晶復科技股份有限公司
A Test Lab Techno Corp.

低功率射頻電機試驗報告

報告編號	1708DR32
產品名稱	監聽級有源揚聲器
申請廠商	先鋒股份有限公司
銘牌標示及主要特性	Bluetooth
商標或廠牌	Pioneer DJ
型式 (號)	DM-40BT
系列型式 (號)	DM-40BT-W
產品試驗依據之標準	低功率射頻電機技術規範(LP0002) 105 年 08 月 23 日修訂版
報告發行日期	106 年 08 月 15 日

填發本型式認可報告之試驗機構 (認可代號)

晶復科技股份有限公司
33465 桃園市八德區長安街 140-1 號
Tel：03-2710188 / Fax：03-2710190

財團法人全國認證基金會
認證編號 ：1330
認證有效期間：105.09.06 ~ 108.09.05
認可能量範圍：低功率射頻電機技術規範(LP0002)
2.4GHz 射頻電信終端設備技術規範(RTTE01)

實 驗 室 聲 明

本測試報告內之測試結果可藉由測試儀器設備之校正報告與本報告內所評估量測不確定度追溯至國家或國際標準。

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低功率射頻電機測試證明書

發行日期：106年08月15日

產 品 名 稱 ：監聽級有源揚聲器

商 標 ：Pioneer DJ

型 號 ：DM-40BT

系 列 型號 ：DM-40BT-W

申 請 廠 商 ：先鋒股份有限公司

申請者地址 ：臺北市內湖區瑞光路407號8樓

製 造 廠 商 ：先鋒股份有限公司

製造商地址 ：臺北市內湖區瑞光路407號8樓

待測物電壓 ：AC 110-240V~ 50Hz/60Hz 35W

試 驗 電壓 ：110Vac, 60Hz

量 測 規 範 ：低功率射頻電機技術規範(LP0002) 105年8月23日修訂版

試驗實驗室 ：晶復科技股份有限公司(桃園市八德區長安街140-1號)

試驗受理日期 ：106 年 08 月 01 號

樣品接受日期 ：106 年 08 月 02 號

試驗完成日期 ：106 年 08 月 07 號

報告中所描述之測試結果與待測設備之架構組合，均根據實際量測情況作詳實的記錄。
由測試結果顯示，上述待測設備樣機確實已符合低功率射頻電機技術規範(LP0002)所規定的各項限制值。

特 此 證 明 ！

報告製作者：趙怡珊
（趙 怡 珊）

測 試 者：歐陽良相
（歐 陽 良 相）

審 核 者：呂宗霖
（呂 宗 霖）

本測試報告所敘述之測試結果，僅對客戶所提供之測試樣品,在此測試報告所述及之測試條件下所實施之量測有效。

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1. 一般敘述

1.1 待測設備一般敘述

本敘述僅針對產品簡單說明之，其他詳細之規格請參考使用說明書。

產品名稱	監聽級有源揚聲器
商標或廠牌	Pioneer DJ
型號	DM-40BT
系列型號	DM-40BT-W
額定電源	AC 110-240V~ 50Hz/60Hz 35W
調變方式	GFSK, π/4-DQPSK, 8DPSK
頻率使用範圍	2402 MHz – 2480 MHz
天線製造商	深圳市惠杰科技有限公司
天線型號	3G509-1B220B-A
天線型態	PIFA antenna
天線增益值	2.1 dBi
RF 最大輸出功率	BR, GFSK: 6.04 dBm/ 0.00402 W EDR, π/4-DQPSK: 4.04 dBm/ 0.00254 W EDR, 8DPSK: 4.47 dBm/ 0.00280 W

輸出/輸入埠說明：

輸出/入埠		數量	介面內容說明
1	AC Power Port	1	連接至 AC Power
2	RCA Port	2	連接至 PC
3	3.5mm Port	1	連接至 Mobile Phone

待測設備外圍說明：

電源線類別	本產品透過 AC Power Cable 供電
附屬裝置	無

1.2 其他相關聲明

本測試報告屬(以下選擇一種打■)

■	新設計之機型,申請新的型式檢驗認可的測試.
□	已取得型式檢驗認可之商品,因設計變更而重新測試 (變更內容請參考產品概述). 登錄號碼: XXXXXXXX

系列機型之差異說明

原機型 廠牌/型號	系列機型 廠牌/型號	差異敘述
Pioneer DJ / DM-40BT	Pioneer DJ / DM-40BT-W	因市場銷售需求,新增系列型號; 與主型號差異為外觀顏色不同，其餘電路設計、印刷電路板等等並無變更。 測試結果說明: Pioneer DJ / DM-40BT-W 與原機型 Pioneer DJ / DM-40BT 其差異判定不影響測試結果，因此引用原機型 Pioneer DJ / DM-40BT 之測試數據。

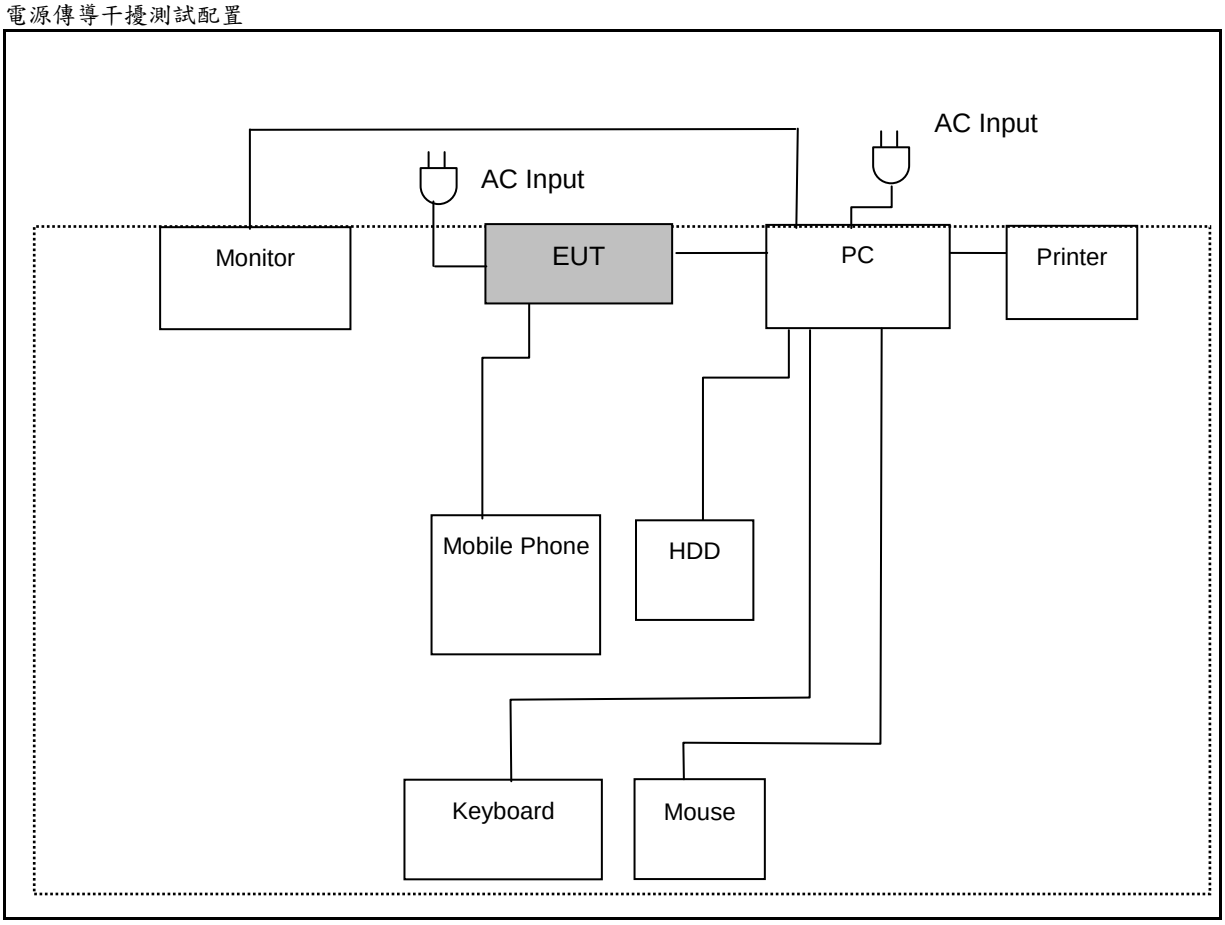
2. 量測儀器及測試配置說明

2.1 量測設備

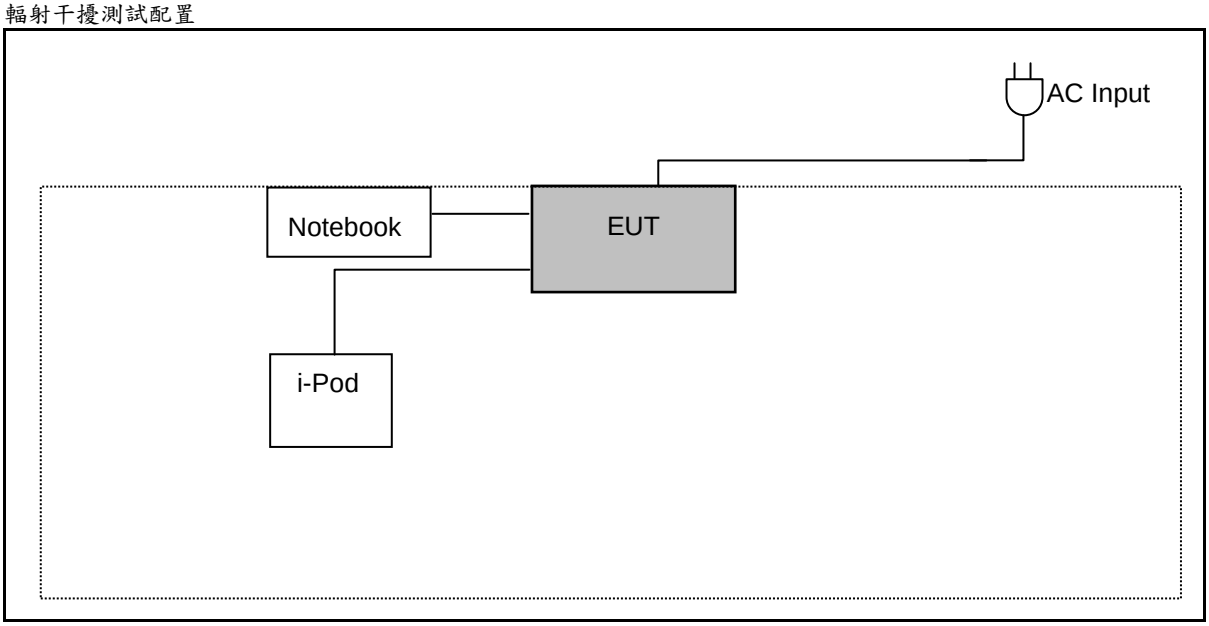
名 稱	廠 牌	型 號	序 號	本次校驗日期	下次校驗日期
藍芽模擬基地台	R & S	CBT	100350	04/06/2017	04/06/2019
頻譜分析儀	Agilent	E4408B	MY45107753	08/08/2016	08/08/2017
頻譜分析儀	Agilent	E4445A	MY45300744	12/19/2016	12/19/2017
頻譜分析儀	Agilent	E4446A	MY46180578	04/05/2017	04/05/2018
測試接收機	R&S	ESCI	100367	05/18/2017	05/18/2018
線性阻抗模擬網路	R&S	ENV216	101040	04/01/2017	04/01/2018
線性阻抗模擬網路	R&S	ENV216	101041	03/15/2017	03/15/2018
RF Pre-selector	Agilent	N9039A	MY46520256	04/05/2017	04/05/2018
Amplifier	Agilent	8449B	3008A02237	10/11/2016	10/11/2017
Amplifier	Agilent	8447D	2944A11119	01/12/2017	01/12/2018
天線	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	416	10/13/2016	10/13/2017
天線	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/20/2017	06/20/2018
天線	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/01/2017	08/01/2018
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/05/2016	12/05/2017
Wideband Power Meter	Agilent	N1921A	MY45241957	12/05/2016	12/05/2017

2.2 檢驗系統示意圖

電源傳導干擾測試配置



輻射干擾測試配置



2.3 測試模式

Pre-Test Mode
Mode 1: Normal Operation Mode
Mode 2: BR,GFSK Link Mode
Mode 3: EDR, π/4-DQPSK Link Mode
Mode 4: EDR, 8DPSK Link Mode
Mode 5: Receiver Mode

Final-Test Mode
Mode 1: Normal Operation Mode
Mode 2: BR,GFSK Link Mode
Mode 4: EDR, 8DPSK Link Mode
Mode 5: Receiver Mode

2.4 量測不確定度

下列量測不確定水準是參照量測儀器 CISPR 16-4-2 所規定之不確定度。

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9kHz ~ 150KHz	2.7
	150kHz ~ 30MHz	2.7
Radiated Emission	9kHz ~ 30MHz	1.7
	30MHz ~ 1000MHz	5.7
	1000MHz ~ 18000MHz	5.5
	18000MHz ~ 26500MHz	4.8
	26500MHz ~ 40000MHz	4.8
Conducted Output Power	+0.27 dB / -0.28 dB	
RF Bandwidth	4.96%	
Power Spectral Density	+0.71 dB / -0.77 dB	

2.5 試驗環境

產品測試時之實驗室環境條件如下:

項 目	測 試 項 目	需 求	實 際
溫度 Temperature (°C)	LP0002	10 - 40	26
濕度 Humidity (%RH)		10 - 90	60

中華民國實驗室認證體系

認可編號: 1330

測試實驗室名稱 : 晶復科技股份有限公司

TEL: 886-3-2710188 / FAX: 886-3-2710190

傳導干擾電壓量測地點: 桃園市八德區長安街 140-1 號.

輻射干擾場強量測地點: 桃園市八德區長安街 140-1 號.

3. 測試項目與結果判定總表

本測試報告之所有項目皆依據 NCC 低功率射頻電機技術規範(LP0002)之檢驗法。

BR/EDR 測試項目

項次	測試項目	適用規範	測試結果	量測設備	結果判定
1	輸出峰值功率	低功率射頻電機技術規範 3.10.1.2(1)(B)節	請參閱4.1節	請參閱2.1節	合格
2	電源線傳導干擾	低功率射頻電機技術規範 2.3節	請參閱4.2節	請參閱2.1節	合格
3	場強輻射 (1GHz以上)	低功率射頻電機技術規範 2.8節、2.9節、3.10.1.5節	請參閱4.3節	請參閱2.1節	合格
4	場強輻射其它不必要之訊號 (1GHz以下)	低功率射頻電機技術規範 2.8節、2.9節、3.10.1.5節	請參閱4.3節	請參閱2.1節	合格
5	頻帶邊緣外之輻射發射	低功率射頻電機技術規範 3.10.1.5節	請參閱4.3節	請參閱2.1節	合格
6	非必要頻帶	低功率射頻電機技術規範 3.10.1.5節	請參閱4.4節	請參閱2.1節	合格
7	頻率範圍	低功率射頻電機技術規範 3.10.1.1節	請參閱4.5節	請參閱2.1節	合格
8	發射頻寬	低功率射頻電機技術規範 3.10.1.6(1)(A)節	請參閱4.6節	請參閱2.1節	合格
9	頻道數	低功率射頻電機技術規範 3.10.1.6(1)(A)(a)節	請參閱4.7節	請參閱2.1節	合格
10	跳頻系統之載波頻率頻道間隔	低功率射頻電機技術規範 3.10.1.6(1)(A)節	請參閱4.8節	請參閱2.1節	合格
11	跳頻系統之任一頻率佔用之平均時間	低功率射頻電機技術規範 3.10.1.6(1)(A)(a)節	請參閱4.9節	請參閱2.1節	合格
12	天線規格	低功率射頻電機技術規範 3.10.1.3(3)節、3.10.1.4節	請參閱4.11節	-------	合格

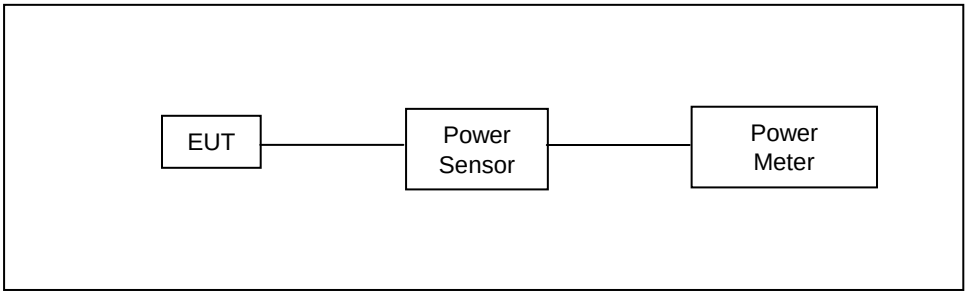
4. 測試項目表列

4.1 輸出峰值功率之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.2(1)(B)節之要求，所有操作於 2400-2483.5 兆赫且輸出功率應小於或等於 0.125W 。

測試架構圖 ：



測試結果:

操作模式	：	Mode 2: BR,GFSK Link Mode		
頻道		輸出功率(Peak)		限制值
		dBm	W	W
低頻道	DH1	4.12	0.00258	≦0.125
	DH3	4.14	0.00259	≦0.125
	DH5	4.17	0.00261	≦0.125
中頻道	DH1	6.01	0.00399	≦0.125
	DH3	6.02	0.00400	≦0.125
	DH5	**6.04**	**0.00402**	≦0.125
高頻道	DH1	5.47	0.00352	≦0.125
	DH3	5.48	0.00353	≦0.125
	DH5	5.51	0.00356	≦0.125

操作模式	：	Mode 3: EDR, π/4-DQPSK Link Mode		
頻道		輸出功率(Peak)		限制值
		dBm	W	W
低頻道	2DH1	1.78	0.00151	≦0.125
	2DH3	1.82	0.00152	≦0.125
	2DH5	1.85	0.00153	≦0.125
中頻道	2DH1	4.01	0.00252	≦0.125
	2DH3	4.03	0.00253	≦0.125
	2DH5	**4.04**	**0.00254**	≦0.125
高頻道	2DH1	3.37	0.00217	≦0.125
	2DH3	3.39	0.00218	≦0.125
	2DH5	3.43	0.00220	≦0.125

操作模式	：	Mode 4:EDR, 8DPSK Link Mode		
頻道		輸出功率(Peak)		限制值
		dBm	W	W
低頻道	3DH1	2.15	0.00164	≦0.125
	3DH3	2.19	0.00166	≦0.125
	3DH5	2.23	0.00167	≦0.125
中頻道	3DH1	4.35	0.00272	≦0.125
	3DH3	4.39	0.00275	≦0.125
	3DH5	**4.47**	**0.00280**	≦0.125
高頻道	3DH1	3.87	0.00244	≦0.125
	3DH3	3.89	0.00245	≦0.125
	3DH5	3.81	0.00240	≦0.125

4.2 電源線傳導干擾之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 2.3 節，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 150 kHz 至 30MHz 之射頻電壓 (在電源端子每一電源線對接地點) 不得超過下表所列之限值。測量時應經過 50Ω//50μH 之電源線阻抗模擬網路 (LISN)。頻率重疊處，以較低限值為準。

Frequency (MHz)	傳導限制值 (dBuV)	
	準峰值 (Quasi – peak)	平均值 (Average)
0.15 – 0.5	66 - 56 (註)	56 - 46 (註)
0.5 – 5	56	46
5 - 30	60	50

註：隨頻率之對數遞減。

測試方法 ：

測試場地為標準傳導測試場地。將待測物置於 0.8 米高的非金屬桌面，使其在工作狀態，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 0.15MHz 至 30MHz 之間之電源線傳導放射強度。

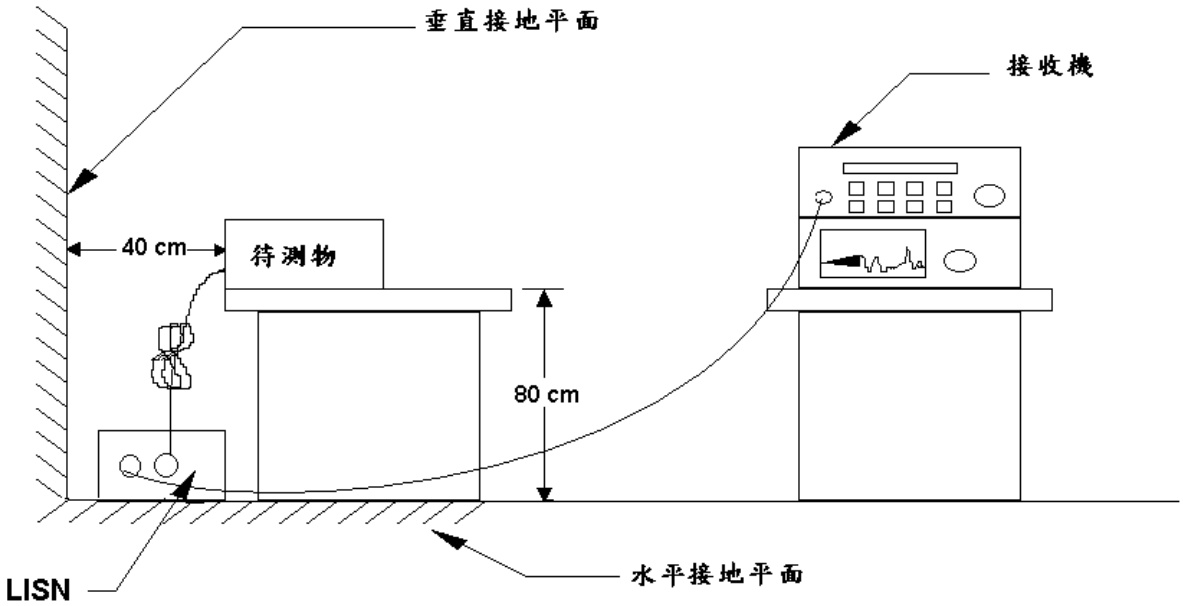
干擾值之計算

電源傳導干擾電壓之計算公式如下

結果值 = 儀器讀值(QP/AV) + 校正因子

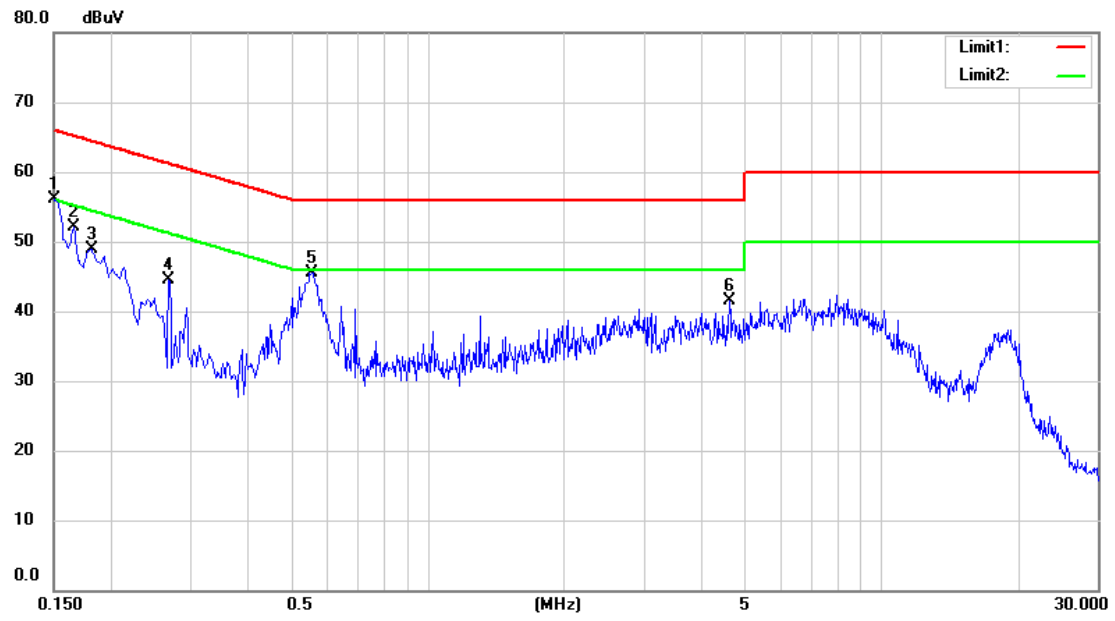
其中校正因子為： 饋線損失 + 電源阻抗模擬網路損失

測試架構圖 ：



測試結果:

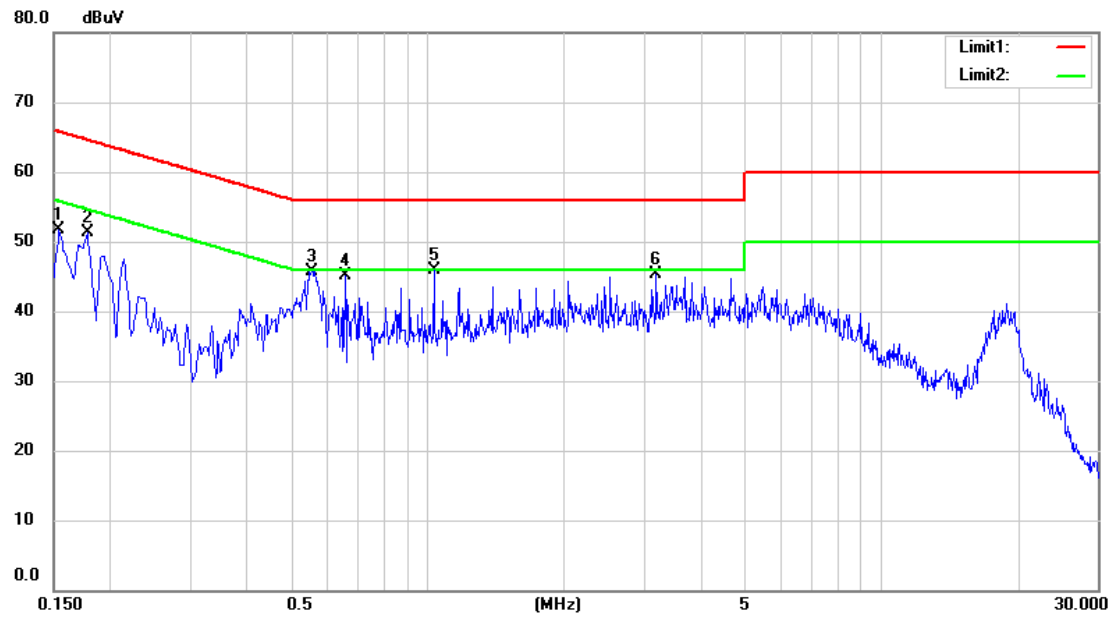
Standard:	LP0002	Line:	L1
Test item:	Conducted Emission	Power:	AC 110V/60Hz
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
		Date:	08/07/2017
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	41.69	23.93	9.63	51.32	33.56	66.00	56.00	-14.68	-22.44	Pass
2	0.1660	38.39	16.56	9.64	48.03	26.20	65.16	55.16	-17.13	-28.96	Pass
3	0.1820	36.33	20.13	9.64	45.97	29.77	64.39	54.39	-18.42	-24.62	Pass
4	0.2700	25.10	12.33	9.65	34.75	21.98	61.12	51.12	-26.37	-29.14	Pass
5	0.5580	34.11	21.62	9.67	43.78	31.29	56.00	46.00	-12.22	-14.71	Pass
6	4.6300	17.12	11.09	9.85	26.97	20.94	56.00	46.00	-29.03	-25.06	Pass

註：1. QP / AVG result (dBuV) = Correction factor (dB) + QP / AVG reading (dBuV)。
2. Correction factor dB) = 量測信號線損失(dB) + 電源阻抗模擬網路係數(dB)。

Standard:	LP0002	Line:	N
Test item:	Conducted Emission	Power:	AC 110V/60Hz
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
		Date:	08/07/2017
Description:			

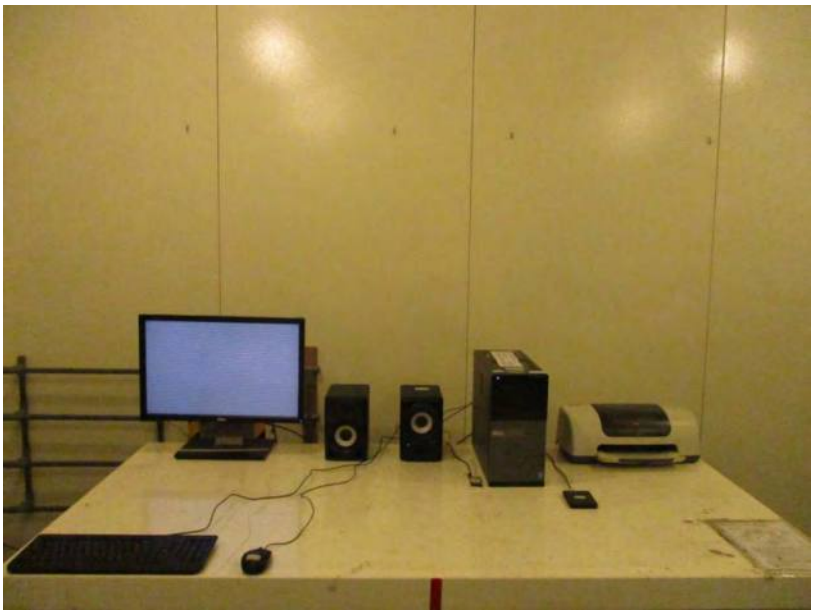


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	40.36	24.94	9.63	49.99	34.57	65.78	55.78	-15.79	-21.21	Pass
2	0.1780	36.90	22.45	9.64	46.54	32.09	64.58	54.58	-18.04	-22.49	Pass
3	0.5580	33.36	21.50	9.67	43.03	31.17	56.00	46.00	-12.97	-14.83	Pass
4	0.6580	24.46	13.44	9.68	34.14	23.12	56.00	46.00	-21.86	-22.88	Pass
5	1.0340	24.09	15.41	9.70	33.79	25.11	56.00	46.00	-22.21	-20.89	Pass
6	3.2060	24.74	17.50	9.80	34.54	27.30	56.00	46.00	-21.46	-18.70	Pass

註：1. QP / AVG result (dBuV) = Correction factor (dB) + QP / AVG reading (dBuV)。
2. Correction factor dB) = 量測信號線損失(dB) + 電源阻抗模擬網路係數(dB)。

測試配置照片:

敘述： 傳導干擾檢驗照片(前)



敘述： 傳導干擾檢驗照片(後)

4.3 場強輻射之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之使用頻帶範圍外之任意 100 千赫 (kHz)內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz)內的射頻功率，至少須衰減 20 dB，以射頻傳導或輻射方式測量。如發射機以依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.5(2)之峰值傳導輸出功率量測方式者，至少須衰減 30 dB。此外，落於第 2.7 節禁用頻段之輻射發射，應符合第 2.8 節之規定。

依據 NCC 低功率射頻電機技術規範第 2.7 節之規定,禁用頻段如下：

頻率(MHz)	頻率(MHz)	頻率(MHz)
0.090 - 0.110	162.01 – 167.17	3500.0 – 4400.0
0.490 - 0.510	167.72 – 173.20	4500.0 – 5250.0
2.172 – 2.198	240.00 – 285.00	5350.0 – 5460.0
3.013 – 3.033	322.00 – 335.40	7250.0 – 7750.0
4.115 - 4.198	399.90 – 410.00	8025.0 – 8500.0
5.670 – 5.690	608.00 – 614.00	9000.0 – 9200.0
6.200 – 6.300	825.00 – 915.00	9300.0 – 9500.0
8.230 – 8.400	935.00 – 1240.0	10600 - 12700
12.265 – 12.600	1300.0 – 1427.0	13250 - 13400
13.340 – 13.430	1435.0 – 1626.5	14470 - 14500
14.965 – 15.020	1660.0 – 1755.0	15350 - 16200
16.700 – 16.755	1805.0 – 1850.0	17700 - 21400
19.965 – 20.020	2200.0 – 2300.0	22010 - 23120
25.500 – 25.700	2310.0 – 2390.0	23600 - 24000
37.475 – 38.275	2483.5 – 2500.0	31200 - 31800
73.500 – 75.400	2655.0 – 2900.0	36430 - 36500
108.00 – 138.00	3260.0 – 3267.0	38600 以上
149.90 – 150.05	3332.0 – 3339.0	
156.70 – 156.90	3345.8 – 3358.0	

依據 NCC 低功率射頻電機技術規範第 2.8 節之規定,除本規範各章節另有放寬規定者外，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(μV/m)	測距(m)
0.009 - 0.490(含)	2,400/頻率(千赫)	300
0.490 (不含) – 1.705 (含)	24,000/頻率(千赫)	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

測試方法 ：

測試場地為開放測試場,將待測物置於 0.8 米高的非金屬桌面，使其在工作狀態，接收天線置於 3 米外相同的高度。待測物分別要垂直或水平放置，而且桌面要 360 度旋轉，另外接收天線也要從 1.0 米至 4.0 米升降變化，以找出最大的輻射電場強度，接收天線置於水平、垂直極向各執行測試一次。

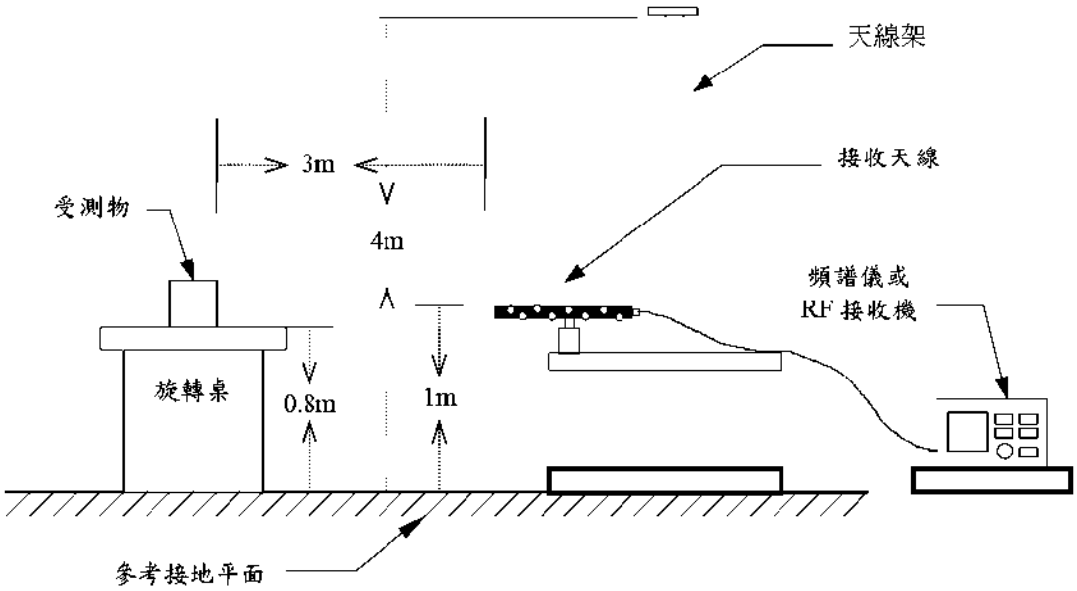
場強度之計算

場強之計算公式為：結果值 = 讀值 + 校正因子

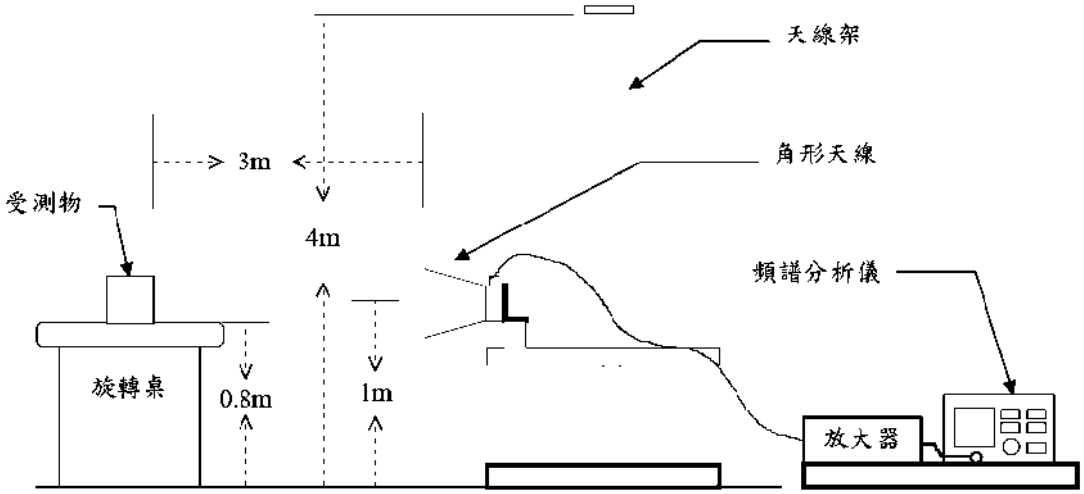
其中校正因子為： 天線因子+ 饋線損失 + 濾波器損失（若有使用） - 放大器增益（若有使用）

測試架構圖 ：

量測頻率低於 1GHz 以下之測試配置



量測頻率高於 1GHz 以上之測試配置

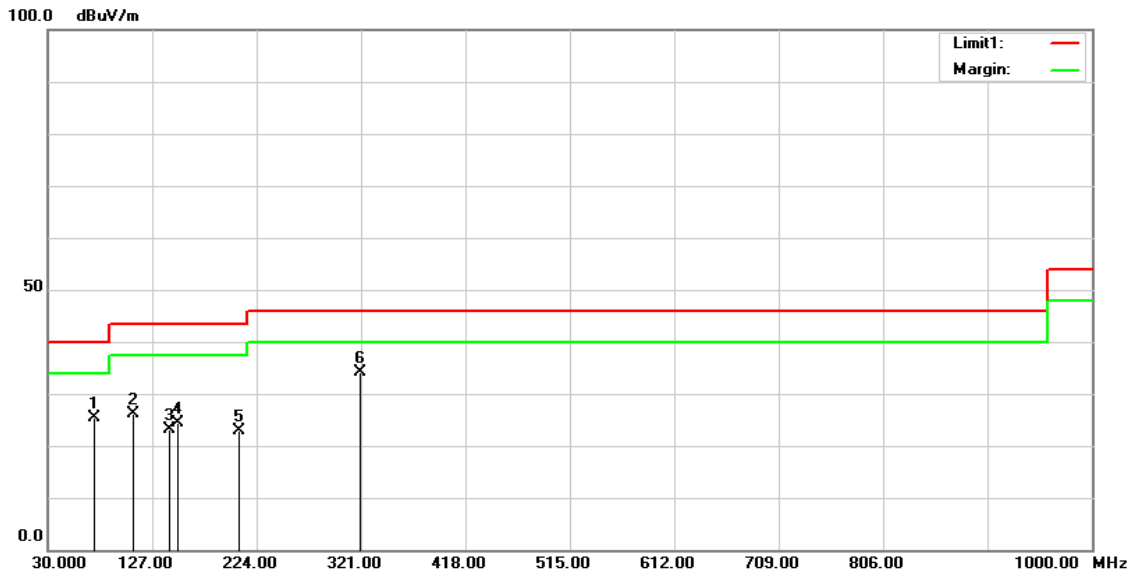


測試結果:

場強輻射之量測依據輸出峰值功率之量測結果取其最大值之操作模式為場強輻射測試模式。

其它不必要之訊號 (1GHz 以下)

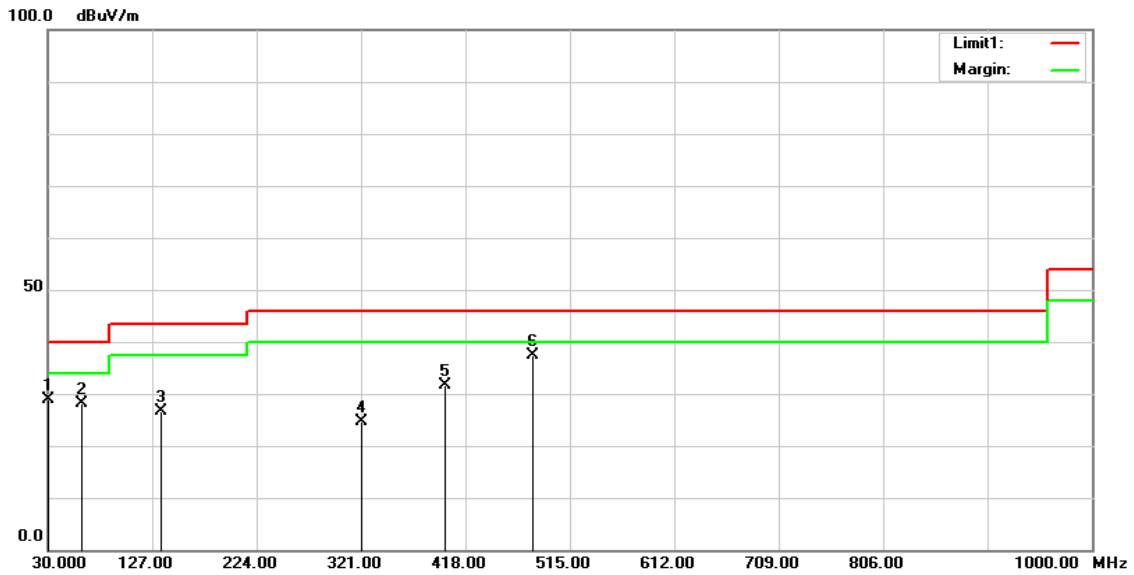
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Ant.Polar.:	Horizontal	Date:	08/07/2017



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	72.6800	39.63	-14.21	25.42	40.00	-14.58	200	360	QP
2	109.5400	40.61	-14.40	26.21	43.50	-17.29	200	300	QP
3	143.4900	34.69	-11.46	23.23	43.50	-20.27	200	320	QP
4	151.2500	35.42	-11.05	24.37	43.50	-19.13	200	320	QP
5	207.5100	37.30	-14.36	22.94	43.50	-20.56	100	80	QP
6	320.0300	43.86	-9.83	34.03	46.00	-11.97	200	210	QP

註： 1.Result (dBuV/m) = Correct Factor(dB/m) + Reading(dBuV)。
2.Correct Factor(dB/m) = 天線係數(dB/m) + 量測信號線損失(dB) – 放大器增益(dB)。

Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Ant.Polar.:	Vertical	Date:	08/07/2017

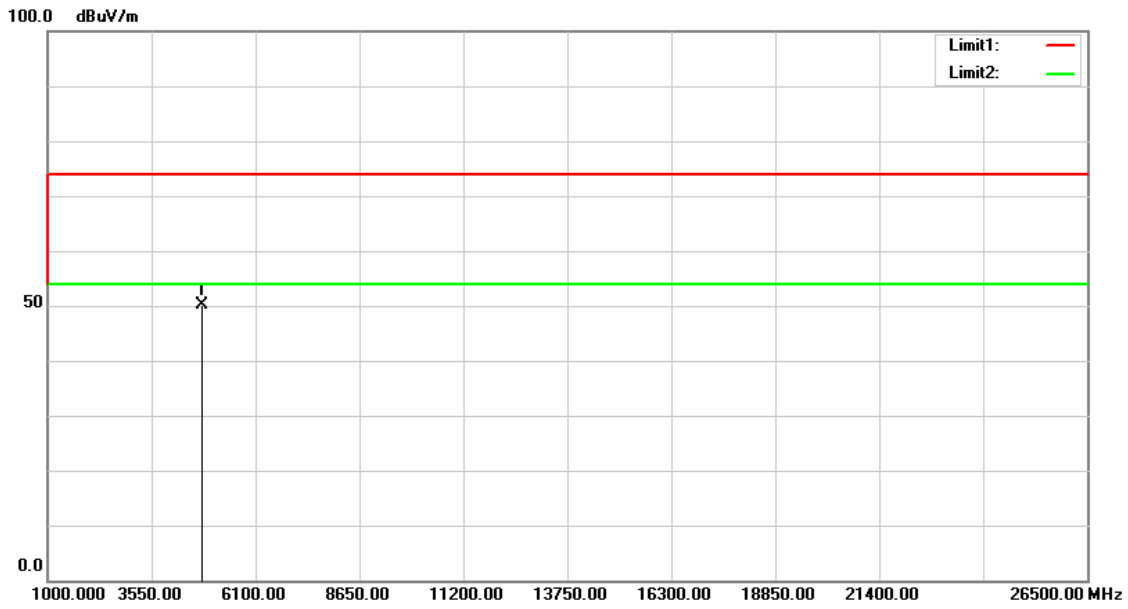


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	30.0000	42.00	-13.00	29.00	40.00	-11.00	100	296	QP
2	62.0100	40.38	-12.31	28.07	40.00	-11.93	101	360	QP
3	135.7300	38.54	-11.96	26.58	43.50	-16.92	100	271	QP
4	321.9700	34.49	-9.76	24.73	46.00	-21.27	200	153	QP
5	399.5700	39.62	-7.88	31.74	46.00	-14.26	200	352	QP
6	480.0800	43.52	-6.04	37.48	46.00	-8.52	100	332	QP

註： 1.Result (dBuV/m) = Correct Factor(dB/m) + Reading(dBuV)。
2.Correct Factor(dB/m) = 天線係數(dB/m) + 量測信號線損失(dB) – 放大器增益(dB)。

場強輻射量側 (1GHz 以上)

Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Horizontal		



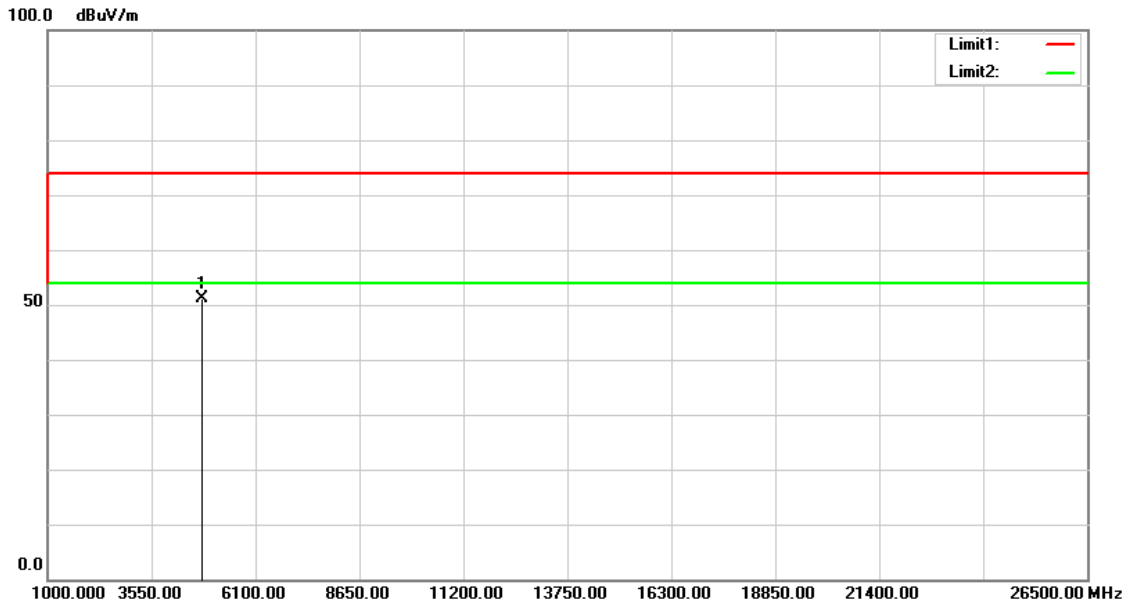
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4804.000	54.52	-4.45	50.07	74.00	-23.93	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Vertical		



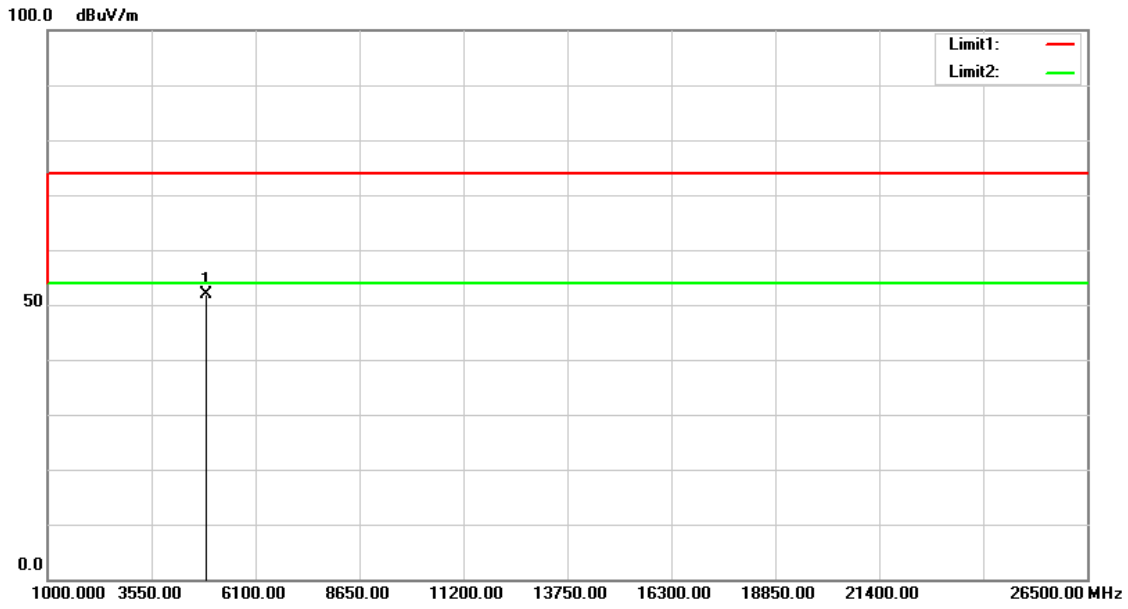
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4804.000	55.50	-4.45	51.05	74.00	-22.95	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

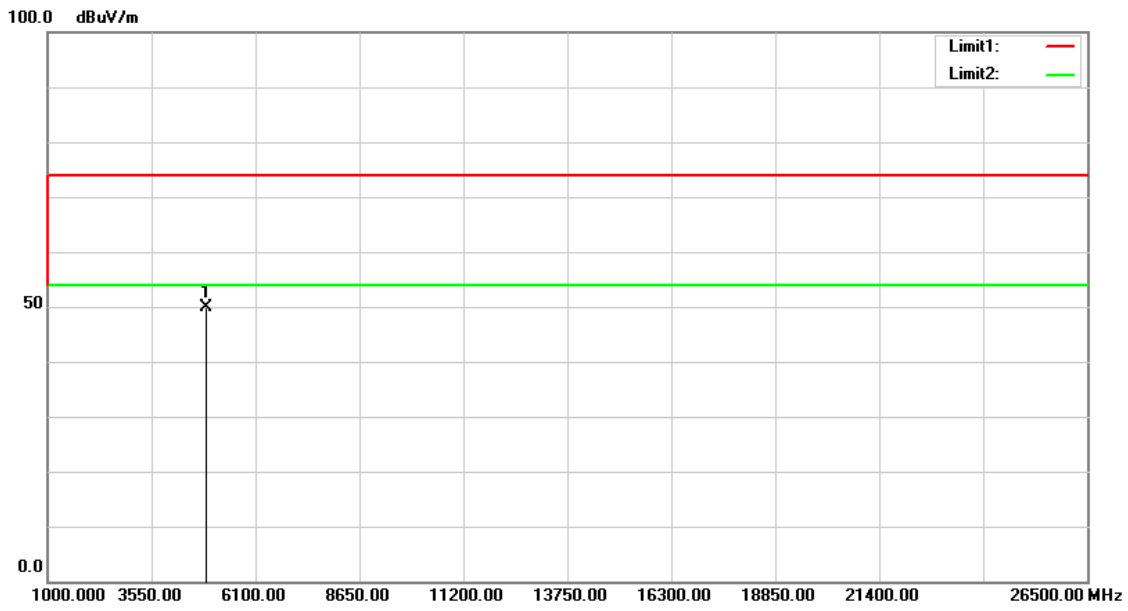
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	56.43	-4.55	51.88	74.00	-22.12	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

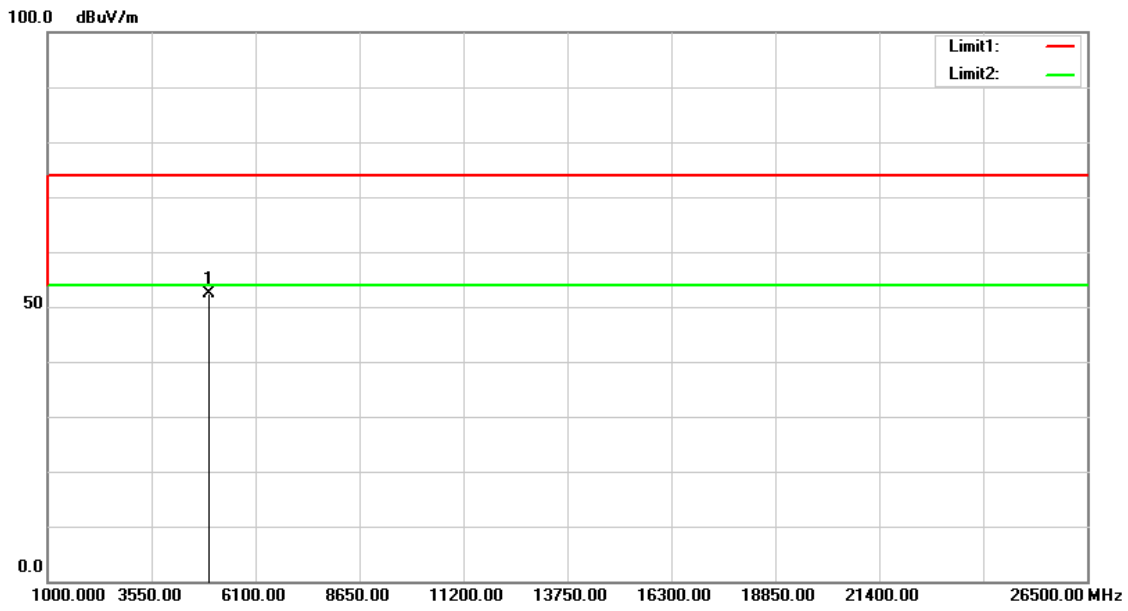
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	54.52	-4.55	49.97	74.00	-24.03	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

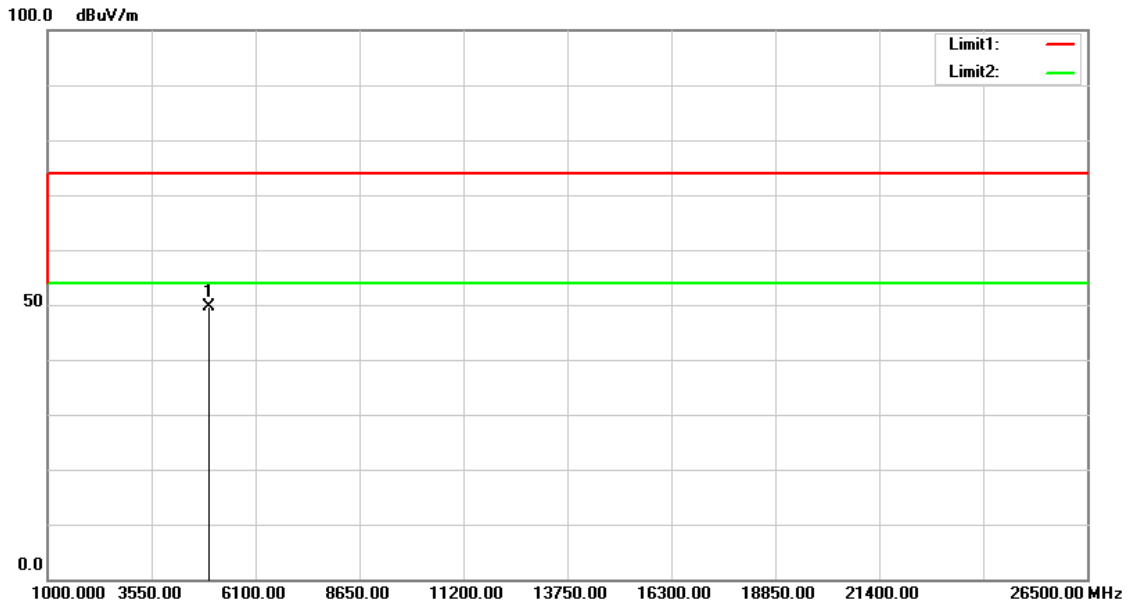
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	56.91	-4.65	52.26	74.00	-21.74	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

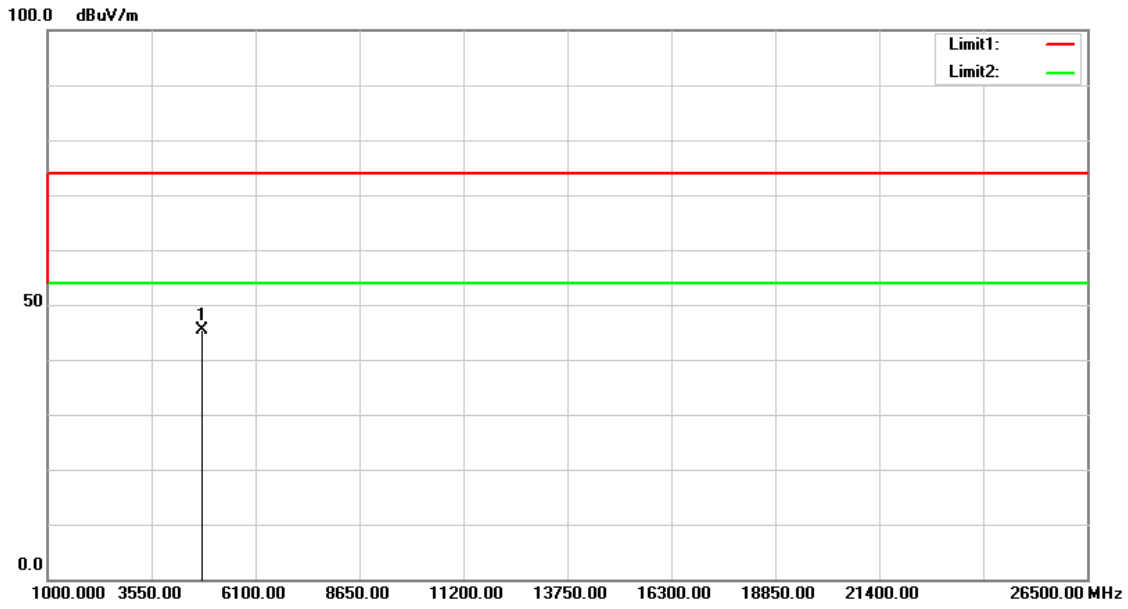
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	54.33	-4.65	49.68	74.00	-24.32	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

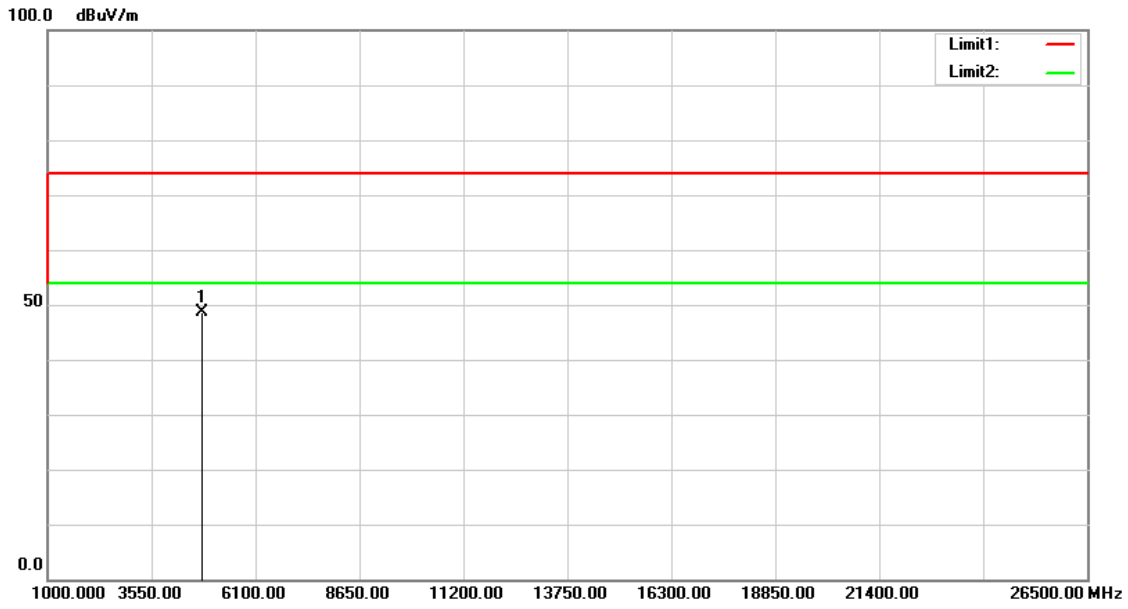
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4804.000	49.92	-4.45	45.47	74.00	-28.53	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

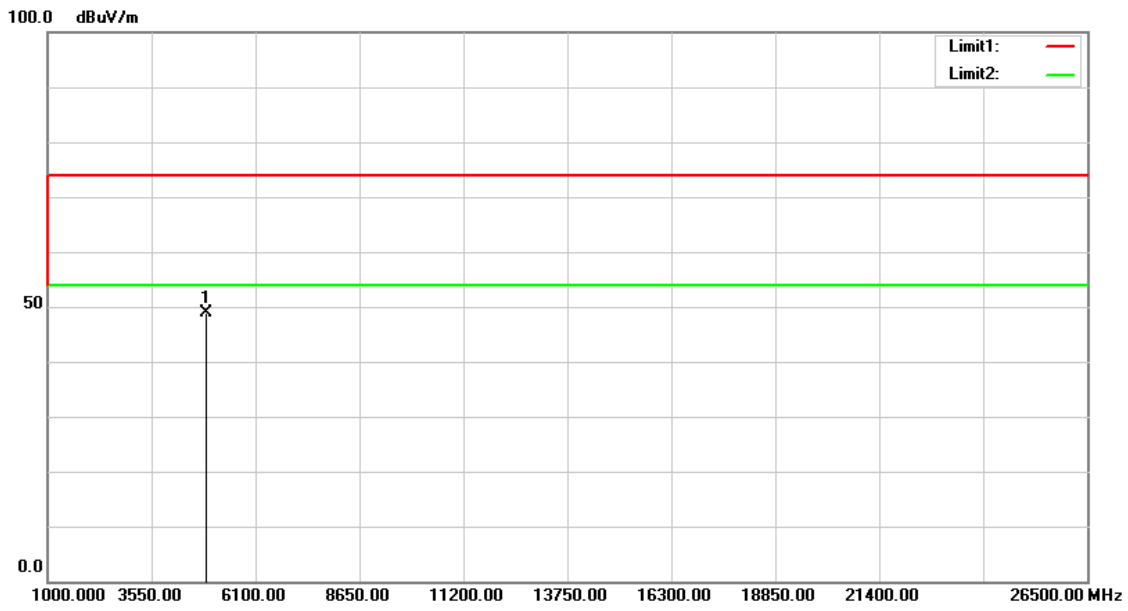
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4804.000	53.10	-4.45	48.65	74.00	-25.35	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

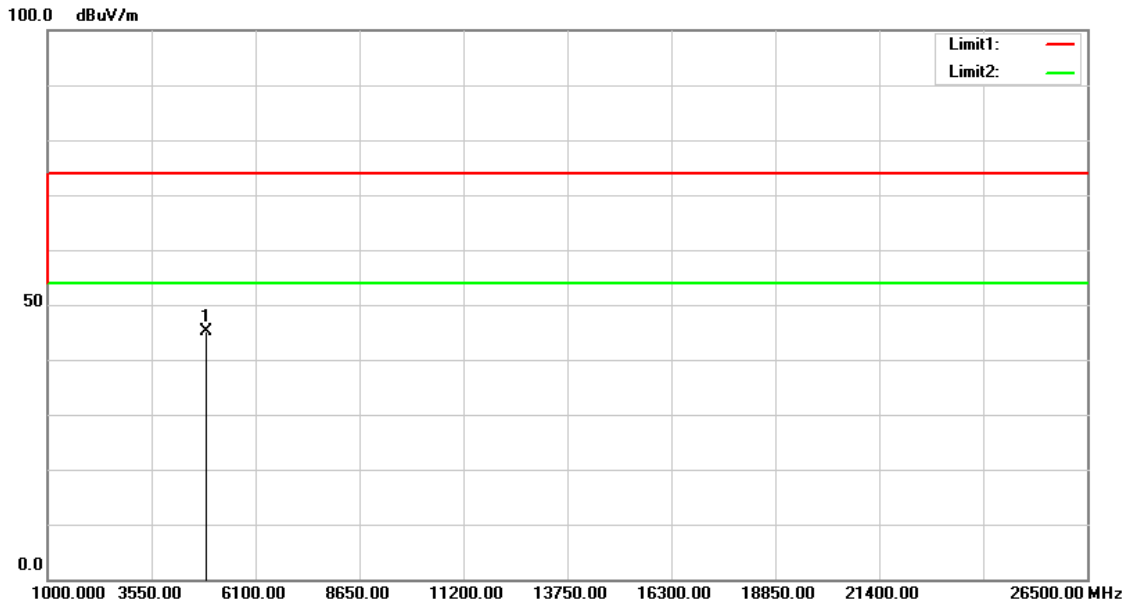
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	53.47	-4.55	48.92	74.00	-25.08	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

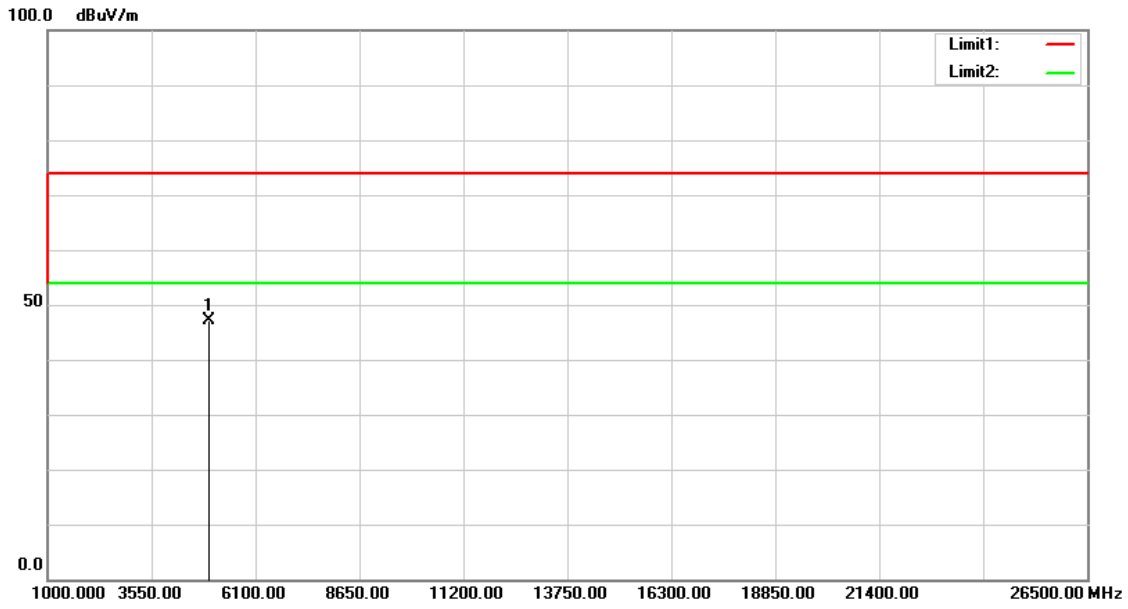
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	49.60	-4.55	45.05	74.00	-28.95	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Horizontal		



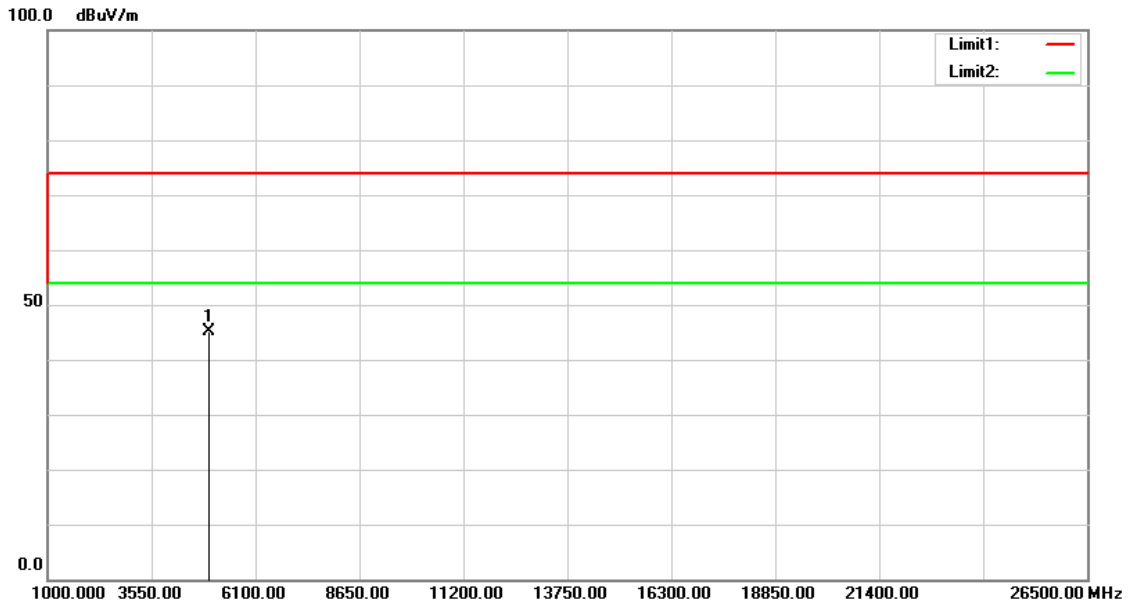
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	51.74	-4.65	47.09	74.00	-26.91	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

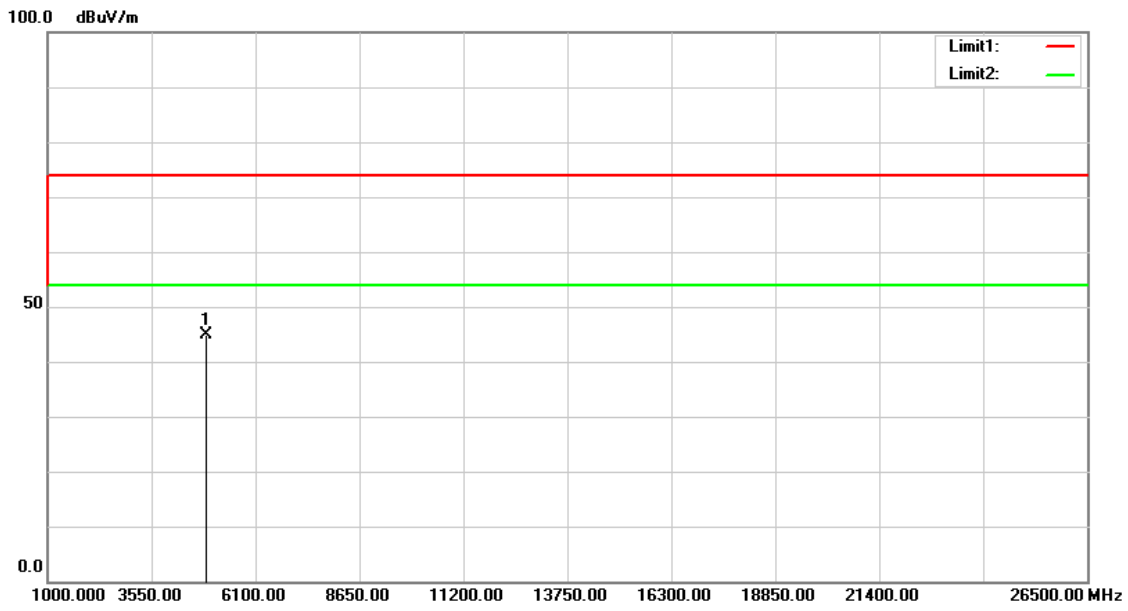
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	49.77	-4.65	45.12	74.00	-28.88	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

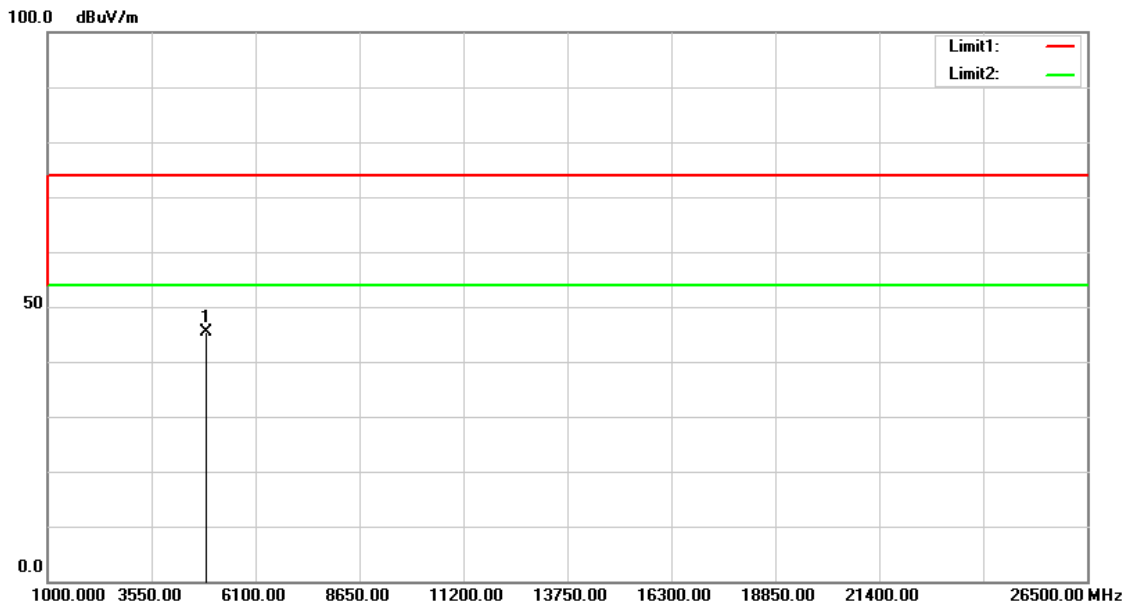
Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 5	Date:	08/02/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	49.44	-4.55	44.89	74.00	-29.11	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Harmonic	Power:	AC 110V/60Hz
Frequency:	2441MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 5	Date:	08/02/2017
Ant.Polar.:	Vertical		



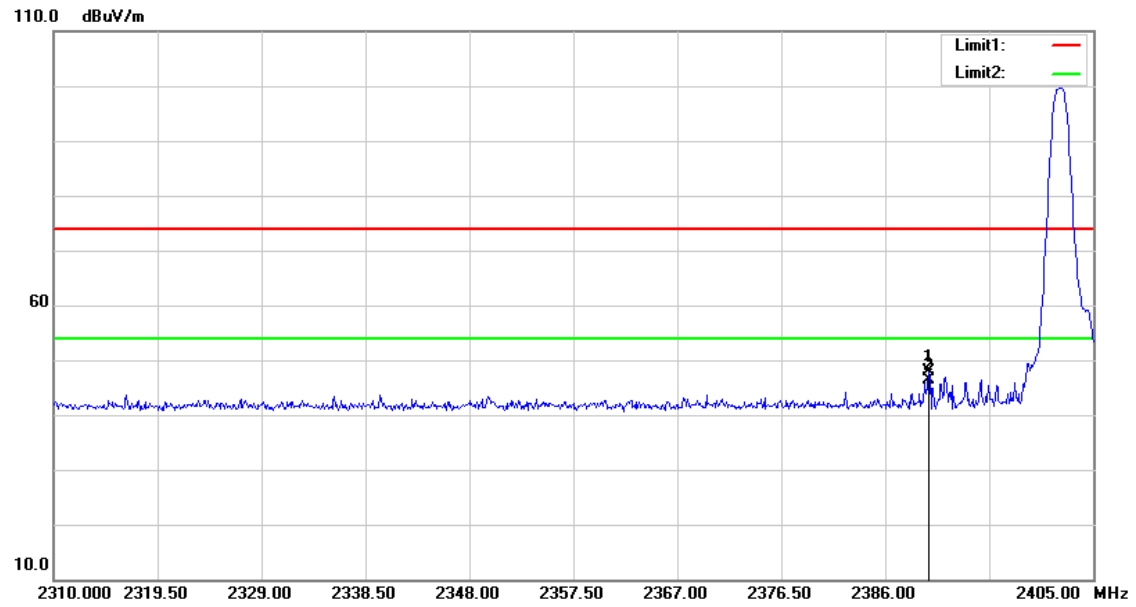
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882.000	49.98	-4.55	45.43	74.00	-28.57	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3. When the peak results are less than average limit, so not need to evaluate the average.

頻帶邊緣

附註: 其上下邊緣落於低功率射頻電機第 2.7 節所列頻帶內之混附發射，其電場強度必須符合第 2.8 節的限制規定。

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Horizontal		



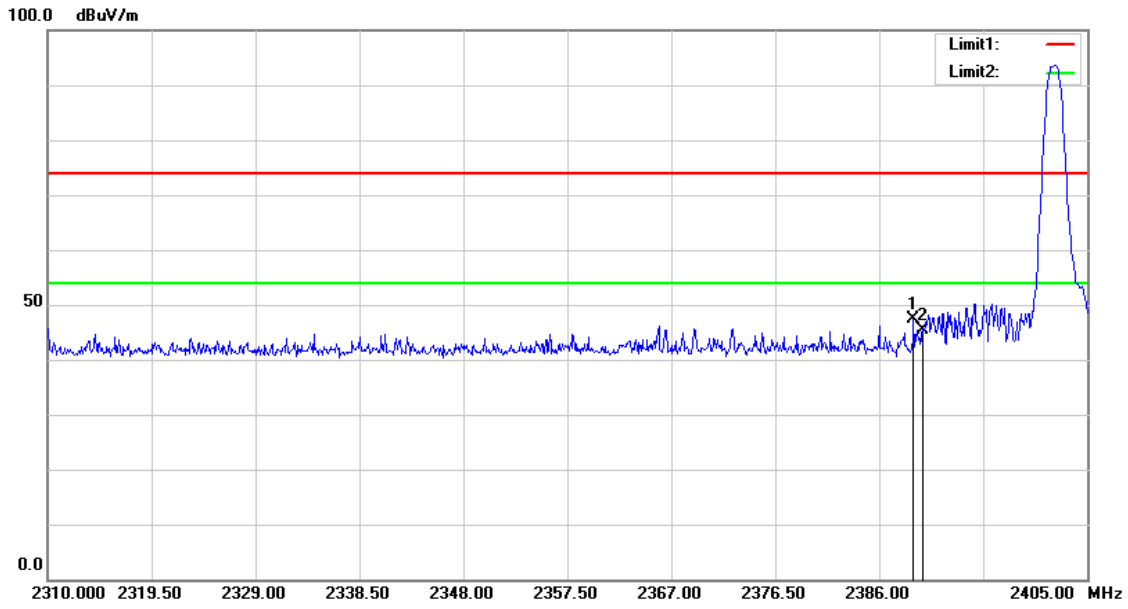
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.990	57.86	-9.87	47.99	74.00	-26.01	peak
2	2390.000	56.17	-9.87	46.30	74.00	-27.70	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Vertical		



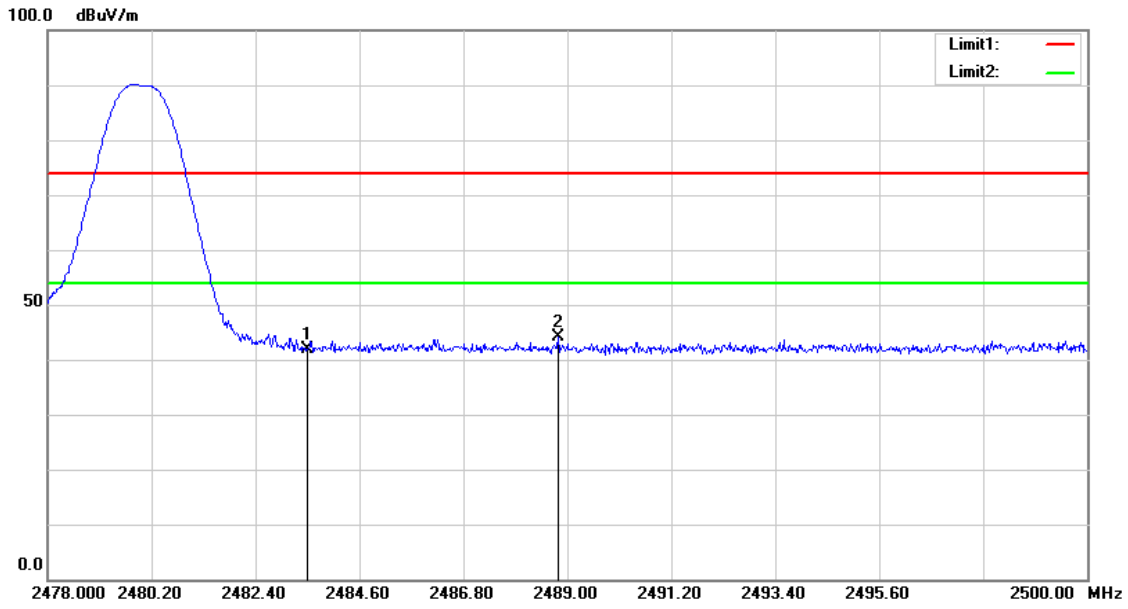
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.135	57.35	-9.88	47.47	74.00	-26.53	peak
2	2390.000	55.32	-9.87	45.45	74.00	-28.55	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Horizontal		



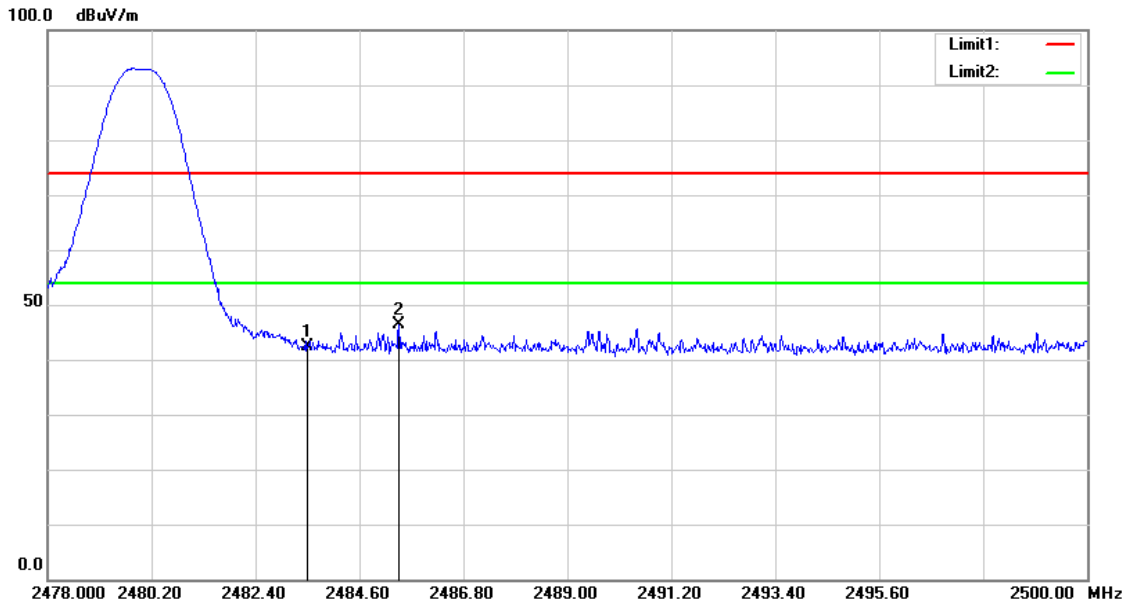
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.38	-9.58	41.80	74.00	-32.20	peak
2	2488.802	53.65	-9.57	44.08	74.00	-29.92	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 2	Date:	08/02/2017
Ant.Polar.:	Vertical		



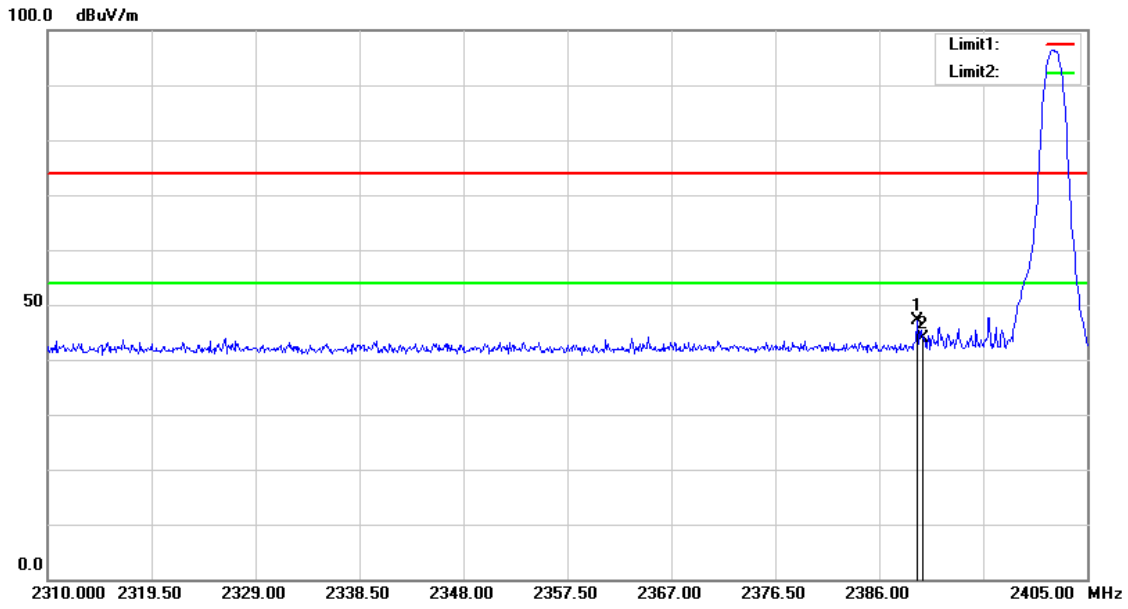
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.03	-9.58	42.45	74.00	-31.55	peak
2	2485.436	55.93	-9.57	46.36	74.00	-27.64	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Horizontal		



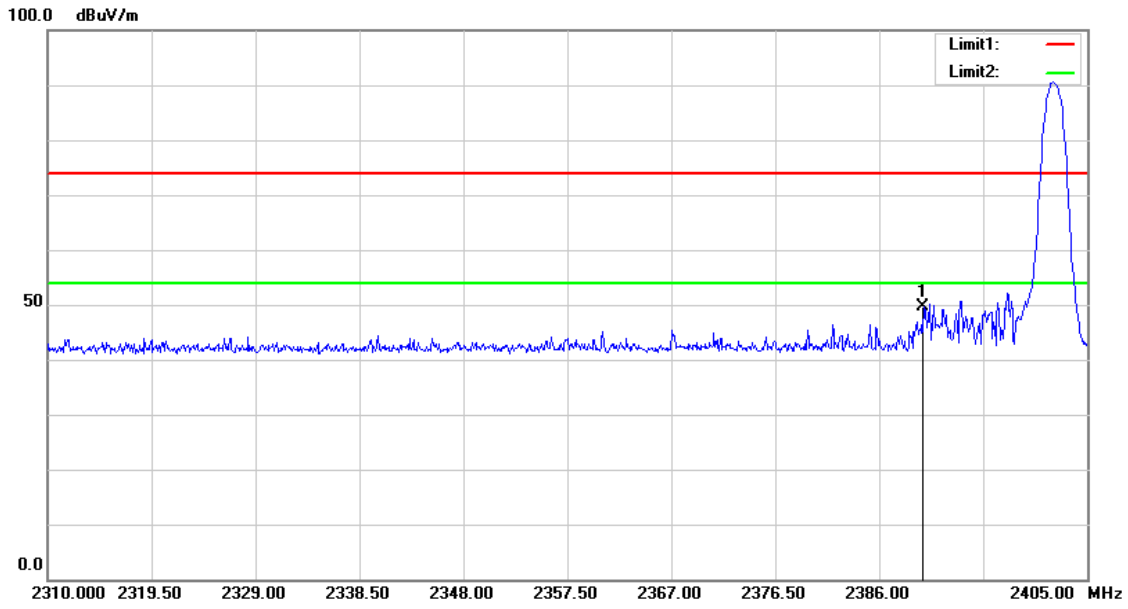
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	56.99	-9.88	47.11	74.00	-26.89	peak
2	2390.000	53.72	-9.87	43.85	74.00	-30.15	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2402MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Vertical		



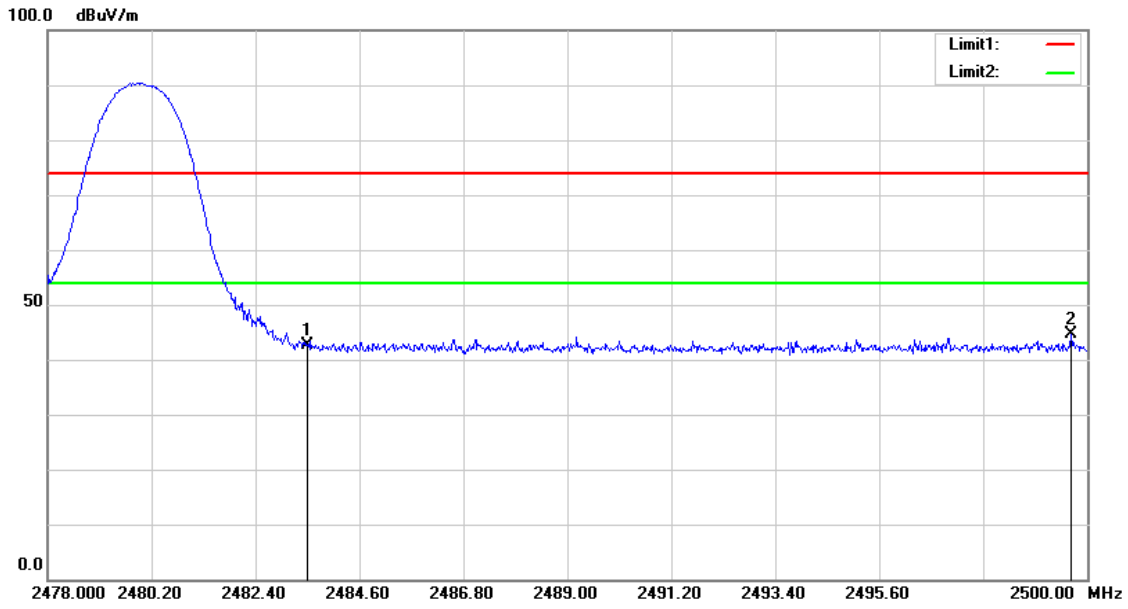
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	59.53	-9.87	49.66	74.00	-24.34	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Horizontal		



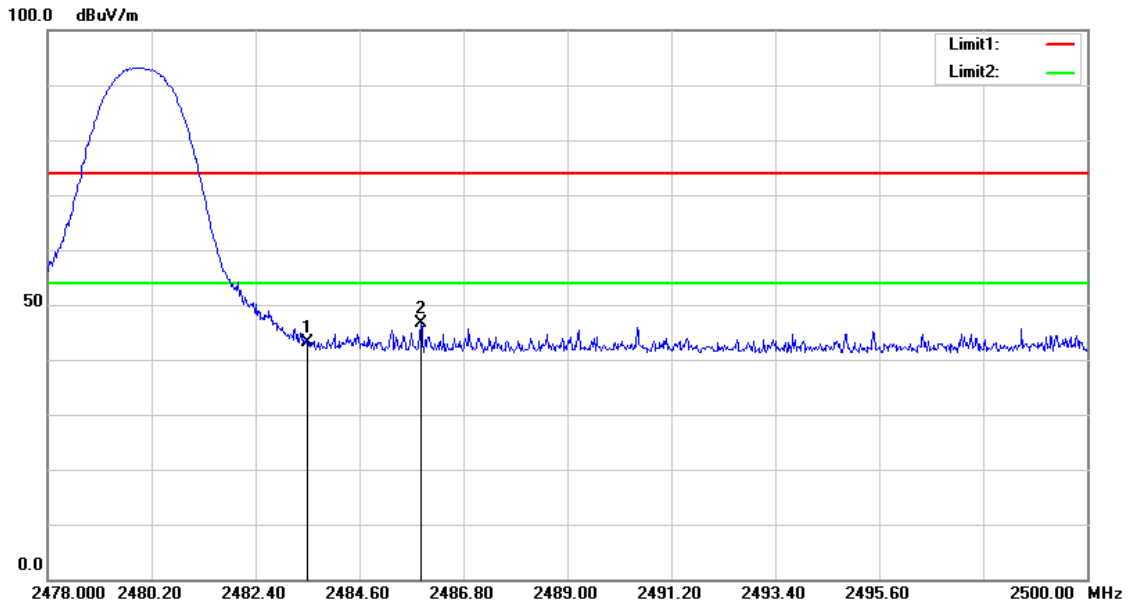
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.25	-9.58	42.67	74.00	-31.33	peak
2	2499.648	54.15	-9.53	44.62	74.00	-29.38	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	LP0002	Test Distance:	3m
Test item:	Band edge	Power:	AC 110V/60Hz
Frequency:	2480MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	Mode 4	Date:	08/02/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.64	-9.58	43.06	74.00	-30.94	peak
2	2485.898	56.30	-9.57	46.73	74.00	-27.27	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

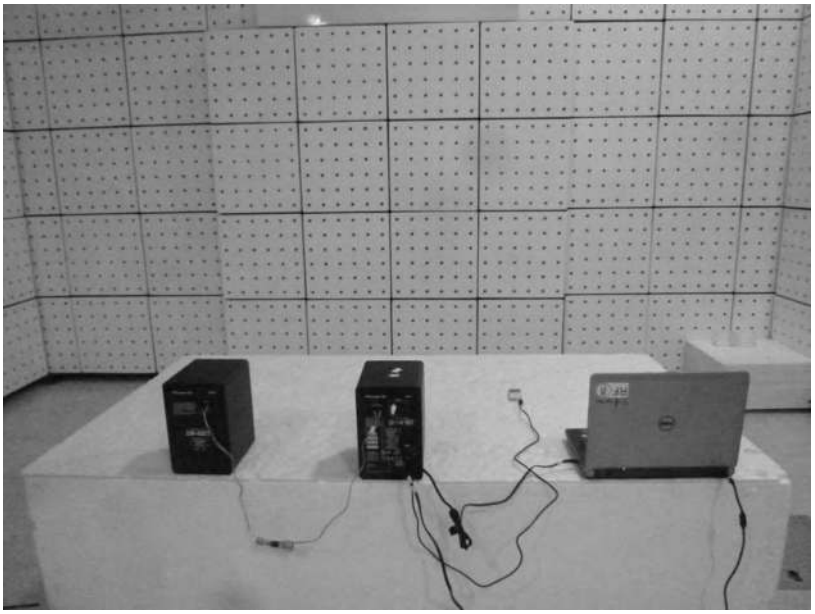
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

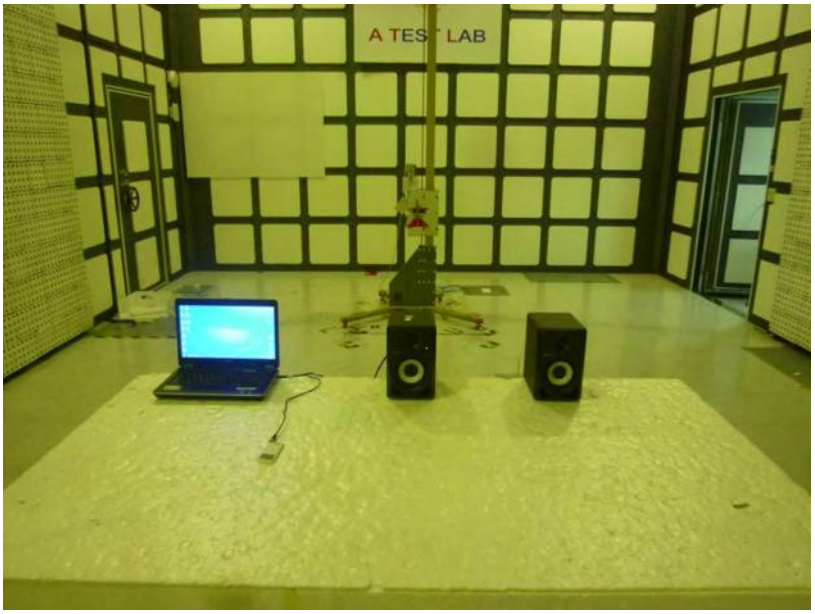
測試配置照片:

測試模式：	1 GHz以下量測
敘述：	場強輻射檢驗照片(前)

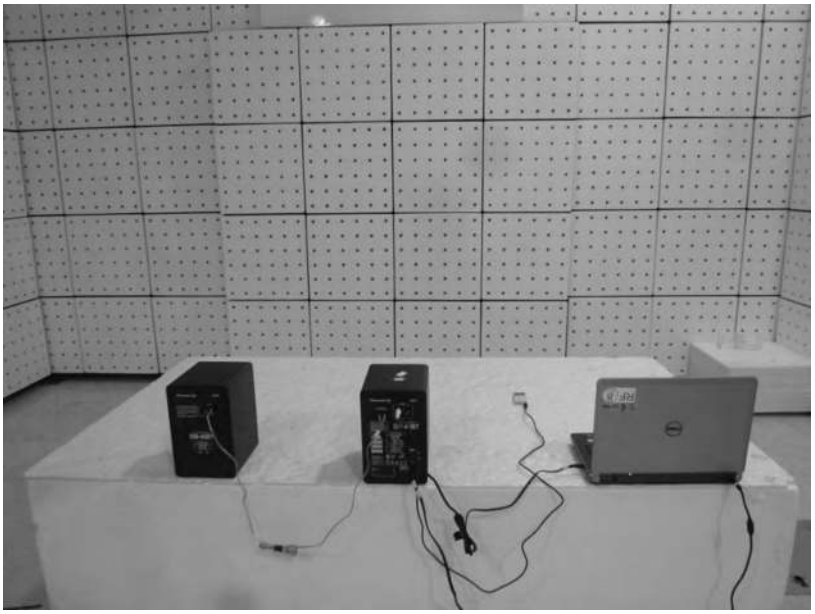
敘述：	場強輻射檢驗照片(後)



測試模式：	1 GHz以上量測
敘述：	場強輻射檢驗照片(前)



敘述：	場強輻射檢驗照片(後)

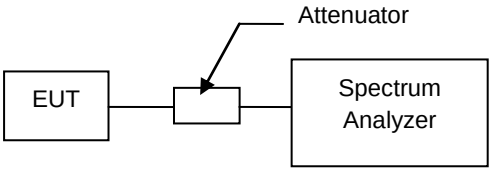


4.4 非必要頻帶之量測

合格標準:

發射限制： 使用頻帶範圍外之任意 100 千赫 (kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz)內的射頻功率，須衰減 20 分貝(dB)，以射頻傳導或輻射方式測量。

測試架構圖 ：



測試結果:

操作模式	： Mode 2: BR,GFSK Link Mode Mode 4: EDR, 8DPSK Link Mode
測試結果	： 合格
量測之結果掃圖如下頁所示	

附註 1: 於使用頻帶範圍之任意 100 千赫 (kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫 (kHz)內的射頻功率，衰減 20 分貝(dB)以上，符合規定。

附註 2: 測試結果頻帶外之輻射雜訊皆小於主頻 TX 20dB。

Mode 2: BR,GFSK Link Mode	
低頻道	
中頻道	
高頻道	

Mode 4: EDR, 8DPSK Link Mode	
低頻道	
中頻道	
高頻道	

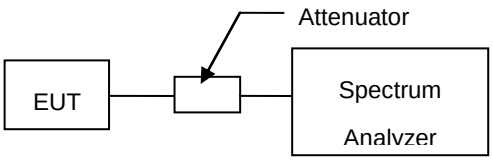
4.5 頻率範圍之要求

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.1 節之要求，允許使用的頻率範圍為 2400 至 2483.5MHz。

測試架構圖 :

測試場地測試配置如圖所示。



測試結果:

操作模式	: Mode 2: BR, GFSK Link Mode Mode 4: EDR, 8DPSK Link Mode
測試結果	: 合格
量測之掃描圖如下頁所示	

Mode 2: BR, GFSK Link Mode	
CH00 - CH39	
CH39- CH78	

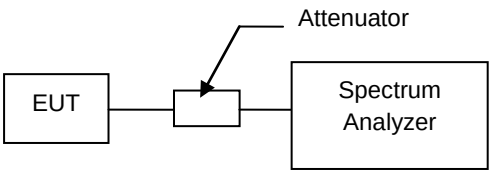
Mode 4: EDR, 8DPSK Link Mode	
CH00 - CH39	
CH39- CH78	

4.6 發射頻寬之要求

合格標準:

對跳頻系統(Frequency Hopping System)而言，，依據 NCC 低功率射頻電機技術規範 3.10.1.6(1)(A)節之要求，跳頻系統之載波頻率頻道間隔應至少 25 千赫(kHz)或跳頻頻道 20dB 頻寬之三分之二，兩者取較寬者。系統之跳頻頻道應依虛擬亂數排列，在各頻率之跳頻頻道上跳躍。每一發射機必須均等的使用每一頻率。系統接收機應具有與發射機跳躍頻道頻寬相匹配之輸入頻寬，且應隨所發射的信號同步偏移接收頻率。

測試架構圖 :



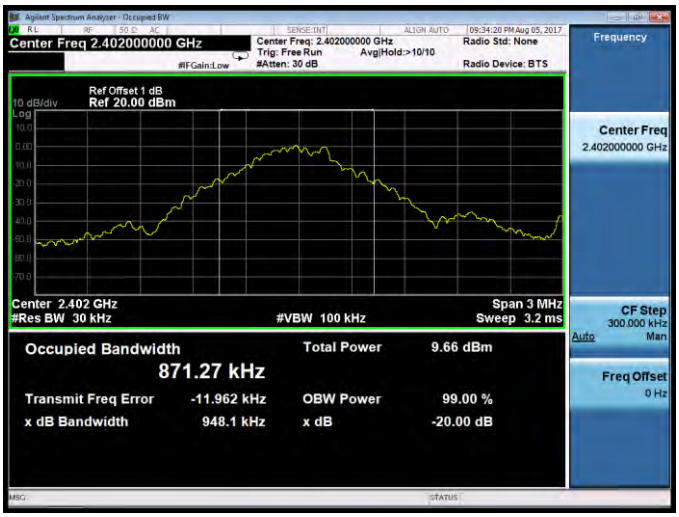
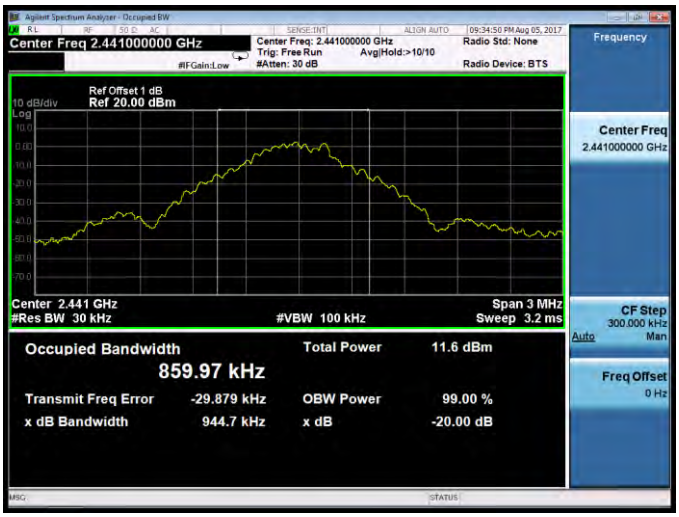
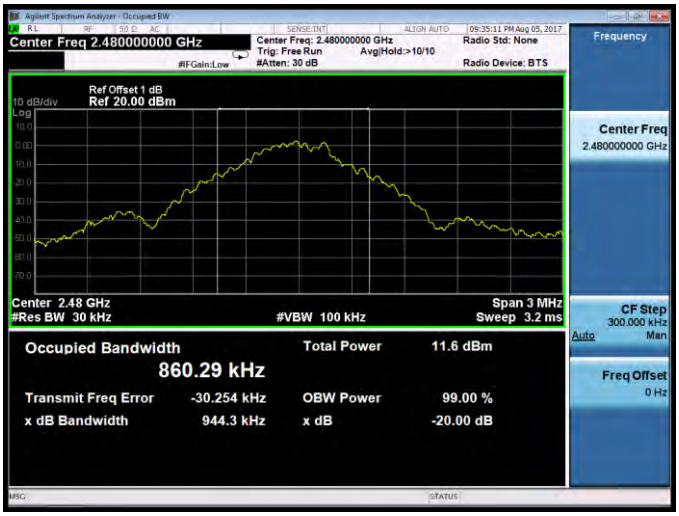
測試結果:

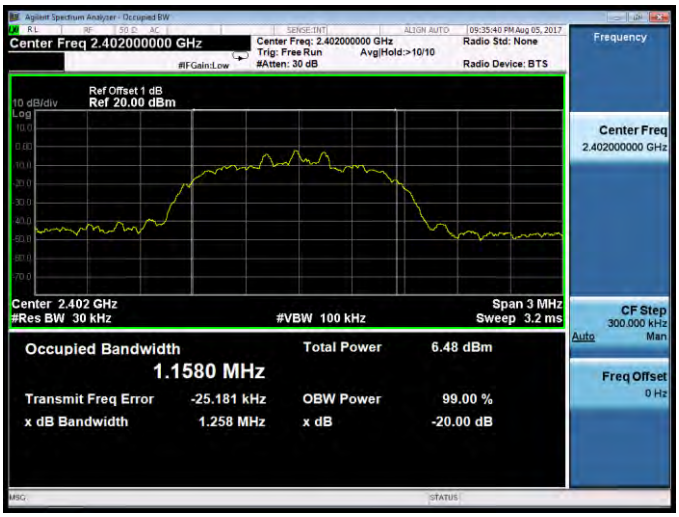
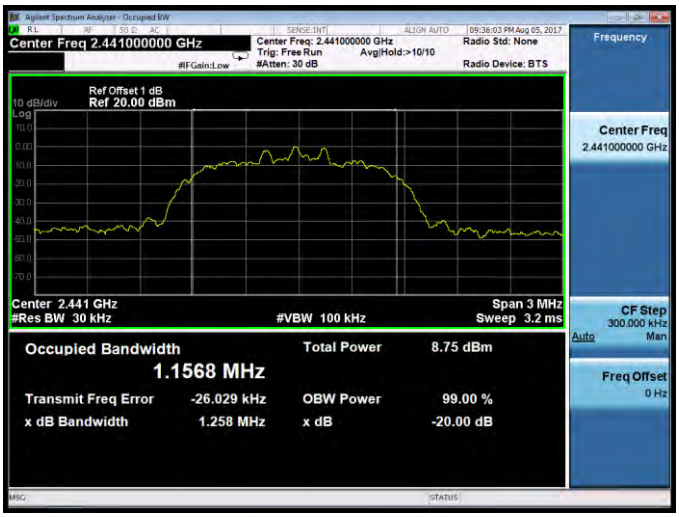
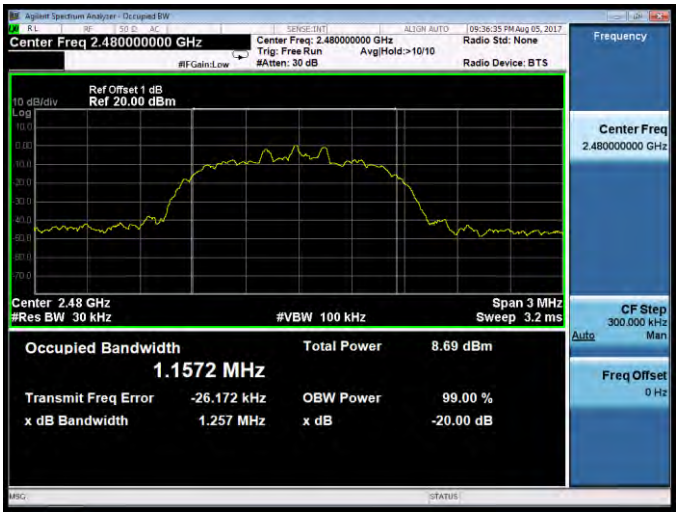
操作模式	頻道	發射頻寬(20dB)		
		量測值 (MHz)	2/3 量測值 (MHz)	限制值 (MHz)
Mode 2	低頻道	0.94810	0.63207	-----
	中頻道	0.94470	0.62980	-----
	高頻道	0.94430	0.62953	-----
Mode 4	低頻道	1.25800	0.83867	-----
	中頻道	1.25800	0.83867	-----
	高頻道	1.25700	0.83800	-----

操作模式 : Mode 2: BR, GFSK Link Mode
Mode 4: EDR, 8DPSK Link Mode

註: 發射頻寬(20dB) 之 2/3 量測值 = 量測值 x 2 / 3

測試掃描圖請參考下頁。

Mode 2: BR, GFSK Link Mode	
低頻道	
中頻道	
高頻道	

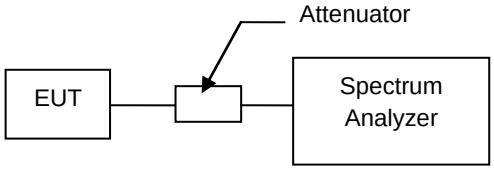
Mode 4: EDR,8DPSK Link Mode	
低頻道	
中頻道	
高頻道	

4.7 頻道數之要求

合格標準:

對跳頻系統(Frequency Hopping System)而言,依據 NCC 低功率射頻電機技術規範(LP0002)之3.10.1.6(1)(A)(a)節之要求，至少使用 15 個無重疊之頻道(複合系統時,關閉數位調變作業狀態檢驗)。

測試架構圖 :



測試結果:

操作模式	:	Mode 2: BR, GFSK Link Mode Mode 4: EDR, 8DPSK Link Mode
測試結果	:	合格
量測之掃描圖如下頁所示		

Mode 2: BR, GFSK Link Mode	
CH00 - CH39	
CH39- CH78	

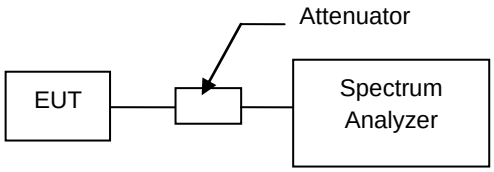
Mode 4: EDR, 8DPSK Link Mode	
CH00 - CH39	
CH39- CH78	

4.8 跳頻系統之載波頻率頻道間隔之量測

合格標準:

依據NCC低功率射頻電機技術規範(LP0002) 之3.10.1.6(1)(A)節要求，應至少25kHz或跳頻頻道之20dB頻寬之三分之二,兩者取較寬者。

測試架構圖 :

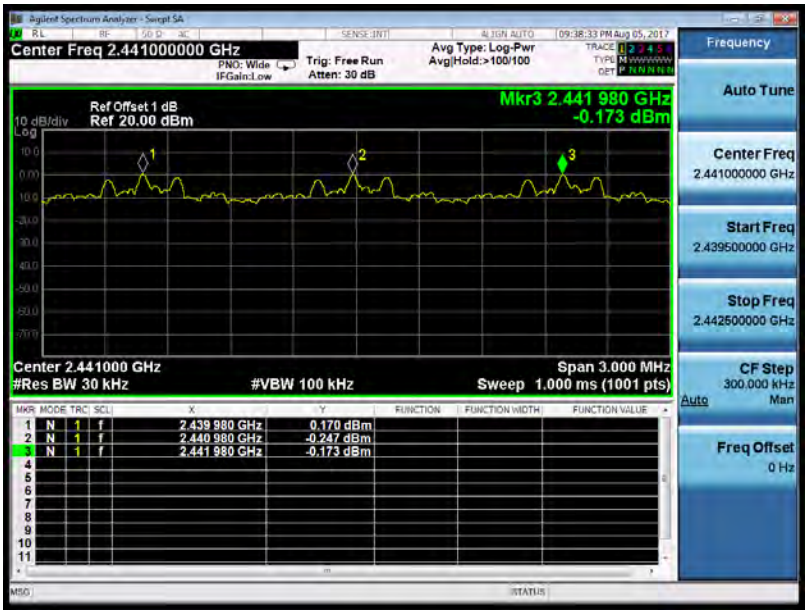


測試結果:

操作模式 : Mode 2: BR, GFSK Link Mode Mode 4: EDR, 8DPSK Link Mode			
操作模式	頻道	鄰頻道載波間隔	
		量測值 (kHz)	限制值 (kHz)
Mode 2	中頻道	1000	> 632
Mode 4	中頻道	1000	> 839

Mode 2: BR, GFSK Link Mode

Mode 4: EDR, 8DPSK Link Mode

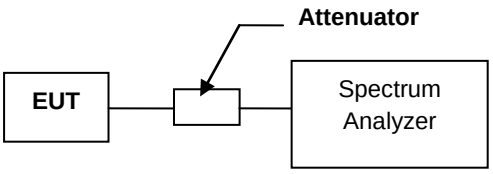


4.9 跳頻系統之任一頻率佔用之平均時間之量測

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.6(1)(A)(a)節之要求，若使用 15 個無重疊之頻道,在 0.4 秒乘以跳頻頻道數之週期內,任一頻道佔用之平均時間不得超過 0.4 秒(複合系統時, 關閉跳頻作業狀態檢驗)。

測試架構圖 ：

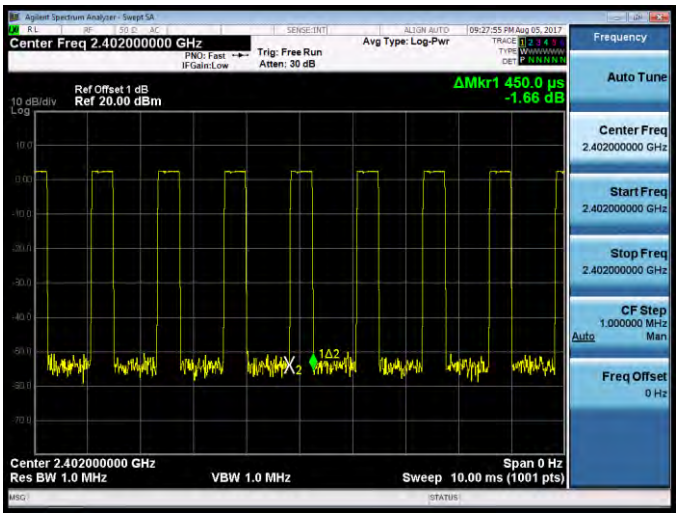
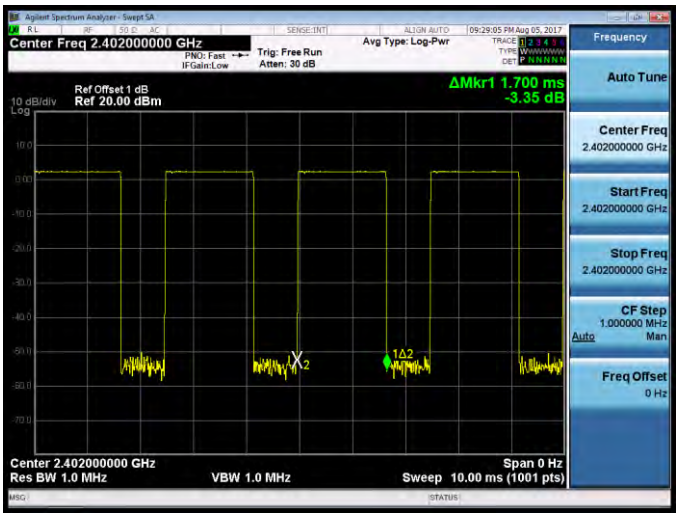
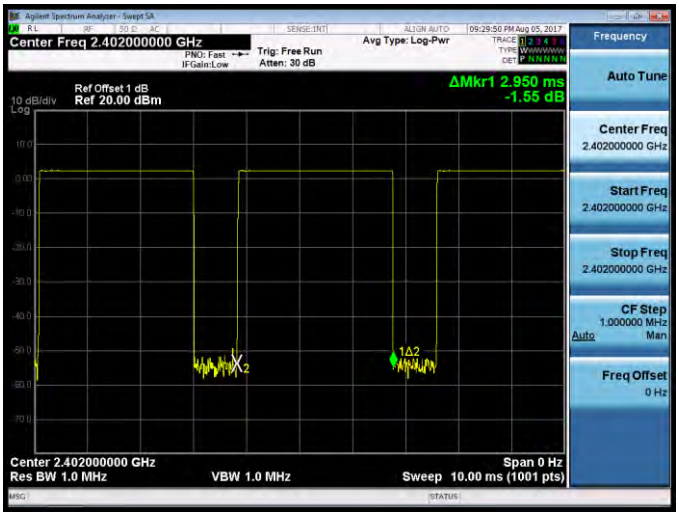


測試結果:

操作模式	： Mode 2: BR, GFSK Link Mode Mode 4: EDR, 8DPSK Link Mode
測試結果	： 合格
此項測試進行量測高中低頻道,取其最大值紀錄於此量測結果, 量測之結果數據如下頁所示。	

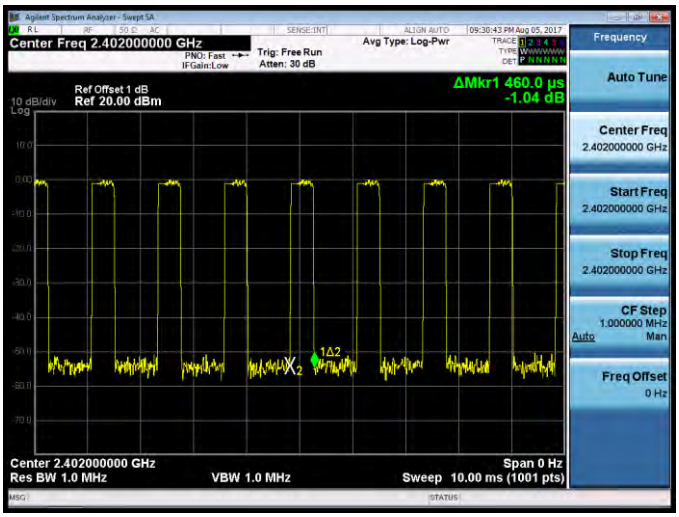
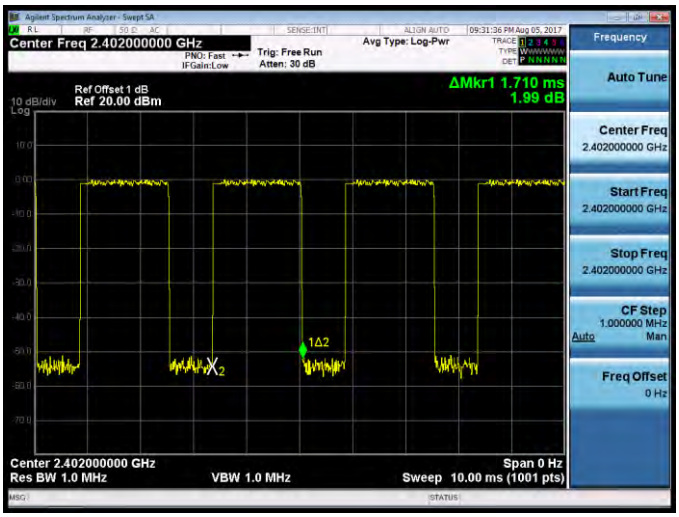
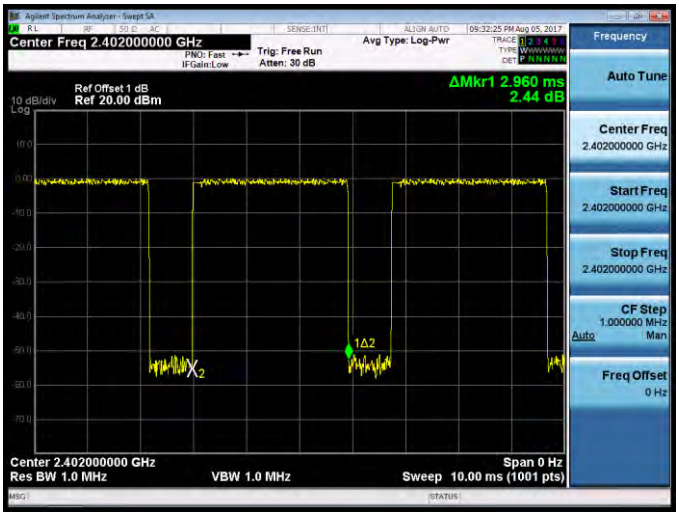
Mode 2: BR, GFSK Link Mode	
DH1 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	800/79CH = 10.13(次/秒)
頻道每次佔用之時間(1)	0.450 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 10.13 = 320.108(次)
週期內佔用的平均時間(1) * (2)	144.0486 ms (秒)
LIMIT(msec)	< = 400
DH3 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	400/79CH = 5.06(次/秒)
頻道每次佔用之時間(1)	1.700 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 5.06 = 159.896(次)
週期內佔用的平均時間(1) * (2)	271.8232 ms (秒)
LIMIT(msec)	< = 400
DH5 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	266.7/79CH = 3.38(次/秒)
頻道每次佔用之時間(1)	2.950 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 3.38 = 106.808(次)
週期內佔用的平均時間(1) * (2)	315.0836 ms (秒)
LIMIT(msec)	< = 400

附註: RB=1MHz ; VB=1MHz ; SPAN=0MHz ; Sweep Time=10msec

Mode 2: BR, GFSK Link Mode	
DH1	
DH3	
DH5	

Mode 4: EDR, 8DPSK Link Mode	
3DH1 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	800/79CH = 10.13(次/秒)
頻道每次佔用之時間(1)	0.460 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 10.13 = 320.108(次)
週期內佔用的平均時間(1) * (2)	147.2497 ms (秒)
LIMIT(msec)	< = 400
3DH3 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	400/79CH = 5.06(次/秒)
頻道每次佔用之時間(1)	1.710 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 5.06 = 159.896(次)
週期內佔用的平均時間(1) * (2)	273.4222 ms (秒)
LIMIT(msec)	< = 400
3DH5 模式	
需量測之週期(秒)	79CH * 0.4 = 31.6 (秒)
待測物每秒跳頻之總次數	1600(藍芽通訊協定標準)
頻道每秒佔用之次數	266.7/79CH = 3.38(次/秒)
頻道每次佔用之時間(1)	2.960 ms (秒)
週期內頻道佔用之總次數(2)	31.6 * 3.38 = 106.808(次)
週期內佔用的平均時間(1) * (2)	316.1517 ms (秒)
LIMIT(msec)	< = 400

附註: RB=1MHz ; VB=1MH 附註: RB=1MHz ; VB=1MHz ; SPAN=0MHz ; Sweep Time=10msec

Mode 4: EDR, 8DPSK Link Mode	
3DH1	
3DH3	
3DH5	

4.10 天線規格之要求

合格標準:

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.3(3)節之要求，除 3.10.1.3(1)及 3.10.1.3(2)外，使用超過 6 dBi 方向增益之發射天線時，應依超過 6 dBi 天線方向增益的 dBi 總量，等量減少最大傳導輸出功率限制值。

依據 NCC 低功率射頻電機技術規範(LP0002)之 3.10.1.4 節之要求，天線之規格不受第 2.2 節規定之限制

判定結果:

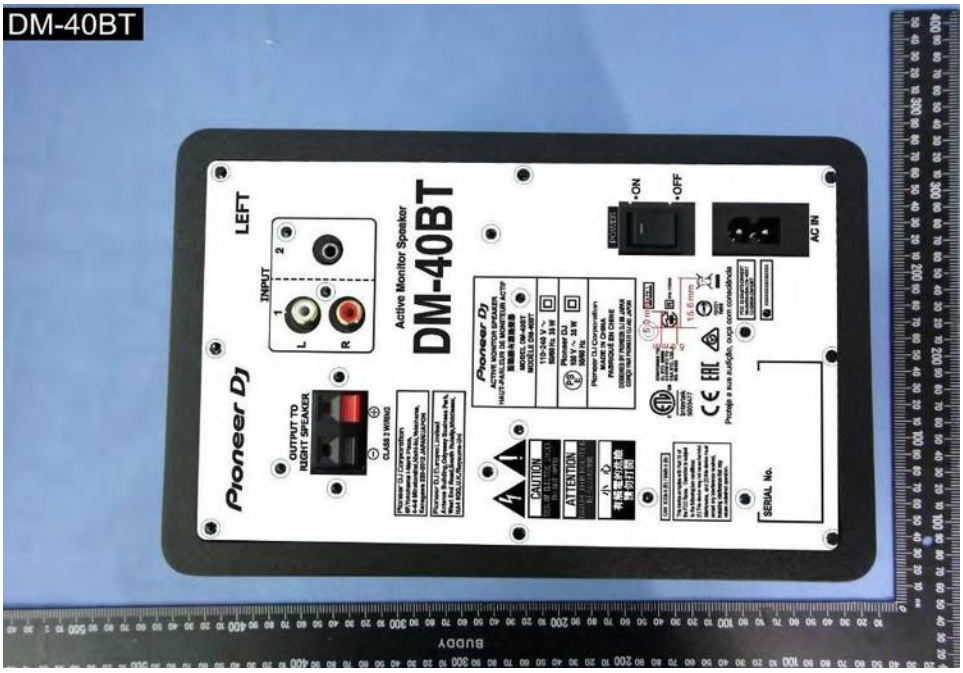
符合，本產品使用 **PIFA antenna (廠牌: 深圳市惠杰科技有限公司, 型號: 3G509-1B220B-A)，最大增益值 2.1 dBi。**

5. 產品照片

EUT Photo (1)

EUT Photo (2)

EUT Photo (3)



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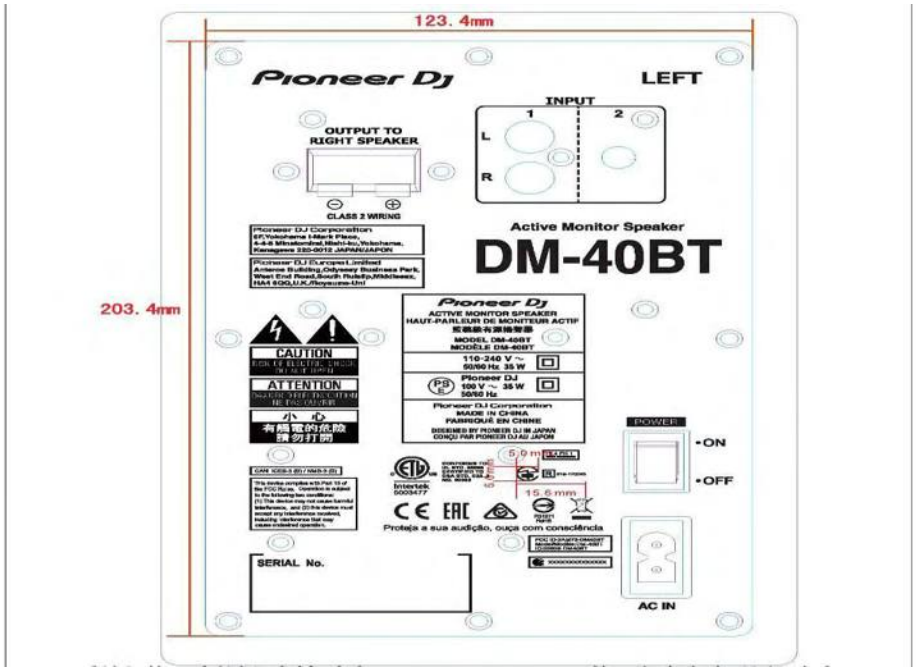
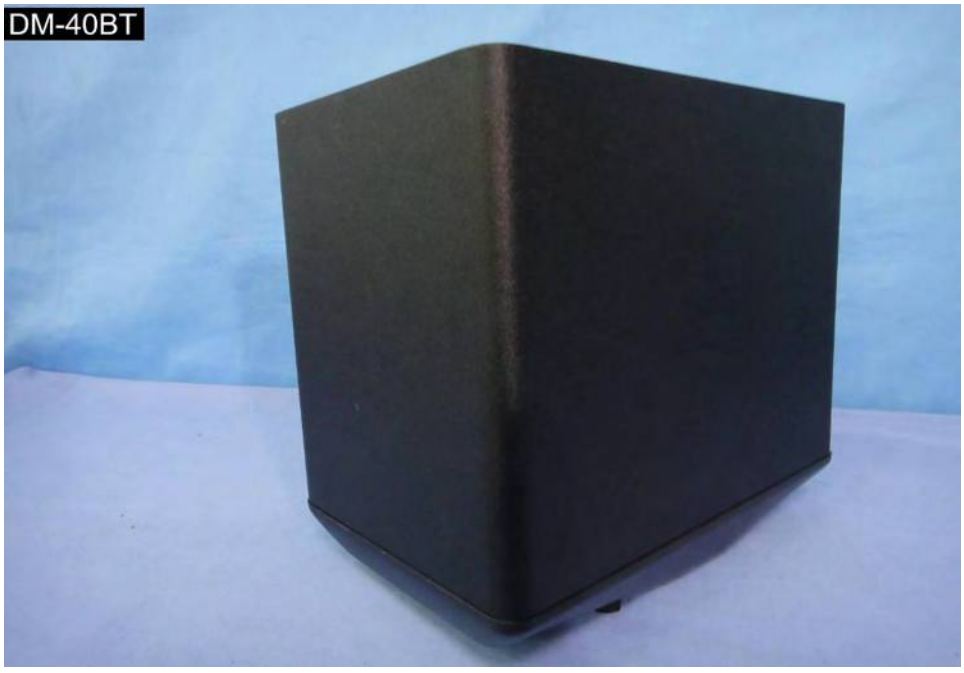


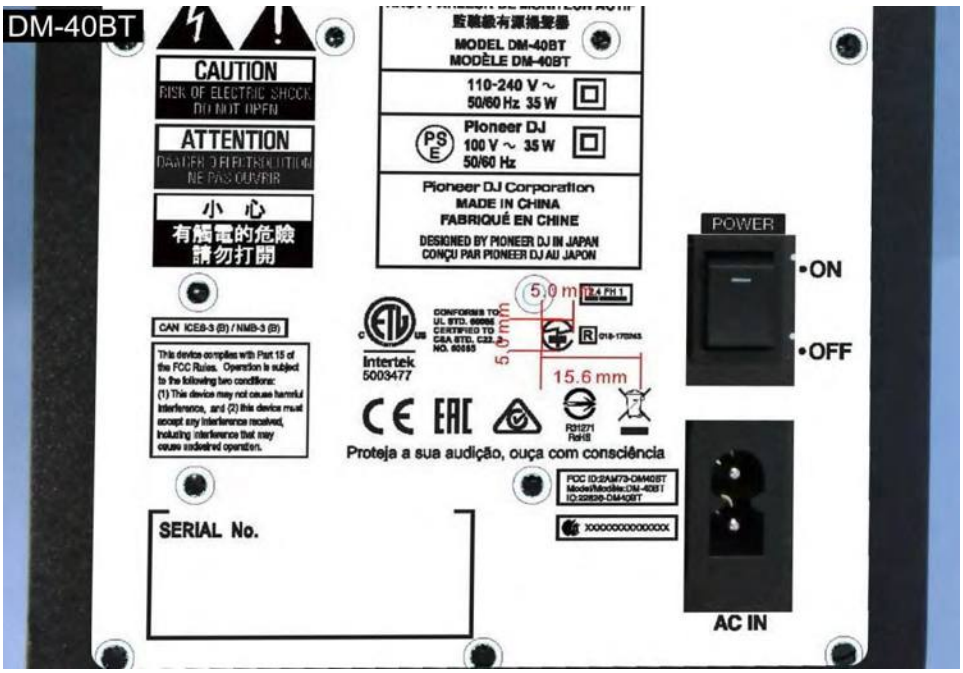
EUT Photo (5)

EUT Photo (6)



EUT Photo (7)

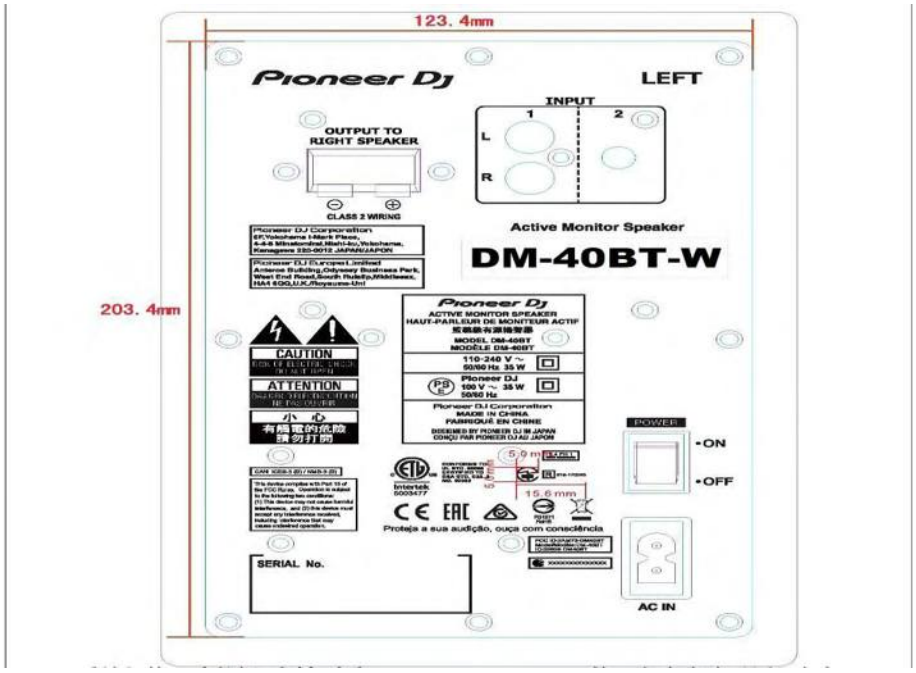
EUT Photo (8)



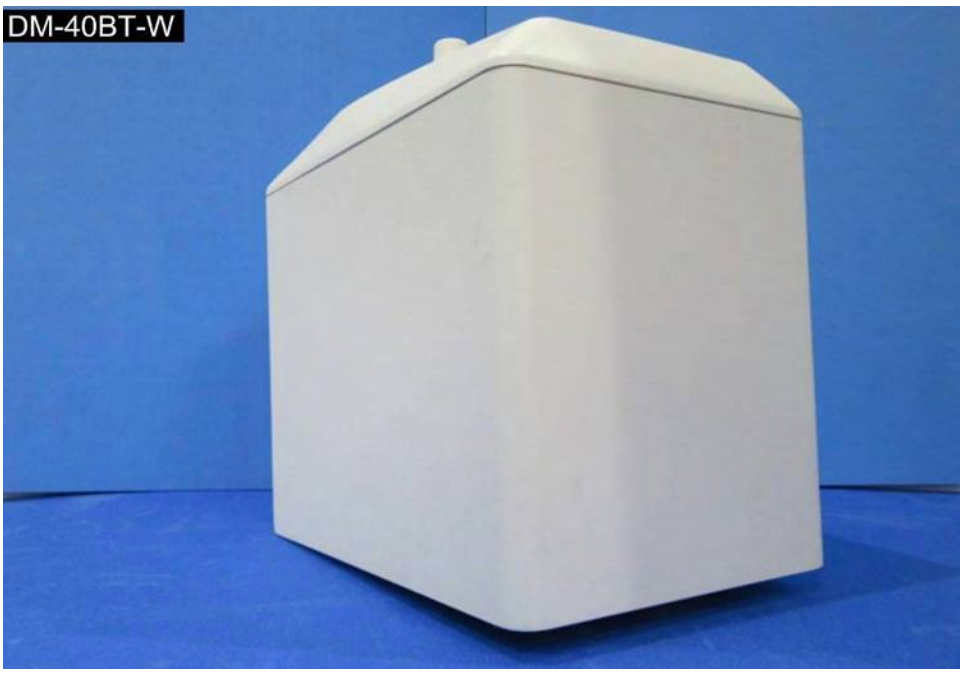
EUT Photo (9)

EUT Photo (10)

EUT Photo (11)



EUT Photo (12)



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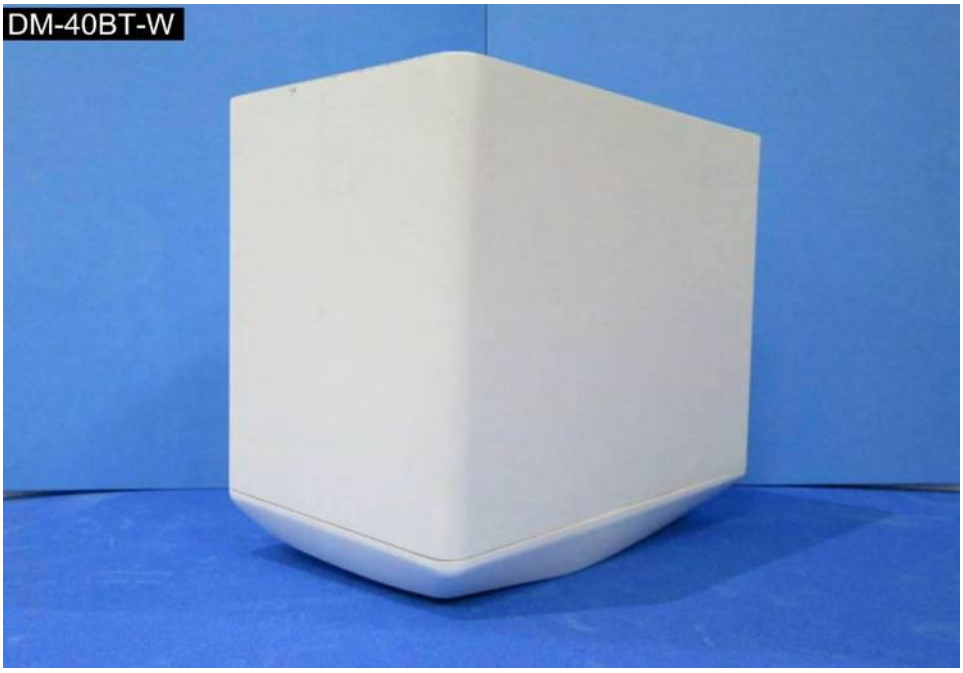
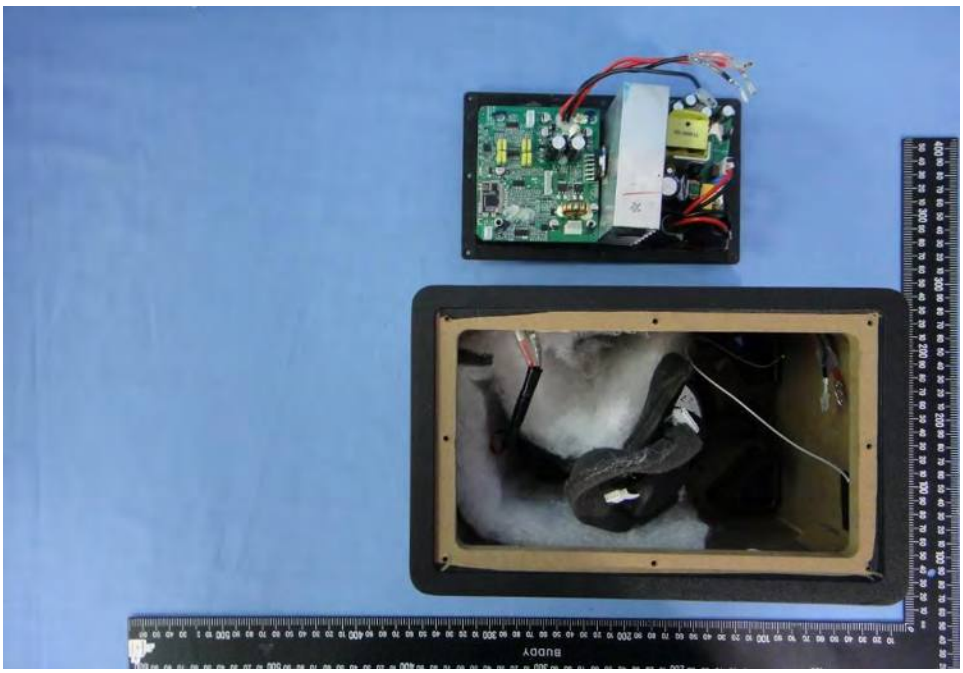


EUT Photo (14)

EUT Photo (15)

EUT Photo (16)



EUT Photo (17)

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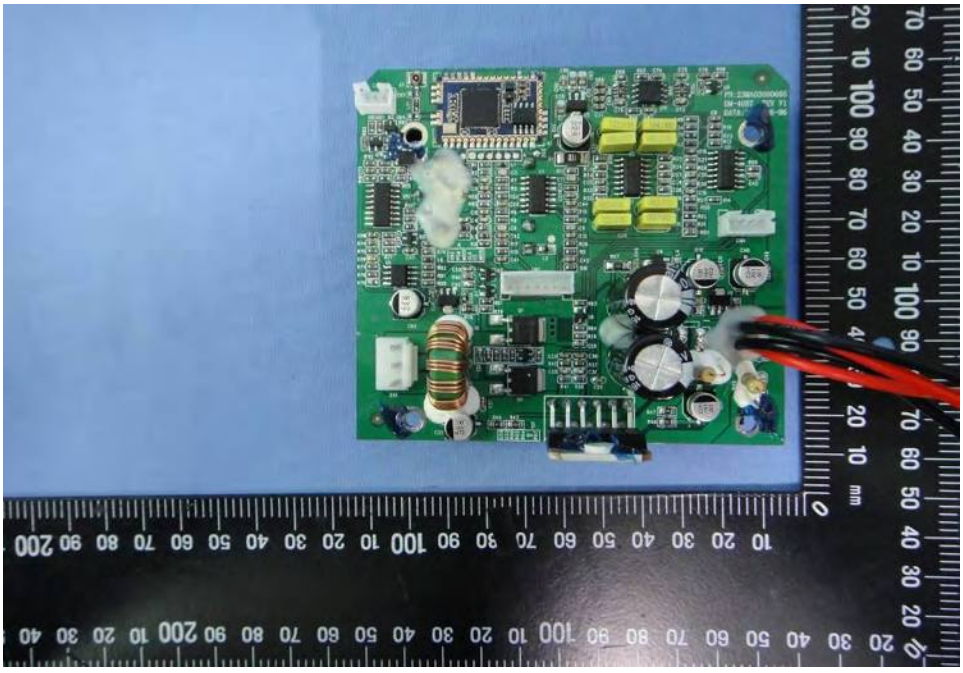

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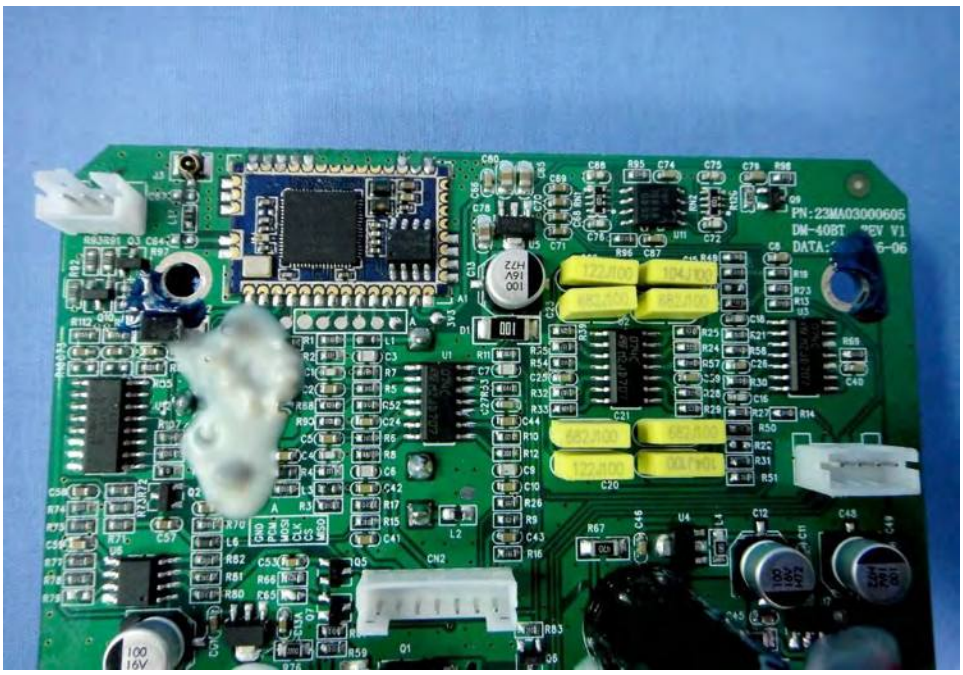

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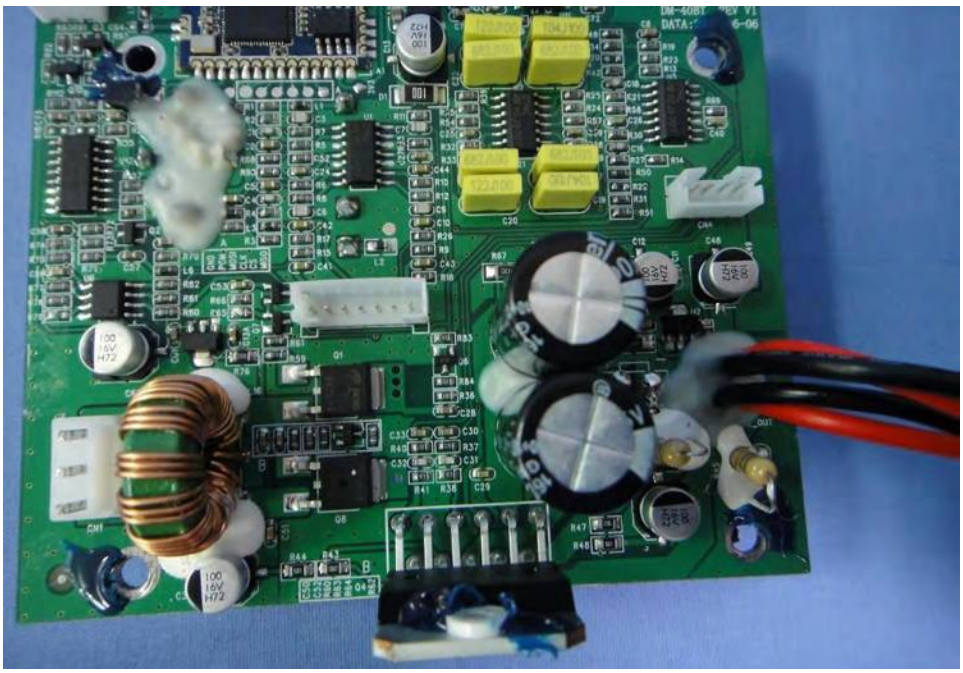

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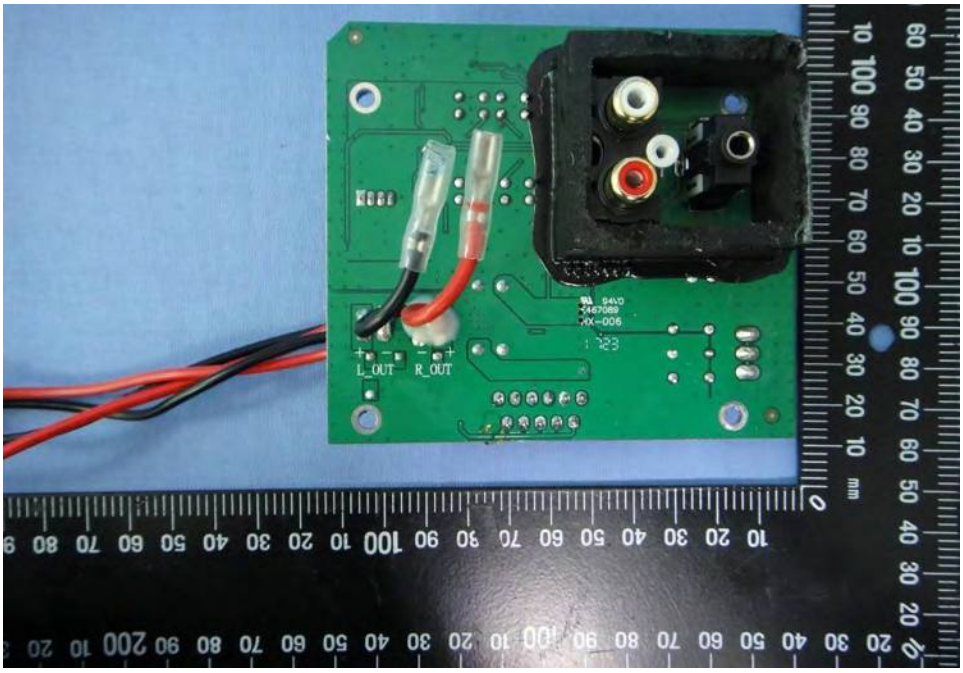

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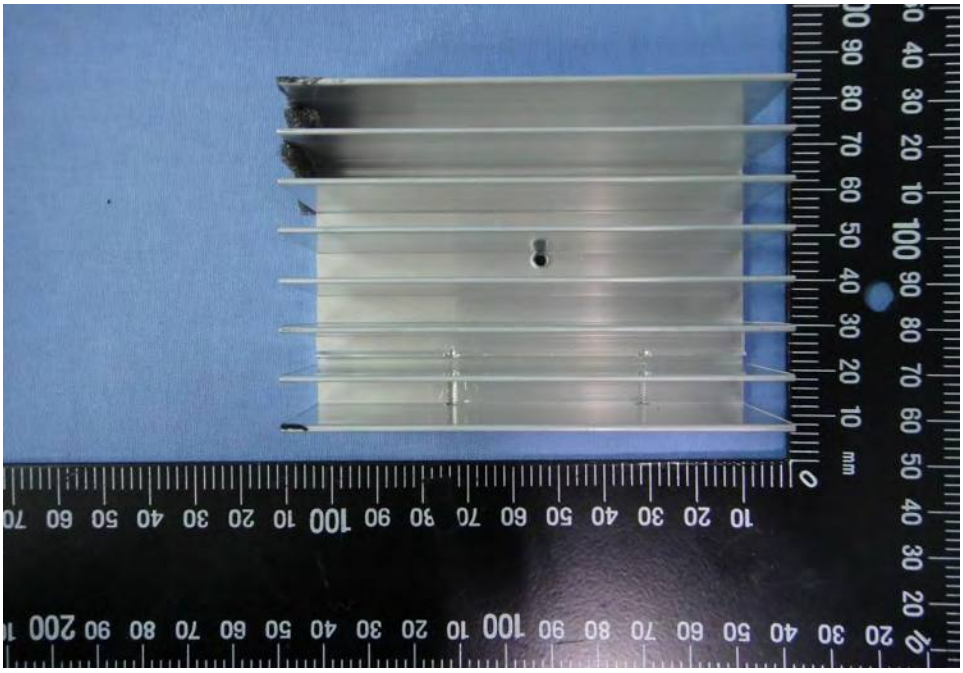
EUT Photo (23)



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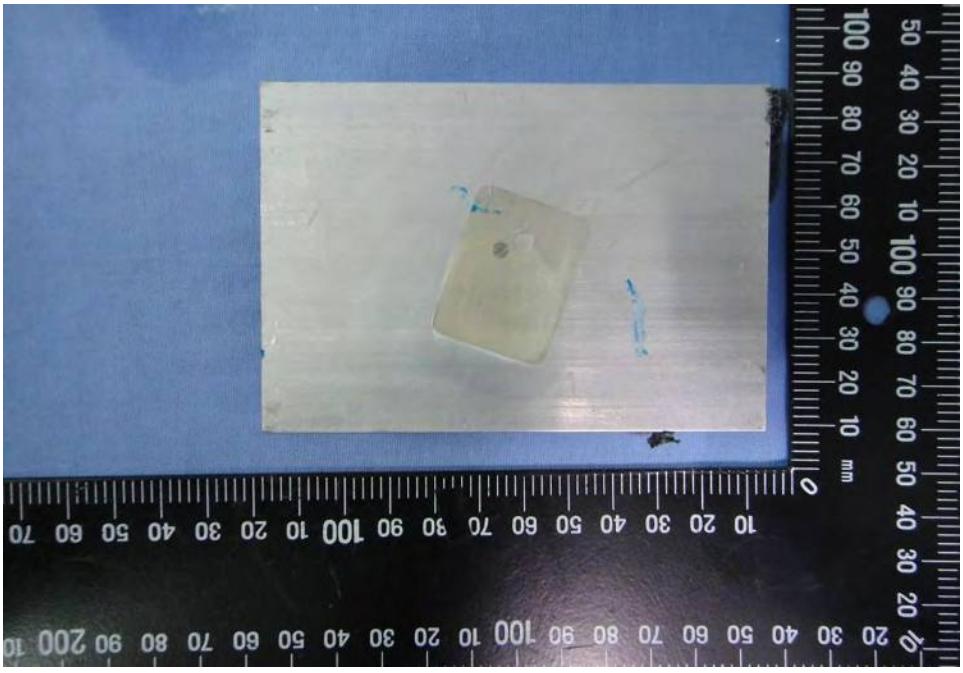

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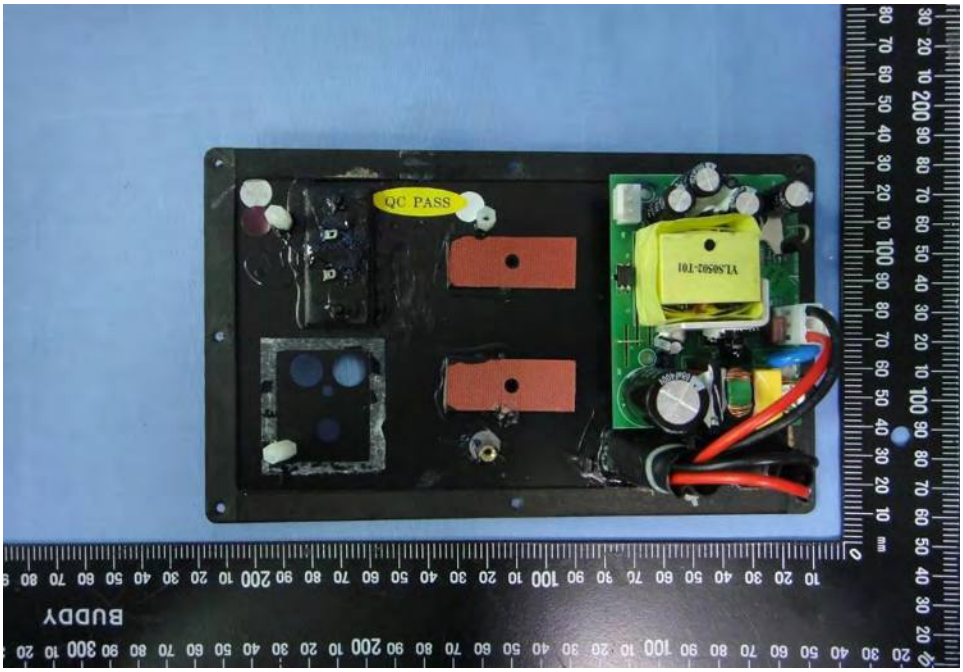

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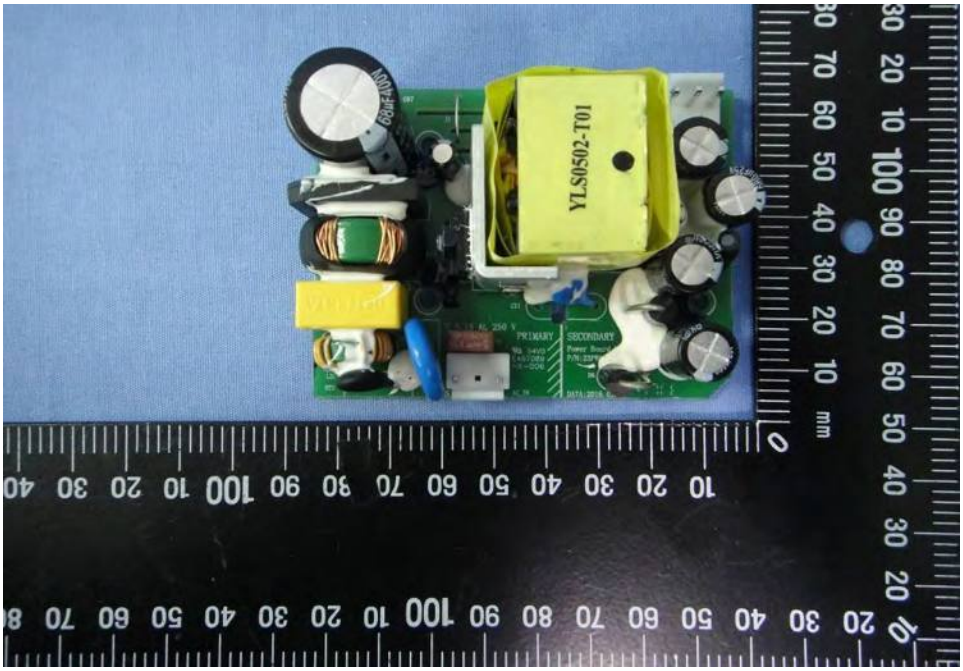

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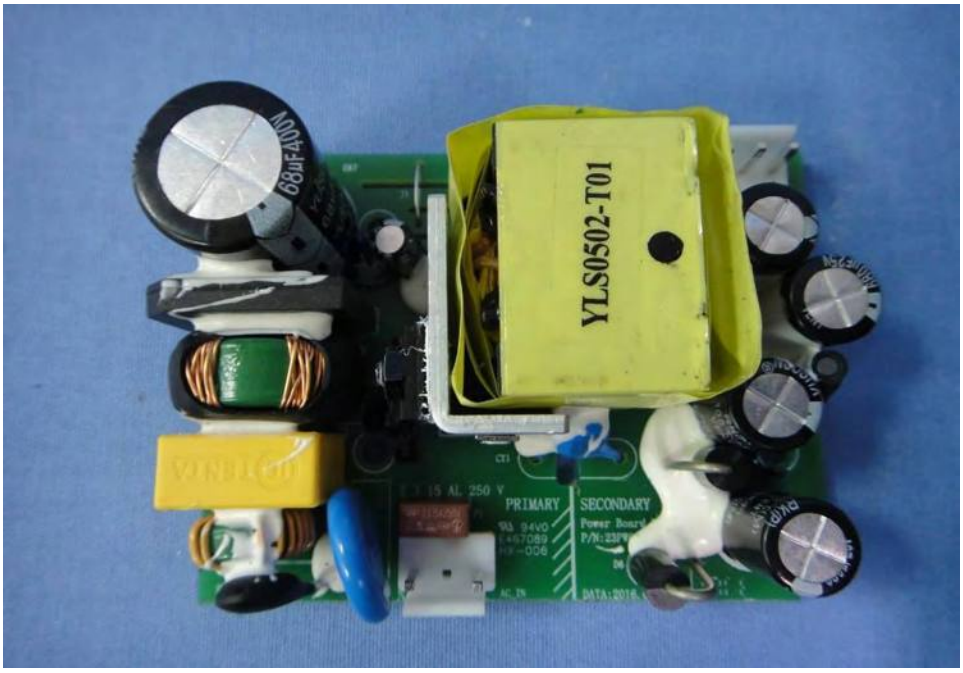

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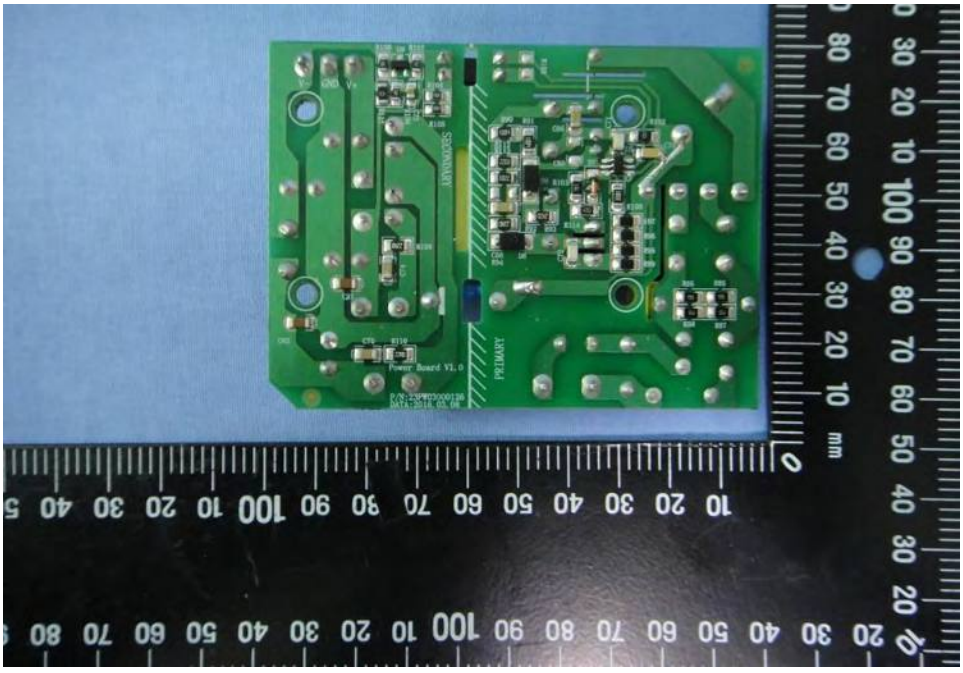

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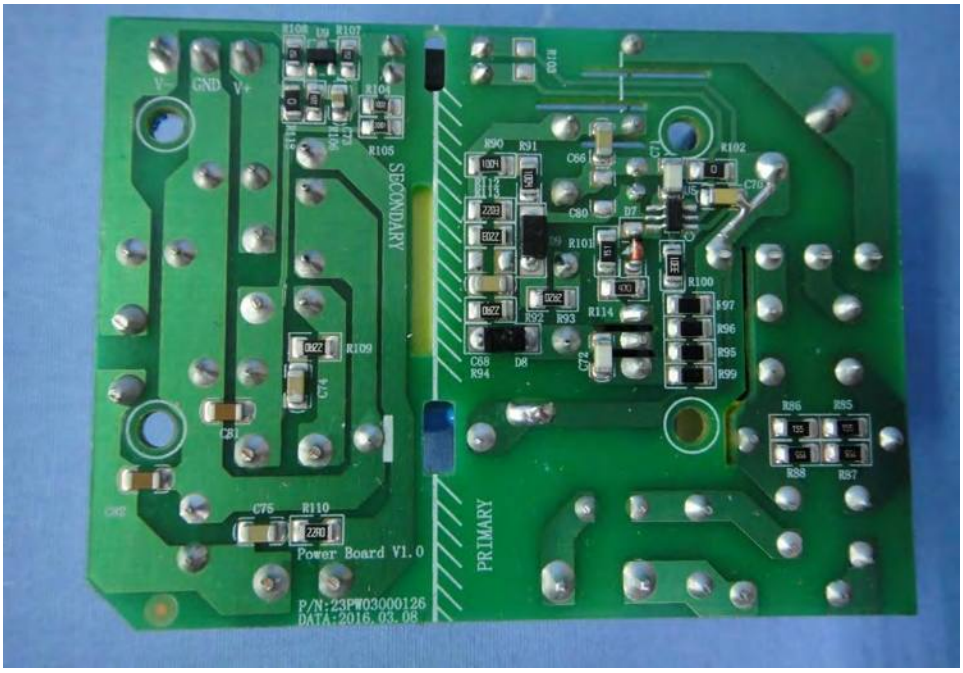

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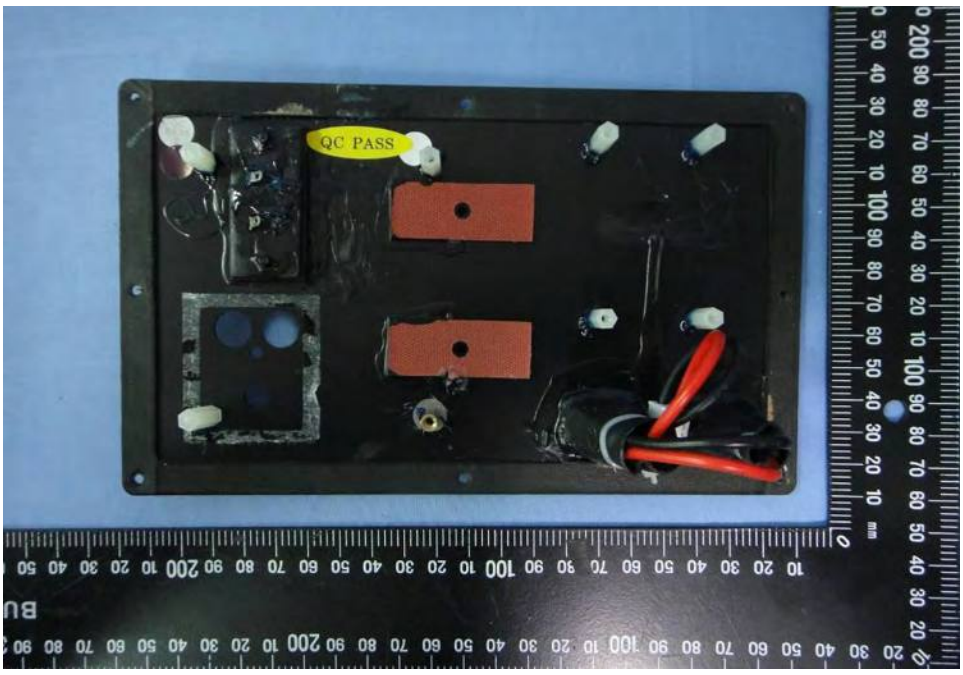

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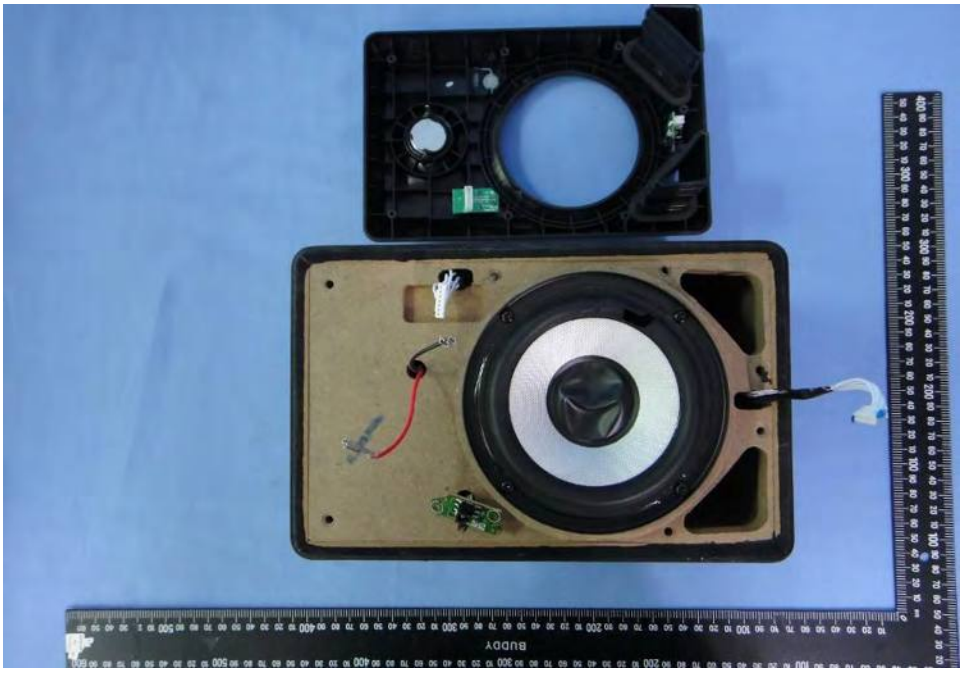
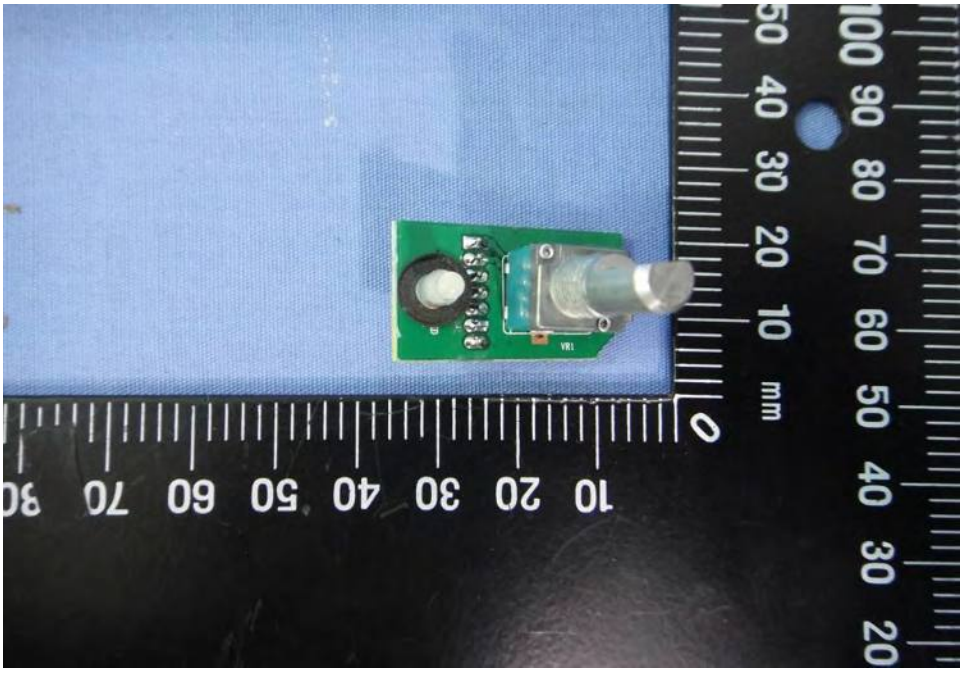


EUT Photo (32)

EUT Photo (33)



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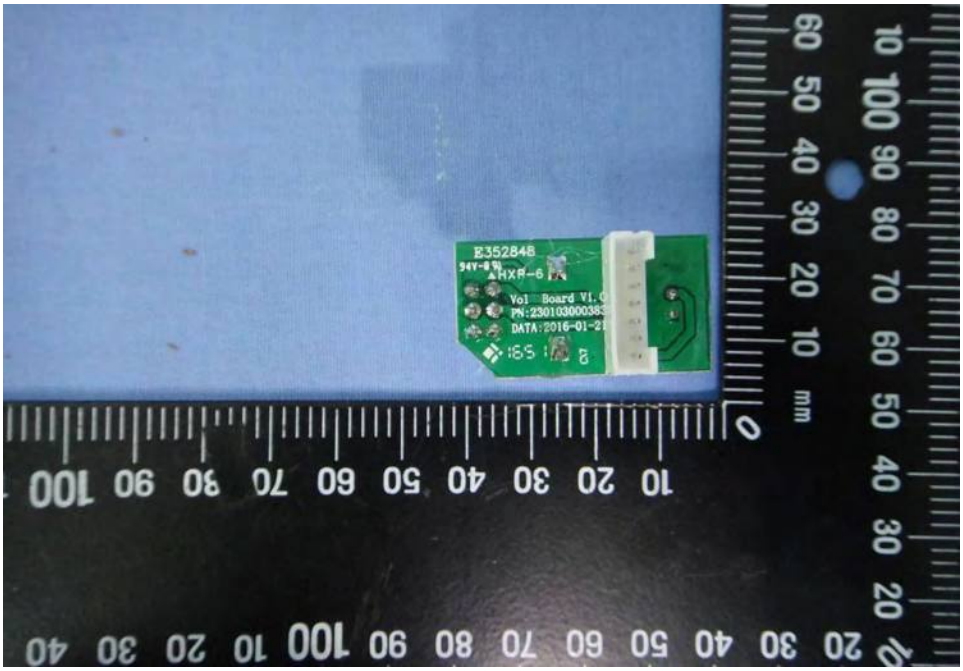
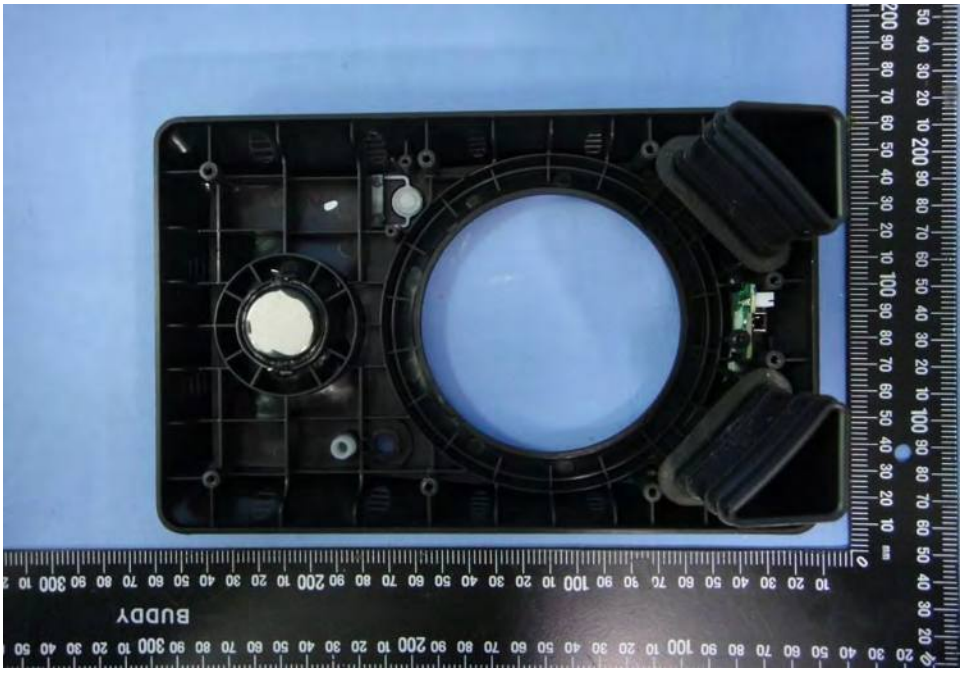


EUT Photo (35)



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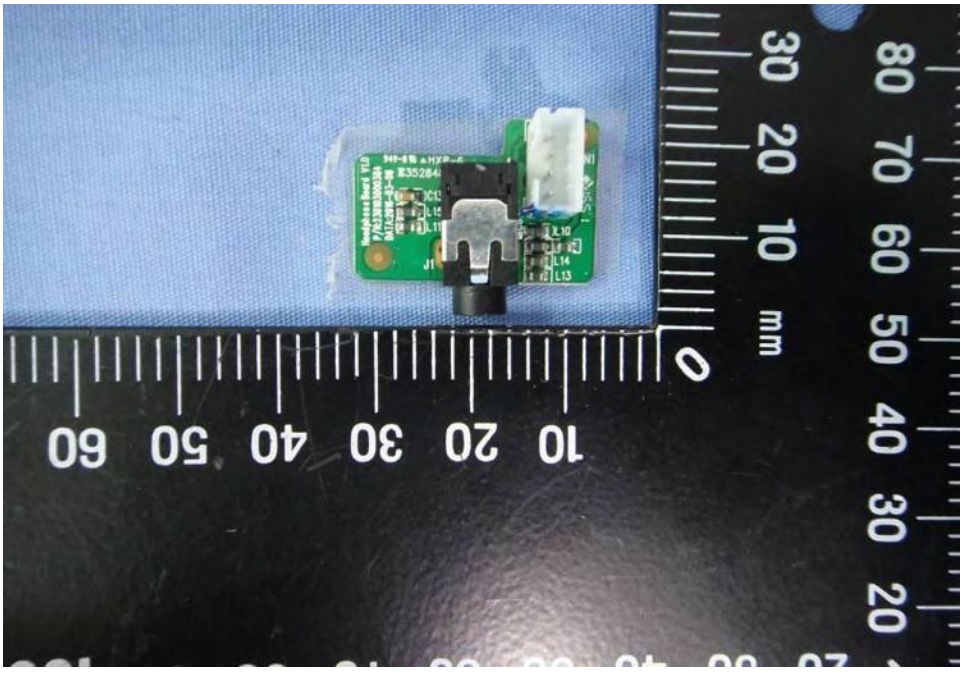

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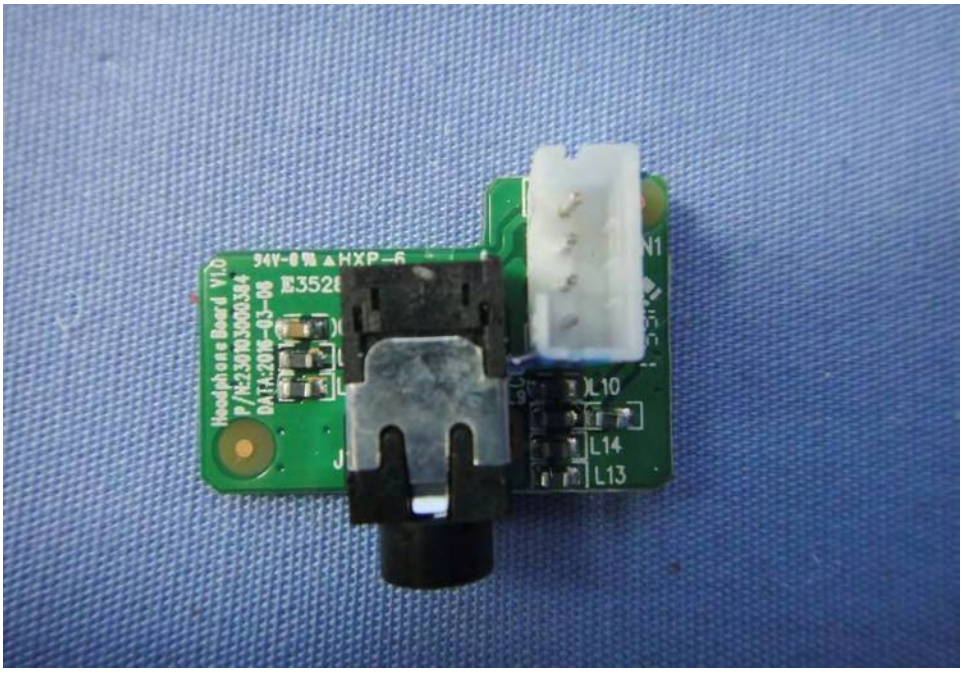

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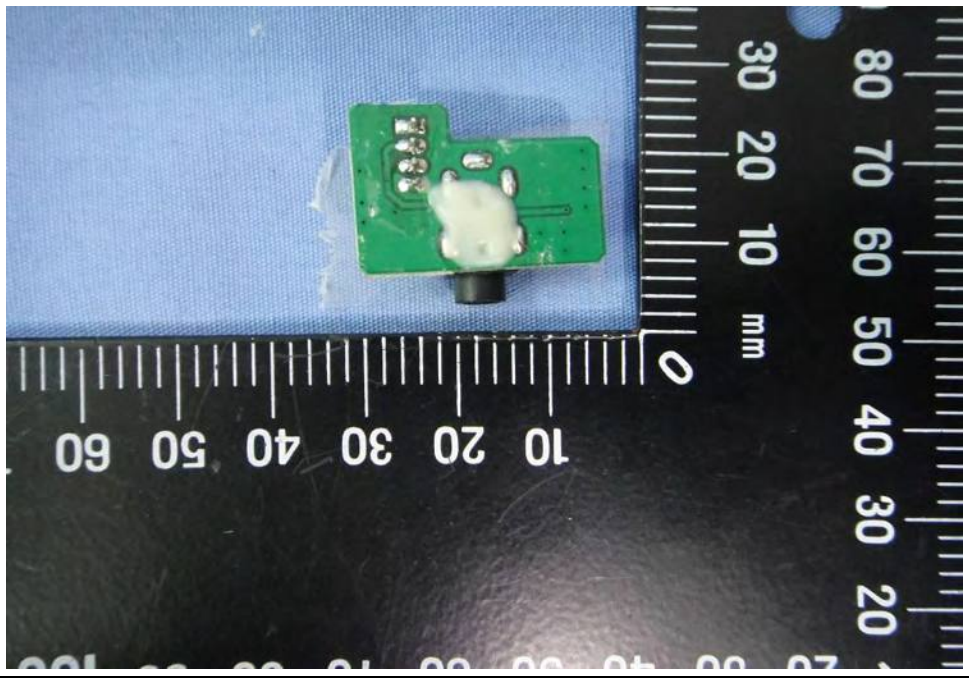

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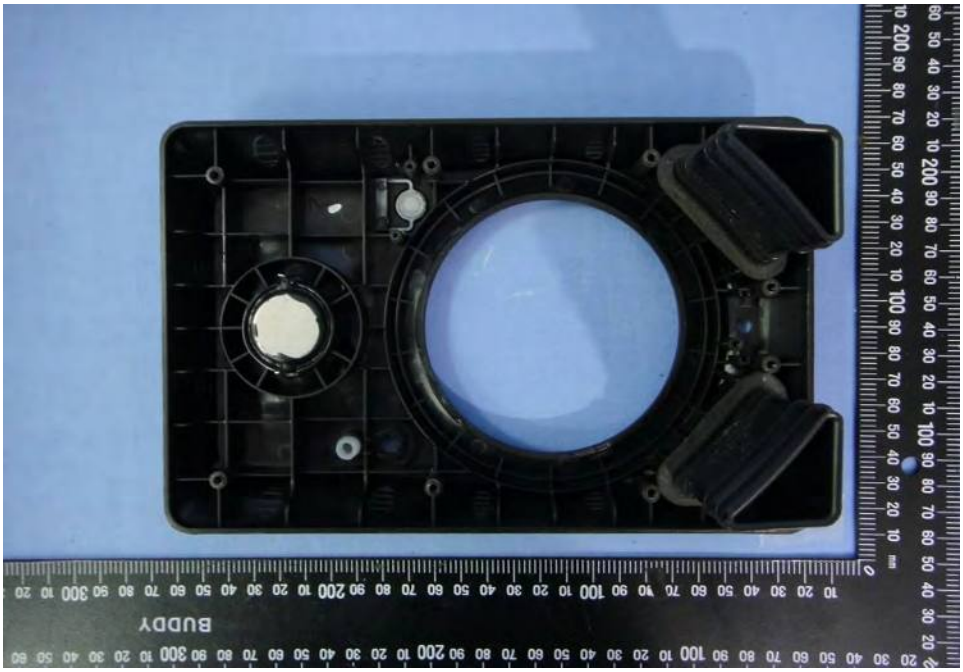

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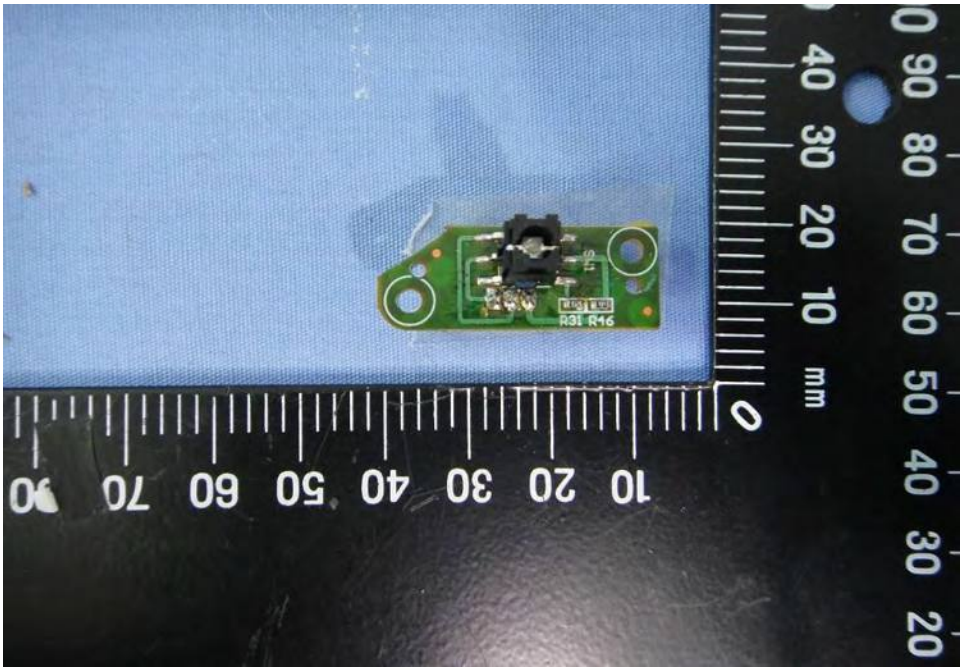

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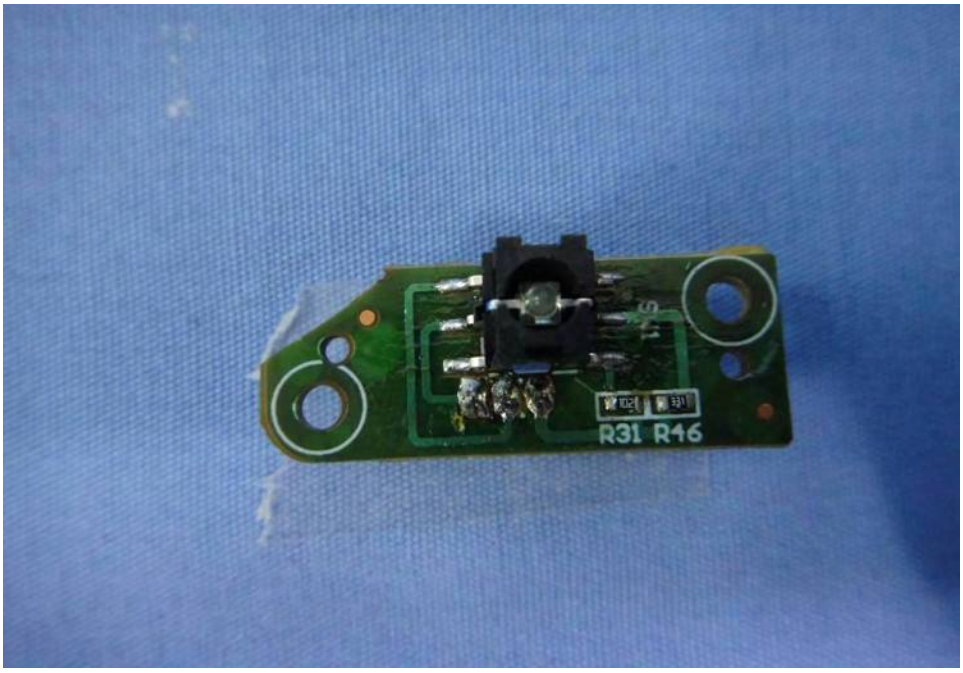

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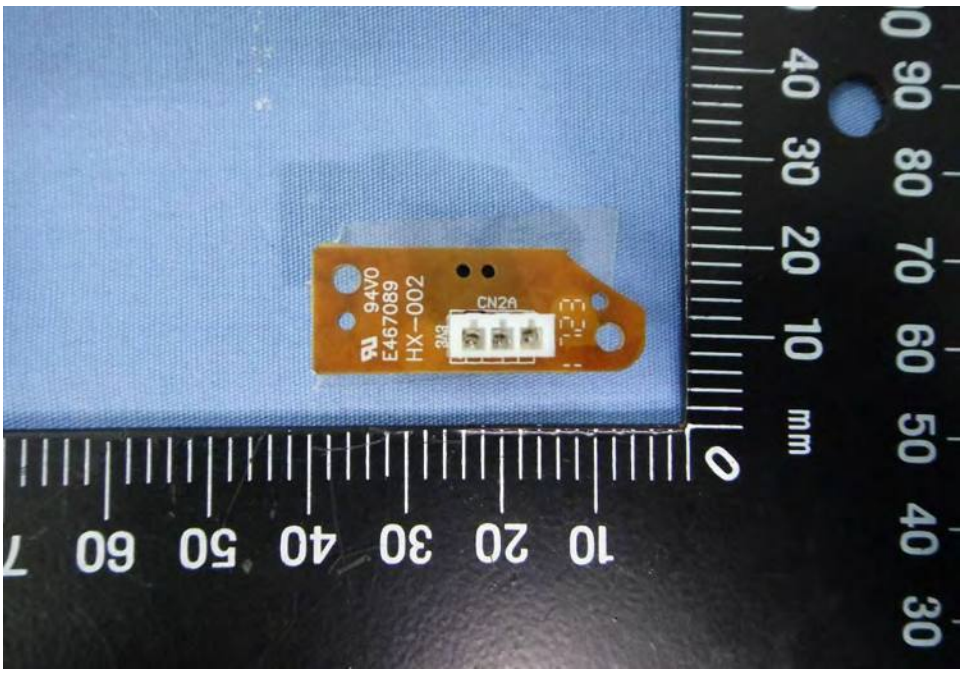

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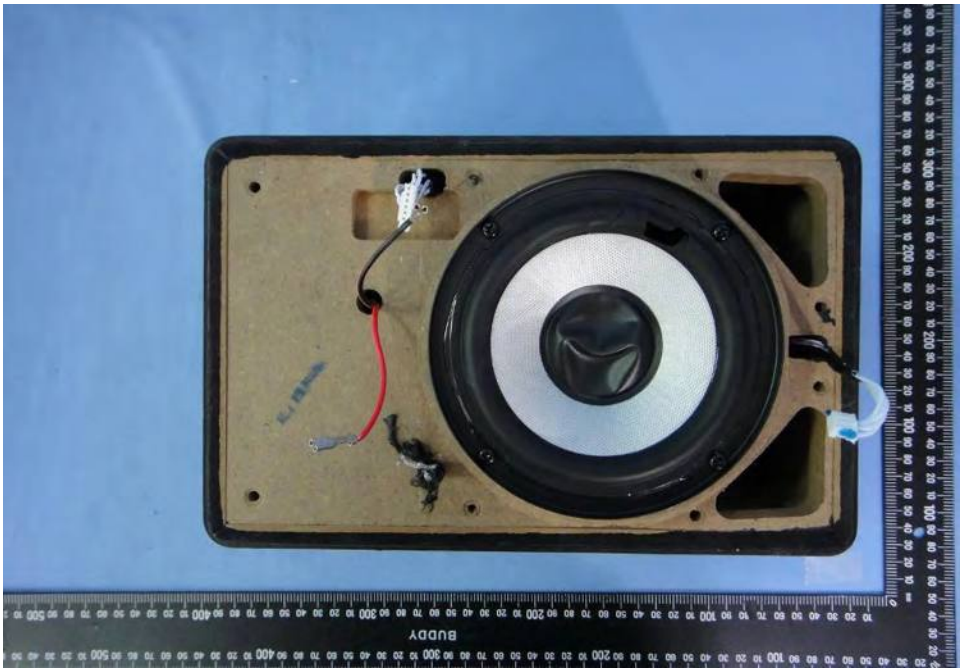

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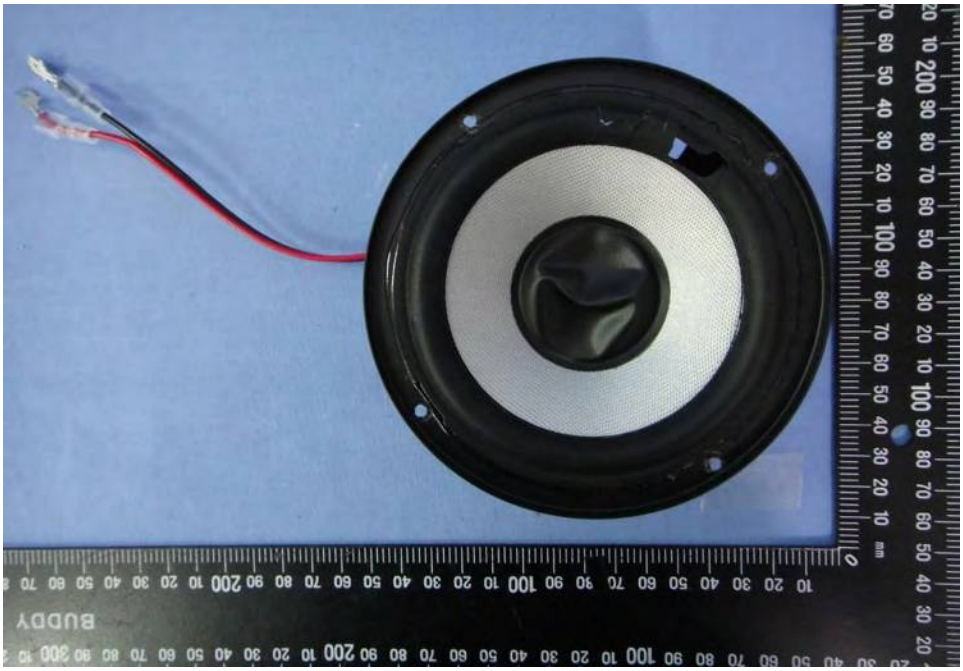

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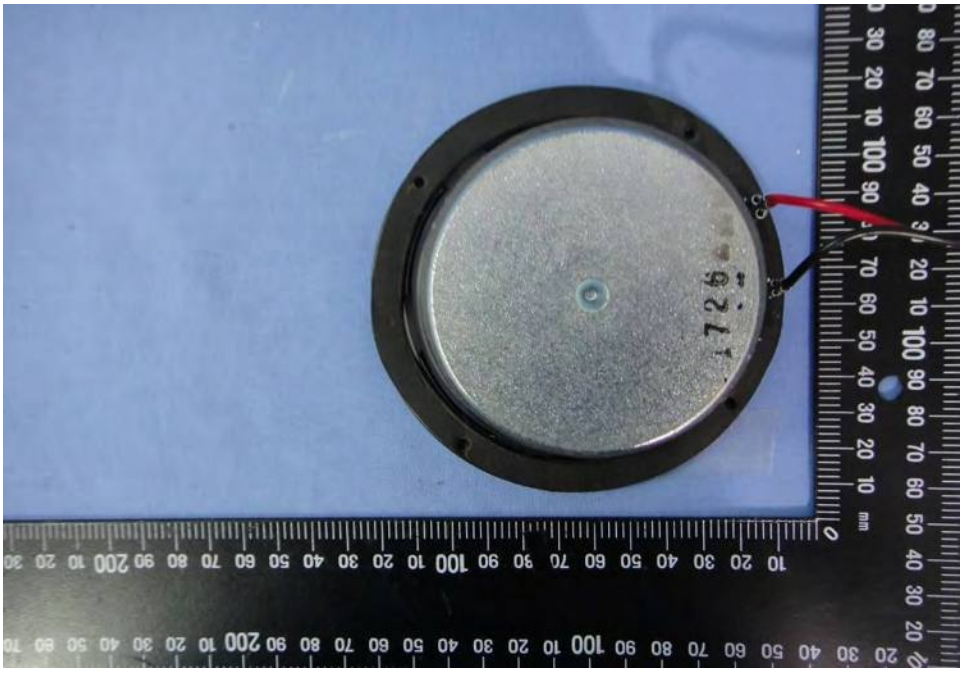

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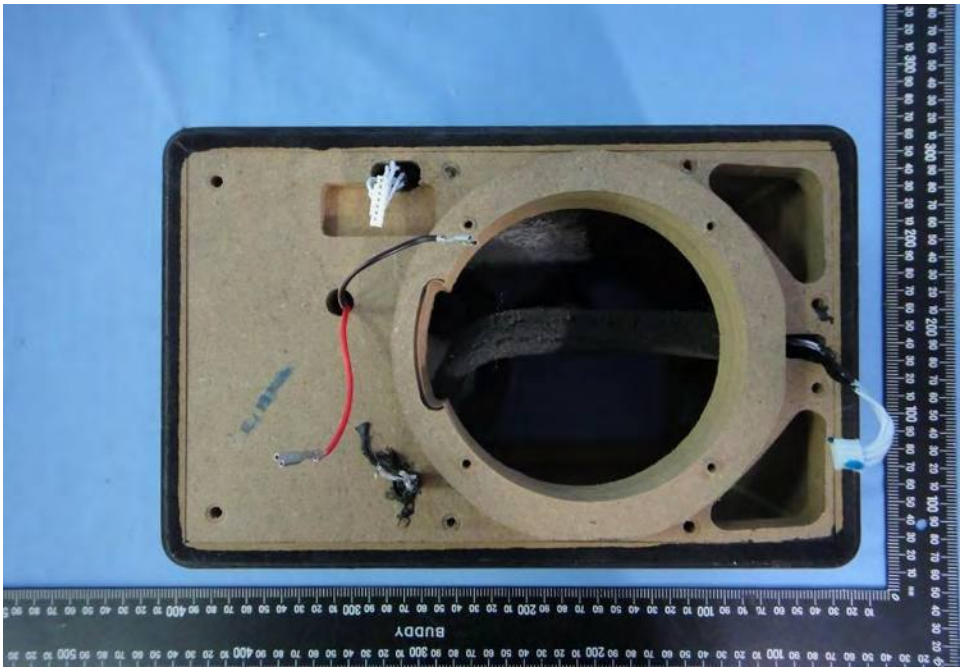

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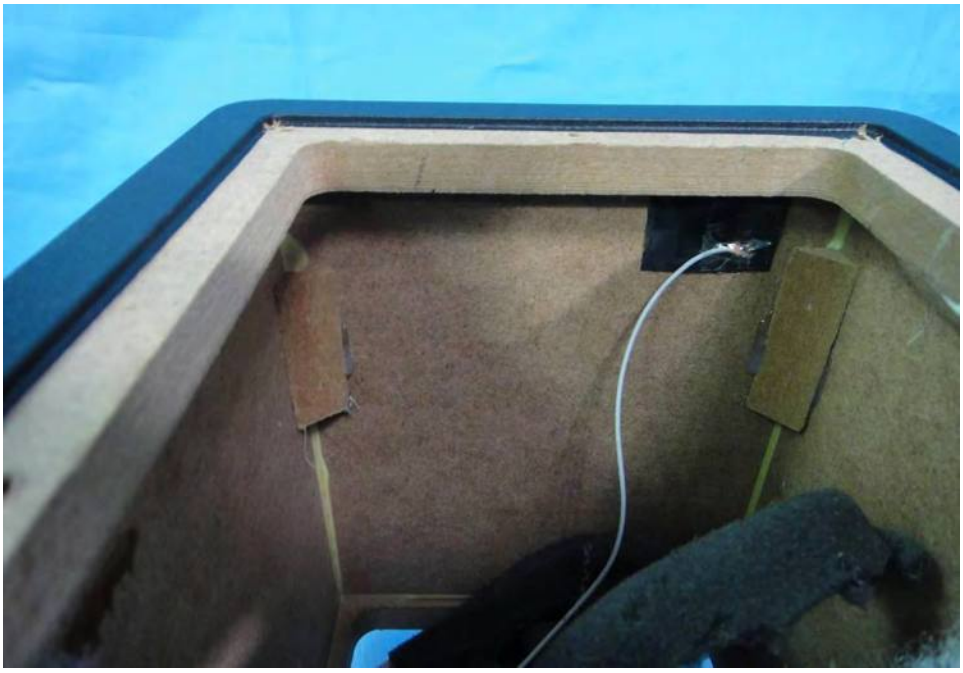

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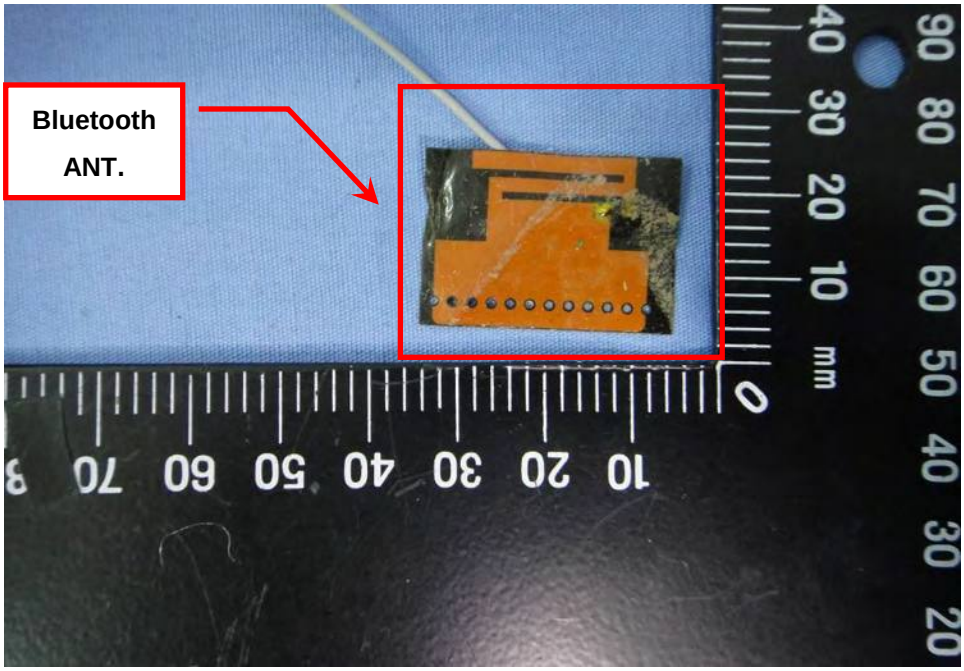

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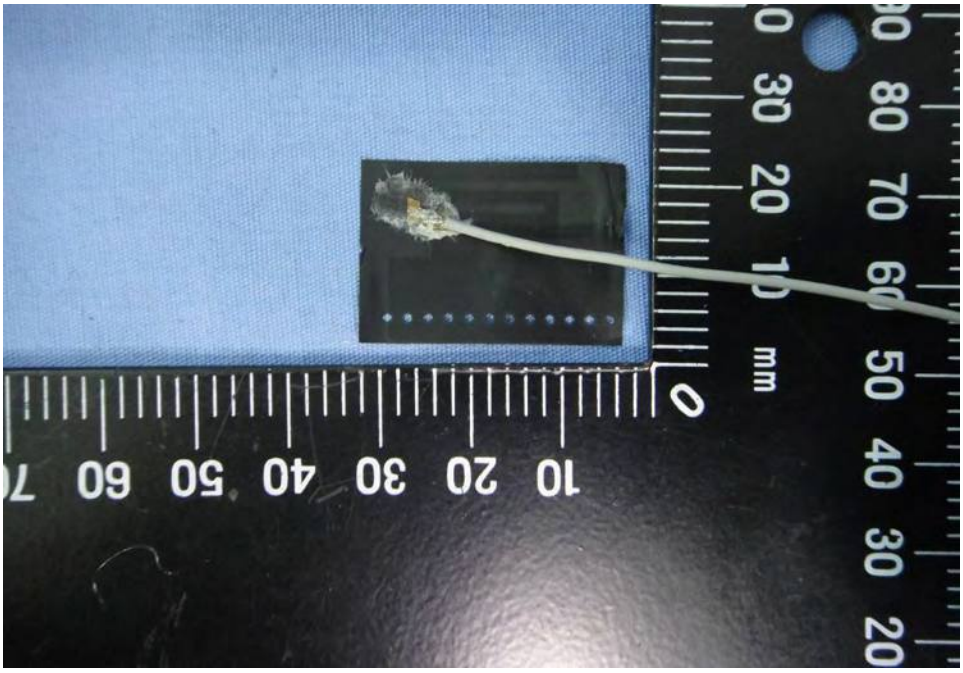
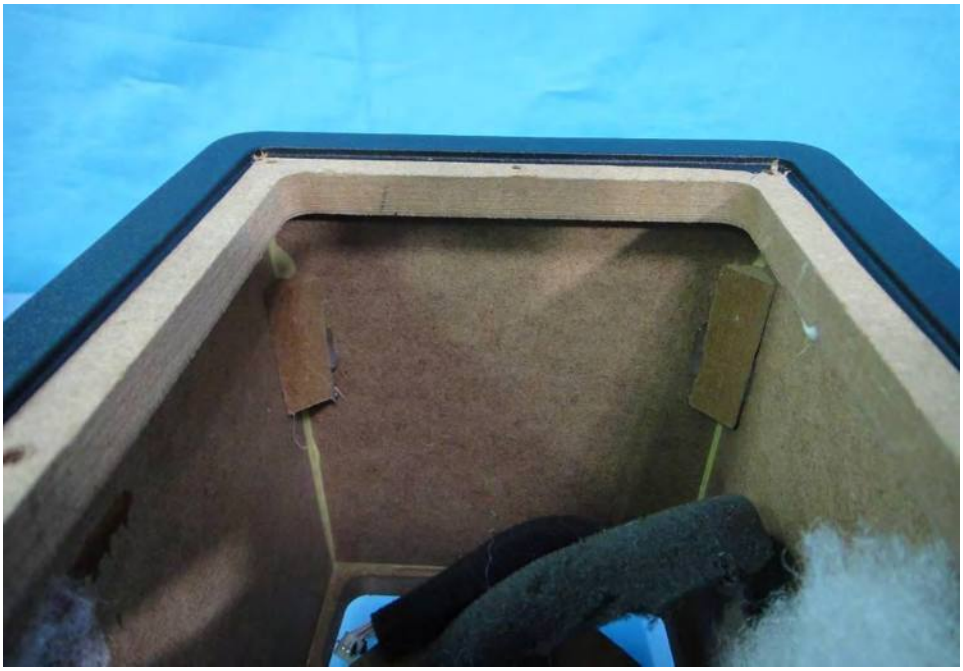


EUT Photo (50)



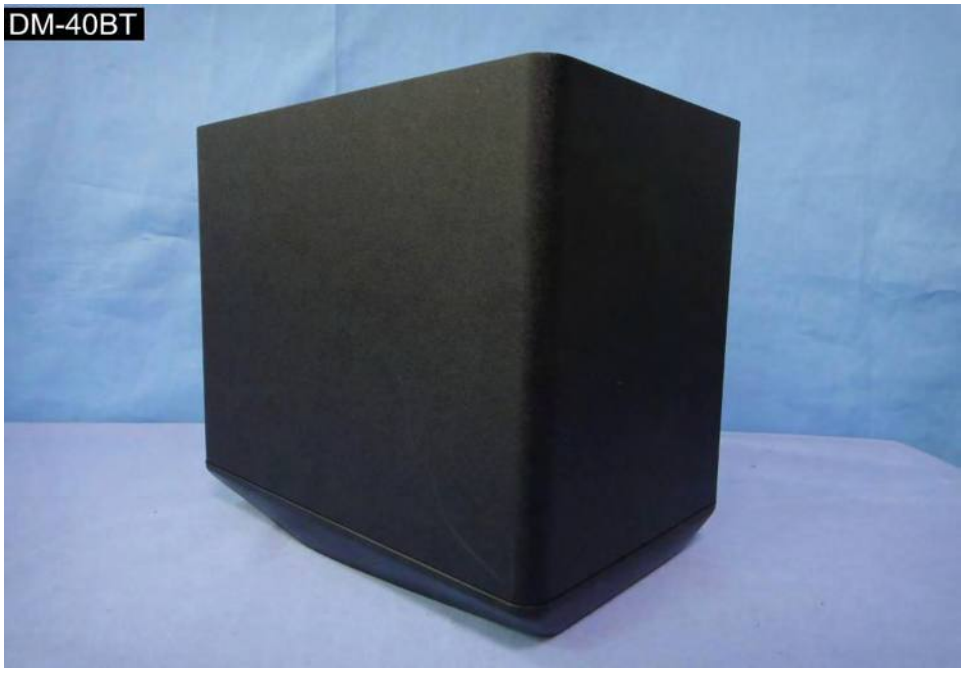
EUT Photo (51)

EUT Photo (52)

EUT Photo (53)

EUT Photo (54)

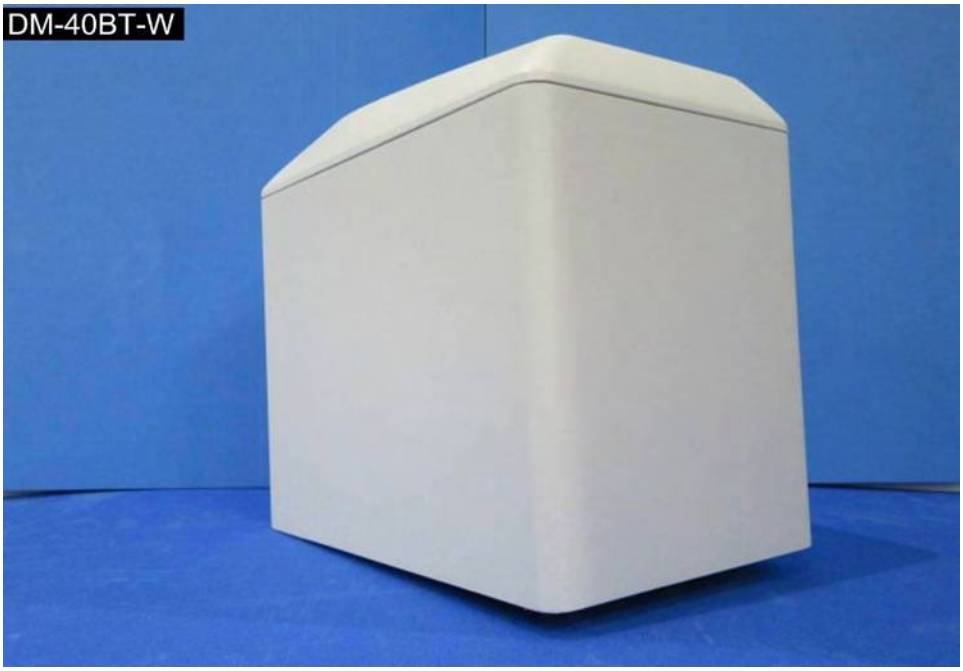
EUT Photo (55)



EUT Photo (56)

EUT Photo (57)

EUT Photo (58)



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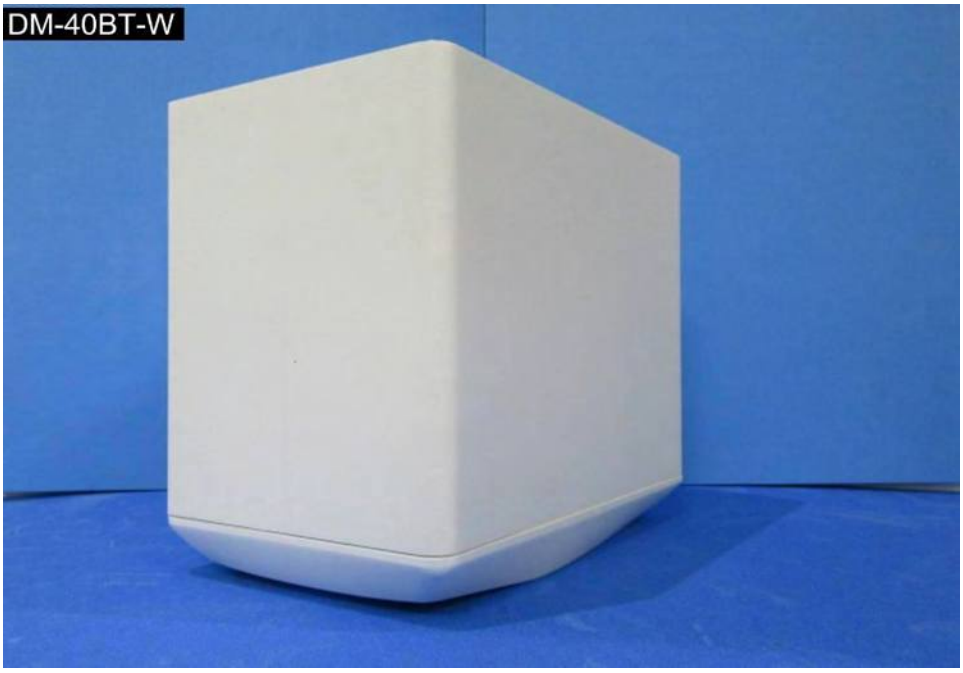
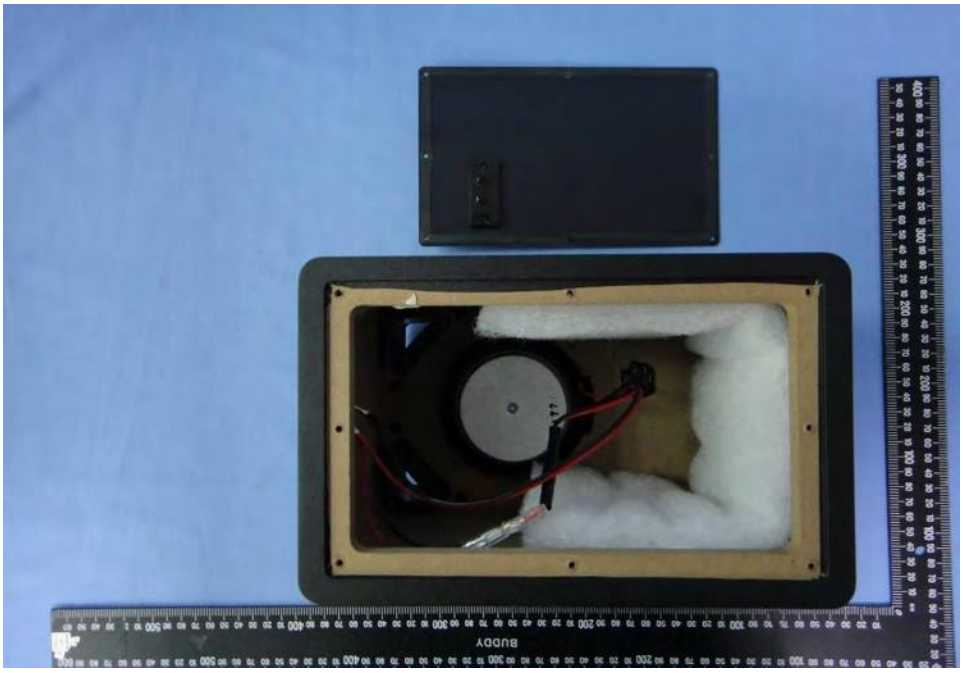


EUT Photo (60)

EUT Photo (61)



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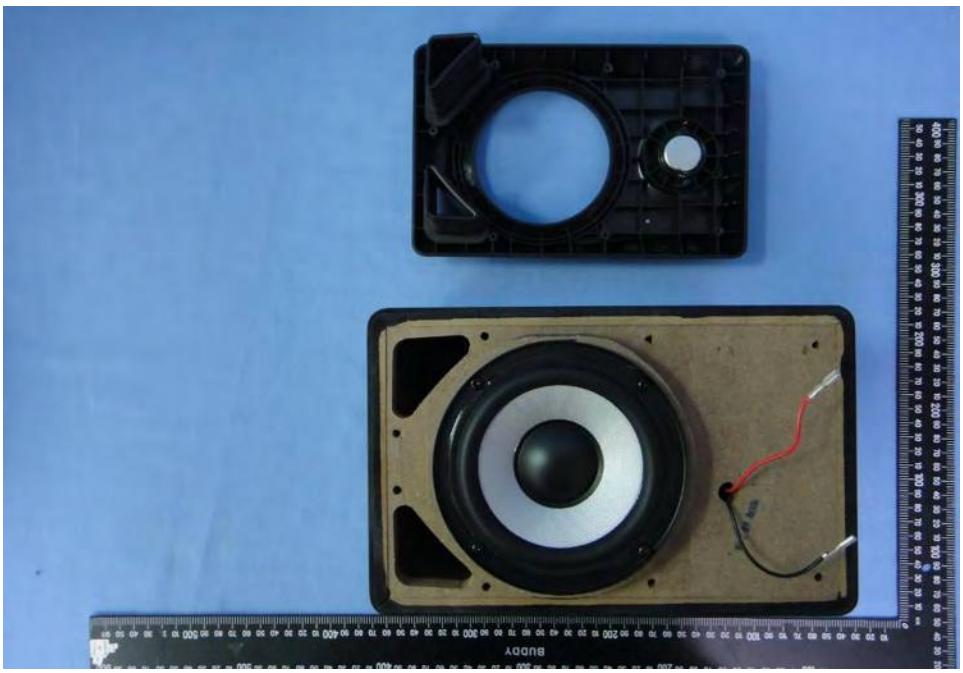
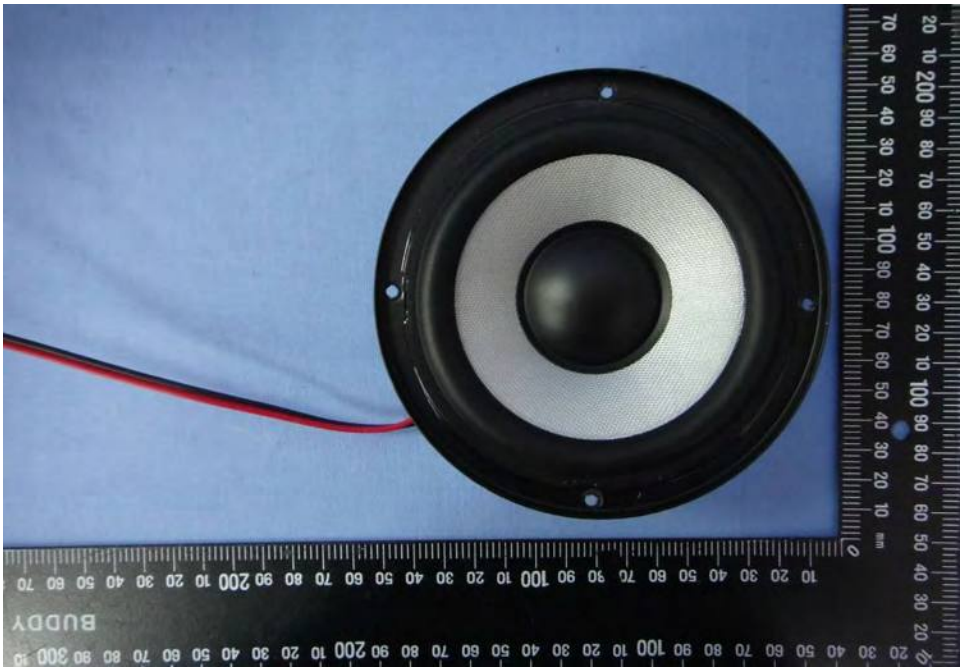


EUT Photo (63)

EUT Photo (64)



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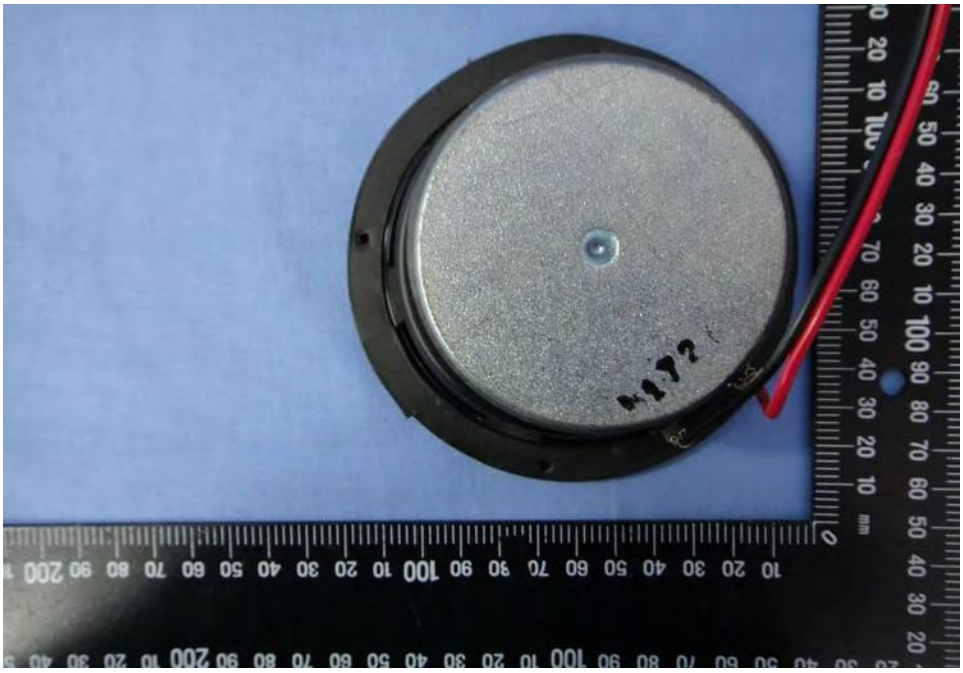

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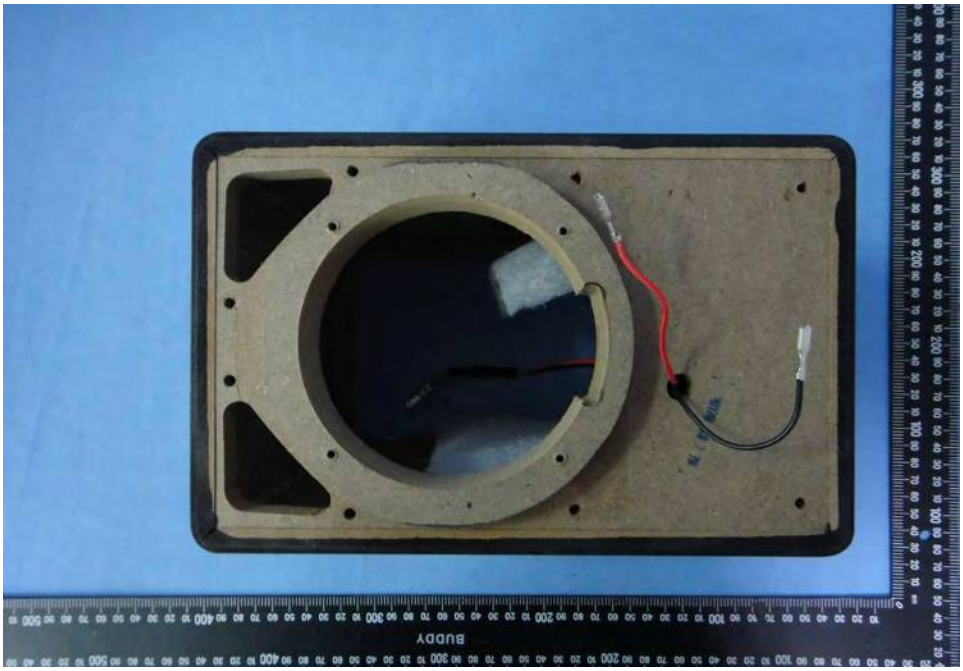
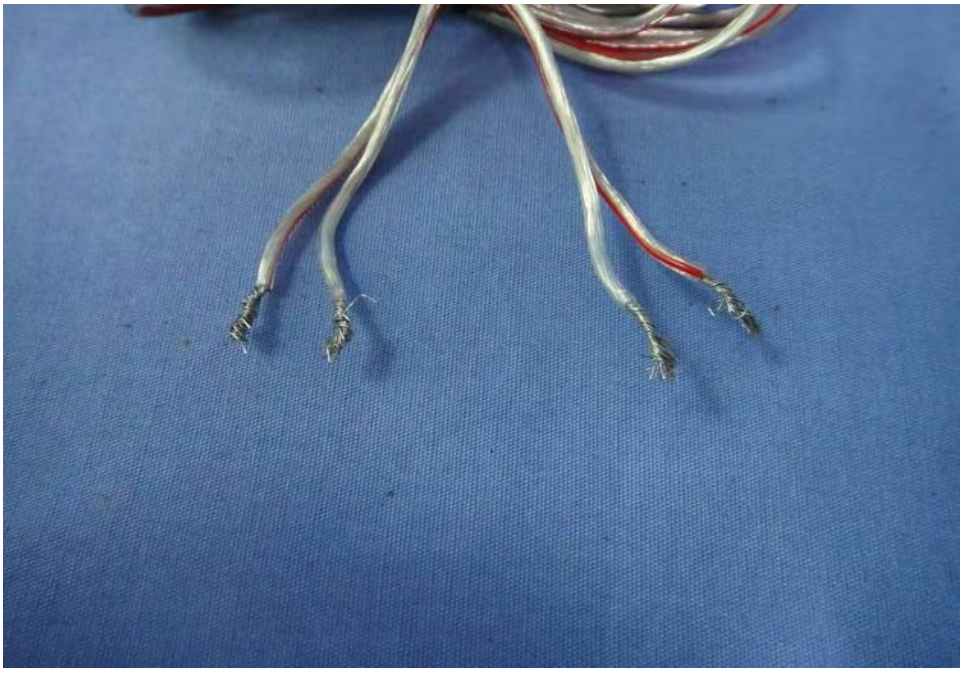


EUT Photo (67)

EUT Photo (68)

EUT Photo (69)



EUT Photo (70)

EUT Photo (71)