



NCC

低功率射頻電機型式試驗報告

產品名稱 : IXA BELT & IXARISER
型號 : 006-000399
廠牌 : BANDAI
商標 : 
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
測試標準 : LP0002 (107 年版)
參考法規 : ANSI C63.10-2013
接收日期 : 2020/7/31
測試日期 : 2020/8/4~8/6

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修訂記錄

報告編號	版本	描述	發行日期
2007TW3701-T1	1.0	Original Report	2020-08-14

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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	IXA BELT & IXARISER
產品型號	006-000399
廠牌	BANDAI
商標	
頻率範圍	2477MHz
調變模式	GFSK
待測物電壓	By Battery (DC 3V)

Note：此產品名稱 IXA BELT & IXARISER，型號 006-000399 於販售時為成套販售，其所搭配的產品資訊如下表：

產品名稱	廠牌	型號	備註
IXA BELT Knuckle	BANDAI	IXA BELT Knuckle	Transmitter
IXA BELT	BANDAI	IXA BELT	Receiver
IXA RISER	BANDAI	IXA RISER	Receiver

2.2 測試模式

Test Mode	Mode 1: Transmit by 2477MHz (IXA BELT Knuckle)
	Mode 2: Receive by 2477MHz (IXA RISER)
	Mode 3: Receive by 2477MHz (IXA BELT)

2.4 測試周邊

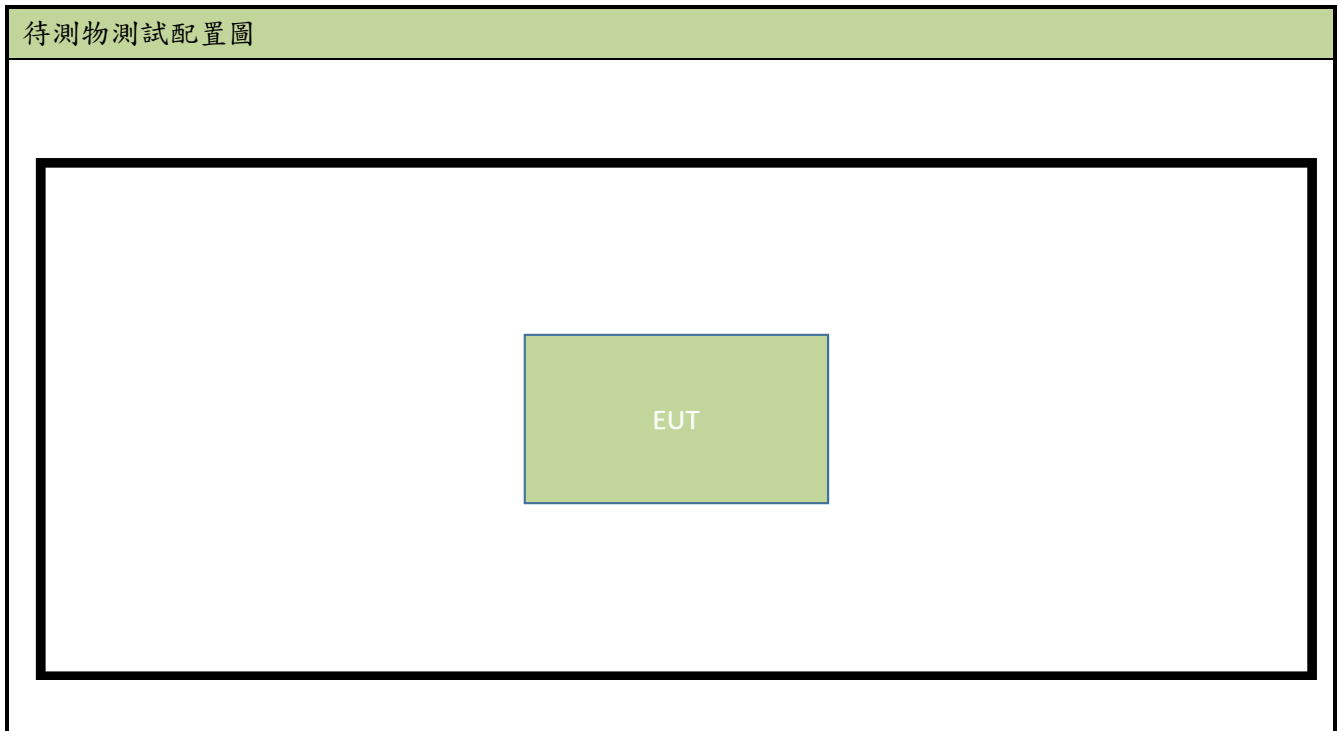
待測裝置測試時，其搭配系統測試時之週邊裝置包括如下： **N/A**

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

2.3 測試配置

待測物測試配置圖



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	有效日期
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	2020/9/4
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	2021/4/24
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	2021/4/24
Signal Analyzer	R&S	FSV40	MRTTWA00007	2021/3/24
EMI Test Receiver	R&S	ESR3	MRTTWA00009	2021/3/25
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00010	2021/6/16

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 IXA BELT & IXARISER
型號 006-000399

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
2.3 節	電源傳導	低功率射頻電機技術規範 2.3 節	N/A	第 5.5 章節

備註 1：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。

備註2：此樣品的電源為電池供電，因此不需要測試電源傳導。

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節規定，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 IXA BELT & IXARISER 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 C63.10-2013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，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。
備註：若為手持式或穿戴式之裝置，需對其三個正交軸的方位評估測試，並記錄最差的數值。

5.2.2 限制要求

其電場強度不得超過下表之限值。

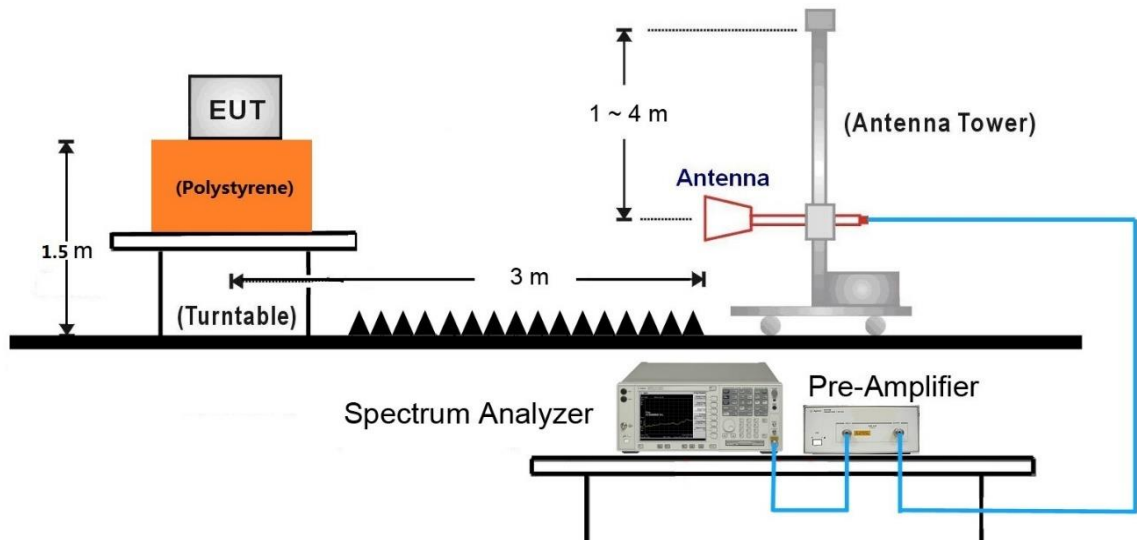
主波頻率(MHz)	主波電場強度(mV/m)
2400 ~ 2483.5	50
5725 ~ 5875	50
24000 ~ 24250	250

備註：

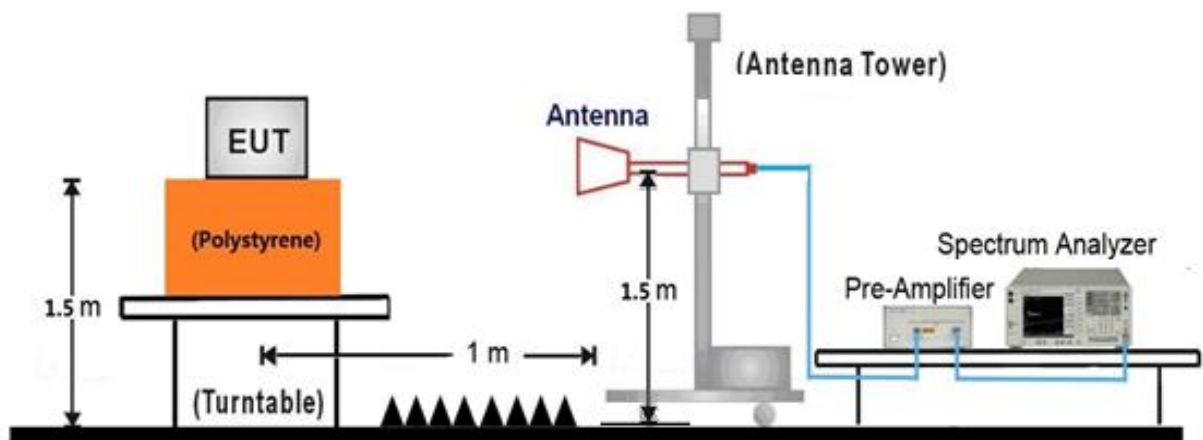
電場強度指距器材3公尺處所測量之值，且以平均值檢波器測量，同時須符合低功率射頻電機技術規範之第5.15.2節規定。點對點操作之器材沿天線方位角之峰值電場強度應小於或等於2500 mV/m。（主波電場強度單位換算mV/m to dBuV/m = $20 \log (mV/m \times 1000)$ ）

5.2.3 測試架構圖

1GHz ~18GHz Test Setup:

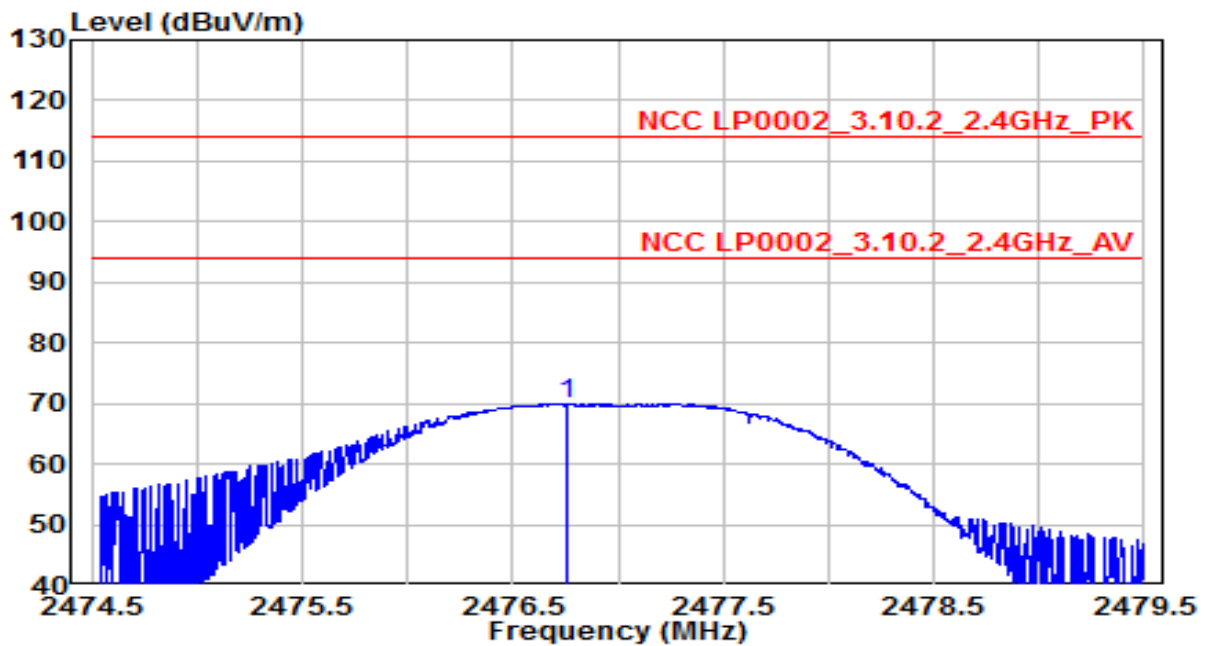


18GHz ~25GHz Test Setup:



5.2.4 主波發射測試結果

EUT	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D	Temp. / Humidity	24°C / 51%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery

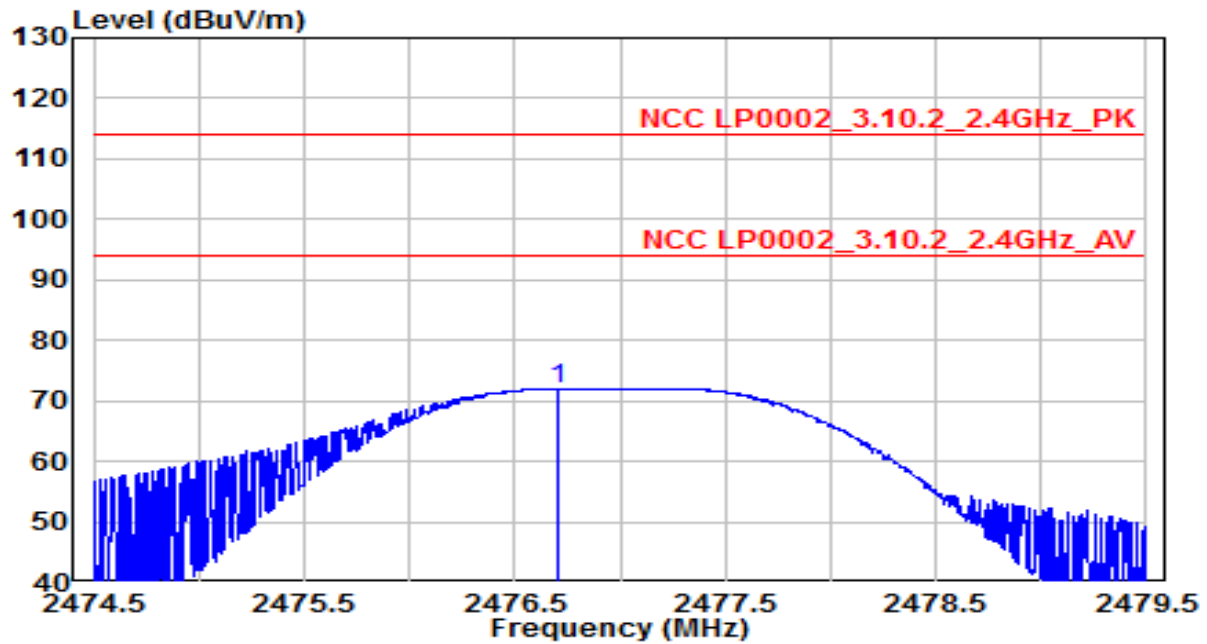


No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	2476.760	72.12	-2.32	69.80	-44.20	114.00	150	60	Peak

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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D	Temp. / Humidity	24°C /51%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	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	*	2476.700	74.34	-2.32	72.02	-41.98	114.00	125	375	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 C63.10-2018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。

備註：若為手持式或穿戴式之裝置，需對其三個正交軸的方位評估測試，並記錄最差的數值。

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(KHz)	300
0.490 (不含) – 1.705 (含)	24,000/f(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。

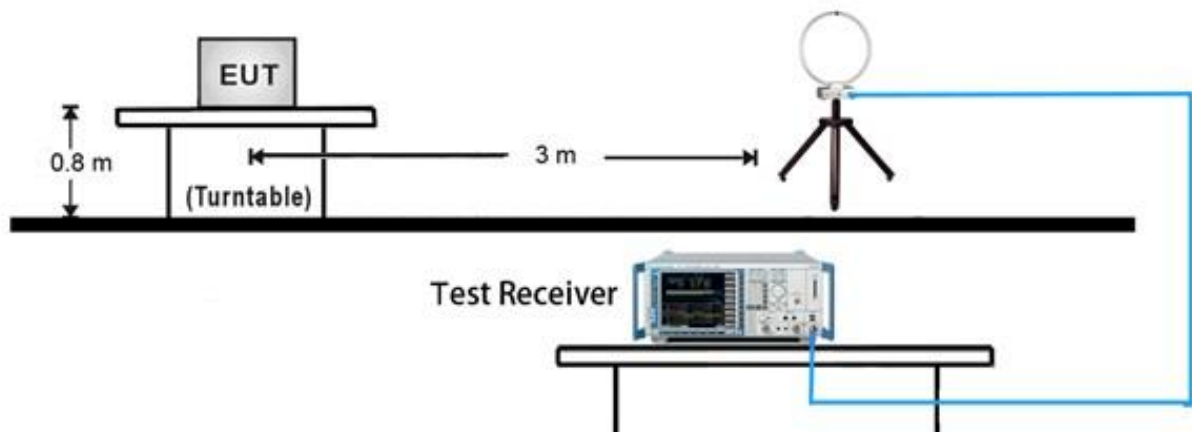
主波頻率(MHz)	諧波電場強度(mV/m)
2400 ~ 2483.5	500
5725 ~ 5875	500
24000 ~ 24250	2500

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。

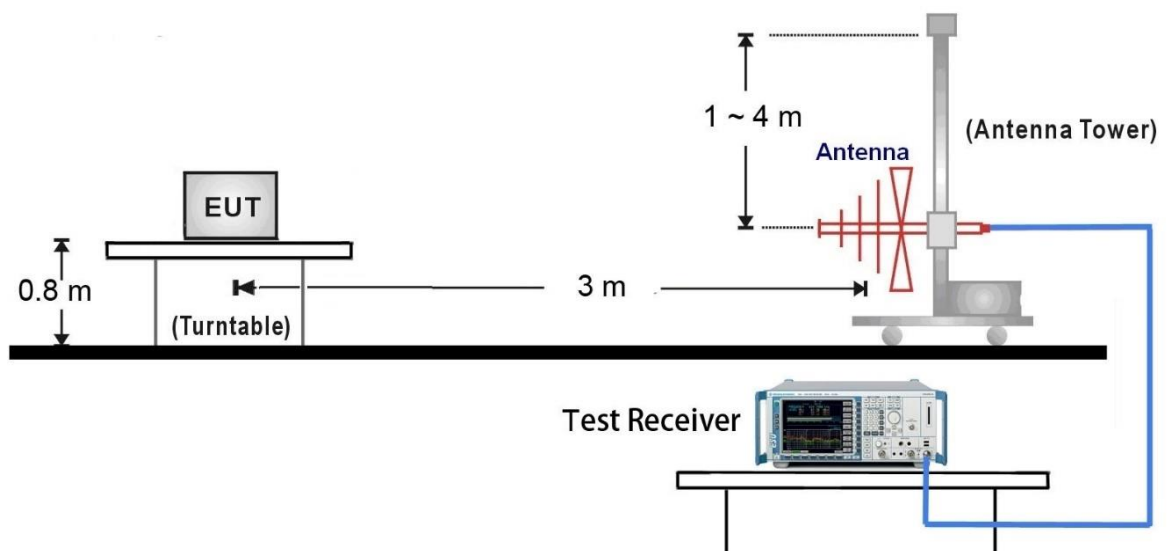
電場強度指距器材3 公尺處所測量之值，且以平均值檢波器測量，同時須符合低功率射頻電機技術規範之第5.15.2節規定。點對點操作之器材沿天線方位角之峰值電場強度應小於或等於2500 mV/m。(諧波電場強度單位換算 $\text{mV/m to dBuV/m} = 20 \log (\text{mV/m} \times 1000)$)

5.3.3 測試架構圖

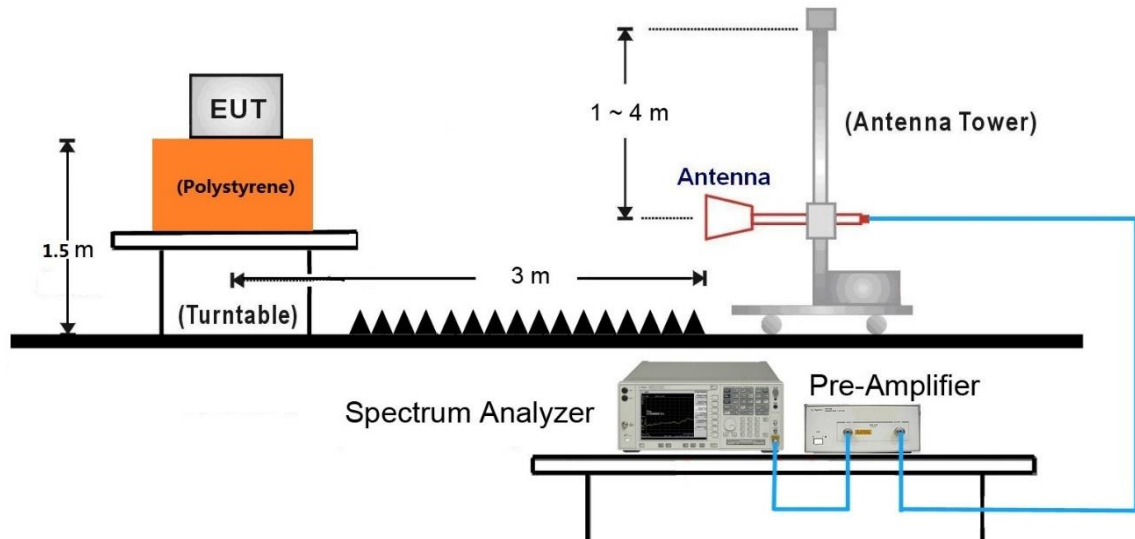
Under 30MHz Test Setup



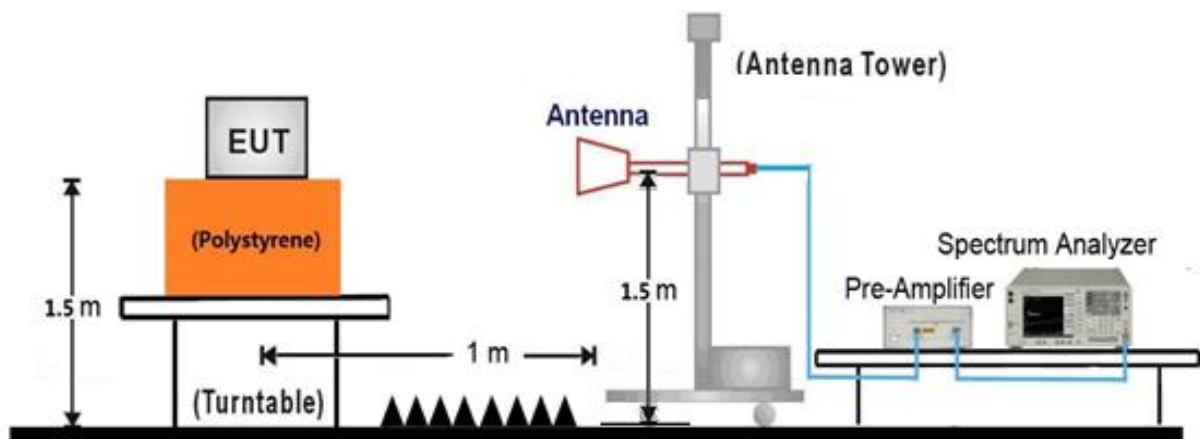
Under 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:

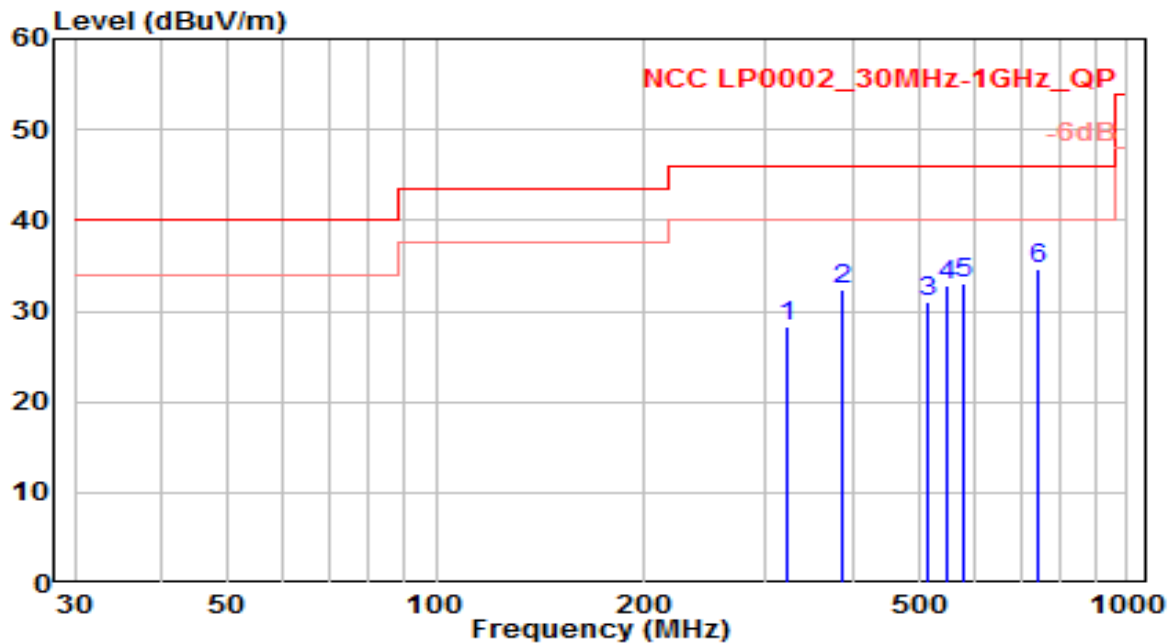


18GHz ~ 25GHz Test Setup:



5.3.4 混附波發射測試結果

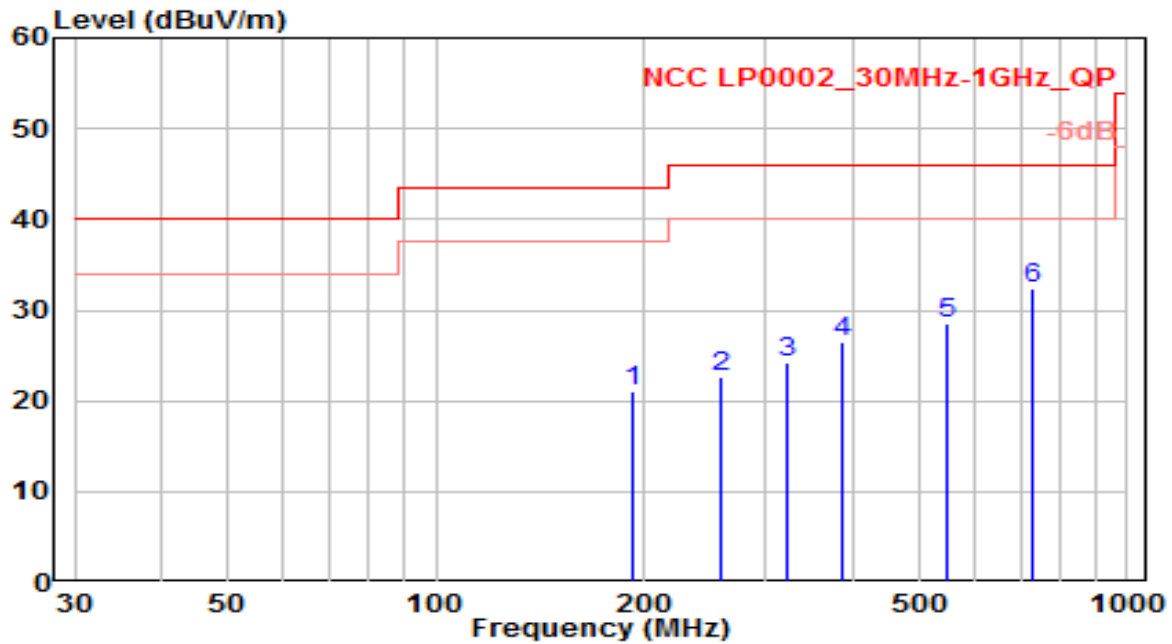
EUT	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C / 49%
Polarity	Horizontal	Site / Test Engineer	AC1 / Tim
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery



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	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C /49%
Polarity	Vertical	Site / Test Engineer	AC1 / Tim
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery

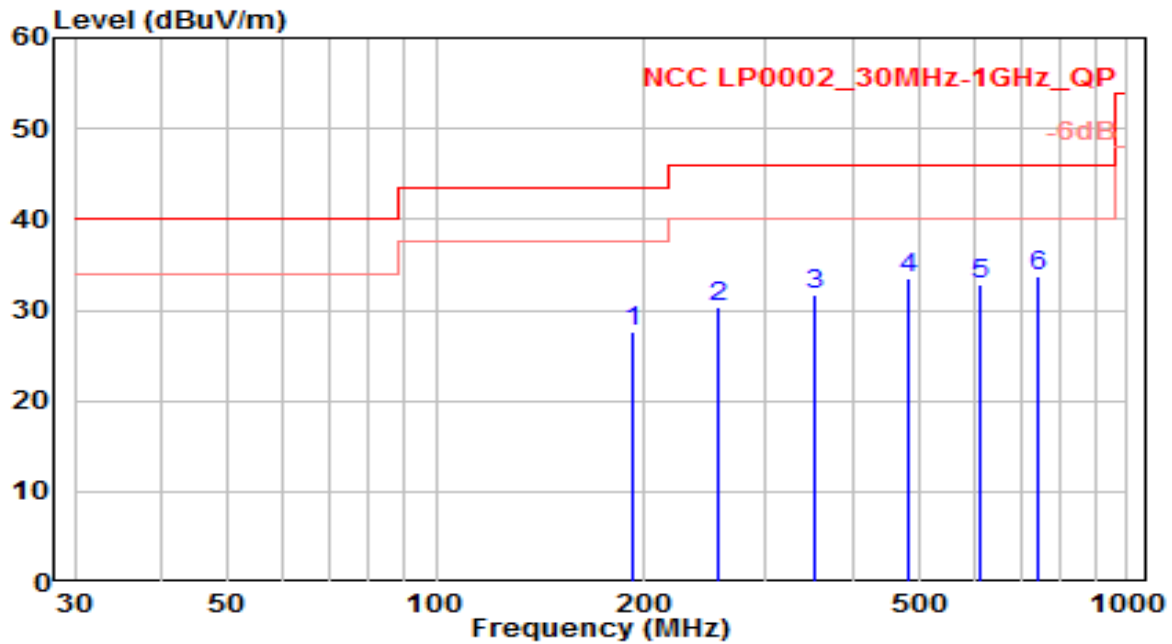


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	192.960	2.24	18.78	21.02	-22.48	43.50	100	150	QP
2	257.950	2.08	20.57	22.65	-23.35	46.00	100	205	QP
3	322.940	1.83	22.33	24.16	-21.84	46.00	100	190	QP
4	386.960	2.49	23.97	26.46	-19.54	46.00	100	315	QP
5	547.980	2.02	26.58	28.60	-17.40	46.00	100	200	QP
6	* 732.280	2.74	29.60	32.34	-13.66	46.00	100	400	QP

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	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C /49%
Polarity	Horizontal	Site / Test Engineer	AC1 / Tim
Test Mode	RX-2477MHz(IXA RISER)	Test Voltage	by Battery

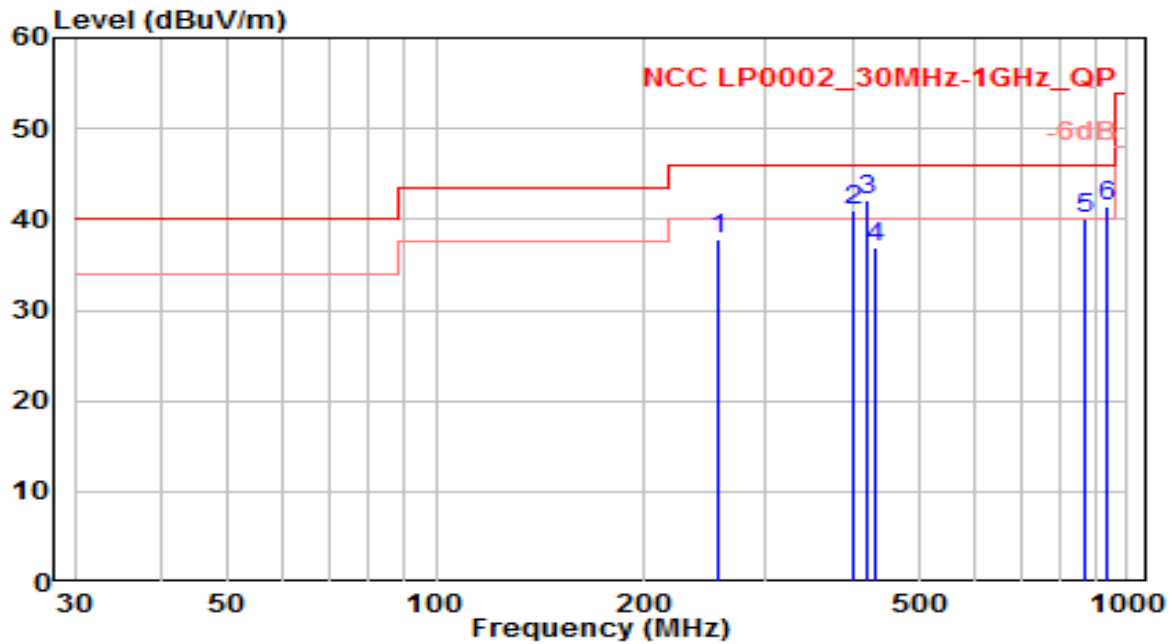


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	192.960	8.79	18.78	27.57	-15.93	43.50	100	100	QP
2	256.980	9.73	20.56	30.29	-15.71	46.00	100	160	QP
3	353.980	8.13	23.49	31.62	-14.38	46.00	100	260	QP
4	482.020	7.99	25.49	33.48	-12.52	46.00	100	300	QP
5	611.030	5.10	27.68	32.78	-13.22	46.00	100	190	QP
6	* 740.040	4.11	29.69	33.80	-12.20	46.00	100	60	QP

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	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C /49%
Polarity	Vertical	Site / Test Engineer	AC1 / Tim
Test Mode	RX-2477MHz(IXA RISER)	Test Voltage	by Battery

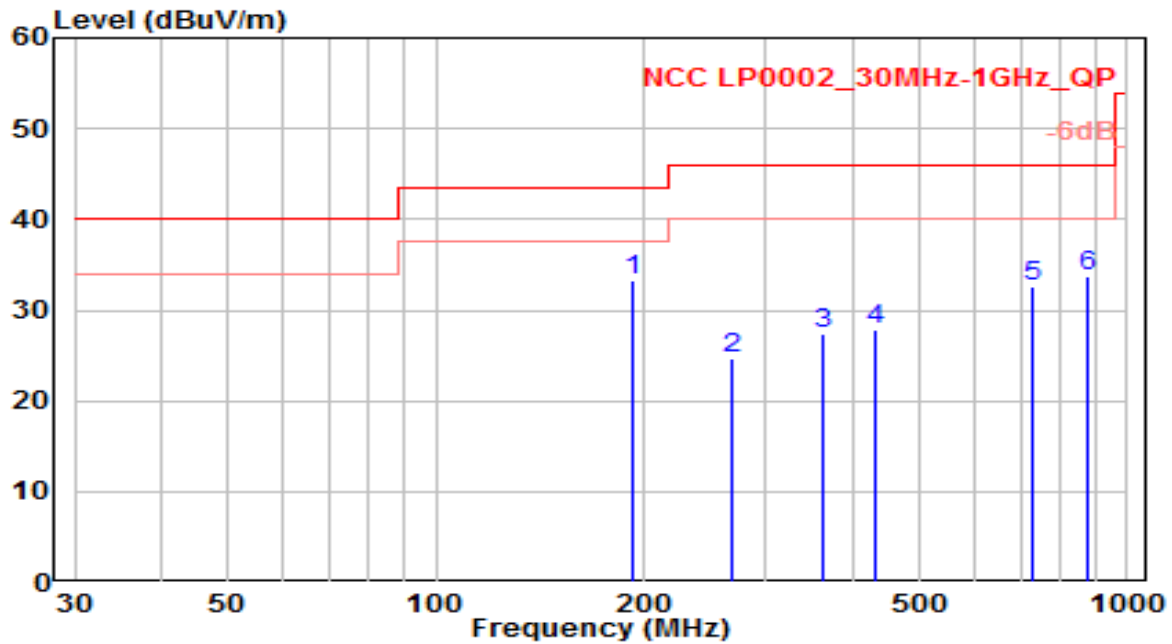


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	256.980	17.36	20.56	37.92	-8.08	46.00	100	160	QP
2	401.510	16.82	24.18	41.00	-5.00	46.00	100	260	QP
3 *	418.970	17.68	24.44	42.11	-3.89	46.00	100	290	QP
4	430.610	12.20	24.61	36.81	-9.19	46.00	100	295	QP
5	869.050	8.70	31.36	40.06	-5.94	46.00	100	170	QP
6	933.070	9.87	31.66	41.53	-4.47	46.00	100	110	QP

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	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C /49%
Polarity	Horizontal	Site / Test Engineer	AC1 / Tim
Test Mode	RX-2477MHz(IXA BELT)	Test Voltage	by Battery

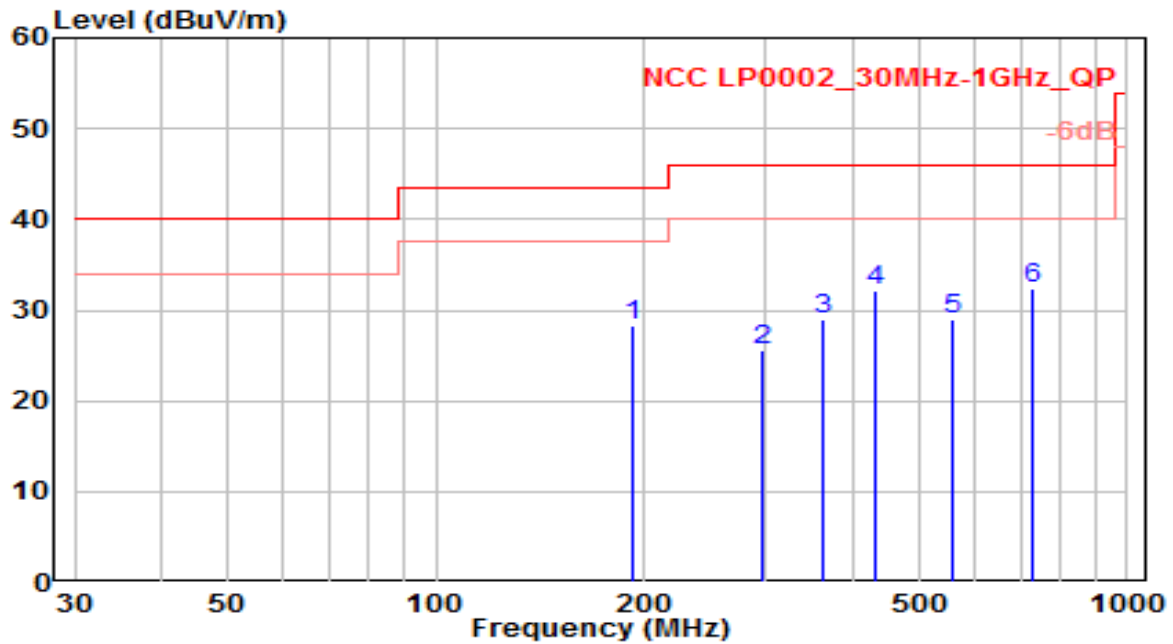


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 192.960	14.52	18.78	33.31	-10.19	43.50	100	150	QP
2	267.650	3.90	20.67	24.57	-21.43	46.00	100	260	QP
3	361.740	3.72	23.60	27.33	-18.67	46.00	100	100	QP
4	433.520	3.10	24.65	27.75	-18.25	46.00	100	310	QP
5	730.340	3.02	29.58	32.60	-13.40	46.00	100	140	QP
6	878.750	2.34	31.39	33.73	-12.27	46.00	100	190	QP

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	IXA BELT & IXARISER	Date of Test	2020-08-06
Factor	VULB 9162	Temp. / Humidity	26°C /49%
Polarity	Vertical	Site / Test Engineer	AC1 / Tim
Test Mode	RX-2477MHz(IXA BELT)	Test Voltage	by Battery

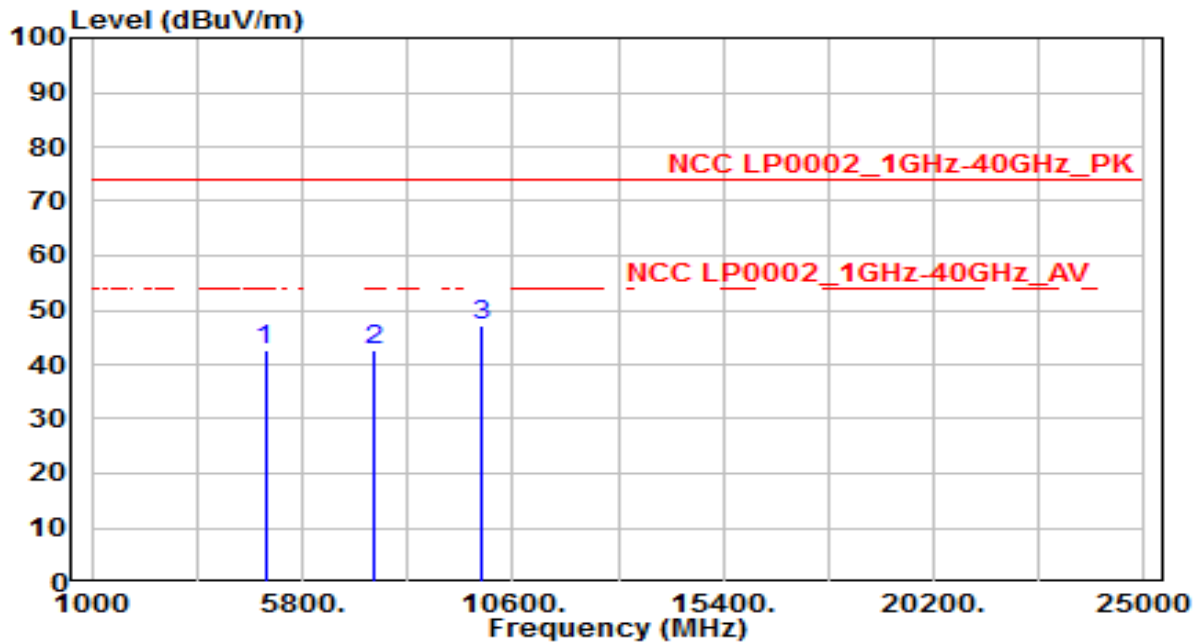


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	191.990	9.55	18.76	28.31	-15.19	43.50	100	260	QP
2	295.780	4.20	21.34	25.55	-20.45	46.00	100	140	QP
3	362.710	5.39	23.62	29.00	-17.00	46.00	100	340	QP
4	433.520	7.57	24.65	32.22	-13.78	46.00	100	60	QP
5	557.680	2.24	26.75	28.99	-17.01	46.00	100	190	QP
6	* 729.370	2.72	29.57	32.29	-13.71	46.00	100	170	QP

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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery

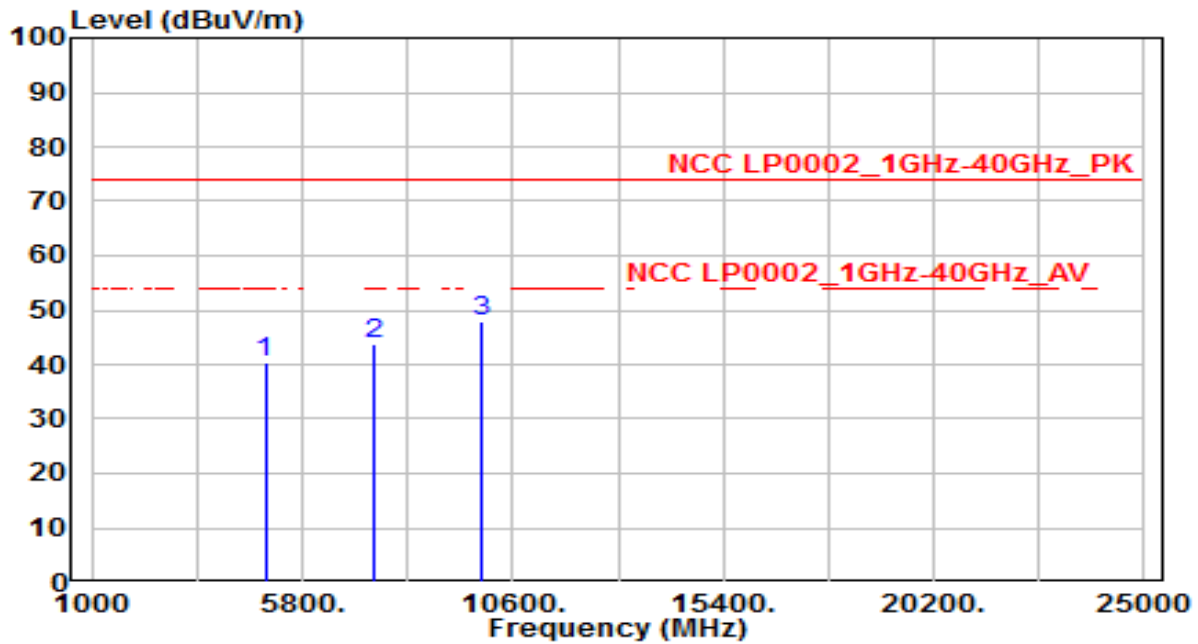


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4954.000	39.08	3.64	42.72	-31.28	74.00	150	400	Peak
2	7431.000	30.95	11.52	42.47	-31.53	74.00	150	400	Peak
3	* 9908.000	32.16	15.19	47.35	-26.65	74.00	150	400	Peak

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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery

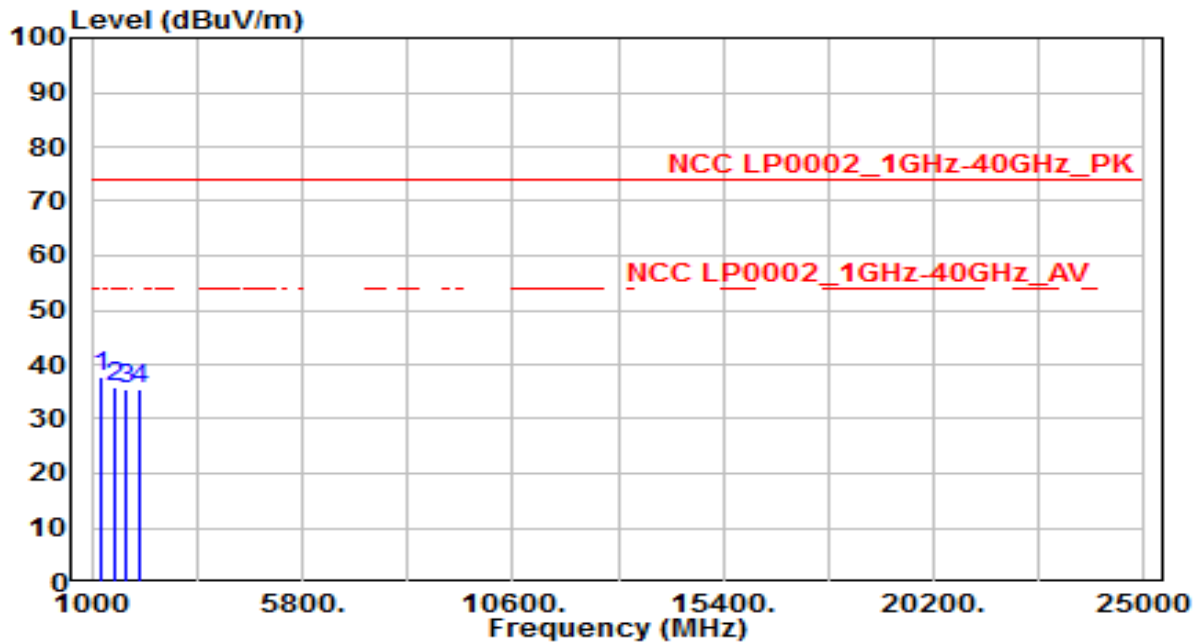


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4954.000	36.63	3.64	40.27	-33.73	74.00	150	400	Peak
2	7431.000	32.27	11.52	43.79	-30.21	74.00	150	400	Peak
3	* 9908.000	32.77	15.19	47.96	-26.04	74.00	150	400	Peak

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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	RX-2477MHz (IXA RISER)	Test Voltage	by Battery

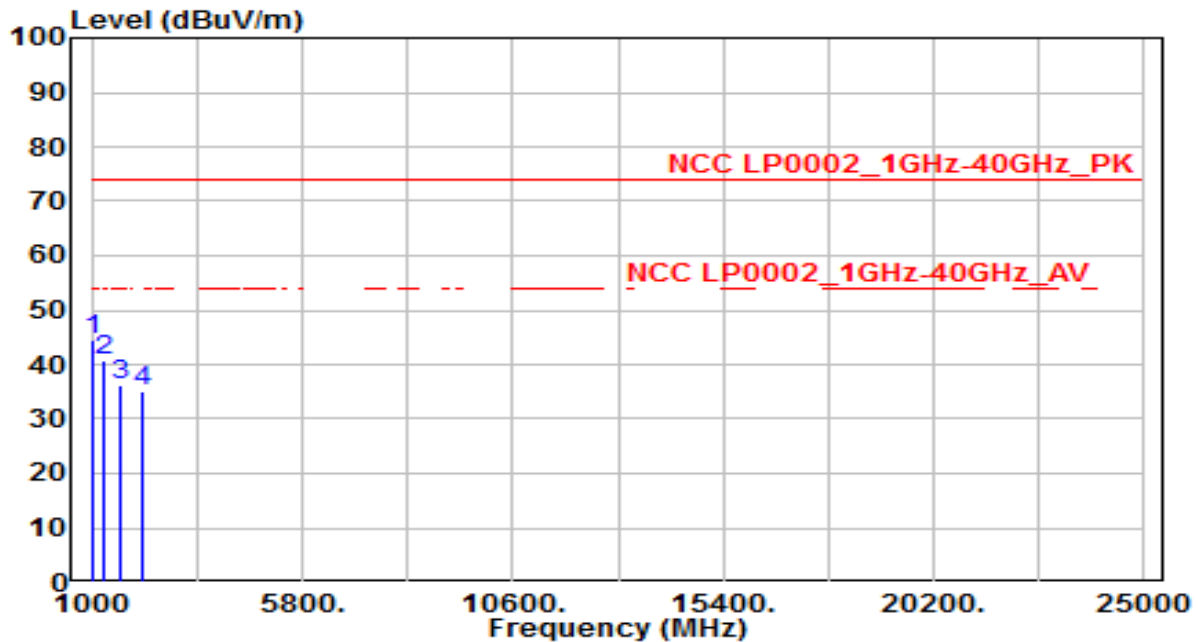


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 1189.125	44.72	-7.11	37.61	-36.39	74.00	150	400	Peak
2	1530.188	41.39	-5.65	35.74	-38.26	74.00	150	400	Peak
3	1782.000	40.63	-4.99	35.63	-38.37	74.00	150	400	Peak
4	2112.969	39.49	-3.92	35.57	-38.43	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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	RX-2477MHz (IXA RISER)	Test Voltage	by Battery

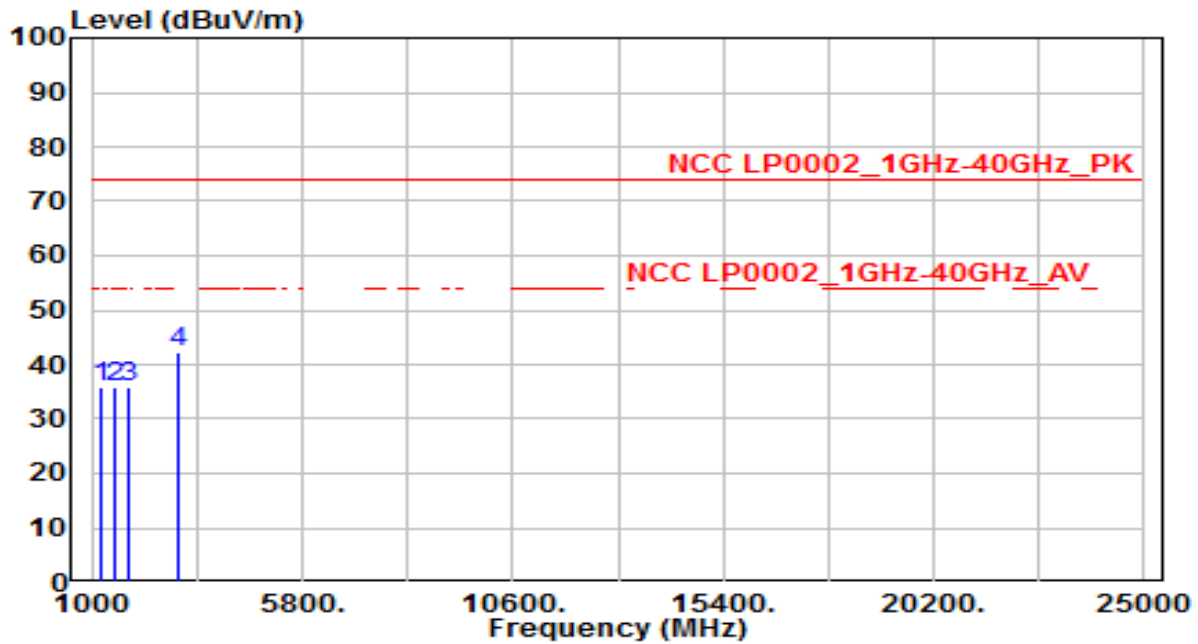


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 1044.094	52.12	-7.75	44.36	-29.64	74.00	150	400	Peak
2	1301.750	47.49	-6.61	40.88	-33.12	74.00	150	400	Peak
3	1649.719	41.64	-5.34	36.31	-37.69	74.00	150	400	Peak
4	2128.906	38.99	-3.85	35.13	-38.87	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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	RX-2477MHz (IXA BELT)	Test Voltage	by Battery

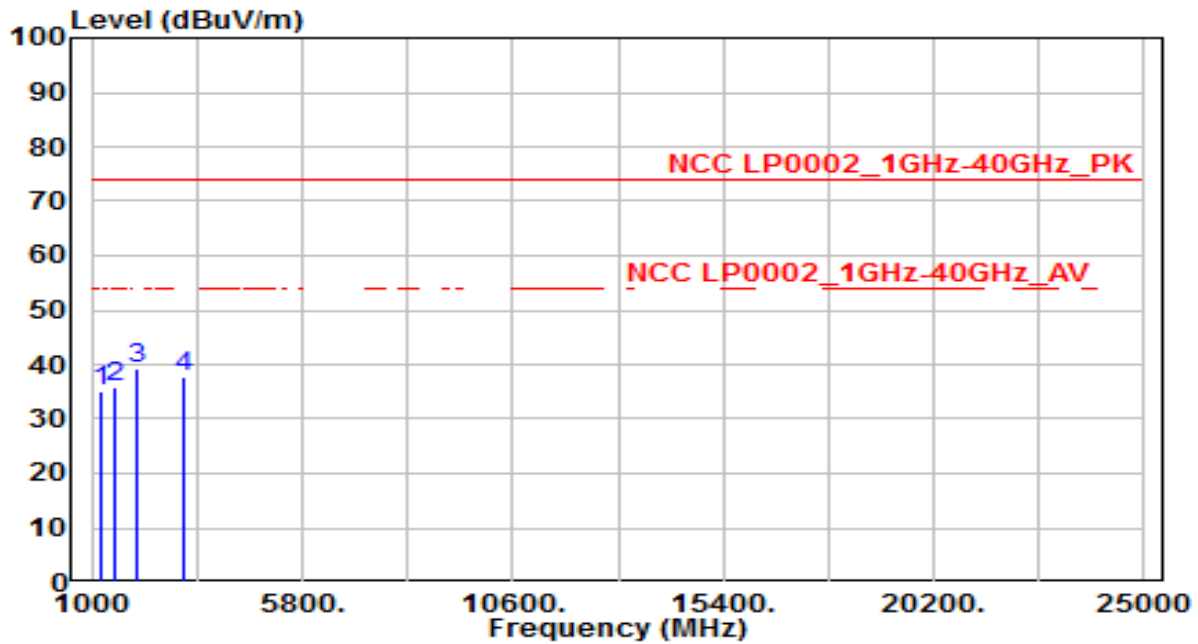


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1197.625	43.10	-7.07	36.03	-37.97	74.00	150	400	Peak
2	1541.344	41.47	-5.62	35.85	-38.15	74.00	150	400	Peak
3	1870.719	40.51	-4.76	35.75	-38.25	74.00	150	400	Peak
4	* 3002.260	44.95	-2.52	42.42	-31.58	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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	24°C /51%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	RX-2477MHz (IXA BELT)	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	1193.906	42.31	-7.09	35.22	-38.78	74.00	150	400	Peak
2	1540.813	41.42	-5.62	35.80	-38.20	74.00	150	400	Peak
3	* 2015.281	43.60	-4.35	39.25	-34.75	74.00	150	400	Peak
4	3075.594	40.19	-2.27	37.91	-36.09	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。

備註: 若為手持式或穿戴式之裝置，需對其三個正交軸的方位評估測試，並記錄最差的數值。

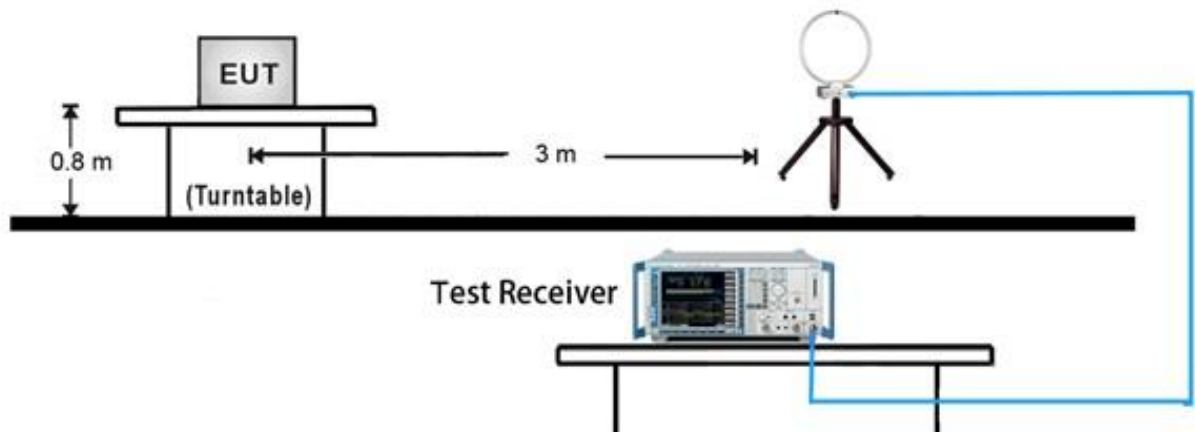
5.4.2 限制要求

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。

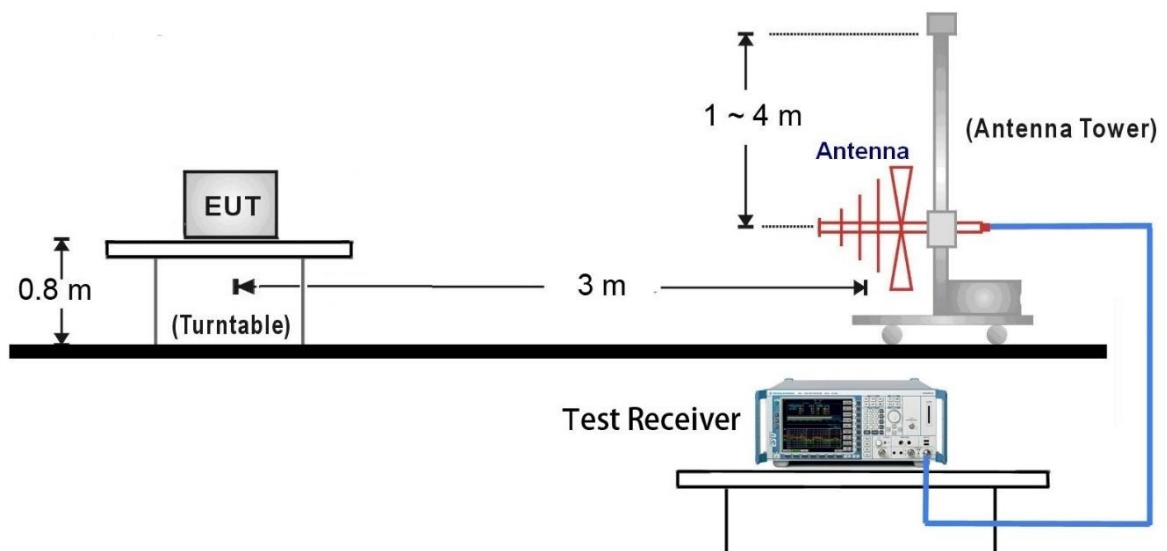
頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)	頻 率 (MHz)
0.090~0.110	25.500~25.700	703.00~748.00	2310.0~2390.0	13250~13400
0.490~0.510	37.475~38.275	758.00~803.00	2483.5~2900.0	14470~14500
2.172~2.198	73.500~75.400	825.00~915.00	3260.0~3267.0	15350~16200
3.013~3.033	108.00~138.00	930.00~1240.0	3332.0~3339.0	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

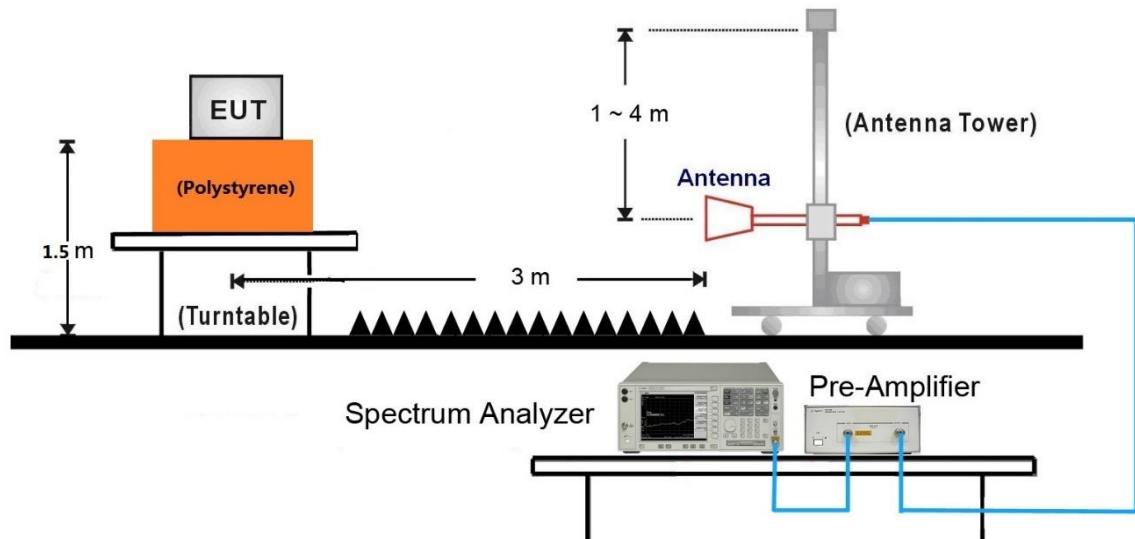
Under 30MHz Test Setup



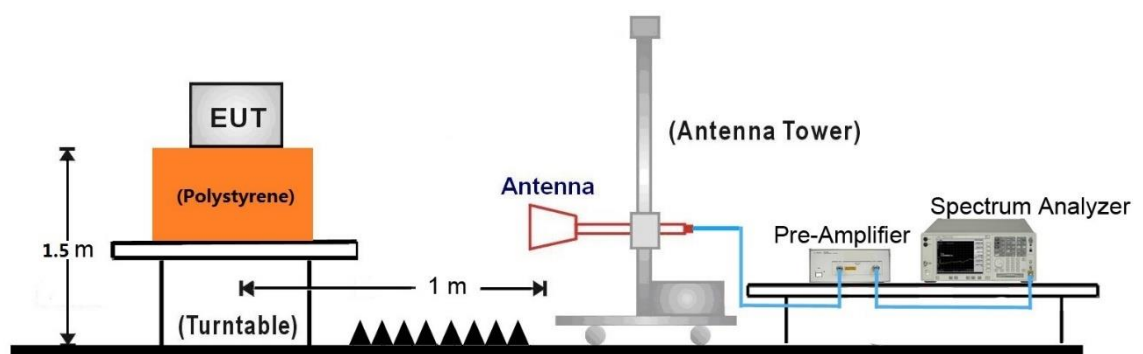
Under 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:

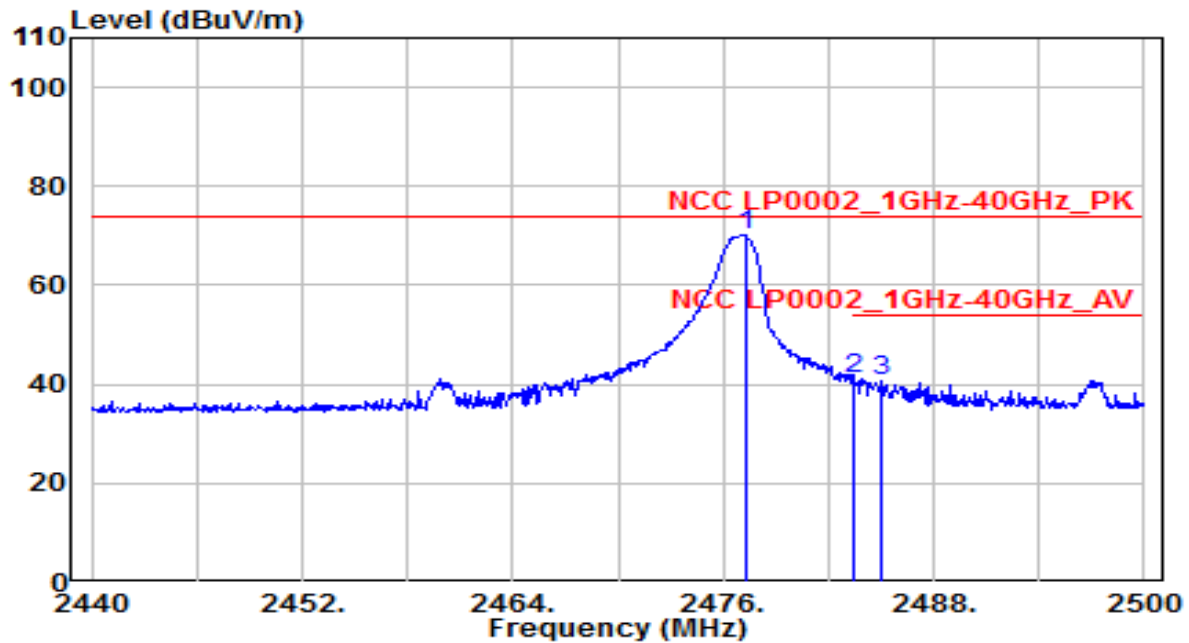


18GHz ~25GHz Test Setup:



5.4.4 頻帶邊緣測試結果

EUT	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D	Temp. / Humidity	24°C /51%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	Test Voltage	by Battery

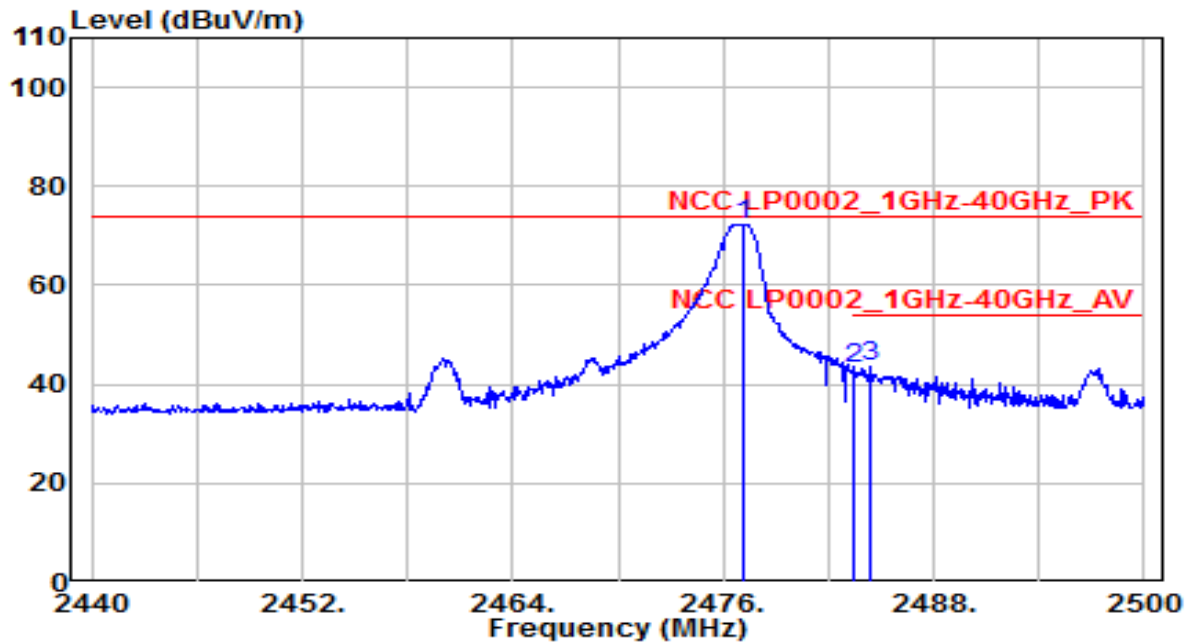


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2477.260	72.38	-2.32	70.06	N/A	N/A	150	60	Peak
2 *	2483.500	43.46	-2.29	41.17	-32.83	74.00	150	60	Peak
3	2485.000	43.13	-2.29	40.84	-33.16	74.00	150	60	Peak

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	IXA BELT & IXARISER	Date of Test	2020-08-04
Factor	BBHA 9120D	Temp. / Humidity	24°C /51%
Polarity	Vertical	Site / Test Engineer	AC1 / Jay
Test Mode	TX-2477MHz(IXA BELT Knuckle)	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	2477.200	74.63	-2.32	72.31	N/A	N/A	125	375	Peak
2	2483.500	45.32	-2.29	43.02	-30.98	74.00	125	375	Peak
3	* 2484.400	45.76	-2.29	43.47	-30.53	74.00	125	375	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.

5.5 電源傳導測試

5.5.1 量測方法

待測物放置於1m*2m*0.8m之非導體桌面並離垂直牆面40cm（落地型產品置於地上），將待測物之電源線接至電源阻抗網路器(LISN)，同時保持待測物至LISN距80公分，並將電源線多餘部份以30至40公分之八字形捆綁於電源線中央並離地40cm，於在正常工作狀態下，執行待測物之火線(Line)及地線(neutral)各一次量測。

電源端點場強之測量範圍由 0.15MHz –30MHz，所量測之讀值皆為準尖峰值(Quasi-Peak Value)及平均值(Average Value)。場強接收機之解析頻寬為9kHz。

備註：經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數。

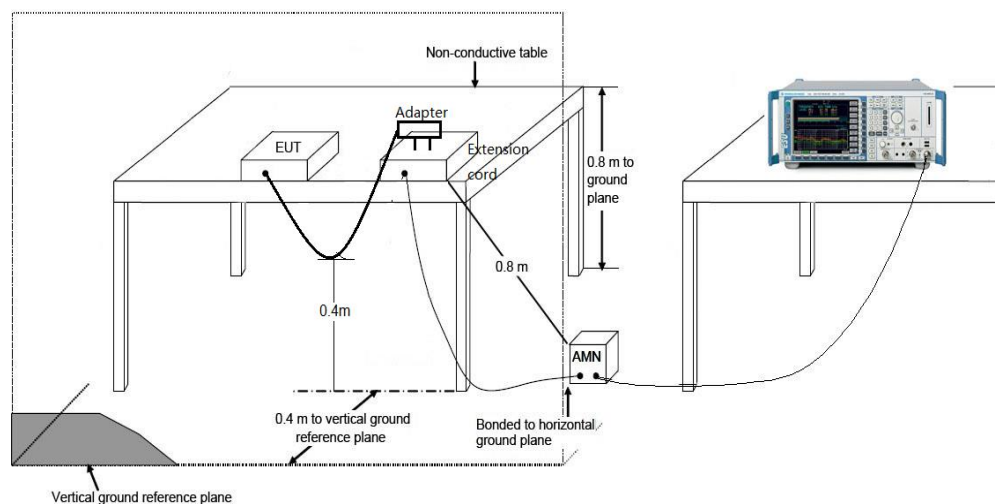
5.5.2 限制要求

以市電為電源之低功率射頻電機，其傳導回電源線上頻率自150kHz至30MHz之射頻電壓(在電源端子每一電源線對接地點)應小於或等於下表所列之限值。測量時應經過50微亨利(μH)及50歐姆(Ω)之電源線阻抗模擬網路(LISN)。頻率重疊處，以較低限值為準。

Frequency 頻率範圍 MHz	傳導限制值(dBuV)	
	準尖峰值	平均值
0.15 - 0.50	66-56 _(註)	56-46 _(註)
0.50-5.0	56	46
5.0 - 30	60	50

註:隨頻率之對數遞減

5.5.3 測試架構圖



5.5.4 電源端點測試結果

備註: 此樣品的電源為電池供電，因此不需要測試電源傳導。

The End
