

NCC

低功率射頻電機型式試驗報告

產品名稱: Aruba 500 接入點
型號: APIN0504, APIN0505
廠牌: aruba / Hewlett Packard Enterprise
商標:  / 
申請者: 慧與科技股份有限公司
申請者地址: 臺北市南港區經貿二路 66 號 10 樓之 1
測試標準: LP0002 (107 年版)
參考法規: ANSI C63.10-2013
測試結果: 符合
測試日期: 2019.06.03 ~ 2019.07.14
發行日期: 2019.09.24

測試工程師:



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報告簽屬人:



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本測試報告僅對實驗室所受測之樣品負責

本測試報告非經本公司同意不可局部複製使用

修訂紀錄

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1. 一般資訊

申請者	慧與科技股份有限公司
申請者地址	臺北市南港區經貿二路 66 號 10 樓之 1
製造商	Hewlett Packard Enterprise Company
製造商地址	3333 Scott Blvd, Santa Clara, CA 94089, USA
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, 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. 產品資訊

2.1. 待測物裝置資料

產品名稱	Aruba 500 接入點
產品型號	APIN0504, APIN0505
待測物額定電壓	AC Adapter or POE input
藍牙版本	v4.2 single mode
頻率範圍	2402 ~ 2480 MHz
調變模式	GFSK
傳輸速率	1Mbps
配件	
POE Adapter	MFR: Microsemi Corp Analog Mixed Signal Group Model: PD-9001GR/AT/AC INPUT: 100 - 240V ~ 50/60Hz, 0.67A OUTPUT: 55VDC 0.6A
AC Adapter 1#	MFR: Asian Power Devices Inc. Model: DB-48A12 INPUT: 100 - 240V ~ 50/60Hz, 1.5A OUTPUT: 12VDC 4A
AC Adapter 2#	Model: ADH-36BR B INPUT: 100 - 240V ~ 50/60Hz, 1.0A OUTPUT: 12VDC 3A
AC Adapter 3#	MFR: Shenzhen ENG Electronics Co., Ltd. P/N: SDI30-12-U-P209-C1 Model: SDI30-12-U INPUT: 100 - 240V ~ 50/60Hz, 1.0A OUTPUT: 12VDC 2.5A

Note: The difference between models is that EUT use different antenna and appearance, APIN0504 use some external antennas, but APIN0505 use internal antenna, other hardware and software are the same.

2.2. 通道清單

Bluetooth-LE

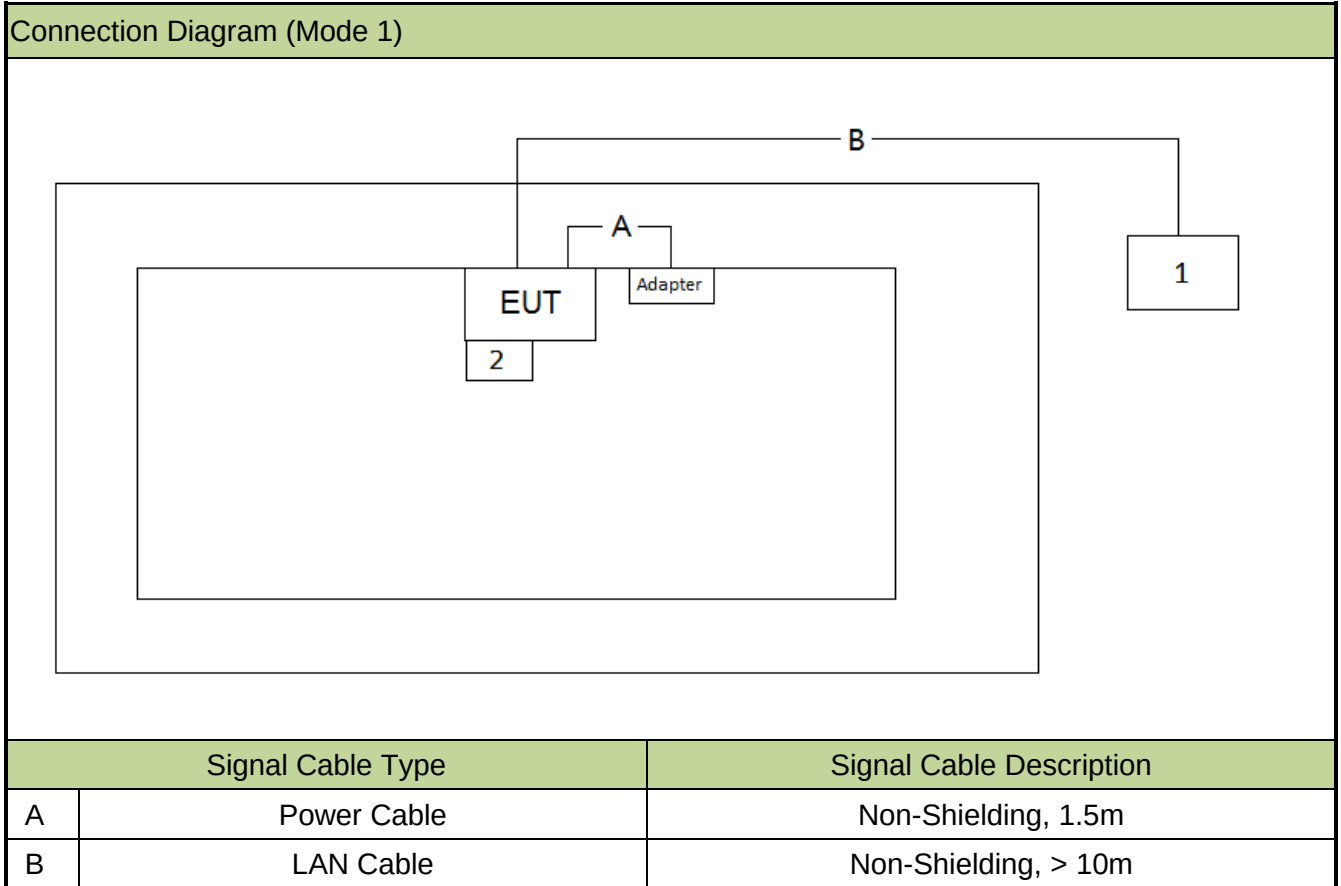
Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz
03	2408 MHz	04	2410 MHz	05	2412 MHz
06	2414 MHz	07	2416 MHz	08	2418 MHz
09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz
15	2432 MHz	16	2434 MHz	17	2436 MHz
18	2438 MHz	19	2440 MHz	20	2442 MHz
21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz
27	2456 MHz	28	2458 MHz	29	2460 MHz
30	2462 MHz	31	2464 MHz	32	2466 MHz
33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz
39	2480 MHz	--	--	--	--

2.3. 測試模式

Mode 1: 發射器 BLE

Note：因 APIN0504 & APIN0505 僅天線差異，故傳導模式以 APIN0504 為主，輻射測試兩款型號皆有評估。

2.4. 測試系統組合圖



2.5. 測試周邊

Item	待測物名稱	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	E430c	N/A	Non-Shielded, 1.8m
2	USB Dongle	藍科芯	青花 16G	--	--

2.6. 待測裝置測試時之典型操作程式

1.	Setup the EUT and simulators as shown on 2.4
2.	Turn on the power of all equipment.
3.	Execute "telnet.exe" program.
4.	Configure the test channel and the data rate.
5.	Start to test.

3. 量測不確定度

電源傳導量測-電源線 (Conducted Emission- Power Line)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.53dB
輻射干擾量測 (Radiated Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.92dB (Below 30M)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.25dB (30M~1G)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.40dB (1G~18G)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.45dB (18G~40G)
頻率誤差量測 (Frequency Error)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 78.4\text{Hz}$
傳導功率量測 (Conducted Power)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.84\text{dB}$
傳導干擾量測 (Conducted Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 2.65\text{ dB}$
佔用頻寬量測 (Occupied Bandwidth)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.3%
溫度 / 濕度 (Temp. / Humidity)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.82^{\circ}\text{C} / \pm 3\%$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

4. 測試設備明細

Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2020/3/25
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2020/4/25
8-Wire ISN (T8)	R&S	ENY81	MRTTWA00018	1 year	2020/4/23
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2020/5/29
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2020/5/30

Radiated Emissions - AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2020/4/29
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2020/6/4
Broadband Hornantenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2020/4/22
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2020/4/23
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2020/4/24
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2020/4/24
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2020/3/25
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2019/10/30
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2020/4/22
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00032	1 year	2020/5/30

Conducted Test Equipment - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2019/10/30
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTSUE06457	1 year	2020/7/19
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2020/4/22
溫度/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2020/5/30

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	Quietek	V3

5. 測試結果

章節	量測項目	限制值	測試結果	測試數據
2.3	電源傳導	低功率射頻電機技術規範 2.3 節	符合	第 5.1 章節
3.10.1.2	峰值傳導輸出功率	$\leq 30.00\text{dBm}$	符合	第 5.2 章節
3.10.1.3	天線之要求	低功率射頻電機技術規範 3.10.1.3 節	符合	第 5.3 章節
3.10.1.5	帶外發射限制	$\leq 20\text{dBc (Peak)}$	符合	第 5.4 章節
2.7	輻射電場強度	低功率射頻電機技術規範 2.8 節	符合	第 5.5 章節
2.7	頻帶邊緣	$\leq 74\text{dBuV/m (Peak)}$ $\leq 54\text{dBuV/m (Average)}$	符合	第 5.6 章節
3.10.1.6(2)(A)	佔用頻寬	$\geq 500\text{kHz}$	符合	第 5.7 章節
3.10.1.6(2)(B)	功率頻譜密度	$\leq 8\text{dBm/3kHz}$	符合	第 5.8 章節

5.1. 電源傳導測試

5.1.1. 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。

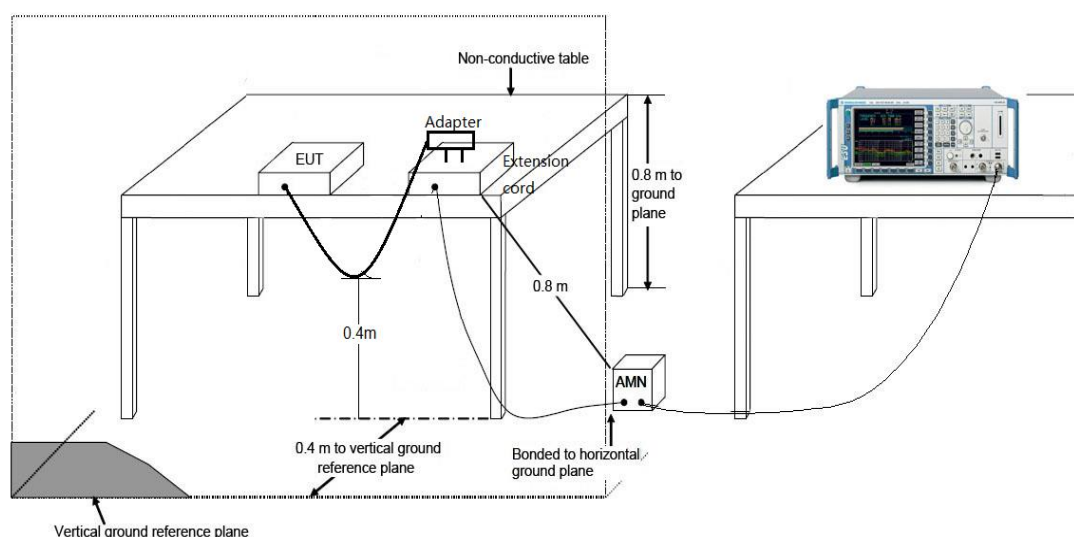
5.1.2. 限制要求

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

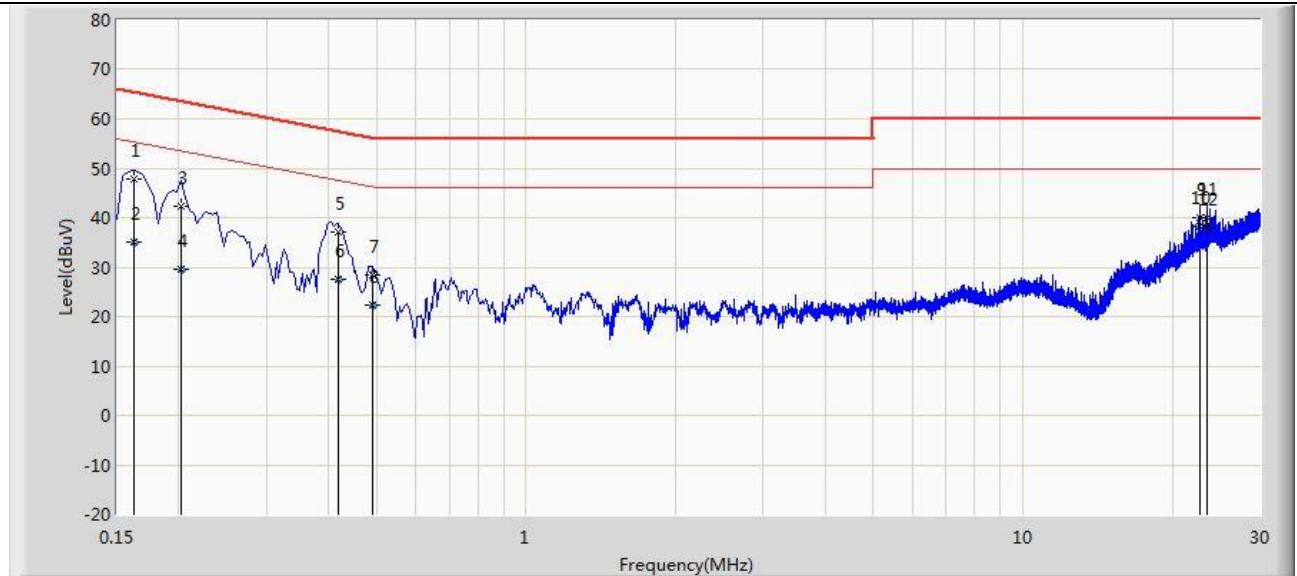
註：隨頻率之對數遞減

5.1.3. 測試架構圖



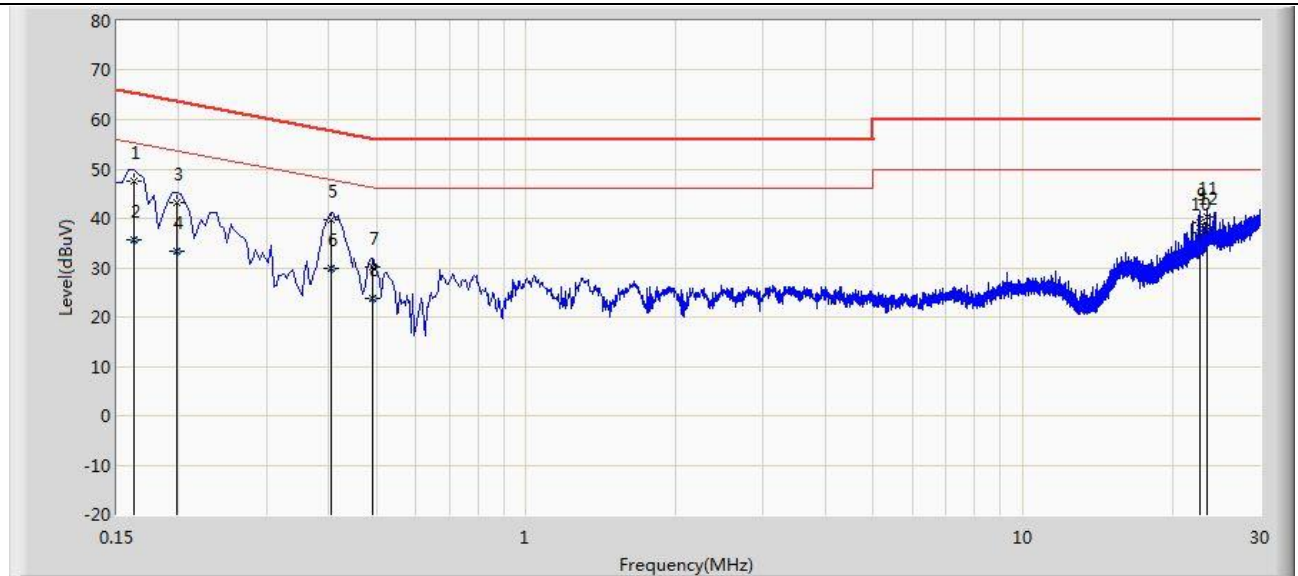
5.1.4. 電源端點測試結果

Site: SR2	Time: 2019/07/15 - 14:19
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-L1 (Filter ON)	Polarity: Line
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Test Mode 1 (Adaptetr : PD-9001GR/AT/AC)	



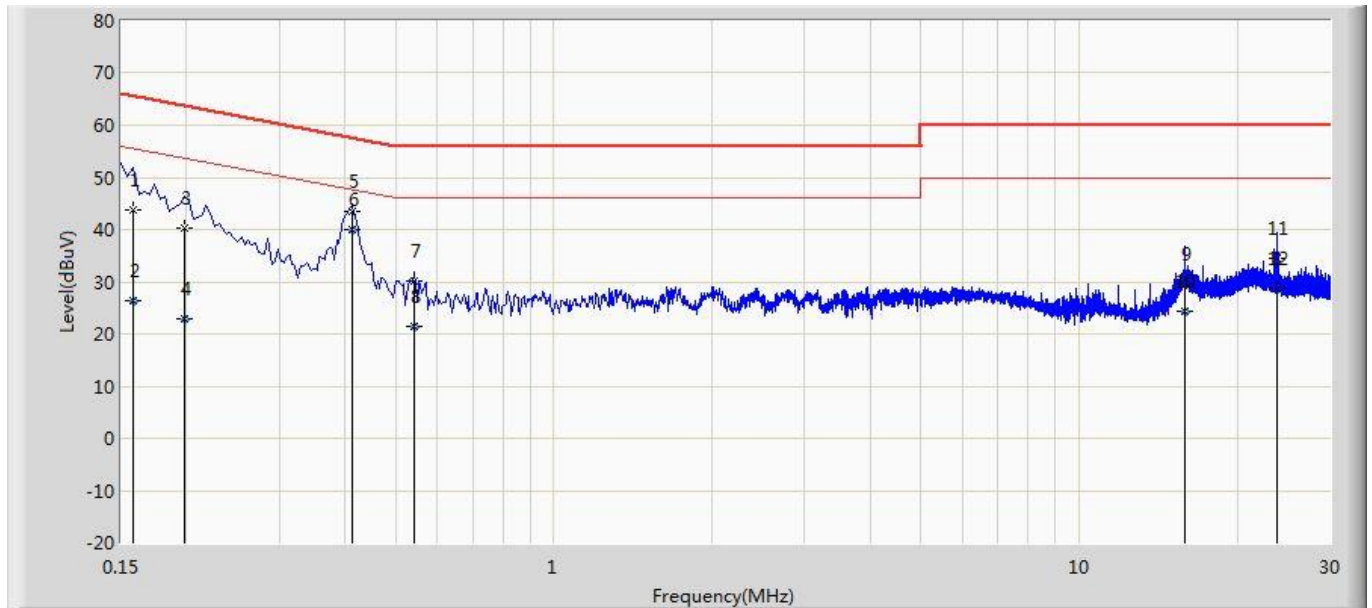
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.162	47.862	38.270	-17.499	65.361	9.592	QP
2			0.162	35.196	25.604	-20.165	55.361	9.592	AV
3			0.202	42.341	32.745	-21.187	63.528	9.596	QP
4			0.202	29.685	20.089	-23.843	53.528	9.596	AV
5			0.418	37.182	27.579	-20.305	57.488	9.603	QP
6			0.418	27.438	17.835	-20.049	47.488	9.603	AV
7			0.490	28.469	18.869	-27.699	56.168	9.600	QP
8			0.490	22.269	12.669	-23.899	46.168	9.600	AV
9			22.766	40.117	30.137	-19.883	60.000	9.980	QP
10		*	22.766	38.215	28.235	-11.785	50.000	9.980	AV
11			23.494	40.058	30.078	-19.942	60.000	9.980	QP
12			23.494	37.829	27.849	-12.171	50.000	9.980	AV

Site: SR2	Time: 2019/07/15 - 15:17
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-N (Filter ON)	Polarity: Neutral
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Test Mode 1 (Adaptetr : PD-9001GR/AT/AC)	



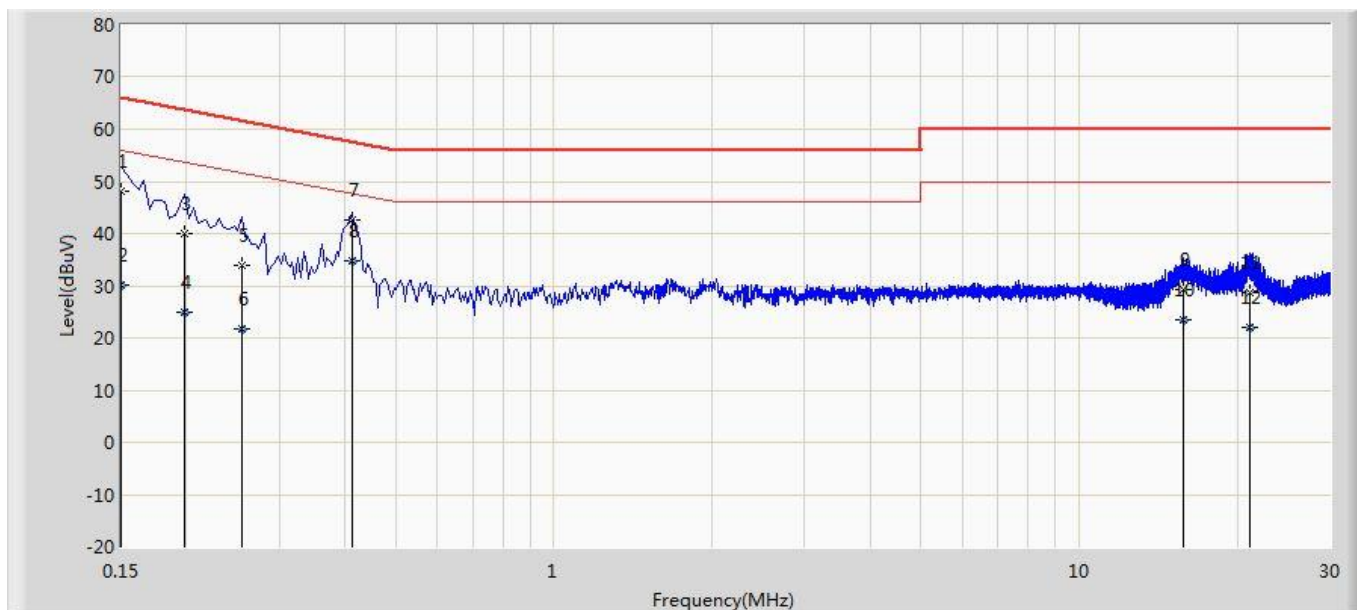
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.162	47.599	37.988	-17.761	65.361	9.611	QP
2			0.162	35.626	26.015	-19.734	55.361	9.611	AV
3			0.198	43.225	33.617	-20.469	63.694	9.609	QP
4			0.198	33.211	23.603	-20.483	53.694	9.609	AV
5			0.406	39.628	30.017	-18.102	57.730	9.611	QP
6			0.406	29.927	20.316	-17.803	47.730	9.611	AV
7			0.490	30.080	20.470	-26.088	56.168	9.610	QP
8			0.490	23.792	14.182	-22.376	46.168	9.610	AV
9			22.766	39.245	29.162	-20.755	60.000	10.083	QP
10			22.766	37.147	27.064	-12.853	50.000	10.083	AV
11			23.494	40.238	30.146	-19.762	60.000	10.092	QP
12		*	23.494	38.164	28.072	-11.836	50.000	10.092	AV

Site: SR2	Time: 2019/07/15 - 15:28
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-L1 (Filter ON)	Polarity: Line
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Test Mode 1 (Adapter : DB-48A12)	



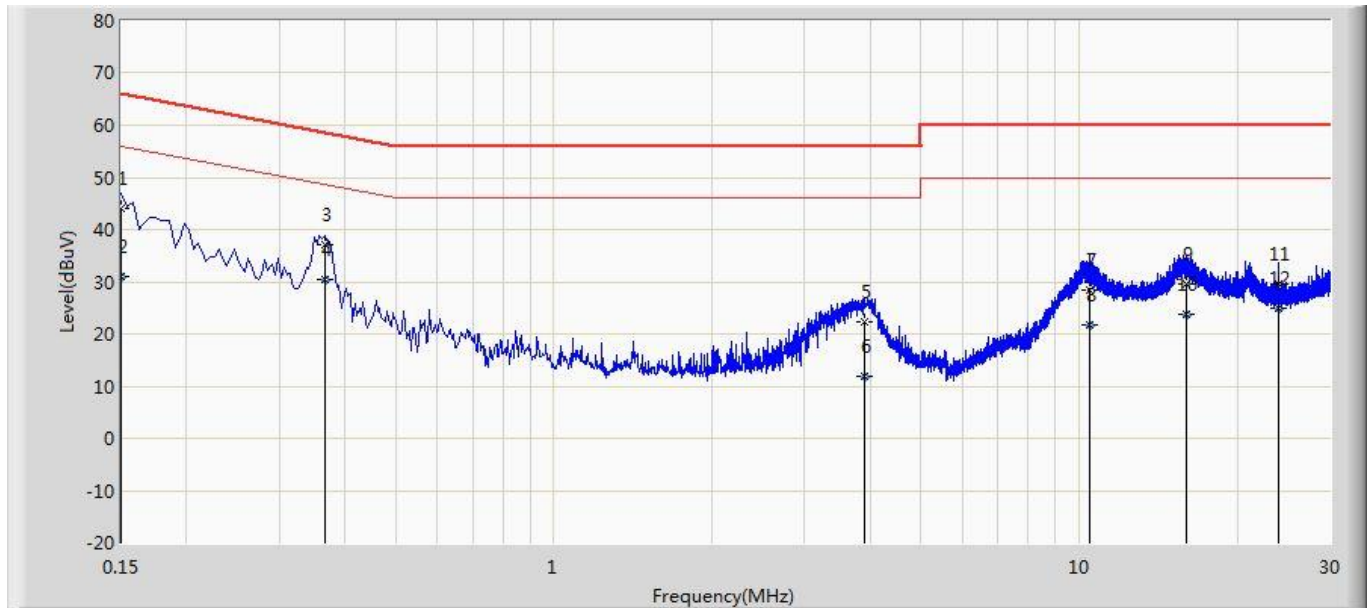
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.158	43.738	33.983	-21.831	65.568	9.755	QP
2			0.158	26.377	16.622	-29.192	55.568	9.755	AV
3			0.198	40.298	30.690	-23.396	63.694	9.609	QP
4			0.198	22.960	13.352	-30.734	53.694	9.609	AV
5			0.413	43.622	34.011	-13.966	57.588	9.611	QP
6		*	0.413	40.022	30.411	-7.566	47.588	9.611	AV
7			0.542	30.013	20.399	-25.987	56.000	9.615	QP
8			0.542	21.367	11.753	-24.633	46.000	9.615	AV
9			15.854	29.672	19.689	-30.328	60.000	9.983	QP
10			15.854	24.213	14.230	-25.787	50.000	9.983	AV
11			23.774	34.561	24.466	-25.439	60.000	10.095	QP
12			23.774	28.624	18.529	-21.376	50.000	10.095	AV

Site: SR2	Time: 2019/07/15 - 15:32
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-N (Filter ON)	Polarity: Neutral
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Test Mode 1 (Adapter : DB-48A12)	



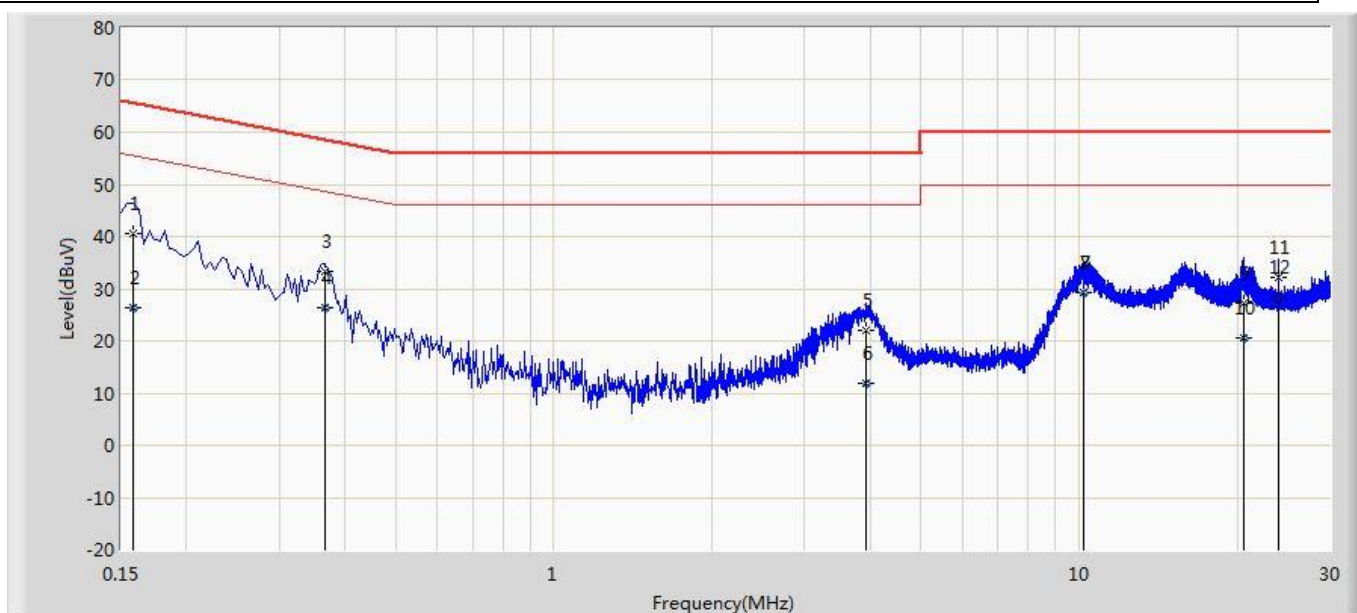
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	48.018	37.070	-17.982	66.000	10.949	QP
2			0.150	30.203	19.255	-25.797	56.000	10.949	AV
3			0.198	40.050	30.458	-23.644	63.694	9.593	QP
4			0.198	24.952	15.360	-28.742	53.694	9.593	AV
5			0.254	33.780	24.169	-27.846	61.625	9.610	QP
6			0.254	21.759	12.148	-29.867	51.625	9.610	AV
7			0.414	42.562	32.959	-15.005	57.568	9.603	QP
8		*	0.414	34.906	25.303	-12.661	47.568	9.603	AV
9			15.766	29.238	19.292	-30.762	60.000	9.946	QP
10			15.766	23.460	13.514	-26.540	50.000	9.946	AV
11			21.170	28.719	18.739	-31.281	60.000	9.980	QP
12			21.170	22.014	12.034	-27.986	50.000	9.980	AV

Site: SR2	Time: 2019/07/15 - 15:45
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-L1 (Filter ON)	Polarity: Line
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Note: Mode 1 (Adapter : ADH-36BR B)	



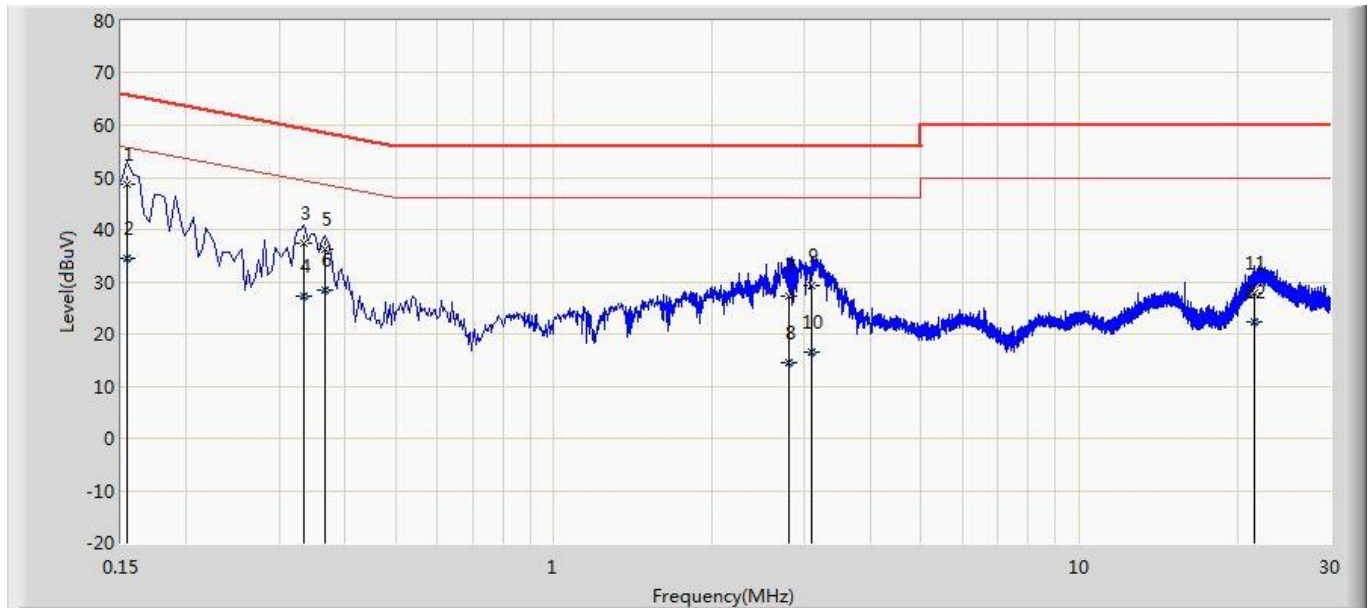
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	43.958	33.010	-22.042	66.000	10.949	QP
2			0.150	31.024	20.076	-24.976	56.000	10.949	AV
3			0.366	37.111	27.505	-21.480	58.591	9.606	QP
4		*	0.366	30.367	20.761	-18.224	48.591	9.606	AV
5			3.898	22.348	12.627	-33.652	56.000	9.721	QP
6			3.898	11.940	2.219	-34.060	46.000	9.721	AV
7			10.438	28.308	18.432	-31.692	60.000	9.877	QP
8			10.438	21.875	11.999	-28.125	50.000	9.877	AV
9			16.030	29.524	19.576	-30.476	60.000	9.948	QP
10			16.030	23.800	13.852	-26.200	50.000	9.948	AV
11			23.934	29.526	19.546	-30.474	60.000	9.980	QP
12			23.934	24.977	14.997	-25.023	50.000	9.980	AV

Site: SR2	Time: 2019/07/15 - 15:49
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-N (Filter ON)	Polarity: Neutral
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Note: Mode 1 (Adapter : ADH-36BR B)	



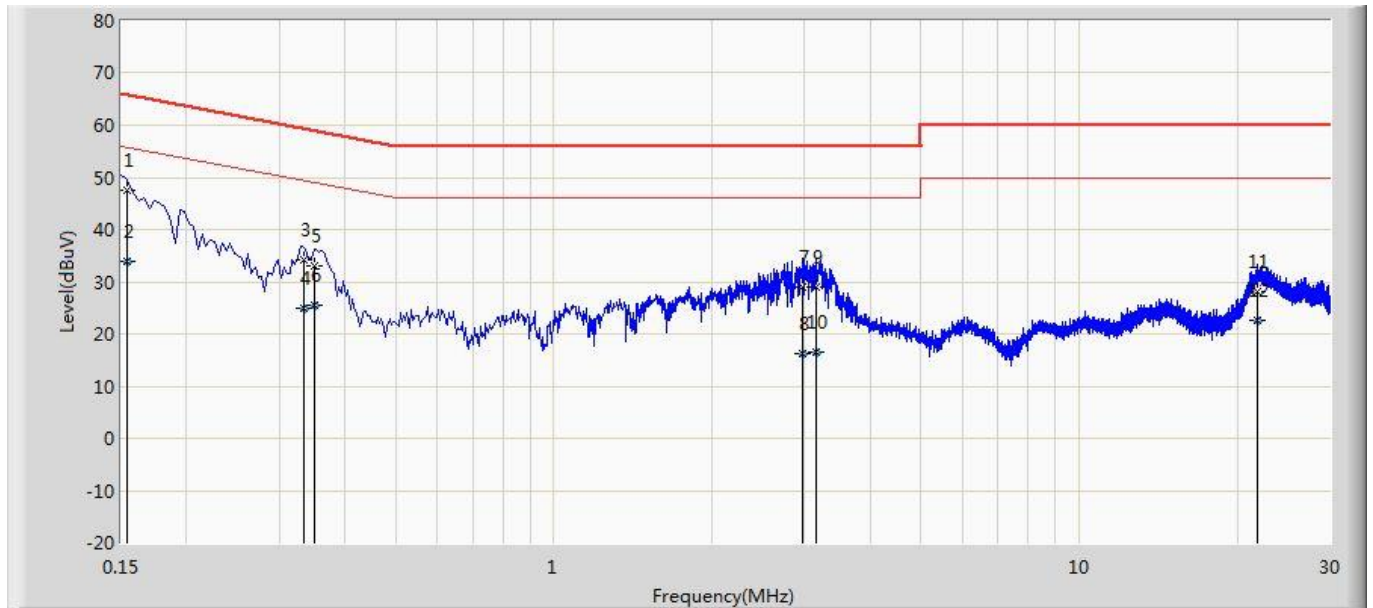
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.158	40.544	30.789	-25.025	65.568	9.755	QP
2			0.158	26.262	16.507	-29.307	55.568	9.755	AV
3			0.366	33.428	23.816	-25.163	58.591	9.612	QP
4			0.366	26.492	16.880	-22.099	48.591	9.612	AV
5			3.934	22.053	12.339	-33.947	56.000	9.714	QP
6			3.934	12.011	2.297	-33.989	46.000	9.714	AV
7			10.222	29.246	19.352	-30.754	60.000	9.894	QP
8		*	10.222	29.246	19.352	-20.754	50.000	9.894	AV
9			20.546	27.235	17.179	-32.765	60.000	10.056	QP
10			20.546	20.455	10.399	-29.545	50.000	10.056	AV
11			23.938	32.104	22.006	-27.896	60.000	10.098	QP
12			23.938	28.523	18.425	-21.477	50.000	10.098	AV

Site: SR2	Time: 2019/07/15 - 16:00
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-L1 (Filter ON)	Polarity: Line
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Note: Mode 1 (Adatper : SDI30-12-U-P209-C1)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.154	48.579	38.226	-17.203	65.781	10.353	QP
2			0.154	34.479	24.126	-21.303	55.781	10.353	AV
3			0.334	37.456	27.844	-21.895	59.351	9.612	QP
4			0.334	27.251	17.639	-22.100	49.351	9.612	AV
5			0.366	36.332	26.720	-22.259	58.591	9.612	QP
6			0.366	28.430	18.818	-20.161	48.591	9.612	AV
7			2.810	27.248	17.551	-28.752	56.000	9.697	QP
8			2.810	14.632	4.935	-31.368	46.000	9.697	AV
9			3.102	29.190	19.489	-26.810	56.000	9.701	QP
10			3.102	16.451	6.750	-29.549	46.000	9.701	AV
11			21.594	27.781	17.712	-32.219	60.000	10.069	QP
12			21.594	22.412	12.343	-27.588	50.000	10.069	AV

Site: SR2	Time: 2019/07/15 - 16:05
Limit: NCC LP0002_CE_0.15MHz-30MHz	Engineer: Kevin Ker
Probe: CE_ENV216-N (Filter ON)	Polarity: Neutral
EUT: Aruba 500 接入點 (APIN0504)	Power: AC 110V/60Hz
Note: Mode 1 (Adatper : SDI30-12-U-P209-C1)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.154	47.399	37.056	-18.382	65.781	10.343	QP
2			0.154	33.979	23.636	-21.802	55.781	10.343	AV
3			0.334	34.134	24.527	-25.217	59.351	9.607	QP
4			0.334	24.830	15.223	-24.521	49.351	9.607	AV
5			0.350	33.094	23.487	-25.869	58.962	9.607	QP
6			0.350	25.451	15.844	-23.512	48.962	9.607	AV
7			2.982	28.893	19.188	-27.107	56.000	9.705	QP
8			2.982	16.156	6.451	-29.844	46.000	9.705	AV
9			3.150	29.035	19.327	-26.965	56.000	9.708	QP
10			3.150	16.491	6.783	-29.509	46.000	9.708	AV
11			21.842	28.087	18.107	-31.913	60.000	9.980	QP
12			21.842	22.698	12.718	-27.302	50.000	9.980	AV

5.2. 峰值傳導輸出功率

5.2.1. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀RF輸入端，設定頻譜分析儀之解析度頻寬大於6dB發射頻寬或使用峰值功率表。除使用上述測量方式外，並得使用以最大傳導輸出功率作為測量方式。

5.2.2. 限制要求

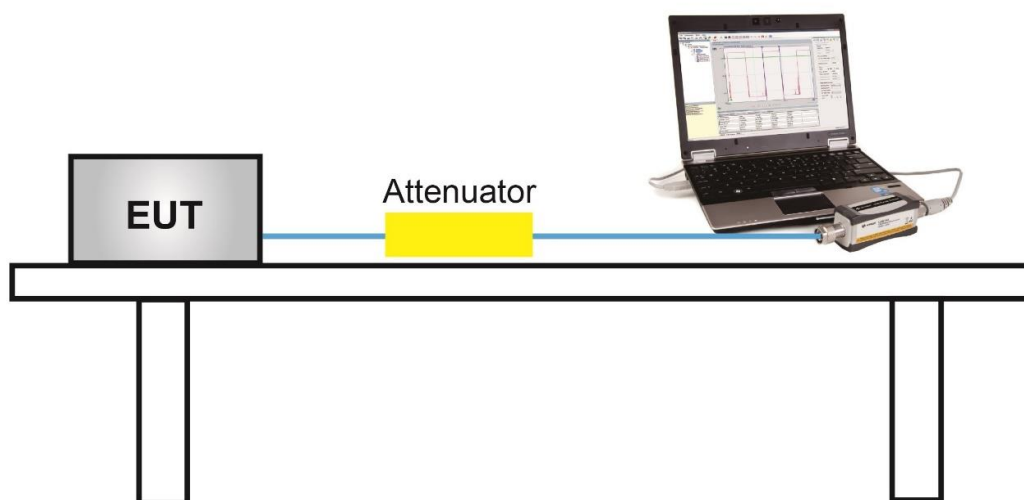
國家通訊傳播委員會低功率射頻電機技術規範之第3.10.1.2節，峰值傳導輸出功率：

操作於 2400 MHz~2483.5 MHz 者

- (A) 至少使用75 個跳頻頻道之跳頻系統：1 W(含)以下。
- (B) 除(A)外，依 3.10.1.6 (1)(A)(a)之跳頻系統：0.125 W(含)以下。
- (C) 數位調變技術系統：1 W(含) 以下。

除使用附件二之峰值輸出功率測量方式外，並得使用以最大傳導輸出功率(Maximum Conducted Output Power)作為測量方式。

5.2.3. 測試架構圖



5.2.4. 峰值傳導輸出功率測試結果

待測物名稱	Aruba 500 接入點	測試日期	2019/06/24
待測物型號	APIN0504	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Result of Peak Output Power

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1	00	2402	7.02	≤ 30.00	Pass
BLE	1	19	2440	6.83	≤ 30.00	Pass
BLE	1	39	2480	6.42	≤ 30.00	Pass

Note: E.I.R.P (dBm) = Max Peak Power (dBm) + Antenna Gain (dBi) = 7.02 dBm + 3.30 dBi = 10.32 dBm.

Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Average Power (dBm)	Limit (dBm)	Result
BLE	1	00	2402	6.77	≤ 30.00	Pass
BLE	1	19	2440	6.55	≤ 30.00	Pass
BLE	1	39	2480	6.15	≤ 30.00	Pass

Note: E.I.R.P (dBm) = Max Average Power (dBm) + Antenna Gain (dBi) = 6.77 dBm + 3.30 dBi = 10.07 dBm.

待測物名稱	Aruba 500 接入點	測試日期	2019/06/24
待測物型號	APIN0505	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Result of Peak Output Power

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1	00	2402	7.35	≤ 30.00	Pass
BLE	1	19	2440	7.31	≤ 30.00	Pass
BLE	1	39	2480	7.14	≤ 30.00	Pass

Note: E.I.R.P (dBm) = Max Peak Power (dBm) + Antenna Gain (dBi) = 7.35 dBm + 3.30 dBi = 10.65 dBm.

Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Average Power (dBm)	Limit (dBm)	Result
BLE	1	00	2402	7.07	≤ 30.00	Pass
BLE	1	19	2440	7.05	≤ 30.00	Pass
BLE	1	39	2480	6.90	≤ 30.00	Pass

Note: E.I.R.P (dBm) = Max Average Power (dBm) + Antenna Gain (dBi) = 7.07 dBm + 3.30 dBi = 10.37 dBm.

5.3. 天線之要求

5.3.1. 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3.10.1.4節規定，天線之規格可不受下述規定之限制。

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。

5.3.2. 天線樣式

型號APIN0504 使用半固定式天線，使用Reverse SMA介面。

Antenna No.	Directionality/TYPE	Frequency Band (GHz)	Model No.	Max Peak Gain (dBi)	BF Dir Gain (dBi)	CDD Dir Gain (dBi)	
						For Power	For PSD
Wi-Fi External Antenna List (2.4GHz 2*2 MIMO, 5GHz 2*2 MIMO)							
1	Omni/Dipole	2.4	AP-ANT-1W	3.8	6.81	3.8	6.81
		5		5.8	8.81	5.8	8.81
2	Omni/Panel	2.4	AP-ANT-13B	2.3	5.31	2.3	5.31
		5		4.0	7.01	4.0	7.01
3	Omni/Dipole	2.4	AP-ANT-19	3.0	6.01	3.0	6.01
		5		6.0	9.01	6.0	9.01
4	Omni/Dipole	2.4	AP-ANT-20W	2.0	5.01	2.0	5.01
		5		2.0	5.01	2.0	5.01
5	Omni/Panel	2.4	AP-ANT-40	4.0	7.01	4.0	7.01
		5		5.0	8.01	5.0	8.01
6 (Note 3)	Directional/ Panel	2.4	AP-ANT-25A	5.0	5.0	5.0	8.01
		5		5.0	5.0	5.0	8.01
7 (Note 3)	Directional/ Panel	2.4	AP-ANT-28	7.5	7.5	7.5	10.51
		5		7.5	7.5	7.5	10.51
Bluetooth & ZigBee Internal Antenna							
PIFA		2.4		3.3			

型號APIN0505 使用全固定式天線

Directionality/ TYPE	Frequency Band (GHz)	Max Peak Gain (dBi)	BF Dir Gain (dBi)	CDD Dir Gain (dBi)	
				For Power	For PSD
Wi-Fi Internal Antenna List (2.4GHz 2*2 MIMO, 5GHz 2*2 MIMO)					
Omni/PIFA	2.4	4.29	7.08	4.29	7.08
Omni/PIFA	5	5.63	8.64	5.63	8.64
Bluetooth & ZigBee Internal Antenna					
PIFA	2.4	3.3			

Note:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.
For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 2$, $N_{SS} = 1$.
If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.
 - For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS}) \text{ dB} = 3.01$;
 - For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;
2. The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac/ax, not include 802.11a/b/g. Directional gain = $G_{ANT} + \text{Array Gain}$, BF Gain was declared by the applicant.
3. Two type antennas are cross polarized, the detail refer to antenna specification.
4. For APIN0504, low gain antenna AP-ANT-20W was selected to perform all RF testing that can got maximum power setting. High gain Omni antenna AP-ANT-19 & AP-ANT-40 and directional antenna AP-ANT-28 were selected to perform radiated spurious emission and band edge testing. High gain antenna power setting will be reduced according to difference value of antenna gain declared by applicant. For APIN0505, its directional gain was declared by the applicant, the detail refers to antenna specification.

5.4. 帶外發射限制

5.4.1. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端，

- (1) 頻率掃描範圍足以檢測頻帶內的發射波峰位準以及由受測物產生之最低頻率到第 10 次諧波的所有混附發射，通常需要分幾段以涵蓋全部頻率範圍。
- (2) 解析頻寬為 100 kHz，視訊頻寬不小於解析頻寬。
- (3) 掃描時間為自動，檢波功能為峰值，訊號軌跡為最大保留(Max Hold)。
- (4) 將標記設定於任何欲紀錄之波峰上，所顯示之位準值必須符合指定之限制值。

備註

解析頻寬設置為 1.3 MHz 是為了提供量測速度。

使用限值還是法規定義的基於解析頻寬 100 kHz 情形下主波下降 20dB,如果量測波形接近限值，我們會使用降低解析頻寬方式作驗證。

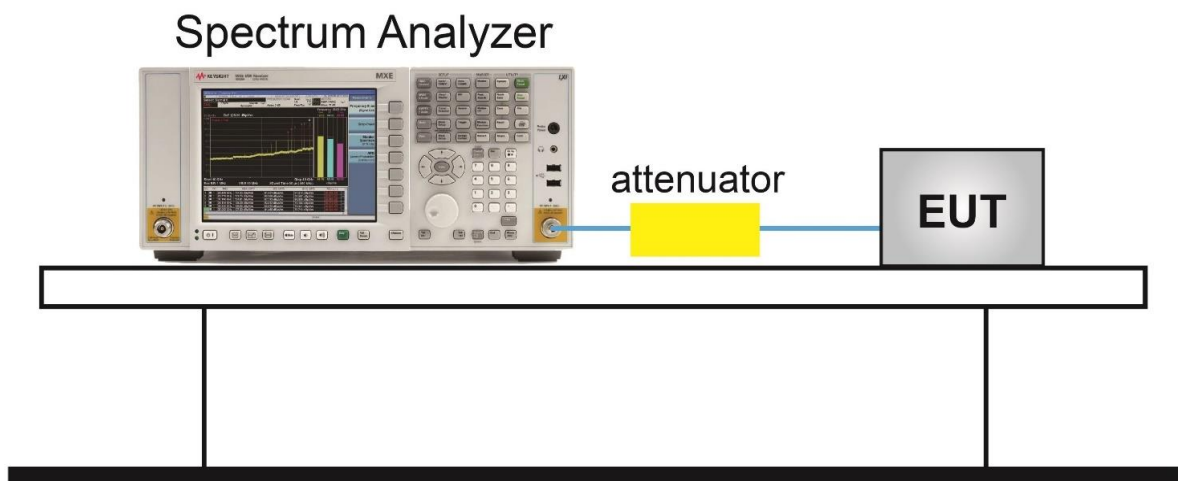
5.4.2. 限制要求

依據國家通訊傳播委員會低功率射頻電機技術規範之第 3.10.1.5 節規定。

帶外發射限制：操作頻帶範圍外之任意 100 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 kHz 內的射頻功率，其衰減值限制如下：

- (1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少須衰減 30 dB。

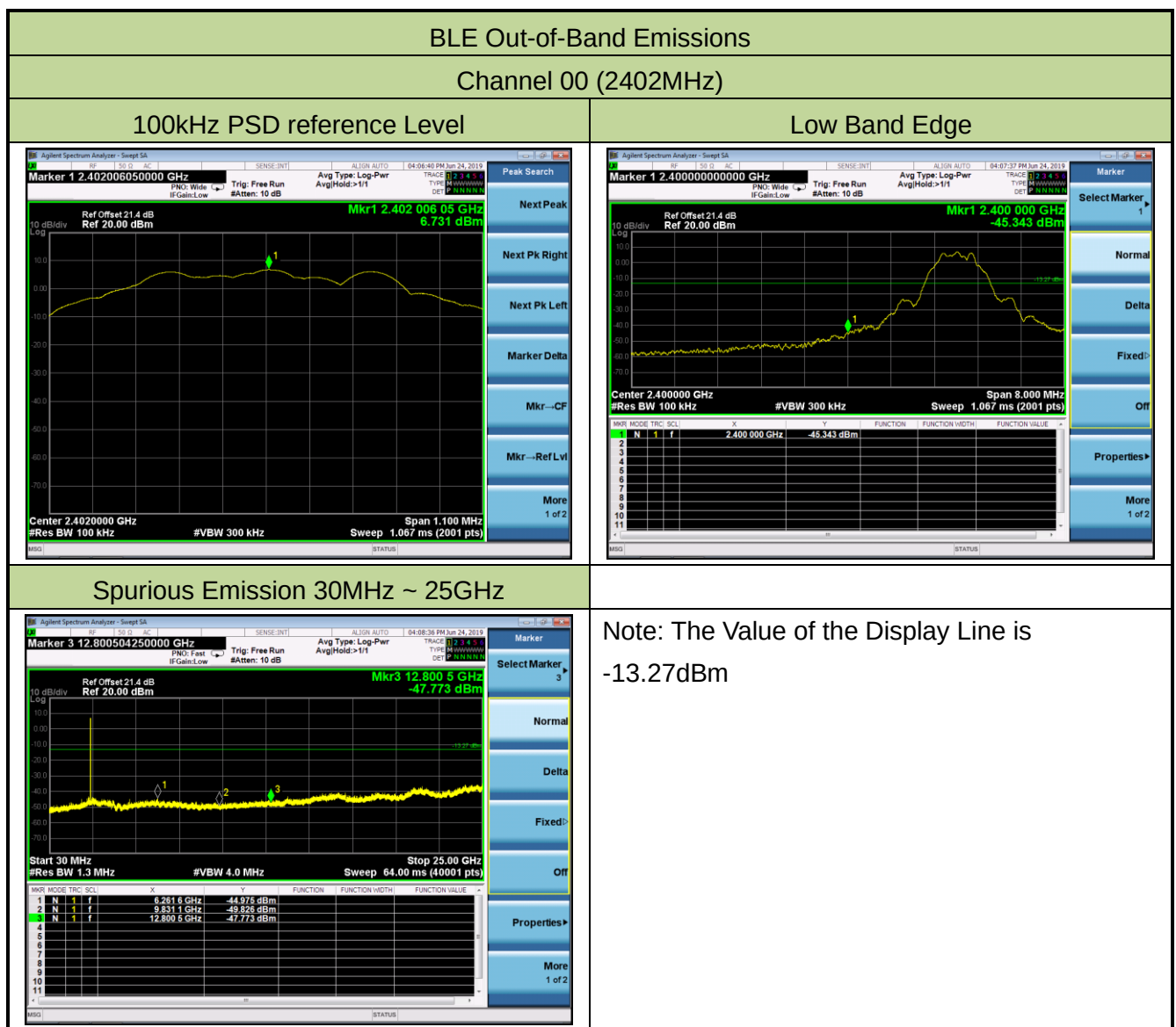
5.4.3. 測試架構圖



5.4.4. 帶外輻射測試結果

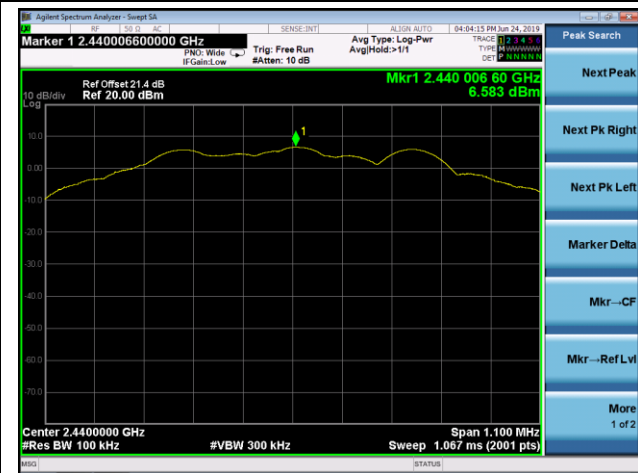
待測物名稱	Aruba 500 接入點	測試日期	2019/06/24
待測物型號	APIN0504	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Limit	Result
BLE	1	00	2402	20dBc	Pass
BLE	1	19	2440	20dBc	Pass
BLE	1	39	2480	20dBc	Pass

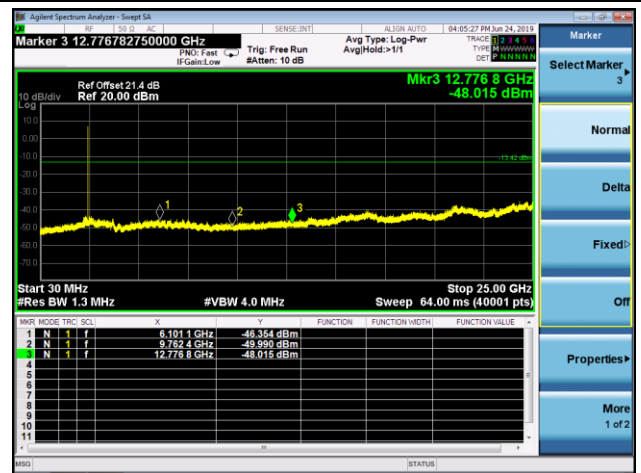


Channel 19 (2440MHz)

100kHz PSD reference Level



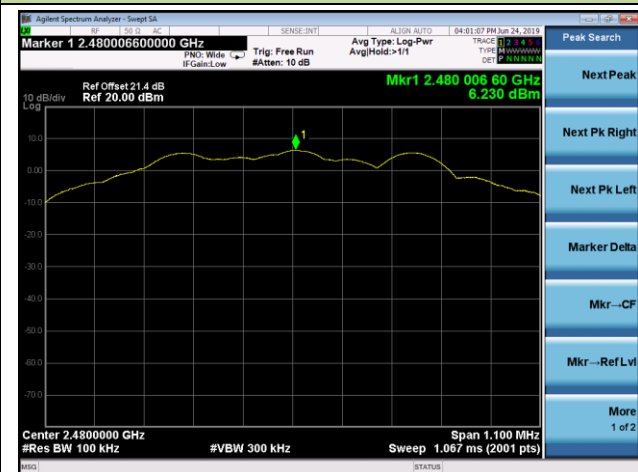
Spurious Emission 30MHz ~ 25GHz



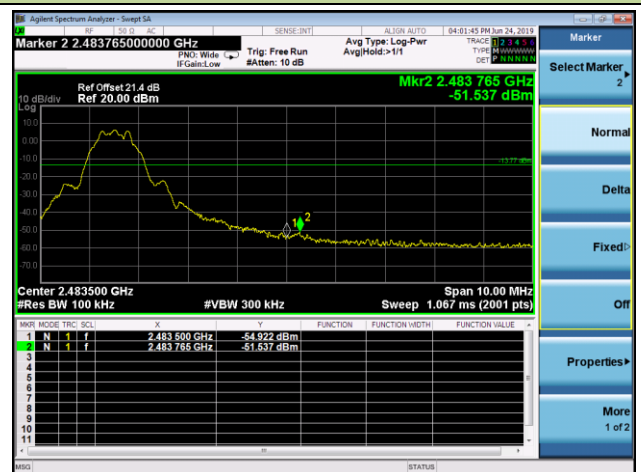
Note: The Value of the Display Line is -13.42dBm

Channel 39 (2480MHz)

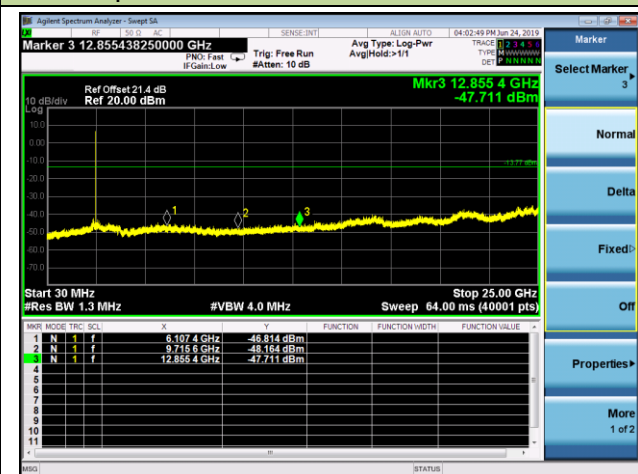
100kHz PSD reference Level



High Band Edge



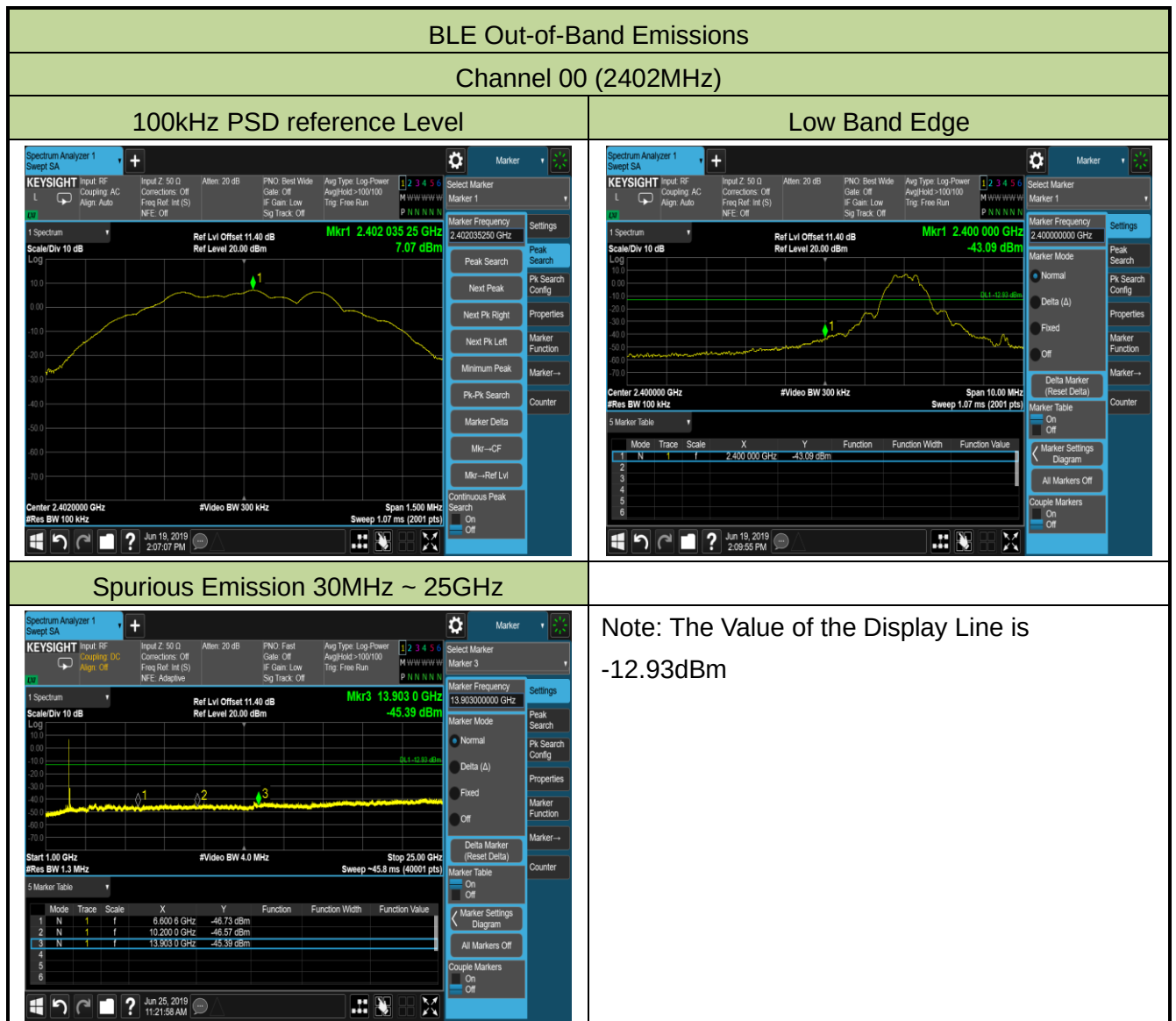
Spurious Emission 30MHz ~ 25GHz



Note: The Value of the Display Line is -13.77dBm

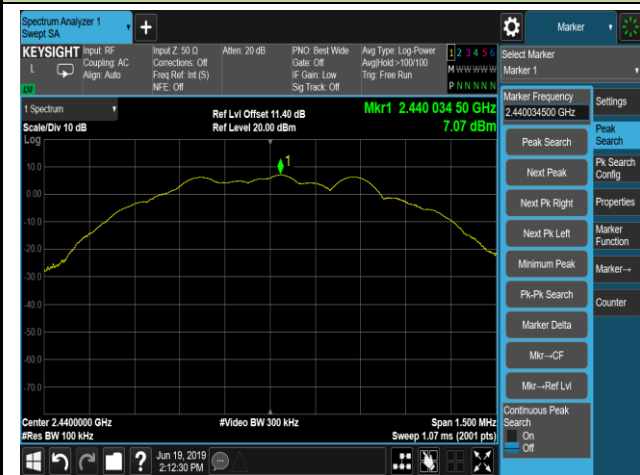
待測物名稱	Aruba 500 接入點	測試日期	2019/06/19
待測物型號	APIN0505	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Limit	Result
BLE	1	00	2402	20dBc	Pass
BLE	1	19	2440	20dBc	Pass
BLE	1	39	2480	20dBc	Pass

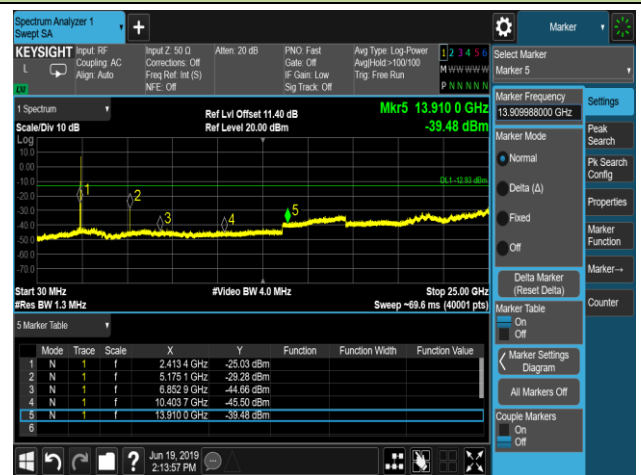


Channel 19 (2440MHz)

100kHz PSD reference Level



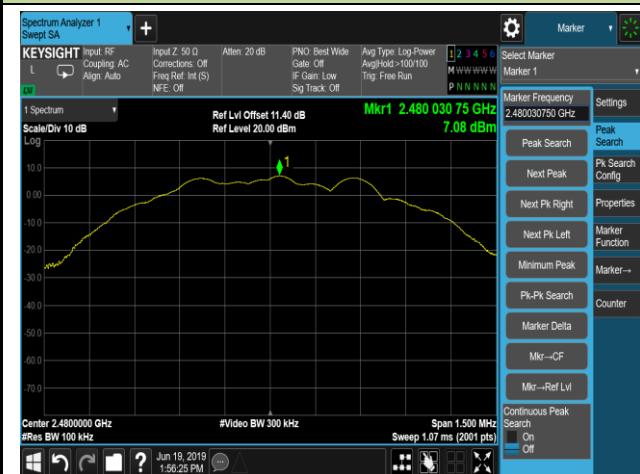
Spurious Emission 30MHz ~ 25GHz



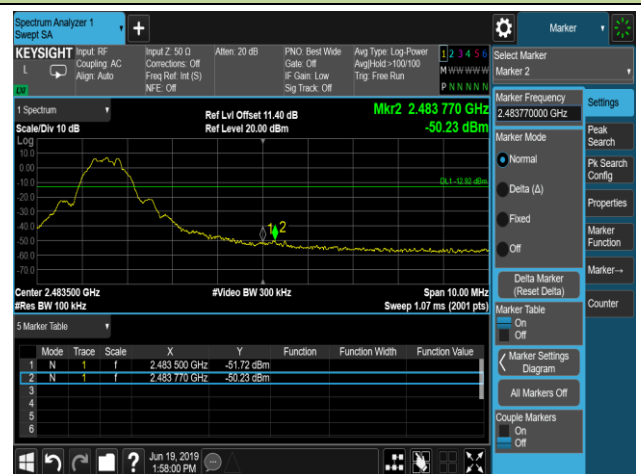
Note: The Value of the Display Line is -12.93dBm

Channel 39 (2480MHz)

100kHz PSD reference Level



High Band Edge



Spurious Emission 30MHz ~ 25GHz



Note: The Value of the Display Line is -12.92dBm

5.5. 輻射電場強度

5.5.1. 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，接收天線並應於水準及垂直極化方向各量測一次。（待測物擺設方式根據 ANSI C63.4-2014 版本，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。

5.5.2. 限制要求

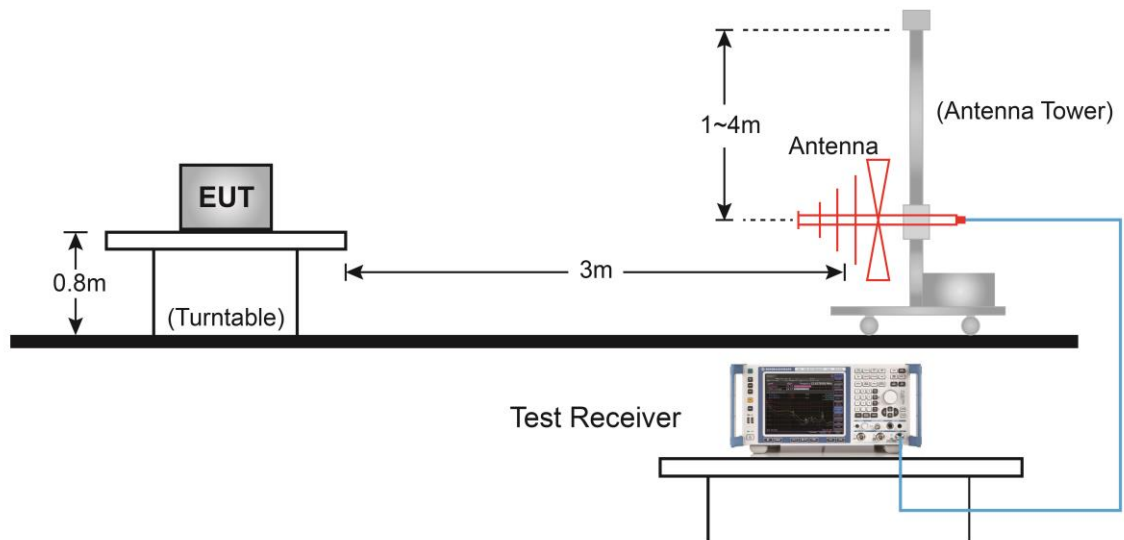
其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。各頻段重疊處，以較嚴格之限制值為準。

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

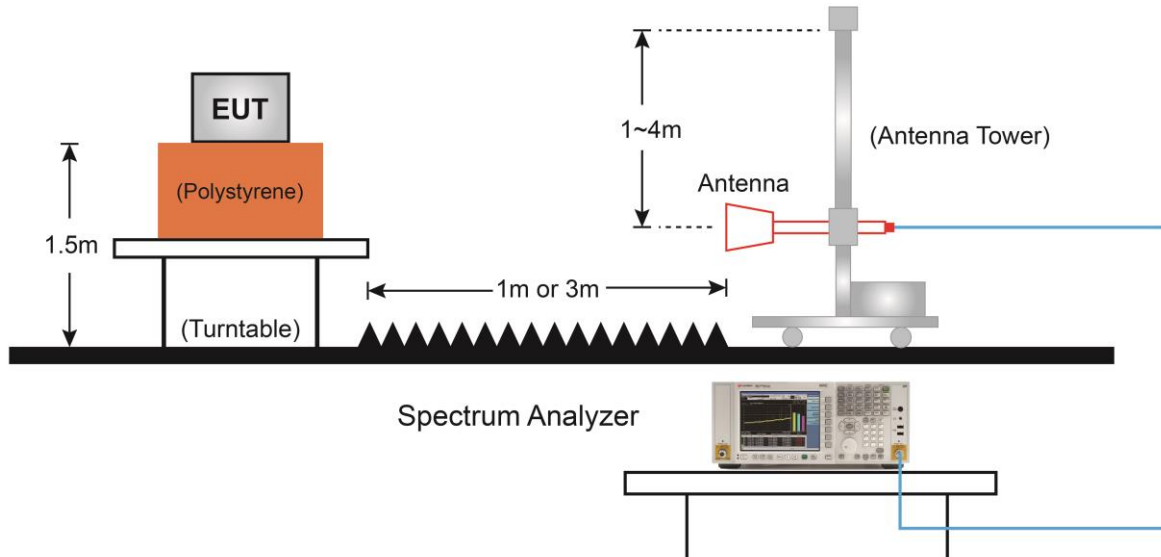
上表規定之電場強度，頻率在 9-90kHz 千赫(kHz)、110-490 千赫(kHz)以及 1000 兆赫(MHz)以上之發射，其量測以平均值檢波器為基準，且須符合低功率射頻電機技術規範第 5.15.2 節之規定；其他頻率之發射，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時須符合低功率射頻電機技術規範第 5.5 節之規定，而輻射發射之量測頻率範圍須符合低功率射頻電機技術規範第 5.14 節之規定。

5.5.3. 測試架構圖

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.5.4. 輻射電場強度測試結果

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/25
Model No.	APIN0504	Test Channel	00
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	5785.5	38.4	5.3	43.7	74.0	-30.3	Peak	Horizontal
*	6057.5	38.6	6.4	45.0	74.0	-29.0	Peak	Horizontal
	7655.5	35.6	12.8	48.4	54.0	-5.6	Peak	Horizontal
	8216.5	35.9	13.0	48.9	54.0	-5.1	Peak	Horizontal
*	5802.5	37.8	5.3	43.1	74.0	-30.9	Peak	Vertical
*	6253.0	36.4	7.3	43.7	74.0	-30.3	Peak	Vertical
	7570.5	35.0	12.7	47.7	54.0	-6.3	Peak	Vertical
	8182.5	35.1	13.0	48.1	54.0	-5.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (90.1dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/25
Model No.	APIN0504	Test Channel	19
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	6261.5	37.7	7.3	45.0	74.0	-29.0	Peak	Horizontal
*	6601.5	37.2	9.1	46.3	74.0	-27.7	Peak	Horizontal
	7400.5	34.9	12.4	47.3	54.0	-6.7	Peak	Horizontal
	8216.5	35.7	13.0	48.7	54.0	-5.3	Peak	Horizontal
*	5811.0	38.0	5.4	43.4	74.0	-30.6	Peak	Vertical
*	6499.5	36.1	8.5	44.6	74.0	-29.4	Peak	Vertical
	7468.5	37.0	12.6	49.6	54.0	-4.4	Peak	Vertical
	8165.5	35.9	13.0	48.9	54.0	-5.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (92.2dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/25
Model No.	APIN0504	Test Channel	39
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	5743.0	37.3	5.1	42.4	74.0	-31.6	Peak	Horizontal
*	6100.0	34.7	6.6	41.3	74.0	-32.7	Peak	Horizontal
	7468.5	34.4	12.6	47.0	54.0	-7.0	Peak	Horizontal
	8327.0	34.6	13.1	47.7	54.0	-6.3	Peak	Horizontal
*	6074.5	36.7	6.4	43.1	74.0	-30.9	Peak	Vertical
*	6729.0	35.1	9.8	44.9	74.0	-29.1	Peak	Vertical
	7536.5	33.8	12.7	46.5	54.0	-7.5	Peak	Vertical
	8191.0	34.8	13.0	47.8	54.0	-6.2	Peak	Vertical

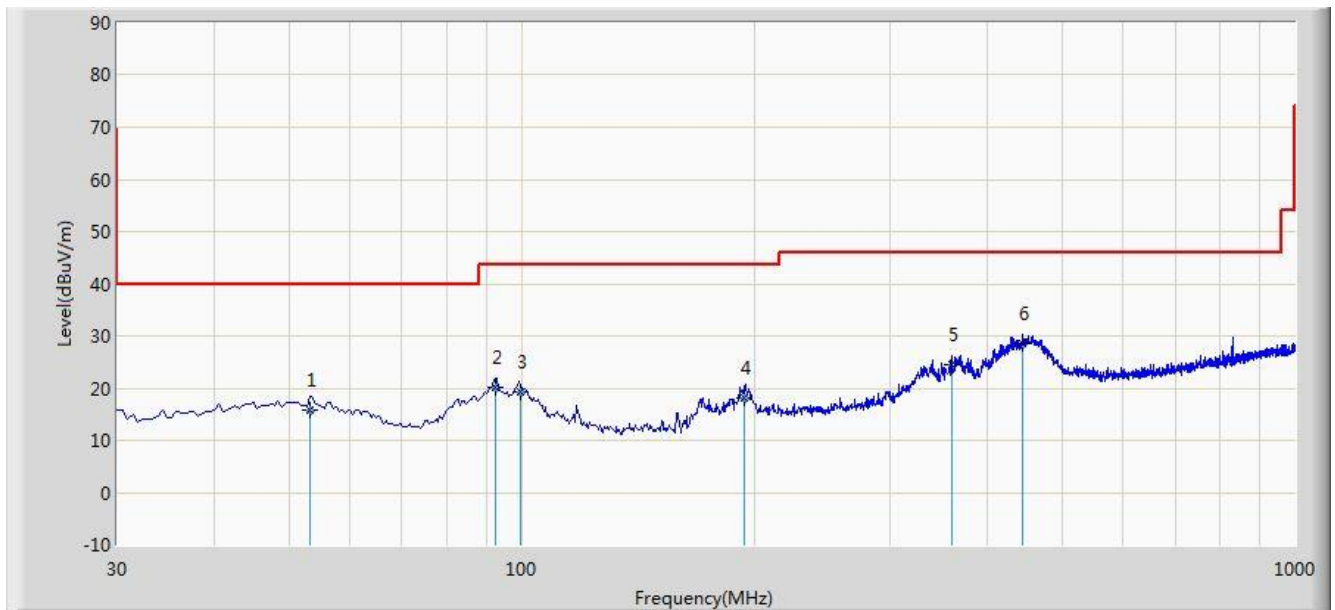
Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (93.0dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2019/07/13 - 11:56
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB9168_20-2000MHz	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Worse Case Mode: Transmit by BLE at channel 2402MHz	



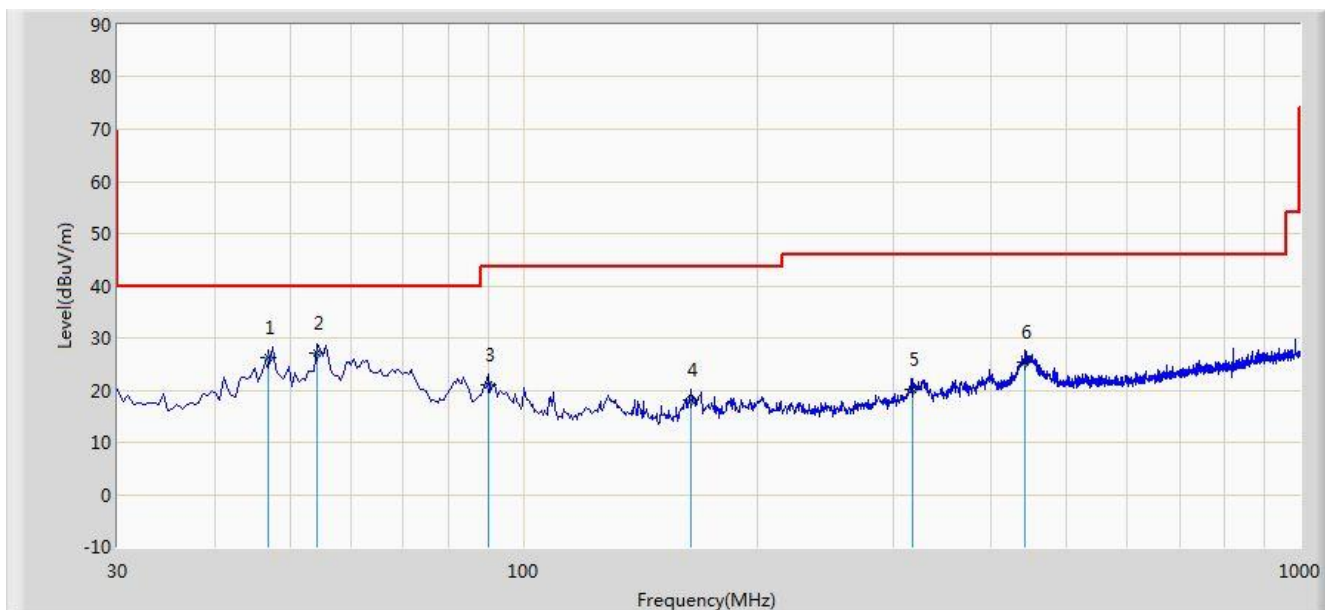
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			53.190	15.942	-5.352	-24.058	40.000	21.293	QP
2			92.598	20.248	2.696	-23.252	43.500	17.551	QP
3			99.490	19.275	0.232	-24.225	43.500	19.043	QP
4			194.100	18.033	-0.801	-25.467	43.500	18.834	QP
5		*	359.860	24.510	1.056	-21.490	46.000	23.455	QP
6			444.180	28.481	4.052	-17.519	46.000	24.429	QP

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: AC1	Time: 2019/07/13 - 11:59
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB9168_20-2000MHz	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Worse Case Mode: Transmit by BLE at channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	47.000	26.170	4.413	-13.830	40.000	21.757	QP
2			54.190	27.214	6.093	-12.786	40.000	21.121	QP
3			90.140	20.931	3.911	-22.569	43.500	17.020	QP
4			164.165	18.021	1.763	-25.479	43.500	16.257	QP
5			317.290	20.232	-1.835	-25.768	46.000	22.067	QP
6			442.190	25.444	1.037	-20.556	46.000	24.408	QP

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/24
Model No.	APIN0505	Test Channel	00
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	6253.0	38.0	7.3	45.3	80.9	-35.6	Peak	Horizontal
*	6916.0	35.6	10.8	46.4	80.9	-34.5	Peak	Horizontal
	7434.5	34.9	12.5	47.4	54.0	-6.6	Peak	Horizontal
	8242.0	35.6	13.0	48.6	54.0	-5.4	Peak	Horizontal
*	5828.0	38.4	5.4	43.8	80.9	-37.1	Peak	Vertical
*	6380.5	36.6	7.9	44.5	80.9	-36.4	Peak	Vertical
	7630.0	34.8	12.8	47.6	54.0	-6.4	Peak	Vertical
	8199.5	34.8	13.0	47.8	54.0	-6.2	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (100.9dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/24
Model No.	APIN0505	Test Channel	19
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	6023.5	37.3	6.2	43.5	80.7	-37.2	Peak	Horizontal
*	6814.0	36.0	10.3	46.3	80.7	-34.4	Peak	Horizontal
	7604.5	34.6	12.8	47.4	54.0	-6.6	Peak	Horizontal
	8242.0	34.8	13.0	47.8	54.0	-6.2	Peak	Horizontal
*	5777.0	38.5	5.2	43.7	80.7	-37.0	Peak	Vertical
*	6346.5	37.1	7.8	44.9	80.7	-35.8	Peak	Vertical
	7426.0	36.3	12.5	48.8	54.0	-5.2	Peak	Vertical
	8327.0	36.1	13.1	49.2	54.0	-4.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (100.7dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Aruba 500 接入點	Temperature	26°C
Test Engineer	Kevin Ker	Relative Humidity	56%
Test Site	AC1	Test Date	2019/06/24
Model No.	APIN0505	Test Channel	39
Remark	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	6015.0	37.9	6.2	44.1	80.6	-36.5	Peak	Horizontal
*	6457.0	37.2	8.3	45.5	80.6	-35.1	Peak	Horizontal
	7332.5	35.0	12.2	47.2	54.0	-6.8	Peak	Horizontal
	8182.5	35.9	13.0	48.9	54.0	-5.1	Peak	Horizontal
*	5896.0	38.4	5.7	44.1	80.6	-36.5	Peak	Vertical
*	6465.5	37.3	8.3	45.6	80.6	-35.0	Peak	Vertical
	7596.0	36.6	12.8	49.4	54.0	-4.6	Peak	Vertical
	8174.0	35.7	13.0	48.7	54.0	-5.3	Peak	Vertical

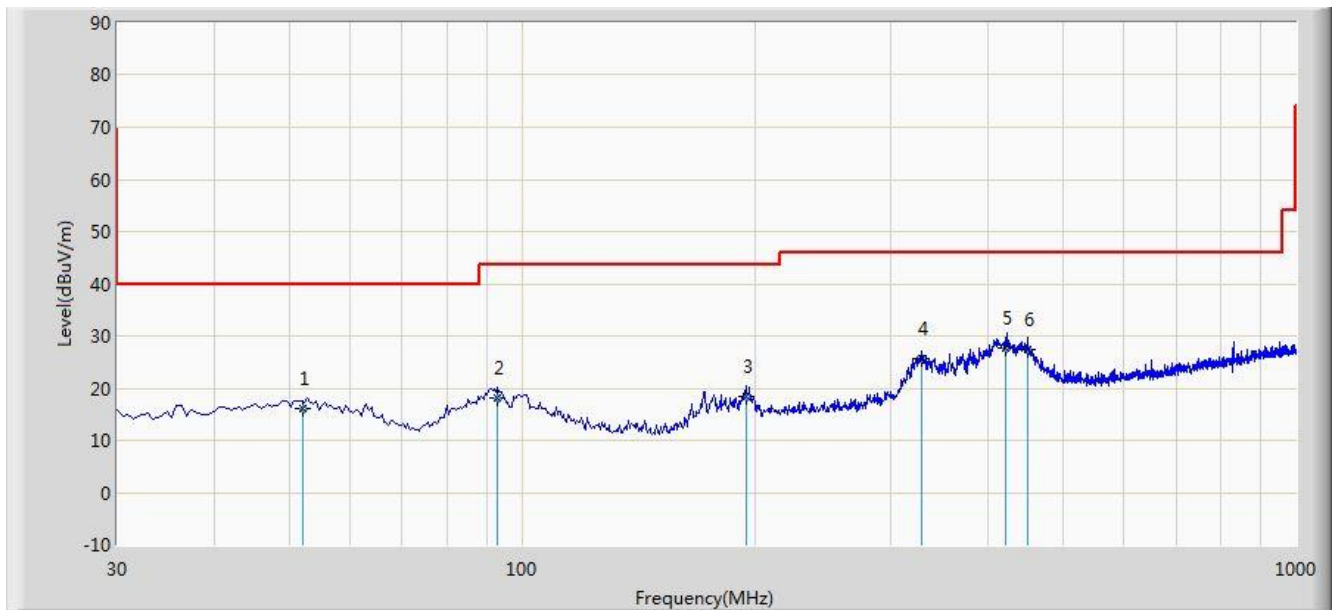
Note 1: “*” is not in restricted band, its limit is 20dBc of the fundamental emission level (100.6dBμV/m) or 15.209 which is higher.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2019/07/13 - 12:15
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB9168_20-2000MHz	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Worse Case Mode: Transmit by BLE at channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	52.160	15.961	-5.509	-24.039	40.000	21.470	QP
2			93.000	17.978	0.340	-25.522	43.500	17.639	QP
3			194.700	18.371	-0.495	-25.129	43.500	18.866	QP
4			328.960	25.555	3.038	-20.445	46.000	22.517	QP
5			422.000	27.758	3.565	-18.242	46.000	24.193	QP
6			450.000	27.372	2.882	-18.628	46.000	24.490	QP

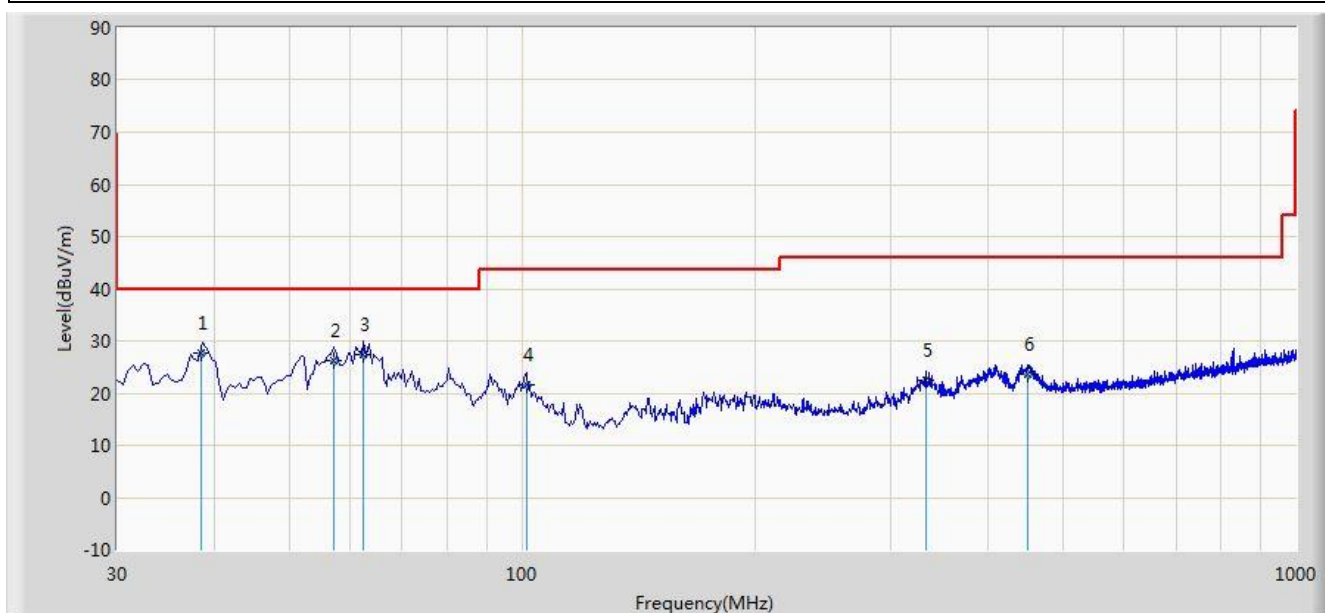
Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Note 3: 經初測驗證過，1GHz 以下輻射干擾測試對測試頻道數並無差異，故僅檢附最差狀況之測試頻道。

Site: AC1	Time: 2019/07/13 - 12:16
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: VULB9168_20-2000MHz	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Worse Case Mode: Transmit by BLE at channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	38.490	27.562	7.357	-12.438	40.000	20.205	QP
2			57.260	26.249	5.662	-13.751	40.000	20.587	QP
3			62.359	27.465	8.400	-12.535	40.000	19.065	QP
4			101.298	21.685	2.524	-21.815	43.500	19.161	QP
5			332.590	22.527	-0.131	-23.473	46.000	22.657	QP
6			451.260	23.714	-0.814	-22.286	46.000	24.528	QP

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Note 3: 經初測驗證過，1GHz 以下輻射干擾測試對測試頻道數並無差異，故僅檢附最差狀況之測試頻道。

5.6. 頻帶邊緣

5.6.1. 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，接收天線並應於水準及垂直極化方向各量測一次。（待測物擺設方式根據 ANSI C63.4-2014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）

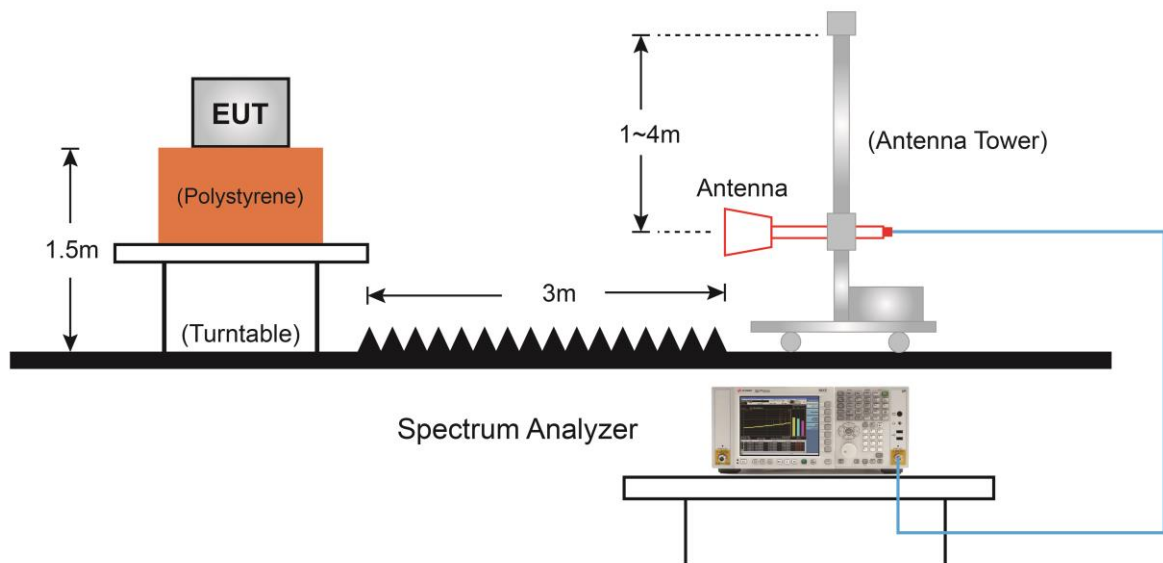
- (1) 任一頻率小於或等於1000 MHz 之訊號,使用CISPR準峰值檢波器
- (2) 任一頻率大於1000 MHz 之訊號，使用平均值檢波器測量(RBW:1MHz,VBW:10Hz)，當規定之發射限制值為平均值時(含1000 MHz 以下)，受測訊號藉由峰值檢波器(RBW:1MHz,VBW:3MHz)所測量之峰值，亦須符合峰值發射限制值，其峰值發射限制值為最大容許平均值加20 dB。

5.6.2. 限制要求

除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低功率射頻電機技術規範之第2.8節限制規定

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	3332.0~3339.03	17700~21400
4.115~4.198	149.90~150.05	1300.0~1427.0	33345.8~3358.0	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	1660.0~1770.0	4500.0~5250.0	31200~31800
8.230~8.400	167.72~173.20	1805.0~1865.0	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	2015.0~2025.0	9000.0~9200.0	
16.700~16.755	485.00~510.00	2125.0~2165.0	9300.0~9500.0	
19.965~20.020	608.00~614.00	2200.0~2300.0	10600~12700	

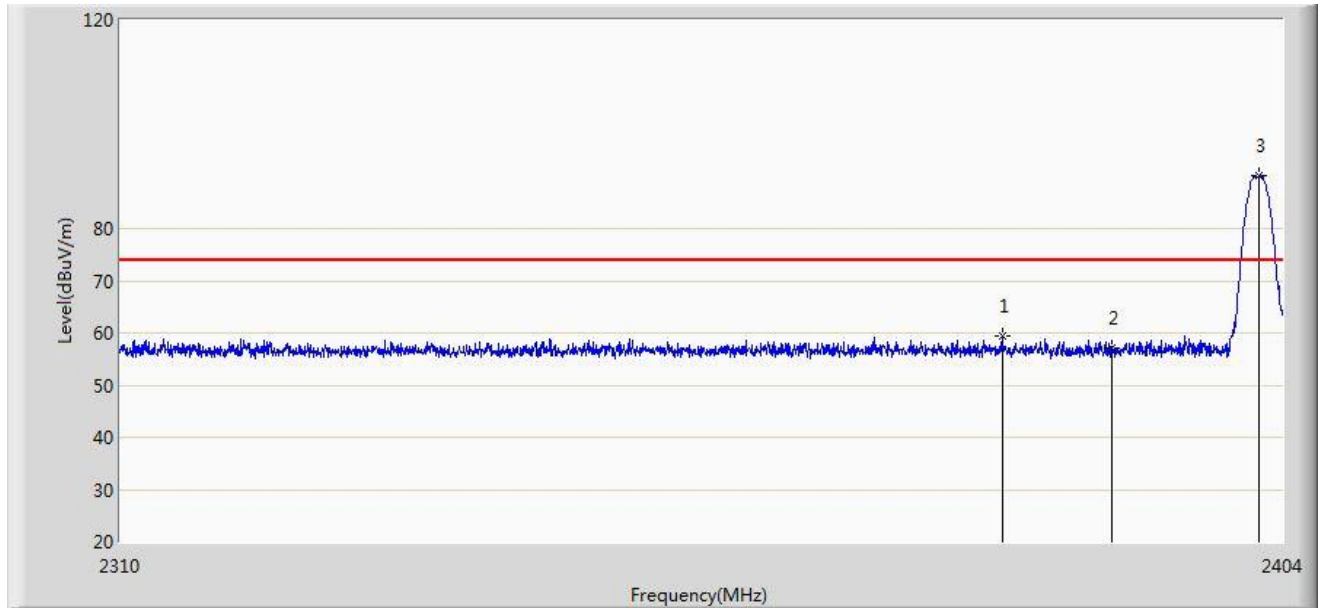
5.6.3. 測試架構圖



5.6.4. 頻帶邊緣測試結果

For APIN0504

Site: AC1	Time: 2019/06/25 - 21:36
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

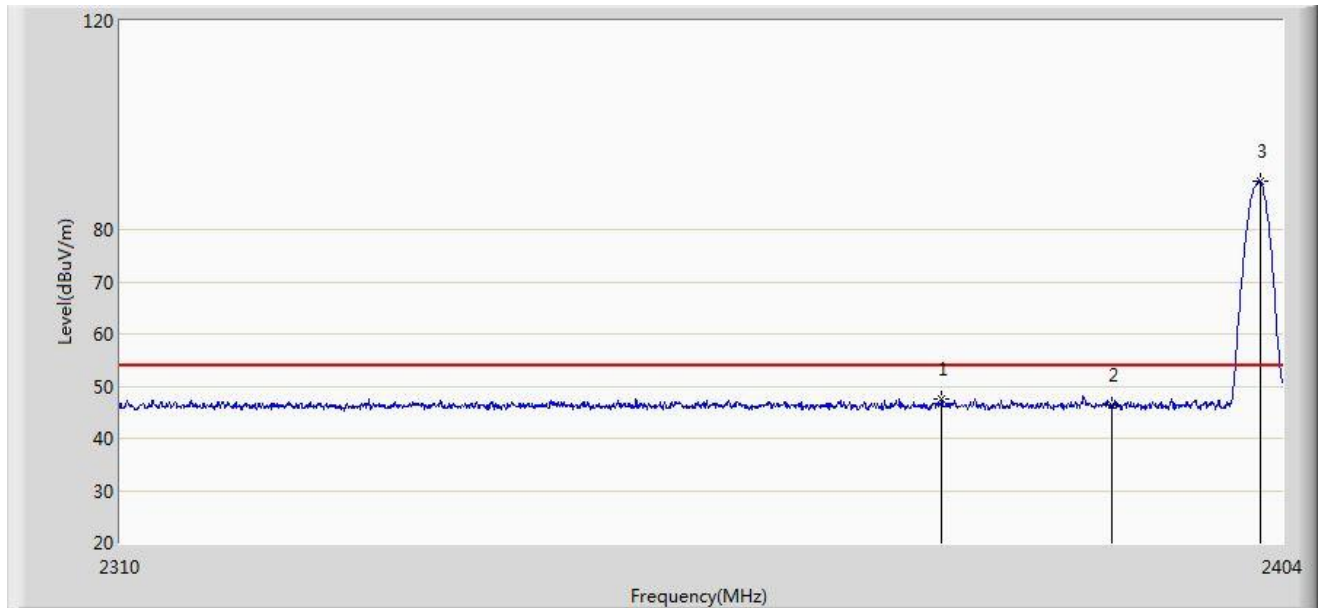


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2381.017	59.475	26.995	-14.525	74.000	32.480	PK
2			2390.000	57.203	24.685	-16.797	74.000	32.518	PK
3		*	2402.026	90.089	57.521	N/A	N/A	32.568	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:37
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

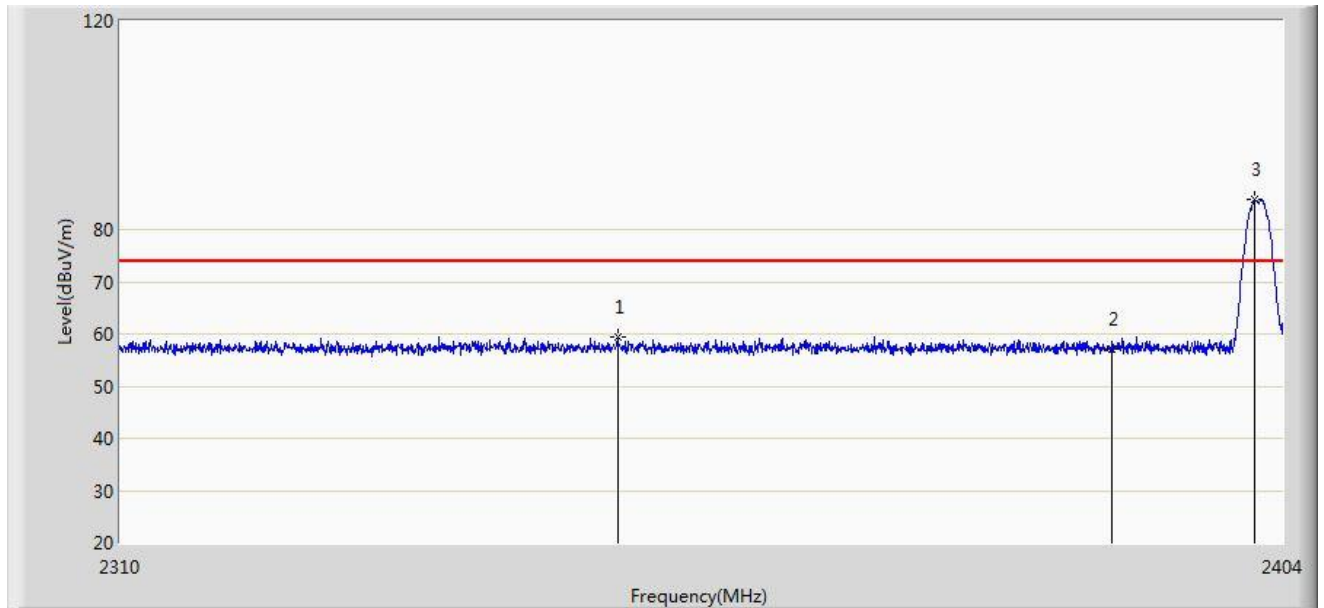


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2376.082	47.530	15.071	-6.470	54.000	32.459	AV
2			2390.000	46.352	13.834	-7.648	54.000	32.518	AV
3		*	2402.176	89.205	56.636	N/A	N/A	32.570	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:37
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

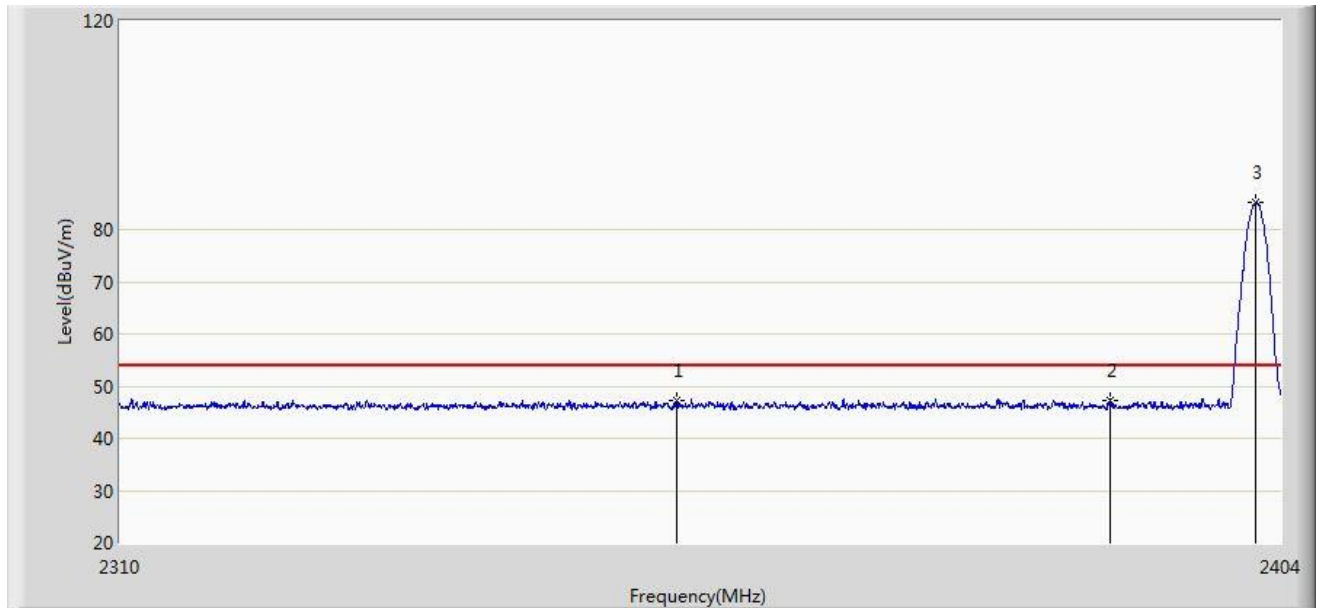


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2349.809	59.330	26.981	-14.670	74.000	32.349	PK
2			2390.000	57.074	24.556	-16.926	74.000	32.518	PK
3		*	2401.744	85.717	53.150	N/A	N/A	32.567	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:38
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

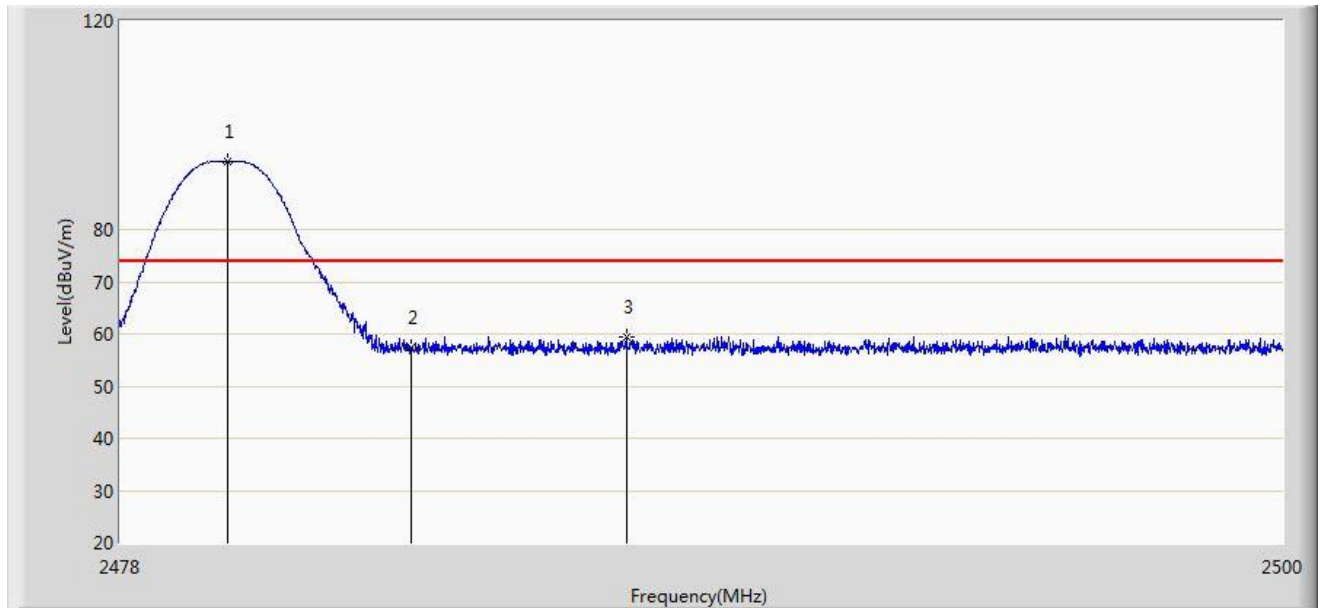


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2354.603	47.191	14.821	-6.809	54.000	32.370	AV
2			2390.000	47.219	14.701	-6.781	54.000	32.518	AV
3		*	2401.979	85.086	52.518	N/A	N/A	32.568	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:41
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

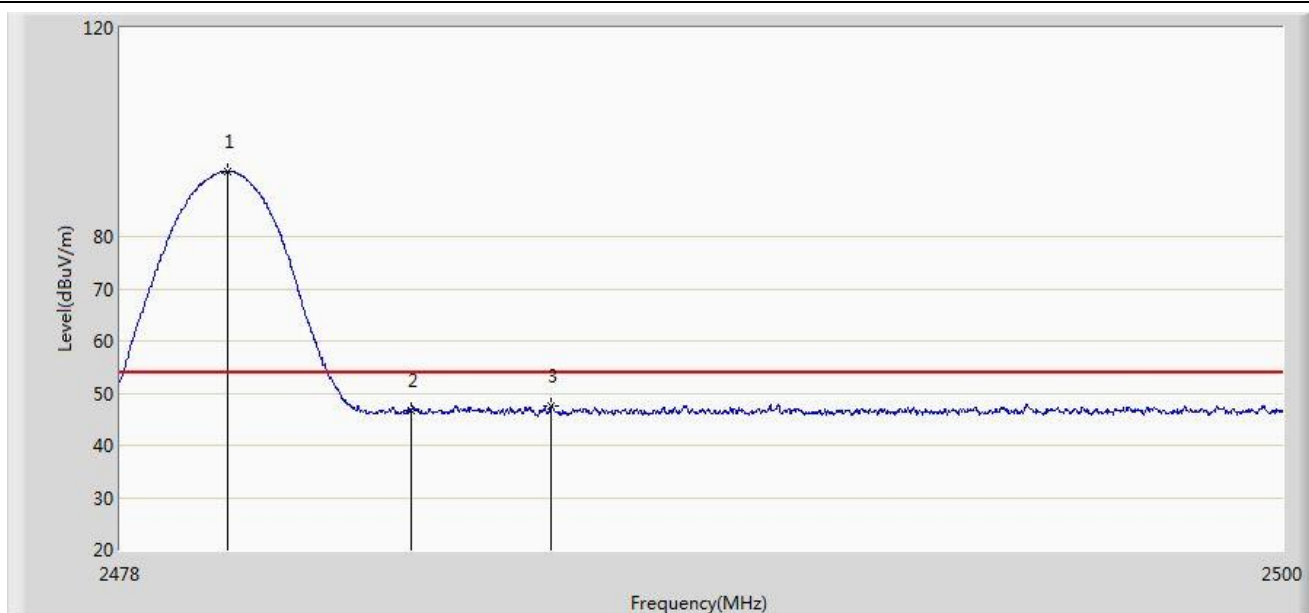


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.035	92.982	60.086	N/A	N/A	32.896	PK
2			2483.500	57.256	24.345	-16.744	74.000	32.911	PK
3			2487.559	59.549	26.621	-14.451	74.000	32.928	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:42
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

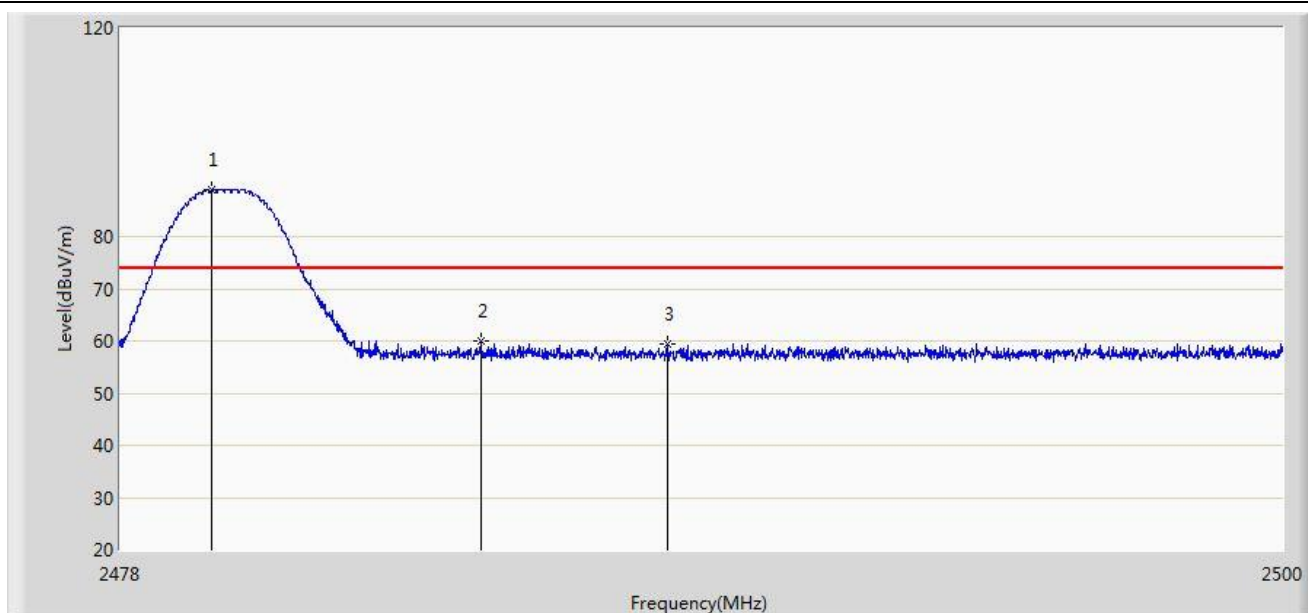


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.035	92.539	59.643	N/A	N/A	32.896	AV
2			2483.500	46.661	13.750	-7.339	54.000	32.911	AV
3			2486.151	47.505	14.583	-6.495	54.000	32.922	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:43
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

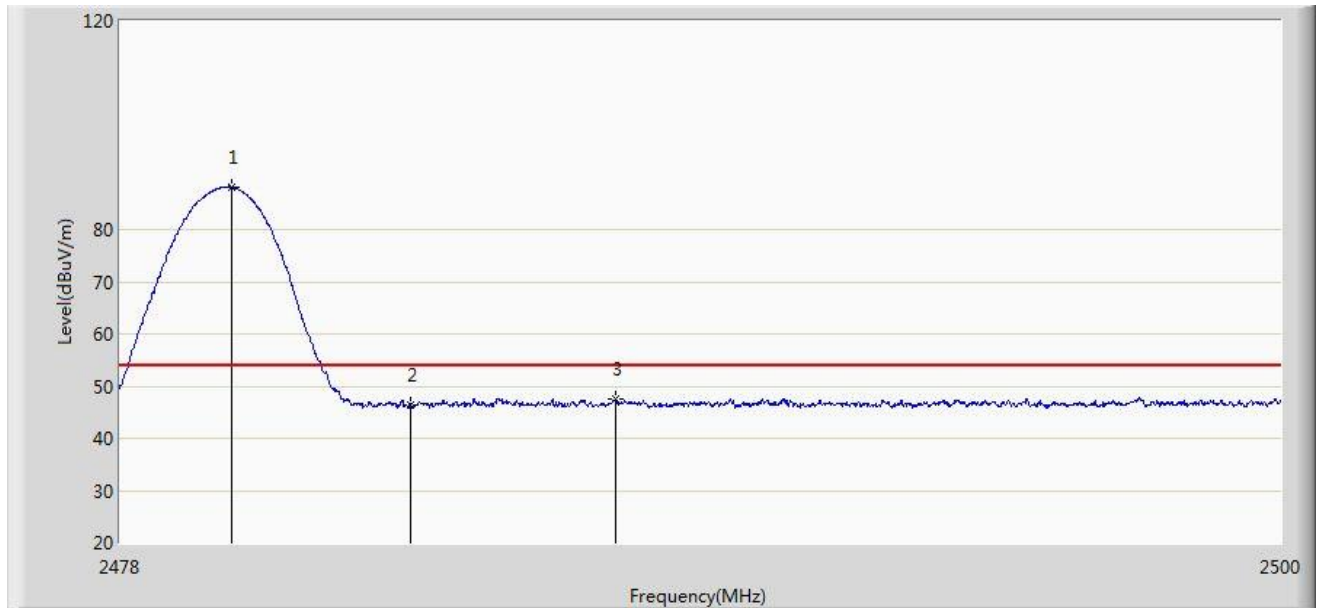


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2479.738	89.101	56.206	N/A	N/A	32.895	PK
2			2484.809	59.979	27.063	-14.021	74.000	32.916	PK
3			2488.329	59.325	26.394	-14.675	74.000	32.931	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/25 - 21:46
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	



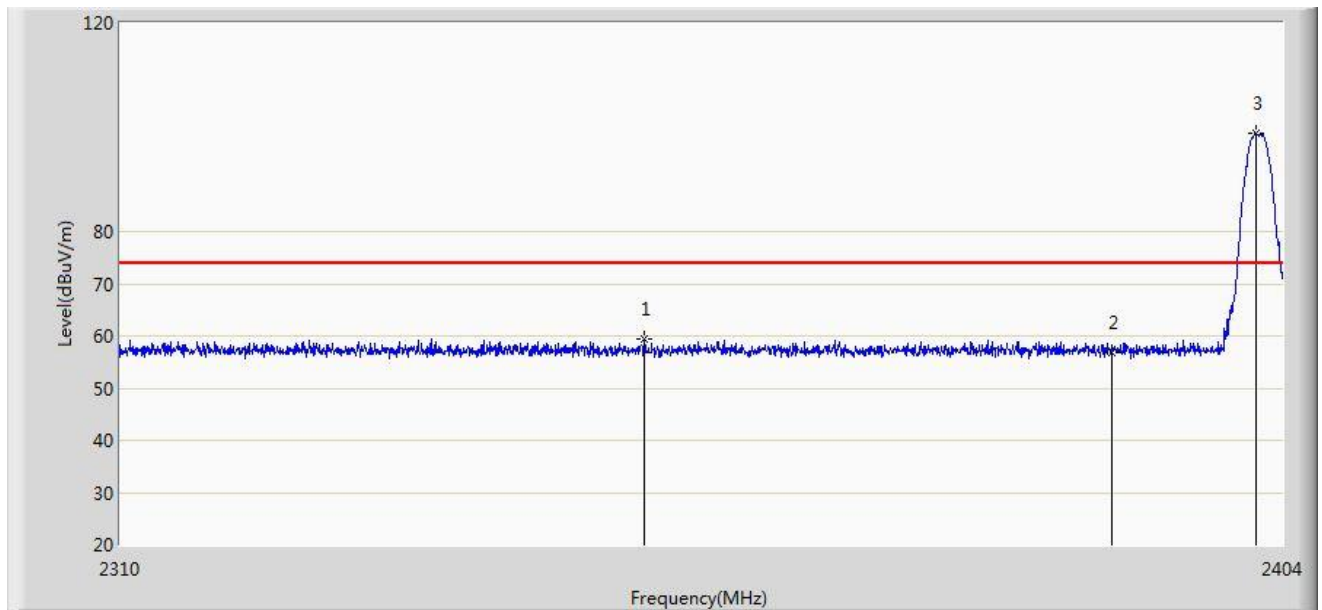
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.101	88.208	55.311	N/A	N/A	32.896	AV
2			2483.500	46.257	13.346	-7.743	54.000	32.911	AV
3			2487.372	47.536	14.609	-6.464	54.000	32.927	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

For APIN0505

Site: AC1	Time: 2019/06/24 - 22:33
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

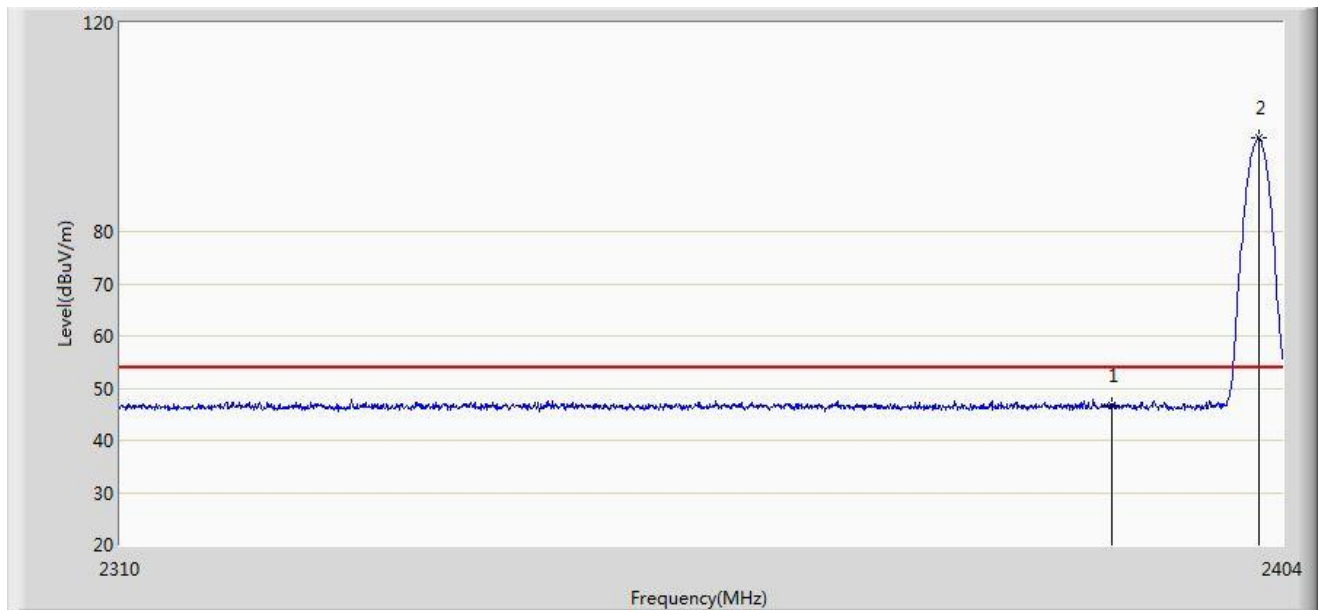


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2351.971	59.447	27.088	-14.553	74.000	32.359	PK
2			2390.000	56.912	24.394	-17.088	74.000	32.518	PK
3		*	2401.838	98.740	66.172	N/A	N/A	32.568	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 22:58
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

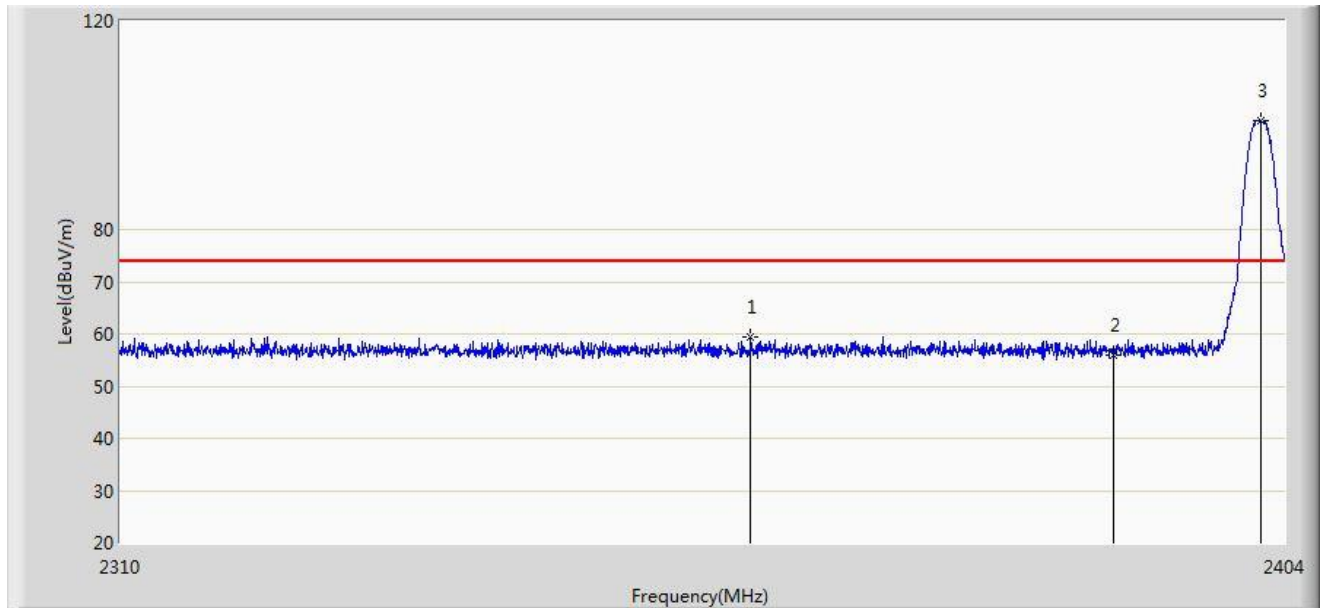


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	46.586	14.068	-7.414	54.000	32.518	AV
2		*	2402.026	97.930	65.362	N/A	N/A	32.568	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 22:59
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

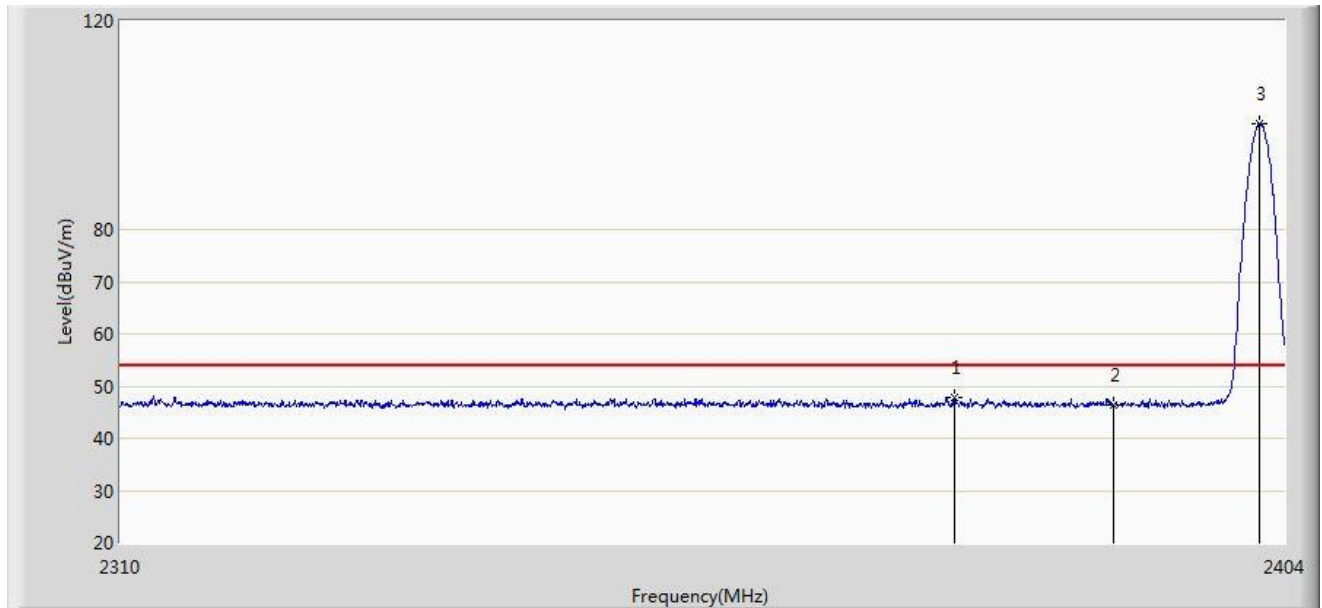


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2360.478	59.485	27.091	-14.515	74.000	32.394	PK
2			2390.000	55.952	23.434	-18.048	74.000	32.518	PK
3		*	2402.026	100.921	68.353	N/A	N/A	32.568	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 22:59
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2402MHz	

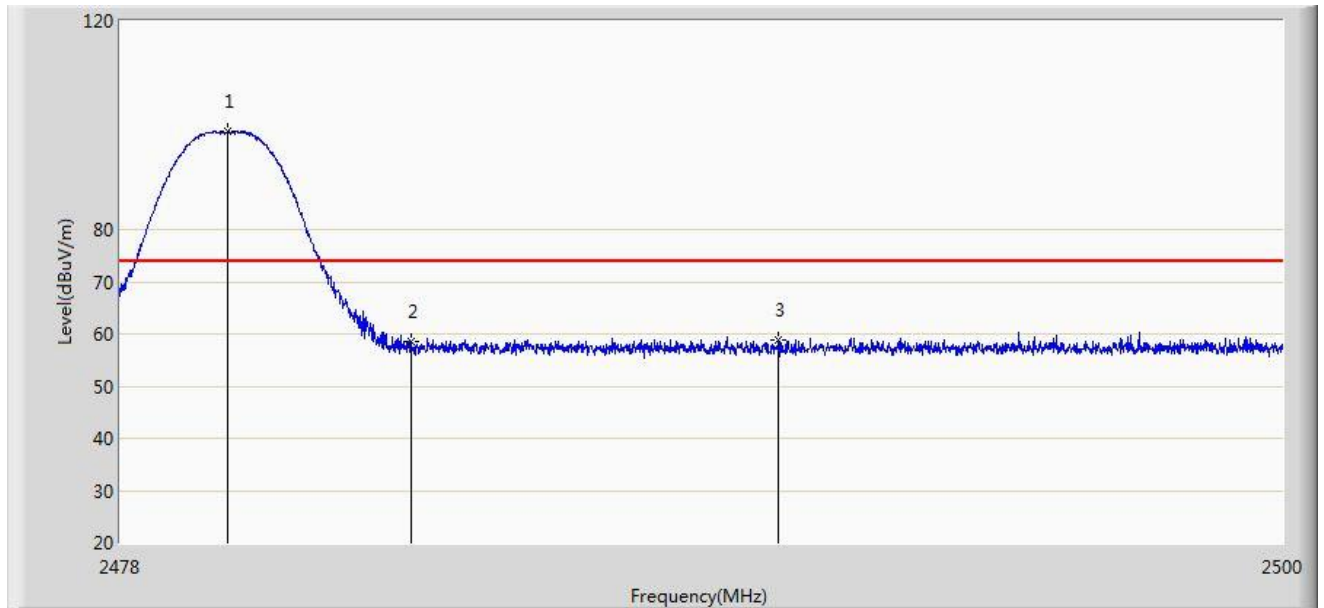


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2376.975	47.866	15.403	-6.134	54.000	32.463	AV
2			2390.000	46.422	13.904	-7.578	54.000	32.518	AV
3		*	2401.932	100.304	67.736	N/A	N/A	32.568	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 23:02
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

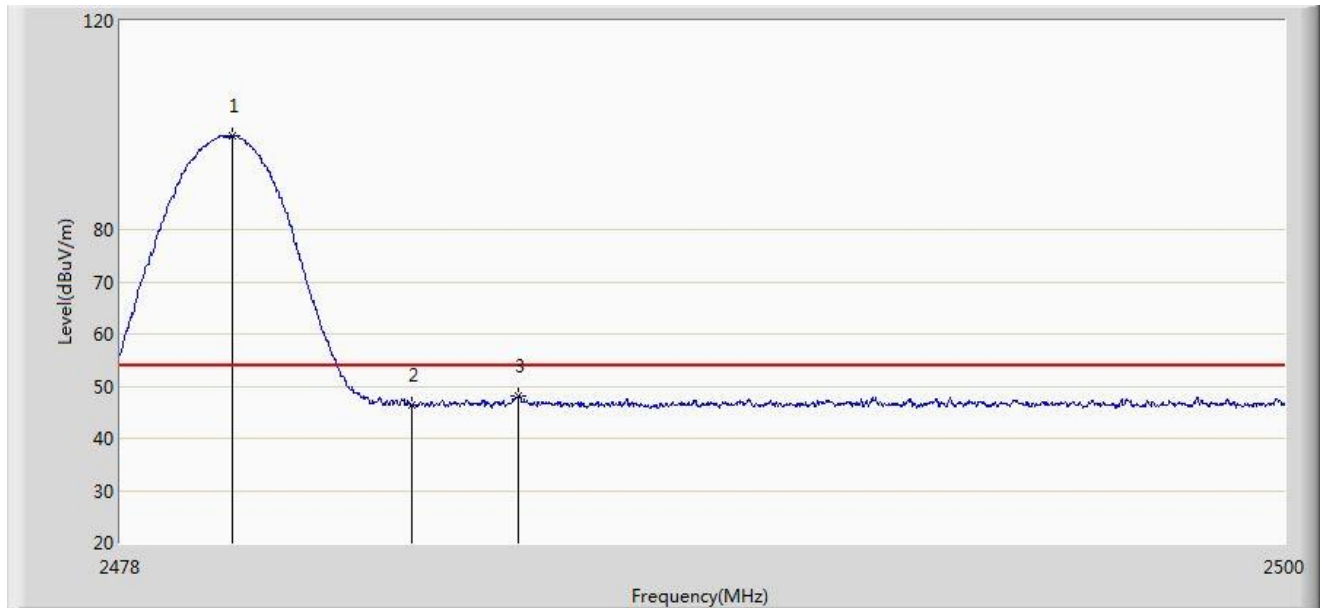


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.035	98.761	65.865	N/A	N/A	32.896	PK
2			2483.500	58.683	25.772	-15.317	74.000	32.911	PK
3			2490.441	58.935	25.995	-15.065	74.000	32.940	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 23:04
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Horizontal
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

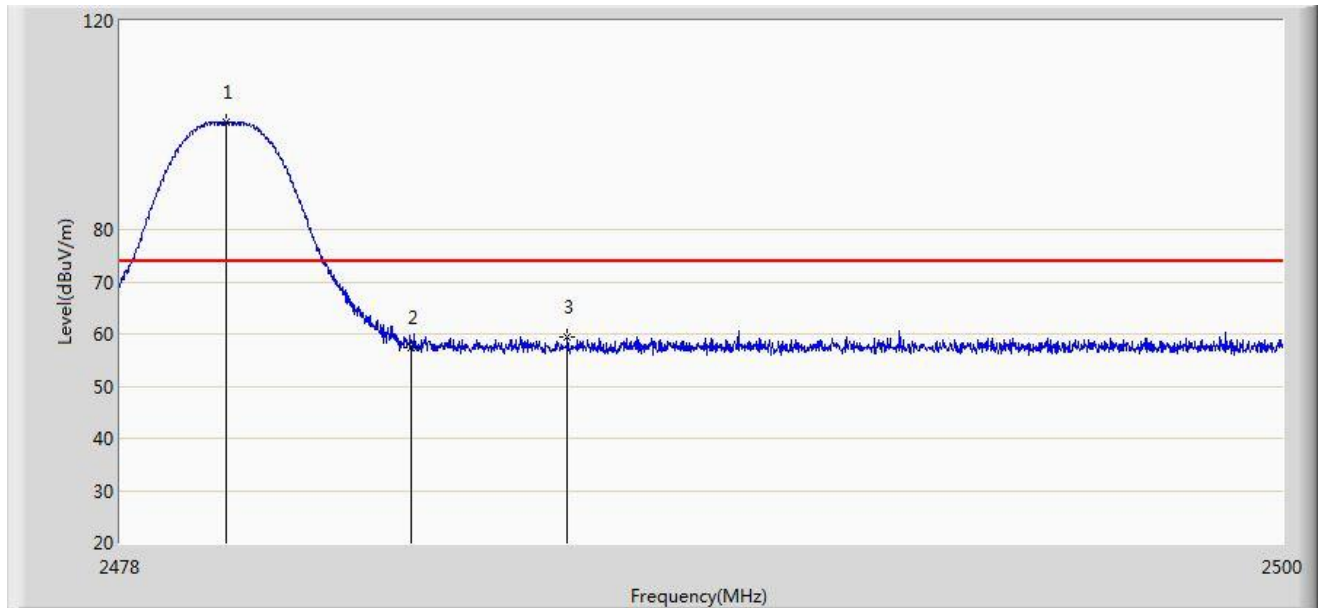


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.101	97.966	65.069	N/A	N/A	32.896	AV
2			2483.500	46.404	13.493	-7.596	54.000	32.911	AV
3			2485.491	48.132	15.213	-5.868	54.000	32.919	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 23:05
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	

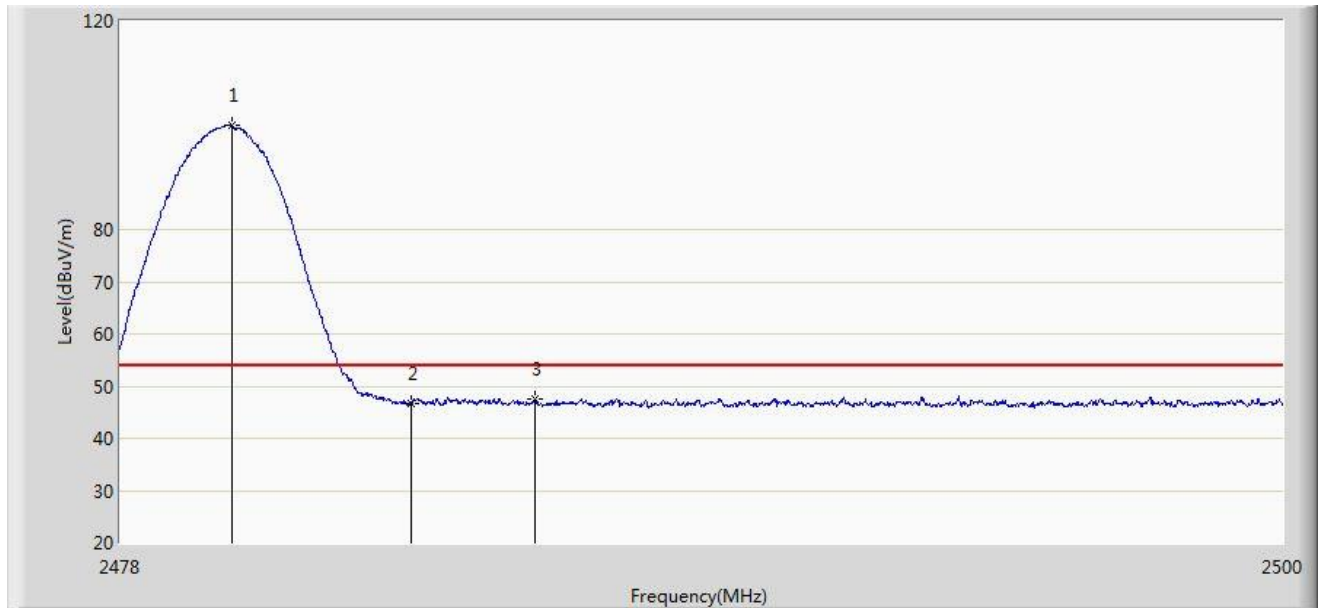


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.013	100.602	67.706	N/A	N/A	32.896	PK
2			2483.500	57.299	24.388	-16.701	74.000	32.911	PK
3			2486.448	59.458	26.535	-14.542	74.000	32.923	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

Site: AC1	Time: 2019/06/24 - 23:05
Limit: NCC LP0002_1GHz-40GHz	Engineer: Kevin Ker
Probe: BBHA 9120D	Polarity: Vertical
EUT: Aruba 500 接入點	Power: AC 110V/60Hz
Note: Transmit by BLE at channel 2480MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.101	99.885	66.988	N/A	N/A	32.896	AV
2			2483.500	46.598	13.687	-7.402	54.000	32.911	AV
3			2485.832	47.549	14.628	-6.451	54.000	32.920	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

5.7. 6dB 佔用頻寬

5.7.1. 量測方法

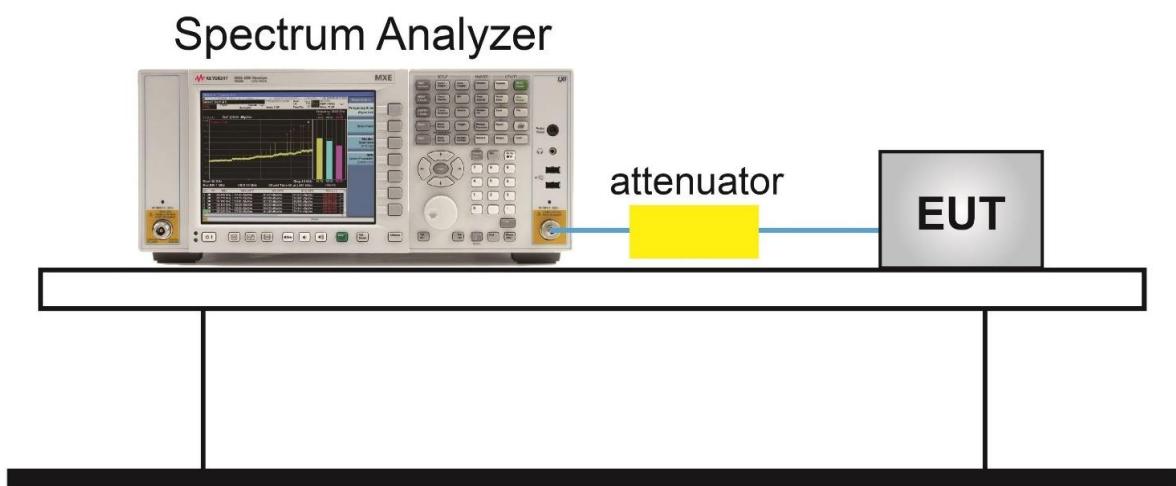
待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端，設定頻譜分析儀之解析度頻寬為 100kHz，視訊頻寬不小於解析度頻寬，頻率掃描範圍(SPAN)遠大於解析度頻寬。

待測物應在正常發射狀態下量測。

5.7.2. 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3.10.1.6(2)(A)節之要求，6dB頻寬至少應有 500kHz。

5.7.3. 測試架構圖



5.7.4. 佔用頻寬測試結果

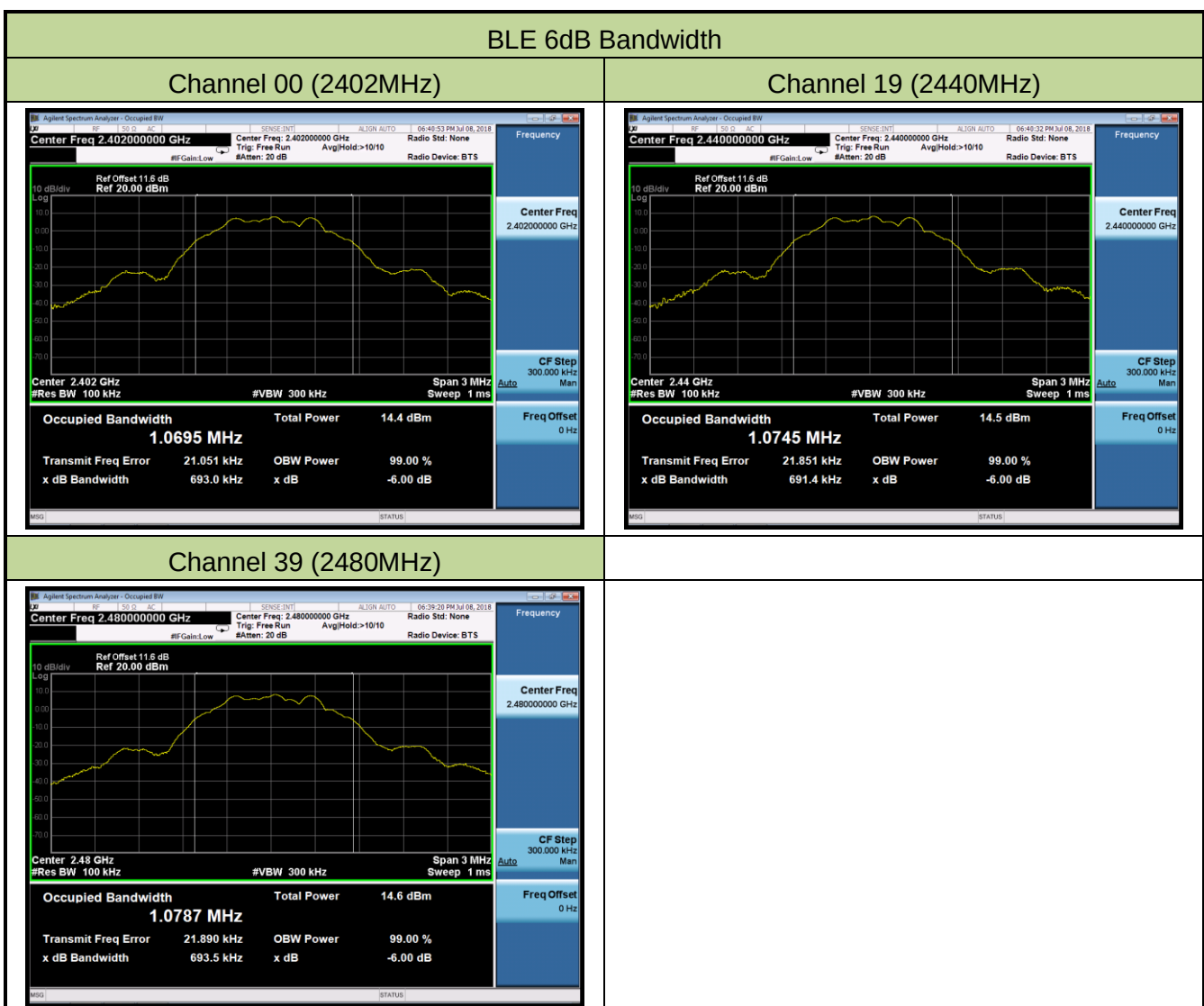
待測物名稱	Aruba 500 接入點	測試日期	2019/06/24
待測物型號	APIN0504	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
BLE	1	00	2402	0.69	≥ 0.5	Pass
BLE	1	19	2440	0.69	≥ 0.5	Pass
BLE	1	39	2480	0.69	≥ 0.5	Pass



待測物名稱	Aruba 500 接入點	測試日期	2019/07/08
待測物型號	APIN0505	溫度 / 濕度	27°C / 65%
測試場地	SR2	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
BLE	1	00	2402	0.69	≥ 0.5	Pass
BLE	1	19	2440	0.69	≥ 0.5	Pass
BLE	1	39	2480	0.69	≥ 0.5	Pass



5.8. 發射電功率頻譜密度

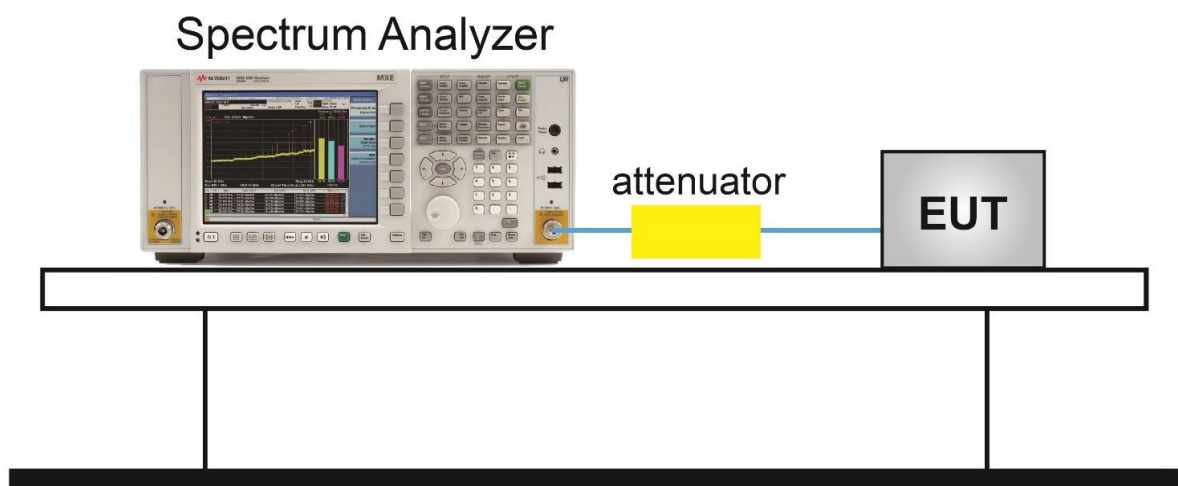
5.8.1. 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀 RF 輸入端。找出發射峰值並擴展於通帶內，設定頻譜分析儀之解析度頻寬為 3kHz，視訊頻寬大於解析度頻寬，掃瞄時間為頻率掃瞄範圍除以 3kHz。
($\text{SWEEP TIME} = \text{SPAN}/3\text{kHz}$)。

5.8.2. 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 3.10.1.6(2)(B)節，在使用頻率範圍之任意 3 千赫(kHz)頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm。

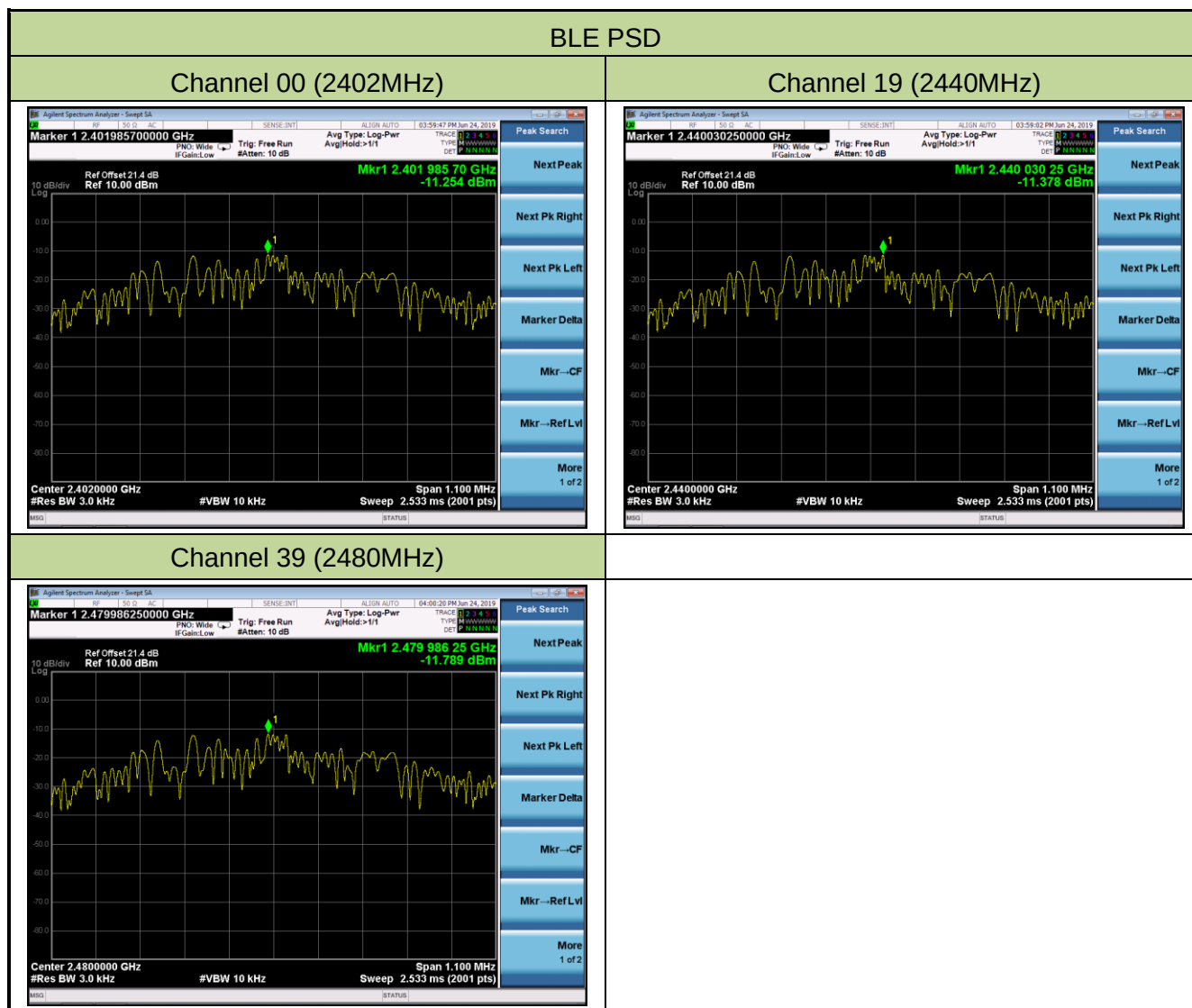
5.8.3. 測試架構圖



5.8.4. 功率頻譜密度量測結果

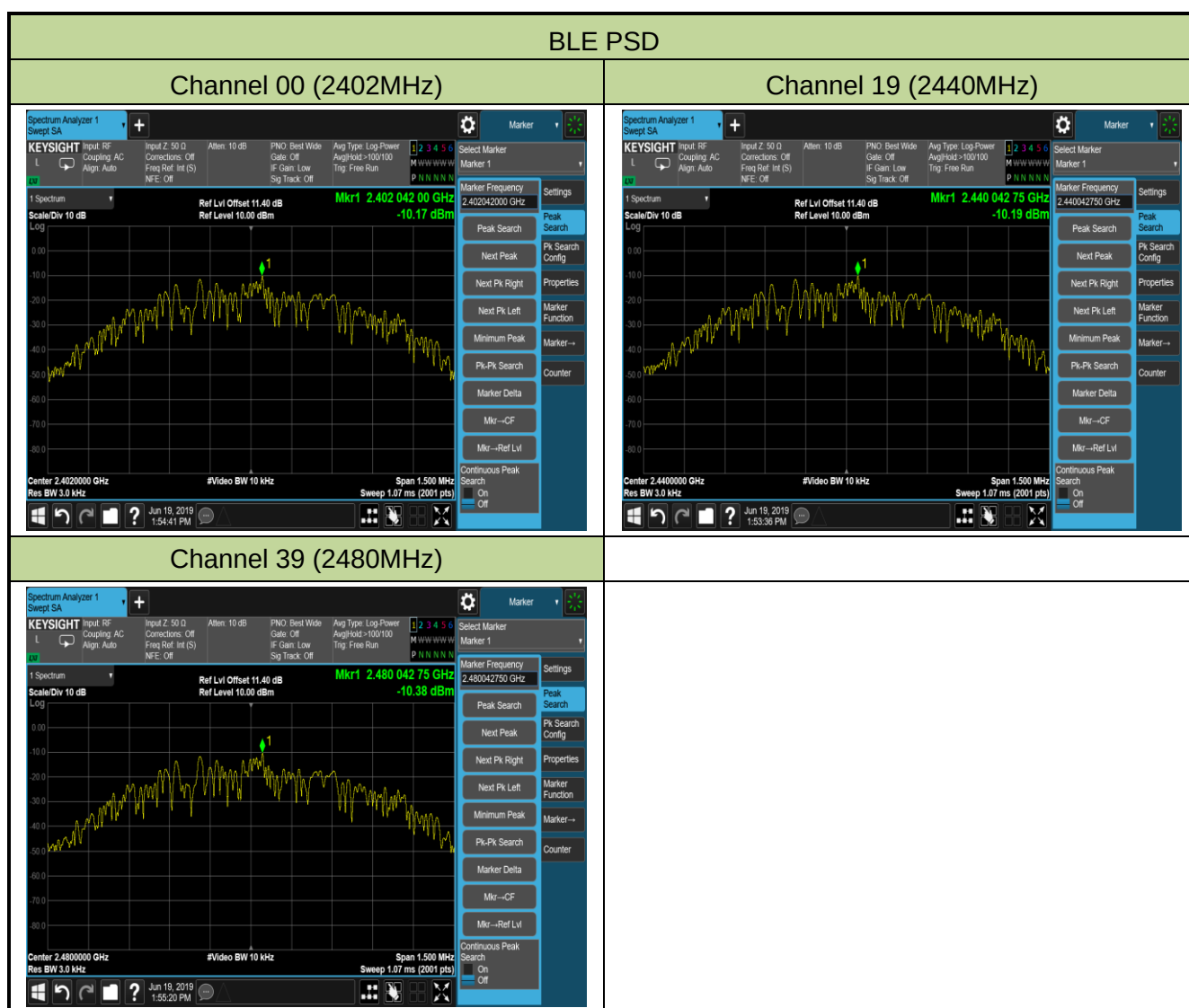
待測物名稱	Aruba 500 接入點	溫度	27°C
待測物型號	APIN0504	濕度	65%
測試場地	SR2	測試日期	2019/06/24
測試項目	Power Spectral Density	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	PSD Result (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
BLE	1	00	2402	-11.25	≤ 8.00	Pass
BLE	1	19	2440	-11.38	≤ 8.00	Pass
BLE	1	39	2480	-11.79	≤ 8.00	Pass



待測物名稱	Aruba 500 接入點	溫度	27°C
待測物型號	APIN0505	濕度	65%
測試場地	SR2	測試日期	2019/06/19
測試項目	Power Spectral Density	測試工程師	Kevin Ker

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	PSD Result (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
BLE	1	00	2402	-10.17	≤ 8.00	Pass
BLE	1	19	2440	-10.19	≤ 8.00	Pass
BLE	1	39	2480	-10.38	≤ 8.00	Pass



The End