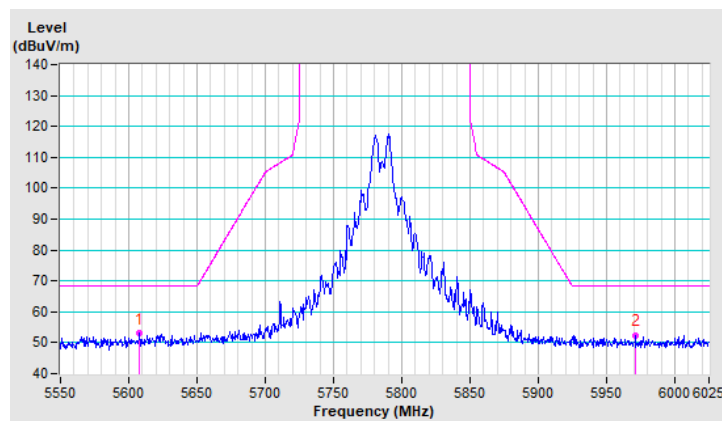


操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 157 : 5785 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5607.74	53.0 PK	68.2	-15.2	1.09 H	45	49.6	3.4
2	#5970.96	52.4 PK	68.2	-15.8	1.09 H	45	48.3	4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.



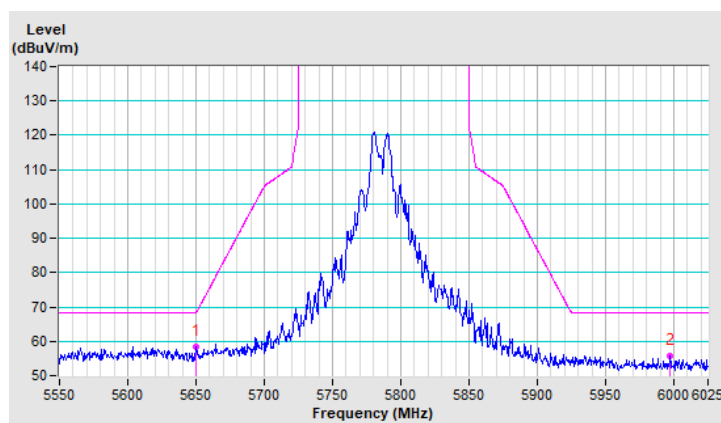
操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 157 : 5785 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	58.5 PK	68.2	-9.7	1.51 V	351	55.0	3.5
2	#5997.02	55.6 PK	68.2	-12.6	1.51 V	351	51.5	4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

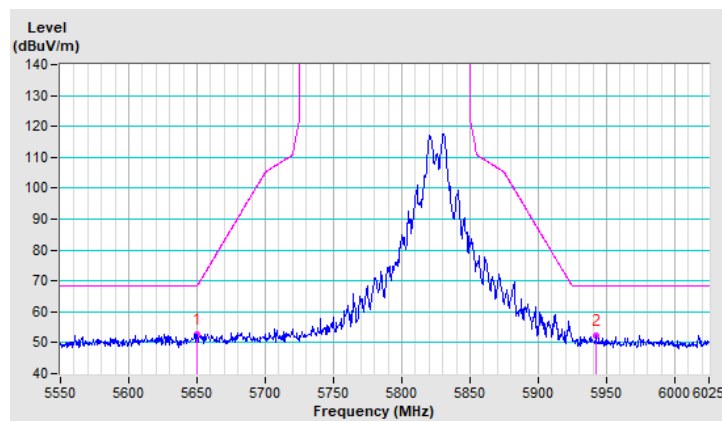


操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 165 : 5825 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.21	52.8 PK	68.4	-15.6	1.08 H	44	49.3	3.5
2	#5941.90	52.2 PK	68.2	-16.0	1.08 H	44	48.2	4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.



操作模式：	發射 802.11a	調變技術：	OFDM
基本波頻率：	CH 165 : 5825 MHz	檢測器與頻寬：	(PK) RB=1MHz, VB=3MHz
量測場地溫度：	20.0°C	量測場地濕度：	65.0%RH
測試日期：	109 年 6 月 18 日	測試者：	陳善豐

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5618.97	59.2 PK	68.2	-9.0	1.52 V	358	55.8	3.4
2	#5925.83	58.5 PK	68.2	-9.7	1.52 V	358	54.6	3.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

