

NCC

低功率射頻電機型式試驗報告

產品名稱: 510 系列存取點
型號: APIN0514, APIN0515
廠牌: aruba / Hewlett Packard Enterprise
商標:  
申請者: 慧與科技股份有限公司
申請者地址: 臺北市南港區經貿二路 66 號 10 樓之 1
測試標準: LP0002 (107 年版)
參考法規: ANSI C63.10-2013
測試結果: 符合
測試日期: 2018.12.03 ~ 2018.12.14
發行日期: 2018.12.14

測試工程師:



(柯文凱)

報告審核人:



(陳柏均)

報告簽屬人:



(2018.12.14)

(柯承志)



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修訂紀錄

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1. 一般資訊

申請者	慧與科技股份有限公司
申請者地址	臺北市南港區經貿二路 66 號 10 樓之 1
製造商	Hewlett Packard Enterprise Company
製造商地址	6280 America Center Drive, San Jose, CA 95002
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	510 系列存取點
產品型號	APIN0514, APIN0515
廠牌	aruba / Hewlett Packard Enterprise
	 
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	For 802.11a/n-HT20/ac-VHT20/ax-HE20: 5260~5320MHz, 5500~5720MHz For 802.11n-HT40/ac-VHT40/ax-HE40: 5270~5310MHz, 5510~5710MHz For 802.11ac-VHT80/ax-HE80: 5290MHz, 5530MHz, 5610 MHz, 5690 MHz For 802.11ac-VHT160/ax-HE160: 5250MHz, 5570MHz
調變模式	802.11a/n/ac: OFDM 802.11ax: OFDMA
傳輸速率	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.2Mbps 802.11ax: up to 4804Mbps
待測物額定電壓	AC Adapter or POE input

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
52	5260 MHz	56	5280 MHz	60	5300 MHz
64	5320 MHz	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

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

Channel	Frequency	Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz	102	5510 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz

802.11ac-VHT80/ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz

802.11ac-VHT160/ax-HE160

Channel	Frequency	Channel	Frequency	Channel	Frequency
50	5250 MHz	114	5570 MHz	--	--

2.3. 天線規格

Model No.: APIN0514

Antenna No.	Directionality /Type	Frequency Band (GHz)	Model No.	Max Peak Gain (dBi)	BF Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Wi-Fi External Antenna List (2.4GHz 2*2 MIMO, 5GHz 4*4 MIMO)(MFR: Aruba)							
1	Omni/Panel	2.4	AP-ANT-40	4.0	3.01	4.0	7.01
		5		5.0	6.02	5.0	11.02
2	Omni/Dipole	2.4	AP-ANT-19	3.0	3.01	3.0	6.01
		5		6.0	6.02	6.0	12.02
3	Omni/Dipole	2.4	AP-ANT-1W	3.8	3.01	3.8	6.81
		5		5.8	6.02	5.8	11.82
4	Omni/Panel	2.4	AP-ANT-13B	2.3	3.01	2.3	5.31
		5		4.0	6.02	4.0	10.02
5	Omni/Dipole	2.4	AP-ANT-20W	2.0	3.01	2.0	5.01
		5		2.0	6.02	2.0	8.02
6 (Note 3)	Directional/ Panel	2.4	AP-ANT-45	4.5	0.00	4.5	4.50
		5		5.5	3.01	5.5	8.51
7 (Note 3)	Directional/ Panel	2.4	AP-ANT-48	8.5	0.00	8.5	8.5
		5		8.5	3.01	8.5	11.51
Bluetooth & ZigBee Internal Antenna(MFR: Airgain)							
PCB		2.4	N2410CH3	4.9			

Model No.: APIN0515

Directionality/Type	Frequency Band (GHz)	Max Peak Gain (dBi)	BF Gain (dBi)	CDD Directional Gain (dBi)	
				For Power	For PSD
Wi-Fi Internal Antenna List (2.4GHz 2*2 MIMO, 5GHz 4*4 MIMO)					
Omni/PIFA	2.4	3.77	3.01	3.77	6.78
Omni/PIFA	5	4.55	5.97	4.55	10.52
Bluetooth & ZigBee Internal Antenna					
PIFA	2.4	3.5			

Note:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.
For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 4$, $N_{SS} = 1$.
If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.
 - For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS})$ dB = 6.02;
 - For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;
2. The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac/ax, not include 802.11a/b/g. Directional gain = $G_{ANT} + \text{BF Gain}$, BF Gain was declared by the applicant.
3. Two antennas have Cross-Polarized design, the detail see the antenna specification.
4. We selected the model APIN0514 that has lowest antenna gain to perform the DFS testing.

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 $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \right\}$	60%	30

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

Parameters for Short Pulse Radar Waveforms

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

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

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

Pulse Repetition Intervals Values for Test A

Long Pulse Radar Test Waveform

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

Parameters for Long Pulse Radar Waveforms

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

Frequency Hopping Radar Test Waveform

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

Parameters for Frequency Hopping Radar Waveforms

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform.

The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

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

3.3. 測試限值

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

註一：頻道移動時間與頻道關閉傳輸時間開始的瞬間如下所述：

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

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

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

3.4. 測試架設圖

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

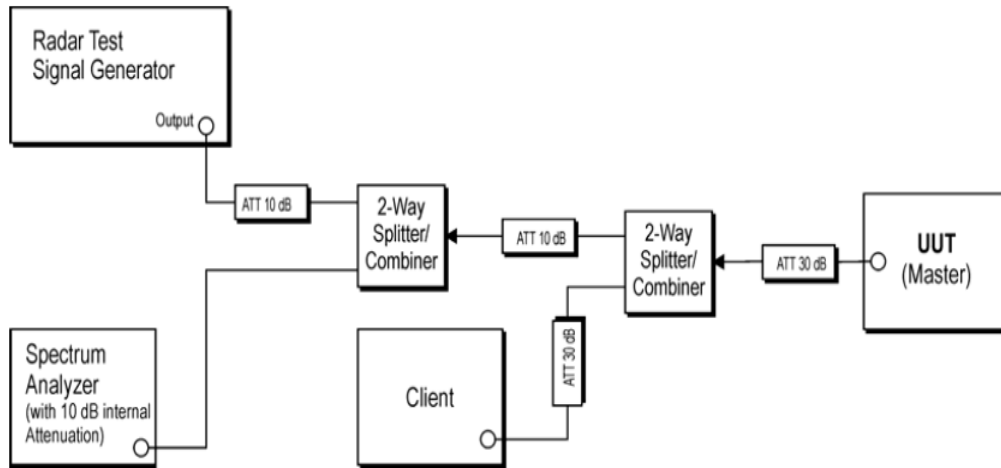


Figure A: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters

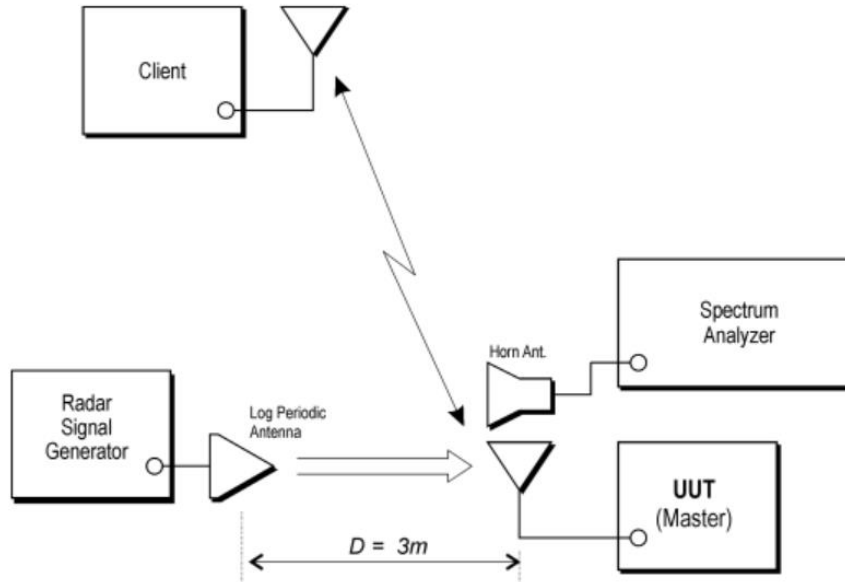


Figure B: Radiated Test Setup where UUT is a Master and Radar Test Waveforms are injected into the UUT

4. 測試設備明細

Dynamic Frequency Selection (DFS) - AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9010A	MRTTWA00012	1 year	2019/07/10
ESG Vector Signal Generator	Agilent	N5182B	MRTSUE06026	1 year	2019/04/05
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTSUE06457	1 year	2019/07/19
Combiner	WOKEN	0120A04208001S	MRTTWE00008	1 year	2019/06/11
Temperature/Humidity Meter	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2019/05/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTTWA00003	1 year	2019/04/05

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 510系列存取點
型號 APIN0514, APIN0515

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

6. 雷達系統波形校驗

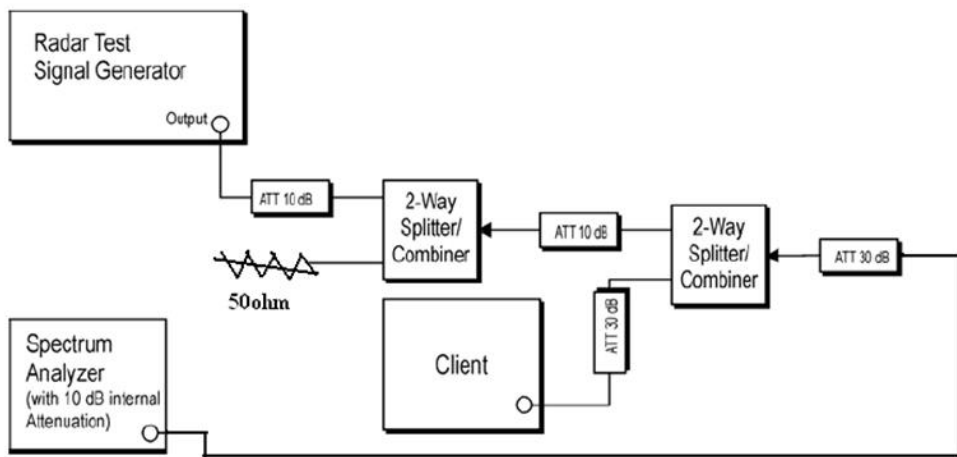
6.1. 量測方法

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

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

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

6.2. 校驗架構圖



6.3. 校驗結果

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/08
測試項目	雷達測試信號校正		

Radar #0



Radar #1 (Test A)

PRI = 518us and the number of pulses = 102



Radar #1 (Test B)

PRI = 1.555ms and the number of pulses = 34



Radar #2



Radars #3



Radars #4



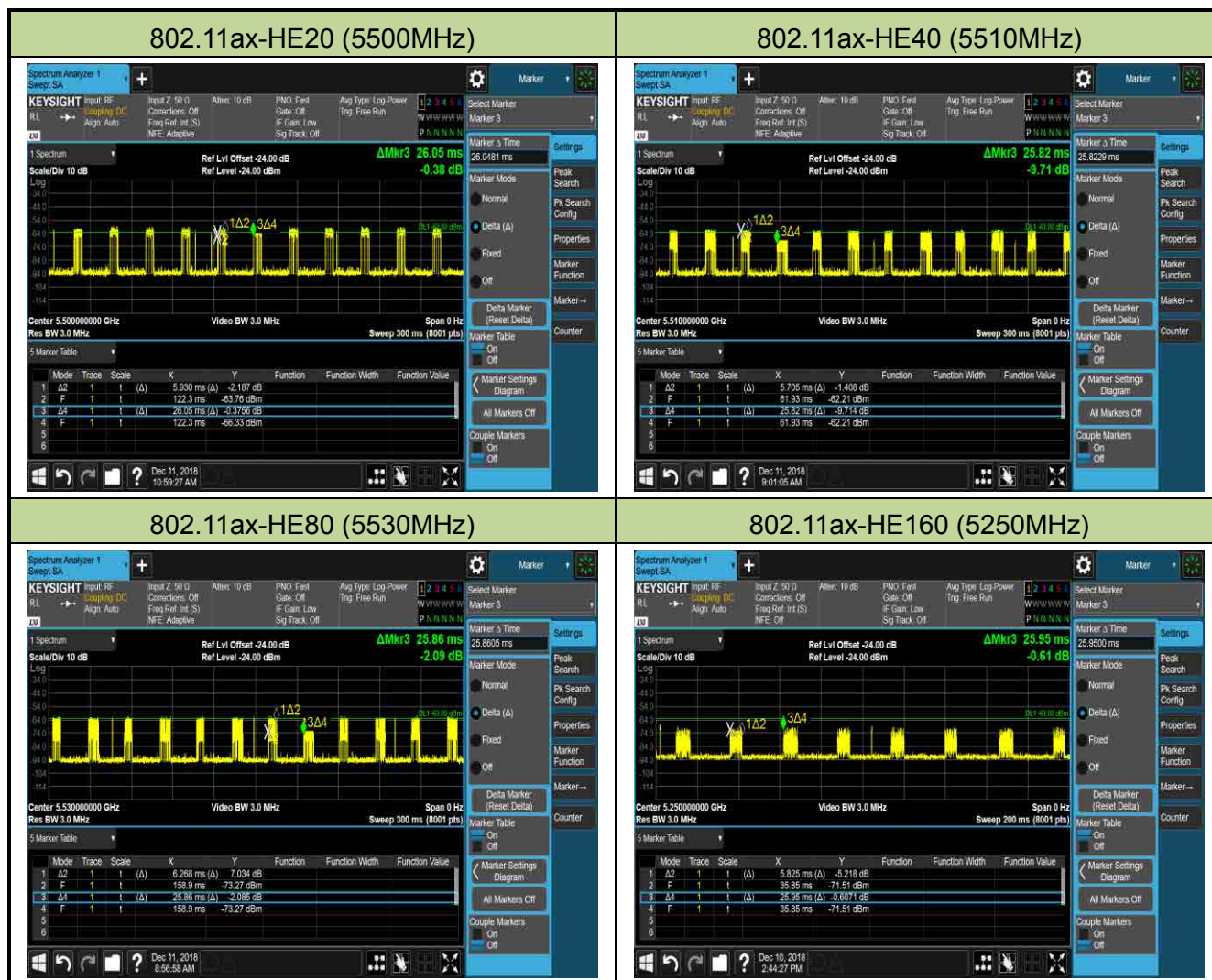
Radars #5

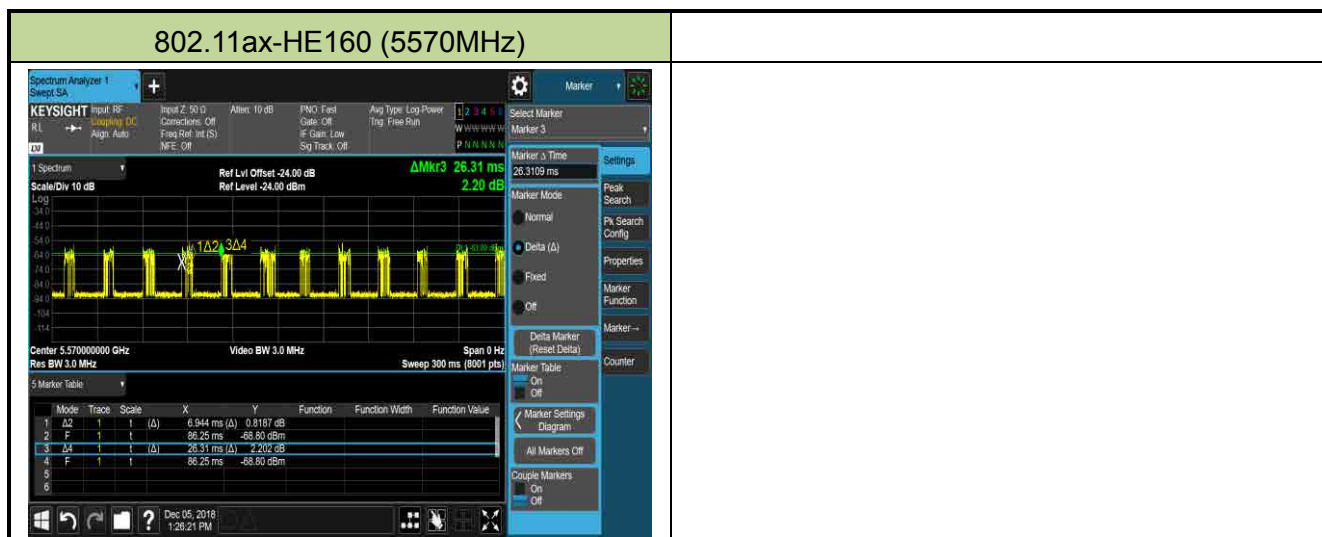


Radars #6



待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/11
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	22.76%	≥ 17%	Pass
802.11ax-HE40	5510 MHz	22.10%	≥ 17%	Pass
802.11ax-HE80	5530 MHz	24.24%	≥ 17%	Pass
802.11ax-HE160	5250 MHz	22.45%	≥ 17%	Pass
802.11ax-HE160	5570 MHz	26.39%	≥ 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	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/07
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%
5509.6 FH	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	0%

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

Note 2: Detection Bandwidth = FH - FL = 5509.6MHz – 5490.4MHz = 19.20MHz

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

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/07
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%
5491 FL	1	1	1	1	1	1	1	1	1	1	100%
5492	1	1	1	1	1	1	1	1	1	1	100%
5493	1	1	1	1	1	1	1	1	1	1	100%
5494	1	1	1	1	1	1	1	1	1	1	100%
5495	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5525	1	1	1	1	1	1	1	1	1	1	100%
5526	1	1	1	1	1	1	1	1	1	1	100%
5527	1	1	1	1	1	1	1	1	1	1	100%
5528	1	1	1	1	1	1	1	1	1	1	100%
5529 FH	1	1	1	1	1	1	1	1	1	1	100%
5530	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 37.56MHz. (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): 37.56MHz x 100% = 37.56MHz.

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/07
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%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569 FH	1	1	1	1	1	1	1	1	1	1	100%
5570	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 77.03MHz. (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): 77.03MHz x 100% = 77.03MHz.

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/07
測試項目	Detection Bandwidth (802.11ax-HE160 mode - 5250MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250 FL	1	1	1	1	1	1	1	1	1	1	100%
5255	1	1	1	1	1	1	1	1	1	1	100%
5260	1	1	1	1	1	1	1	1	1	1	100%
5265	1	1	1	1	1	1	1	1	1	1	100%
5270	1	1	1	1	1	1	1	1	1	1	100%
5275	1	1	1	1	1	1	1	1	1	1	100%
5280	1	1	1	1	1	1	1	1	1	1	100%
5285	1	1	1	1	1	1	1	1	1	1	100%
5290	1	1	1	1	1	1	1	1	1	1	100%
5295	1	1	1	1	1	1	1	1	1	1	100%
5300	1	1	1	1	1	1	1	1	1	1	100%
5305	1	1	1	1	1	1	1	1	1	1	100%
5310	1	1	1	1	1	1	1	1	1	1	100%
5315	1	1	1	1	1	1	1	1	1	1	100%
5320	1	1	1	1	1	1	1	1	1	1	100%
5325	1	1	1	1	1	1	1	1	1	1	100%
5326	1	1	1	1	1	1	1	1	1	1	100%
5327	1	1	1	1	1	1	1	1	1	1	100%
5328	1	1	1	1	1	1	1	1	1	1	100%
5329 FH	1	1	1	1	1	1	1	1	1	1	100%
5330	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 5250MHz. The 99% channel bandwidth fall within DFS band is 77.30MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5329MHz - 5250MHz = 79MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 77.30MHz x 100% = 77.30MHz.

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/07
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 154.70MHz. (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): 154.70MHz x 100% = 154.70MHz.

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	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/05
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 (94.2 sec). Initial beacons/data transmissions are indicated by marker 1 (154.2 sec).

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。

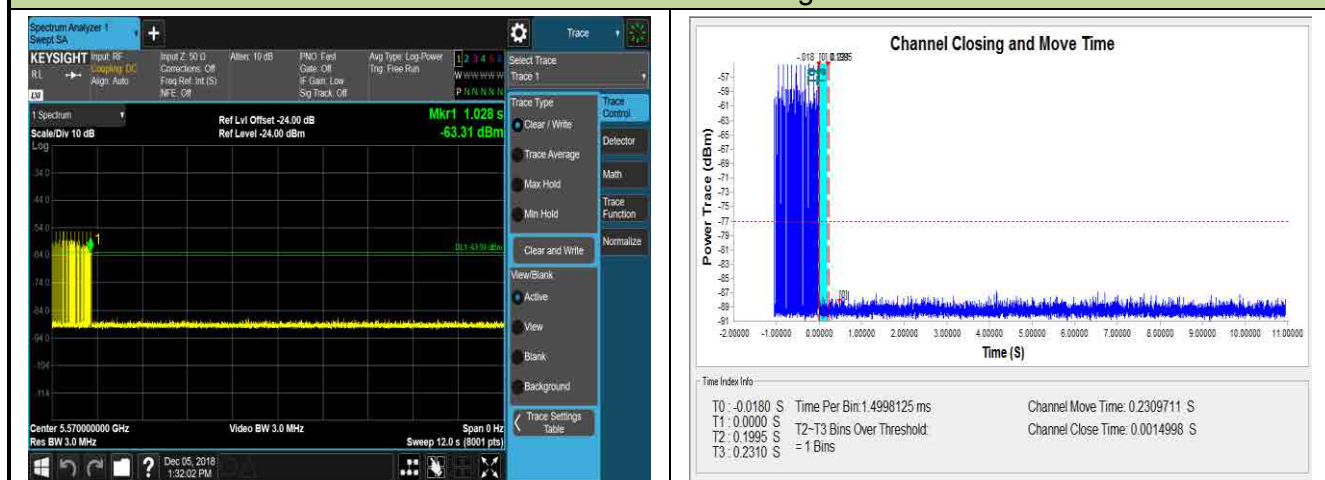
9.2. 量測方法

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.

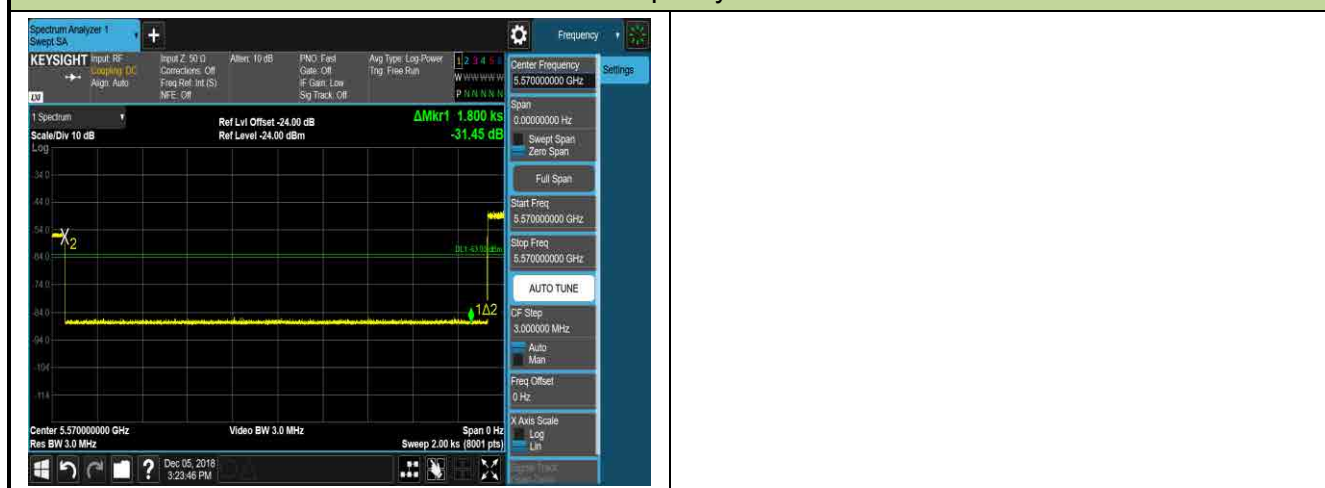
9.3. 頻道關閉傳輸時間及不可佔用期間測試結果

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/05
測試項目	Channel Move Time and Channel Closing Transmission Time (802.11ax-HE160 mode - 5570MHz)		

Channel Move Time and Channel Closing Transmission Time



Non-Occupancy Period



項目	結果	限值
	Type 0	
頻率移動時間(s)	0.231s	<10s
頻道關閉傳輸時間(ms)	1.5ms	< 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	$P_d > 60\%$
1	30(15 of test A and 15 of test B)	$P_d > 60\%$
2	30	$P_d > 60\%$
3	30	$P_d > 60\%$
4	30	$P_d > 60\%$
Aggregate (Radar Types 1-4)	120	$P_d > 80\%$
5	30	$P_d > 80\%$
6	30	$P_d > 70\%$

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: $(P_{d1} + P_{d2} + P_{d3} + P_{d4}) / 4$.

10.2. 量測方法

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

10.3. 動態頻率選擇偵測門檻測試結果

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/09
測試項目	Radar Statistical Performance Check (802.11ax-HE20 – 5500MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5492.6	1	538	98	1
2	5500.0	1	758	70	1
3	5497.6	1	3066	18	1
4	5506.3	1	878	61	1
5	5491.8	1	518	102	1
6	5500.0	1	898	59	1
7	5506.9	1	698	76	0
8	5495.5	1	798	67	1
9	5508.8	1	778	68	1
10	5508.3	1	818	65	1
11	5490.4	1	598	89	1
12	5509.6	1	578	92	1
13	5507.2	1	558	95	1
14	5492.9	1	658	81	1
15	5494.0	1	678	78	1
16	5501.2	1	2722	20	1
17	5490.9	1	1687	32	1
18	5498.5	1	722	73	1
19	5496.3	1	2311	23	1
20	5504.7	1	1908	28	1
21	5493.2	1	1926	28	1
22	5502.8	1	702	76	1
23	5491.5	1	1915	28	0
24	5504.1	1	2226	24	1
25	5499.8	1	547	97	1
26	5493.8	1	2643	20	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5505.2	1	1116	48	1
28	5507.8	1	1307	41	1
29	5503.3	1	1057	50	1
30	5505.8	1	3063	18	1
Detection Percentage (%)					93.3%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5492.6	5.0	156	24	1
2	5500.0	1.6	169	28	1
3	5499.8	2.7	203	24	0
4	5504.1	1.9	199	26	1
5	5491.8	3.6	208	25	1
6	5506.9	2.3	199	25	1
7	5498.5	4.6	155	24	1
8	5508.3	2.4	170	26	1
9	5503.3	1.7	202	23	1
10	5492.9	3.6	214	25	1
11	5508.8	4.3	184	29	0
12	5507.2	2.3	171	24	1
13	5491.5	4.8	177	24	1
14	5504.7	1.7	181	28	1
15	5500.0	4.5	212	28	1
16	5490.4	3.6	222	26	1
17	5506.3	5.0	203	27	0
18	5497.6	3.1	228	28	1
19	5509.6	3.1	208	28	1
20	5501.2	1.9	159	27	1
21	5493.2	2.3	223	24	1
22	5505.2	1.9	152	25	0
23	5495.5	4.2	226	24	1
24	5493.8	2.9	170	26	1
25	5507.8	3.4	207	27	1
26	5490.9	4.2	230	29	1
27	5502.8	2.2	226	26	1
28	5496.3	4.0	190	28	1
29	5505.8	4.3	172	26	1
30	5494.0	3.8	213	26	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	5494.0	7.1	247	16	1
2	5490.9	8.8	388	16	1
3	5500.0	9.7	301	17	1
4	5492.9	8.7	367	16	1
5	5504.7	6.4	273	18	1
6	5490.4	6.8	453	17	0
7	5507.8	8.1	247	17	1
8	5504.1	9.2	422	16	1
9	5493.8	7.8	308	18	1
10	5506.9	7.6	385	18	1
11	5492.6	6.1	373	17	0
12	5509.6	7.8	411	18	1
13	5506.3	8.7	476	16	1
14	5507.2	7.7	405	18	1
15	5495.5	9.7	397	16	1
16	5500.0	6.7	480	18	1
17	5499.8	6.0	212	16	1
18	5493.2	6.8	407	18	1
19	5508.3	6.7	414	18	1
20	5491.5	7.5	470	16	1
21	5503.3	8.8	376	18	1
22	5501.2	7.4	373	17	1
23	5508.8	9.8	256	16	0
24	5505.8	7.7	254	18	1
25	5496.3	7.1	409	16	1
26	5505.2	7.1	463	17	0
27	5497.6	8.2	382	16	1
28	5491.8	8.9	240	18	1
29	5502.8	8.1	410	17	1
30	5498.5	8.9	313	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	5492.9	19.1	284	15	1
2	5502.8	12.0	313	12	1
3	5500.0	11.1	388	14	0
4	5508.8	14.5	258	14	1
5	5506.9	11.5	253	15	1
6	5509.6	18.3	235	16	1
7	5490.4	12.4	267	13	1
8	5499.8	14.4	417	13	1
9	5506.3	16.6	365	15	1
10	5492.6	19.0	238	15	0
11	5504.1	15.5	356	14	1
12	5501.2	11.1	261	14	1
13	5490.9	11.4	289	14	1
14	5507.2	20.0	291	14	1
15	5493.2	18.3	334	13	1
16	5495.5	12.0	413	13	0
17	5491.8	13.1	397	15	1
18	5508.3	13.8	236	12	1
19	5500.0	19.3	259	13	0
20	5493.8	19.9	321	13	1
21	5503.3	14.1	200	14	1
22	5491.5	19.5	486	12	1
23	5505.2	16.9	447	12	1
24	5504.7	17.9	364	16	0
25	5496.3	17.7	490	15	1
26	5498.5	19.5	468	13	1
27	5507.8	14.4	345	13	1
28	5497.6	15.2	248	15	1
29	5505.8	18.2	202	14	1
30	5494.0	14.5	473	16	1
Detection Percentage (%)					83.3%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (93.3\% + 86.7\% + 86.7\% + 83.3\%) / 4 = 87.5\% (>80\%)$

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5497.7	1	16	5500.0	1
2	5493.7	1	17	5500.0	1
3	5494.5	1	18	5500.0	0
4	5492.5	1	19	5500.0	1
5	5498.1	1	20	5500.0	1
6	5497.3	0	21	5502.3	1
7	5492.9	1	22	5505.9	1
8	5495.3	1	23	5507.1	1
9	5494.1	1	24	5505.5	1
10	5496.1	1	25	5501.9	1
11	5500.0	1	26	5502.7	1
12	5500.0	1	27	5507.5	1
13	5500.0	1	28	5506.3	1
14	5500.0	1	29	5503.9	1
15	5500.0	1	30	5505.9	1
Detection Percentage (%)					93.3%

Type 5 Radar Waveform_1										
Num of Bursts = 17 Burst Interval (us)= 705882										
Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	392514	1	18	70	1440	0	0	392514	0	705881
2	412970	1	18	75	1976	0	0	806924	705882	1411763
3	959502	1	18	60	1236	0	0	1768402	1411764	2117645
4	529687	3	18	70	1129	1024	1505	2299325	2117646	2823527
5	770834	2	18	80	1114	1582	0	3073817	2823528	3529409
6	759570	3	18	85	1012	1560	1787	3836083	3529410	4235291
7	425111	3	18	80	1701	1069	1348	4265553	4235292	4941173
8	1059938	1	18	75	1797	0	0	5329609	4941174	5647055
9	490413	2	18	55	1860	1806	0	5821819	5647056	6352937
10	1064703	3	18	50	1341	1542	1373	6890188	6352938	7058819
11	339627	2	18	55	1963	1390	0	7234071	7058820	7764701
12	1030278	1	18	100	1563	0	0	8267702	7764702	8470583
13	467466	1	18	75	1205	0	0	8736731	8470584	9176465
14	865144	1	18	85	1286	0	0	9603080	9176466	9882347
15	309776	1	18	65	1150	0	0	9914142	9882348	10588229
16	1340769	3	18	95	1954	1460	1537	11256061	10588230	11294111
17	678480	2	18	60	1609	1799	0	11939492	11294112	11999993
Total number of pulses in waveform = 31 *****										



Type 5 Radar Waveform_2

Num of Bursts = 14
Burst Interval (us) = 857143

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	765955	1	8	50	1428	0	0	765955	0	857142
2	429125	1	8	100	1115	0	0	1196508	857143	1714285
3	976597	1	8	95	1725	0	0	2174220	1714286	2571428
4	984142	2	8	65	1736	1417	0	3160087	2571429	3428571
5	500648	2	8	90	1559	1732	0	3663888	3428572	4285714
6	1072312	2	8	65	1092	1534	0	4739491	4285715	5142857
7	554320	1	8	50	1175	0	0	5296437	5142858	6000000
8	1455567	3	8	65	1543	1908	1544	6753179	6000001	6857143
9	876615	3	8	50	1206	1873	1103	7634789	6857144	7714286
10	668472	2	8	100	1789	1660	0	8307443	7714287	8571429
11	400633	2	8	65	1060	1904	0	8711525	8571430	9428572
12	1122046	2	8	80	1956	1738	0	9836535	9428573	10285715
13	584065	3	8	65	1299	1961	1418	10424294	10285716	11142858
14	861544	1	8	80	1508	0	0	11290516	11142859	12000001

Total number of pulses in waveform = 26

Type 5 Radar Waveform_3

Num of Bursts = 16
Burst Interval (us) = 750000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	424511	2	10	65	1194	1970	0	424511	0	749999
2	1052221	2	10	55	1986	1943	0	1479896	750000	1499999
3	298885	1	10	75	1160	0	0	1782710	1500000	2249999
4	999699	1	10	60	1963	0	0	2783569	2250000	2999999
5	675118	2	10	100	1537	1676	0	3460650	3000000	3749999
6	525408	2	10	70	1040	1365	0	3989271	3750000	4499999
7	532307	1	10	50	1305	0	0	4523983	4500000	5249999
8	1379936	1	10	75	1639	0	0	5905224	5250000	5999999
9	429960	2	10	70	1406	1963	0	6336823	6000000	6749999
10	717408	3	10	90	1926	1918	1420	7057600	6750000	7499999
11	481642	1	10	50	1512	0	0	7544506	7500000	8249999
12	1139695	1	10	50	1837	0	0	8685713	8250000	8999999
13	821476	3	10	70	1783	1897	1772	9509026	9000000	9749999
14	887884	3	10	60	1862	1785	1292	10402362	9750000	10499999
15	453519	3	10	65	1133	1832	1381	10860820	10500000	11249999
16	980293	3	10	95	1631	1202	1742	11845459	11250000	11999999

Total number of pulses in waveform = 31

Type 5 Radar Waveform_4

Num of Bursts = 16
Burst Interval (us) = 750000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	11380	3	5	100	1885	1812	1239	11380	0	749999
2	1331472	2	5	100	1686	1026	0	1347788	750000	1499999
3	811940	2	5	60	1415	1647	0	2162440	1500000	2249999
4	594795	1	5	65	1397	0	0	2760297	2250000	2999999
5	715179	1	5	80	1977	0	0	3476873	3000000	3749999
6	757784	3	5	90	1324	1619	1870	4236634	3750000	4499999
7	986759	3	5	70	1008	1905	1814	5228206	4500000	5249999
8	201488	3	5	00	1290	1817	1870	5434421	5250000	5999999
9	930470	1	5	80	1932	0	0	6369868	6000000	6749999
10	469358	2	5	95	1165	1086	0	6841158	6750000	7499999
11	917964	1	5	90	1444	0	0	7761373	7500000	8249999
12	1109313	2	5	50	1527	1185	0	8872130	8250000	8999999
13	635936	1	5	95	1942	0	0	9510778	9000000	9749999
14	650976	3	5	70	1693	1991	1329	10163696	9750000	10499999
15	693468	2	5	70	1901	1121	0	10862177	10500000	11249999
16	553118	1	5	90	1782	0	0	11418317	11250000	11999999

Total number of pulses in waveform = 31



Type 5 Radar Waveform_5

Num of Bursts = 19
Burst Interval (us)= 631579

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	54246	3	19	65	1848	1080	1648	54246	0	631578
2	1190786	2	19	60	1762	1788	0	1249608	631579	1263157
3	44250	1	19	70	1481	0	0	1297408	1263158	1894736
4	1123490	3	19	70	1335	1842	1817	2422379	1894737	2526315
5	574255	2	19	55	1683	1549	0	3001628	2526316	3157894
6	605275	3	19	90	1368	1463	1978	3610135	3157895	3789473
7	312929	2	19	55	1898	1139	0	3927873	3789474	4421052
8	1066405	3	19	70	1303	1598	1190	4997315	4421053	5052631
9	190674	2	19	100	1906	1157	0	5192080	5052632	5684210
10	986012	1	19	75	1171	0	0	6181155	5684211	6315789
11	421046	3	19	50	1607	1534	1968	6603372	6315790	6947368
12	412853	1	19	75	1225	0	0	7021334	6947369	7578947
13	1140571	1	19	85	1466	0	0	8163130	7578948	8210526
14	295497	2	19	80	1562	1101	0	8460093	8210527	8842105
15	749184	2	19	80	1611	1143	0	9211940	8842106	9473684
16	628774	1	19	50	1175	0	0	9843468	9473685	10105263
17	285816	3	19	80	1016	1555	1277	10130459	10105264	10736842
18	775848	1	19	60	1747	0	0	10910155	10736843	11368421
19	687416	1	19	85	1522	0	0	11599318	11368422	12000000

Total number of pulses in waveform = 37

Type 5 Radar Waveform_6

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	522742	1	17	90	1235	0	0	522742	0	923076
2	1164527	2	17	60	1077	1111	0	1688504	923077	1846153
3	354827	2	17	50	1218	1815	0	2045519	1846154	2769230
4	1582348	1	17	95	1415	0	0	3630900	2769231	3692307
5	610168	2	17	75	1353	1768	0	4242483	3692308	4615384
6	1172459	1	17	65	1918	0	0	5418063	4615385	5538461
7	463479	1	17	100	1370	0	0	5883460	5538462	6461538
8	1397775	2	17	95	1980	1613	0	7282605	6461539	7384615
9	609214	3	17	55	1435	1848	1751	7895412	7384616	8307692
10	846473	3	17	60	1948	1388	1714	8746919	8307693	9230769
11	731068	3	17	85	1341	1206	1323	9483037	9230770	10153846
12	827438	1	17	95	1620	0	0	10314345	10153847	11076923
13	1144996	1	17	90	1589	0	0	11460961	11076924	12000000

Total number of pulses in waveform = 23

Type 5 Radar Waveform_7

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	573890	1	6	90	1492	0	0	573890	0	1199999
2	1724626	3	6	85	1928	1220	1340	2300008	1200000	2399999
3	766123	2	6	65	1386	1464	0	3070619	2400000	3599999
4	1284015	3	6	65	1897	1871	1402	4357484	3600000	4799999
5	538624	3	6	60	1052	1800	1985	4901278	4800000	5999999
6	1406757	1	6	70	1941	0	0	6312872	6000000	7199999
7	1928054	1	6	65	1427	0	0	8242867	7200000	8399999
8	745678	3	6	90	1388	1604	1074	8989972	8400000	9599999
9	1293360	1	6	50	1634	0	0	10287398	9600000	10799999
10	1417508	2	6	50	1841	1269	0	11706540	10800000	11999999

Total number of pulses in waveform = 20



Type 5 Radar Waveform_8

Num of Bursts = 19

Burst Interval (us)= 631579

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	160549	2	12	70	1263	1167	0	160549	0	631578
2	505728	1	12	85	1213	0	0	668707	631579	1263157
3	912158	3	12	65	1185	1084	1019	1582078	1263158	1894736
4	899766	2	12	100	1748	1013	0	2485132	1894737	2526315
5	178711	3	12	100	1867	1209	1076	2666604	2526316	3157894
6	1050153	1	12	75	1738	0	0	3720909	3157895	3789473
7	681041	2	12	75	1459	1629	0	4403688	3789474	4421052
8	296101	3	12	55	1455	1898	1777	4702877	4421053	5052631
9	639545	3	12	70	1985	1776	1551	5347562	5052632	5684210
10	934637	3	12	50	1155	1696	1557	6287501	5684211	6315789
11	136616	2	12	90	1394	1787	0	6428525	6315790	6947368
12	745215	2	12	95	1186	1212	0	7176921	6947369	7578947
13	870729	3	12	85	1420	1291	1669	8050048	7578948	8210526
14	332690	1	12	95	1489	0	0	8387118	8210527	8842105
15	775191	3	12	50	1725	1886	1107	9163798	8842106	9473684
16	523430	2	12	80	1633	1911	0	9691946	9473685	10105263
17	799852	1	12	70	1343	0	0	10495342	10105264	10736842
18	732265	1	12	75	1122	0	0	11228950	10736843	11368421
19	387163	3	12	100	1857	1063	1412	11617235	11368422	12000000

Total number of pulses in waveform = 41

Type 5 Radar Waveform_9

Num of Bursts = 12

Burst Interval (us)= 1000000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	547968	3	9	75	1381	1727	1276	547968	0	999999
2	721229	3	9	50	1807	1330	1887	1273581	1000000	1999999
3	1450749	2	9	50	1887	1455	0	2729354	2000000	2999999
4	740911	1	9	90	1599	0	0	3473607	3000000	3999999
5	850661	1	9	85	1660	0	0	4325867	4000000	4999999
6	1341579	2	9	80	1605	1889	0	5669106	5000000	5999999
7	926463	2	9	50	1230	1441	0	6599063	6000000	6999999
8	1261628	2	9	85	1209	1908	0	7863362	7000000	7999999
9	706998	1	9	95	1047	0	0	8573477	8000000	8999999
10	1012702	1	9	75	1439	0	0	9587226	9000000	9999999
11	935895	2	9	75	1177	1512	0	10524560	10000000	10999999
12	1411819	2	9	85	1958	1752	0	11939068	11000000	11999999

Total number of pulses in waveform = 22

Type 5 Radar Waveform_10

Num of Bursts = 9

Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	40976	3	14	70	1407	1046	1187	40976	0	1333332
2	2259716	2	14	65	1369	1065	0	2304332	1333333	2666665
3	659238	2	14	80	1364	1468	0	2966004	2666666	3999998
4	2118412	2	14	75	1173	1970	0	5087248	3999999	5333331
5	1486446	3	14	50	1716	1107	1975	6576837	5333332	6666664
6	1225345	1	14	90	1714	0	0	7806980	6666665	7999997
7	911741	2	14	75	1255	1330	0	8720435	7999998	9333330
8	1717080	1	14	95	1002	0	0	10440100	9333331	10666663
9	986783	3	14	70	1908	1734	1566	11427885	10666664	11999996

Total number of pulses in waveform = 19

Type 5 Radar Waveform_11

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	626444	1	12	80	1001	0	0	626444	0	1199999
2	1432175	1	12	60	1627	0	0	2059620	1200000	2399999
3	982361	2	12	75	1993	1903	0	3043608	2400000	3599999
4	1024129	3	12	55	1278	1879	1482	4071633	3600000	4799999
5	1380950	3	12	50	1121	1655	1052	5457222	4800000	5999999
6	565593	3	12	80	1727	1074	1145	6026643	6000000	7199999
7	1903252	3	12	60	1963	1322	1854	7933841	7200000	8399999
8	658771	3	12	65	1080	1368	1078	8597751	8400000	9599999
9	1729877	2	12	80	1639	1410	0	10331154	9600000	10799999
10	475645	1	12	50	1614	0	0	10809848	10800000	11999999

Total number of pulses in waveform = 22

Type 5 Radar Waveform_12

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	500289	1	5	80	1616	0	0	500289	0	923076
2	1047555	1	5	75	1118	0	0	1549460	923077	1846153
3	1131535	2	5	100	1644	1467	0	2682113	1846154	2769230
4	834209	3	5	80	1469	1239	1225	3519433	2769231	3692307
5	1069186	1	5	95	1816	0	0	4592552	3692308	4615384
6	541557	3	5	50	1458	1316	1609	5135925	4615385	5538461
7	626258	3	5	100	1379	1826	1575	5766566	5538462	6461538
8	973837	3	5	75	1115	1766	1874	6745183	6461539	7384615
9	1258050	3	5	85	1236	1141	1343	8007988	7384616	8307692
10	1172601	3	5	85	1407	1461	1953	9184309	8307693	9230769
11	96197	1	5	55	1970	0	0	9285327	9230770	10153846
12	1365447	2	5	85	1817	1206	0	10652744	10153847	11076923
13	1117913	2	5	60	1300	1175	0	11773680	11076924	12000000

Total number of pulses in waveform = 28

Type 5 Radar Waveform_13

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	74380	3	10	80	1765	1364	1933	74380	0	1090908
2	2052028	1	10	70	1726	0	0	2131470	1090909	2181817
3	642729	2	10	50	1216	1211	0	2775925	2181818	3272726
4	1179917	2	10	75	1257	1865	0	3958269	3272727	4363635
5	453984	1	10	95	1359	0	0	4415375	4363636	5454544
6	1698413	3	10	65	1740	1813	1159	6115147	5454545	6545453
7	696990	1	10	55	1381	0	0	6816849	6545454	7636362
8	1785791	1	10	75	1819	0	0	8604021	7636363	8727271
9	937332	3	10	65	1224	1429	1284	9543172	8727272	9818180
10	1185396	3	10	70	1206	1276	1676	10732505	9818181	10909089
11	702073	3	10	70	1867	1093	1394	11438736	10909090	11999998

Total number of pulses in waveform = 23



Type 5 Radar Waveform_14

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	468229	2	17	55	1624	1938	0	468229	0	923076
2	763742	1	17	95	1804	0	0	1235533	923077	1846153
3	1395215	3	17	65	1946	1823	1374	2632552	1846154	2769230
4	741822	3	17	90	1313	1916	1569	3379517	2769231	3692307
5	411294	3	17	80	1935	1571	1354	3795609	3692308	4615384
6	894328	3	17	60	1182	1632	1320	4694797	4615385	5538461
7	903272	2	17	85	1766	1268	0	5602203	5538462	6461538
8	1067032	2	17	75	1926	1814	0	6672269	6461539	7384615
9	1288352	3	17	95	1621	1112	1061	7964361	7384616	8307692
10	577470	2	17	65	1372	1462	0	8545625	8307693	9230769
11	900540	1	17	60	1521	0	0	9448999	9230770	10153846
12	782077	2	17	100	1290	1374	0	10232597	10153847	11076923
13	983305	1	17	55	1482	0	0	11218566	11076924	12000000

Total number of pulses in waveform = 28

Type 5 Radar Waveform_15

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	182190	3	14	55	1410	1376	1622	182190	0	1333332
2	1650877	3	14	90	1039	1850	1173	1837475	1333333	2666665
3	1786967	3	14	55	1786	1919	1356	3628504	2666666	3999998
4	762736	1	14	55	1747	0	0	4396301	3999999	5333331
5	1854307	3	14	100	1156	1946	1613	6252355	5333332	6666664
6	437506	2	14	90	1429	1896	0	6694576	6666665	7999997
7	1828218	1	14	95	1080	0	0	8526119	7999998	9333330
8	908118	2	14	60	1651	1564	0	9435317	9333331	10666663
9	2532676	2	14	65	1774	1708	0	11971208	10666664	11999996

Total number of pulses in waveform = 20

Type 5 Radar Waveform_16

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	254280	2	19	80	1370	1118	0	254280	0	923076
2	801386	1	19	100	1956	0	0	1058154	923077	1846153
3	873358	3	19	80	1610	1291	1391	1933468	1846154	2769230
4	1123616	2	19	90	1998	1107	0	3061376	2769231	3692307
5	1107810	1	19	50	1810	0	0	4172291	3692308	4615384
6	563498	2	19	80	1865	1640	0	4737599	4615385	5538461
7	1383649	1	19	50	1362	0	0	6124753	5538462	6461538
8	578870	1	19	85	1505	0	0	6704985	6461539	7384615
9	798785	3	19	65	1690	1693	1388	7505275	7384616	8307692
10	1297004	2	19	75	1459	1148	0	8807050	8307693	9230769
11	1314765	2	19	70	1276	1998	0	10124422	9230770	10153846
12	122784	3	19	50	1990	1578	1951	10250480	10153847	11076923
13	1030388	3	19	100	1699	1072	1657	11286387	11076924	12000000

Total number of pulses in waveform = 26



Type 5 Radar Waveform_17

Num of Bursts = 12
Burst Interval (us)= 1000000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	382283	1	6	50	1401	0	0	382283	0	999999
2	927207	2	6	80	1444	1325	0	1310891	1000000	1999999
3	1186171	2	6	50	1261	1129	0	2499831	2000000	2999999
4	596423	3	6	65	1842	1138	1600	3098644	3000000	3999999
5	1700770	1	6	90	1594	0	0	4803994	4000000	4999999
6	384918	2	6	55	1137	1388	0	5190506	5000000	5999999
7	1318752	1	6	95	1469	0	0	6511783	6000000	6999999
8	778478	3	6	100	1728	1423	1735	7291730	7000000	7999999
9	888050	1	6	55	1045	0	0	8184666	8000000	8999999
10	1661387	2	6	95	1333	1120	0	9847098	9000000	9999999
11	284146	1	6	60	1942	0	0	10133697	10000000	10999999
12	1509386	1	6	50	1810	0	0	11645025	11000000	11999999

Total number of pulses in waveform = 20

Type 5 Radar Waveform_18

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	692575	2	9	80	1508	1301	0	692575	0	923076
2	401060	2	9	80	1121	1870	0	1096444	923077	1846153
3	902346	2	9	70	1648	1814	0	2001781	1846154	2769230
4	1460860	3	9	70	1053	1564	1393	3466103	2769231	3692307
5	971333	1	9	70	1904	0	0	4441446	3692308	4615384
6	371118	1	9	80	1479	0	0	4814468	4615385	5538461
7	1208414	2	9	95	1725	1857	0	6024361	5538462	6461538
8	736189	2	9	75	1497	1878	0	6764132	6461539	7384615
9	1406245	3	9	70	1282	1005	1371	8173752	7384616	8307692
10	989943	1	9	55	1885	0	0	9167353	8307693	9230769
11	157091	3	9	100	1142	1358	1258	9326329	9230770	10153846
12	1245497	2	9	70	1777	1134	0	10575584	10153847	11076923
13	1269995	1	9	80	1180	0	0	11848490	11076924	12000000

Total number of pulses in waveform = 25

Type 5 Radar Waveform_19

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	891743	3	8	95	1954	1801	1874	891743	0	1199999
2	1204002	1	8	100	1865	0	0	2101374	1200000	2399999
3	1308040	3	8	75	1274	1783	1843	3411279	2400000	3599999
4	977928	2	8	65	1249	1986	0	4394107	3600000	4799999
5	1489447	2	8	75	1058	1544	0	5886789	4800000	5999999
6	453519	2	8	90	1436	1894	0	6342910	6000000	7199999
7	1347065	2	8	50	1583	1296	0	7693305	7200000	8399999
8	720478	2	8	90	1146	1998	0	8416662	8400000	9599999
9	1734541	3	8	90	1577	1632	1205	10154347	9600000	10799999
10	1559146	1	8	80	1302	0	0	11717907	10800000	11999999

Total number of pulses in waveform = 21



Type 5 Radar Waveform_20

Num of Bursts = 8
Burst Interval (us)= 1500000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	827595	2	18	80	1385	1946	0	827595	0	1499999
2	1312109	1	18	65	1614	0	0	2143035	1500000	2999999
3	1521648	2	18	75	1260	1954	0	3666297	3000000	4499999
4	2044599	1	18	75	1341	0	0	5714110	4500000	5999999
5	1343642	3	18	80	1777	1441	1930	7059093	6000000	7499999
6	574833	2	18	70	1424	1620	0	7639074	7500000	8999999
7	2560170	3	18	70	1718	1561	1181	10202288	9000000	10499999
8	1578612	3	18	70	1915	1921	1060	11785360	10500000	11999999

Total number of pulses in waveform = 17

Type 5 Radar Waveform_21

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	869940	1	18	70	1200	0	0	869940	0	1199999
2	347942	2	18	80	1920	1807	0	1219082	1200000	2399999
3	1207054	1	18	65	1948	0	0	2429863	2400000	3599999
4	2123495	3	18	90	1381	1537	1041	4555306	3600000	4799999
5	579636	1	18	60	1659	0	0	5138901	4800000	5999999
6	1336863	2	18	70	1518	1063	0	6477423	6000000	7199999
7	1640777	3	18	100	1771	1594	1816	8120781	7200000	8399999
8	816466	3	18	95	1070	1596	1167	8942428	8400000	9599999
9	1389222	1	18	50	1570	0	0	10335483	9600000	10799999
10	1473200	3	18	50	1268	1948	1032	11810253	10800000	11999999

Total number of pulses in waveform = 20

Type 5 Radar Waveform_22

Num of Bursts = 17
Burst Interval (us)= 705882

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	195837	2	10	100	1854	1956	0	195837	0	705881
2	905344	2	10	80	1000	1833	0	1104991	705882	1411763
3	849064	2	10	75	1312	1143	0	1956888	1411764	2117645
4	440722	3	10	90	1215	1283	1675	2400065	2117646	2823527
5	707509	2	10	90	1593	1773	0	3111807	2823528	3529409
6	493544	2	10	70	1394	1682	0	3608717	3529410	4235291
7	1228607	3	10	95	1542	1993	1294	4840400	4235292	4941173
8	560212	2	10	65	1095	1153	0	5405441	4941174	5647055
9	453392	1	10	85	1678	0	0	5861081	5647056	6352937
10	1081004	2	10	95	1686	1874	0	6943763	6352938	7058819
11	296484	1	10	85	1470	0	0	7243807	7058820	7764701
12	1045732	3	10	90	1274	1438	1219	8291009	7764702	8470583
13	804615	2	10	50	1079	1294	0	9099555	8470584	9176465
14	479475	3	10	65	1711	1631	1572	9581403	9176466	9882347
15	789222	1	10	70	1609	0	0	10375539	9882348	10588229
16	405791	3	10	70	1120	1199	1229	10782939	10588230	11294111
17	940885	3	10	90	1748	1301	1779	11727372	11294112	11999993

Total number of pulses in waveform = 37



Type 5 Radar Waveform_23

Num of Bursts = 18
Burst Interval (us)= 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	156486	3	6	60	1333	1161	1043	156486	0	666666
2	1010737	1	6	70	1291	0	0	1170760	666667	1333333
3	415624	2	6	95	1198	1766	0	1587675	1333334	2000000
4	473426	2	6	70	1086	1876	0	2064065	2000001	2666667
5	755708	1	6	90	1129	0	0	2822735	2666668	3333334
6	584575	3	6	90	1888	1869	1491	3408439	3333335	4000001
7	1214353	1	6	100	1316	0	0	4628040	4000002	4666668
8	100756	3	6	60	1099	1546	1269	4730112	4666669	5333335
9	1150023	1	6	55	1769	0	0	5884049	5333336	6000002
10	719709	1	6	95	1495	0	0	6605517	6000003	6666669
11	585311	1	6	50	1181	0	0	7192323	6666670	7333336
12	704891	1	6	95	1507	0	0	7898395	7333337	8000003
13	754086	2	6	85	1687	1515	0	8653988	8000004	8666670
14	283882	2	6	60	1637	1915	0	8941072	8666671	9333337
15	475476	2	6	55	1155	1412	0	9420100	9333338	10000004
16	854154	2	6	50	1958	1391	0	10276821	10000005	10666671
17	763072	3	6	75	1029	1475	1642	11043242	10666672	11333338
18	328681	3	6	80	1086	1094	1223	11376069	11333339	12000005

Total number of pulses in waveform = 34

Type 5 Radar Waveform_24

Num of Bursts = 18
Burst Interval (us)= 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	371146	3	12	90	1206	1363	1779	371146	0	666666
2	684457	1	12	70	1733	0	0	1059951	666667	1333333
3	729505	3	12	50	1827	1971	1304	1791189	1333334	2000000
4	805616	1	12	60	1216	0	0	2601907	2000001	2666667
5	453790	1	12	60	1033	0	0	3056913	2666668	3333334
6	669506	2	12	100	1513	1674	0	3727452	3333335	4000001
7	412754	2	12	100	1120	1055	0	4143393	4000002	4666668
8	939457	1	12	60	1890	0	0	5085025	4666669	5333335
9	876303	1	12	70	1663	0	0	5963218	5333336	6000002
10	694564	2	12	70	1825	1869	0	6659445	6000003	6666669
11	265211	1	12	70	1171	0	0	6928350	6666670	7333336
12	729892	1	12	80	1026	0	0	7659413	7333337	8000003
13	967173	1	12	70	1129	0	0	8627612	8000004	8666670
14	264154	3	12	100	1961	1198	1480	8892895	8666671	9333337
15	698048	2	12	90	1210	1015	0	9595582	9333338	10000004
16	620029	1	12	55	1102	0	0	10217836	10000005	10666671
17	1039982	3	12	100	1830	1096	1896	11258920	10666672	11333338
18	510210	1	12	95	1282	0	0	11773952	11333339	12000005

Total number of pulses in waveform = 30

Type 5 Radar Waveform_25

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	754011	3	19	50	1818	1051	1965	754011	0	923076
2	724118	1	19	55	1094	0	0	1482963	923077	1846153
3	717286	2	19	90	1157	1597	0	2201343	1846154	2769230
4	736837	1	19	95	1331	0	0	2940934	2769231	3692307
5	872021	2	19	75	1596	1908	0	3814286	3692308	4615384
6	1012359	1	19	75	1757	0	0	4830149	4615385	5538461
7	1378016	2	19	65	1581	1467	0	6209922	5538462	6461538
8	687217	1	19	75	1341	0	0	6900187	6461539	7384615
9	973250	1	19	100	1705	0	0	7874778	7384616	8307692
10	1160498	1	19	90	1669	0	0	9036981	8307693	9230769
11	326055	3	19	50	1219	1585	1453	9364705	9230770	10153846
12	1468787	2	19	60	1928	1236	0	10837749	10153847	11076923
13	672141	3	19	75	1279	1160	1399	11513054	11076924	12000000

Total number of pulses in waveform = 23



Type 5 Radar Waveform_26

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	448074	1	17	95	1866	0	0	448074	0	923076
2	711454	1	17	55	1898	0	0	1161394	923077	1846153
3	1183974	1	17	55	1858	0	0	2347266	1846154	2769230
4	1160359	2	17	80	1767	1561	0	3509483	2769231	3692307
5	238937	3	17	95	1367	1843	1580	3751748	3692308	4615384
6	1296862	3	17	100	1132	1293	1555	5053400	4615385	5538461
7	1149754	3	17	50	1480	1915	1507	6207134	5538462	6461538
8	587107	1	17	65	1712	0	0	6799143	6461539	7384615
9	1320444	3	17	60	1048	1215	1336	8121299	7384616	8307692
10	783682	3	17	75	1341	1312	1184	8908580	8307693	9230769
11	1088881	3	17	85	1156	1200	1831	10001298	9230770	10153846
12	477944	2	17	75	1196	1814	0	10483429	10153847	11076923
13	1126350	2	17	95	1559	1462	0	11612789	11076924	12000000

Total number of pulses in waveform = 28

Type 5 Radar Waveform_27

Num of Bursts = 18
Burst Interval (us)= 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	22555	1	5	50	1153	0	0	22555	0	666666
2	772615	1	5	80	1601	0	0	796333	666667	1333333
3	806033	3	5	100	1698	1086	1709	1603967	1333334	2000000
4	573679	3	5	95	1811	1051	1712	2182139	2000001	2666667
5	566345	3	5	80	1897	1897	1937	2753058	2666668	3333334
6	887127	1	5	95	1312	0	0	3645916	3333335	4000001
7	812152	1	5	50	1138	0	0	4459380	4000002	4666668
8	275770	3	5	55	1239	1800	1867	4736288	4666669	5333335
9	1219394	1	5	65	1532	0	0	5960588	5333336	6000002
10	591768	2	5	95	1989	1473	0	6553888	6000003	6666669
11	354817	3	5	100	1361	1960	1436	6912167	6666670	7333336
12	417524	3	5	95	1273	1864	1361	7334448	7333337	8000003
13	1259379	3	5	75	1504	1225	1930	8598325	8000004	8666670
14	602487	2	5	95	1788	1496	0	9205471	8666671	9333337
15	618798	3	5	60	1517	1637	1786	9827553	9333338	10000004
16	471051	3	5	60	1771	1870	1912	10303544	10000005	10666671
17	537013	3	5	90	1666	1316	1241	10846110	10666672	11333338
18	566362	2	5	55	1806	1511	0	11416595	11333339	12000005

Total number of pulses in waveform = 41

Type 5 Radar Waveform_28

Num of Bursts = 14
Burst Interval (us)= 857143

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	765955	1	8	50	1428	0	0	765955	0	857142
2	429125	1	8	100	1115	0	0	1196508	857143	1714285
3	976597	1	8	95	1725	0	0	2174220	1714286	2571428
4	984142	2	8	65	1736	1417	0	3160087	2571429	3428571
5	500648	2	8	90	1559	1732	0	3663888	3428572	4285714
6	1072312	2	8	65	1092	1534	0	4739491	4285715	5142857
7	554320	1	8	50	1175	0	0	5295437	5142858	6000000
8	1455567	3	8	65	1543	1908	1544	6753179	6000001	6857143
9	876615	3	8	50	1206	1873	1103	7634789	6857144	7714286
10	668472	2	8	100	1789	1660	0	8307443	7714287	8571429
11	400633	2	8	65	1060	1904	0	8711525	8571430	9428572
12	1122046	2	8	80	1956	1738	0	9836535	9428573	10285715
13	584065	3	8	65	1299	1961	1418	10424294	10285716	11142858
14	861544	1	8	80	1508	0	0	11290516	11142859	12000001

Total number of pulses in waveform = 26



Type 5 Radar Waveform_29

Num of Bursts = 12
Burst Interval (us)= 1000000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	584710	2	14	90	1064	1452	0	584710	0	999999
2	1175732	3	14	65	1088	1012	1385	1762958	1000000	1999999
3	422175	1	14	75	1123	0	0	2188618	2000000	2999999
4	1749374	3	14	85	1976	1420	1703	3939115	3000000	3999999
5	469251	1	14	80	1385	0	0	4413465	4000000	4999999
6	1281789	3	14	60	1119	1189	1548	5696639	5000000	5999999
7	364285	3	14	55	1283	1813	1146	6064780	6000000	6999999
8	1855461	2	14	60	1521	1669	0	7924483	7000000	7999999
9	1012048	2	14	60	1936	1940	0	8939721	8000000	8999999
10	582322	3	14	50	1934	1355	1849	9525919	9000000	9999999
11	1261608	3	14	65	1576	1406	1070	10792665	10000000	10999999
12	727554	3	14	65	1590	1371	1722	11524271	11000000	11999999

Total number of pulses in waveform = 29

Type 5 Radar Waveform_30

Num of Bursts = 17
Burst Interval (us)= 705882

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	589385	1	9	85	1669	0	0	589385	0	705881
2	435793	3	9	75	1744	1843	1629	1026747	705882	1411763
3	1026373	1	9	65	1494	0	0	2058336	1411764	2117645
4	417385	3	9	75	1222	1101	1524	2477215	2117646	2823527
5	483619	2	9	80	1512	1273	0	2964681	2823528	3529409
6	1054254	3	9	65	1589	1252	1505	4021720	3529410	4235291
7	886916	1	9	80	1124	0	0	4912982	4235292	4941173
8	204464	2	9	95	1520	1856	0	5118570	4941174	5647055
9	886539	2	9	95	1524	1452	0	6008485	5647056	6352937
10	432877	3	9	100	1725	1533	1096	6444338	6352938	7058819
11	1134524	3	9	90	1857	1499	1180	7583216	7058820	7764701
12	237844	3	9	55	1455	1419	1587	7825596	7764702	8470583
13	761823	1	9	70	1422	0	0	8591880	8470584	9176465
14	755215	3	9	95	1618	1718	1070	9348517	9176466	9882347
15	704883	2	9	65	1800	1010	0	10057806	9882348	10588229
16	1107974	3	9	90	1588	1002	1579	11168590	10588230	11294111
17	518218	3	9	85	1109	1534	1001	11690977	11294112	11999993

Total number of pulses in waveform = 39

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	5498.5	1	16	5493.2	1
2	5491.5	1	17	5499.8	1
3	5494.0	1	18	5504.7	1
4	5490.4	1	19	5492.9	1
5	5495.5	1	20	5506.3	1
6	5506.9	1	21	5493.8	1
7	5504.1	1	22	5503.3	1
8	5508.3	1	23	5496.3	1
9	5491.8	1	24	5505.2	1
10	5508.8	1	25	5502.8	1
11	5509.6	1	26	5500.0	1
12	5490.9	1	27	5507.2	1
13	5507.8	1	28	5497.6	1
14	5500.0	1	29	5505.8	1
15	5492.6	1	30	5501.2	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5473	18	1	5477	3
9	5515	27	3	5525	9
10	5476	30	24	5478	72
15	5504	45	27	5487	81
22	5478	66	36	5500	108
31	5481	93	52	5483	156
42	5516	126	54	5494	162
53	5496	159	58	5528	174
56	5528	168	67	5520	201
62	5485	186	69	5472	207
65	5509	195	75	5516	225
77	5474	231	92	5522	276
79	5487	237	98	5495	294
94	5511	282	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5501	0	2	5516	6
9	5490	27	3	5482	9
12	5494	36	12	5473	36
25	5530	75	13	5528	39
48	5503	144	16	5490	48
54	5480	162	17	5526	51
68	5489	204	26	5485	78
82	5515	246	34	5476	102
96	5505	288	54	5487	162
--	--	--	59	5497	177
--	--	--	79	5521	237
--	--	--	80	5489	240
--	--	--	89	5507	267
--	--	--	99	5477	297

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5499	33	4	5482	12
13	5511	39	5	5492	15
23	5529	69	17	5483	51
29	5478	87	20	5528	60
35	5496	105	28	5513	84
38	5490	114	35	5470	105
39	5503	117	48	5480	144
49	5498	147	49	5497	147
55	5486	165	64	5496	192
61	5519	183	75	5517	225
73	5510	219	86	5527	258
79	5495	237	90	5510	270
--	--	--	92	5473	276
--	--	--	99	5503	297

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5474	15	4	5513	12
11	5484	33	8	5514	24
12	5519	36	10	5523	30
16	5512	48	16	5494	48
18	5520	54	24	5477	72
19	5514	57	29	5499	87
28	5509	84	33	5498	99
33	5478	99	37	5480	111
43	5475	129	44	5517	132
48	5529	144	70	5521	210
56	5493	168	74	5474	222
58	5516	174	87	5520	261
66	5470	198	--	--	--
70	5513	210	--	--	--
72	5476	216	--	--	--
77	5491	231	--	--	--
79	5502	237	--	--	--
87	5482	261	--	--	--
89	5500	267	--	--	--
99	5473	297	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5473	30	2	5486	6
24	5477	72	15	5512	45
33	5511	99	17	5492	51
38	5521	114	21	5474	63
56	5489	168	22	5510	66
59	5503	177	46	5503	138
63	5488	189	62	5505	186
64	5496	192	67	5518	201
71	5529	213	73	5527	219
80	5499	240	92	5500	276
84	5526	252	95	5513	285
91	5514	273	96	5521	288

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
16	5511	48	2	5483	6
18	5478	54	20	5494	60
37	5521	111	26	5477	78
40	5487	120	35	5517	105
49	5509	147	37	5493	111
56	5484	168	40	5473	120
58	5488	174	41	5528	123
61	5471	183	51	5510	153
62	5507	186	60	5511	180
69	5514	207	61	5513	183
76	5475	228	64	5514	192
79	5482	237	71	5507	213
84	5504	252	72	5524	216
88	5526	264	85	5479	255
92	5490	276	87	5478	261
96	5480	288	88	5522	264
--	--	--	91	5519	273
--	--	--	92	5470	276
--	--	--	95	5471	285

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5518	0	5	5498	15
3	5482	9	12	5493	36
28	5511	84	31	5476	93
31	5486	93	41	5523	123
52	5507	156	43	5508	129
57	5510	171	52	5477	156
58	5525	174	55	5503	165
62	5483	186	59	5516	177
63	5487	189	73	5491	219
64	5480	192	74	5475	222
65	5522	195	75	5504	225
73	5503	219	77	5479	231
76	5490	228	81	5488	243
78	5500	234	90	5529	270
--	--	--	92	5527	276

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5510	27	13	5519	39
24	5511	72	14	5521	42
25	5496	75	38	5498	114
36	5500	108	44	5485	132
47	5474	141	47	5520	141
54	5497	162	79	5509	237
58	5514	174	89	5503	267
59	5529	177	--	--	--
70	5521	210	--	--	--
75	5503	225	--	--	--
77	5502	231	--	--	--
81	5516	243	--	--	--
83	5498	249	--	--	--
88	5481	264	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5471	6	0	5481	0
7	5492	21	1	5499	3
35	5479	105	4	5526	12
37	5493	111	8	5523	24
50	5512	150	18	5494	54
51	5526	153	21	5472	63
55	5502	165	34	5520	102
58	5517	174	43	5525	129
78	5475	234	44	5482	132
91	5482	273	45	5484	135
94	5477	282	51	5491	153
--	--	--	71	5475	213
--	--	--	74	5476	222
--	--	--	91	5500	273
--	--	--	92	5509	276

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5486	12	11	5480	33
6	5529	18	16	5520	48
15	5479	45	26	5515	78
33	5526	99	37	5524	111
34	5496	102	45	5495	135
35	5525	105	55	5483	165
44	5499	132	62	5529	186
45	5488	135	64	5509	192
48	5475	144	66	5477	198
51	5504	153	81	5517	243
73	5490	219	83	5501	249
80	5489	240	85	5528	255
85	5528	255	--	--	--
92	5517	276	--	--	--
95	5510	285	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5523	6	12	5481	36
36	5520	108	31	5513	93
46	5528	138	34	5520	102
55	5527	165	43	5472	129
64	5492	192	52	5498	156
65	5473	195	53	5505	159
67	5482	201	54	5518	162
72	5486	216	56	5526	168
73	5513	219	62	5512	186
90	5484	270	67	5485	201
--	--	--	68	5493	204
--	--	--	76	5501	228
--	--	--	78	5519	234
--	--	--	79	5530	237
--	--	--	85	5516	255
--	--	--	88	5521	264
--	--	--	92	5495	276
--	--	--	94	5511	282
--	--	--	95	5492	285
--	--	--	99	5480	297

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5500	9	18	5504	54
6	5491	18	32	5508	96
31	5479	93	33	5488	99
41	5514	123	74	5509	222
43	5480	129	75	5490	225
51	5487	153	81	5480	243
69	5481	207	82	5496	246
70	5471	210	86	5485	258
73	5494	219	92	5500	276
76	5482	228	96	5518	288
89	5517	267	--	--	--
93	5508	279	--	--	--
95	5473	285	--	--	--
99	5492	297	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5513	18	36	5501	108
14	5504	42	51	5505	153
17	5508	51	58	5494	174
35	5499	105	59	5488	177
54	5470	162	65	5517	195
64	5489	192	73	5512	219
--	--	--	74	5498	222
--	--	--	84	5493	252
--	--	--	86	5511	258
--	--	--	95	5526	285
--	--	--	97	5490	291

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5501	42	24	5481	72
19	5485	57	28	5489	84
32	5513	96	29	5529	87
33	5482	99	31	5510	93
38	5470	114	38	5511	114
40	5505	120	46	5509	138
41	5500	123	65	5492	195
43	5509	129	80	5525	240
65	5499	195	83	5519	249
81	5528	243	93	5475	279
83	5492	249	97	5502	291
96	5476	288	--	--	--
97	5498	291	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5478	36	22	5490	66
14	5481	42	36	5498	108
16	5513	48	42	5493	126
25	5521	75	47	5525	141
34	5486	102	48	5483	144
42	5529	126	49	5500	147
45	5484	135	50	5470	150
51	5523	153	52	5487	156
55	5518	165	53	5530	159
57	5482	171	56	5486	168
63	5493	189	59	5472	177
64	5512	192	60	5512	180
74	5487	222	62	5520	186
81	5472	243	65	5522	195
85	5494	255	68	5495	204
92	5508	276	71	5515	213
--	--	--	75	5524	225
--	--	--	79	5485	237
--	--	--	81	5494	243

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/10
測試項目	Radar Statistical Performance Check (802.11ax-HE40 mode – 5510MHz)		

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5510.0	1	698	76	1
2	5497.1	1	758	70	1
3	5515.7	1	918	58	1
4	5505.2	1	578	92	1
5	5518.4	1	618	86	1
6	5491.0	1	878	61	1
7	5526.7	1	738	72	1
8	5504.7	1	538	99	1
9	5524.6	1	818	65	1
10	5509.4	1	898	59	1
11	5529.0	1	938	57	1
12	5519.8	1	838	63	1
13	5492.4	1	598	89	1
14	5503.7	1	858	62	1
15	5500.2	1	658	81	1
16	5498.5	1	2999	18	1
17	5528.3	1	730	73	1
18	5520.4	1	2510	22	1
19	5506.5	1	1197	45	1
20	5516.9	1	708	75	1
21	5493.5	1	710	75	1
22	5522.7	1	3055	18	1
23	5514.3	1	2304	23	1
24	5494.7	1	2754	20	1
25	5508.3	1	1472	36	1
26	5495.2	1	3036	18	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5512.5	1	673	79	1
28	5499.5	1	1242	43	1
29	5502.4	1	1519	35	1
30	5496.8	1	757	70	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	5496.8	3.3	226	29	1
2	5491.0	3.5	219	23	1
3	5522.7	1.9	223	28	0
4	5528.3	2.7	227	23	1
5	5495.2	3.7	176	26	1
6	5526.7	2.1	152	29	1
7	5499.5	4.6	226	25	1
8	5524.6	3.3	156	29	1
9	5492.4	3.4	157	25	1
10	5529.0	1.1	209	27	1
11	5500.2	1.1	153	23	1
12	5520.4	3.9	211	25	1
13	5497.1	2.5	219	27	1
14	5510.0	2.5	228	23	0
15	5516.9	1.7	185	24	1
16	5493.5	3.0	156	24	1
17	5503.7	4.0	183	28	1
18	5519.8	1.0	196	24	1
19	5494.7	5.0	190	26	1
20	5514.3	3.5	179	29	1
21	5502.4	1.7	212	25	1
22	5498.5	3.9	198	27	1
23	5515.7	4.3	163	26	1
24	5508.3	4.1	188	28	1
25	5518.4	2.2	162	28	1
26	5505.2	4.1	201	27	1
27	5509.4	3.0	206	23	1
28	5512.5	4.6	206	23	1
29	5504.7	1.2	224	29	1
30	5506.5	5.0	188	25	1
Detection Percentage (%)					93.3%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5495.2	9.3	343	18	1
2	5515.7	8.4	319	16	1
3	5510.0	7.2	469	18	1
4	5514.3	9.2	456	18	1
5	5496.8	9.2	280	17	1
6	5522.7	6.4	471	17	1
7	5500.2	9.3	440	17	1
8	5492.4	9.8	257	16	1
9	5512.5	6.7	404	17	1
10	5506.5	7.0	251	16	1
11	5497.1	7.1	408	16	0
12	5520.4	9.5	432	16	1
13	5508.3	9.1	367	16	1
14	5491.0	6.3	461	17	1
15	5528.3	7.8	474	17	1
16	5499.5	8.6	408	17	1
17	5509.4	9.9	359	16	1
18	5505.2	9.7	319	16	1
19	5493.5	7.0	363	18	1
20	5519.8	9.5	255	16	1
21	5498.5	8.1	494	18	1
22	5516.9	7.5	445	18	1
23	5494.7	6.7	335	18	1
24	5524.6	8.6	331	18	1
25	5504.7	7.4	411	18	1
26	5529.0	9.5	345	17	1
27	5502.4	6.6	367	16	0
28	5526.7	8.4	407	16	1
29	5518.4	6.0	354	16	1
30	5503.7	9.8	307	17	1
Detection Percentage (%)					93.3%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5510.0	18.8	478	16	1
2	5494.7	11.2	387	15	1
3	5509.4	18.5	353	14	1
4	5497.1	15.9	348	16	1
5	5508.3	16.4	386	13	1
6	5492.4	19.3	367	16	1
7	5518.4	16.3	448	13	1
8	5512.5	14.1	417	15	1
9	5506.5	18.0	497	15	1
10	5491.0	12.1	489	16	0
11	5504.7	15.4	401	12	1
12	5516.9	18.8	466	14	1
13	5496.8	13.2	277	14	1
14	5515.7	18.1	283	14	1
15	5499.5	20.0	383	14	1
16	5519.8	11.3	365	13	1
17	5498.5	19.9	297	12	1
18	5522.7	20.0	440	15	1
19	5493.5	11.1	468	12	1
20	5514.3	17.6	251	14	1
21	5505.2	12.1	476	13	1
22	5528.3	16.5	442	16	1
23	5495.2	19.9	335	13	1
24	5529.0	12.7	407	13	1
25	5503.7	16.9	447	16	1
26	5520.4	17.2	467	13	0
27	5500.2	16.1	472	14	1
28	5524.6	16.5	405	13	1
29	5526.7	15.8	272	12	1
30	5502.4	16.5	264	14	1
Detection Percentage (%)					93.3%

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

waveforms is as follows: $\frac{P_d1 + P_d2 + P_d3 + P_d4}{4} = (100\% + 93.3\% + 93.3\% + 93.3\%) / 4 = 95.0\% (>80\%)$

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	5498.0	1	16	5510.0	1
2	5495.2	1	17	5510.0	1
3	5494.4	1	18	5510.0	1
4	5498.4	0	19	5510.0	1
5	5493.2	1	20	5510.0	1
6	5496.8	1	21	5525.6	0
7	5498.8	1	22	5526.8	1
8	5493.6	1	23	5524.8	1
9	5496.0	1	24	5523.2	1
10	5494.8	1	25	5526.4	1
11	5510.0	1	26	5522.0	1
12	5510.0	0	27	5524.0	1
13	5510.0	1	28	5521.6	1
14	5510.0	1	29	5521.2	1
15	5510.0	1	30	5525.2	1
Detection Percentage (%)					90%

Type 5 Radar Waveform_1

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	839483	2	17	65	1549	1375	0	839483	0	1333332
2	1710239	2	17	70	1402	1526	0	2552646	1333333	2666665
3	826078	2	17	50	1916	1131	0	3381652	2666666	3999998
4	1805380	3	17	60	1200	1225	1284	5190079	3999999	5333331
5	1218233	1	17	65	1246	0	0	6412021	5333332	6666664
6	1020950	3	17	70	1647	1720	1054	7434217	6666665	7999997
7	1692021	3	17	95	1369	1434	1822	9130659	7999998	9333330
8	652650	2	17	60	1020	1006	0	9787934	9333331	10666663
9	1422503	1	17	80	1176	0	0	11212463	10666664	11999996

Total number of pulses in waveform = 19



Type 5 Radar Waveform_2

Num of Bursts = 17
Burst Interval (us)= 705882

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	206772	1	10	85	1887	0	0	206772	0	705881
2	991006	2	10	60	1511	1659	0	1199665	705882	1411763
3	447260	1	10	90	1805	0	0	1650095	1411764	2117645
4	518445	2	10	55	1683	1516	0	2170345	2117646	2823527
5	872594	3	10	60	1177	1094	1036	3046138	2823528	3529409
6	1034083	2	10	75	1735	1225	0	4083528	3529410	4235291
7	334464	3	10	90	1606	1287	1953	4420952	4235292	4941173
8	897963	1	10	100	1766	0	0	5323761	4941174	5647055
9	705392	1	10	75	1002	0	0	6030919	5647056	6352937
10	620693	2	10	70	1459	1502	0	6652614	6352938	7058819
11	877383	1	10	100	1147	0	0	7532958	7058820	7764701
12	709681	1	10	90	1396	0	0	8243786	7764702	8470583
13	904229	1	10	50	1263	0	0	9149411	8470584	9176465
14	232093	2	10	95	1155	1803	0	9382767	9176466	9882347
15	1118099	2	10	70	1834	1749	0	10503824	9882348	10588229
16	246723	1	10	100	1668	0	0	10754130	10588230	11294111
17	1176559	3	10	65	1048	1456	1269	11932357	11294112	11999993

Total number of pulses in waveform = 29

Type 5 Radar Waveform_3

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	439016	1	8	65	1359	0	0	439016	0	1090908
2	1112256	3	8	90	1018	1358	1372	1552631	1090909	2181817
3	1512229	2	8	65	1649	1100	0	3068608	2181818	3272726
4	793862	2	8	70	1332	1683	0	3865219	3272727	4363635
5	1419913	2	8	60	1185	1247	0	5288147	4363636	5454544
6	243647	2	8	65	1263	1656	0	5534226	5454545	6545453
7	1554555	2	8	55	1655	1727	0	7091700	6545454	7636362
8	754799	1	8	95	1997	0	0	7849881	7636363	8727271
9	1875446	3	8	100	1157	1586	1885	9727324	8727272	9818180
10	315368	3	8	95	1181	1791	1498	10047320	9818181	10909089
11	1089648	1	8	95	1080	0	0	11141438	10909090	11999998

Total number of pulses in waveform = 22

Type 5 Radar Waveform_4

Num of Bursts = 18
Burst Interval (us)= 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	590	3	18	55	1924	1816	1110	590	0	666666
2	1243068	3	18	60	1690	1263	1596	1248508	666667	1333333
3	220684	3	18	50	1361	1480	1558	1473741	1333334	2000000
4	1148914	1	18	55	1112	0	0	2627054	2000001	2666667
5	665972	2	18	55	1620	1486	0	3294138	2666668	3333334
6	648663	2	18	60	1953	1136	0	3945907	3333335	4000001
7	189239	1	18	90	1219	0	0	4138235	4000002	4666668
8	1175397	3	18	95	1781	1613	1929	5314851	4666669	5333335
9	487704	2	18	80	1739	1095	0	5807878	5333336	6000002
10	228246	3	18	90	1009	1405	1300	6038959	6000003	6666669
11	1218875	2	18	50	1719	1919	0	7261548	6666670	7333336
12	575705	2	18	65	1625	1644	0	7840891	7333337	8000003
13	410466	3	18	80	1872	1632	2000	8254626	8000004	8666670
14	468017	2	18	75	1146	1421	0	8728147	8666671	9333337
15	615115	3	18	100	1143	1098	1934	9345829	9333338	10000004
16	1227695	3	18	65	1557	1102	1254	10577699	10000005	10666671
17	123085	2	18	90	1503	1268	0	10704697	10666672	11333338
18	1029211	2	18	80	1129	1883	0	11736679	11333339	12000005

Total number of pulses in waveform = 42

**Type 5 Radar Waveform_5**

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	386912	2	5	85	1365	1906	0	386912	0	1333332
2	1311980	1	5	95	1184	0	0	1702163	1333333	2666665
3	1864375	1	5	60	1475	0	0	3567722	2666666	3999998
4	515030	3	5	70	1719	1013	1460	4084227	3999999	5333331
5	2319914	2	5	85	1939	1594	0	6408333	5333332	6666664
6	424659	1	5	50	1983	0	0	6836525	6666665	7999997
7	1763098	1	5	60	1525	0	0	8601606	7999998	9333330
8	1686218	3	5	100	1290	1870	1994	10289349	9333331	10666663
9	1077472	1	5	50	1732	0	0	11371975	10666664	11999996

Total number of pulses in waveform = 15

Type 5 Radar Waveform_6

Num of Bursts = 15
Burst Interval (us)= 800000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	768490	2	14	50	1192	1676	0	768490	0	799999
2	638610	3	14	65	1702	1855	1685	1409968	800000	1599999
3	268933	2	14	85	1027	1849	0	1684143	1600000	2399999
4	1097462	2	14	90	1276	1892	0	2784481	2400000	3199999
5	795873	1	14	85	1209	0	0	3583522	3200000	3999999
6	647850	2	14	55	1681	1535	0	4232581	4000000	4799999
7	816815	2	14	65	1434	1464	0	5052612	4800000	5599999
8	1271500	3	14	60	1103	1658	1497	6327010	5600000	6399999
9	458581	2	14	60	1705	1810	0	6789849	6400000	7199999
10	1029866	2	14	65	1330	1136	0	7823230	7200000	7999999
11	243511	2	14	85	1811	1510	0	8069207	8000000	8799999
12	1444164	2	14	100	1320	1589	0	9516692	8800000	9599999
13	428297	1	14	70	1170	0	0	9947898	9600000	10399999
14	573718	1	14	65	1860	0	0	10522786	10400000	11199999
15	1208773	3	14	95	1765	1491	1485	11733419	11200000	11999999

Total number of pulses in waveform = 30

Type 5 Radar Waveform_7

Num of Bursts = 8
Burst Interval (us)= 1500000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	263678	1	19	55	1115	0	0	263678	0	1499999
2	1439632	1	19	60	1684	0	0	1704425	1500000	2999999
3	1876499	3	19	80	1234	1391	1298	3582608	3000000	4499999
4	2041144	3	19	70	1563	1686	1388	5627675	4500000	5999999
5	1520456	1	19	95	1123	0	0	7152768	6000000	7499999
6	1684488	3	19	60	1541	1206	1209	8838379	7500000	8999999
7	1543396	3	19	90	1147	1090	1514	10385731	9000000	10499999
8	1355901	1	19	90	1969	0	0	11745383	10500000	11999999

Total number of pulses in waveform = 16



Type 5 Radar Waveform_8

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	891798	1	6	65	1072	0	0	891798	0	1333332
2	754325	2	6	60	1648	1563	0	1647195	1333333	2666665
3	2068528	1	6	50	1749	0	0	3718934	2666666	3999998
4	721856	3	6	55	1308	1335	1474	4442539	3999999	5333331
5	1191055	1	6	90	1970	0	0	5637711	5333332	6666664
6	1628695	3	6	85	1828	1142	1702	7268376	6666665	7999997
7	1137740	1	6	100	1191	0	0	8410788	7999998	9333330
8	2244602	1	6	85	1126	0	0	10656581	9333331	10666663
9	864513	2	6	60	1979	1249	0	11522220	10666664	11999996

Total number of pulses in waveform = 15

Type 5 Radar Waveform_9

Num of Bursts = 19
Burst Interval (us)= 631579

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	575785	3	12	60	1460	1021	1670	575785	0	631578
2	497682	1	12	50	1773	0	0	1077618	631579	1263157
3	638072	1	12	60	1935	0	0	1717463	1263158	1894736
4	394136	3	12	90	1498	1136	1832	2113534	1894737	2526315
5	954214	3	12	65	1766	1650	1652	3072214	2526316	3157894
6	121325	3	12	70	1586	1092	1174	3198607	3157895	3789473
7	1099384	1	12	50	1571	0	0	4301843	3789474	4421052
8	356835	3	12	100	1535	1382	1645	4660249	4421053	5052631
9	897340	3	12	100	1678	1273	1831	5562151	5052632	5684210
10	618243	3	12	55	1549	1996	1718	6185176	5684211	6315789
11	406473	2	12	65	1890	1081	0	6596912	6315790	6947368
12	628920	3	12	65	1080	1129	1316	7228803	6947369	7578947
13	651010	3	12	55	1005	1746	1353	7863338	7578948	8210526
14	656763	3	12	65	1716	1988	1827	8544205	8210527	8842105
15	554274	1	12	50	1719	0	0	9104010	8842106	9473684
16	494129	3	12	75	1383	1148	1598	9599858	9473685	10105263
17	1109065	3	12	95	1877	1786	1901	10713052	10105264	10736842
18	465809	3	12	85	1328	1515	1276	11184425	10736843	11368421
19	322466	1	12	50	1107	0	0	11511010	11368422	12000000

Total number of pulses in waveform = 46

Type 5 Radar Waveform_10

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	676351	3	9	100	1425	1868	1034	676351	0	923076
2	678601	3	9	90	1199	1146	1463	1359279	923077	1846153
3	847021	1	9	70	1269	0	0	2210108	1846154	2769230
4	1006336	2	9	65	1726	1811	0	3217713	2769231	3692307
5	681646	1	9	90	1836	0	0	3902896	3692308	4615384
6	1461380	2	9	70	1901	1587	0	5366112	4615385	5538461
7	698341	2	9	75	1438	1968	0	6067941	5538462	6461538
8	1172816	3	9	70	1908	1022	1888	7244163	6461539	7384615
9	596850	3	9	90	1215	1953	1102	7845831	7384616	8307692
10	876919	3	9	90	1222	1801	1766	8727020	8307693	9230769
11	649146	2	9	65	1556	1578	0	9380955	9230770	10153846
12	914823	3	9	100	1697	1912	1264	10298912	10153847	11076923
13	940878	3	9	55	1501	1983	1414	11244663	11076924	12000000

Total number of pulses in waveform = 31



Type 5 Radar Waveform_11

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	294510	1	6	85	1675	0	0	294510	0	1090908
2	1723507	2	6	95	1151	1965	0	2019692	1090909	2181817
3	269296	1	6	85	1617	0	0	2292104	2181818	3272726
4	1906377	1	6	50	1117	0	0	4200098	3272727	4363635
5	905894	3	6	85	1120	1603	1305	5107109	4363636	5454544
6	669721	1	6	70	1205	0	0	5780858	5454545	6545453
7	1655105	1	6	60	1161	0	0	7437168	6545454	7636362
8	267067	2	6	75	1655	1831	0	7705396	7636363	8727271
9	1144489	1	6	80	1334	0	0	8853371	8727272	9818180
10	1484820	1	6	85	1409	0	0	10339525	9818181	10909089
11	958239	1	6	100	1810	0	0	11299173	10909090	11999998

Total number of pulses in waveform = 15

Type 5 Radar Waveform_12

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	715272	2	14	80	1125	1881	0	715272	0	1090908
2	1119030	3	14	60	1048	1838	1484	1837308	1090909	2181817
3	669198	1	14	55	1744	0	0	2510876	2181818	3272726
4	1817095	1	14	65	1623	0	0	4329715	3272727	4363635
5	902707	1	14	85	1218	0	0	5234045	4363636	5454544
6	1196227	2	14	100	1987	1841	0	6431490	5454545	6545453
7	1136188	2	14	65	1558	1455	0	7571506	6545454	7636362
8	366831	1	14	70	1642	0	0	7941350	7636363	8727271
9	1745296	1	14	95	1663	0	0	9688288	8727272	9818180
10	624372	1	14	65	1091	0	0	10314323	9818181	10909089
11	1121766	1	14	60	1691	0	0	11437180	10909090	11999998

Total number of pulses in waveform = 16

Type 5 Radar Waveform_13

Num of Bursts = 14
Burst Interval (us)= 857143

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	793842	3	9	75	1999	1465	1168	793842	0	857142
2	783522	2	9	70	1029	1064	0	1581996	857143	1714285
3	534593	3	9	100	1837	1158	1403	2118682	1714286	2571428
4	833155	2	9	70	1765	1143	0	2956235	2571429	3428571
5	1045713	2	9	65	1306	1606	0	4004856	3428572	4285714
6	751021	1	9	50	1402	0	0	4758789	4285715	5142857
7	387500	1	9	95	1032	0	0	5147691	5142858	6000000
8	1693119	1	9	60	1733	0	0	6841842	6000001	6857143
9	832647	2	9	85	1579	1973	0	7676222	6857144	7714286
10	389133	2	9	65	1264	1598	0	8068907	7714287	8571429
11	1334690	3	9	70	1452	1757	1151	9406459	8571430	9428572
12	750496	2	9	70	1744	1837	0	10161315	9428573	10285715
13	894229	2	9	55	1951	1664	0	11059125	10285716	11142858
14	915064	1	9	55	1489	0	0	11977804	11142859	12000001

Total number of pulses in waveform = 27



Type 5 Radar Waveform_14

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	949978	3	10	55	1196	1447	1748	949978	0	1090908
2	1197778	3	10	70	1907	1699	1405	2152147	1090909	2181817
3	781186	2	10	100	1755	1180	0	2938344	2181818	3272726
4	1014716	2	10	55	1341	1291	0	3955995	3272727	4363635
5	762632	1	10	90	1487	0	0	4721259	4363636	5454544
6	794027	3	10	85	1838	1784	1013	5516773	5454545	6545453
7	1242389	3	10	70	1701	1741	1314	6763797	6545454	7636362
8	1122820	2	10	90	1622	1550	0	7891373	7636363	8727271
9	1178696	1	10	55	1876	0	0	9073241	8727272	9818180
10	1255310	3	10	80	1090	1662	1909	10330427	9818181	10909089
11	1656649	1	10	85	1703	0	0	11991737	10909090	11999998

Total number of pulses in waveform = 24

Type 5 Radar Waveform_15

Num of Bursts = 15
Burst Interval (us)= 800000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	698881	1	19	65	1622	0	0	698881	0	799999
2	157316	3	19	90	1741	1666	1656	857819	800000	1599999
3	1153836	2	19	100	1587	1763	0	2016718	1600000	2399999
4	785335	3	19	90	1104	1619	1101	2805403	2400000	3199999
5	1165752	3	19	55	1705	1928	1655	3974979	3200000	3999999
6	620479	2	19	60	1674	1135	0	4600746	4000000	4799999
7	277446	1	19	80	1943	0	0	4881001	4800000	5599999
8	795123	3	19	75	1308	1713	1144	5678067	5600000	6399999
9	1295511	3	19	95	1187	1238	1637	6977743	6400000	7199999
10	249034	3	19	85	1670	1222	1202	7230839	7200000	7999999
11	778191	1	19	70	1268	0	0	8013124	8000000	8799999
12	1361717	1	19	65	1744	0	0	9376109	8800000	9599999
13	894123	1	19	90	1863	0	0	10271976	9600000	10399999
14	894660	2	19	80	1545	1929	0	11168499	10400000	11199999
15	265918	2	19	80	1833	1254	0	11437891	11200000	11999999

Total number of pulses in waveform = 31

Type 5 Radar Waveform_16

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	617061	3	18	75	1638	1639	1559	617061	0	1333332
2	1303476	2	18	60	1316	1860	0	1925373	1333333	2666665
3	1164881	1	18	75	1329	0	0	3093430	2666666	3999998
4	2085292	2	18	50	1579	1026	0	5180051	3999999	5333331
5	1365501	2	18	70	1373	1394	0	6548157	5333332	6666664
6	172112	1	18	85	1341	0	0	6723036	6666665	7999997
7	1928888	3	18	50	1812	1980	1011	8653265	7999998	9333330
8	1557554	3	18	75	1806	1333	1505	10215622	9333331	10666663
9	541691	2	18	65	1584	1541	0	10761957	10666664	11999996

Total number of pulses in waveform = 19



Type 5 Radar Waveform_17

Num of Bursts = 12
Burst Interval (us)= 1000000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	59930	2	5	95	1629	1475	0	59930	0	999999
2	1704391	2	5	55	1570	1090	0	1767425	1000000	1999999
3	368153	1	5	65	1299	0	0	2138238	2000000	2999999
4	1618835	3	5	100	1878	1100	1755	3758372	3000000	3999999
5	353936	1	5	55	1683	0	0	4117041	4000000	4999999
6	1493261	1	5	65	1298	0	0	5611985	5000000	5999999
7	431102	2	5	50	1401	1423	0	6044385	6000000	6999999
8	1762185	1	5	65	1275	0	0	7809394	7000000	7999999
9	682056	3	5	80	1638	1450	1566	8492725	8000000	8999999
10	1138564	1	5	65	1587	0	0	9635943	9000000	9999999
11	777732	3	5	55	1488	1849	1272	10415262	10000000	10999999
12	1127330	3	5	85	1992	1265	1052	11547201	11000000	11999999

Total number of pulses in waveform = 23

Type 5 Radar Waveform_18

Num of Bursts = 13
Burst Interval (us)= 923077

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	616500	2	12	55	1217	1835	0	616500	0	923076
2	834024	2	12	95	1293	1965	0	1453576	923077	1846153
3	772267	3	12	85	1314	1404	1126	2229101	1846154	2769230
4	1166461	3	12	90	1641	1605	1291	3399406	2769231	3692307
5	999959	2	12	85	1147	1860	0	4403902	3692308	4615384
6	790573	3	12	60	1171	1263	1511	5197482	4615385	5538461
7	537074	2	12	75	1376	1891	0	5738501	5538462	6461538
8	1581389	3	12	75	1386	1277	1679	7323157	6461539	7384615
9	94075	3	12	95	1619	1948	1625	7421574	7384616	8307692
10	1412896	1	12	70	1285	0	0	8839662	8307693	9230769
11	1008901	1	12	50	1215	0	0	9849848	9230770	10153846
12	776953	2	12	75	1226	1961	0	10628016	10153847	11076923
13	582061	1	12	80	1765	0	0	11213264	11076924	12000000

Total number of pulses in waveform = 28

Type 5 Radar Waveform_19

Num of Bursts = 18
Burst Interval (us)= 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	36891	1	8	100	1819	0	0	36891	0	666666
2	842201	1	8	80	1408	0	0	880911	666667	1333333
3	972307	1	8	55	1562	0	0	1854626	1333334	2000000
4	207628	1	8	50	1083	0	0	2063816	2000001	2666667
5	1133723	1	8	60	1510	0	0	3198622	2666668	3333334
6	316011	3	8	80	1737	1429	1802	3516143	3333335	4000001
7	957691	1	8	90	1754	0	0	4478802	4000002	4666668
8	465395	3	8	75	1750	1919	1501	4945951	4666669	5333335
9	913214	3	8	80	1096	1175	1645	5864335	5333336	6000002
10	439713	2	8	70	1770	1206	0	6307964	6000003	6666669
11	420445	2	8	90	1175	1388	0	6731385	6666670	7333336
12	616518	3	8	70	1096	1603	1895	7350466	7333337	8000003
13	745407	1	8	70	1833	0	0	8100467	8000004	8666670
14	603822	1	8	55	1477	0	0	8706122	8666671	9333337
15	725454	2	8	100	1113	1441	0	9433053	9333338	10000004
16	1175486	2	8	60	1012	1277	0	10611093	10000005	10666671
17	551696	3	8	55	1397	1275	1337	11165078	10666672	11333338
18	177346	2	8	80	1338	1094	0	11346433	11333339	12000005

Total number of pulses in waveform = 33



Type 5 Radar Waveform_20

Num of Bursts = 12
Burst Interval (us)= 1000000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	314121	1	17	55	1851	0	0	314121	0	999999
2	790192	3	17	95	1169	1935	1560	1106164	1000000	1999999
3	1263881	2	17	100	1622	1380	0	2374709	2000000	2999999
4	909443	2	17	85	1123	1538	0	3287154	3000000	3999999
5	1211004	2	17	55	1377	1685	0	4500819	4000000	4999999
6	1071679	3	17	75	1766	1693	1334	5575560	5000000	5999999
7	1129829	1	17	50	1500	0	0	6710182	6000000	6999999
8	1075353	3	17	75	1783	1695	1921	7787035	7000000	7999999
9	934158	1	17	100	1312	0	0	8726592	8000000	8999999
10	818855	1	17	90	1652	0	0	9546759	9000000	9999999
11	1435375	3	17	60	1204	1893	1373	10983786	10000000	10999999
12	298866	3	17	70	1518	1260	1407	11287122	11000000	11999999

Total number of pulses in waveform = 25

Type 5 Radar Waveform_21

Num of Bursts = 16
Burst Interval (us)= 750000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	305787	2	8	75	1310	1060	0	305787	0	749999
2	704995	1	8	60	1686	0	0	1013152	750000	1499999
3	912163	1	8	80	1624	0	0	1927001	1500000	2249999
4	809623	3	8	90	1494	1450	1425	2738248	2250000	2999999
5	426937	2	8	90	1244	1034	0	3169554	3000000	3749999
6	1196431	2	8	55	1009	1850	0	4368263	3750000	4499999
7	779436	2	8	75	1251	1375	0	5150558	4500000	5249999
8	532652	1	8	60	1675	0	0	5685836	5250000	5999999
9	414301	1	8	60	1953	0	0	6101812	6000000	6749999
10	1160564	2	8	50	1533	1316	0	7264329	6750000	7499999
11	408533	3	8	60	1806	1279	1824	7675711	7500000	8249999
12	752971	1	8	65	1125	0	0	8433591	8250000	8999999
13	915619	3	8	50	1947	1702	1776	9350335	9000000	9749999
14	684686	3	8	55	1298	1229	1259	10040446	9750000	10499999
15	909936	1	8	55	1356	0	0	10954168	10500000	11249999
16	1025648	2	8	95	1880	1196	0	11981172	11250000	11999999

Total number of pulses in waveform = 30

Type 5 Radar Waveform_22

Num of Bursts = 9
Burst Interval (us)= 1333333

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri(us)	Pulse 2 Pri(us)	Pulse 3 Pri(us)	Start Loc (us)	Start Burst Interval(us)	End Burst Interval(us)
1	1295486	3	5	65	1181	1394	1383	1295486	0	1333332
2	1010911	1	5	65	1512	0	0	2310355	1333333	2666665
3	1550341	3	5	55	1577	1072	1503	3862208	2666666	3999998
4	203504	1	5	90	1244	0	0	4069864	3999999	5333331
5	2139923	3	5	60	1203	1468	1241	6211031	5333332	6666664
6	919482	3	5	85	1693	1212	1686	7134425	6666665	7999997
7	1346583	2	5	90	1839	1474	0	8485599	7999998	9333330
8	1854044	1	5	60	1425	0	0	10342956	9333331	10666663
9	425704	3	5	65	1683	1504	1648	10770085	10666664	11999996

Total number of pulses in waveform = 20

Type 5 Radar Waveform_23

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	1106137	3	10	65	1278	1265	1595	1106137	0	1199999
2	983803	2	10	50	1225	1080	0	2094078	1200000	2399999
3	1341943	3	10	80	1655	1563	1355	3438326	2400000	3599999
4	295678	2	10	50	1128	1112	0	3738577	3600000	4799999
5	1536197	2	10	80	1024	1199	0	5277014	4800000	5999999
6	735463	1	10	55	1702	0	0	6014700	6000000	7199999
7	1279823	1	10	90	1423	0	0	7296225	7200000	8399999
8	1633916	3	10	100	1301	1763	1532	8931564	8400000	9599999
9	1754629	3	10	95	1873	1288	1302	10690789	9600000	10799999
10	180932	3	10	80	1235	1745	1602	10876184	10800000	11999999

Total number of pulses in waveform = 23

Type 5 Radar Waveform_24

Num of Bursts = 16
Burst Interval (us)= 750000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	61694	2	14	80	1947	1296	0	61694	0	749999
2	1074944	2	14	85	1317	1063	0	1139881	750000	1499999
3	676454	3	14	95	1361	1745	1406	1818715	1500000	2249999
4	731119	1	14	65	1905	0	0	2554346	2250000	2999999
5	975153	3	14	75	1436	1376	1704	3531404	3000000	3749999
6	576281	2	14	80	1654	1304	0	4112201	3750000	4499999
7	657709	3	14	85	1153	1768	1080	4772868	4500000	5249999
8	855265	3	14	90	1944	1102	1021	5632134	5250000	5999999
9	1058031	3	14	75	1622	1866	1651	6694232	6000000	6749999
10	380294	2	14	55	1170	1338	0	7079665	6750000	7499999
11	553258	1	14	75	1575	0	0	7635431	7500000	8249999
12	798769	1	14	80	1702	0	0	8435775	8250000	8999999
13	1142119	1	14	75	1978	0	0	9579596	9000000	9749999
14	794475	2	14	75	1391	1806	0	10376049	9750000	10499999
15	811580	1	14	80	1905	0	0	11190826	10500000	11249999
16	227852	2	14	70	1108	1800	0	11420583	11250000	11999999

Total number of pulses in waveform = 32

Type 5 Radar Waveform_25

Num of Bursts = 11
Burst Interval (us)= 1090909

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	628201	1	6	50	1012	0	0	628201	0	1090908
2	1017383	3	6	55	1298	1880	1294	1646596	1090909	2181817
3	771459	2	6	50	1995	1483	0	2422527	2181818	3272726
4	1459943	1	6	90	1590	0	0	3885948	3272727	4363635
5	539596	1	6	60	1583	0	0	4427134	4363636	5454544
6	1200772	3	6	100	1493	1080	1144	5629489	5454545	6545453
7	1369631	2	6	65	1553	1122	0	7002837	6545454	7636362
8	1609430	3	6	95	1922	1433	1607	8614942	7636363	8727271
9	928023	3	6	85	1498	1138	1000	9547927	8727272	9818180
10	770595	2	6	85	1442	1489	0	10322158	9818181	10909089
11	720120	2	6	80	1490	1037	0	11045209	10909090	11999998

Total number of pulses in waveform = 23



Type 5 Radar Waveform_26

Num of Bursts = 10
Burst Interval (us)= 1200000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	444278	3	17	50	1952	1495	1280	444278	0	1199999
2	965384	3	17	55	1015	1566	1340	1414389	1200000	2399999
3	2018890	3	17	75	1249	1154	1021	3437200	2400000	3599999
4	237511	2	17	90	1864	1153	0	3678135	3600000	4799999
5	1797541	3	17	75	1341	1605	1425	5478693	4800000	5999999
6	1108149	1	17	75	1485	0	0	6591213	6000000	7199999
7	1063619	1	17	60	1435	0	0	7656317	7200000	8399999
8	1172047	3	17	50	1534	1767	1166	8829799	8400000	9599999
9	919940	2	17	75	1226	1410	0	9754206	9600000	10799999
10	2024800	2	17	65	1882	1875	0	11781642	10800000	11999999

Total number of pulses in waveform = 23

Type 5 Radar Waveform_27

Num of Bursts = 17
Burst Interval (us)= 705882

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	621183	2	12	50	1164	1222	0	621183	0	705881
2	495681	2	12	70	1237	1641	0	1119250	705882	1411763
3	928591	3	12	100	1923	1337	1113	2050719	1411764	2117645
4	620522	2	12	50	1106	1543	0	2675614	2117646	2823527
5	639554	1	12	80	1679	0	0	3317817	2823528	3529409
6	861266	1	12	60	1161	0	0	4180762	3529410	4235291
7	227261	1	12	100	1136	0	0	4409184	4235292	4941173
8	543309	1	12	95	1847	0	0	4953629	4941174	5647055
9	732618	2	12	60	1770	1106	0	5688094	5647056	6352937
10	721595	3	12	90	1190	1441	1648	6412565	6352938	7058819
11	1252496	3	12	85	1217	1613	1186	7669340	7058820	7764701
12	117765	2	12	50	1926	1920	0	7791121	7764702	8470583
13	1361239	3	12	50	1194	1289	1769	9166206	8470584	9176465
14	369054	2	12	75	1329	1767	0	9528512	9176466	9882347
15	847406	3	12	85	1317	1820	1175	10379014	9882348	10588229
16	592698	3	12	50	1502	1483	1090	10976024	10588230	11294111
17	406353	2	12	95	1171	1441	0	11386452	11294112	11999993

Total number of pulses in waveform = 36

Type 5 Radar Waveform_28

Num of Bursts = 8
Burst Interval (us)= 1500000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	345804	1	18	55	1594	0	0	345804	0	1499999
2	1491021	1	18	65	1607	0	0	1838419	1500000	2999999
3	2424526	3	18	60	1771	1658	1060	4264552	3000000	4499999
4	1720181	3	18	50	1572	1582	1868	5989222	4500000	5999999
5	1156532	3	18	95	1961	1177	1606	7150776	6000000	7499999
6	1276681	3	18	95	1222	1967	1583	8432201	7500000	8999999
7	2050771	2	18	80	1760	1477	0	10487744	9000000	10499999
8	713982	2	18	85	1410	1734	0	11204963	10500000	11999999

Total number of pulses in waveform = 18



Type 5 Radar Waveform_29

Num of Bursts = 20
Burst Interval (us) = 600000

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	511535	3	19	100	1619	1487	1138	511535	0	599999
2	124497	2	19	95	1115	1807	0	640276	600000	119999
3	994149	2	19	55	1191	1394	0	1637347	1200000	179999
4	503537	2	19	95	1847	1750	0	2143469	1800000	239999
5	593270	3	19	75	1273	1852	1003	2740336	2400000	299999
6	655493	3	19	55	1143	1578	1865	3399957	3000000	359999
7	746951	3	19	65	1077	1343	1186	4151494	3600000	419999
8	577892	2	19	95	1377	1870	0	4732992	4200000	479999
9	224391	1	19	75	1543	0	0	4960630	4800000	539999
10	993216	2	19	100	1780	1770	0	5955389	5400000	599999
11	421004	3	19	80	1073	1618	1071	6379943	6000000	659999
12	398828	2	19	90	1835	1314	0	6782533	6600000	719999
13	559620	1	19	90	1166	0	0	7345002	7200000	779999
14	877481	2	19	70	1870	1089	0	8223649	7800000	839999
15	381902	3	19	95	1171	1542	1149	8608510	8400000	899999
16	587714	1	19	1005	0	0	0	9200086	9000000	959999
17	583678	2	19	55	1673	1722	0	9784769	9600000	1019999
18	699249	2	19	55	1121	1500	0	10487413	10200000	1079999
19	702867	3	19	85	1774	1405	1054	11192901	10800000	1139999
20	594713	2	19	70	1161	1316	0	11791847	11400000	1199999

Total number of pulses in waveform = 44

Type 5 Radar Waveform_30

Num of Bursts = 18
Burst Interval (us) = 666667

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	383156	1	9	80	1133	0	0	383156	0	666666
2	457721	2	9	90	1880	1439	0	842010	666667	1333333
3	970836	3	9	65	1699	1641	1564	1816165	1333334	2000000
4	570230	3	9	80	1378	1390	1515	2391299	2000001	2666667
5	703853	1	9	95	1567	0	0	3099435	2666668	3333334
6	720566	1	9	100	1307	0	0	3821568	3333335	4000001
7	367111	3	9	85	1613	1480	1796	4189986	4000002	4666668
8	957414	3	9	55	1007	1896	1316	5152289	4666669	5333335
9	319144	2	9	90	1124	1705	0	5475652	5333336	6000002
10	1047332	2	9	80	1441	1447	0	6525813	6000003	6666669
11	249241	3	9	55	1511	1722	1389	6777942	6666670	7333336
12	740495	2	9	70	1180	1078	0	7523059	7333337	8000003
13	677300	2	9	85	1891	1739	0	8202617	8000004	8666670
14	1096861	1	9	65	1541	0	0	9303108	8666671	9333337
15	447346	2	9	85	1976	1734	0	9751995	9333338	10000004
16	564642	1	9	50	1756	0	0	10320347	10000005	10666671
17	797384	1	9	55	1535	0	0	11119487	10666672	11333338
18	605657	1	9	90	1008	0	0	11726679	11333339	12000005

Total number of pulses in waveform = 34

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	5499.5	1	16	5522.7	1
2	5493.5	1	17	5495.2	1
3	5496.8	1	18	5514.3	1
4	5502.4	1	19	5528.3	1
5	5526.7	1	20	5519.8	1
6	5520.4	1	21	5510.0	1
7	5492.4	1	22	5491.0	1
8	5512.5	1	23	5524.6	1
9	5494.7	1	24	5509.4	1
10	5500.2	1	25	5506.5	1
11	5503.7	1	26	5518.4	1
12	5497.1	1	27	5508.3	1
13	5498.5	1	28	5529.0	1
14	5505.2	1	29	5516.9	1
15	5504.7	1	30	5515.7	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5517	0	16	5513	48
9	5470	27	21	5468	63
21	5485	63	27	5515	81
34	5494	102	34	5503	102
56	5484	168	42	5509	126
58	5513	174	47	5475	141
65	5462	195	52	5519	156
66	5461	198	54	5465	162
67	5497	201	64	5496	192
75	5478	225	70	5488	210
94	5475	282	87	5473	261
98	5474	294	88	5520	264

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5466	9	6	5464	18
6	5478	18	26	5496	78
7	5491	21	29	5472	87
25	5477	75	31	5489	93
29	5464	87	37	5485	111
37	5517	111	44	5512	132
41	5511	123	67	5477	201
51	5473	153	77	5470	231
70	5487	210	84	5516	252
71	5492	213	85	5499	255
72	5465	216	87	5480	261
80	5504	240	88	5518	264
81	5509	243	90	5493	270
86	5519	258	--	--	--
89	5497	267	--	--	--

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5530	0	25	5516	75
14	5509	42	33	5523	99
21	5513	63	38	5525	114
27	5512	81	46	5518	138
31	5529	93	60	5491	180
39	5507	117	67	5483	201
46	5481	138	99	5470	297
53	5515	159	--	--	--
57	5496	171	--	--	--
58	5495	174	--	--	--
76	5478	228	--	--	--
78	5493	234	--	--	--
88	5521	264	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5487	3	1	5496	3
17	5520	51	6	5514	18
30	5528	90	12	5474	36
43	5497	129	17	5512	51
51	5483	153	22	5487	66
55	5486	165	23	5497	69
65	5480	195	29	5482	87
68	5524	204	34	5492	102
70	5504	210	49	5504	147
81	5481	243	50	5502	150
93	5527	279	54	5489	162
--	--	--	56	5472	168
--	--	--	61	5522	183
--	--	--	67	5475	201
--	--	--	75	5495	225
--	--	--	87	5509	261
--	--	--	90	5528	270
--	--	--	99	5506	297

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
11	5510	33	1	5517	3
16	5533	48	14	5511	42
39	5497	117	16	5491	48
41	5506	123	21	5537	63
62	5508	186	33	5486	99
71	5479	213	47	5490	141
84	5511	252	62	5492	186
85	5515	255	63	5483	189
93	5539	279	65	5480	195
98	5531	294	70	5515	210
--	--	--	72	5535	216
--	--	--	81	5524	243
--	--	--	86	5497	258
--	--	--	88	5528	264

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5534	12	0	5529	0
23	5506	69	4	5527	12
25	5508	75	8	5507	24
29	5496	87	20	5506	60
31	5490	93	23	5485	69
34	5497	102	29	5495	87
81	5488	243	35	5532	105
89	5483	267	53	5511	159
--	--	--	56	5486	168
--	--	--	64	5493	192
--	--	--	69	5496	207
--	--	--	75	5488	225
--	--	--	88	5497	264
--	--	--	94	5533	282
--	--	--	95	5538	285
--	--	--	97	5502	291
--	--	--	98	5480	294

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5495	12	6	5510	18
12	5488	36	7	5505	21
17	5485	51	8	5533	24
52	5484	156	9	5498	27
69	5529	207	14	5520	42
73	5498	219	17	5482	51
74	5496	222	20	5493	60
81	5518	243	34	5518	102
84	5501	252	35	5529	105
91	5527	273	41	5480	123
93	5502	279	48	5497	144
--	--	--	49	5506	147
--	--	--	67	5504	201
--	--	--	71	5538	213

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5539	39	13	5522	39
20	5530	60	19	5515	57
44	5538	132	24	5482	72
48	5512	144	25	5480	75
54	5518	162	27	5518	81
72	5521	216	31	5491	93
74	5488	222	32	5534	96
88	5511	264	39	5536	117
93	5532	279	49	5514	147
94	5537	282	53	5500	159
95	5489	285	72	5484	216
--	--	--	76	5539	228
--	--	--	78	5490	234

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5513	39	1	5537	3
16	5528	48	17	5493	51
26	5483	78	26	5540	78
51	5508	153	29	5529	87
54	5531	162	30	5499	90
69	5517	207	31	5535	93
70	5536	210	35	5525	105
74	5515	222	38	5507	114
88	5502	264	39	5524	117
93	5522	279	42	5536	126
13	5513	39	77	5482	231
16	5528	48	81	5480	243
--	--	--	85	5484	255
--	--	--	86	5496	258
--	--	--	99	5501	297

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5526	9	2	5528	6
23	5534	69	3	5522	9
24	5518	72	14	5540	42
30	5496	90	27	5518	81
36	5537	108	32	5490	96
38	5513	114	39	5523	117
40	5516	120	47	5509	141
41	5506	123	58	5529	174
48	5530	144	67	5492	201
59	5520	177	84	5485	252
60	5497	180	95	5516	285
65	5483	195	99	5504	297
66	5512	198	--	--	--
92	5524	276	--	--	--
98	5486	294	--	--	--
99	5489	297	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5492	0	4	5485	12
22	5495	66	5	5508	15
23	5507	69	13	5530	39
26	5483	78	19	5541	57
38	5521	114	38	5515	114
43	5491	129	43	5492	129
44	5537	132	47	5506	141
54	5516	162	53	5513	159
67	5539	201	61	5534	183
95	5520	285	66	5526	198

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5546	36	9	5508	27
24	5522	72	28	5493	84
36	5544	108	32	5550	96
38	5500	114	36	5500	108
39	5541	117	40	5543	120
42	5526	126	44	5525	132
46	5534	138	49	5510	147
49	5512	147	50	5515	150
53	5524	159	57	5548	171
56	5548	168	61	5537	183
78	5550	234	81	5545	243
90	5530	270	85	5516	255
93	5493	279	94	5511	282
97	5523	291	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5536	6	0	5537	0
3	5540	9	22	5507	66
9	5545	27	33	5491	99
11	5512	33	37	5493	111
15	5500	45	40	5543	120
17	5504	51	53	5518	159
33	5492	99	66	5547	198
40	5509	120	68	5511	204
52	5510	156	69	5548	207
63	5514	189	74	5530	222
73	5517	219	75	5513	225
74	5524	222	79	5521	237
96	5523	288	92	5500	276
--	--	--	97	5509	291
--	--	--	98	5550	294

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
7	5525	21	4	5505	12
9	5550	27	10	5546	30
12	5537	36	25	5559	75
26	5523	78	32	5514	96
56	5520	168	44	5539	132
61	5553	183	88	5524	264
82	5543	246	98	5534	294
85	5552	255	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5548	9	9	5537	27
34	5514	102	10	5541	30
40	5558	120	16	5517	48
59	5505	177	18	5535	54
67	5546	201	21	5524	63
68	5509	204	22	5540	66
80	5501	240	31	5530	93
83	5554	249	34	5534	102
85	5532	255	59	5526	177
97	5506	291	65	5528	195
--	--	--	69	5546	207
--	--	--	71	5556	213
--	--	--	74	5503	222
--	--	--	80	5551	240
--	--	--	85	5515	255
--	--	--	87	5513	261
--	--	--	90	5522	270
--	--	--	91	5509	273
--	--	--	99	5559	297

待測物名稱	510 系列存取點	溫度	27°C
測試工程師	Kevin Ker	濕度	65%
測試場地	AC1	測試日期	2018/12/10
測試項目	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	5563.6	1	638	83	1
2	5567.9	1	618	86	1
3	5500.0	1	578	92	1
4	5564.8	1	698	76	1
5	5494.2	1	838	63	1
6	5565.2	1	538	99	1
7	5506.5	1	858	62	1
8	5521.3	1	518	102	1
9	5545.7	1	818	65	1
10	5491.0	1	758	70	1
11	5562.3	1	718	74	1
12	5515.8	1	878	61	0
13	5557.9	1	658	81	1
14	5497.5	1	558	95	1
15	5536.3	1	778	68	1
16	5524.7	1	1919	28	1
17	5551.5	1	1963	27	1
18	5503.3	1	2950	18	1
19	5533.4	1	1038	51	1
20	5554.8	1	3025	18	1
21	5509.5	1	2629	21	1
22	5560.7	1	1313	41	1
23	5539.8	1	1586	34	1
24	5530.0	1	3037	18	1
25	5512.6	1	1463	37	1
26	5569.0	1	584	91	1

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5542.5	1	2686	20	1
28	5518.4	1	1466	37	1
29	5568.3	1	3065	18	1
30	5548.2	1	2940	18	1
Detection Percentage (%)					96.7%