



NCC

低功率射頻電機型式試驗報告

產品名稱 : 45281 CSM KIVAT BELT

型號 : 45281

廠牌 : BANDAI

商標 : 

申請者 : 台灣萬代南夢宮有限公司

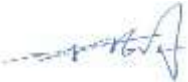
測試標準 : LP0002 (107 年版)

參考法規 : ANSI C63.10-2013

接收日期 : 2020/2/4

測試日期 : 2020/2/5~2020/2/6

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修訂記錄

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1. 一般資訊

申請者	台灣萬代南夢宮有限公司
申請者地址	臺北市中山區中山北路 2 段 129 號 9 樓
製造商	BANDAI CO., LTD.
實驗室	台灣曼瑞檢測科技有限公司
實驗室地址	33377 台灣桃園市龜山區復興二路 38 號
實驗室資訊	1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm. 2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada. 3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.
實驗室測試環境條件	溫度 (°C) : 20-35 / 濕度 (%RH) : 30-65

2. 產品描述

2.1 產品資訊

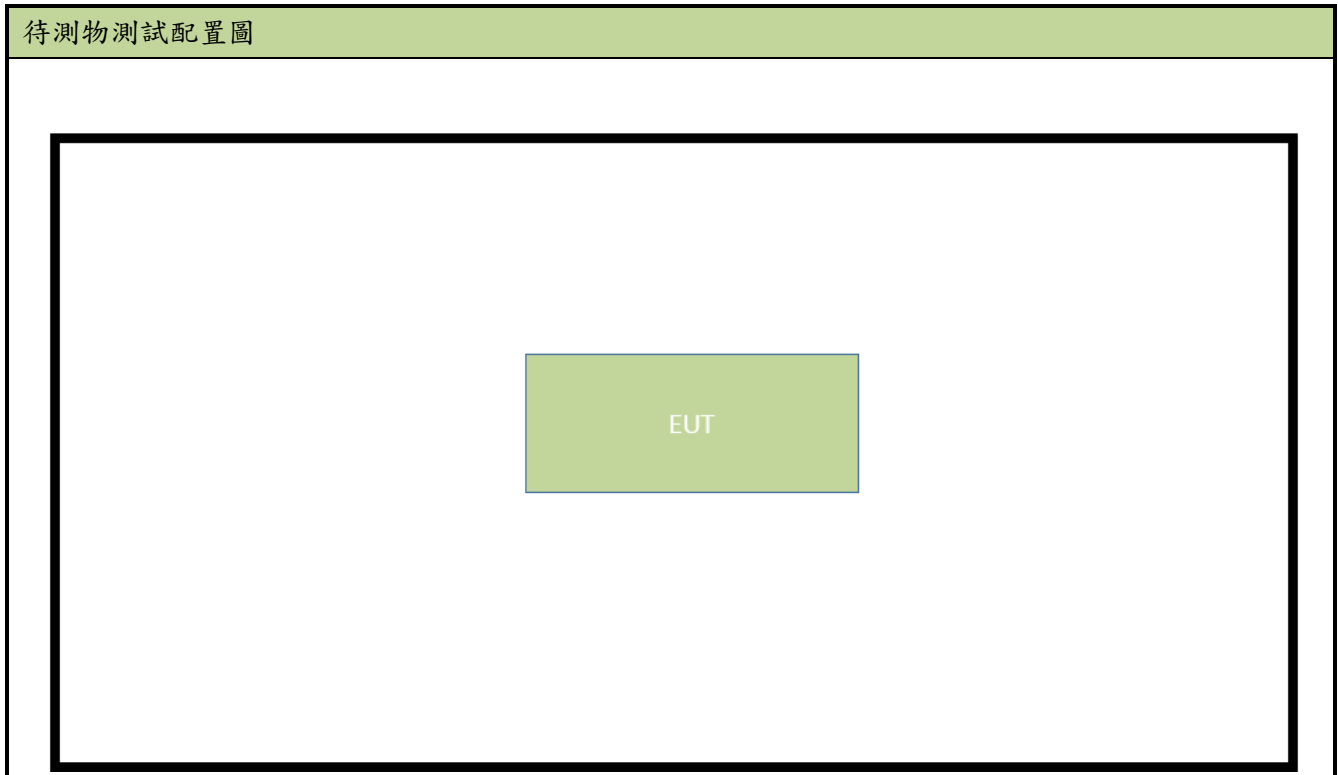
產品名稱	45281 CSM KIVAT BELT
產品型號	45281
廠牌	BANDAI
商標	
頻率範圍	2477MHz
調變模式	GFSK
待測物電壓	By Battery (DC 3V)

2.2 測試模式

Test Mode	Mode 1: Transmit by 2477MHz
	Mode 2: Receive by 2477MHz

2.3 測試配置

待測物測試配置圖



2.4 測試周邊

待測裝置測試時，其搭配系統測試時之週邊裝置包括如下：

N/A

2.5 操作程序

1.	待測物電源開啟.
2.	進入工程模式
3.	確認待測物的無線頻道及功率.
4.	開始測試

3. 測試設備明細

輻射干擾 – AC1

儀器名稱	製造商	型號	財產編號	校正日期
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	2020/6/4
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	2020/4/22
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	2020/4/24
Signal Analyzer	R&S	FSV40	MRTTWA00007	2020/3/26
EMI Test Receiver	R&S	ESR3	MRTTWA00009	2020/3/25
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00010	2020/4/22

EMI 測試軟體

軟體名稱	製造商	版本
e3	Audix	9.160520a

4. 量測不確定度

輻射干擾量測 (Radiated Spurious Emission)

Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$):

9kHz~30MHz: $\pm 3.92\text{dB}$

30MHz~1GHz: $\pm 4.25\text{dB}$

1GHz~18GHz: $\pm 4.40\text{dB}$

18GHz~40GHz: $\pm 4.45\text{dB}$

5. 測試結果

產品名稱 **45281 CSM KIVAT BELT**
型號 **45281**

法規章節	量測項目	限制值	測試結果	測試數據
3.10.2.2 節	主波發射	$\leq 50\text{mV/m}$	符合	第 5.2 章節
3.10.2.4 節	混附波發射	低功率射頻電機技術規範 2.8 節	符合	第 5.3 章節
3.10.2.4 節	頻帶邊緣	低功率射頻電機技術規範 2.8 節	符合	第 5.4 章節

備註：符合性的判定是基於測試結果符合規範的限制值或客戶的宣告要求，測試結果的判定是不考慮測量不確定度的值。

5.1 天線之要求

5.1.1 限制要求

依據國家通訊傳播委員會低功率射頻電機技術規範之第2.2規定，低功率射頻電機之發射機或收發信機所使用之天線，應為全固定、半固定式或以獨特之耦合(unique coupling)方式連接機體。製造者可設計供使用者因損壞而替換之天線，但不得設計或使用原認證以外之天線或可供引接各類電纜之標準天線插座或電氣連接頭，如：BNC、F type、N type、M type、UG type、RCA、SMA、SMB...等及其他各類工業或通訊標準接頭。

5.1.2 天線樣式

此 45281 CSM KIVAT BELT 其天線為 Monopole Antenna Type，(檢附天線規格書)

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	N/A	A2G4TRM5	2.94 dBi

5.2 主波發射測試

5.2.1 量測方法

待測物置於非導體桌面（落地型產品置於地上），受測物使用交流電源時，將其與任何配件設備之電源線連接至位於旋轉桌的交流電源。受測物使用電池時，測試時應裝置新電池或充電完全的電池。受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可360度旋轉，接收天線置於距待測物3m距離，高度可在1至4公尺間變動，以量測待測物之最大輻射電場強度，接收天線並應於水平及垂直極化方向各量測一次。（待測物擺設方式根據ANSI C63.10-2014版，待測物放置桌中心，1G以下擺設高度為80cm/1G以上擺設高度為150cm）

任一頻率大於1000 MHz 之訊號，使用平均值檢波器測量(RBW:1MHz,VBW:10Hz)，當規定之發射限制值為平均值時(含1000 MHz 以下)，受測訊號藉由峰值檢波(RBW:1MHz,VBW:3MHz)所測量之峰值，亦須符合峰值發射限制值。

當待測物為握式或身戴式時，其輻射發射初測已包含待測物之三個正交軸，並將最大之輻射模式記錄在報告中。

5.2.2 限制要求

其電場強度不得超過下表之限值。

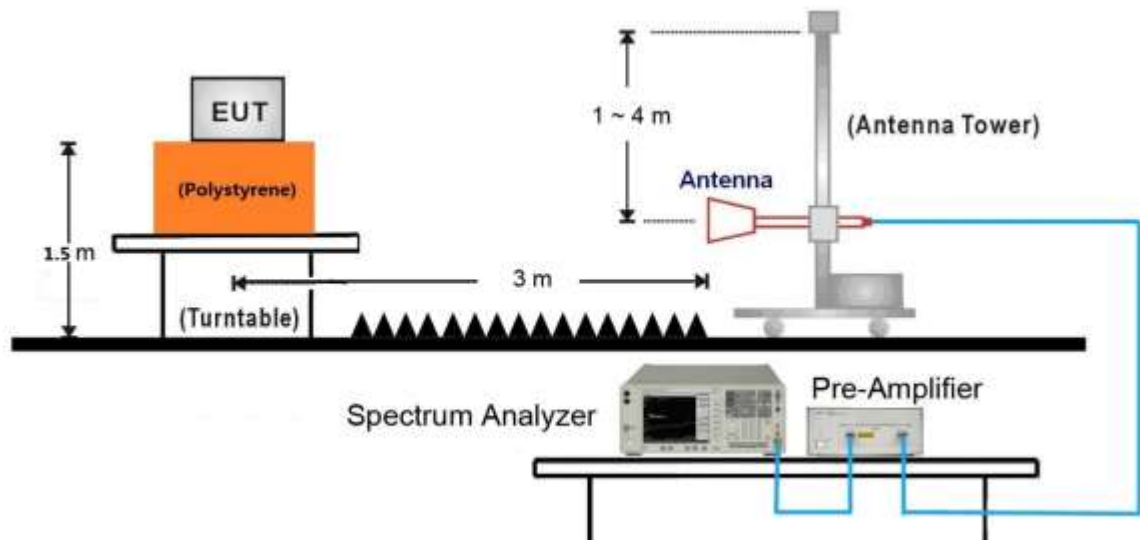
主波頻率(MHz)	主波電場強度(mV/m)
2400 ~ 2483.5	50
5725 ~ 5875	50
24000 ~ 24250	250

備註：

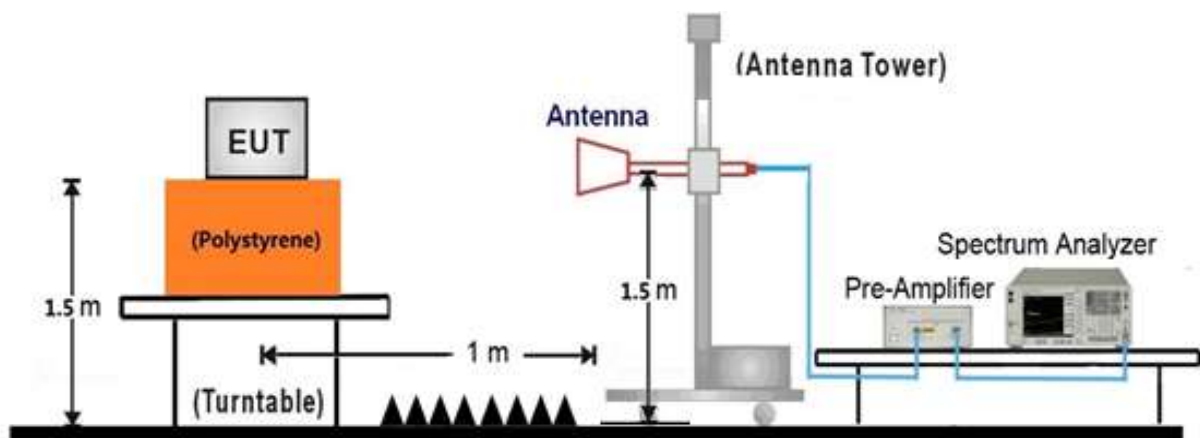
電場強度指距器材3 公尺處所測量之值，且以平均值檢波器測量，同時須符合低功率射頻電機技術規範之第5.15.2節規定。點對點操作之器材沿天線方位角之峰值電場強度應小於或等於2500 mV/m。（主波電場強度單位換算mV/m to dBuV/m = 20 log (mV/m*1000)）

5.2.3 測試架構圖

1GHz ~18GHz Test Setup:

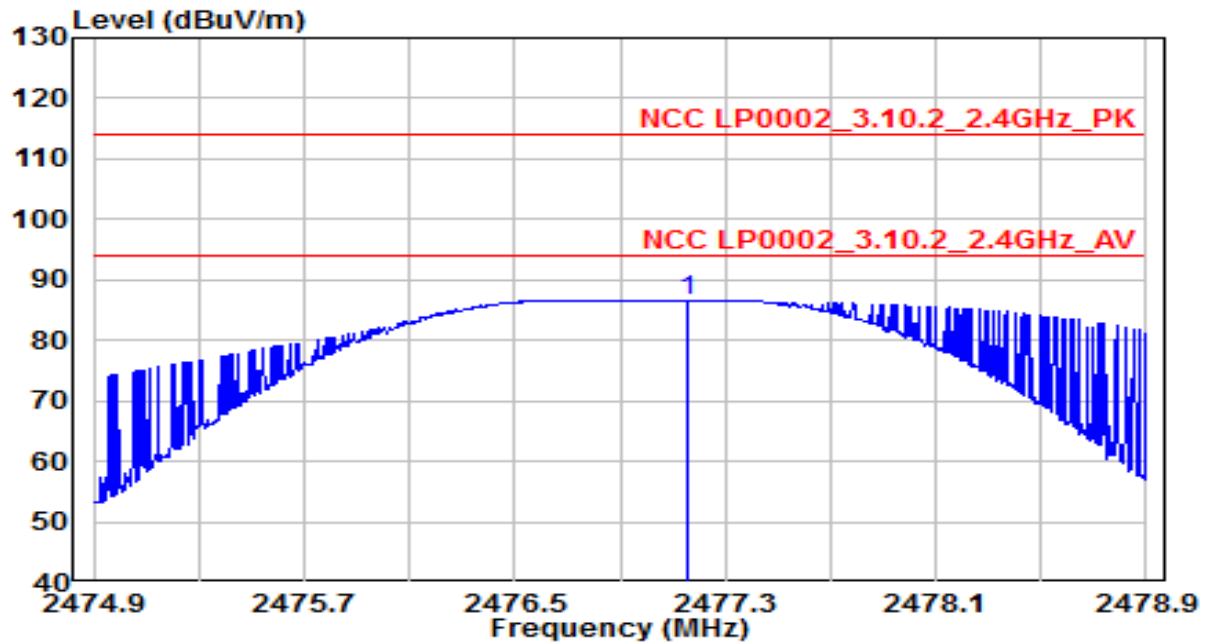


18GHz ~25GHz Test Setup:



5.2.4 主波發射測試結果

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C / 62%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

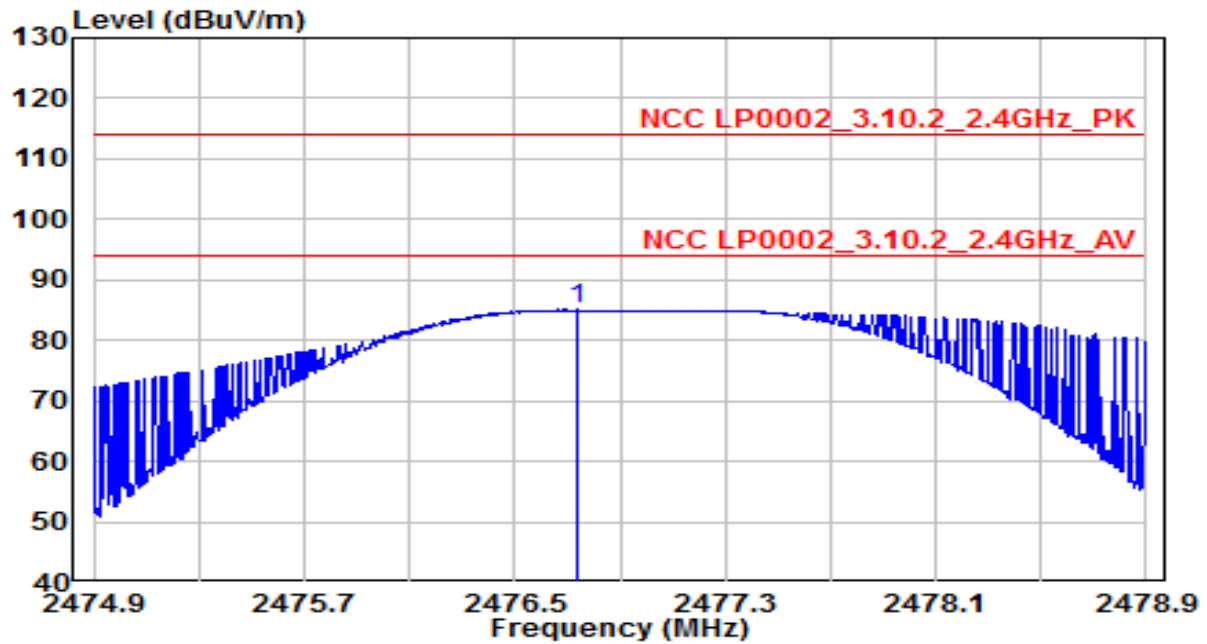


No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	2477.156	88.99	-2.33	86.66	-27.34	114.00	140	180	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C /62%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery



No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	2476.736	87.34	-2.33	85.01	-28.99	114.00	110	345	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

5.3. 混附波發射測試

5.3.1 量測方法

待測物置於非導體桌面（落地型產品置於地上），受測物使用交流電源時，將其與任何配件設備之電源線連接至位於旋轉桌的交流電源。受測物使用電池時，測試時應裝置新電池或充電完全的電池。受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可360度旋轉，接收天線置於距待測物3m距離，高度可在1至4公尺間變動，以量測待測物之最大輻射電場強度，接收天線並應於水平及垂直極化方向各量測一次。（待測物擺設方式根據 ANSI C63.10-2014版，待測物放置桌中心，1G以下擺設高度為80cm/1G以上擺設高度為150cm）

- (1) 任一頻率小於或等於1000 MHz 之訊號,使用CISPR準峰值檢波器
- (2) 任一頻率大於1000 MHz 之訊號，使用平均值檢波器測量，當規定之發射限制值為平均值時(含1000 MHz 以下)，受測訊號藉由峰值檢波器(RBW:1MHz,VBW:3MHz)所測量之峰值，亦須符合峰值發射限制值，其峰值發射限制值為最大容許平均值加20 dB。

5.3.2 限制要求

其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。各頻段重疊處，以較嚴格之限制值為準。

頻率(MHz)	電場強度(uV/m)	測距(m)
0.009 - 0.490(含)	$2,400/f(\text{KHz})$	300
0.490 (不含) – 1.705 (含)	$24,000/f(\text{KHz})$	30
1.705(不含) – 30 (不含)	30	30
30 (含) – 88 (含)	100	3
88 (不含)- 216 (含)	150	3
216 (不含)- 960 (含)	200	3
960 (不含)以上	500	3

上表規定之電場強度，頻率在9-90kHz千赫(kHz)、110-490千赫(kHz)以及1000兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合低功率射頻電機技術規範第5.14節之規定；其他頻率之發射，應以CISPR準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合低功率射頻電機技術規範第5.5節之規定，而輻射發射之量測頻率範圍須符合低功率射頻電機技術規範5.12節之規定。

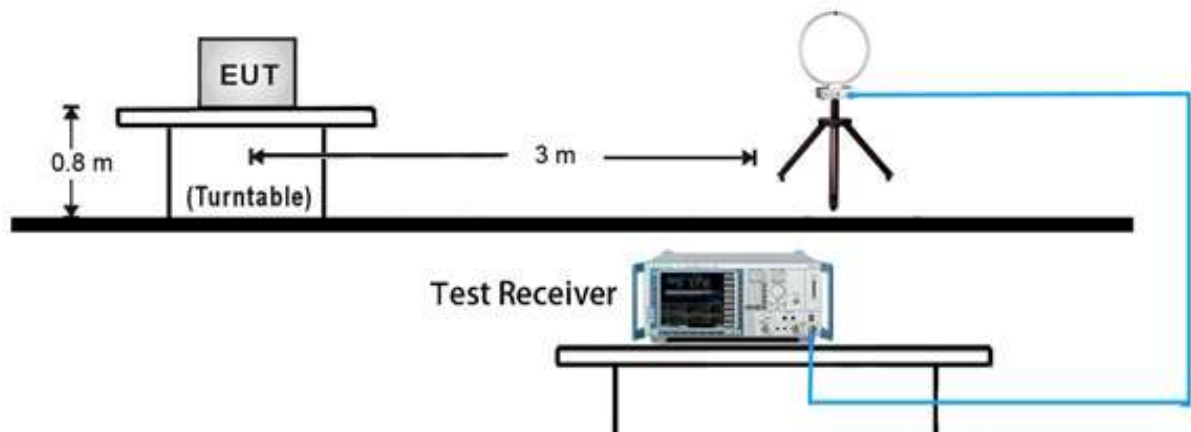
主波頻率(MHz)	諧波電場強度(mV/m)
2400 ~ 2483.5	500
5725 ~ 5875	500
24000 ~ 24250	2500

除諧波外，指定頻帶外之發射應比主波低50 dB以上或依低功率射頻電機技術規範第2.8節 之發射限制，兩者取其較鬆者。

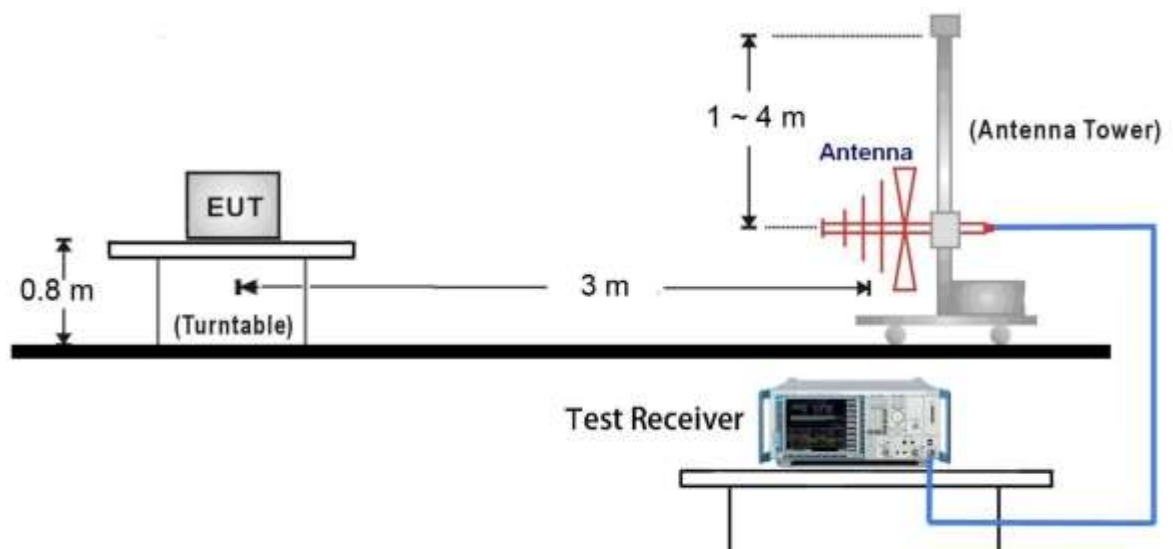
電場強度指距器材3 公尺處所測量之值，且以平均值檢波器測量，同時須符合低功率射頻電機技術規範之第5.15.2節規定。點對點操作之器材沿天線方位角之峰值電場強度應小於或等於2500 mV/m。(諧波電場強度單位換算 $\text{mV/m to dBuV/m} = 20 \log (\text{mV/m} \times 1000)$)

5.3.3 測試架構圖

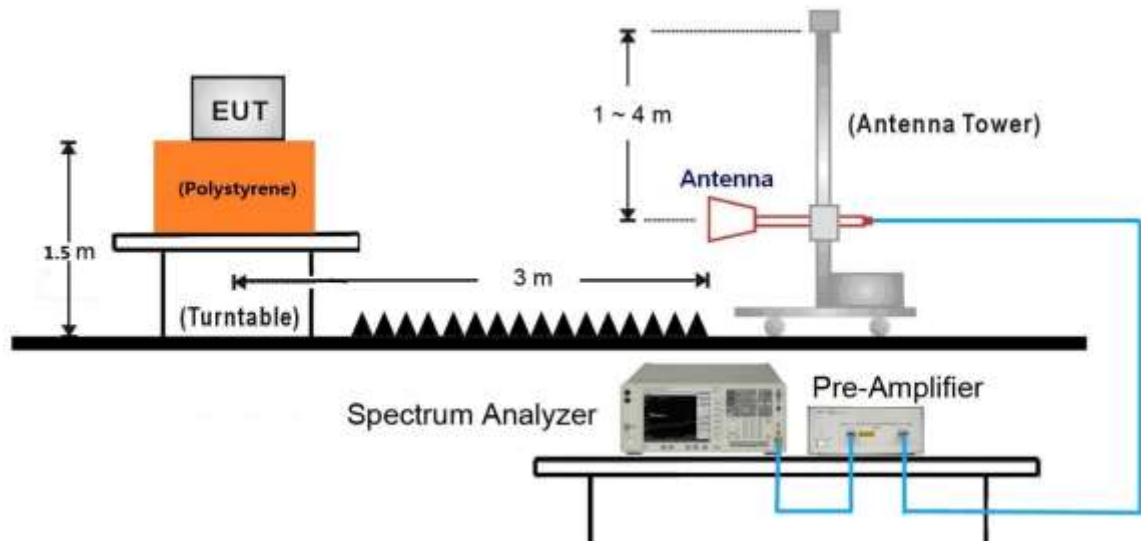
Under 30MHz Test Setup



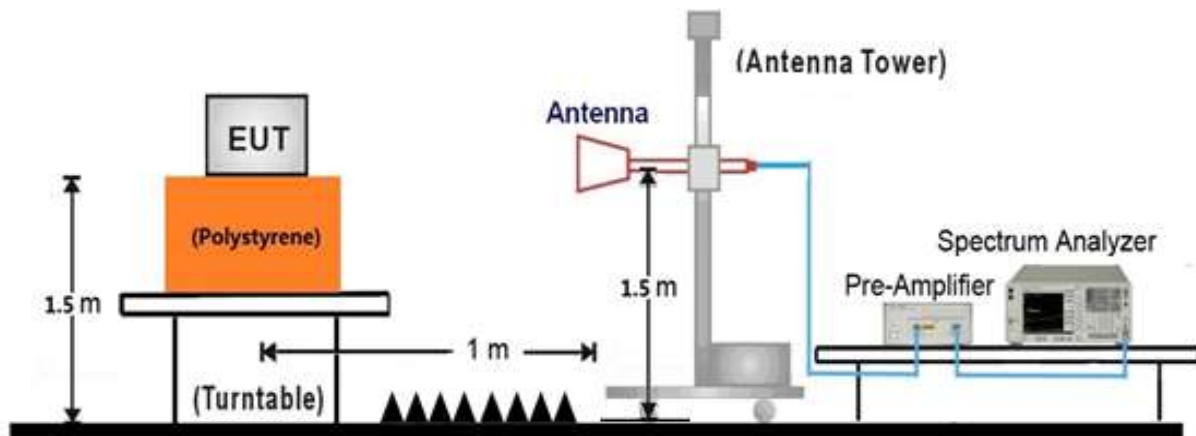
Under 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:

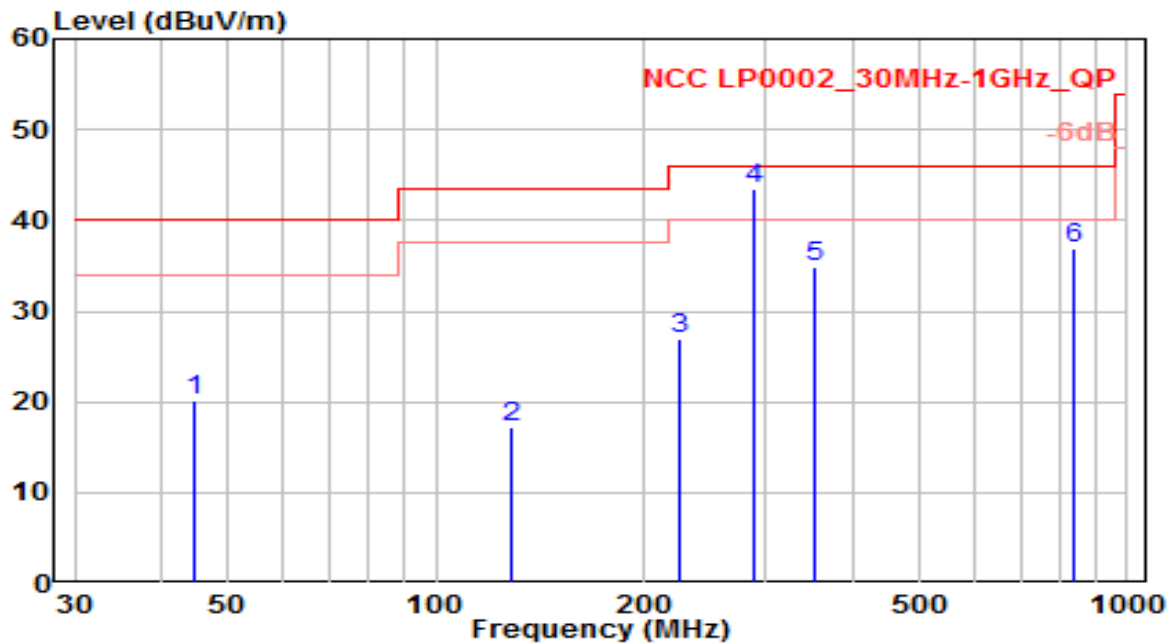


18GHz ~ 25GHz Test Setup:



5.3.4 混附波發射測試結果

EUT	45281	Date of Test	2020-02-06
Factor	VULB 9162	Temp. / Humidity	21°C /58%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	TX 2477MHz	Test Voltage	by Battery

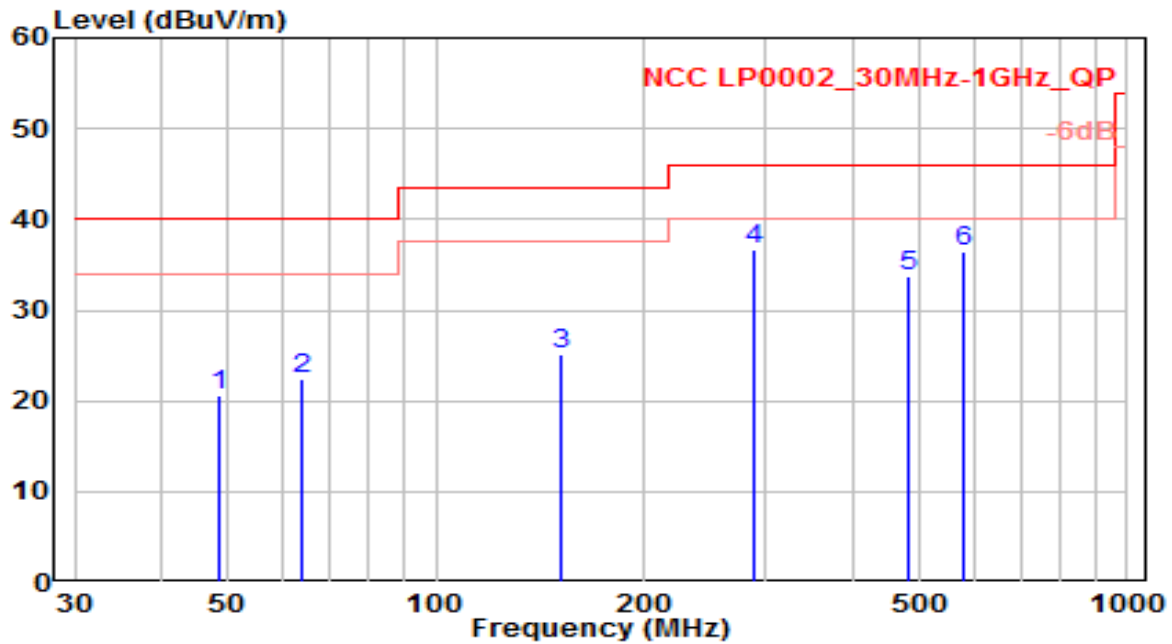


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	44.550	-1.20	21.34	20.14	-19.86	40.00	100	150	QP
2	127.970	1.13	16.18	17.31	-26.19	43.50	100	220	QP
3	224.970	7.55	19.44	26.99	-19.01	46.00	100	355	QP
4	* 288.990	22.30	21.24	43.54	-2.46	46.00	100	400	QP
5	353.980	11.48	23.49	34.97	-11.03	46.00	100	125	QP
6	837.040	5.83	31.03	36.86	-9.14	46.00	100	115	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-06
Factor	VULB 9162	Temp. / Humidity	21°C /58%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	TX 2477MHz	Test Voltage	by Battery

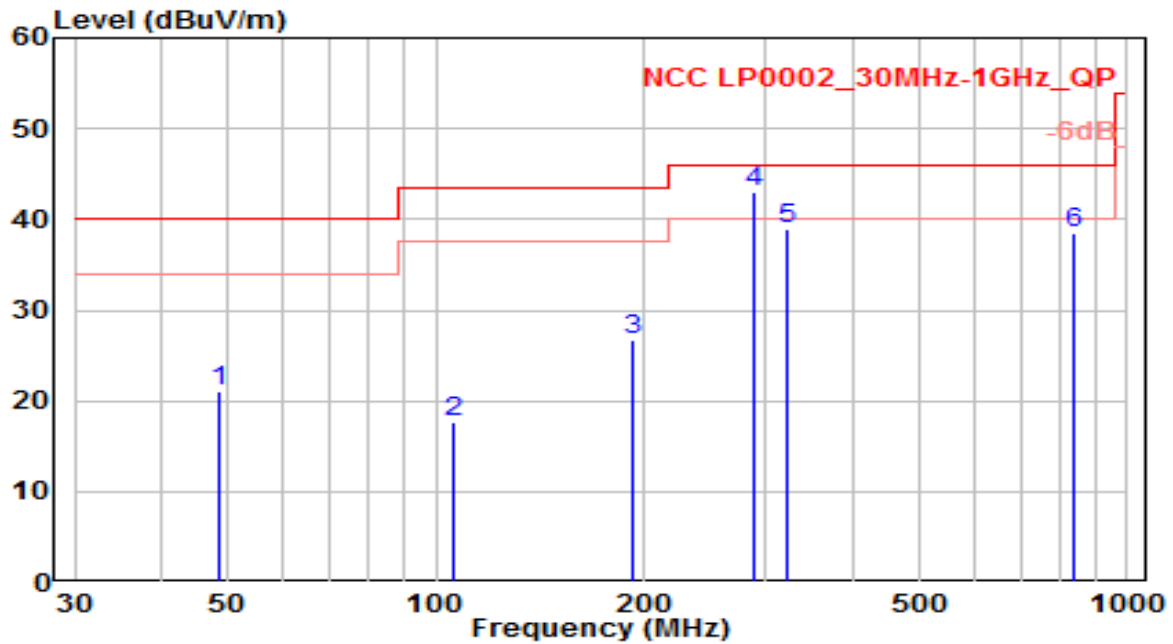


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	48.430	-0.92	21.57	20.65	-19.35	40.00	100	0	QP
2	63.950	3.65	18.67	22.32	-17.68	40.00	100	-20	QP
3	152.220	9.34	15.85	25.20	-18.30	43.50	100	300	QP
4	* 288.990	15.35	21.24	36.59	-9.41	46.00	100	65	QP
5	482.020	8.23	25.49	33.72	-12.28	46.00	100	225	QP
6	579.020	9.42	27.13	36.55	-9.45	46.00	100	120	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-06
Factor	VULB 9162	Temp. / Humidity	21°C /58%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	RX 2477MHz	Test Voltage	by Battery

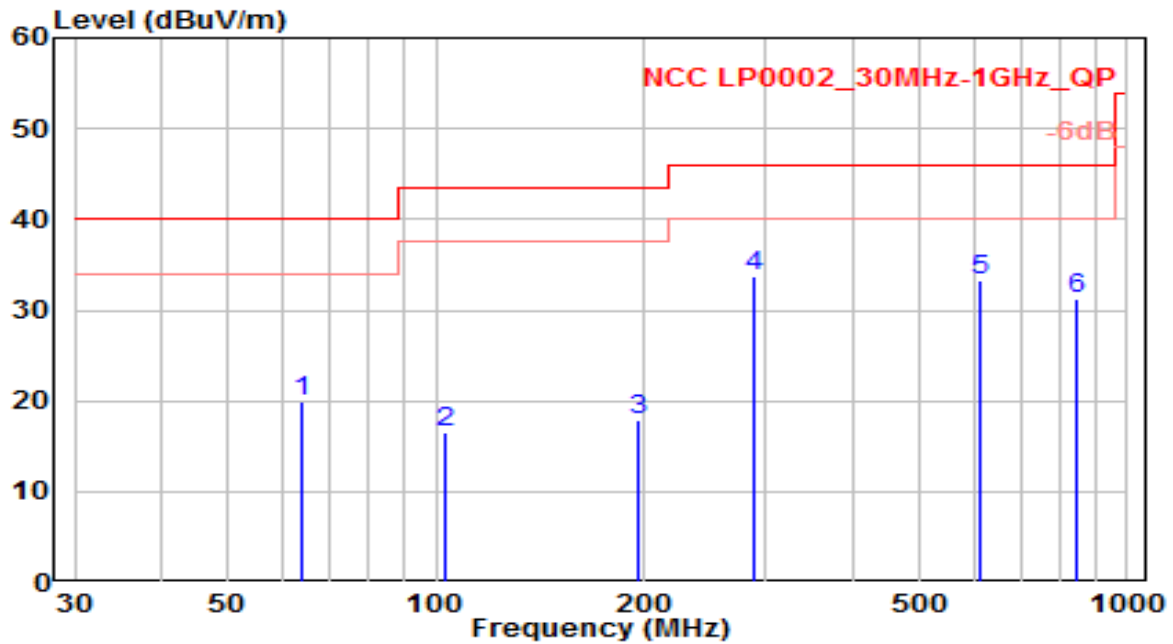


No	Frequency (MHz)	Reading (dBUV)	C.F (dB)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	48.430	-0.60	21.57	20.97	-19.03	40.00	100	320	QP
2	105.660	-1.44	19.13	17.69	-25.81	43.50	100	220	QP
3	192.960	7.89	18.78	26.67	-16.83	43.50	100	0	QP
4	* 288.990	21.70	21.24	42.94	-3.06	46.00	100	270	QP
5	321.970	16.55	22.29	38.85	-7.15	46.00	100	125	QP
6	837.040	7.42	31.03	38.45	-7.55	46.00	100	80	QP

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
- Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-06
Factor	VULB 9162	Temp. / Humidity	21°C /58%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	RX 2477MHz	Test Voltage	by Battery

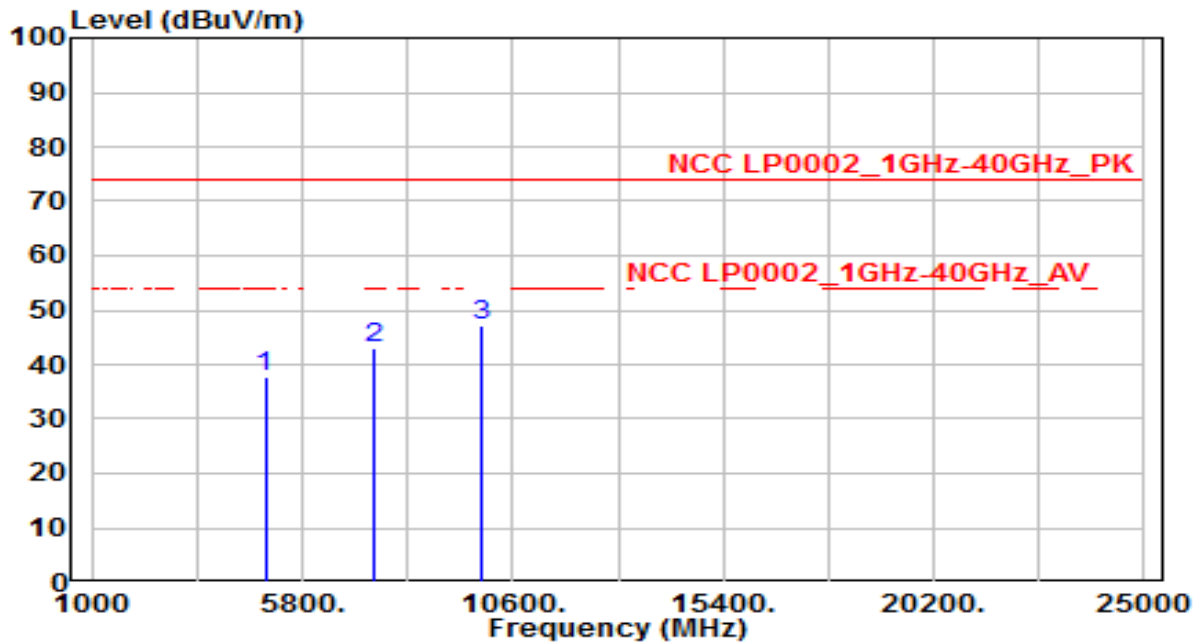


No	Frequency (MHz)	Reading (dBUV)	C.F (dB)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	63.950	1.35	18.67	20.02	-19.98	40.00	100	-20	QP
2	102.750	-2.96	19.41	16.45	-27.05	43.50	100	350	QP
3	195.870	-1.07	18.85	17.78	-25.72	43.50	100	80	QP
4	* 288.990	12.51	21.24	33.75	-12.25	46.00	100	60	QP
5	611.030	5.70	27.68	33.38	-12.62	46.00	100	100	QP
6	846.740	0.02	31.22	31.24	-14.76	46.00	100	30	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	22°C /62%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

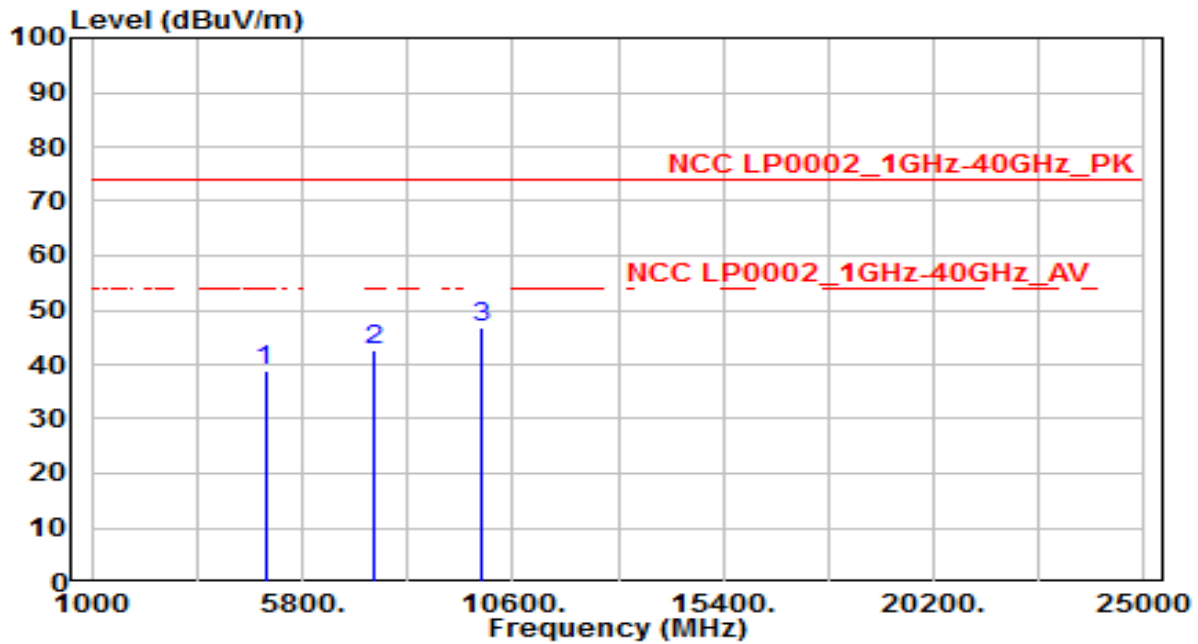


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4953.800	34.43	3.46	37.89	-36.11	74.00	150	400	Peak
2	7430.700	31.59	11.56	43.15	-30.85	74.00	150	400	Peak
3	* 9907.600	32.23	14.96	47.19	-26.81	74.00	150	400	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	22°C /62%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

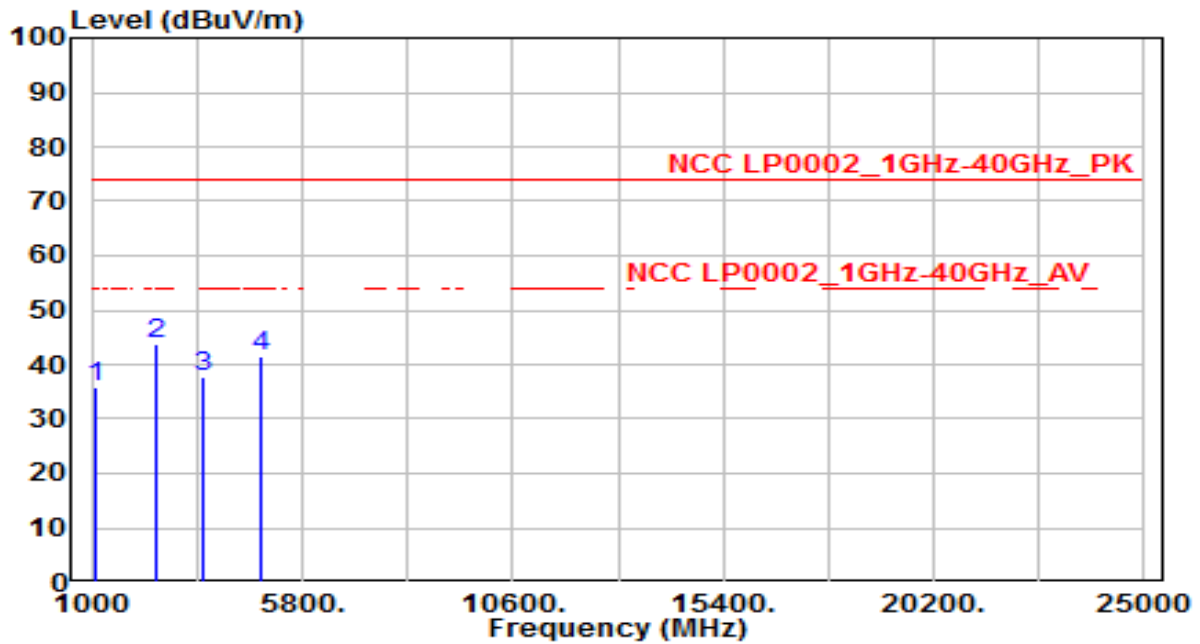


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4953.800	35.35	3.46	38.81	-35.19	74.00	150	400	Peak
2	7430.700	31.21	11.56	42.77	-31.23	74.00	150	400	Peak
3	* 9907.600	31.99	14.96	46.94	-27.06	74.00	150	400	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	22°C /62%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	RX 2477MHz	Test Voltage	by Battery

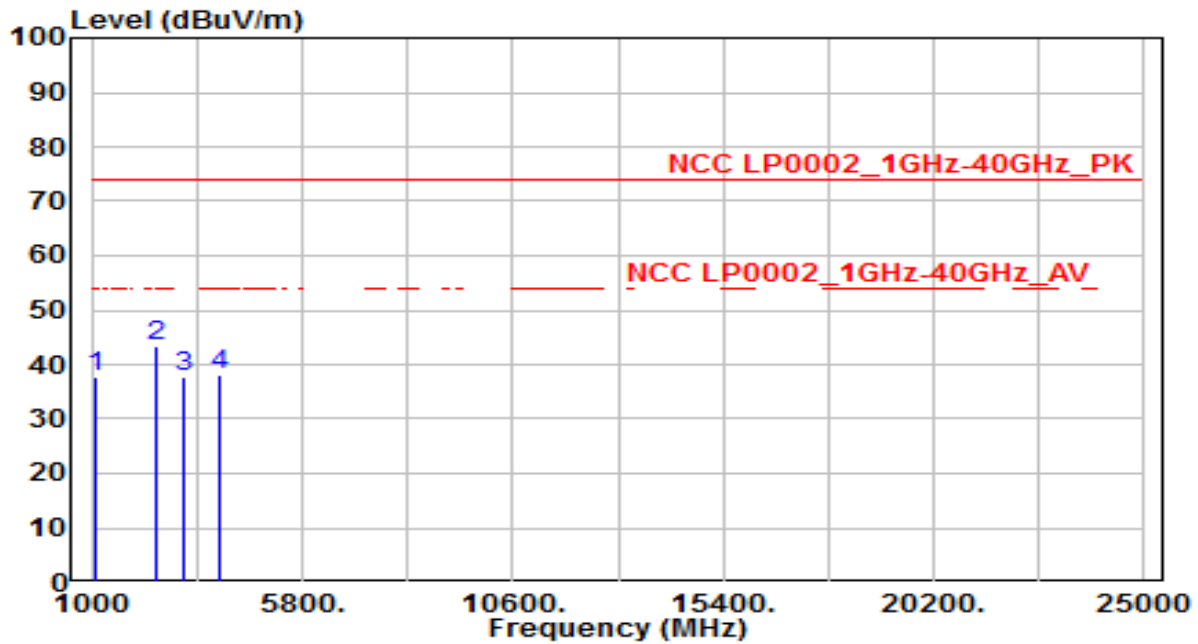


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1062.688	43.24	-7.23	36.00	-38.00	74.00	150	400	Peak
2	* 2474.750	46.13	-2.34	43.79	-30.21	74.00	150	400	Peak
3	3558.500	38.84	-1.09	37.76	-36.24	74.00	150	400	Peak
4	4851.563	38.15	3.25	41.40	-32.60	74.00	150	400	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	22°C /62%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	RX 2477MHz	Test Voltage	by Battery



No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1061.094	44.90	-7.24	37.66	-36.34	74.00	150	400	Peak
2	* 2474.750	45.80	-2.34	43.46	-30.54	74.00	150	400	Peak
3	3070.813	40.47	-2.69	37.78	-36.22	74.00	150	400	Peak
4	3933.563	38.34	-0.10	38.24	-35.76	74.00	150	400	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

5.4 頻帶邊緣測試

5.4.1 量測方法

待測物置於非導體桌面（落地型產品置於地上），受測物使用交流電源時，將其與任何配件設備之電源線連接至位於旋轉桌的交流電源。受測物使用電池時，測試時應裝置新電池或充電完全的電池。受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可360度旋轉，接收天線置於距待測物3m距離，高度可在1至4公尺間變動，以量測待測物之最大輻射電場強度，接收天線並應於水平及垂直極化方向各量測一次。（待測物擺設方式根據ANSI C63.10-2014版，待測物放置桌中心，1G以下擺設高度為80cm/1G以上擺設高度為150cm）

- (1) 任一頻率小於或等於1000 MHz 之訊號,使用CISPR準峰值檢波器
- (2) 任一頻率大於1000 MHz 之訊號，使用平均值檢波器測量(RBW:1MHz,VBW:10Hz)，當規定之發射限制值為平均值時(含1000 MHz 以下)，受測訊號藉由峰值檢波器(RBW:1MHz,VBW:3MHz)所測量之峰值，亦須符合峰值發射限制值，其峰值發射限制值為最大容許平均值加20 dB。

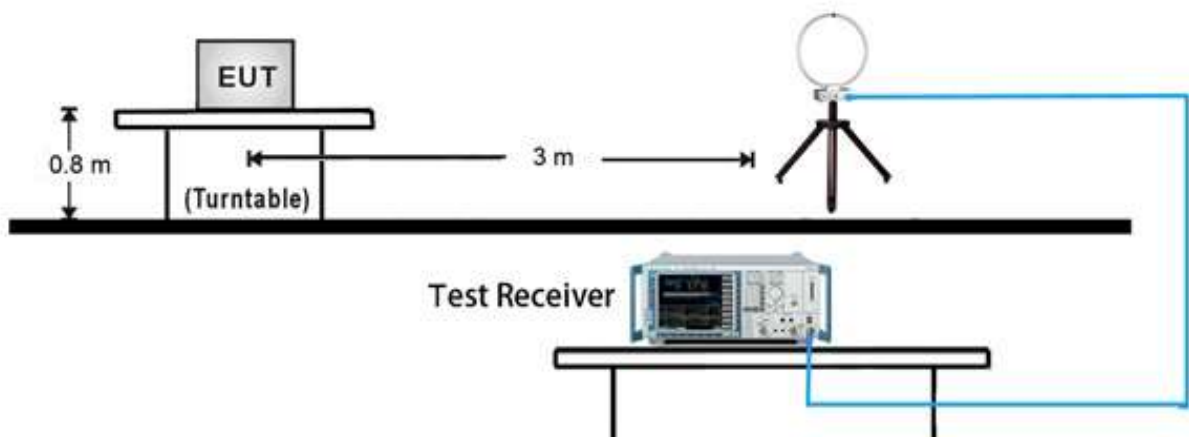
5.4.2 限制要求

低功率射頻電機技術規範另有規定外，任何低功率射頻電機之主波皆不得使用下表所列各頻段之頻率;低功率射頻電機落於下表所列頻帶內之混附發射，其電場強度必須符合下表之限制規定。

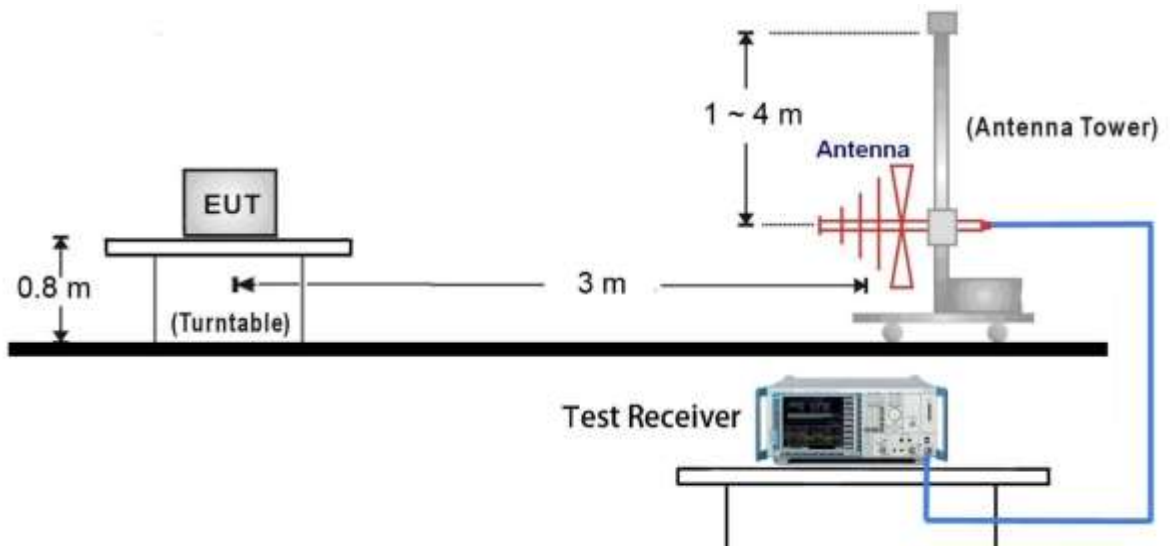
頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)
0.090~0.110	25.500~25.700	703.00~748.00	2310.0~2390.0	13250~13400
0.490~0.510	37.475~38.275	758.00~803.00	2483.5~2900.0	14470~14500
2.172~2.198	73.500~75.400	825.00~915.00	3260.0~3267.0	15350~16200
3.013~3.033	108.00~138.00	930.00~1240.0	3332.0~3339.0	17700~21400
4.115~4.198	149.90~150.05	1300.0~1427.0	3345.8~3358.0	22010~23120
5.670~5.690	156.70~156.90	1435.0~1626.5	3500.0~4400.0	23600~24000
6.200~6.300	162.01~167.17	1660.0~1785.0	4500.0~5250.0	31200~31800
8.230~8.400	167.72~173.20	1805.0~1880.0	5350.0~5460.0	36430~36500
12.265~12.600	240.00~285.00	1885.0~1900.0	7250.0~7750.0	38600 以上
13.340~13.430	322.00~335.40	1905.0~1985.0	8025.0~8500.0	
14.965~15.020	399.90~410.00	2010.0~2025.0	9000.0~9200.0	
16.700~16.755	485.00~510.00	2110.0~2170.0	9300.0~9500.0	
19.965~20.020	608.00~614.00	2200.0~2300.0	10600~12700	

5.4.3 測試架構圖

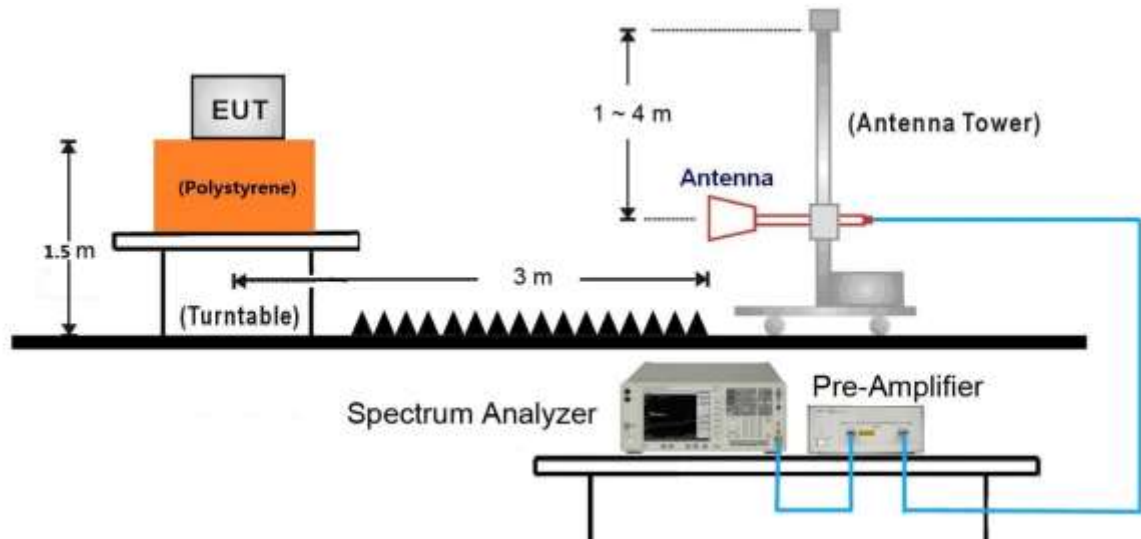
Under 30MHz Test Setup



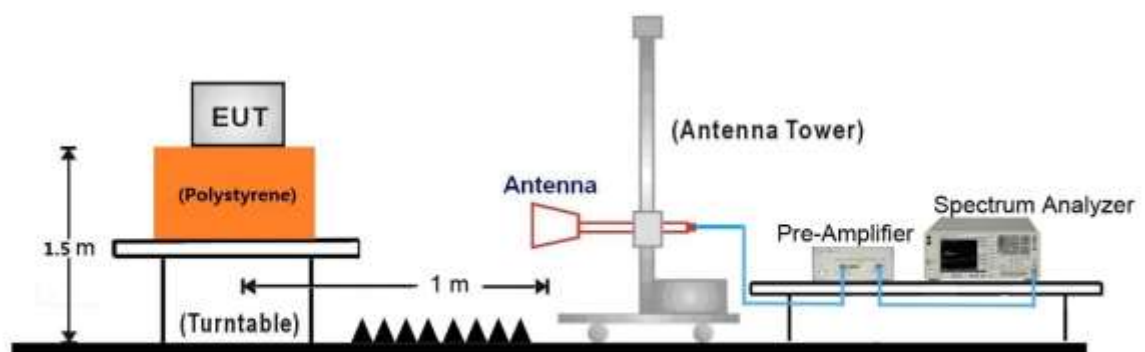
Under 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:

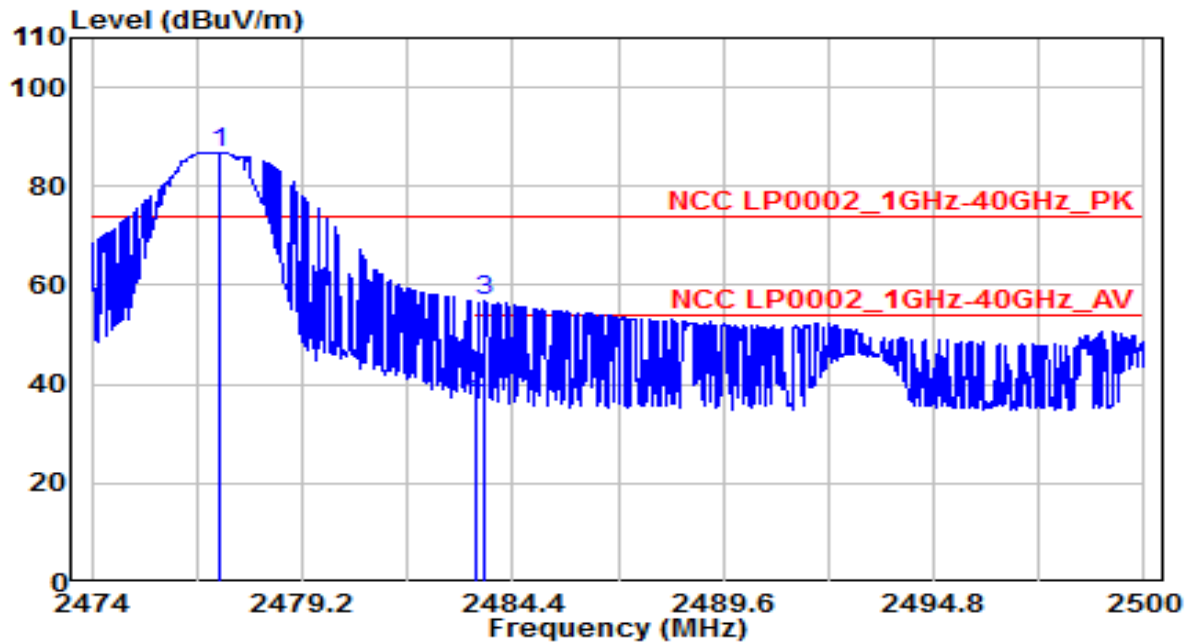


18GHz ~25GHz Test Setup:



5.4.4 頻帶邊緣測試結果

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C /62%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

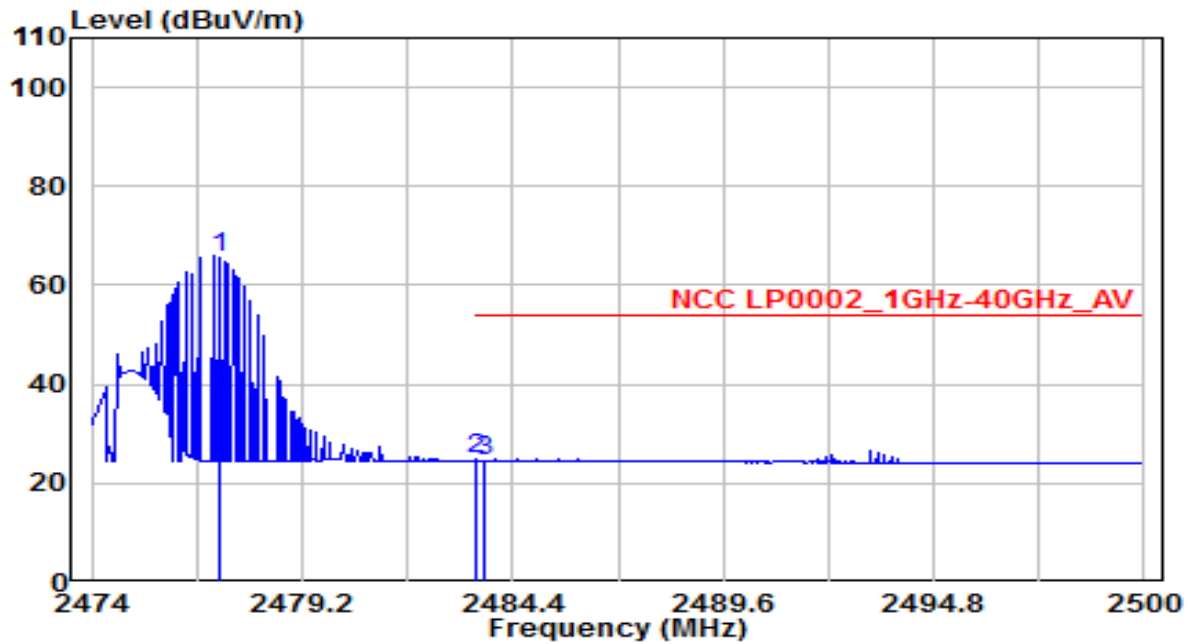


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2477.146	88.98	-2.33	86.65	N/A	N/A	140	180	Peak
2	2483.500	40.38	-2.30	38.09	-35.91	74.00	140	180	Peak
3	* 2483.698	58.96	-2.29	56.66	-17.34	74.00	140	180	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C /62%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

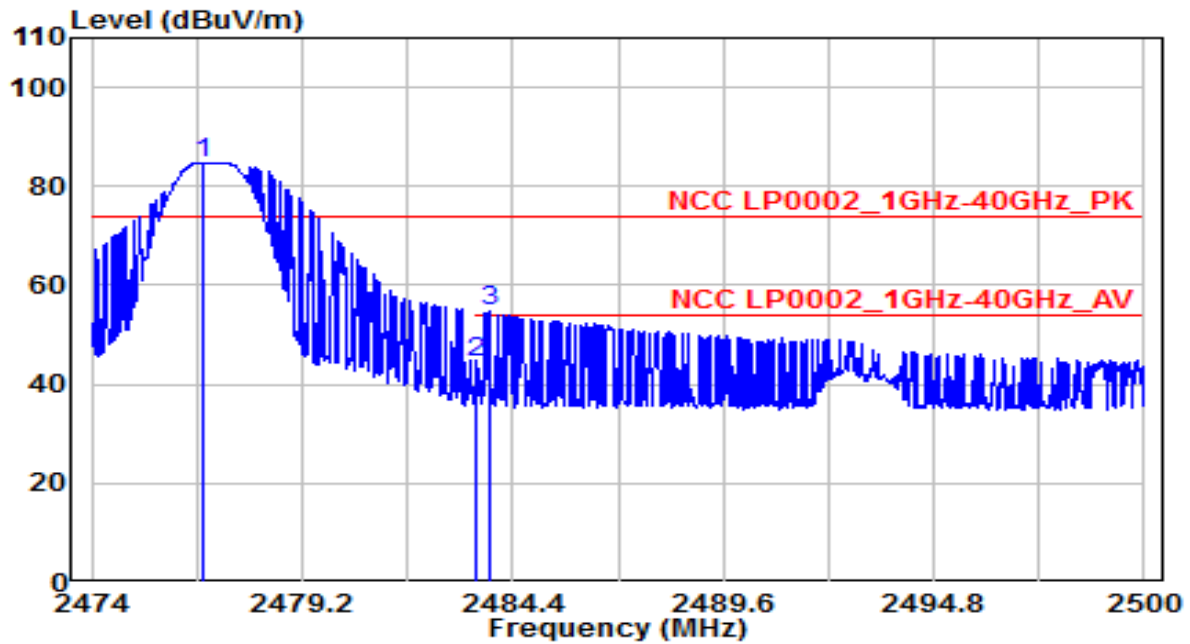


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2477.146	67.83	-2.33	65.51	N/A	N/A	140	180	Average
2	* 2483.500	27.03	-2.30	24.73	-29.27	54.00	140	180	Average
3	2483.698	26.77	-2.29	24.48	-29.52	54.00	140	180	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C /62%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery

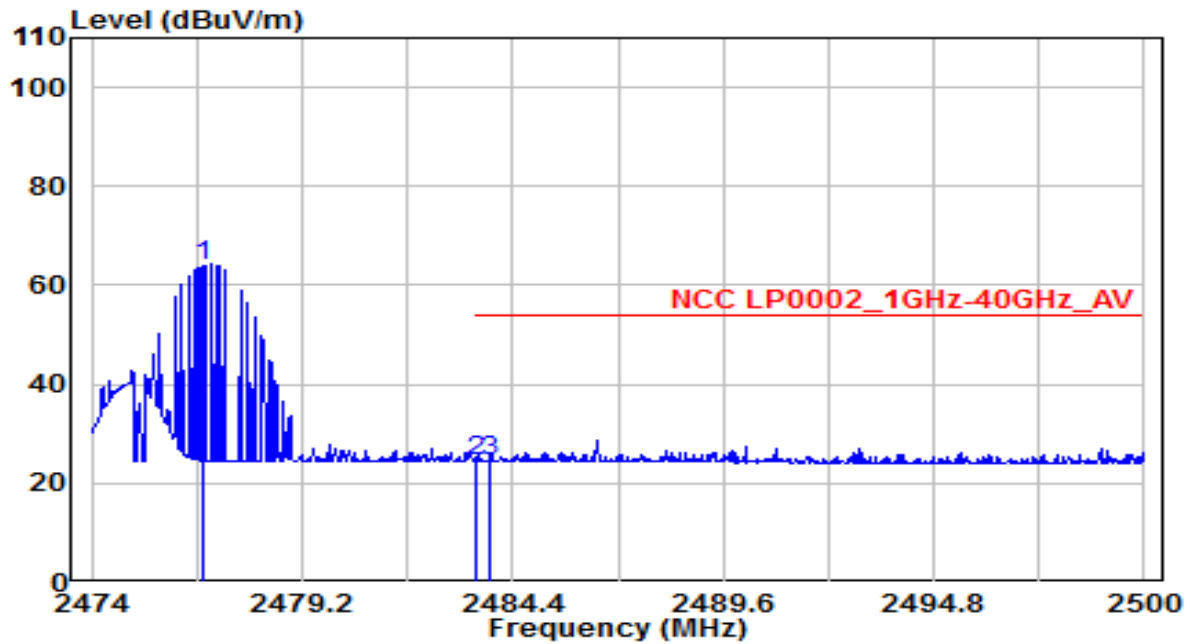


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2476.730	87.15	-2.33	84.82	N/A	N/A	110	345	Peak
2	2483.500	46.53	-2.30	44.23	-29.77	74.00	110	345	Peak
3	* 2483.802	56.89	-2.29	54.60	-19.40	74.00	110	345	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	45281	Date of Test	2020-02-05
Factor	BBHA 9120D	Temp. / Humidity	22°C /62%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	TX 2477MHz	Test Voltage	by Battery



No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2476.730	66.29	-2.33	63.96	N/A	N/A	110	345	Average
2	2483.500	26.81	-2.30	24.52	-29.48	54.00	110	345	Average
3	* 2483.802	26.90	-2.29	24.60	-29.40	54.00	110	345	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

The End