

NCC

低功率射頻器材型式試驗報告

產品名稱: AX6600 Wi-Fi 6 三頻電競路由器
型號: Archer GX90
廠牌: tp-link
申請者: 聯洲國際有限公司
申請者地址: 新北市板橋區中山路一段 156 號 13 樓
測試標準: LP0002 (109 年版)
參考法規: ANSI C63.10-2013
測試結果: 符合
接收日期: 2020.03.30
測試日期: 2020.04.01 ~ 2020.04.16
發行日期: 2020.12.15

測試工程師:

柯文凱

(柯文凱)

報告審核人:

陳柏均

(陳柏均)

報告簽署人:

柯承志

(柯承志)



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

報告編號	版本	描述	發行日期
2004TW0002-T3	1.0	Original Report	2020-12-15

CONTENTS

Description	Page
1. 一般資訊	4
2. 產品描述	5
2.1. 產品資訊	5
2.2. 動態雷達操作通道清單	6
2.3. 天線規格	7
2.4. 測試模式	8
3. 動態頻率選擇和測試雷達波	9
3.1. 動態頻率選擇偵測門檻及操作模式	9
3.2. 雷達信號參數	9
3.3. 測試限值	12
3.4. 測試架設圖	13
4. 測試設備明細	14
5. 測試結果	15
6. 雷達系統波形校驗	16
6.1. 量測方法	16
6.2. 校驗架構圖	16
6.3. 校驗結果	17
7. UNII 偵測頻寬	20
7.1. 適用標準	20
7.2. 量測方法	20
7.3. 檢測頻寬概率測試結果	21
8. 頻道可用性檢查時間量測	26
8.1. 適用標準	26
8.2. 量測方法	26
8.3. 頻道可用性檢查時間量測測試結果	27
9. 頻道關閉傳輸時間及不可佔用期間	29
9.1. 適用標準	29
9.2. 量測方法	29
9.3. 頻道關閉傳輸時間及不可佔用期間測試結果	30
10. 動態頻率選擇偵測門檻	31
10.1. 適用標準	31
10.2. 量測方法	31
10.3. 動態頻率選擇偵測門檻測試結果	32
11. Zero-wait 測試結果	142

1. 一般資訊

申請者	聯洲國際有限公司
申請者地址	新北市板橋區中山路一段 156 號 13 樓
製造商	普聯技術有限公司
製造商地址	深圳市南山區深南路科技園工業廠房 24 棟南段 1 層、3-5 層、28 棟北段 1-4 層
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. 產品描述

2.1. 產品資訊

產品名稱	AX6600 Wi-Fi 6 三頻電競路由器
產品型號	Archer GX90
廠牌	tp-link
工作模式	主控運作模式
無線規格	802.11a/b/g/n/ac/ax
頻率範圍	2.4GHz: For 802.11b/g/n-HT20/ax-HE20: 2412 ~ 2462 MHz For 802.11n-HT40/ax-HE40: 2422 ~ 2452 MHz 5GHz: For 802.11a/n-HT20/ac-VHT20/ax-HE20: 5180~5240MHz ,5500~5720MHz, 5745~5825MHz For 802.11n-HT40/ac-VHT40/ax-HE40: 5190~5230MHz,5510~5710MHz, 5755~5795MHz For 802.11ac-VHT80/ax-HE80: 5210MHz, 5530MHz, 5610MHz, 5690MHz, 5775MHz For 802.11ac-VHT160/ax-HE160: 5570MHz
調變模式	DSSS for IEEE 802.11b, OFDM for IEEE 802.11a/g/n/ac, OFDMA for IEEE 802.11ax
傳輸速率	802.11b: 1/2/5.5/11Mbps 802.11a/g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps 802.11ac: up to 3466.7Mbps 802.11ax: up to 4804Mbps
配件	
電源供應器	Brand : Mass Power MODEL: S042-1A120330VU INPUT: 100 - 240V ~ 50/60Hz 1.0A. OUTPUT: DC 12.0V 3.3A
網路線	Brand: 深圳市泰科實業有限公司 Model No.: 8P8C UTP CAT.5E 24AWG(BC) X 4P Length: 1.2m

2.2. 動態雷達操作通道清單

802.11a/n-HT20/ac-VHT20/ax-HE20

Channel	Frequency	Channel	Frequency	Channel	Frequency
100	5500 MHz	104	5520 MHz	108	5540 MHz
112	5560 MHz	116	5580 MHz	120	5600 MHz
124	5620 MHz	128	5640 MHz	132	5660 MHz
136	5680 MHz	140	5700 MHz	144	5720 MHz

802.11n-HT40/ac-VHT40/ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
102	5510 MHz	110	5550 MHz	118	5590 MHz
126	5630 MHz	134	5670 MHz	142	5710 MHz

802.11ac-VHT80/ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz	138	5690 MHz

802.11ac-VHT160/ax-HE160

Channel	Frequency	Channel	Frequency	Channel	Frequency
114	5570 MHz	--	--	--	--

2.3. 天線規格

此 AX6600 Wi-Fi 6 三頻電競路由器其天線為固定式 Dipole Antenna，(Brand: TP-LINK，M/N: X3050-RT000REV1.0)使用 i-PEX 接頭，(檢附天線規格書)

Antenna Type	Frequency Band (MHz)	T _x Paths	Number of spatial streams	Max Antenna Gain (dBi)	Beamforming Directional Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Dipole Antenna	2412 ~ 2462	2	1	1.42	4.43	1.42	4.43
	5150 ~ 5250	2	1	1.27	4.28	1.27	4.28
	5470 ~ 5725	4	1	1.63	7.65	1.63	7.65
		4	2	1.63	--	1.63	4.64
	5725 ~ 5850	4	1	1.33	7.35	1.33	7.35

Note:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

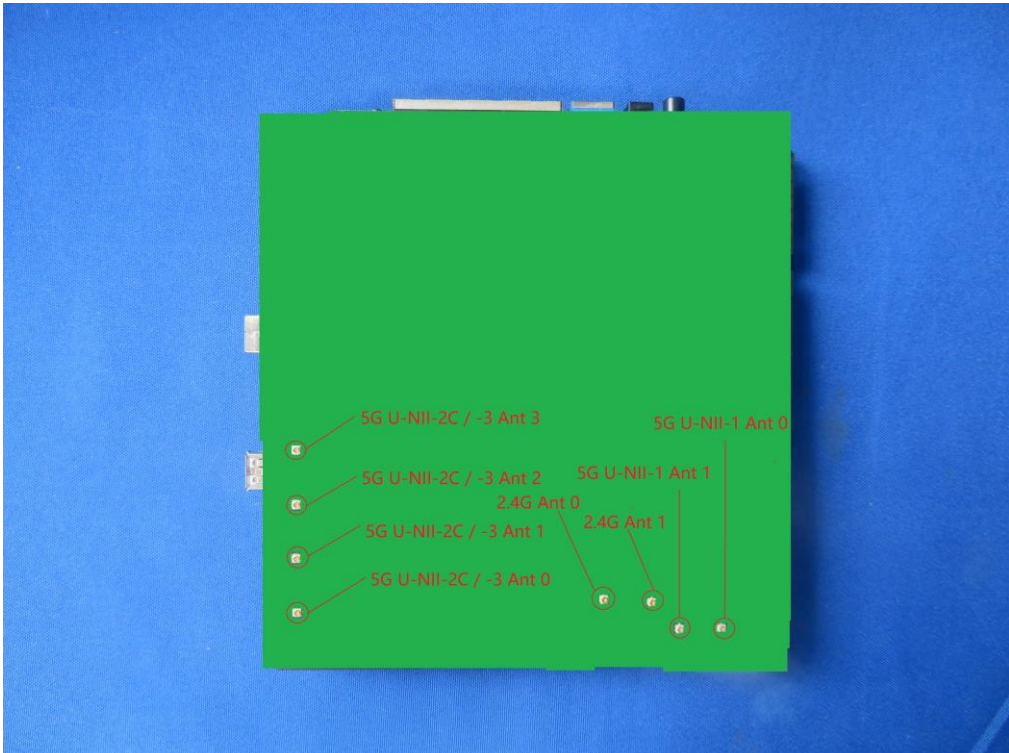
- For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log (N_{ANT} / N_{SS})$ dB;

- 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 802.11ac/ax, not include 802.11a/b/g/n. BF Directional gain = $G_{ANT} + 10 \log (N_{ANT})$.

Antenna RF Port								
Software Control Port	2.4GHz RF Port		5GHz RF Port					
			U-NII - 1		U-NII – 2C / -3			
	Ant 0	Ant 1	Ant 0	Ant 1	Ant 0	Ant 1	Ant 2	Ant 3
								

2.4. 測試模式

Test Mode	Make the EUT communicate with notebook at DFS channel
-----------	---

3. 動態頻率選擇和測試雷達波

3.1. 動態頻率選擇偵測門檻及操作模式

(1) 最低動態頻率選擇的偵測門檻

A) 最大 EIRP 為200 mW~1 W之設備，其最低動態頻率選擇的偵測門檻值為-64 dBm。

B) 最大 EIRP 低於200 mW，且功率頻譜密度小於10 dBm/MHz 之設備，其最低動態頻率選擇的偵測門檻值為-62 dBm。

C) 最大EIRP 低於200 mW，且功率頻譜密度大於或等於10 dBm/MHz 之設備，其最低動態頻率選擇的偵測門檻值為-64 dBm。

D) 此偵測門檻值為1 微秒內之平均接收功率，並以0 dBi 天線為參考基準。頻道初始設定得由系統隨機選取或使用使用者手動選取。

(2) 操作模式：動態頻率選擇之規定適用於以下之操作模式：

(A) 頻道可用性檢查時間之規定，適用於主控運作模式。

(B) 頻道移動時間之規定，適用於主控及受控運作模式。

3.2. 雷達信號參數

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 3-6	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30

		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μ sec, with a minimum increment of 1 μ sec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Parameters for Short Pulse Radar Waveforms

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738

13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Pulse Repetition Intervals Values for Test A

Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50 - 100	5 - 20	1000 - 2000	1 - 3	8 - 20	80%	30

Parameters for Long Pulse Radar Waveforms

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses Per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

Parameters for Frequency Hopping Radar Waveforms

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

3.3. 測試限值

參數	限值
不可佔用期間	30 分鐘
頻道可用性檢查時間	60 秒
頻率移動時間	10 秒
頻道關閉傳輸時間	200 毫秒 + 在 10 秒週期內的 60 毫秒
U-NII 偵測頻寬	最小為 UNII 99% 發射頻寬的全部

註一：頻道移動時間與頻道關閉傳輸時間開始的瞬間如下所述：

- 對短脈衝雷達信號，此瞬間為叢訊的結束時間點算起。
- 對跳頻雷達信號，此瞬間為最後一個產生的叢訊結束時間點算起。
- 對長脈衝雷達測試信號，此瞬間為雷達波型信號結束的 12 秒時間點算起。

註二：頻道關閉傳輸時間包含於頻道移動時間起始的 200 毫秒，加上在 10 秒週期內剩下為了促成頻道移動所需的任何額外間歇性的管理與控制信號〔合計時間為 60 毫秒〕。此控制信號的合計持續時間不包含傳輸間的 quiet 週期。

註三：在 U-NII 檢測帶寬檢測測試，雷達類型“0”應該被使用。對每個頻率步進的檢測的最小百分比是 90%。測試是被執行在沒有資料傳輸的狀態下。

3.4. 測試架設圖

The FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 describes a radiated test setup and a conducted test setup. The conducted test setup was used for this testing. Figure 3-1 shows the typical test setup.

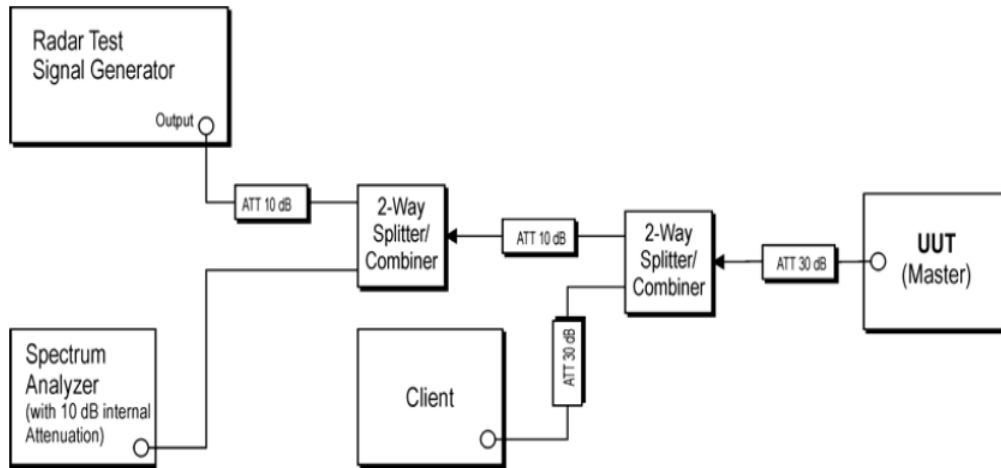


Figure A: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters

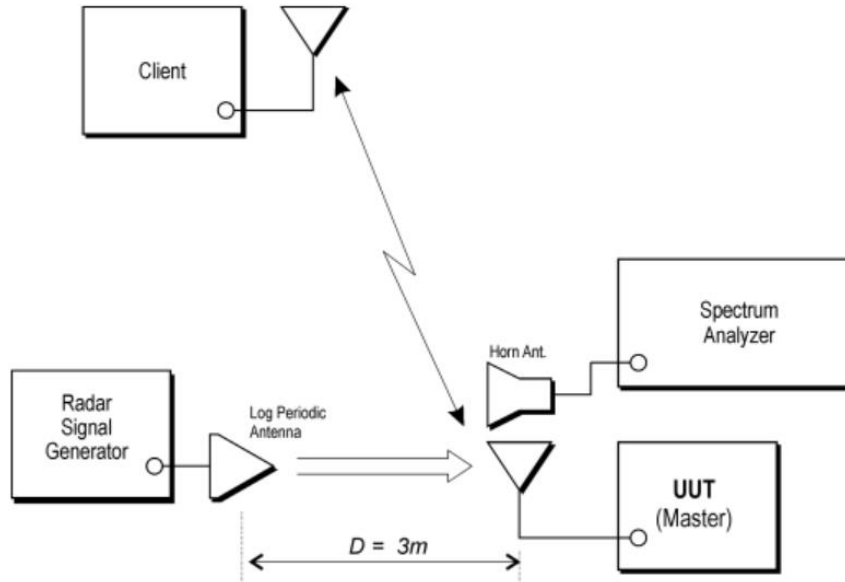


Figure B: Radiated Test Setup where UUT is a Master and Radar Test Waveforms are injected into the UUT

4. 測試設備明細

Dynamic Frequency Selection (DFS)

Instrument	Brand	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2020/10/02
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2020/07/14
Vector Signal Generator	Keysight	N5182B	MRTTWA00010	1 year	2020/04/24
Combiner	WOKEN	0120A04208001S	MRTTWE00008	1 year	2020/06/18
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2020/10/02
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2020/07/14

Client Information

Instrument	Brand	Type No.
Access Point	TP-Link Technologies Co., Ltd.	Archer AX6000

Note: The Access Point was configured as client device by the manufacturer.

Software	Version	Brand	Function
Pulse Building(N7607B)	V3.0.0	Keysight	Radar Signal Generation Software
DFS Tool	V6.7	Keysight	DFS Test Software

5. 測試結果

產品名稱 AX6600 Wi-Fi 6 三頻電競路由器
型號 Archer GX90

量測項目	限制值	測試結果	測試數據
UNII 偵測頻寬量測	參考 3.3 章節	符合	第 6 章節
頻道可用性檢查時間量測	參考 3.3 章節	符合	第 7 章節
頻率移動時間, 頻道關閉傳輸時間	參考 3.3 章節	符合	第 8 章節
30 分鐘不可佔用期間量測	參考 3.3 章節	符合	
動態頻率選擇偵測門檻值量測	參考 3.3 章節	符合	第 9 章節

6. 雷達系統波形校驗

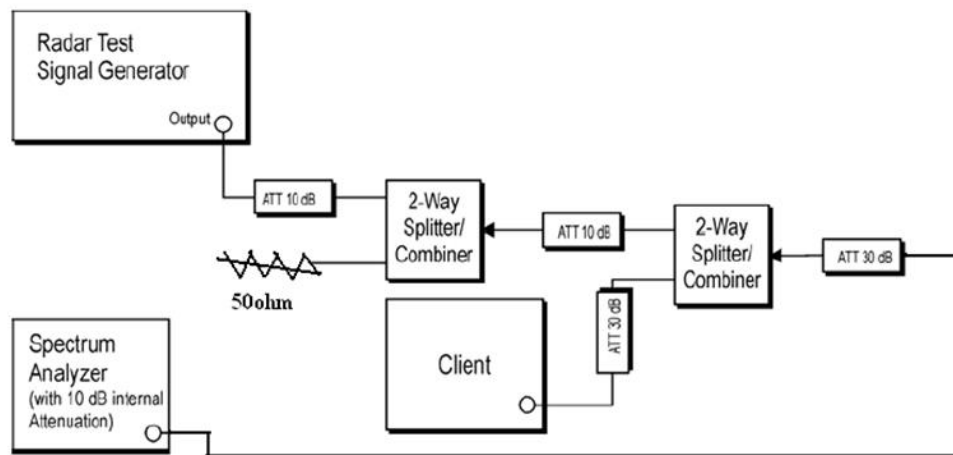
6.1. 量測方法

下圖之設備架構為用於校驗輻射測試之雷達波形，使用頻譜分析儀確認雷達測試信號之振幅位準。

將頻譜分析儀的中心頻率設為雷達波之頻率，頻率掃描範圍調整為零〔時域〕，解析頻寬與視訊頻寬分別為 3MHz 與 3MHz，並使用 peak detection 觀察雷達訊號產生器所创建的雷達波。

將雷達訊號產生器的振幅位準調整至頻譜分析儀上觀察到的位準為-63dBm，此位準為接收輸入端以 0dBi 的接收天線為參考基準。

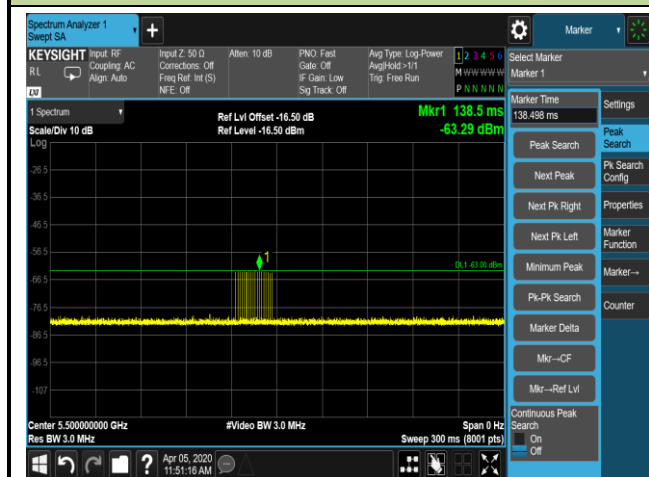
6.2. 校驗架構圖



6.3. 校驗結果

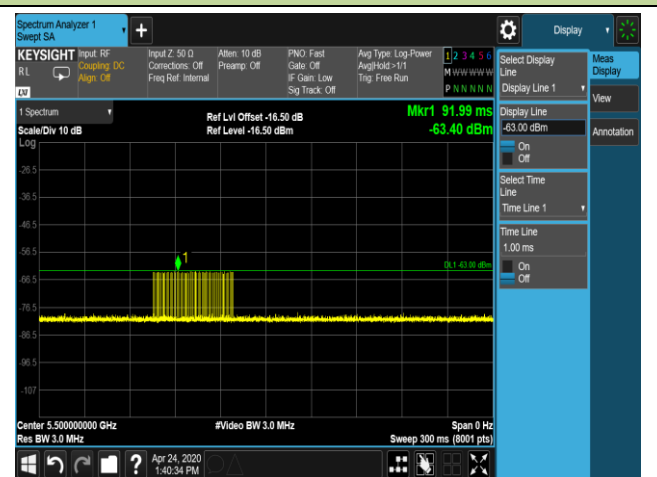
待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/05
測試項目	雷達測試信號校驗		

Radar #0



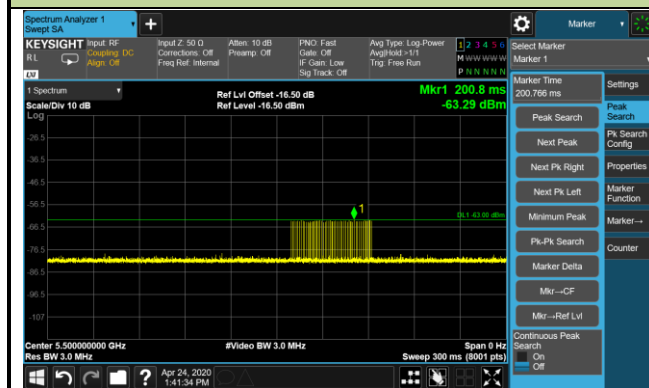
Radar #1 (Test A)

PRI = 878us and the number of pulses = 61

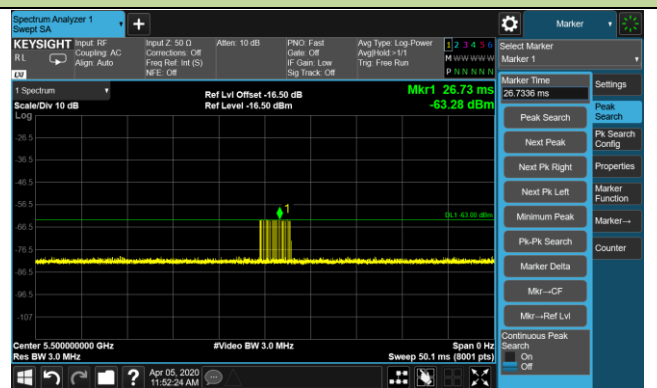


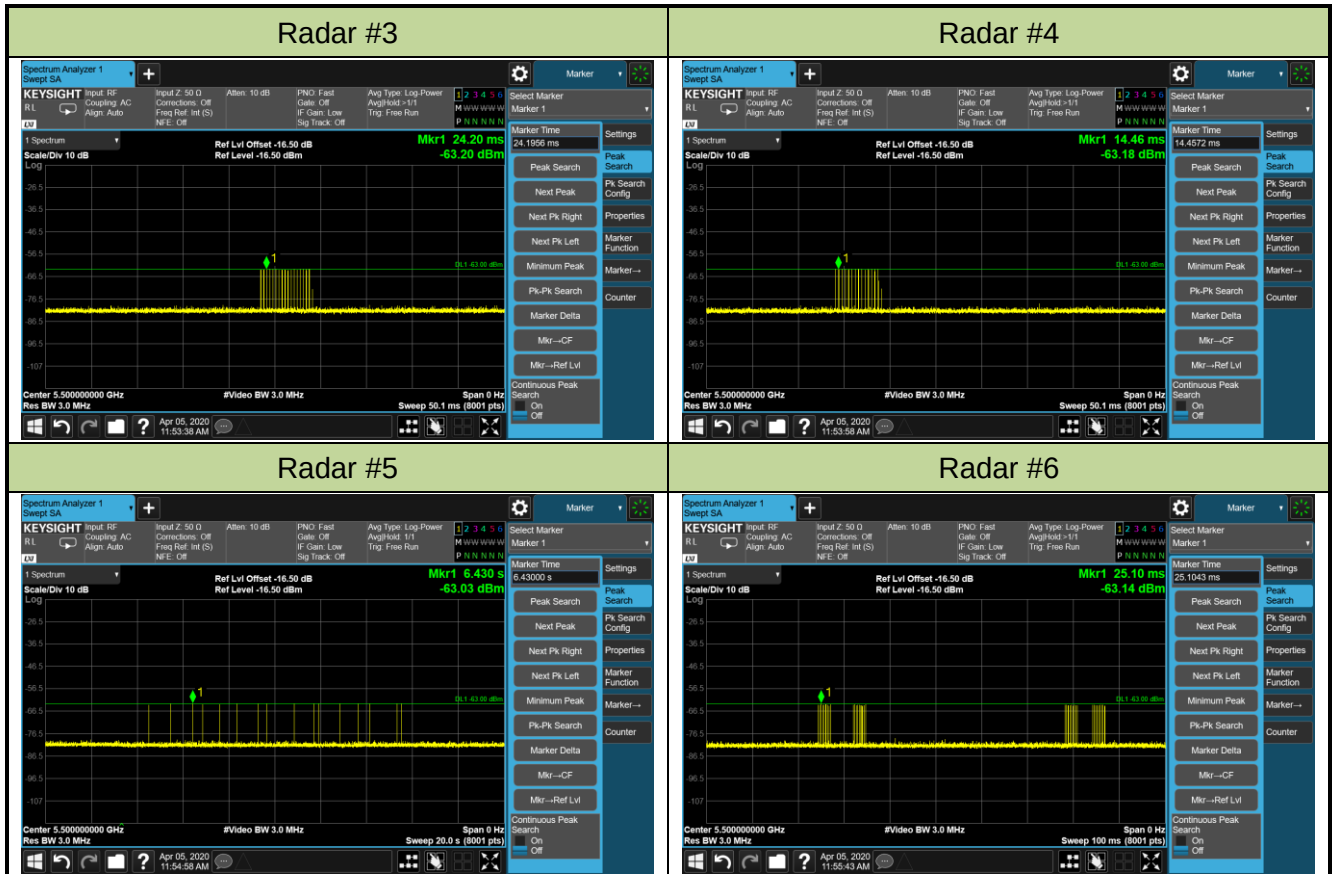
Radar #1 (Test B)

PRI = 1.118ms and the number of pulses = 48

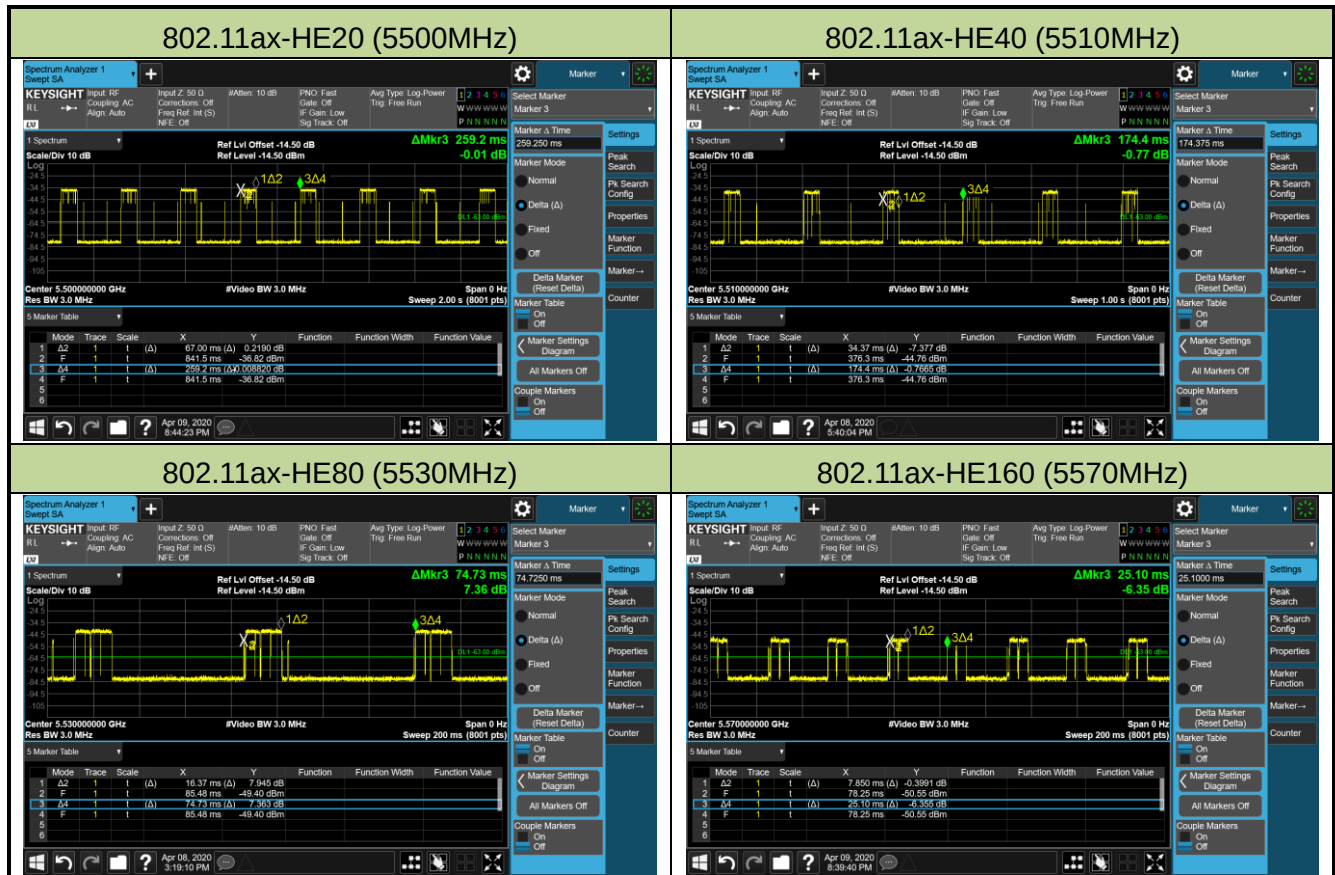


Radar #2





待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/08~2020/04/09
測試項目	占空比		



Test Mode	Test Frequency	Packet ratio	Requirement ratio	Test Result
802.11ax-HE20	5500 MHz	25.84%	≥ 17%	Pass
802.11ax-HE40	5510 MHz	19.71%	≥ 17%	Pass
802.11ax-HE80	5530 MHz	21.91%	≥ 17%	Pass
802.11ax-HE160	5570 MHz	31.27%	≥ 17%	Pass

Note: System testing was performed with the designated iperf test file. This file is used by IP and Frame based systems for loading the test channel during the In-service compliance testing of the U-NII device. Packet ratio = Time On / (Time On + Off Time).

7. UNII 偵測頻寬

7.1. 適用標準

待測物在其宣告頻寬測試偵測頻寬,在中心頻率以1MHz遞增及遞減雷達訊號每個頻率測試10次確認偵測成功機率(至少90%)並紀錄,必須要符合UNII 99% occupied bandwidth之100%頻寬。

7.2. 量測方法

1. Adjust the equipment to produce a single Burst of any one of the Short Pulse Radar Types 0-4 in Table 3-5 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level.
2. The generating equipment is configured as shown in the Conducted Test Setup above section 3.5.
3. The EUT is set up as a stand-alone device (no associated Client or Master, as appropriate) and no traffic. Frame based systems will be set to a talk/listen ratio reflecting the worst case (maximum) that is user configurable during this test.
4. Generate a single radar Burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform using the specified U-NII Detection Bandwidth criterion shown in Table 3-5. In cases where the channel bandwidth may exceed past the DFS band edge on specific channels (i.e., 802.11ac or wideband frame based systems) select a channel that has the entire emission bandwidth within the DFS band. If this is not possible, test the detection BW to the DFS band edge.
5. Starting at the center frequency of the UUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion specified in Table 3-3. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance.
6. Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 1 MHz steps, repeating the above item 4 test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.
7. The U-NII Detection Bandwidth is calculated as follows: $\text{U-NII Detection Bandwidth} = \text{FH} - \text{FL}$
8. The U-NII Detection Bandwidth must be at least 100% of the EUT transmitter 99% power, otherwise, the EUT does not comply with DFS requirements.

7.3. 檢測頻寬概率測試結果

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Detection Bandwidth (802.11ax-HE20 mode - 5500MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
5490.4 FL	1	1	1	1	1	1	1	1	1	1	100%
5491	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5509.6 FH	1	1	1	1	1	1	1	1	1	1	100%
5510	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5500MHz. The 99% channel bandwidth is 19.07MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5509.6MHz – 5490.4MHz = 19.2MHz

Note 3: NII Detection Bandwidth Min. Limit (MHz): 19.07MHz x 100% = 19.07MHz.

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Detection Bandwidth (802.11ax-HE40 mode - 5510MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529 FH	1	1	1	1	1	1	1	1	1	1	100%
5530	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 37.55MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5529MHz - 5491MHz = 38MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 37.55MHz x 100% = 37.55MHz.

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Detection Bandwidth (802.11ax-HE80 mode - 5530MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%
5566	1	1	1	1	1	1	1	1	1	1	100%
5567	1	1	1	1	1	1	1	1	1	1	100%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569 FH	1	1	1	1	1	1	1	1	1	1	100%
5570	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 77.11MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5569MHz - 5491MHz = 78MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 77.11MHz x 100% = 77.11MHz.

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Detection Bandwidth (802.11ax-HE160 mode – 5570MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
5491 FL	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%
5570	1	1	1	1	1	1	1	1	1	1	100%
5575	1	1	1	1	1	1	1	1	1	1	100%
5580	1	1	1	1	1	1	1	1	1	1	100%
5585	1	1	1	1	1	1	1	1	1	1	100%
5590	1	1	1	1	1	1	1	1	1	1	100%
5595	1	1	1	1	1	1	1	1	1	1	100%
5600	1	1	1	1	1	1	1	1	1	1	100%
5600	1	1	1	1	1	1	1	1	1	1	100%
5610	1	1	1	1	1	1	1	1	1	1	100%
5615	1	1	1	1	1	1	1	1	1	1	100%

5620	1	1	1	1	1	1	1	1	1	1	100%
5625	1	1	1	1	1	1	1	1	1	1	100%
5630	1	1	1	1	1	1	1	1	1	1	100%
5635	1	1	1	1	1	1	1	1	1	1	100%
5640	1	1	1	1	1	1	1	1	1	1	100%
5645	1	1	1	1	1	1	1	1	1	1	100%
5646	1	1	1	1	1	1	1	1	1	1	100%
5647	1	1	1	1	1	1	1	1	1	1	100%
5648	1	1	1	1	1	1	1	1	1	1	100%
5649 FH	1	1	1	1	1	1	1	1	1	1	100%
5650	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5570MHz. The 99% channel bandwidth is 155.26MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5649MHz - 5491MHz = 158MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 155.26MHz x 100% = 155.26MHz.

8. 頻道可用性檢查時間量測

8.1. 適用標準

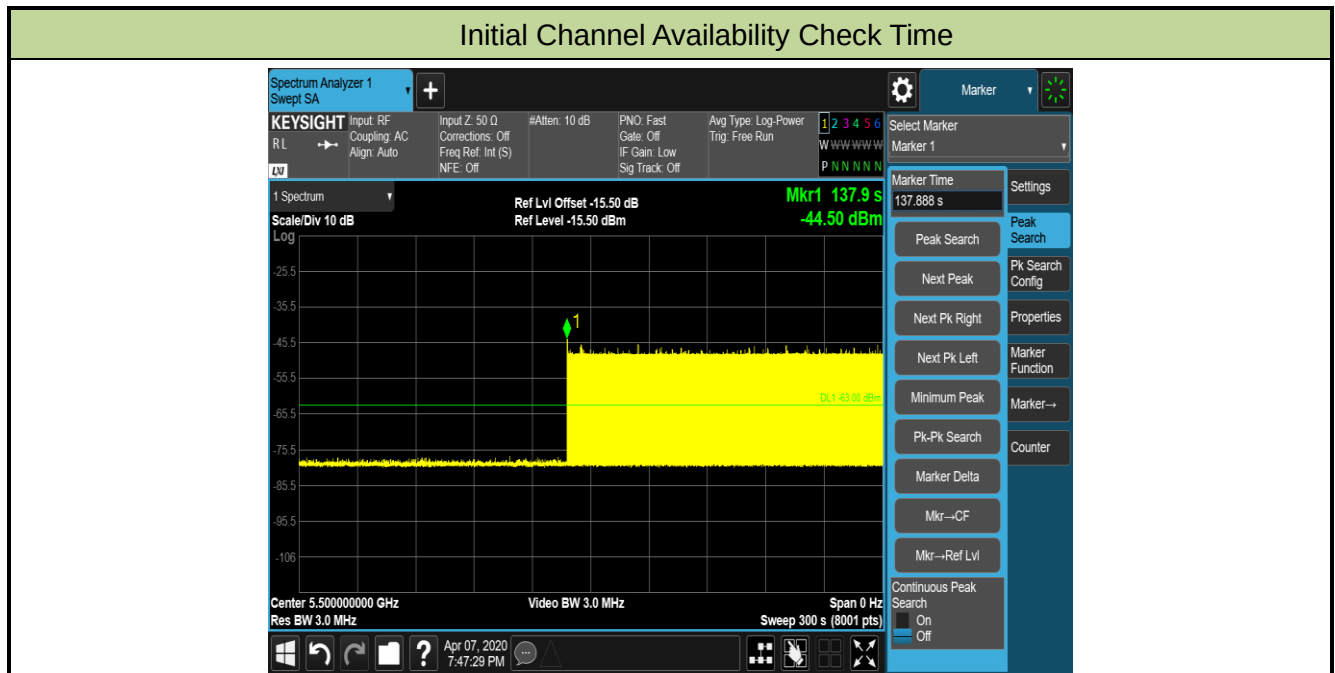
設備必須檢查其可在某一頻道上起始傳送之前是否有雷達系統已經操作在該頻道上，以及何時其必須移動到另一新的頻道，在60 秒內若沒有偵測到功率位準大過上述之擾門檻值的雷達訊號時，設備才可開始使用該頻道。

8.2. 量測方法

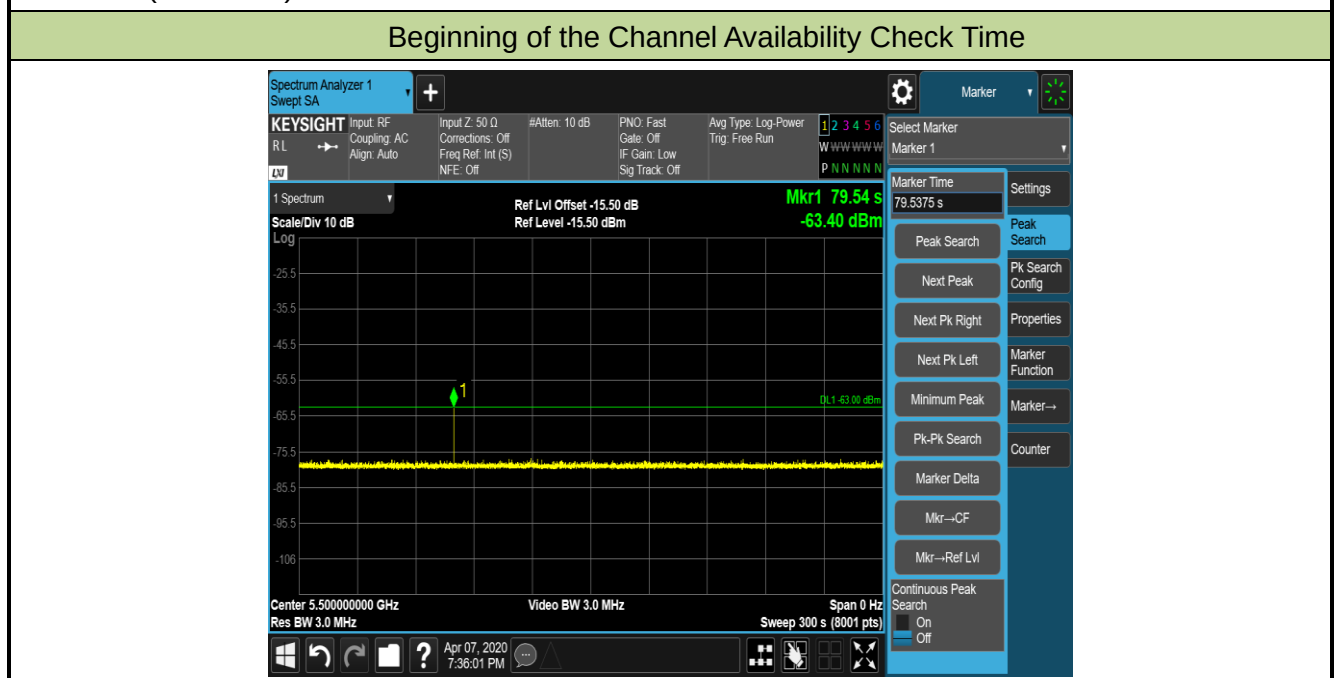
1. The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold + 1 dB occurs at the beginning of the Channel Availability Check Time.
2. The EUT is in completion power-up cycle (from T0 to T1). T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1.
3. The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds. A single Burst of one of Short Pulse Radar Types 0-4 at DFS Detection Threshold + 1 dB will commence within a 6 second window starting at T1+ 54 seconds.
4. Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions will continue for 2.5 minutes after the radar Burst has been generated. Verify that during the 2.5 minutes measurement window no EUT transmissions occurred.

8.3. 頻道可用性檢查時間量測測試結果

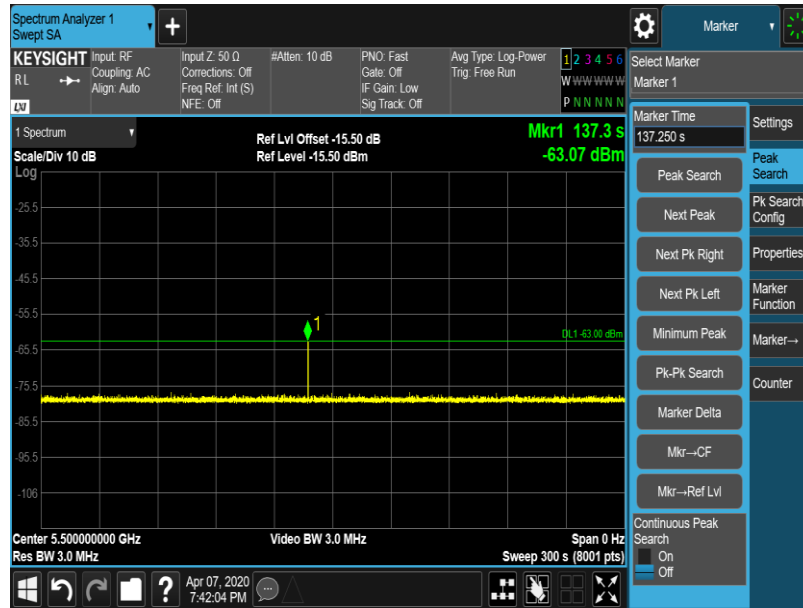
待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/07
測試項目	頻道可用性檢查時間量測(802.11ax-HE20 mode - 5500MHz)		



Note: The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (77.9 sec). Initial beacons/data transmissions are indicated by marker 1 (137.9 sec).



End of the Channel Availability Check Time



9. 頻道關閉傳輸時間及不可佔用期間

9.1. 適用標準

頻道移動時間：在偵測到雷達的存在後，所有在該操作頻道上的所有傳輸須在10秒內停止，在偵測到雷達訊號後，該期間內的傳輸應維持最多200 毫秒的正常通訊。另外，間歇性的管理與控制訊號可在剩餘的時間中傳送，以便撤離該操作頻道。

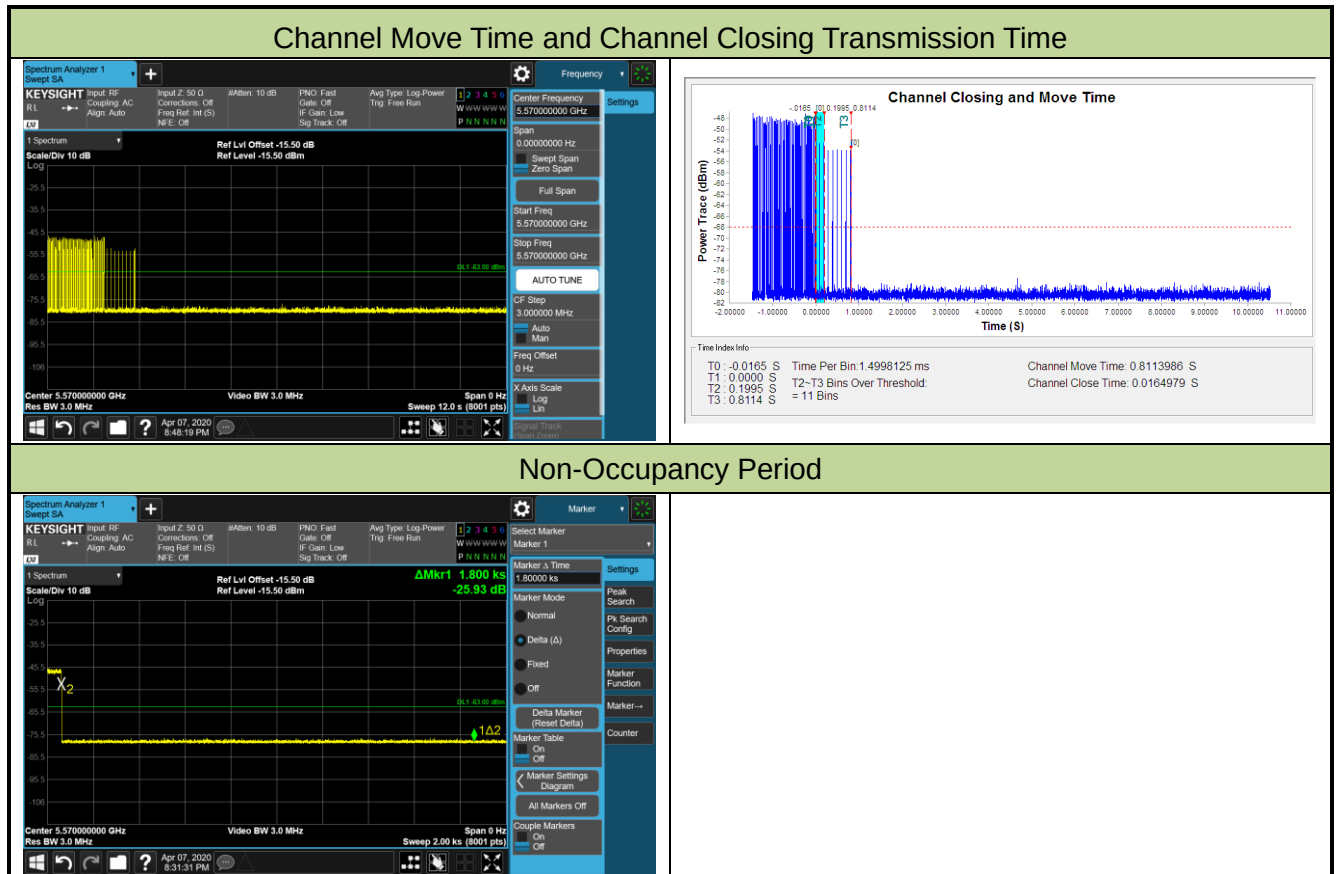
不可佔用期間：某一頻道已被頻道可用性檢查或”服務中”監視顯示含有雷達系統，至少須有30 分鐘的不可佔用期間。不可佔用期間起始於偵測到雷達系統的當時。

9.2. 量測方法

1. The test should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0.
2. When the radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. A U-NII device operating as a Master Device will associate with the Client Device at Channel. Stream the MPEG test file from the Master Device to the Client Device on the selected Channel for the entire period of the test. At time T0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at Detection Threshold + 1dB.
3. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the EUT during the observation time (Channel Move Time).
4. Measurement of the aggregate duration of the Channel Closing Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (1.5ms) = S (12 \text{ sec}) / B (8000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is the sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C = N \times Dwell$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins showing a U-NII transmission and Dwell is the dwell time per bin.
5. Measure the EUT for more than 30 minutes following the channel close/move time to verify that the EUT does not resume any transmissions on this Channel.

9.3. 頻道關閉傳輸時間及不可佔用期間測試結果

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/07
測試項目	Channel Move Time and Channel Closing Transmission Time (802.11ax-HE160 mode - 5570MHz)		



項目	結果	限值
	Type 0	
頻率移動時間(s)	0.811s	<10s
頻道關閉傳輸時間(ms)	16ms	< 60ms
不可佔用期間 (min)	≥ 30min	≥ 30 min

10.動態頻率選擇偵測門檻

10.1. 適用標準

The minimum percentage of successful detection requirements found in below table when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

Radar Type	Minimum Number of Trails	Detection Probability
0	30	Pd > 60%
1	30(15 of test A and 15 of test B)	Pd > 60%
2	30	Pd > 60%
3	30	Pd > 60%
4	30	Pd > 60%
Aggregate (Radar Types 1-4)	120	Pd > 80%
5	30	Pd > 80%
6	30	Pd > 70%

The percentage of successful detection is calculated by:

$(\text{Total Waveform Detections} / \text{Total Waveform Trails}) * 100 = \text{Probability of Detection Radar}$

Waveform In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows: $(Pd1 + Pd2 + Pd3 + Pd4) / 4$.

10.2. 量測方法

1. Stream the MPEG test file from the Master Device to the Client Device on the test Channel for the entire period of the test.
2. At time T0 the Radar Waveform generator sends the individual waveform for each of the Radar Types 1-6, at levels equal to the DFS Detection Threshold + 1dB, on the Operating Channel.
3. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 0 to ensure detection occurs.
4. Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.
5. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.
6. The Minimum number of trails, minimum percentage of successful detection and the average minimum percentage of successful detection are found in below table.

10.3. 動態頻率選擇偵測門檻測試結果

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Radar Statistical Performance Check (802.11ax-HE20 – 5500MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5490.4	1	698	76	1
2	5490.4	1	838	63	1
3	5490.4	1	818	65	0
4	5490.4	1	898	59	1
5	5490.4	1	778	68	1
6	5490.4	1	618	86	1
7	5490.4	1	878	61	1
8	5490.4	1	798	67	1
9	5490.4	1	658	81	1
10	5490.4	1	678	78	1
11	5500.0	1	918	58	1
12	5500.0	1	738	72	1
13	5500.0	1	638	83	1
14	5500.0	1	578	92	1
15	5500.0	1	858	62	1
16	5500.0	1	2235	24	1
17	5500.0	1	2086	26	1
18	5500.0	1	2341	23	0
19	5500.0	1	2436	22	1
20	5500.0	1	712	75	1
21	5509.6	1	1373	39	1
22	5509.6	1	733	72	1
23	5509.6	1	1150	46	0
24	5509.6	1	2720	20	1
25	5509.6	1	2123	25	1
26	5509.6	1	1053	51	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5509.6	1	841	63	1
28	5509.6	1	2216	24	1
29	5509.6	1	732	72	1
30	5509.6	1	594	89	1
Detection Percentage (%)					90%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5490.4	2.3	152	23	1
2	5490.4	3.6	177	28	1
3	5490.4	4.2	175	28	1
4	5490.4	4.9	196	25	1
5	5490.4	2.1	182	25	1
6	5490.4	1.8	185	24	1
7	5490.4	3.9	219	25	1
8	5490.4	4.2	207	28	1
9	5490.4	3.7	212	27	1
10	5490.4	2.5	188	25	1
11	5500.0	1.3	211	26	1
12	5500.0	2.4	210	25	1
13	5500.0	4.6	170	23	1
14	5500.0	2.4	226	23	1
15	5500.0	3.1	159	27	1
16	5500.0	2.3	166	28	1
17	5500.0	2.7	152	28	1
18	5500.0	1.3	220	25	1
19	5500.0	3.9	183	24	1
20	5500.0	5.0	161	29	0
21	5509.6	1.9	198	28	1
22	5509.6	3.3	197	25	1
23	5509.6	3.9	208	26	1
24	5509.6	1.8	176	24	1
25	5509.6	2.1	181	28	1
26	5509.6	4.2	155	27	1
27	5509.6	4.3	205	26	1
28	5509.6	3.5	184	28	0
29	5509.6	3.0	207	28	1
30	5509.6	3.6	199	25	1
Detection Percentage (%)					93.3%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5490.4	9.8	331	17	1
2	5490.4	7.2	406	18	1
3	5490.4	6.6	377	16	1
4	5490.4	7.9	489	17	1
5	5490.4	7.4	405	17	0
6	5490.4	9.8	458	16	1
7	5490.4	9.1	361	17	1
8	5490.4	9.6	258	17	0
9	5490.4	6.6	338	17	1
10	5490.4	9.4	296	16	1
11	5500.0	8.5	444	18	1
12	5500.0	8.0	434	16	1
13	5500.0	9.1	280	18	1
14	5500.0	8.1	423	16	1
15	5500.0	9.4	489	17	1
16	5500.0	7.1	332	17	1
17	5500.0	6.8	468	17	1
18	5500.0	6.3	251	16	1
19	5500.0	8.0	326	17	1
20	5500.0	9.9	226	17	0
21	5509.6	6.9	397	16	1
22	5509.6	7.4	378	17	1
23	5509.6	7.3	343	16	1
24	5509.6	9.3	487	17	1
25	5509.6	9.9	367	18	1
26	5509.6	7.8	347	16	1
27	5509.6	6.9	251	16	1
28	5509.6	9.9	365	16	1
29	5509.6	7.6	344	17	1
30	5509.6	8.4	485	17	1
Detection Percentage (%)					90%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5490.4	11.1	359	14	1
2	5490.4	16.8	443	12	1
3	5490.4	11.7	267	14	1
4	5490.4	11.9	299	12	1
5	5490.4	19.0	453	15	1
6	5490.4	11.3	346	14	1
7	5490.4	19.8	212	13	1
8	5490.4	12.0	271	14	1
9	5490.4	19.3	382	14	1
10	5490.4	17.7	498	15	1
11	5500.0	17.2	481	16	1
12	5500.0	12.7	336	15	0
13	5500.0	15.2	262	13	1
14	5500.0	16.7	298	13	1
15	5500.0	19.8	312	14	0
16	5500.0	12.5	303	14	0
17	5500.0	16.8	204	15	1
18	5500.0	14.0	400	16	1
19	5500.0	12.5	330	12	0
20	5500.0	16.7	438	16	1
21	5509.6	16.5	358	13	1
22	5509.6	16.6	356	14	1
23	5509.6	17.1	474	15	1
24	5509.6	15.4	367	16	1
25	5509.6	17.9	208	12	1
26	5509.6	12.6	497	14	1
27	5509.6	13.5	373	16	0
28	5509.6	18.3	451	12	1
29	5509.6	13.7	289	14	0
30	5509.6	17.1	364	13	1
Detection Percentage (%)					80%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (90\% + 93.3\% + 90\% + 80\%) / 4 = 88.3\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5500.0	1	16	5496.0	0
2	5500.0	1	17	5496.4	1
3	5500.0	1	18	5494.8	1
4	5500.0	1	19	5493.6	1
5	5500.0	0	20	5494.8	1
6	5500.0	1	21	5504.8	1
7	5500.0	1	22	5502.8	0
8	5500.0	0	23	5501.6	1
9	5500.0	1	24	5503.6	1
10	5500.0	1	25	5505.6	1
11	5497.6	1	26	5505.6	1
12	5496.0	1	27	5502.8	0
13	5497.6	1	28	5506.0	1
14	5497.6	1	29	5503.2	1
15	5498.4	1	30	5501.6	1
Detection Percentage (%)					83.3%

Type 5 Radar Waveform_1						
Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Start Location Within Interval (msec)
1	1	61.4	7			247.921
2	2	87.1	7	1924		453.36
3	3	71.5	7	1862	1291	677.77
4	2	93.7	7	1597		354.7
5	2	88.3	7	1240		338.85
6	2	72.8	7	1798		335.69
7	2	95.5	7	1927		522.73
8	2	62.2	7	1558		136.96
9	3	93.6	7	1059	1339	596.06
10	2	90.4	7	1506		704.75
11	2	97.5	7	1655		149.17
12	1	89.6	7			331.55
13	2	62.7	7	1343		376.1
14	2	50.4	7	1532		129.61
15	2	52.1	7	1313		568.2
16	2	69.5	7	1563		15.5

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	73.1	20	1047		50.205
2	1	78.1	20			342.36
3	1	63.9	20			649.1
4	2	61.5	20	1416		218.36
5	2	67.3	20	1328		536.73
6	1	63.1	20			268.19
7	2	62.2	20	1977		341.62
8	2	62.9	20	1898		544.36
9	1	60.2	20			576.8
10	3	74.9	20	1700	1395	155.17
11	2	96.9	20	1606		684.69
12	1	51.2	20			62.52
13	2	96.9	20	1861		667.47
14	2	95.3	20	1198		241.17
15	3	51	20	1125	1879	159.9
16	3	58.2	20	1127	1283	598.5

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	53.8	5			274.633
2	2	96	5	1449		141.638
3	1	78.2	5			355.23
4	2	52.9	5	1060		512.09
5	3	80.2	5	1419	1675	259.41
6	1	55.7	5			584.35
7	1	67.5	5			652.59
8	3	67.2	5	1515	1188	586.52
9	2	75.5	5	1061		551.02
10	1	82.7	5			191.01
11	3	73.1	5	1976	1706	139.18
12	2	59.3	5	1172		2.48
13	3	58.2	5	1429	1207	347.66
14	2	91.8	5	1646		177.2
15	2	57.8	5	1774		551.4

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	67.8	16	1564	1564	690.518
2	1	84.2	16			242.24
3	2	81	16	1027		87.97
4	1	56.1	16			749.11
5	2	99.1	16	1583		815.51
6	2	52.9	16	1505		966.84
7	1	64.3	16			582.92
8	2	87.1	16	1677		506.38
9	2	93.3	16	1754		142.43
10	3	57.7	16	1973	1849	1036.8

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	66.7	16			594.535
2	3	50.6	16	1660	1781	406.661
3	1	65.9	16			796.812
4	1	88.4	16			825.243
5	3	60.1	16	1600	1947	388.834
6	2	59.8	16	1169		168.955
7	1	50.1	16			769.695
8	2	79.8	16	1353		999.266
9	2	54.6	16	1528		572.047
10	2	52	16	1094		958.018
11	2	92.1	16	1348		65.609

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	64.2	16			564.16
2	1	57.1	16			551.97
3	2	66.1	16	1733		295.26
4	3	85.6	16	1878	1584	265.1
5	1	81.9	16			302.35
6	3	53.3	16	1349	1395	500.76
7	1	70.2	16			572.96
8	2	57.3	16	1234		366.62
9	2	67.6	16	1267		459.02
10	3	74.2	16	1978	1032	301.16
11	2	89.3	16	1796		400.99
12	2	86.3	16	1338		119.99
13	2	52.6	16	1557		297.74
14	2	78.7	16	1302		395.45
15	2	88.4	16	1452		545.37
16	1	50.6	16			23.93
17	1	80.6	16			47.01
18	3	76.2	16	2000	1810	222
19	3	75	16	1010	1387	332.4
20	3	54	16	1001	1241	466

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	72	12			727.382
2	3	78.5	12	1291	1356	625.701
3	2	75.4	12	1831		14.772
4	2	89.5	12	1554		452.443
5	2	99.9	12	1776		265.494
6	2	99.3	12	1640		176.355
7	2	73.6	12	1713		419.965
8	3	75.3	12	1757	1346	246.696
9	3	72.8	12	1632	1737	739.077
10	3	96	12	1021	1287	527.718
11	3	85.6	12	1590	1333	324.109

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	71.2	20			946.641
2	2	99.5	20	1376		1322.077
3	1	83.9	20			1276.033
4	2	78.5	20	1017		12.33
5	2	89.1	20	1112		469.557
6	1	76.1	20			659.703
7	3	79.7	20	1880	1795	983.91
8	3	52.1	20	1004	1637	1012.767
9	1	60.7	20			922.933

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	97.2	11	1174	1855	511.585
2	3	69.4	11	1372	1349	220.82
3	1	52	11			648.07
4	2	96.2	11	1196		596.66
5	2	85.5	11	1642		443.2
6	2	89.4	11	1154		710.59
7	1	62.5	11			270.56
8	2	59.3	11	1180		601.82
9	2	84.2	11	1398		257.33
10	2	67.1	11	1001		586.97
11	2	50.7	11	1264		461.73
12	1	61.9	11			554.77
13	2	73.7	11	1225		628.66
14	3	59.2	11	1510	1790	398.1
15	2	86.2	11	1702		72.5
16	1	68	11			14.3

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	62	11	1729	1981	41.302
2	2	63.3	11	1247		255.119
3	2	92.1	11	1995		6.182
4	2	84.1	11	1117		234.103
5	2	71.2	11	1438		323.564
6	2	51.3	11	1569		440.435
7	2	61.5	11	2000		82.056
8	3	58.9	11	1254	1393	368.257
9	2	65.4	11	1013		443.908
10	3	78.1	11	1489	1182	550.359
11	2	57.4	11	1637		477.011
12	1	62.4	11			261.422
13	2	56.3	11	1477		285.423
14	2	70.2	11	1534		176.424
15	2	62.2	11	1469		340.875
16	2	78.2	11	1178		481.486
17	2	73.1	11	1740		399.737
18	1	78.2	11			272.458
19	3	52.6	11	1009	1386	350.379

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	87.3	18	1912		355.852
2	3	68.7	18	1345	1688	198.917
3	2	60.7	18	1684		387.653
4	2	91.1	18	1309		168.91
5	1	96.2	18			0.867
6	1	97	18			217.513
7	1	78.1	18			1024.88
8	1	69.9	18			1223.867
9	2	85.8	18	1436		317.233

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	99.8	14	1779		467.008
2	2	64.6	14	1852		24.32
3	2	94.4	14	1480		97.87
4	3	90.6	14	1243	1320	879.94
5	2	75.4	14	1569		4.48
6	2	68.8	14	1719		913.13
7	3	50	14	1976	1188	182.34
8	2	99.8	14	1962		666.5

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	84.4	18	1753	1796	17.5
2	3	71.4	18	1390	1556	239.853
3	2	78.7	18	1237		188.082
4	2	82.2	18	1823		564.603
5	2	87.2	18	1518		369.484
6	1	66.5	18			395.625
7	1	86.6	18			35.346
8	2	82.5	18	1254		454.957
9	1	56	18			307.588
10	2	64.6	18	1827		558.839
11	1	92.5	18			293.381
12	1	90	18			133.542
13	1	99.9	18			153.223
14	2	57.7	18	1912		231.974
15	1	70.3	18			151.375
16	2	60.5	18	1296		571.316
17	1	50.7	18			289.537
18	1	70.5	18			128.058
19	2	57.5	18	1341		314.279

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	53.6	18	1972	1353	1158.6
2	3	54.3	18	1499	1379	157.837
3	3	66.2	18	1916	1803	864.833
4	2	83.9	18	1845		953.56
5	1	79.9	18			451.947
6	1	50.3	18			77.563
7	3	72.8	18	1196	1442	254.83
8	2	78.9	18	1224		1062.967
9	2	68.6	18	1394		814.833

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	52.8	20	1547		1157
2	1	68.7	20			131.16
3	3	63.8	20	1881	1805	265.66
4	3	64.6	20	1761	1736	710
5	2	69.6	20	1228		462.8
6	1	79.7	20			270.69
7	2	93.2	20	1836		923.91
8	2	95.7	20	1210		457.88
9	3	53.1	20	1105	1026	947.4
10	1	94.3	20			504.7

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	92.9	14	1043		681.091
2	2	70.4	14	1314		955.611
3	1	70.5	14			851.972
4	2	74.5	14	1557		888.933
5	3	71.3	14	1254	1350	111.984
6	1	85	14			750.905
7	1	76.2	14			875.215
8	3	61.1	14	1284	1415	479.556
9	3	52.6	14	1514	1263	8.717
10	3	88.8	14	1887	1759	738.618
11	3	86.6	14	1565	1484	49.809

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	81.7	15	1920	1296	318.287
2	1	85	15			298.762
3	3	92.4	15	1890	1753	46.182
4	2	56.4	15	1191		591.103
5	1	71.9	15			181.684
6	2	95.2	15	1755		293.565
7	2	85.8	15	1032		117.516
8	2	69.8	15	1561		269.017
9	2	70.2	15	1893		557.588
10	3	67.6	15	1386	1486	60.369
11	2	73.9	15	1558		346.781
12	3	78	15	1109	1032	476.332
13	2	52.6	15	1718		9.363
14	2	53.9	15	1678		199.824
15	2	63.6	15	1474		66.385
16	3	87.8	15	1343	1751	462.426
17	2	62.4	15	1998		215.537
18	2	93.1	15	1635		361.258
19	2	79.8	15	1910		227.479

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	68.2	11	1038		18.644
2	1	55.1	11			519.95
3	2	79.9	11	1842		324.41
4	1	86.6	11			343.61
5	3	54.8	11	1340	1334	264.18
6	1	81.3	11			465.46
7	2	88.9	11	1547		217.15
8	2	79.4	11	1441		202.9
9	2	57.6	11	1606		214.19
10	2	83.4	11	1586		324.33
11	2	88.1	11	1049		9.27
12	1	61.1	11			264.1
13	2	87.1	11	1333		71.33
14	2	93.6	11	1681		648.2
15	1	97.4	11			598.9
16	3	82.2	11	1285	1364	216.2

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	80.8	8			218.466
2	1	62.5	8			336.913
3	3	87.1	8	1497	1500	192.997
4	1	51.4	8			521.97
5	3	79.8	8	1350	1888	286.343
6	2	89.5	8	1354		522.947
7	1	77.5	8			218.34
8	1	70.1	8			568.333
9	1	91.9	8			67.917
10	3	87.8	8	1408	1449	407.27
11	2	74.5	8	1327		539.833
12	2	57.2	8	1251		385.717
13	2	68.2	8	1519		340.44
14	2	98.7	8	1158		154.173
15	1	83.8	8			438.757
16	1	93	8			579.9
17	2	80.4	8	1532		198.133
18	1	62.6	8			476.167

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	72.9	11			123.093
2	1	56.6	11			622.73
3	2	67.9	11	1730		127.28
4	1	58.6	11			654.34
5	3	53.6	11	1338	1022	297.41
6	2	74.1	11	1980		558.93
7	2	81.7	11	1246		167.83
8	2	96.7	11	1311		441.62
9	1	50.7	11			615.6
10	2	94.9	11	1499		1.63
11	3	83.9	11	1961	1991	236.38
12	2	85.6	11	1216		28.93
13	3	92.9	11	1992	1365	673.4
14	2	54.9	11	1463		539.2
15	2	92	11	1366		259.6

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	69.2	12	1704		310.003
2	2	77.2	12	1065		487.81
3	2	65.3	12	1805		538.88
4	2	91.2	12	1926		706.12
5	2	89.8	12	1255		97.47
6	2	90.2	12	1752		133.3
7	3	59.3	12	1455	1870	99.94
8	2	71.3	12	1235		83.64
9	3	95.8	12	1529	1204	505.51
10	2	74.5	12	1227		105.69
11	2	76.6	12	1977		245.98
12	3	51.2	12	1716	1840	698.79
13	2	96	12	1836		509.33
14	1	84	12			510.9
15	2	89.8	12	1806		256.4
16	2	57.5	12	1786		362

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	95.8	17	1626		1239.15
2	1	76	17			981.707
3	2	58.5	17	1525		264.683
4	2	58.6	17	1617		1319.36
5	1	78.2	17			1077.657
6	1	81.2	17			495.153
7	1	59.7	17			168.92
8	2	61.8	17	1217		293.907
9	2	66.9	17	1122		1247.933

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	54.5	20	1092	1385	418.872
2	2	69.9	20	1109		360.303
3	2	98	20	1813		365.617
4	2	76.9	20	1813		638.06
5	1	84.3	20			259.413
6	3	56.1	20	1939	1636	232.137
7	2	62.2	20	1404		589.83
8	2	52.1	20	1699		581.803
9	2	71.8	20	1639		409.197
10	1	67.7	20			216.15
11	3	77.6	20	1600	1419	576.213
12	1	95.6	20			74.257
13	2	74.9	20	1350		48.37
14	2	92.5	20	1612		597.393
15	2	72.2	20	1476		208.837
16	3	57.1	20	1870	1559	532
17	2	58.7	20	1530		589.733
18	2	88.9	20	1675		567.967

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	95.9	15	1828	1120	536.75
2	2	56.5	15	1046		605.603
3	2	58.3	15	1485		55.577
4	3	78.6	15	1978	1991	559.46
5	2	62.2	15	1237		105.773
6	1	75.6	15			227.007
7	3	97.6	15	1398	1204	309.19
8	2	93	15	1681		610.553
9	2	64.9	15	1681		440.657
10	1	90	15			441.26
11	2	61.4	15	1175		531.013
12	1	51.1	15			78.417
13	2	55.5	15	1028		401.04
14	1	97.9	15			6.963
15	2	51.5	15	1724		362.727
16	3	67.3	15	1358	1446	150.2
17	1	81.8	15			540.833
18	3	56.1	15	1725	1289	560.967

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	83.3	10	1382	1310	335.902
2	3	72.2	10	1374	1865	381.54
3	3	71.4	10	1418	1080	557.48
4	1	79.3	10			672.02
5	2	56.5	10	1635		207.82
6	1	81.1	10			470.75
7	2	62	10	1753		154.63
8	1	62.4	10			50.73
9	2	62.8	10	1465		713.87
10	3	90.3	10	1447	1540	247.35
11	3	78.1	10	1204	1655	461.31
12	2	53.6	10	1881		624.6
13	2	77.1	10	1354		227.41
14	3	70.4	10	1224	1493	97.74
15	2	69.6	10	1303		62.3
16	2	92.6	10	1883		161.2

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	99.8	10			39.236
2	3	51	10	1283	1489	626.227
3	3	81.8	10	1341	1902	1243.563
4	1	82	10			314.31
5	1	62.1	10			565.457
6	3	62.1	10	1960	1472	1169.563
7	3	94.7	10	1189	1014	332.35
8	1	89	10			911.567
9	3	91.4	10	1944	1603	1073.133

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	69.6	17			168.487
2	1	74.3	17			382.633
3	1	64.1	17			681.786
4	1	80.5	17			606.469
5	2	66.1	17	1814		641.462
6	2	91.2	17	1624		457.335
7	2	68.7	17	1044		556.038
8	3	86.9	17	1689	1819	417.412
9	1	53.6	17			501.215
10	2	56.3	17	1626		246.478
11	2	83.5	17	1939		617.621
12	2	80	17	1640		705.654
13	2	60	17	1352		523.877

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	82	9	1518		81.227
2	2	70.5	9	1587		417.711
3	3	69.7	9	1197	1648	100.212
4	2	71.5	9	1457		145.353
5	3	60.4	9	1479	1714	421.304
6	2	96.5	9	1473		502.405
7	2	91.6	9	1048		401.796
8	1	51.1	9			116.477
9	3	92.9	9	1758	1385	44.058
10	1	77.1	9			293.129
11	1	54.2	9			40.561
12	3	67	9	1665	1445	156.092
13	2	63.1	9	1211		173.453
14	1	64.2	9			417.694
15	1	70.8	9			270.435
16	3	61.5	9	1636	1904	507.876
17	2	87.7	9	1587		85.937
18	1	84.1	9			258.358
19	3	96.4	9	1890	1673	369.979

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	97.5	16	1301	1838	121.558
2	1	93.7	16			735.39
3	3	60	16	1308	1276	518.58
4	2	92.1	16	1079		640.46
5	2	51.2	16	1864		240.38
6	3	96.1	16	1946	1633	725.69
7	1	51.8	16			474.47
8	1	54.2	16			484.45
9	2	73.5	16	1391		435.96
10	2	50.7	16	1946		564.58
11	2	51	16	1574		442.16
12	3	69.6	16	1911	1493	11.87
13	1	74.5	16			439.5
14	2	68.6	16	1010		556.5
15	1	64.4	16			76.4
16	1	97.4	16			130.6

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	81.1	20	1695		904.786
2	2	97.8	20	1081		160.757
3	3	73.5	20	1458	1009	26.763
4	2	98.8	20	1150		720.96
5	3	53.1	20	1479	1143	708.827
6	1	62.8	20			1011.193
7	3	67	20	1555	1547	813.62
8	1	51.7	20			762.467
9	2	90.9	20	1091		710.233

Radar Type 6 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5490.4	1	16	5500.0	1
2	5490.4	1	17	5500.0	1
3	5490.4	1	18	5500.0	1
4	5490.4	1	19	5500.0	1
5	5490.4	1	20	5500.0	1
6	5490.4	1	21	5509.6	1
7	5490.4	1	22	5509.6	1
8	5490.4	1	23	5509.6	1
9	5490.4	1	24	5509.6	1
10	5490.4	1	25	5509.6	1
11	5500.0	1	26	5509.6	1
12	5500.0	1	27	5509.6	1
13	5500.0	1	28	5509.6	1
14	5500.0	1	29	5509.6	1
15	5500.0	1	30	5509.6	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
33	5501	99	23	5497	69
39	5493	117	43	5502	129
46	5497	138	47	5490	141
57	5491	171	50	5496	150
93	5494	279	53	5503	159
--	--	--	86	5504	258

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
54	5492	162	39	5496	117
58	5498	174	80	5491	240
77	5506	231	94	5494	282
86	5507	258	98	5499	294
97	5494	291	--	--	--

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
48	5504	144	42	5504	126
57	5490	171	78	5494	234
77	5508	231	86	5490	258
84	5510	252	--	--	--
99	5493	297	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5506	18	13	5509	39
11	5498	33	28	5510	84
44	5500	132	49	5495	147
84	5505	252	53	5499	159
98	5496	294	64	5498	192
--	--	--	96	5501	288

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5505	12	19	5490	57
33	5506	99	68	5508	204
58	5504	174	86	5510	258
74	5503	222	--	--	--
81	5491	243	--	--	--
93	5496	279	--	--	--
Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
35	5495	105	10	5510	30
44	5497	132	81	5505	243
47	5504	141	83	5499	249
56	5493	168	86	5500	258
59	5491	177	90	5490	270
76	5500	228	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
47	5504	141	7	5501	21
66	5500	198	9	5498	27
74	5508	222	17	5500	51
87	5502	261	55	5504	165

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
24	5502	72	3	5496	9
25	5495	75	15	5495	45
29	5494	87	23	5506	69
42	5504	126	56	5492	168
47	5503	141	70	5503	210
74	5500	222	76	5490	228
82	5506	246	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
27	5493	81	12	5505	36
29	5504	87	28	5509	84
46	5503	138	--	--	--
49	5492	147	--	--	--
51	5497	153	--	--	--
86	5500	258	--	--	--
91	5494	273	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
42	5570	126	55	5496	165
72	5586	216	63	5510	189

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5503	9	23	5503	69
8	5496	24	45	5508	135
9	5502	27	76	5504	228
50	5497	150	83	5492	249
59	5508	177	89	5510	267
62	5509	186	90	5501	270
98	5491	294	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
17	5499	51	15	5495	45
34	5495	102	--	--	--
60	5509	180	--	--	--
81	5492	243	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5491	48	35	5496	105
85	5503	255	61	5504	183
91	5496	273	63	5500	189
--	--	--	69	5507	207
--	--	--	97	5499	291

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5508	45	51	5504	153
23	5493	69	70	5507	210
57	5496	171	94	5496	282
59	5490	177	--	--	--
97	5495	291	--	--	--
98	5499	294	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
28	5502	84	4	5502	12
29	5494	87	10	5510	30
48	5504	144	21	5505	63
64	5501	192	--	--	--
66	5497	198	--	--	--
75	5505	225	--	--	--

待測物名稱	AX6600 Wi-Fi 6 三頻電競路由器	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2020/04/09
測試項目	Radar Statistical Performance Check (802.11ax-HE40 mode – 5510MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	1	858	62	1
2	5491	1	598	89	1
3	5491	1	758	70	1
4	5491	1	918	58	1
5	5500	1	718	74	1
6	5500	1	658	81	1
7	5500	1	898	59	1
8	5500	1	638	83	1
9	5509	1	938	57	1
10	5509	1	3066	18	1
11	5509	1	558	95	1
12	5509	1	538	98	1
13	5510	1	618	86	1
14	5510	1	578	92	1
15	5510	1	738	72	1
16	5510	1	1028	52	1
17	5511	1	2814	19	1
18	5511	1	1956	27	1
19	5511	1	2543	21	1
20	5511	1	519	102	1
21	5520	1	1215	44	1
22	5520	1	1684	32	1
23	5520	1	1092	49	1
24	5520	1	2989	18	1
25	5529	1	2688	20	1
26	5529	1	2986	18	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5529	1	1912	28	1
28	5529	1	1479	36	1
29	5510	1	1509	35	1
30	5510	1	1473	36	1
Detection Percentage (%)					100%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	1.0	225	26	1
2	5491	3.6	211	23	1
3	5491	4.2	164	23	1
4	5491	1.3	164	28	0
5	5500	2.0	195	25	0
6	5500	1.7	199	26	1
7	5500	2.9	208	23	1
8	5500	1.0	154	24	1
9	5509	4.1	185	29	1
10	5509	3.8	225	26	1
11	5509	4.9	204	26	1
12	5509	1.7	208	25	1
13	5510	3.8	187	26	1
14	5510	2.3	192	27	1
15	5510	2.8	205	25	1
16	5510	1.6	192	25	1
17	5511	1.8	172	28	1
18	5511	1.2	226	24	1
19	5511	3.6	185	28	0
20	5511	3.8	199	26	1
21	5520	3.4	154	29	0
22	5520	4.9	153	27	1
23	5520	2.4	161	23	0
24	5520	2.4	154	24	1
25	5529	4.7	163	25	1
26	5529	4.7	208	27	1
27	5529	2.4	190	29	1
28	5529	1.5	150	27	1
29	5510	4.8	183	26	1
30	5510	2.8	206	27	1
Detection Percentage (%)					86.6%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	6.6	288	18	1
2	5491	6.7	341	17	1
3	5491	9.1	295	17	1
4	5491	8.6	437	18	0
5	5500	9.7	283	16	1
6	5500	8.7	422	17	1
7	5500	7.0	251	18	1
8	5500	7.0	229	18	0
9	5509	8.0	380	17	0
10	5509	9.4	342	17	1
11	5509	6.3	460	17	1
12	5509	8.8	268	16	1
13	5510	7.9	291	17	1
14	5510	9.3	244	17	1
15	5510	9.1	380	17	1
16	5510	9.3	269	17	0
17	5511	6.5	336	17	1
18	5511	9.6	289	17	0
19	5511	9.8	440	17	1
20	5511	8.8	239	17	1
21	5520	8.7	466	18	1
22	5520	8.0	411	17	1
23	5520	8.3	435	18	0
24	5520	6.0	314	17	0
25	5529	9.7	474	18	1
26	5529	9.4	282	16	1
27	5529	8.6	281	17	1
28	5529	6.3	297	17	1
29	5510	8.2	317	18	1
30	5510	8.8	226	16	1
Detection Percentage (%)					76.6%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	19.6	489	16	1
2	5491	18.3	342	16	1
3	5491	15.2	287	13	0
4	5491	16.1	490	13	1
5	5500	19.3	246	14	1
6	5500	14.6	212	14	1
7	5500	12.9	364	15	0
8	5500	18.3	457	13	1
9	5509	14.2	279	15	1
10	5509	16.4	437	13	1
11	5509	16.5	359	16	1
12	5509	19.5	221	15	1
13	5510	17.7	467	16	1
14	5510	17.6	322	15	1
15	5510	14.6	470	14	0
16	5510	14.6	452	16	1
17	5511	19.6	411	13	1
18	5511	19.1	474	16	1
19	5511	15.0	306	14	1
20	5511	14.3	440	16	1
21	5520	17.0	439	16	0
22	5520	16.7	329	13	1
23	5520	19.3	321	14	1
24	5520	12.1	216	14	1
25	5529	17.4	305	16	1
26	5529	17.9	224	14	1
27	5529	14.7	423	16	1
28	5529	18.0	201	12	1
29	5510	13.3	273	15	1
30	5510	14.8	402	13	1
Detection Percentage (%)					86.6%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test

waveforms is as follows: $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4} = (100\% + 86.6\% + 76.6\% + 86.6\%) / 4 = 87.5\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5510.0	1	16	5493.0	1
2	5510.0	1	17	5493.0	1
3	5510.0	0	18	5497.4	1
4	5510.0	1	19	5495.4	1
5	5510.0	1	20	5498.6	0
6	5510.0	1	21	5523.8	1
7	5510.0	1	22	5521.8	0
8	5510.0	0	23	5526.2	1
9	5510.0	1	24	5523.4	1
10	5510.0	1	25	5522.2	1
11	5493.4	1	26	5524.6	1
12	5493.0	1	27	5521.0	1
13	5497.8	0	28	5525.4	1
14	5493.0	1	29	5525.8	1
15	5494.2	1	30	5525.0	1
Detection Percentage (%)					83.3%

Type 5 Radar Waveform_1

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	50	6	1769	1107	544.421
2	1	92.4	6			406.043
3	2	51.5	6	1885		562.117
4	2	55.1	6	1148		215.14
5	2	72.5	6	1411		632.933
6	1	65.9	6			496.077
7	2	63	6	1818		207.09
8	2	64.4	6	1673		555.323
9	2	89.6	6	1004		95.027
10	1	79.8	6			178.91
11	2	76.5	6	1574		631.043
12	1	90.5	6			142.627
13	2	51.1	6	1866		121.36
14	2	70.3	6	1695		567.773
15	3	52.8	6	1103	1324	459.167
16	3	68.1	6	1560	1381	186.3
17	2	76.9	6	1824		360.833
18	1	87.7	6			318.667

Type 5 Radar Waveform_2

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	57.3	19	1504		268.594
2	2	85.4	19	1443		595.96
3	2	75	19	1750		234.9
4	2	52.2	19	1028		250.83
5	2	98.4	19	1329		654.56
6	2	53.7	19	1234		764.91
7	2	87.8	19	1656		222.75
8	2	66.3	19	1762		231.59
9	1	75.6	19			489.77
10	1	54.5	19			2.06
11	2	92.7	19	1887		698.46
12	3	68.7	19	1056	1778	656.38
13	2	91.5	19	1412		687.5
14	3	83.2	19	1288	1716	481.6
15	3	92	19	1297	1457	124

Type 5 Radar Waveform_3

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	85.8	19	1399	1873	445.864
2	1	85.6	19			262.24
3	1	89.9	19			790.7
4	1	93.2	19			590.42
5	2	59	19	1600		722.35
6	1	90	19			384.81
7	2	97.2	19	1349		405.35
8	2	65.5	19	1880		694.12
9	2	73.4	19	1573		522.71
10	2	91.1	19	1678		343.99
11	3	58.2	19	1363	1232	130.5
12	1	54.1	19			164.01
13	1	84.2	19			338.46
14	2	84.5	19	1778		122.1
15	2	60.4	19	1345		61.7

Type 5 Radar Waveform_4

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	96.8	7	1061	1274	609.971
2	2	68.5	7	1253		357.537
3	1	86.5	7			190.674
4	2	95.6	7	1424		298.991
5	3	83.6	7	1977	1143	752.109
6	1	82.3	7			613.866
7	2	82.3	7	1658		444.993
8	2	81.8	7	1240		747.31
9	3	69	7	1249	1580	608.587
10	1	75.5	7			842.814
11	2	86.7	7	1544		165.361
12	2	50.1	7	1360		325.489
13	1	75.1	7			576.786
14	1	66.2	7			714.743

Type 5 Radar Waveform_5

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	90.8	10	1272	1047	675.85
2	2	59.2	10	1983		635.58
3	2	91.3	10	1386		288.04
4	3	88.2	10	1088	1413	737.33
5	1	71.8	10			700.9
6	1	70.4	10			124.05
7	1	79.7	10			541.48
8	2	62.3	10	1028		404.3
9	2	57.3	10	1531		559.89
10	2	99.9	10	1447		427.75
11	1	57.9	10			68.28
12	2	71.8	10	1194		732.66
13	2	61.9	10	1151		265.17
14	1	79.4	10			95.7
15	3	53.4	10	1309	1094	230.2

Type 5 Radar Waveform_6

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	63.9	7	1360	1190	220.107
2	2	74.9	7	1373		255.97
3	3	69.7	7	1248	1484	541.98
4	3	95.8	7	1884	1444	316.19
5	2	59.2	7	1263		716.63
6	2	78.9	7	1821		214.07
7	1	98.7	7			157.81
8	1	68.1	7			5.46
9	2	54.8	7	1064		617.44
10	3	65.7	7	1868	1657	4.24
11	2	55.1	7	1851		300.8
12	3	79.6	7	1831	1084	61.26
13	3	99.5	7	1417	1829	648.8
14	2	96.2	7	1104		601.2
15	3	56.2	7	1114	1702	54.9

Type 5 Radar Waveform_7

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	61.3	17	1851	1205	488.437
2	3	87	17	1877	1552	479.471
3	1	68.1	17			389.802
4	2	63.4	17	1608		95.913
5	2	51.3	17	1603		698.254
6	3	82.9	17	1942	1932	7.555
7	2	52.1	17	1918		490.785
8	2	91.4	17	1477		907.696
9	2	97.1	17	1192		841.777
10	3	88.4	17	1157	1744	468.918
11	1	51.8	17			1025.109

Type 5 Radar Waveform_8

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	64.6	11	1164		553.482
2	2	80.3	11	1616		326.138
3	2	94.8	11	1356		14.54
4	3	63.1	11	1738	1612	188.45
5	3	83.4	11	1402	1871	55.19
6	2	78.8	11	1826		289.24
7	3	95.1	11	1768	1541	288.31
8	2	70.5	11	1896		457.55
9	1	52.8	11			583.88
10	1	85.3	11			518.25
11	2	58.3	11	1451		217.37
12	1	96.1	11			62.78
13	1	77	11			309.89
14	2	93.5	11	1458		180.31
15	3	83.4	11	1879	1443	446.4
16	2	65.4	11	1119		589.91
17	3	72	11	1516	1047	516.8
18	2	52.6	11	1321		395.4
19	1	74.2	11			485.5
20	2	79.6	11	1228		461.6

Type 5 Radar Waveform_9

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	98	9			461.666
2	2	66.1	9	1097		243.582
3	3	74.8	9	1936	1350	133.162
4	2	89.8	9	1560		408.893
5	2	72.9	9	1521		613.614
6	2	69.5	9	1103		42.095
7	3	50.4	9	1969	1880	544.826
8	3	72.7	9	1058	1323	586.137
9	1	83.5	9			45.978
10	3	97.2	9	1459	1118	623.319
11	2	99.3	9	1629		600.141
12	2	73.2	9	1225		400.812
13	2	82	9	1152		101.983
14	3	81.4	9	1172	1767	269.794
15	1	76.9	9			539.745
16	1	74	9			124.296
17	1	53.8	9			241.737
18	1	62	9			135.558
19	2	53.1	9	1980		595.479

Type 5 Radar Waveform_10

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	66.8	20	1310		842.143
2	2	78.6	20	1563		1177.987
3	2	97.5	20	1682		123.103
4	3	85.8	20	1469	1945	632.34
5	2	85.4	20	1523		607.147
6	2	50.9	20	1316		719.543
7	2	98.9	20	1646		191.18
8	2	56	20	1518		1064.167
9	1	60.1	20			323.433

Type 5 Radar Waveform_11

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	57.7	6	1309		678.99
2	2	81.4	6	1237		348.74
3	2	58.6	6	1863		594.79
4	2	64	6	1983		242.71
5	2	81	6	1076		48.25
6	2	85.7	6	1692		420.71
7	1	78.1	6			656.26
8	1	85.9	6			4.25
9	1	57.7	6			501.29
10	3	54.5	6	1654	1893	215.66
11	1	53.1	6			437.69
12	2	70.3	6	1210		32.35
13	2	70.6	6	1796		146.83
14	2	50.8	6	1537		627.7
15	2	87.2	6	1491		561.1
16	3	81.3	6	1898	1546	567.1

Type 5 Radar Waveform_12

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	79	5	1559	1553	370.425
2	2	51.8	5	1962		482.847
3	3	95.4	5	1839	1913	86.824
4	2	97.6	5	1520		777.451
5	3	88.2	5	1264	1733	356.969
6	2	82.4	5	1959		824.046
7	2	73.9	5	1983		168.403
8	3	99.7	5	1497	1900	366.68
9	2	67.4	5	1981		463.037
10	2	77.7	5	1742		689.744
11	2	75.6	5	1977		143.921
12	1	70.5	5			446.679
13	2	74.7	5	1751		360.286
14	2	68.1	5	1898		587.443

Type 5 Radar Waveform_13

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	83.9	17	1143		385.354
2	2	66.9	17	1229		357.993
3	1	94	17			350.717
4	2	65.2	17	1283		135.79
5	2	62.3	17	1685		657.773
6	2	56.9	17	1612		231.537
7	2	57.6	17	1209		346.87
8	3	60.8	17	1421	1930	615.153
9	2	50.8	17	1017		222.327
10	2	88.6	17	1193		187.49
11	3	54.4	17	1729	1056	43.373
12	3	52.8	17	1185	1894	460.767
13	2	83.7	17	1112		273.78
14	3	81.7	17	1101	1624	95.233
15	2	75.6	17	1900		605.727
16	2	82.5	17	1434		169.4
17	3	61.4	17	1949	1443	522.133
18	2	90.7	17	1376		494.667

Type 5 Radar Waveform_14

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	80	5	1695		342.951
2	2	93.1	5	1997		24.971
3	2	83.1	5	1254		481.277
4	2	71.2	5	1244		234.57
5	1	90.2	5			21.513
6	1	61.4	5			100.297
7	3	86.7	5	1023	1094	51.26
8	2	53.3	5	1253		161.473
9	1	86.5	5			582.677
10	2	63.6	5	1850		508.43
11	2	65.6	5	1675		499.793
12	1	82.6	5			521.837
13	2	63.6	5	1074		93.18
14	3	100	5	1462	1985	63.683
15	3	53	5	1426	1693	647.467
16	2	60.8	5	1734		581
17	2	62.2	5	1810		419.233
18	2	54.3	5	1146		357.167

Type 5 Radar Waveform_15

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	92.5	8	1768		134.759
2	1	71.7	8			382.301
3	3	61.4	8	1750	1857	261.392
4	3	71.7	8	1165	1007	527.123
5	1	86.3	8			351.044
6	2	70.1	8	1456		309.225
7	1	79.9	8			154.756
8	2	76.5	8	1864		51.657
9	2	55	8	1571		85.948
10	2	97.2	8	1584		484.849
11	1	86.3	8			513.551
12	3	57.7	8	1675	1990	384.062
13	3	66.3	8	1987	1932	307.303
14	2	52.6	8	1123		561.834
15	1	92.8	8			231.145
16	2	99.8	8	1558		475.306
17	2	63.9	8	1323		320.437
18	2	74.5	8	1562		406.758
19	2	80.4	8	1978		557.479

Type 5 Radar Waveform_16

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	79.9	5			856.652
2	1	52.8	5			640.83
3	3	61.4	5	1348	1219	802.92
4	2	62.3	5	1047		707.79
5	2	92.2	5	1997		809.24
6	1	86.6	5			141.96
7	2	98.9	5	1581		961.28
8	2	96.3	5	1711		281.73
9	2	63.1	5	1799		544.58
10	2	85.1	5	1318		880.24
11	2	53.1	5	1004		403.7
12	1	84.1	5			89.3

Type 5 Radar Waveform_17

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	91.4	5	1541		452.374
2	1	82.4	5			830.057
3	2	83.9	5	1400		783.334
4	1	78.1	5			749.001
5	2	69.1	5	1149		651.059
6	2	57.1	5	1375		225.336
7	2	87.9	5	1545		503.993
8	2	85.2	5	1428		322.45
9	2	90.7	5	1712		468.317
10	1	59.2	5			330.634
11	1	53.5	5			558.931
12	2	54.5	5	1849		140.759
13	2	58.1	5	1965		203.386
14	1	50.6	5			8.643

Type 5 Radar Waveform_18

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	95.2	16	1189	1521	1241.51
2	1	76.6	16			897.287
3	2	82.5	16	1535		1282.413
4	2	98.8	16	1394		851.49
5	1	51.4	16			512.867
6	2	97.5	16	1565		891.843
7	1	51.6	16			1305.57
8	2	50.4	16	1517		512.367
9	3	59.6	16	1629	1287	583.033

Type 5 Radar Waveform_19

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	76.2	11			177.189
2	3	73.4	11	1019	1446	812.597
3	3	89.2	11	1029	1921	494.134
4	2	67.8	11	1471		268.341
5	1	89.8	11			240.659
6	2	74.1	11	1423		58.856
7	1	88.9	11			757.803
8	3	69.7	11	1662	1593	149.36
9	3	61.1	11	1347	1105	613.717
10	2	86	11	1163		586.614
11	2	92.8	11	1938		608.111
12	2	88.8	11	1906		732.329
13	1	81.2	11			45.786
14	2	71.8	11	1920		475.843

Type 5 Radar Waveform_20

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	1	78	19			533.796
2	2	53.5	19	1037		317.247
3	3	52.5	19	1134	1246	516.604
4	1	71.6	19			621.811
5	2	63.1	19	1394		512.099
6	3	68.2	19	1888	1718	776.496
7	2	97.1	19	1372		154.453
8	2	71.6	19	1934		175.4
9	2	75	19	1707		492.597
10	2	77.9	19	1174		58.304
11	3	79.2	19	1277	1030	623.531
12	1	63.1	19			389.639
13	2	88.6	19	1715		308.486
14	3	83.2	19	1445	1442	791.343

Type 5 Radar Waveform_21

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	91.9	13	1709	1126	487.998
2	1	95.2	13			496.141
3	2	70.5	13	1919		553.162
4	1	83.3	13			492.903
5	3	51.7	13	1807	1226	94.854
6	2	70.2	13	1784		173.575
7	2	67.5	13	1436		488.636
8	2	92.7	13	1536		145.817
9	2	79.1	13	1036		482.558
10	2	99.6	13	1763		140.949
11	3	93.7	13	1830	1493	567.221
12	2	77.7	13	1773		423.912
13	3	90	13	1991	1883	415.273
14	2	100	13	1923		405.714
15	3	66.8	13	1210	1007	446.195
16	2	93.8	13	1482		221.676
17	2	90.8	13	1272		458.637
18	1	75.7	13			181.158
19	1	68.1	13			396.179

Type 5 Radar Waveform_22

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	67.9	18	1303		113.265
2	1	63.4	18			766.443
3	2	77.8	18	1107		60.676
4	2	83.5	18	1334		587.019
5	2	88.5	18	1323		571.222
6	2	63.9	18	1503		758.935
7	2	52	18	1399		598.528
8	1	79.8	18			322.532
9	1	52.7	18			789.685
10	2	92.1	18	1006		214.978
11	2	59	18	1197		166.251
12	1	81.4	18			786.854
13	2	70.3	18	1596		548.977

Type 5 Radar Waveform_23

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	81.2	7	1714	1596	231.321
2	2	67	7	1251		512.86
3	2	50.6	7	1965		557.55
4	2	58.6	7	1338		358.69
5	1	59.6	7			366.5
6	2	69.2	7	1657		529.27
7	1	84.2	7			629.55
8	3	64.3	7	1759	1117	205.81
9	1	99.6	7			466.78
10	2	97.8	7	1108		278.55
11	1	70.1	7			312.56
12	2	84.4	7	1883		436.72
13	2	90.1	7	1774		711.7
14	1	53	7			741.4
15	3	57.4	7	1993	1225	716.6
16	3	94.1	7	1914	1441	36.5

Type 5 Radar Waveform_24

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	92.1	14	1800		279.073
2	1	74.7	14			360.048
3	1	70.1	14			153.085
4	3	59.4	14	1570	1339	461.473
5	2	85.6	14	1709		484.631
6	2	51.6	14	1091		361.078
7	3	50.8	14	1317	1425	550.126
8	2	56.1	14	1084		186.094
9	1	96.6	14			19.611
10	3	99.9	14	1990	1478	48.059
11	1	85.4	14			608.486
12	1	67.7	14			646.784
13	3	75.9	14	1775	1100	656.162
14	2	50.6	14	1141		508.269
15	3	58.1	14	1370	1689	480.347
16	3	51.7	14	1336	1519	395.465
17	3	61.4	14	1059	1376	332.482

Type 5 Radar Waveform_25

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	84.6	17	1752	1471	61.05
2	1	68	17			156.726
3	1	89	17			323.757
4	1	88.8	17			76.9
5	2	53.4	17	1749		583.863
6	2	89.7	17	1003		208.007
7	3	66.4	17	1075	1816	607.49
8	2	90.4	17	1209		471.273
9	1	60.1	17			531.397
10	3	69.6	17	1528	1753	369.6
11	2	66.9	17	1496		434.723
12	3	91.2	17	1430	1066	118.567
13	3	92.8	17	1640	1890	68.37
14	3	97.4	17	1217	1951	455.883
15	3	67	17	1543	1964	658.237
16	3	69.2	17	1886	1615	506
17	3	79.9	17	1532	1179	316.133
18	3	81.3	17	1247	1964	353.767

Type 5 Radar Waveform_26

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	61.2	11	1368		672.407
2	1	53.2	11			161.577
3	1	92.1	11			394.98
4	2	88	11	1299		106.1
5	1	60.2	11			652.5
6	3	84.7	11	1058	1622	308.81
7	3	57.7	11	1694	1308	361.8
8	1	87.1	11			184.97
9	1	51.9	11			47.31
10	2	71.7	11	1179		414.91
11	2	88.1	11	1491		713.43
12	1	60.8	11			77.77
13	2	55.5	11	1967		316.6
14	3	92.7	11	1199	1991	390.1
15	2	95.6	11	1174		302.7

Type 5 Radar Waveform_27

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	95.2	20	1529		972.255
2	3	63.1	20	1102	1534	967.7
3	3	75.6	20	1606	1606	373.76
4	3	79.1	20	1846	1773	834.59
5	2	71.7	20	1765		131.46
6	2	71.3	20	1583		503.07
7	2	67.8	20	1120		949.68
8	3	85.3	20	1610	1106	898.05
9	2	78	20	1618		309.34
10	2	79.5	20	1067		236.22
11	2	79.5	20	1666		660.3
12	2	67.1	20	1878		512.4

Type 5 Radar Waveform_28

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	82	9	1809		431.289
2	1	85.1	9			105.557
3	2	74.1	9	1711		230.703
4	2	92.6	9	1243		428.98
5	3	92.3	9	1850	1777	890.207
6	3	81.7	9	1420	1888	1255.053
7	1	92	9			814.74
8	3	88.6	9	1932	1462	851.567
9	1	52	9			756.733

Type 5 Radar Waveform_29

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	3	84.6	8	1261	1483	244.534
2	2	52.8	8	1692		255.645
3	2	89.9	8	1074		319.902
4	3	90.2	8	1654	1793	261.273
5	1	70.7	8			618.474
6	2	53.3	8	1713		568.545
7	2	53	8	1216		438.226
8	3	78	8	1268	1692	191.227
9	1	55.1	8			491.918
10	2	73.8	8	1658		570.559
11	1	66	8			319.051
12	2	57.6	8	1599		254.892
13	1	99.6	8			580.283
14	2	68.3	8	1428		614.444
15	3	98.2	8	1465	1181	163.985
16	2	94	8	1220		525.026
17	2	94.7	8	1337		492.637
18	3	71.4	8	1804	1746	200.158
19	2	69.1	8	1550		610.879

Type 5 Radar Waveform_30

Burst	Number of Pulses	Pulse Width (μ sec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μ sec)	Pulse 2-to-3 PRI (μ sec)	Start Location Within Interval (msec)
1	2	83.9	10	1108		376.189
2	2	62.6	10	1417		461.99
3	2	65.5	10	1678		91.92
4	3	90.6	10	1844	1041	311.57
5	2	66.1	10	1209		612.64
6	3	79.8	10	1516	1919	583.4
7	1	77.6	10			436.51
8	1	98.3	10			579.96
9	2	96.8	10	1156		310.75
10	2	55.4	10	1132		131.39
11	2	88.6	10	1684		76.92
12	2	58.4	10	1954		92.54
13	2	54.4	10	1935		292.82
14	3	92.1	10	1925	1281	74.77
15	2	85.4	10	1492		733.4
16	2	88.9	10	1756		140.1

Radar Type 6 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5491	1	16	5510	1
2	5491	1	17	5511	1
3	5491	1	18	5511	1
4	5491	1	19	5511	1
5	5500	1	20	5511	1
6	5500	1	21	5520	1
7	5500	1	22	5520	1
8	5500	1	23	5520	1
9	5509	1	24	5520	1
10	5509	1	25	5529	1
11	5509	1	26	5529	1
12	5509	1	27	5529	1
13	5510	1	28	5529	1
14	5510	1	29	5510	1
15	5510	1	30	5510	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
22	5502	66	1	5527	3
44	5508	132	25	5504	75
66	5522	198	33	5517	99
67	5519	201	42	5530	126
80	5494	240	43	5500	129
93	5516	279	50	5503	150
--	--	--	55	5515	165
--	--	--	66	5518	198
--	--	--	74	5525	222
--	--	--	90	5516	270
--	--	--	95	5512	285

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5515	27	7	5499	21
10	5517	30	21	5496	63
27	5506	81	41	5527	123
72	5505	216	51	5519	153
99	5518	297	57	5494	171
--	--	--	66	5521	198
--	--	--	67	5517	201
--	--	--	84	5520	252
--	--	--	93	5492	279
--	--	--	98	5502	294

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5509	24	16	5524	48
12	5492	36	27	5490	81
16	5495	48	29	5510	87
43	5523	129	36	5492	108
46	5501	138	43	5503	129
50	5522	150	46	5501	138
56	5503	168	68	5496	204
64	5505	192	69	5504	207
65	5494	195	73	5498	219
70	5499	210	81	5523	243
87	5513	261	82	5516	246
--	--	--	92	5495	276
--	--	--	93	5500	279

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
16	5505	48	8	5498	24
21	5507	63	11	5526	33
28	5503	84	22	5507	66
50	5516	150	29	5509	87
77	5524	231	30	5521	90
82	5529	246	31	5490	93
83	5490	249	35	5506	105
85	5521	255	38	5516	114
93	5509	279	44	5528	132
--	--	--	60	5510	180
--	--	--	68	5497	204
--	--	--	69	5520	207
--	--	--	70	5493	210
--	--	--	83	5529	249
--	--	--	86	5499	258
--	--	--	90	5527	270

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5521	27	1	5490	3
11	5506	33	15	5523	45
14	5528	42	16	5516	48
17	5501	51	18	5506	54
24	5508	72	32	5494	96
43	5505	129	41	5520	123
72	5491	216	72	5521	216
82	5492	246	95	5501	285
90	5499	270	--	--	--
99	5523	297	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
18	5507	54	6	5514	18
32	5502	96	9	5500	27
40	5514	120	13	5495	39
59	5527	177	19	5508	57
61	5499	183	36	5518	108
65	5510	195	37	5501	111
83	5498	249	42	5517	126
90	5517	270	69	5512	207
--	--	--	79	5516	237
--	--	--	80	5511	240
--	--	--	81	5528	243
--	--	--	92	5530	276
--	--	--	93	5526	279