



NCC

低功率射頻電機型式試驗報告

產品名稱: AX6600 三頻 Wi-Fi 6 路由器
型號: Archer AX90
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 (107 年版)
參考法規: ANSI C63.10-2013
測試結果: 符合
接收日期: 2020.03.30
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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	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 三頻 Wi-Fi 6 路由器
產品型號	Archer AX90
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	<u>2.4GHz:</u> For 802.11b/g/n-HT20/ax-HE20: 2412 ~ 2462 MHz For 802.11n-HT40/ax-HE40: 2422 ~ 2452 MHz <u>5GHz:</u> 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 802.11 b, OFDM for IEEE 802.11a/g/n/ac, OFDMA for IEEE 802.11ax
傳輸速率	802.11a: 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	MANUFACTURER: 天寶電子(惠州)有限公司 MODEL: S048CU12000330 INPUT: 100 - 240V ~ 50/60Hz 1.5A Max. OUTPUT: DC 12.0V 3300mA

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 三頻 Wi-Fi 6 路由器其天線為固定式 Monopole Antenna (MFR: TP-LINK

TECHNOLOGIES CO., LTD.), 使用 i-PEX 接頭, (檢附天線規格書)

Antenna Type	Frequency Band (MHz)	Tx Paths	Number of spatial streams	Max Antenna Gain (dBi)	Beam-Forming Directional Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Monopole Antenna	2412 ~ 2462	2	1	3.52	6.53	3.52	6.53
	5150 ~ 5250	2	1	3.54	6.55	3.54	6.55
	5470 ~ 5725	4	1	3.20	9.22	3.20	9.22
		4	2	3.20	--	3.20	6.21
	5725 ~ 5850	4	1	3.20	9.22	3.20	9.22

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.

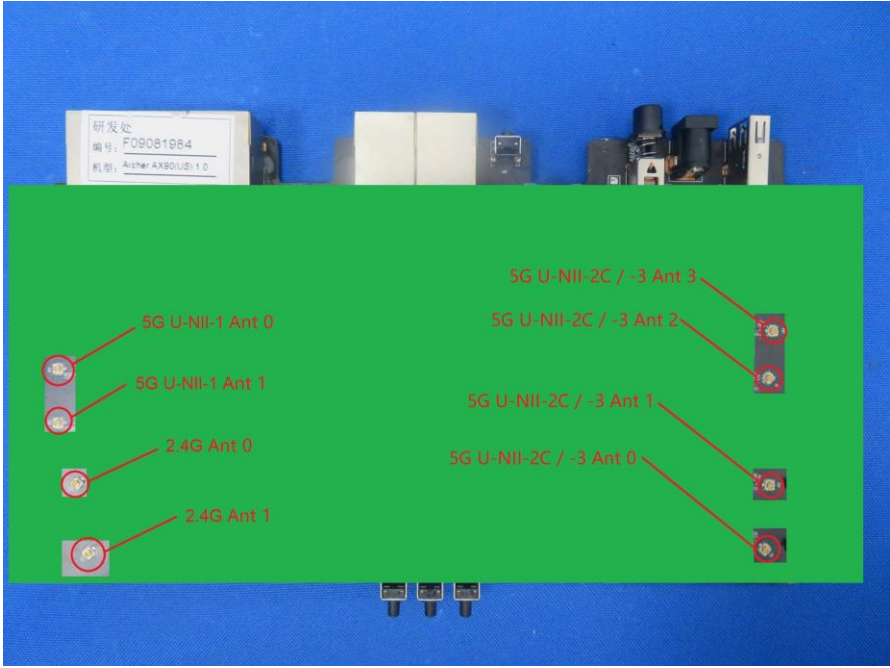
- For power spectral density (PSD) measurements on all devices,

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
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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 $\left\lceil \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\rceil$	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.

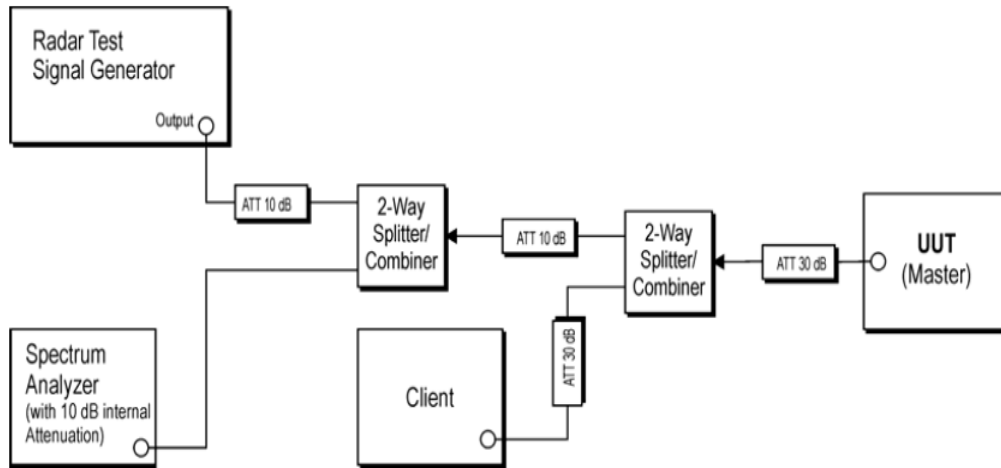


Figure A: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters

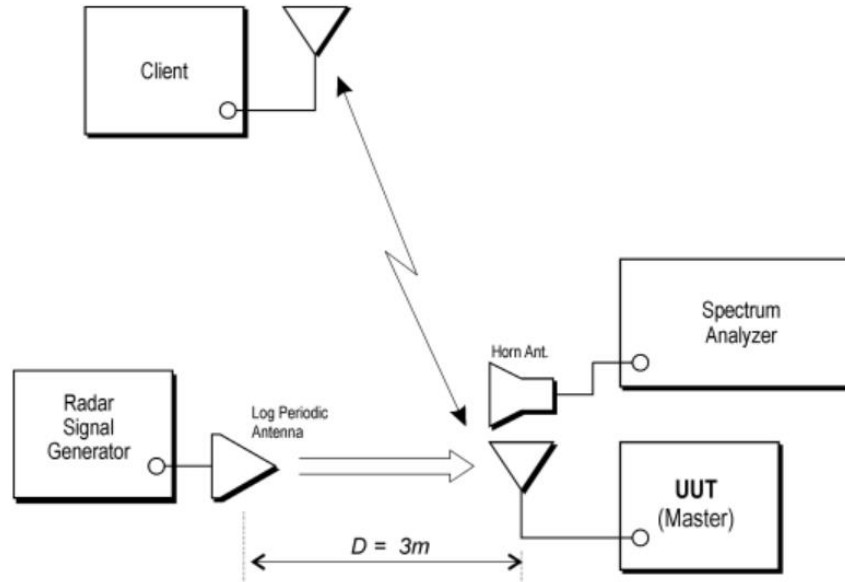


Figure B: Radiated Test Setup where UUT is a Master and Radar Test Waveforms are injected into the UUT

4. 測試設備明細

Dynamic Frequency Selection (DFS) - AC1

Instrument	Manufacturer	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	2020/07/11
Vector Signal Generator	Keysight	N5182B	MRTTWA00010	1 year	2021/04/24
Combiner	WOKEN	0120A04208001S	MRTTWE00008	1 year	2021/06/18
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2020/10/02
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2020/07/11

Client Information

Instrument	Manufacturer	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	Manufacturer	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 三頻Wi-Fi 6 路由器
型號 Archer AX90

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 7 章節
頻道可用性檢查時間量測	參考 3.3 章節	符合	第 8 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 9 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 10 章節

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

6. 雷達系統波形校驗

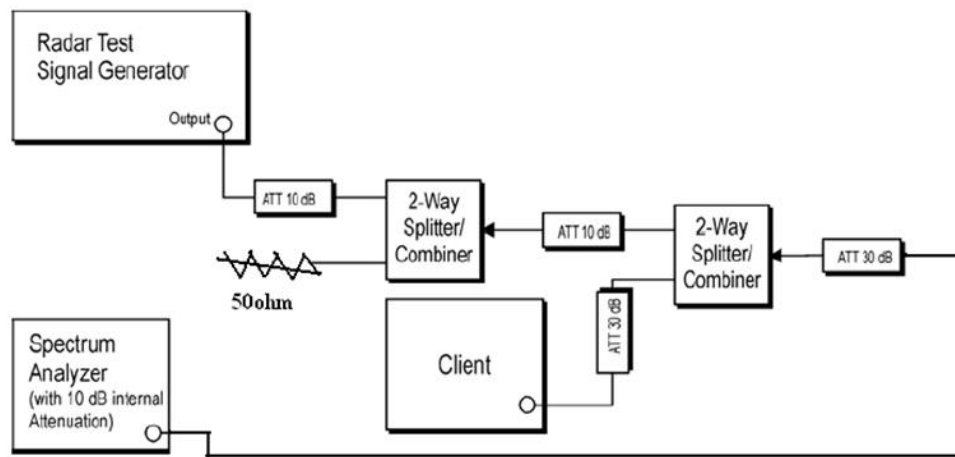
6.1. 量測方法

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 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	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)

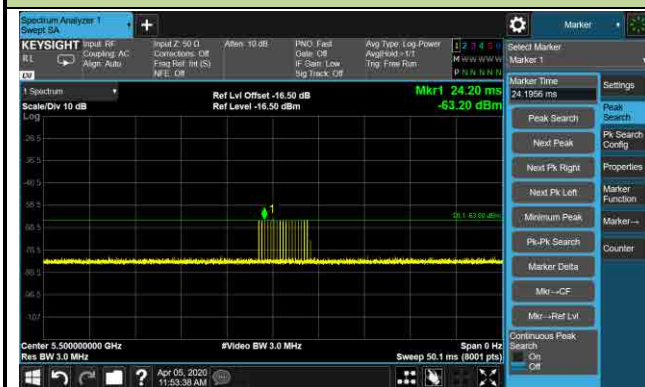
PRI = 1.118ms and the number of pulses = 48



Radar #2



Radar #3



Radar #4



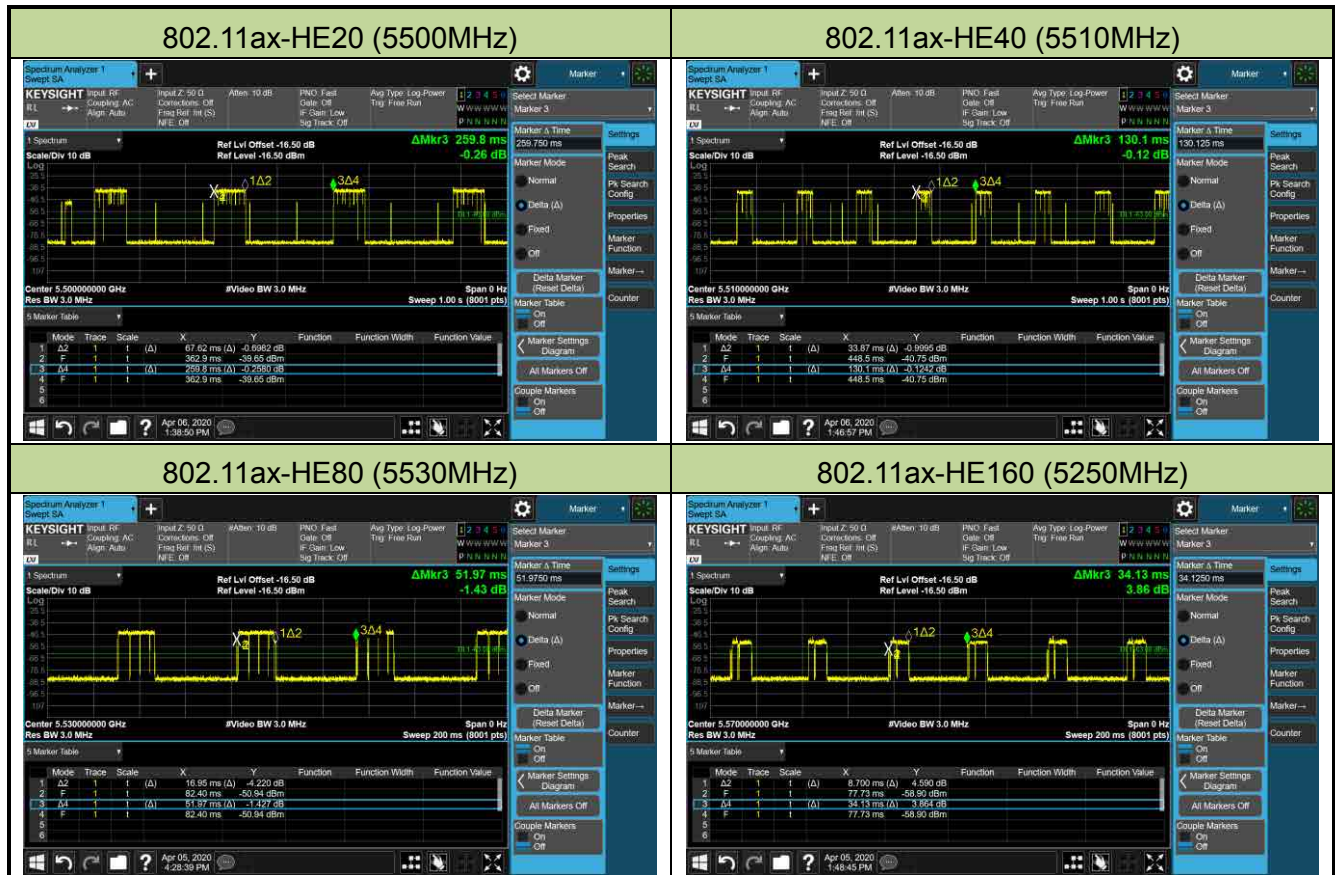
Radar #5



Radar #6



待測物名稱	AX6600 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/06
測試項目	占空比		



測試模式	測試頻率	占空比	要求占空比	測試結果
802.11ax-HE20	5500 MHz	26.03%	≥ 17%	Pass
802.11ax-HE40	5510 MHz	26.05%	≥ 17%	Pass
802.11ax-HE80	5530 MHz	32.61%	≥ 17%	Pass
802.11ax-HE160	5570 MHz	25.49%	≥ 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 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/07
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 19.04MHz. (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): 19.04MHz x 100% = 19.04MHz.

待測物名稱	AX6600 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/07
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%
5491FL	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 37.47MHz. (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): 37.47MHz x 100% = 37.47MHz.

待測物名稱	AX6600 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/07
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%
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 77.06MHz. (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): 77.06MHz x 100% = 77.06MHz.

待測物名稱	AX6600 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/07
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 154.69MHz. (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): 154.69MHz x 100% = 154.69MHz.

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 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/05
測試項目	頻道可用性檢查時間量測		

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (93.9 sec). Initial beacons/data transmissions are indicated by marker 1 (153.9sec).

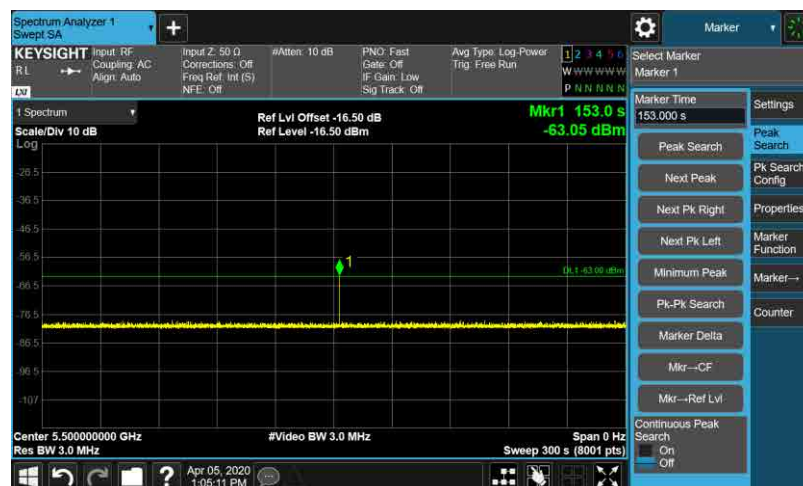
Initial Channel Availability Check Time for 802.11ax-HE20



Radar Burst at the Beginning of the Channel Availability Check Time for 802.11ax-HE20



Radar Burst at the End of the Channel Availability Check Time for 802.11ax-HE20



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。

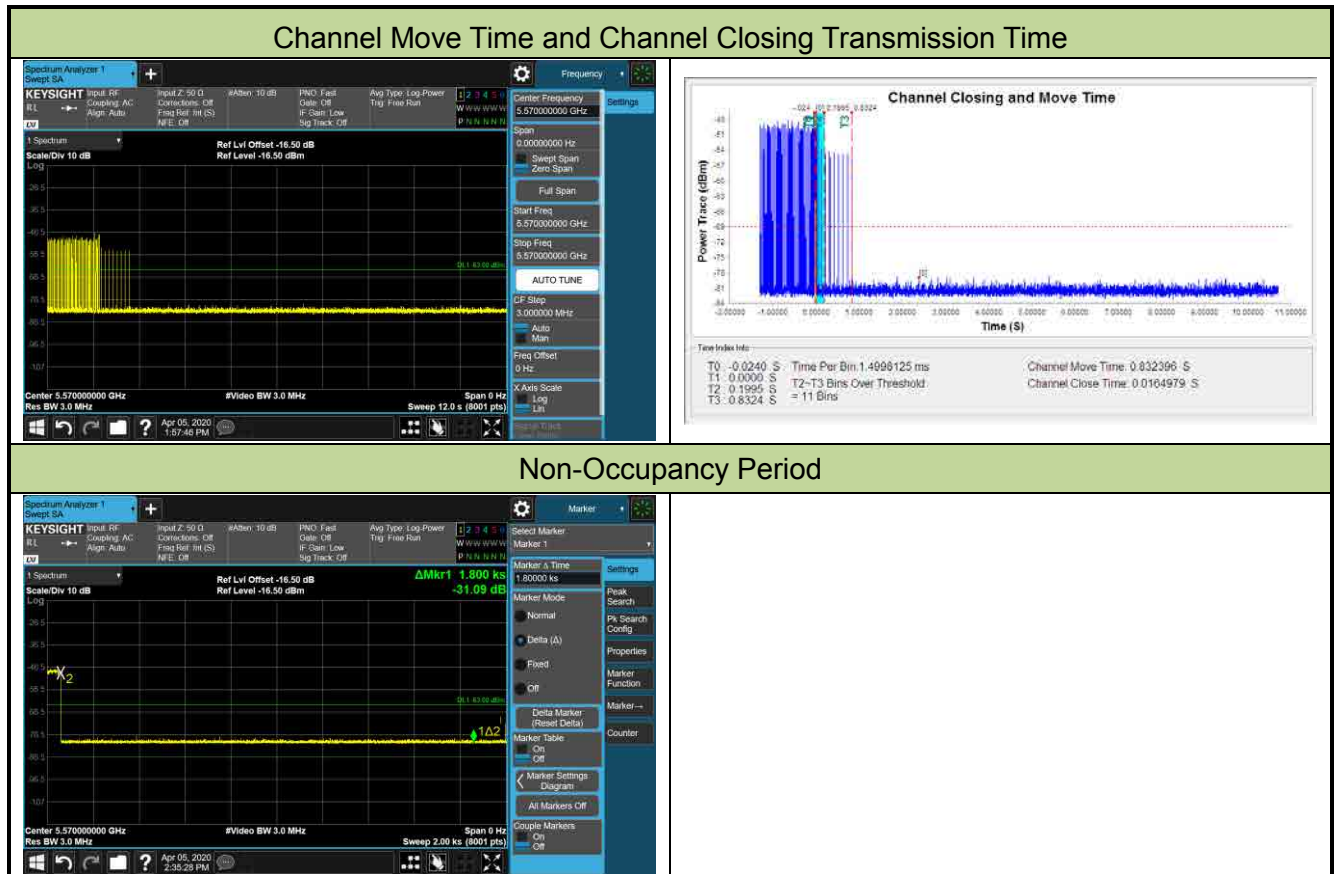
不可佔用期間：某一頻道已被頻道可用性檢查或”服務中”監視顯示含有雷達系統，至少須有30 分鐘的不可佔用期間。不可佔用期間起始於偵測到雷達系統的當時。

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 三頻 Wi-Fi 6 路由器	溫度	27°C
測試工程師	Fran	濕度	65%
測試場地	AC1	測試日期	2020/04/05
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)	0.832s	<10s
頻道關閉傳輸時間(ms)	16.5ms	< 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

Product	AX3000 Gigabit Wi-Fi 6 Router	Temperature	27°C
Test Engineer	Fran	Relative Humidity	65%
Test Site	AC1	Test Date	2020/04/08
Test Item	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	538	98	1
2	5490.4	1	778	68	1
3	5490.4	1	858	62	1
4	5490.4	1	758	70	1
5	5490.4	1	518	102	1
6	5490.4	1	718	74	1
7	5490.4	1	698	76	1
8	5490.4	1	618	86	1
9	5490.4	1	838	63	1
10	5490.4	1	938	57	1
11	5500	1	658	81	1
12	5500	1	3066	18	1
13	5500	1	738	72	1
14	5500	1	578	92	1
15	5500	1	898	59	1
16	5500	1	831	64	1
17	5500	1	1054	50	1
18	5500	1	595	89	1
19	5500	1	1167	46	1
20	5500	1	2269	24	1
21	5509.6	1	2110	25	1
22	5509.6	1	584	91	1
23	5509.6	1	1866	29	1
24	5509.6	1	2086	26	1
25	5509.6	1	2022	27	1
26	5509.6	1	1327	40	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5509.6	1	1988	27	1
28	5509.6	1	1426	37	1
29	5509.6	1	2808	19	1
30	5509.6	1	1035	51	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	5490.4	1.4	215	29	0
2	5490.4	2.7	203	29	1
3	5490.4	1.5	206	28	1
4	5490.4	2.4	172	24	1
5	5490.4	1.3	185	25	1
6	5490.4	4.2	158	28	1
7	5490.4	2.4	219	26	1
8	5490.4	3.2	176	26	1
9	5490.4	4.0	178	28	1
10	5490.4	2.0	176	23	1
11	5500	2.9	179	28	1
12	5500	3.3	178	29	0
13	5500	1.5	172	24	1
14	5500	2.7	201	28	0
15	5500	2.8	175	24	1
16	5500	3.5	230	28	1
17	5500	4.8	177	26	1
18	5500	2.0	165	26	1
19	5500	4.0	191	23	1
20	5500	1.7	151	27	1
21	5509.6	3.4	208	24	1
22	5509.6	2.8	166	26	1
23	5509.6	3.0	223	28	1
24	5509.6	1.3	193	25	1
25	5509.6	4.8	211	25	1
26	5509.6	4.2	224	24	1
27	5509.6	2.1	159	26	1
28	5509.6	3.3	222	25	1
29	5509.6	1.7	156	23	1
30	5509.6	4.3	192	26	1
Detection Percentage (%)					90%

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	6.6	423	17	1
2	5490.4	8.8	317	17	1
3	5490.4	9.4	356	17	1
4	5490.4	8.2	461	16	0
5	5490.4	7.1	262	16	1
6	5490.4	6.6	339	17	0
7	5490.4	7.6	315	16	1
8	5490.4	6.4	336	17	1
9	5490.4	8.2	458	18	1
10	5490.4	9.3	402	17	1
11	5500	9.7	343	17	1
12	5500	8.2	274	18	1
13	5500	9.7	495	17	1
14	5500	8.8	349	16	1
15	5500	9.1	344	17	1
16	5500	6.9	326	16	1
17	5500	8.2	319	17	0
18	5500	9.1	222	17	1
19	5500	8.5	294	16	0
20	5500	9.2	226	18	1
21	5509.6	9.5	451	17	1
22	5509.6	6.7	223	17	1
23	5509.6	9.3	496	17	1
24	5509.6	7.4	237	17	1
25	5509.6	6.8	456	17	1
26	5509.6	8.2	312	16	1
27	5509.6	6.7	441	17	0
28	5509.6	9.6	291	17	1
29	5509.6	8.2	307	17	0
30	5509.6	8.5	369	18	1
Detection Percentage (%)					80%

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	14.0	438	15	1
2	5490.4	12.9	276	13	1
3	5490.4	16.8	261	15	1
4	5490.4	13.9	324	15	1
5	5490.4	17.8	437	16	1
6	5490.4	15.1	224	12	1
7	5490.4	17.7	270	14	1
8	5490.4	13.8	304	13	1
9	5490.4	11.8	398	14	0
10	5490.4	16.1	282	14	1
11	5500	11.4	251	16	1
12	5500	19.0	410	14	1
13	5500	14.1	244	16	1
14	5500	17.5	328	14	1
15	5500	17.1	275	12	1
16	5500	11.1	493	13	0
17	5500	12.2	344	15	1
18	5500	14.9	214	13	0
19	5500	16.8	275	13	1
20	5500	17.6	268	15	1
21	5509.6	19.5	476	15	1
22	5509.6	18.9	408	13	1
23	5509.6	15.9	456	15	1
24	5509.6	14.2	207	14	1
25	5509.6	18.7	319	13	1
26	5509.6	12.0	464	15	1
27	5509.6	15.7	279	15	1
28	5509.6	20.0	222	12	1
29	5509.6	19.6	236	16	1
30	5509.6	15.3	376	13	1
Detection Percentage (%)					90%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (100\% + 90\% + 80\% + 90\%) / 4 = 90\% (>80\%)$

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	5495.6	1
2	5500.0	1	17	5496.0	1
3	5500.0	1	18	5494.0	0
4	5500.0	1	19	5494.4	1
5	5500.0	1	20	5496.8	0
6	5500.0	1	21	5504.4	1
7	5500.0	1	22	5506.4	1
8	5500.0	1	23	5502.4	1
9	5500.0	1	24	5507.2	0
10	5500.0	1	25	5506.8	1
11	5495.2	1	26	5505.2	1
12	5492.4	1	27	5505.2	1
13	5492.4	1	28	5506.0	1
14	5497.2	1	29	5506.0	1
15	5492.8	1	30	5502.8	1
Detection Percentage (%)					90%

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	55.3	11			527.553
2	2	53.9	11	1445		81.322
3	3	77	11	1113	1155	567.03
4	1	84	11			220.94
5	2	77.3	11	1178		163.76
6	2	51.4	11	1844		477.61
7	2	95.9	11	1195		477.41
8	2	94.2	11	1384		113.95
9	1	90.1	11			174.27
10	1	91	11			204.21
11	2	90	11	1042		198.65
12	2	89.5	11	1674		517.42
13	2	82.4	11	1143		410.2
14	3	59.5	11	1499	1874	2.36
15	2	67.2	11	1825		558.39
16	2	78.1	11	1634		96.77
17	1	96	11			275.54
18	2	94	11	1297		550.3
19	2	92.3	11	1558		449.8
20	2	83.7	11	1996		589.4

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	62.6	19	1350		410.325
2	1	69.2	19			539.057
3	2	94.9	19	1323		712.944
4	3	76.8	19	1305	1899	510.431
5	1	87.5	19			177.039
6	2	81.6	19	1113		157.546
7	2	98.8	19	1474		625.753
8	2	96.9	19	1974		721.99
9	2	61.9	19	1166		579.537
10	1	89.5	19			792.144
11	1	63	19			567.151
12	1	90.6	19			744.229
13	1	97.9	19			373.286
14	1	68.7	19			733.843

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	2	66.1	17	1836		648.483
2	2	90.5	17	1100		247.013
3	1	77.8	17			840.986
4	3	84.9	17	1345	1771	444.439
5	1	59.8	17			133.892
6	2	86.7	17	1100		202.665
7	3	64.5	17	1078	1635	896.728
8	1	53.9	17			880.222
9	2	93.8	17	1766		736.455
10	2	66.9	17	1049		491.838
11	3	50.2	17	1692	1442	432.001
12	3	77.6	17	1237	1179	151.954
13	3	96.7	17	1921	1821	600.977

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	97.7	10	1656	1439	815.86
2	2	98.3	10	1663		794.61
3	2	53.9	10	1599		876.06
4	3	97.1	10	1036	1517	186.77
5	2	95.9	10	1519		42.92
6	1	92	10			1040.16
7	3	56.5	10	1000	1871	408
8	1	51.5	10			137.74
9	2	56.9	10	1730		677.2
10	3	74.2	10	1197	1910	170.4

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	2	83.1	5	1402		190.09
2	2	59.5	5	1737		89.044
3	3	97.4	5	1751	1774	409.9
4	2	53.4	5	1751		327.38
5	1	94.4	5			72.14
6	3	86.8	5	1834	1283	283.68
7	3	97.2	5	1487	1036	164.12
8	3	79	5	1533	1221	353.52
9	2	57.6	5	1204		28.85
10	2	72.8	5	1662		714.11
11	3	99.5	5	1927	1631	517.49
12	3	81	5	1701	1530	163.4
13	1	88.9	5			118.57
14	2	77.6	5	1891		464.8
15	1	50.7	5			388
16	3	68.3	5	1084	1203	243.4

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	72.7	7			419.999
2	2	58.6	7	1169		161.266
3	3	68.7	7	1278	1425	316.842
4	1	91.2	7			487.243
5	2	88.8	7	1760		571.364
6	3	97.8	7	1180	1428	357.905
7	1	57.2	7			243.886
8	1	54.8	7			527.227
9	1	93.1	7			611.248
10	3	55.9	7	1156	1705	509.889
11	3	53.2	7	1313	1417	166.291
12	1	57.8	7			72.912
13	3	59.8	7	1996	1899	545.173
14	3	83.9	7	1206	1864	118.934
15	1	72.2	7			564.995
16	1	87.2	7			535.516
17	1	73.7	7			353.737
18	2	93.3	7	1460		276.158
19	3	90.2	7	1247	1000	342.679

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	2	64.3	5	1639		872.772
2	2	78.2	5	1616		726.17
3	3	75.4	5	1911	1772	217.57
4	2	51.4	5	1161		305.54
5	2	59.4	5	1548		332.03
6	1	77.6	5			977.17
7	1	62.6	5			431.84
8	1	71.2	5			901.26
9	2	70.3	5	1279		543.73
10	2	80.7	5	1468		516.79
11	1	83.5	5			215.2
12	2	56.6	5	1573		447.2

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	63.5	9	1735		347.391
2	1	50.2	9			160.8
3	3	59.3	9	1042	1394	22.69
4	2	69.9	9	1759		252.42
5	3	52.1	9	1267	1598	785.73
6	1	87.4	9			620.27
7	3	73.7	9	1618	1613	784.67
8	1	55.6	9			637.93
9	2	87	9	1155		690
10	1	71.7	9			334

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	72.4	6			448.886
2	3	84.6	6	1089	1668	631.59
3	3	59.4	6	1584	1761	320.35
4	2	68.3	6	1983		445.78
5	2	61.3	6	1576		668.39
6	1	72.2	6			192.19
7	3	86.3	6	1739	1932	232.48
8	2	51	6	1331		6.41
9	2	74.5	6	1374		358.66
10	2	78.2	6	1293		846.45
11	2	70.4	6	1801		391
12	1	88.7	6			600

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	78.2	14	1081	1430	66.316
2	2	62	14	1566		608.238
3	2	74.4	14	1139		103.085
4	3	80	14	1629	1388	334.973
5	2	70.9	14	1731		198.671
6	1	94.6	14			238.958
7	1	57.5	14			616.116
8	2	71.9	14	1839		61.904
9	3	85.9	14	1741	1798	410.111
10	1	78.1	14			425.799
11	2	65.6	14	1462		274.206
12	3	87.7	14	1570	1275	652.214
13	3	92.9	14	1501	1084	489.802
14	2	76.9	14	1806		44.039
15	2	51.8	14	1487		686.347
16	2	68	14	1978		66.765
17	1	91.7	14			263.482

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	74.4	13	1248		684.681
2	2	77.3	13	1340		388.33
3	2	81.6	13	1165		539.3
4	3	97.8	13	1985	1743	176.27
5	3	98.6	13	1482	1943	1106.06
6	1	93.5	13			655.19
7	2	99.8	13	1367		750.37
8	1	54.5	13			824.83
9	2	53.4	13	1149		477.6
10	2	91.2	13	1522		787.3

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	1	61.2	6			881.279
2	3	59.2	6	1054	1890	543.58
3	3	61.5	6	1224	1577	61.44
4	2	56.2	6	1714		399.67
5	3	71.6	6	1511	1962	42.63
6	2	80.2	6	1397		99.94
7	1	83.7	6			29.33
8	3	97.9	6	1123	1036	648.43
9	1	72.3	6			20.24
10	1	60.4	6			590.2
11	2	57.7	6	1044		850.6
12	2	51.4	6	1415		420.4

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	71.5	6	1529		615.638
2	2	73.3	6	1755		1216.927
3	2	93.9	6	1662		1258.033
4	3	98.9	6	1868	1163	784.45
5	2	75.9	6	1744		27.657
6	1	86	6			735.553
7	2	60.8	6	1301		347.59
8	2	74	6	1494		30.857
9	2	65	6	1321		1215.533

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	1	77.1	18			287.708
2	2	98.7	18	1018		81.391
3	2	92	18	1028		274.892
4	3	82.7	18	1706	1475	272.353
5	1	88.2	18			461.604
6	2	95.9	18	1386		18.545
7	2	96.8	18	1776		69.365
8	3	71.7	18	1121	1830	1033.756
9	3	52.1	18	1851	1979	225.217
10	2	98.2	18	1975		791.218
11	1	81.3	18			255.309

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	3	86.8	7	1207	1275	576.172
2	2	53.9	7	1738		924.6
3	3	83.8	7	1379	1683	497.96
4	2	77.6	7	1383		74.73
5	3	79	7	1366	1606	546.47
6	2	60.9	7	1938		955.53
7	1	64	7			27.26
8	2	75.1	7	1573		75.41
9	3	63.9	7	1767	1773	892.32
10	1	85.1	7			561.4
11	1	56.7	7			130.5
12	2	83.2	7	1396		294.3

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	84.2	14	1337		694.503
2	3	63.1	14	1727	1601	273.16
3	2	84	14	1050		681.17
4	2	99.5	14	1726		154.4
5	3	88.6	14	1414	1268	150.93
6	2	69.2	14	1441		418.59
7	1	54.4	14			744.44
8	2	50.8	14	1187		698.15
9	2	80.5	14	1836		373.51
10	2	67.3	14	1196		507.91
11	2	58.9	14	1968		84.57
12	3	96.2	14	1161	1888	464.36
13	1	50.2	14			80
14	3	79.9	14	1584	1475	137.6
15	2	90.9	14	1476		562.8

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	1	51.6	15			472.685
2	2	55.3	15	1054		671.86
3	3	76.4	15	1597	1929	108.18
4	2	98.5	15	1432		465.16
5	1	57.6	15			54.77
6	2	66.6	15	1093		695.62
7	2	90.2	15	1831		388.94
8	2	69.8	15	1306		495.64
9	2	50.6	15	1357		270.44
10	3	52	15	1339	1656	298.16
11	2	93.3	15	1585		565.44
12	2	52.9	15	1064		135.42
13	1	83.9	15			638.46
14	3	75.5	15	1461	1757	489.5
15	2	76.9	15	1377		730.1
16	2	66.5	15	1140		312.3

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	1	86.2	10			1003.09
2	2	55.1	10	1619		1069.987
3	2	86.1	10	1711		949.763
4	1	95.2	10			897.59
5	1	98.4	10			401.987
6	2	87	10	1612		697.703
7	3	70.9	10	1328	1436	677.78
8	2	53.1	10	1755		491.777
9	3	73.7	10	1374	1322	617.533

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	3	51.7	11	1527	1208	354.333
2	2	61.6	11	1464		331.137
3	2	98.7	11	1172		239.534
4	1	70.1	11			213.181
5	1	86	11			597.959
6	1	95.2	11			235.776
7	1	59.9	11			219.103
8	3	51.4	11	1115	1721	300.95
9	3	81.2	11	1258	1199	732.847
10	2	80.4	11	1373		570.344
11	3	89.5	11	1919	1966	486.711
12	2	77.2	11	1335		130.009
13	1	72.4	11			87.986
14	3	70	11	1978	1387	447.143

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	2	79.3	17	1244		480.438
2	2	52.4	17	1495		627.743
3	1	72.1	17			503.507
4	1	57.4	17			594.08
5	3	54.3	17	1087	1616	194.463
6	2	55.2	17	1613		642.757
7	3	76.9	17	1460	1242	125.93
8	1	97.4	17			146.373
9	2	66.4	17	1684		357.717
10	2	58.7	17	1595		304.66
11	2	86.1	17	1933		336.553
12	1	61.4	17			396.337
13	2	83.2	17	1280		104.85
14	2	79	17	1479		522.893
15	2	61.6	17	1568		361.137
16	2	88.3	17	1909		32.3
17	2	81.5	17	1764		142.533
18	3	73.2	17	1365	1834	477.967

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	1	67.6	14			147.919
2	2	54.5	14	1942		231.69
3	2	79.1	14	1212		185.342
4	3	55.8	14	1382	1226	276.253
5	3	60.6	14	1163	1970	588.784
6	3	89.8	14	1113	1290	300.615
7	3	53.3	14	1582	1604	316.506
8	3	59.6	14	1207	1265	582.577
9	2	68.3	14	1848		437.958
10	2	93.1	14	1065		246.389
11	2	99.4	14	1942		90.021
12	3	75.5	14	1754	1117	508.602
13	1	58.4	14			461.203
14	1	59.1	14			79.494
15	3	83.6	14	1555	1012	76.485
16	3	83.2	14	1460	1873	288.956
17	2	88.1	14	1419		164.537
18	2	54.7	14	1183		245.658
19	1	98.2	14			358.279

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	66.4	9	1578		288.515
2	1	89.7	9			424.863
3	1	66.2	9			540.936
4	2	82.1	9	1763		321.439
5	3	53.8	9	1092	1349	801.232
6	3	83.7	9	1639	1168	762.865
7	1	62.1	9			318.938
8	1	92.9	9			169.002
9	1	85.4	9			883.775
10	2	52	9	1238		314.168
11	2	88.3	9	1266		528.661
12	2	84.9	9	1555		735.754
13	3	75.7	9	1851	1321	702.777

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	99.3	19	1484	1109	302.793
2	3	84.4	19	1176	1444	718.21
3	1	82.6	19			12.32
4	2	76.1	19	1608		259.74
5	1	95.4	19			451.98
6	2	60.5	19	1756		695.01
7	3	91.4	19	1359	1126	534.46
8	2	54.7	19	1434		790.7
9	3	63.4	19	1722	1670	445.5
10	2	62.7	19	1707		170.16
11	1	78.6	19			449.61
12	1	77.7	19			27.42
13	3	68	19	1397	1709	579.9
14	2	93.9	19	1941		161.4
15	2	50.5	19	1404		50.4

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	90	7	1116		801.728
2	2	55.9	7	1331		792.771
3	2	78.7	7	1309		539.982
4	1	78.8	7			966.333
5	3	91.9	7	1301	1534	779.144
6	1	89.1	7			779.625
7	3	71	7	1056	1290	80.865
8	1	84.7	7			729.436
9	3	94.7	7	1938	1728	41.167
10	2	83.4	7	1584		558.418
11	3	81.5	7	1724	1620	174.309

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	2	69.1	8	1440		379.408
2	2	91.1	8	1874		575.433
3	2	96	8	1264		515.586
4	2	65.5	8	1585		448.599
5	3	51.7	8	1088	1413	457.892
6	3	50.3	8	1731	1781	388.845
7	2	93.4	8	1694		610.698
8	1	56.2	8			141.892
9	1	93.6	8			168.325
10	1	89.7	8			235.288
11	2	83.5	8	1437		400.151
12	1	57.7	8			403.954
13	1	66	8			481.877

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	3	64.4	12	1883	1811	775.303
2	1	99.9	12			16.489
3	3	95.7	12	1361	1125	163.596
4	2	68.6	12	1018		824.459
5	3	76.9	12	1235	1374	838.522
6	2	62.1	12	1233		272.075
7	2	71.9	12	1716		742.578
8	1	58.2	12			61.662
9	2	72.9	12	1590		789.625
10	1	81.4	12			760.388
11	2	63.4	12	1388		600.821
12	1	84.6	12			528.554
13	2	70.2	12	1919		657.577

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	66.8	12	1533		309.698
2	1	89.6	12			386.783
3	2	89.4	12	1769		262.687
4	3	90	12	1533	1657	535.73
5	2	51.3	12	1418		44.273
6	2	88.6	12	1239		5.997
7	3	96.4	12	1273	1105	265.57
8	2	75.3	12	1514		527.523
9	1	50.6	12			377.417
10	3	99.4	12	1525	1741	472.9
11	2	97.4	12	1565		207.773
12	1	50.8	12			580.717
13	2	57.4	12	1319		437.88
14	3	90.2	12	1708	1781	34.193
15	2	77.4	12	1369		138.447
16	1	65.5	12			549.1
17	2	57	12	1747		92.733
18	3	80.9	12	1777	1112	288.267

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	83.8	10	1538		244.518
2	2	59.9	10	1894		287.29
3	2	67.9	10	1063		146.64
4	1	85.8	10			753.24
5	1	66.9	10			494.97
6	2	63.6	10	1265		2.39
7	3	51.5	10	1733	1395	83.7
8	1	62.3	10			983.9

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	98.6	10	1858	1623	498.549
2	2	50.3	10	1597		584.347
3	2	72.4	10	1814		562.314
4	3	57.2	10	1236	1405	819.741
5	1	78	10			287.039
6	2	79	10	1918		628.976
7	3	95	10	1778	1648	11.523
8	2	98.7	10	1160		838.73
9	3	54	10	1343	1374	413.587
10	1	82.1	10			180.964
11	2	52.6	10	1038		541.371
12	3	78	10	1915	1163	512.859
13	1	75.2	10			591.786
14	1	77.4	10			327.043

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	78.2	18	1487		415.043
2	2	65.2	18	1564		798.88
3	1	76.1	18			913.24
4	1	55.1	18			10.21
5	2	75.2	18	1759		793.17
6	2	88.5	18	1182		436.16
7	2	99.1	18	1013		428.65
8	2	51.1	18	1669		896.45
9	3	73.2	18	1906	1055	821.48
10	2	90.8	18	1764		776.85
11	3	69.7	18	1963	1209	129.3
12	2	83.8	18	1814		832.4

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	1
2	5490.4	1	17	5500	1
3	5490.4	1	18	5500	1
4	5490.4	1	19	5500	1
5	5490.4	1	20	5500	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	1	26	5509.6	1
12	5500	1	27	5509.6	1
13	5500	1	28	5509.6	1
14	5500	1	29	5509.6	1
15	5500	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)
7	5495	21	27	5509	81
36	5506	108	38	5490	114
68	5490	204	42	5495	126
81	5499	243	52	5503	156
--	--	--	56	5494	168
--	--	--	80	5510	240

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
19	5509	57	13	5492	39
64	5508	192	25	5494	75
65	5503	195	50	5504	150
86	5504	258	60	5497	180
--	--	--	83	5496	249

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5491	27	30	5501	90
13	5507	39	31	5502	93
69	5495	207	43	5495	129
--	--	--	51	5503	153
--	--	--	73	5500	219

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
53	5498	159	43	5495	129
58	5509	174	48	5502	144
--	--	--	65	5508	195

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
40	5496	120	26	5499	78
68	5497	204	37	5509	111
71	5502	213	58	5496	174
79	5493	237	80	5490	240

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
27	5505	81	30	5495	90
43	5503	129	35	5498	105
80	5507	240	57	5507	171
--	--	--	65	5509	195
--	--	--	74	5497	222
--	--	--	90	5490	270

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
36	5504	108	6	5495	18
48	5494	144	29	5504	87
58	5506	174	71	5506	213
99	5508	297	88	5505	264
--	--	--	91	5507	273
--	--	--	97	5508	291

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5570	30	17	5490	51
22	5579	66	25	5498	75
28	5585	84	36	5505	108
96	5581	288	51	5497	153
--	--	--	59	5494	177
--	--	--	88	5502	264
--	--	--	89	5499	267

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
45	5501	135	43	5491	129
52	5503	156	61	5495	183
58	5496	174	63	5496	189
63	5507	189	--	--	--
82	5499	246	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
32	5501	96	63	5492	189
68	5505	204	98	5507	294
80	5500	240	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5507	9	3	5508	9
10	5491	30	8	5491	24
34	5502	102	10	5490	30
38	5499	114	30	5503	90
--	--	--	47	5502	141
--	--	--	49	5499	147
--	--	--	55	5492	165
--	--	--	66	5507	198
--	--	--	78	5494	234
--	--	--	92	5505	276

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5505	24	34	5506	102
--	--	--	44	5490	132
--	--	--	66	5504	198
--	--	--	73	5505	219
--	--	--	86	5499	258
--	--	--	91	5508	273

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5500	27	16	5499	48
32	5495	96	30	5507	90
44	5496	132	52	5497	156
75	5498	225	59	5493	177

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
38	5499	114	5	5505	15
39	5497	117	17	5495	51
44	5504	132	24	5490	72
45	5502	135	73	5507	219
71	5490	213	92	5496	276
74	5498	222	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
94	5498	282	21	5497	63
--	--	--	43	5491	129
--	--	--	49	5501	147
--	--	--	88	5508	264
--	--	--	89	5506	267

Product	AX3000 Gigabit Wi-Fi 6 Router	Temperature	27°C
Test Engineer	Fran	Relative Humidity	65%
Test Site	AC1	Test Date	2020/04/08
Test Item	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	878	61	1
2	5491	1	798	67	1
3	5491	1	918	58	1
4	5491	1	818	65	1
5	5500	1	658	81	1
6	5500	1	578	92	1
7	5500	1	758	70	1
8	5500	1	738	72	1
9	5509	1	638	83	1
10	5509	1	3066	18	1
11	5509	1	678	78	1
12	5509	1	598	89	0
13	5510	1	898	59	1
14	5510	1	538	98	1
15	5510	1	858	62	1
16	5510	1	836	64	0
17	5510	1	3005	18	0
18	5510	1	2651	20	1
19	5511	1	2040	26	1
20	5511	1	883	60	1
21	5511	1	1715	31	1
22	5511	1	911	58	0
23	5520	1	2480	22	0
24	5520	1	1328	40	1
25	5520	1	958	56	0
26	5520	1	1345	40	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5529	1	1368	39	1
28	5529	1	597	89	0
29	5529	1	1515	35	1
30	5529	1	1985	27	0
Detection Percentage (%)					73.3%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	2.1	186	29	1
2	5491	3.0	230	27	1
3	5491	2.8	177	25	1
4	5491	2.7	150	29	1
5	5500	2.6	199	26	1
6	5500	3.4	216	24	1
7	5500	4.0	229	27	1
8	5500	3.2	205	26	1
9	5509	2.9	215	28	1
10	5509	2.5	228	28	1
11	5509	2.4	204	26	1
12	5509	3.3	227	23	1
13	5510	4.9	229	26	1
14	5510	1.2	178	28	1
15	5510	3.2	156	24	1
16	5510	2.3	213	25	1
17	5510	3.2	215	27	1
18	5510	1.6	186	27	1
19	5511	3.3	158	27	1
20	5511	4.8	227	23	1
21	5511	3.8	212	29	1
22	5511	4.8	206	24	1
23	5520	1.4	162	23	1
24	5520	3.4	167	26	1
25	5520	4.7	208	26	1
26	5520	4.8	169	23	1
27	5529	1.6	158	26	1
28	5529	1.7	210	24	1
29	5529	3.8	201	28	1
30	5529	4.2	161	28	1
Detection Percentage (%)					100%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	7.7	436	16	1
2	5491	9.3	232	18	0
3	5491	10.0	451	17	1
4	5491	9.2	466	16	1
5	5500	6.7	467	16	1
6	5500	9.7	491	16	1
7	5500	6.0	221	17	1
8	5500	6.3	361	17	1
9	5509	8.4	500	17	1
10	5509	8.7	390	16	0
11	5509	10.0	358	16	1
12	5509	9.4	373	17	1
13	5510	6.1	360	16	0
14	5510	8.9	250	17	1
15	5510	9.7	323	16	1
16	5510	8.8	278	16	1
17	5510	9.6	249	18	1
18	5510	6.6	349	16	1
19	5511	8.0	360	16	0
20	5511	6.0	469	17	1
21	5511	6.0	500	16	1
22	5511	9.6	417	17	1
23	5520	8.5	348	17	1
24	5520	9.9	492	17	1
25	5520	6.2	315	17	1
26	5520	8.2	338	17	1
27	5529	7.4	492	16	1
28	5529	7.5	225	17	1
29	5529	7.9	369	17	1
30	5529	6.4	281	17	1
Detection Percentage (%)					86.7%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	15.6	358	16	1
2	5491	16.7	374	13	1
3	5491	11.5	346	13	0
4	5491	13.1	482	12	1
5	5500	12.7	302	15	1
6	5500	14.9	220	14	1
7	5500	16.2	473	14	1
8	5500	14.4	386	13	1
9	5509	14.4	444	13	1
10	5509	11.5	236	15	0
11	5509	14.4	435	15	1
12	5509	17.9	282	14	1
13	5510	16.5	289	14	0
14	5510	13.8	406	12	1
15	5510	14.5	424	13	1
16	5510	15.7	347	15	1
17	5510	11.8	358	14	0
18	5510	15.3	300	12	1
19	5511	12.6	365	12	1
20	5511	19.4	222	16	1
21	5511	14.5	348	13	1
22	5511	19.9	475	14	1
23	5520	13.9	290	16	1
24	5520	13.5	439	13	1
25	5520	19.9	483	13	1
26	5520	12.3	238	14	1
27	5529	16.3	287	15	1
28	5529	19.1	374	16	1
29	5529	11.2	336	12	1
30	5529	13.1	251	16	1
Detection Percentage (%)					86.7%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (73.3\% + 100\% + 86.7\% + 86.7\%) / 4 = 86.7\% (>80\%)$

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	0	16	5497.4	1
2	5510.0	1	17	5495.8	1
3	5510.0	1	18	5497.8	1
4	5510.0	1	19	5496.2	1
5	5510.0	1	20	5497.0	1
6	5510.0	1	21	5521.0	1
7	5510.0	1	22	5525.0	1
8	5510.0	0	23	5522.2	1
9	5510.0	1	24	5523.0	0
10	5510.0	1	25	5523.4	1
11	5494.2	1	26	5526.2	1
12	5494.6	1	27	5527.0	1
13	5499.0	1	28	5525.0	1
14	5497.0	1	29	5525.4	1
15	5495.0	1	30	5526.6	1
Detection Percentage (%)					90%

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	1	100	15			71.053
2	2	59.4	15	1827		520.35
3	1	72.7	15			347.7
4	2	72.6	15	1675		948.15
5	2	74.3	15	1553		566.18
6	1	67.5	15			973.75
7	1	63.7	15			799.19
8	2	54	15	1900		318.01
9	2	54.8	15	1119		56.95
10	1	80.9	15			532

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	68.4	20	1768		823.276
2	3	62.3	20	1898	1360	866.141
3	2	95.1	20	1424		259.892
4	2	93.2	20	1387		1002.243
5	1	92.1	20			441.484
6	3	61.4	20	1295	1493	718.345
7	2	67.4	20	1100		597.235
8	3	70.5	20	1997	1278	260.726
9	2	81.2	20	1190		227.197
10	1	99.4	20			120.548
11	2	81.4	20	1356		1030.909

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	87.2	6			26.894
2	1	61.1	6			351.231
3	3	83.9	6	1503	1701	353.472
4	2	57.9	6	1071		494.883
5	2	77.8	6	1694		73.174
6	2	67.9	6	1318		98.065
7	1	88.6	6			290.306
8	2	59.9	6	1815		10.807
9	1	55.5	6			59.438
10	3	84.5	6	1896	1324	318.059
11	2	72.4	6	1940		581.091
12	1	69	6			172.722
13	2	99.8	6	1879		410.873
14	2	66.4	6	1670		343.294
15	1	94.4	6			121.005
16	3	84.5	6	1032	1311	177.236
17	2	62.3	6	1974		122.237
18	3	66	6	1552	1371	491.158
19	2	56.7	6	1787		256.479

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	1	70	20			606.009
2	3	83.7	20	1636	1782	827.171
3	1	98.6	20			1025.982
4	2	85.5	20	1845		843.003
5	2	89.3	20	1558		844.104
6	2	60.2	20	1857		965.235
7	3	98.5	20	1148	1270	164.915
8	2	76.9	20	1914		175.536
9	2	93.2	20	1712		494.737
10	1	81.8	20			469.018
11	3	91.7	20	1638	1612	899.809

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	2	76.7	7	1548		230.853
2	1	99.2	7			433.361
3	1	95.8	7			72.872
4	2	69.6	7	1836		378.423
5	1	80.8	7			356.814
6	2	80.1	7	1668		538.425
7	3	73	7	1412	1451	562.626
8	1	80.4	7			37.337
9	3	97.3	7	1287	1429	91.848
10	2	85.2	7	1278		290.839
11	3	96.4	7	1550	1614	247.151
12	2	63.9	7	1035		383.222
13	1	76	7			561.053
14	2	91.1	7	1749		12.494
15	1	65.7	7			375.015
16	2	51.4	7	1567		500.946
17	3	92.3	7	1197	1161	385.937
18	2	84.4	7	1355		329.458
19	3	74.8	7	1478	1039	527.179

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	2	99	15	1920		1230.89
2	2	87.2	15	1300		1084.86
3	2	95.5	15	1751		1092.03
4	1	67.4	15			96.54
5	2	79.9	15	1957		305.83
6	2	50.3	15	1834		985.27
7	1	77.7	15			1256.1
8	2	83.6	15	1813		1254.3

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	98.6	10	1621	1763	393.388
2	2	92.6	10	1498		133.131
3	2	84.2	10	1592		625.68
4	2	60.4	10	1016		402.85
5	2	85.3	10	1486		39.91
6	1	76.8	10			595.83
7	1	51.1	10			494.4
8	3	96.1	10	1438	1383	605.73
9	3	60	10	1097	1472	593.17
10	2	51.5	10	1324		429.92
11	2	72.1	10	1104		224.16
12	2	71.9	10	1558		125.48
13	2	76.1	10	1823		425.15
14	2	57.8	10	1909		247.59
15	2	52.2	10	1441		706
16	3	95.2	10	1121	1896	44

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	91.1	16			532.972
2	2	87	16	1649		1061.991
3	2	71.7	16	1444		474.632
4	1	71.5	16			946.303
5	1	84.1	16			274.864
6	1	78	16			543.365
7	2	75.2	16	1943		423.855
8	2	69.3	16	1902		161.886
9	1	74.4	16			330.537
10	1	88.2	16			580.018
11	2	61.7	16	1599		295.609

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	2	74	15	1336		74.855
2	1	90.6	15			595.768
3	1	72	15			180.105
4	2	85.5	15	1325		688.883
5	3	94.2	15	1250	1007	688.721
6	1	95.1	15			300.978
7	1	61.8	15			200.206
8	3	90.9	15	1541	1826	236.474
9	1	54.6	15			138.441
10	2	92.6	15	1038		673.639
11	2	70.5	15	1735		188.816
12	1	83.4	15			463.714
13	2	92	15	1056		229.532
14	1	54.8	15			152.699
15	3	82.6	15	1315	1284	544.447
16	1	70.1	15			590.265
17	2	93.4	15	1742		585.582

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	61.1	19	1501		116.404
2	2	52.7	19	1751		500.44
3	3	76	19	1518	1094	873.69
4	2	65.1	19	1186		968.53
5	3	56.4	19	1727	1310	647.59
6	2	86.1	19	1809		177.67
7	3	62.2	19	1297	1560	37.78
8	3	92.7	19	1546	1976	184.87
9	2	99.7	19	1187		303.94
10	1	50.8	19			391

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	81.7	8	1555		1018.32
2	3	74.4	8	1564	1019	1157.577
3	3	50.4	8	1331	1806	613.733
4	2	87.1	8	1825		275.61
5	2	64.6	8	1434		1248.267
6	3	86.4	8	1150	1017	1061.953
7	2	93.4	8	1134		486.71
8	3	50.1	8	1484	1773	931.867
9	3	90	8	1348	1763	1127.633

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	1	70	9			415.672
2	2	67.6	9	1522		75.85
3	3	57	9	1398	1428	791.99
4	1	56.9	9			49.85
5	2	57	9	1355		1061.31
6	2	78.6	9	1171		15.51
7	2	92.9	9	1095		1006.93
8	3	99.4	9	1570	1942	987.48
9	3	89	9	1421	1358	79.47
10	3	94.4	9	1692	1117	1065.1

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	56.1	20	1994		172.399
2	2	50.7	20	1649		312.16
3	2	50.3	20	1496		366.34
4	3	90.5	20	1763	1220	115.39
5	2	85.1	20	1781		621.16
6	2	60.9	20	1110		136.23
7	2	88.4	20	1164		918.21
8	2	58.8	20	1716		814.81
9	1	59	20			112.91
10	3	79.4	20	1380	1927	851.22
11	3	93.4	20	1355	1082	724.1
12	2	95.4	20	1253		668.5

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	97.2	15	1060	1562	95.444
2	2	71.2	15	1364		647.18
3	2	79	15	1071		61.42
4	2	92.7	15	1671		593.3
5	2	57.7	15	1275		735.82
6	3	69.5	15	1280	1642	170.75
7	3	60.7	15	1710	1674	671.2
8	2	64.7	15	1335		490.42
9	2	95.2	15	1357		441.6
10	2	84.1	15	1615		508.53
11	2	76.9	15	1424		108.28
12	3	94.4	15	1665	1238	534.2
13	2	73.5	15	1304		237.98
14	2	64.3	15	1056		242.7
15	2	83.5	15	1840		681.4

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	1	73.7	10			414.097
2	1	68	10			225.913
3	2	63.9	10	1013		405.595
4	3	86.2	10	1857	1650	669.553
5	2	78.2	10	1295		187.101
6	2	97.3	10	1108		494.138
7	1	90.1	10			508.216
8	2	94.8	10	1762		457.514
9	2	57.8	10	1809		554.221
10	2	95.6	10	1472		438.049
11	1	56.5	10			616.986
12	2	59.4	10	1874		270.784
13	2	54.1	10	1045		248.992
14	1	76.3	10			28.719
15	2	66.8	10	1725		537.347
16	1	60.7	10			535.465
17	3	76.8	10	1717	1059	120.282

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	78.7	16			389.457
2	2	78.8	16	1886		109.013
3	2	70.2	16	1452		406.11
4	3	52.2	16	1998	1760	288.71
5	2	53.8	16	1851		719.63
6	1	83.3	16			633.26
7	2	87.7	16	1112		78.31
8	1	96.4	16			124.84
9	2	85.7	16	1557		763.07
10	1	78.3	16			447.12
11	2	98.5	16	1238		615.72
12	2	94.7	16	1366		571.42
13	1	78.1	16			441.1
14	2	65.2	16	1078		773
15	2	70.7	16	1012		254.9

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	70.3	12	1954		199.648
2	1	99.7	12			423.29
3	2	91.2	12	1175		109.4
4	3	88.1	12	1129	1436	302.81
5	2	63	12	1977		1140.92
6	3	58.7	12	1261	1551	473.38
7	1	69.3	12			782.96
8	2	69.1	12	1914		116.6
9	3	59.4	12	1144	1124	564.8
10	1	59.4	12			71.8

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	69	17	1795		112.122
2	1	54.4	17			473.411
3	2	78.1	17	1308		16.422
4	2	52.8	17	1971		217.603
5	1	61.7	17			623.344
6	1	54.8	17			186.605
7	1	97	17			537.546
8	1	52.7	17			100.267
9	3	71.3	17	1215	1786	63.618
10	2	94.7	17	1559		489.299
11	2	53.9	17	1102		34.351
12	3	61.5	17	1344	1460	35.622
13	2	63	17	1569		478.913
14	3	56.8	17	1943	1915	133.044
15	2	57.6	17	1783		285.955
16	2	64.3	17	1802		600.016
17	2	99.4	17	1396		143.137
18	2	73	17	1480		129.058
19	2	55.2	17	1196		551.679

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	2	88.5	13	1675		55.355
2	1	76.7	13			268.602
3	2	94.3	13	1758		556.385
4	3	81.6	13	1400	1686	328.523
5	1	96.2	13			362.621
6	1	97.3	13			35.948
7	2	74	13	1104		660.356
8	3	98.9	13	1931	1459	348.754
9	3	81.3	13	1713	1786	27.631
10	2	58.8	13	1025		269.859
11	3	70.6	13	1854	1256	71.886
12	3	71.2	13	1855	1087	59.944
13	2	76.3	13	1913		524.222
14	1	55	13			530.719
15	1	96.9	13			71.497
16	2	70.1	13	1836		331.365
17	2	85.3	13	1553		591.782

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	3	98.4	15	1819	1027	450.533
2	3	61	15	1123	1092	348.913
3	1	94.1	15			171.357
4	2	68.5	15	1106		224.2
5	2	81.3	15	1329		610.173
6	1	58.2	15			357.997
7	2	66.9	15	1390		306.13
8	3	66.9	15	1787	1043	529.713
9	2	78.7	15	1995		550.597
10	2	80.6	15	1244		393.53
11	3	66.9	15	1293	1075	354.793
12	1	73	15			99.347
13	1	80.4	15			92.79
14	2	67.2	15	1032		16.343
15	1	64.9	15			58.177
16	2	75.7	15	1561		152.7
17	2	62.4	15	1954		25.133
18	2	67.4	15	1803		380.567

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	69.1	20	1332	1974	595.883
2	2	85.2	20	1131		71.267
3	2	66.2	20	1784		566.667
4	2	72.3	20	1632		399.98
5	3	86.2	20	1183	1374	433.393
6	3	65.8	20	1280	1822	643.467
7	2	78.6	20	1835		427.78
8	1	72.2	20			590.873
9	1	67.2	20			57.197
10	3	50.4	20	1208	1318	641.82
11	1	70.3	20			80.003
12	1	84.9	20			659.437
13	3	71.3	20	1232	1237	332.99
14	1	90	20			60.483
15	1	98.3	20			67.097
16	2	63.4	20	1374		206.3
17	1	56.7	20			643.633
18	2	58.9	20	1234		247.267

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	1	51.1	10			288.923
2	2	96	10	1497		712.1
3	3	54.6	10	1885	1769	336.02
4	2	74.4	10	1145		916.55
5	2	68.6	10	1556		29.61
6	1	58.5	10			606.92
7	1	97.9	10			702.28
8	2	72.9	10	1677		80.58
9	3	50.1	10	1856	1709	280.48
10	2	70	10	1173		529.08
11	1	96	10			687
12	2	65.6	10	1297		470.6

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	2	65.1	17	1441		581.236
2	3	53.4	17	1532	1284	71.272
3	3	96	17	1078	1435	663
4	3	65.6	17	1270	1715	164.08
5	2	100	17	1968		628.5
6	3	81.9	17	1113	1474	599.97
7	3	79.8	17	1327	1340	99.84
8	2	69.8	17	1915		664.14
9	2	68.8	17	1337		615.32
10	1	62.8	17			215.88
11	2	60.4	17	1999		533.15
12	3	94.4	17	1867	1140	225.52
13	2	74.9	17	1672		436.97
14	1	74.2	17			302
15	3	94.8	17	1089	1303	735.9
16	2	75.6	17	1550		277

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	50.6	15	1917		829.811
2	2	99.3	15	1423		978.697
3	3	94.6	15	1566	1851	170.103
4	1	52.7	15			945.34
5	1	84	15			274.707
6	2	85.8	15	1339		387.933
7	2	87.7	15	1937		280.01
8	1	66.1	15			976.167
9	1	55.2	15			794.433

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	79	14	1701	1668	117.506
2	2	83	14	1995		852.4
3	3	52.3	14	1549	1558	428.04
4	1	58.6	14			22.25
5	2	55.8	14	1126		573.34
6	3	89	14	1553	1024	335.56
7	3	59.1	14	1571	1874	504.19
8	2	78.8	14	1598		611.61
9	3	89.8	14	1987	1319	885.94
10	2	64.6	14	1020		16.13
11	2	70.1	14	1412		879.3
12	1	50.7	14			837

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	80.9	7	1407		890.097
2	2	83.9	7	1561		133.93
3	2	62.2	7	1968		132.32
4	1	73.3	7			158.97
5	1	94.2	7			501.8
6	2	70.3	7	1197		687.6
7	3	60.7	7	1640	1471	85.93
8	2	76.8	7	1653		821.99
9	3	75.5	7	2000	1938	627.55
10	1	97.3	7			510.47
11	2	73.3	7	1475		516.8
12	2	76	7	1762		298.4

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	3	75.5	5	1383	1854	1033.85
2	2	51.8	5	1310		195.791
3	2	100	5	1786		585.332
4	1	96.8	5			242.393
5	1	56.3	5			240.194
6	2	78.3	5	1593		273.405
7	2	98.1	5	1994		618.435
8	3	71	5	1380	1292	490.306
9	2	76.4	5	1377		1060.387
10	1	65.2	5			611.718
11	2	87.3	5	1026		594.109

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	3	80.1	10	1144	1372	486.727
2	2	50.4	10	1938		257.01
3	2	97.3	10	1213		453.315
4	3	95.4	10	1888	1006	677.593
5	3	90.6	10	1747	1833	322.341
6	2	82.4	10	1702		314.268
7	1	74.9	10			1.096
8	2	50.9	10	1304		391.214
9	3	66.9	10	1747	1069	254.791
10	1	61.9	10			411.089
11	2	55.6	10	1532		600.716
12	2	55.2	10	1260		204.314
13	2	74.5	10	1669		676.192
14	1	50.8	10			252.969
15	2	71.6	10	1505		508.747
16	2	63.5	10	1681		531.265
17	1	93.6	10			635.482

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	2	83.1	9	1840		288.035
2	2	66.5	9	1673		387.67
3	2	59.6	9	1324		825.8
4	3	88.3	9	1331	1714	499.89
5	1	67.4	9			63.9
6	2	91.8	9	1688		882.68
7	2	97.4	9	1371		510.72
8	1	54.4	9			488.03
9	2	95.3	9	1234		898.75
10	2	78.6	9	1213		418.53
11	1	62.4	9			506.8
12	1	56.3	9			2.8

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	3	95.2	6	1073	1694	530.757
2	2	56.2	6	1670		365.421
3	2	72.5	6	1113		185.102
4	3	72.2	6	1504	1899	357.653
5	3	97.8	6	1627	1729	659.434
6	3	56.3	6	1190	1871	596.175
7	2	76.2	6	1968		176.165
8	2	66.5	6	1316		442.186
9	3	75.8	6	1952	1332	562.547
10	2	77.6	6	1799		326.918
11	2	71.3	6	1519		475.909

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	5510	1
3	5491	1	18	5510	1
4	5491	1	19	5511	1
5	5500	1	20	5511	1
6	5500	1	21	5511	1
7	5500	1	22	5511	1
8	5500	1	23	5520	1
9	5509	1	24	5520	1
10	5509	1	25	5520	1
11	5509	1	26	5520	1
12	5509	1	27	5529	1
13	5510	1	28	5529	1
14	5510	1	29	5529	1
15	5510	1	30	5529	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5495	39	2	5495	6
22	5510	66	6	5493	18
26	5493	78	15	5492	45
31	5521	93	16	5529	48
35	5524	105	19	5497	57
51	5498	153	22	5513	66
54	5491	162	27	5510	81
71	5528	213	36	5512	108
87	5502	261	52	5491	156
--	--	--	64	5518	192
--	--	--	68	5501	204
--	--	--	97	5528	291

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5494	21	4	5515	12
29	5503	87	7	5519	21
30	5525	90	8	5495	24
32	5517	96	18	5496	54
42	5500	126	30	5524	90
51	5512	153	32	5525	96
52	5497	156	42	5530	126
54	5492	162	44	5529	132
79	5495	237	53	5512	159
100	5508	300	56	5517	168
--	--	--	66	5528	198
--	--	--	69	5503	207

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
18	5496	54	25	5518	75
32	5510	96	29	5523	87

63	5524	189	33	5504	99
65	5527	195	40	5528	120
76	5521	228	44	5502	132
83	5498	249	52	5503	156
86	5530	258	61	5520	183
90	5502	270	76	5513	228

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5516	12	10	5495	30
7	5511	21	16	5529	48
19	5493	57	25	5525	75
29	5527	87	34	5509	102
38	5515	114	41	5494	123
49	5494	147	60	5520	180
63	5523	189	71	5492	213
67	5507	201	84	5490	252
71	5514	213	88	5526	264
80	5499	240	--	--	--
87	5512	261	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
18	5494	54	7	5511	21
37	5509	111	59	5515	177
62	5529	186	65	5508	195
64	5503	192	71	5517	213
67	5517	201	76	5530	228
70	5493	210	84	5496	252
79	5514	237	85	5501	255
92	5505	276	87	5494	261
--	--	--	97	5492	291

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5525	3	4	5513	12
9	5491	27	12	5502	36
16	5502	48	13	5520	39
20	5528	60	20	5516	60
24	5504	72	21	5498	63
49	5509	147	38	5514	114
53	5522	159	58	5509	174
68	5521	204	74	5497	222
75	5518	225	77	5528	231
86	5512	258	81	5496	243
--	--	--	89	5510	267
--	--	--	95	5517	285
--	--	--	96	5500	288

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5509	3	12	5514	36
15	5490	45	27	5490	81
65	5518	195	46	5510	138
88	5492	264	67	5517	201
93	5523	279	70	5520	210
--	--	--	73	5496	219
--	--	--	89	5499	267
--	--	--	91	5522	273
--	--	--	97	5508	291
--	--	--	99	5509	297

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5503	45	11	5523	33
34	5500	102	30	5506	90
37	5528	111	37	5494	111
39	5518	117	56	5528	168
43	5490	129	59	5514	177
45	5505	135	73	5512	219
--	--	--	91	5508	273
--	--	--	98	5492	294

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
26	5509	78	1	5522	3
28	5520	84	34	5508	102
38	5499	114	51	5526	153
57	5529	171	61	5497	183
72	5530	216	76	5524	228
81	5493	243	79	5517	237
83	5512	249	85	5518	255
--	--	--	89	5506	267
--	--	--	90	5504	270
--	--	--	95	5510	285

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5529	9	3	5500	9
5	5530	15	38	5523	114
20	5502	60	45	5498	135
28	5519	84	80	5524	240
30	5523	90	81	5492	243
32	5497	96	--	--	--
38	5508	114	--	--	--
43	5522	129	--	--	--
66	5521	198	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
22	5492	66	16	5524	48
24	5519	72	28	5512	84
45	5520	135	31	5513	93
49	5502	147	41	5526	123
56	5493	168	49	5528	147
79	5509	237	50	5505	150
--	--	--	80	5520	240
--	--	--	81	5517	243

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5503	36	6	5507	18
16	5516	48	31	5494	93
26	5526	78	34	5529	102
52	5498	156	35	5522	105
68	5515	204	43	5530	129
71	5524	213	47	5498	141
99	5521	297	48	5501	144
--	--	--	50	5528	150
--	--	--	61	5497	183
--	--	--	63	5491	189
--	--	--	68	5506	204
--	--	--	72	5520	216
--	--	--	96	5492	288

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5521	15	1	5497	3
19	5506	57	11	5513	33
22	5494	66	21	5525	63
46	5520	138	25	5514	75
48	5503	144	31	5498	93
68	5505	204	45	5510	135
80	5527	240	53	5502	159
100	5508	300	67	5520	201
--	--	--	81	5508	243
--	--	--	96	5516	288

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
25	5509	75	43	5516	129
28	5530	84	62	5503	186
39	5499	117	73	5523	219
48	5493	144	76	5509	228
73	5498	219	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5530	39	31	5497	93
17	5517	51	43	5523	129
19	5504	57	47	5509	141
26	5514	78	52	5498	156
31	5491	93	54	5510	162
49	5497	147	59	5508	177
71	5501	213	62	5530	186
95	5490	285	95	5517	285
98	5494	294	--	--	--

Product	AX3000 Gigabit Wi-Fi 6 Router	Temperature	27°C
Test Engineer	Fran	Relative Humidity	65%
Test Site	AC1	Test Date	2020/04/09
Test Item	Radar Statistical Performance Check (802.11ax-HE80 mode – 5530MHz)		

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	898	59	1
2	5491	1	618	86	1
3	5500	1	598	89	1
4	5500	1	538	98	1
5	5509	1	758	70	1
6	5509	1	678	78	1
7	5510	1	798	67	1
8	5510	1	718	74	1
9	5511	1	858	62	1
10	5511	1	558	95	1
11	5520	1	938	57	1
12	5520	1	818	65	1
13	5529	1	638	83	1
14	5529	1	738	72	1
15	5530	1	878	61	1
16	5530	1	2442	22	1
17	5531	1	1743	31	1
18	5531	1	2877	19	1
19	5540	1	1147	46	1
20	5540	1	814	65	1
21	5549	1	2793	19	1
22	5549	1	1068	50	1
23	5550	1	1966	27	1
24	5550	1	2867	19	1
25	5551	1	1680	32	1
26	5551	1	1978	27	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5560	1	2668	20	1
28	5560	1	2220	24	1
29	5569	1	2671	20	1
30	5569	1	2327	23	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	1.9	190	26	1
2	5491	2.7	195	26	0
3	5500	2.2	173	26	1
4	5500	4.4	221	28	0
5	5509	4.8	213	23	0
6	5509	3.0	189	25	1
7	5510	3.4	222	26	1
8	5510	1.0	169	29	1
9	5511	2.0	217	29	0
10	5511	1.5	170	24	1
11	5520	3.4	224	26	1
12	5520	3.4	222	23	1
13	5529	3.5	223	27	1
14	5529	1.4	221	25	1
15	5530	1.5	188	27	1
16	5530	4.4	193	25	1
17	5531	2.5	209	23	1
18	5531	3.0	173	26	1
19	5540	3.0	186	28	1
20	5540	1.3	221	23	1
21	5549	2.7	158	24	1
22	5549	3.1	182	25	1
23	5550	4.5	201	27	1
24	5550	2.1	200	26	1
25	5551	4.7	187	26	1
26	5551	2.5	195	23	1
27	5560	1.1	152	23	1
28	5560	4.9	227	26	1
29	5569	1.1	199	24	1
30	5569	3.8	227	28	1
Detection Percentage (%)					86.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	6.7	309	17	0
2	5491	7.5	206	16	1
3	5500	6.1	431	17	1
4	5500	9.4	244	17	1
5	5509	9.5	346	18	1
6	5509	10.0	416	16	1
7	5510	9.8	266	17	1
8	5510	7.0	449	17	0
9	5511	9.0	269	17	1
10	5511	6.2	355	18	1
11	5520	9.7	479	18	1
12	5520	7.6	388	18	0
13	5529	9.8	298	17	1
14	5529	10.0	263	17	1
15	5530	8.7	416	17	1
16	5530	8.8	271	17	1
17	5531	6.4	309	17	1
18	5531	9.2	244	17	0
19	5540	10.0	225	17	1
20	5540	8.8	440	17	1
21	5549	7.3	222	16	1
22	5549	7.2	434	18	1
23	5550	9.2	343	16	1
24	5550	10.0	474	17	1
25	5551	8.9	401	16	1
26	5551	6.6	422	16	0
27	5560	9.0	241	16	1
28	5560	8.4	378	16	1
29	5569	6.1	212	18	1
30	5569	8.4	447	18	1
Detection Percentage (%)					83.3%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	14.0	377	14	0
2	5491	14.9	479	15	1
3	5500	13.4	465	15	1
4	5500	11.5	200	16	1
5	5509	18.0	250	15	1
6	5509	13.7	295	15	1
7	5510	17.9	368	13	1
8	5510	11.7	207	12	0
9	5511	12.6	335	14	0
10	5511	11.5	384	13	1
11	5520	18.6	345	16	1
12	5520	14.9	260	15	1
13	5529	16.6	470	13	1
14	5529	13.5	387	15	1
15	5530	14.0	303	15	1
16	5530	20.0	260	14	1
17	5531	18.0	482	13	1
18	5531	14.0	336	14	1
19	5540	17.5	423	14	1
20	5540	16.9	200	14	1
21	5549	11.3	290	15	1
22	5549	15.4	230	15	1
23	5550	16.8	469	15	1
24	5550	14.5	205	12	1
25	5551	17.7	243	15	1
26	5551	17.9	265	14	1
27	5560	13.3	271	13	1
28	5560	13.3	212	15	1
29	5569	16.3	423	12	1
30	5569	14.3	430	14	1
Detection Percentage (%)					90%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (100\% + 86.7\% + 83.3\% + 90\%) / 4 = 90\% (>80\%)$

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	5530.0	1	16	5496.6	1
2	5530.0	1	17	5498.2	1
3	5530.0	1	18	5495.8	1
4	5530.0	1	19	5499.0	1
5	5530.0	1	20	5493.0	1
6	5530.0	1	21	5566.2	0
7	5530.0	1	22	5565.8	1
8	5530.0	1	23	5561.4	1
9	5530.0	1	24	5562.6	1
10	5530.0	1	25	5563.8	0
11	5493.0	1	26	5565.4	1
12	5495.8	1	27	5561.8	0
13	5498.6	1	28	5561.4	1
14	5498.2	1	29	5563.4	1
15	5495.8	1	30	5561.8	0
Detection Percentage (%)					86.6%

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	67.7	20			155.604
2	1	96.5	20			392.728
3	3	86.1	20	1388	1716	654.205
4	2	76.2	20	1092		325.383
5	3	83	20	1258	1710	275.191
6	1	60.7	20			588.318
7	2	57.3	20	1035		68.016
8	2	96.8	20	1169		178.924
9	2	83.6	20	1350		15.111
10	2	92.6	20	1599		483.369
11	2	58.7	20	1183		55.096
12	1	94.9	20			491.614
13	2	81.3	20	1299		253.942
14	2	63.5	20	1599		239.129
15	3	94.2	20	1592	1306	656.147
16	2	92.1	20	1477		169.365
17	2	78.8	20	1678		496.382

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	1	89.5	5			126.52
2	3	99.6	5	1297	1649	919.99
3	2	64.2	5	1184		875.03
4	2	83.9	5	1809		211.71
5	3	89	5	1223	1786	56.46
6	2	86.9	5	1214		979.15
7	2	63.1	5	1529		259.21
8	1	81.4	5			198.8
9	1	69.6	5			189.49
10	1	74.6	5			942.4

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	67	15			723.351
2	3	69	15	1213	1791	532.363
3	1	62.3	15			867.966
4	3	86.6	15	1828	1275	101.999
5	3	90.1	15	1096	1504	201.292
6	1	87.4	15			622.785
7	2	71.5	15	1278		602.408
8	2	76.5	15	1454		659.932
9	1	90.2	15			277.125
10	2	81.6	15	1147		442.998
11	1	55.6	15			564.221
12	2	68.7	15	1399		169.154
13	1	88.5	15			755.477

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	52.8	18	1939	1641	477.928
2	3	98.4	18	1205	1736	185.206
3	1	69.9	18			444.01
4	1	64.7	18			196.51
5	1	52.6	18			113.51
6	1	68.7	18			50.28
7	1	56.2	18			140.23
8	2	52.7	18	1186		310.47
9	2	92	18	1431		21.14
10	2	55.4	18	1562		483.79
11	2	78.9	18	1806		183.34
12	2	99.2	18	1926		503.7
13	3	57.6	18	1868	1679	120.65
14	1	52.4	18			83.82
15	2	71	18	1698		226.9
16	3	73.9	18	1600	1597	575

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	2	70.1	10	1268		910.295
2	1	58.3	10			675.243
3	2	84.2	10	1437		247.996
4	3	65.7	10	1215	1860	803.019
5	3	74.1	10	1632	1046	682.542
6	2	51.8	10	1709		209.655
7	1	90	10			404.098
8	2	54.7	10	1732		49.082
9	3	83.7	10	1233	1104	463.795
10	2	62.5	10	1121		58.078
11	2	98.1	10	1763		548.951
12	2	82.9	10	1039		22.554
13	1	96	10			188.977

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	86.1	8	1221	1336	347.517
2	3	65.6	8	1418	1404	34.572
3	1	54.7	8			552.635
4	2	95.1	8	1005		456.913
5	3	69.9	8	1468	1755	174.201
6	2	78.3	8	1298		81.308
7	2	80.7	8	1605		164.286
8	2	69.6	8	1894		474.644
9	2	74.3	8	1351		592.621
10	1	93.5	8			249.239
11	3	72.6	8	1088	1297	524.166
12	1	85.1	8			328.754
13	3	65.3	8	1748	1426	206.762
14	2	87.1	8	1392		485.949
15	3	96.4	8	1600	1035	592.147
16	3	54.8	8	1928	1050	174.365
17	2	98.2	8	1908		294.382

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	2	94.4	6	1113		472.537
2	3	72.3	6	1521	1656	813.473
3	3	84.5	6	1504	1385	685.726
4	1	75	6			9.979
5	2	92.4	6	1756		778.442
6	3	82.5	6	2000	1651	438.185
7	1	52.9	6			178.448
8	2	69	6	1730		319.652
9	3	63.6	6	1415	1695	467.685
10	3	67.7	6	1906	1792	613.668
11	3	50.3	6	1564	1644	342.271
12	2	61.6	6	1225		905.954
13	2	98	6	1475		427.177

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	3	65.8	5	1015	1168	360.678
2	2	54.4	5	1769		10.735
3	3	51.3	5	1643	1208	239.15
4	3	83	5	1320	1843	281.47
5	2	65.8	5	1200		502.51
6	2	72.3	5	1597		474.27
7	1	82.2	5			81
8	3	73	5	1116	1549	235.83
9	2	72.8	5	1095		193.37
10	2	70.2	5	1341		163.28
11	2	64.6	5	1496		147.05
12	1	83.4	5			359.08
13	2	74.8	5	1635		406.62
14	3	85.7	5	1704	1311	650.7
15	2	99.7	5	1359		699.5
16	1	72.7	5			406.8

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	88.6	15			423.479
2	1	87.5	15			633.8
3	2	51.9	15	1349		620.31
4	1	79.9	15			341.98
5	1	70.7	15			462.21
6	3	77.7	15	1802	1761	475.05
7	3	62.4	15	1638	1728	106.92
8	2	93.1	15	1643		26.76
9	2	59.5	15	1626		340.34
10	2	58.6	15	1289		145.98
11	3	81.1	15	1059	1598	459.26
12	2	52.5	15	1490		569.42
13	3	98.2	15	1823	1750	174.23
14	2	58.7	15	1999		687.8
15	3	61.6	15	1481	1394	691
16	3	77.5	15	1209	1908	643.3

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	2	63.7	6	1276		1163.79
2	2	97.4	6	1506		370.67
3	2	90.7	6	1022		597.96
4	1	60.7	6			1076.17
5	1	89.7	6			1177.99
6	3	64.2	6	1874	1900	745.42
7	1	87.8	6			399.62
8	2	95.4	6	1332		24.97
9	3	55.5	6	1753	1977	270.76
10	2	77.9	6	1772		1181.9

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	3	63.8	5	1328	1165	943.106
2	2	71.6	5	1743		467.55
3	1	94	5			816.43
4	1	67.3	5			503.67
5	2	50.1	5	1805		840.4
6	2	98.5	5	1994		674.99
7	1	89.8	5			651.14
8	2	65.2	5	1620		209.77
9	2	96.1	5	1089		656.28
10	2	65.3	5	1822		737.79
11	3	53.4	5	1777	1753	859
12	1	91.1	5			853.9

ype 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	75.1	12	1318		691.439
2	3	65.3	12	1240	1977	250.1
3	2	99.2	12	1956		128.02
4	3	93.2	12	1190	1482	301.08
5	1	96.9	12			339.87
6	1	69.7	12			82.37
7	2	78.3	12	1351		17.22
8	2	90.1	12	1301		473.06
9	3	54.5	12	1674	1768	311.67
10	3	52.4	12	1720	1346	251.99
11	2	94.9	12	1103		254.02
12	3	94.7	12	1718	1626	262.85
13	2	60.9	12	1518		378.33
14	1	82.7	12			418.3
15	3	82.6	12	1200	1700	601.4

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	1	79.5	19			90.437
2	2	99.2	19	1300		57.6
3	2	60.1	19	1251		711.514
4	3	67.5	19	1485	1914	839.301
5	2	83.9	19	1182		168.869
6	2	95.7	19	1152		545.776
7	3	63.2	19	1986	1126	195.303
8	1	99	19			189.6
9	1	82.2	19			321.787
10	2	61.3	19	1507		819.724
11	2	78.5	19	1246		707.191
12	1	71.6	19			280.299
13	2	51.9	19	1574		802.186
14	2	81.9	19	1112		641.443

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	73.5	18	1986	1770	84.627
2	2	68.4	18	1735		392.873
3	2	67.7	18	1336		177.496
4	2	91.3	18	1269		204.309
5	3	100	18	1759	1463	65.192
6	1	64.9	18			871.085
7	2	68.1	18	1944		534.828
8	2	76.2	18	1313		34.002
9	2	95.7	18	1444		911.985
10	2	73.7	18	1994		705.668
11	2	81.4	18	1363		202.901
12	2	86.6	18	1931		369.854
13	2	62.5	18	1312		362.777

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	1	94.6	12			208.808
2	3	68.8	12	1746	1356	87.022
3	2	68.1	12	1409		523.772
4	1	98.3	12			431.573
5	3	98	12	1895	1878	138.584
6	1	69.3	12			552.805
7	2	51.3	12	1641		514.216
8	2	64.9	12	1684		323.417
9	3	76.9	12	1741	1827	516.918
10	3	51	12	1218	1984	457.049
11	2	59.1	12	1761		286.861
12	2	86.2	12	1430		408.612
13	2	93.7	12	1166		238.363
14	2	71.2	12	1544		201.034
15	1	59.2	12			434.085
16	2	61.4	12	1206		595.016
17	2	73.6	12	1286		12.537
18	3	90.5	12	1168	1703	502.258
19	2	70.9	12	1367		453.679

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	52.3	14			385.945
2	3	61	14	1222	1686	784.137
3	3	53.9	14	1398	1026	377.404
4	2	57.8	14	1805		372.611
5	1	60.6	14			90.219
6	3	63.9	14	1590	1910	633.366
7	3	94.4	14	1785	1788	529.053
8	1	78.8	14			137.82
9	2	75.3	14	1500		436.747
10	2	84.1	14	1702		141.534
11	2	78.8	14	1068		823.761
12	2	51	14	1756		265.069
13	2	75	14	1510		753.286
14	2	62.4	14	1410		69.443

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	88.5	18	1344	1525	29.872
2	2	91.8	18	1294		448.353
3	2	83.3	18	1567		389.097
4	3	97.4	18	1251	1021	465.64
5	2	58.4	18	1304		368.313
6	2	78.9	18	1171		357.687
7	2	99.7	18	1855		596.76
8	3	75.5	18	1157	1756	95.833
9	3	69.7	18	1856	1534	398.057
10	2	91.7	18	1243		648.42
11	3	55.4	18	1905	1911	283.313
12	3	83.1	18	1505	1587	643.207
13	2	66	18	1253		74.51
14	1	71.1	18			267.253
15	3	61.5	18	1347	1631	72.657
16	1	72.7	18			59.6
17	1	77.1	18			62.533
18	3	82.5	18	1757	1979	285.067

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	1	57.1	12			601.899
2	3	62.2	12	1331	1566	99.442
3	2	67	12	1870		476.297
4	3	52.6	12	1247	1053	7.48
5	2	63.9	12	1805		263.553
6	3	59.8	12	1137	1848	305.797
7	2	67.1	12	1321		559.55
8	2	97	12	1019		637.363
9	2	77.6	12	1661		576.797
10	2	63.5	12	1244		654.52
11	3	77.9	12	1383	1860	257.903
12	2	92.1	12	1480		237.507
13	3	85.7	12	1884	1803	46.92
14	2	91.5	12	1899		230.853
15	2	86.3	12	1526		218.707
16	3	50.7	12	1723	1553	16.1
17	3	68.5	12	1623	1571	219.933
18	2	51.4	12	1236		621.467

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	2	87.1	20	1713		207.93
2	2	76.2	20	1013		772.967
3	3	74.5	20	1802	1769	366.024
4	3	54.7	20	1961	1441	240.461
5	1	97	20			770.679
6	2	88.1	20	1303		675.416
7	3	63.8	20	1074	1541	90.923
8	1	61.4	20			287.26
9	1	76.9	20			311.067
10	3	76.2	20	1604	1811	781.444
11	1	91.3	20			714.621
12	2	69.9	20	1176		764.229
13	2	92.9	20	1925		468.286
14	3	51.1	20	1521	1703	436.143

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	80.3	5			634.695
2	2	54.5	5	1488		627.45
3	2	78.6	5	1581		68.28
4	2	95	5	1757		399.93
5	1	85.5	5			118.91
6	1	86.3	5			774.98
7	3	66.3	5	1749	1851	1090.4
8	2	84.4	5	1445		993.9

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	62.6	7	1332		339.243
2	3	67.2	7	1388	1779	197.068
3	1	72.6	7			48.95
4	1	57.4	7			662.77
5	3	79.6	7	1040	1428	561.8
6	1	77.7	7			485.32
7	2	68.7	7	1501		673.27
8	1	97.3	7			497.41
9	2	82.7	7	1118		480.34
10	1	69.1	7			286.52
11	2	82.2	7	1938		432.74
12	2	73.9	7	1664		341.68
13	2	90.1	7	1731		459.46
14	3	64.3	7	1299	1722	162.04
15	3	64.3	7	1701	1779	232.2
16	2	77.8	7	1557		112

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	3	60.2	8	1847	1852	231.468
2	1	55.9	8			808.727
3	2	60.4	8	1597		619.234
4	1	66	8			198.661
5	2	69.9	8	1482		101.409
6	2	58.6	8	1128		479.276
7	3	89.3	8	1340	1286	833.453
8	1	78.8	8			719.86
9	2	59.1	8	1200		274.987
10	2	67.1	8	1874		615.644
11	1	76.3	8			785.991
12	2	72.2	8	1419		603.629
13	2	75.4	8	1251		413.786
14	1	64.8	8			719.143

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	1	56.7	19			305.894
2	2	74.1	19	1825		405.17
3	1	86.7	19			327.62
4	1	54.9	19			419.65
5	3	92.9	19	1488	1340	350.12
6	1	65	19			291.44
7	2	76.8	19	1834		584.15
8	3	97.8	19	1211	1821	100.69
9	1	60.7	19			220.19
10	3	64.7	19	1015	1143	496.38
11	3	68.1	19	1228	1467	410.83
12	2	69.5	19	1790		604.11
13	2	99.2	19	1745		690.2
14	1	65.3	19			133.2
15	1	77.8	19			641.4

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	1	84.3	16			499.325
2	2	57.7	16	1794		155.621
3	1	62.7	16			699.1
4	3	52.7	16	1569	1970	229.85
5	2	81.7	16	1505		263.39
6	3	79	16	1564	1635	597.17
7	2	88.9	16	1762		5.37
8	3	97	16	1746	1667	679.48
9	1	60.5	16			286.09
10	2	55	16	1348		271.68
11	1	88	16			118.97
12	3	74.7	16	1191	1119	268.43
13	2	56.1	16	1523		381.68
14	2	98	16	1096		287.5
15	3	93.2	16	1198	1749	413.2
16	3	86.8	16	1302	1698	706.1

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	2	55.4	13	1033		540.234
2	3	84.8	13	1338	1731	361.042
3	3	86.1	13	1149	1180	511.49
4	2	85.7	13	1274		394.31
5	2	71.1	13	1280		111.92
6	2	62.7	13	1403		476.27
7	2	90.8	13	1069		509.46
8	1	66.1	13			561.9
9	3	85.2	13	1595	1657	336.42
10	2	61.6	13	1399		319.16
11	1	74	13			250.91
12	3	91	13	1416	1003	143.69
13	1	63.3	13			15.63
14	1	67.5	13			217.82
15	3	79	13	1617	1730	565.42
16	1	59.3	13			501.88
17	2	65	13	1757		552.8
18	2	86.1	13	1396		424.1
19	1	77.7	13			368.2
20	2	72.9	13	1028		82.3