



NCC

低功率射頻電機型式試驗報告

產品名稱 : ACCESS POINT
主型號 : APEX0374
系列型號 : APEX0375, APEX0377
廠牌 : 
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 (105 年版) 4.7 章節
參考法規 : ANSI C63.10-2013
測試結果 : 符合
測試日期 : 2017.09.25 ~ 2017.11.26
發行日期 : 2018.01.25

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本測試報告非經本公司同意不可局部複製使用

修訂紀錄

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1. 一般資訊

申請者	Hewlett Packard Enterprise Company
申請者地址	3000 Hanover St. Palo Alto, CA 94304, USA
製造商	Hewlett Packard Enterprise Company
製造商地址	3000 Hanover St. Palo Alto, CA 94304, USA
認證實驗室	台灣曼瑞檢測科技有限公司
實驗室地址	臺灣桃園市龜山區復興二路 38 號
測試設備序列號	CNCKK2S0PL

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan (R.O.C)

- MRT facility is a FCC registered (MRT Reg. No. 153292) test facility with the site description report on file and is designated by the FCC as an Accredited Test Film.
- MRT facility is an IC registered (MRT Reg. No. 21723-1) test laboratory with the site description on file at Industry Canada.
- 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.

2. 產品描述

2.1. 產品資訊

產品名稱	ACCESS POINT
產品型號	APEX0374, APEX0375, APEX0377
廠牌	 a Hewlett Packard Enterprise company
工作模式	主控運作模式
頻率範圍	2.4GHz: For 802.11b/g/n-HT20: 2412 ~ 2462 MHz For 802.11n-HT40: 2422 ~ 2452 MHz 5GHz: For 802.11a/n-HT20: 5180 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz For 802.11ac-VHT20: 5180 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz For 802.11n-HT40: 5190 ~ 5310 MHz, 5510 ~ 5670 MHz, 5755 ~ 5795 MHz For 802.11ac-VHT40: 5190 ~ 5310 MHz, 5510 ~ 5710 MHz, 5755 ~ 5795 MHz For 802.11ac-VHT80/ VHT80+80: 5210 MHz, 5290 MHz, 5530 MHz, 5610 MHz, 5690 MHz, 5775MHz
調變模式	OFDM for IEEE 802.11a/n/ac
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
待測物額定電壓	POE input or AC adapter input

Note: The applicant has provided one POE adapter (Manufacturer: MICROSEMI & Model: PD-9001GR/AT/AC) for approval testing and it is not for sale.

2.2. 動態雷達操作通道清單

802.11a/n-HT20/ac-VHT20

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
144	5720 MHz	--	--	--	--

802.11n-HT40/ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz	102	5510 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
142	5710 MHz	--	--	--	--

802.11ac-VHT80/ac-VHT80+80 (Non-contiguous)

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz
138	5690 MHz	--	--	--	--

Note: For 802.11ac-VHT80+80 mode, Ant 0 & Ant 1 port work on one frequency of the above table, Ant 2 & Ant 3 port work on another frequency of the above table. E.g, channel 58 + 122 group, channel 58 will transmit by Ant 0+1 port and channel 122 will transmit by Ant 2+3 port.

802.11ac-VHT80+80 (Contiguous)

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	--	--
106	5530 MHz	122	5610 MHz	--	--

Note: For example, Ant 0 & 1 ports operate on one 80MHz channel 42, while Ant 2 & 3 ports operate on the adjacent 80MHz channel 58.

2.3. 天線規格

Model No.: APEX0374

Antenna No.	Polarization	Frequency Band (GHz)	Model No.	Max Peak Gain (dBi)	30 Degree Antenna Gain (dBi)	BF Direct -ional Gain (dBi)	CDD Directional Gain (dBi)	
							For Power	For PSD
Wi-Fi External Antenna List (2.4GHz 2*2 MIMO, 5GHz 4*4 MIMO)								
1 (Note 3)	Omni	2.4	ANT-2x2-2005	5.0	N/A	5.00	5.0	5.00
2 (Note 3)	Omni	5	ANT-2x2-5005	5.0	0	8.01	5.0	8.01
3 (Note 3)	Directional	2.4	ANT-2x2-2314	14.0	N/A	14.00	14.0	14.00
4 (Note 3)	Directional	5	ANT-3x3-5712	11.5	1.5	14.51	11.5	14.51
5 (Note 3)	Directional	5	ANT-4x4-5314	14.0	6.0	17.01	14.0	17.01
6 (Note 3)	Directional	5	MT-484052/NVH	16.0	3.0	19.01	16.0	19.01
7 (Note 3)	Directional	2.4	ANT-3x3-D608	7.5	N/A	10.51	7.5	10.51
		5		7.5	4.5	10.51	7.5	10.51
8 (Note 3)	Directional	2.4	ANT-3x3-D100	5.0	N/A	8.01	5.0	8.01
		5		5.0	4.0	8.01	5.0	8.01
Bluetooth Internal Antenna								
PCB		2.4	N2415AM4	3.0				

Model No.: APEX0375

Polarization	Model No.	Frequency Band (GHz)	Max Peak Gain (dBi)	30 Degree Antenna Gain (dBi)	BF Directional Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Wi-Fi Internal Antenna List (2.4GHz 2*2 MIMO, 5GHz 4*4 MIMO)							
Directional (Note 3)	CH5M01B	2.4	4.0	N/A	4.00	4.0	4.00
Directional (Note 3)	CH5M01B	5	4.6	-4.0	7.61	4.6	7.61
Bluetooth Internal Antenna							
PCB	CH5M01B	2.4	4.5				

Model No.: APEX0377

Polarization	Model No.	Frequency Band (GHz)	Max Peak Gain (dBi)	30 Degree Antenna Gain (dBi)	BF Directional Gain (dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Wi-Fi Internal Antenna List (2.4GHz 2*2 MIMO, 5GHz 4*4 MIMO)							
Directional (Note 3)	AP-377	2.4	6.4	N/A	6.40	6.4	6.40
Directional (Note 3)	AP-377	5	6.3	4.7	9.31	6.3	9.31
Bluetooth Internal Antenna							
PCB	AP-377	2.4	6.7				

Note:

- The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.
For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 2$, $N_{SS} = 1$.
If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.
 - For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log (N_{ANT} / N_{SS}) \text{ dB} = 3.01$;
 - For power measurements on IEEE 802.11 devices,
Array Gain = 0 dB for $N_{ANT} \leq 4$;
- The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac, not include 802.11a/b/g.
Directional gain = $G_{ANT} + \text{BF Gain}$, BF Gain was declared by the applicant.
- These antennas have Cross-Polarized design, the detail see the antenna specification.
- We selected the lowest antenna gain (Model: APEX0375) for DFS testing.

2.4. 測試模式

Test Mode	Communication with Access Point (Client Mode)
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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：

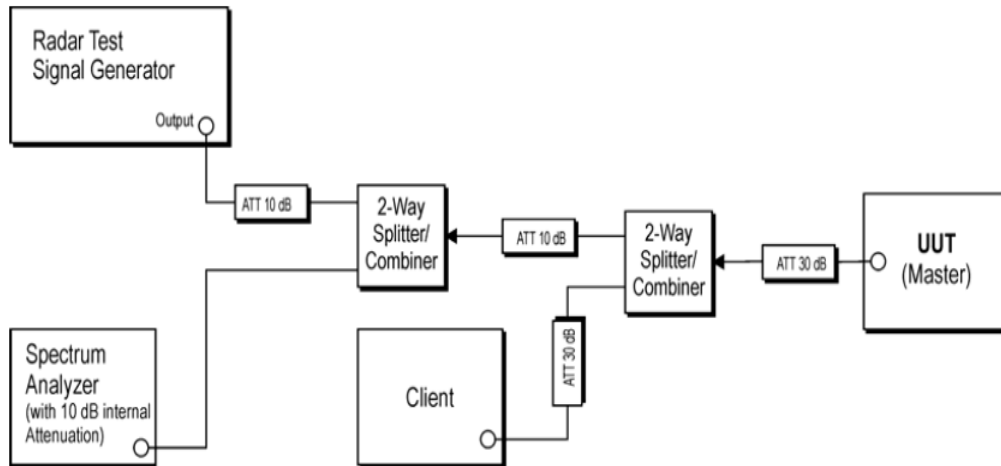
- 對短脈衝雷達信號，此瞬間為叢訊的結束時間點算起。
- 對跳頻雷達信號，此瞬間為最後一個產生的叢訊結束時間點算起。
- 對長脈衝雷達測試信號，此瞬間為雷達波型信號結束的 12 秒時間點算起。

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。

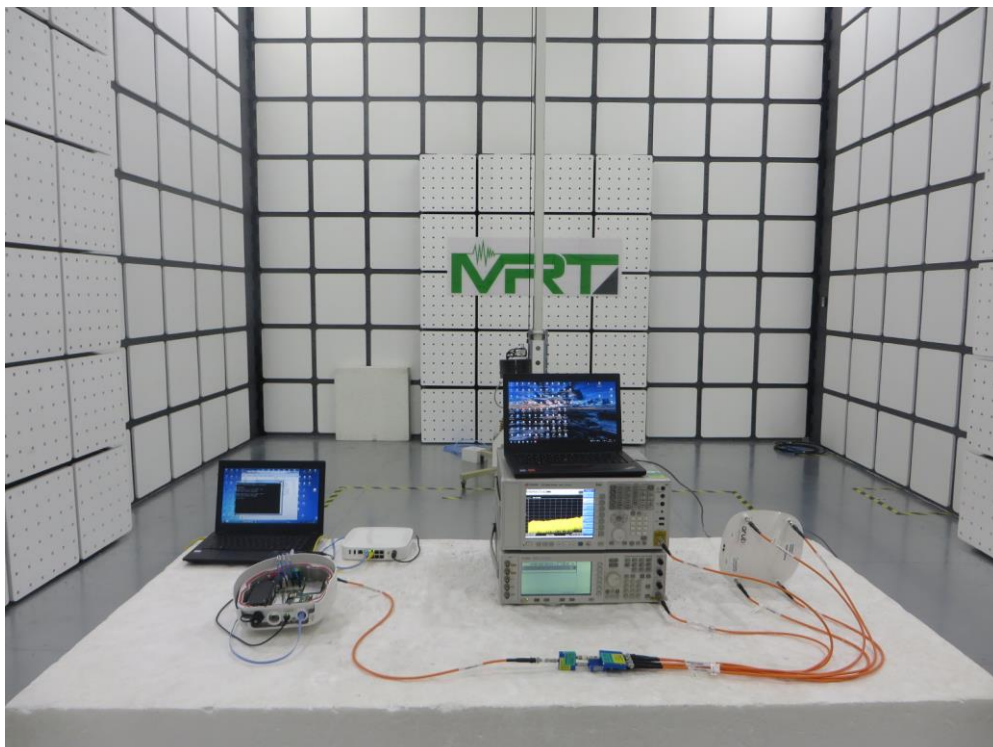
註三：在 U-NII 檢測帶寬檢測測試，雷達類型“0”應該被使用。對每個頻率步進的檢測的最小百分比是 90%。測試是被執行在沒有資料傳輸的狀態下。

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.



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



4. 測試設備明細

動態雷達選擇 (DFS) - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9010A	MRTTWA00012	1 year	2018/07/10
ESG Vector Signal Generator	Agilent	N5182B	MRTSUE06026	1 year	2018/04/05
Temperature/Humidity Meter	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2018/05/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTTWA00003	1 year	2018/04/05
Notebook	ASUS	PRO45V	MRTSUE06180	N/A	N/A

Client Information

Instrument	Manufacturer	Type No.
Wireless Network Adapter	Intel	7260HMW
Access Point	Aruba Networks, Inc	APIN0334

Note: The manufacturer configured the Access Point into client mode through software.

Software	Version	Manufacturer	Function
Pulse Building	N/A	Agilent	Radar Signal Generation Software
DFS Tool	V 6.9.2	Agilent	DFS Test Software

5. 測試結果

產品名稱

ACCESS POINT

型號

APEX0374, APEX0375 , APEX0377

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

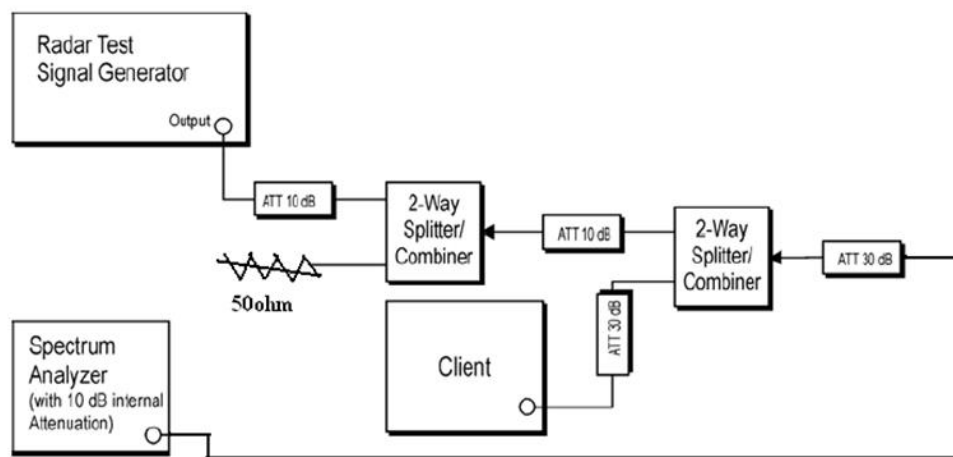
6.1. 量測方法

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。

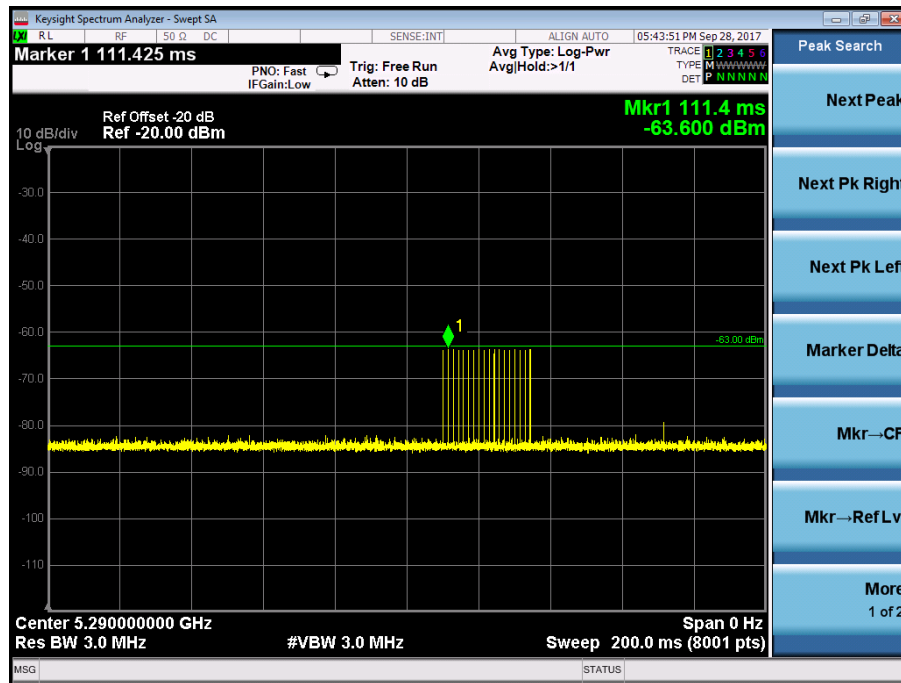
將雷達訊號產生器的振幅位準調整至頻譜分析儀上觀察到的位準為-63dBm，此位準為接收輸入端以 0dBi 的接收天線為參考基準。

6.2. 校驗架構圖

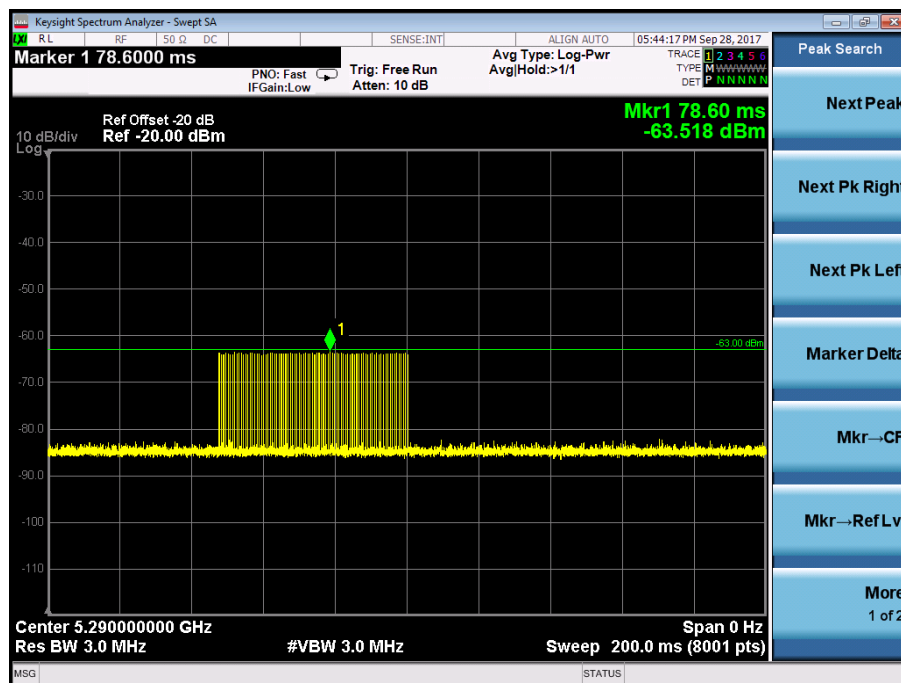


6.3. 校驗結果

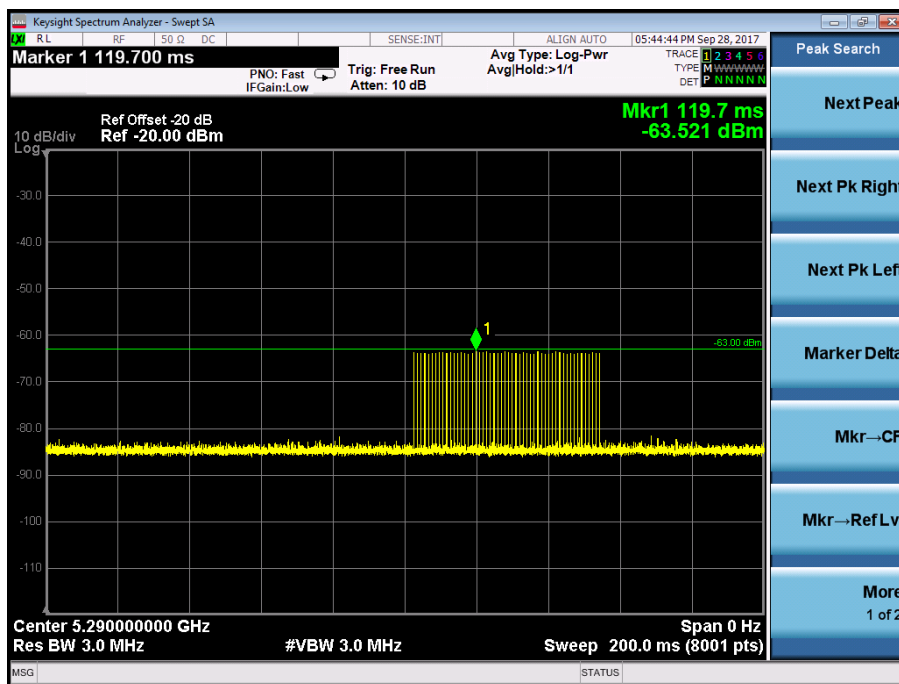
雷達測試信號 Type #0 校驗圖 for 5290MHz



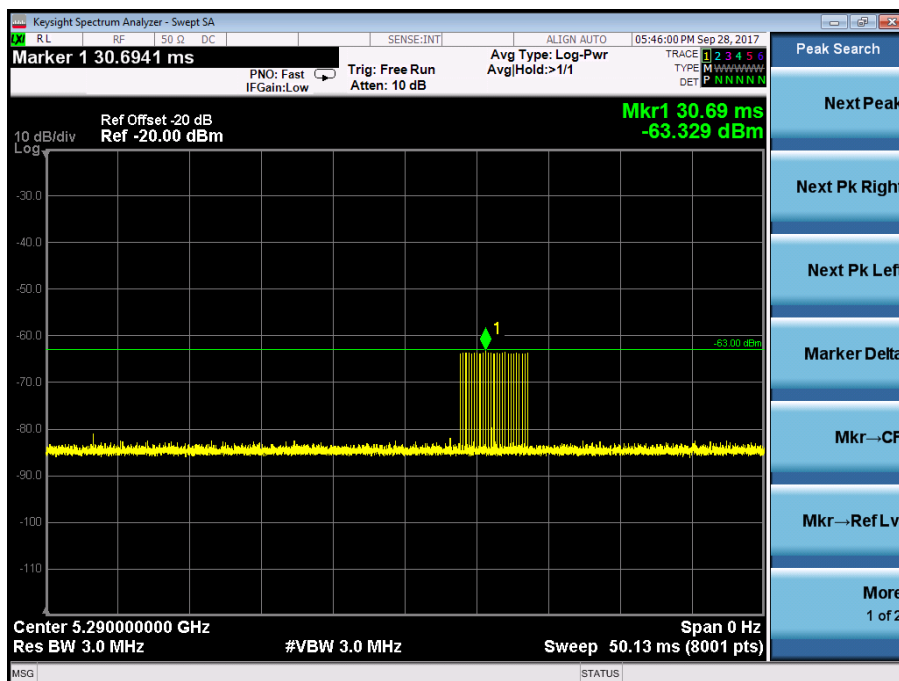
雷達測試信號 Type #1(Test A)校驗圖 for 5290MHz



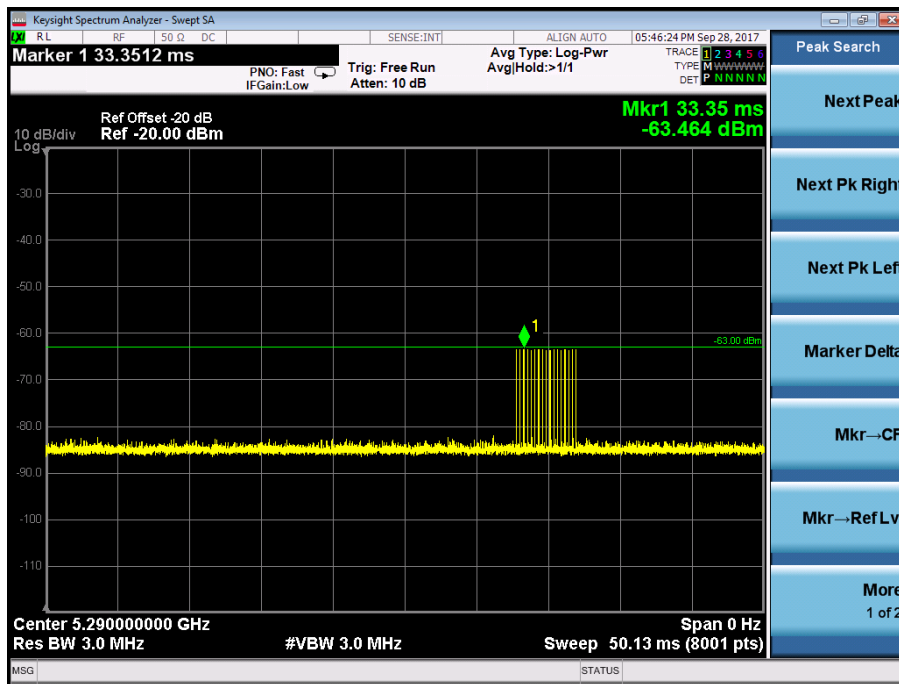
雷達測試信號 Type #1(Test B)校驗圖 for 5290MHz



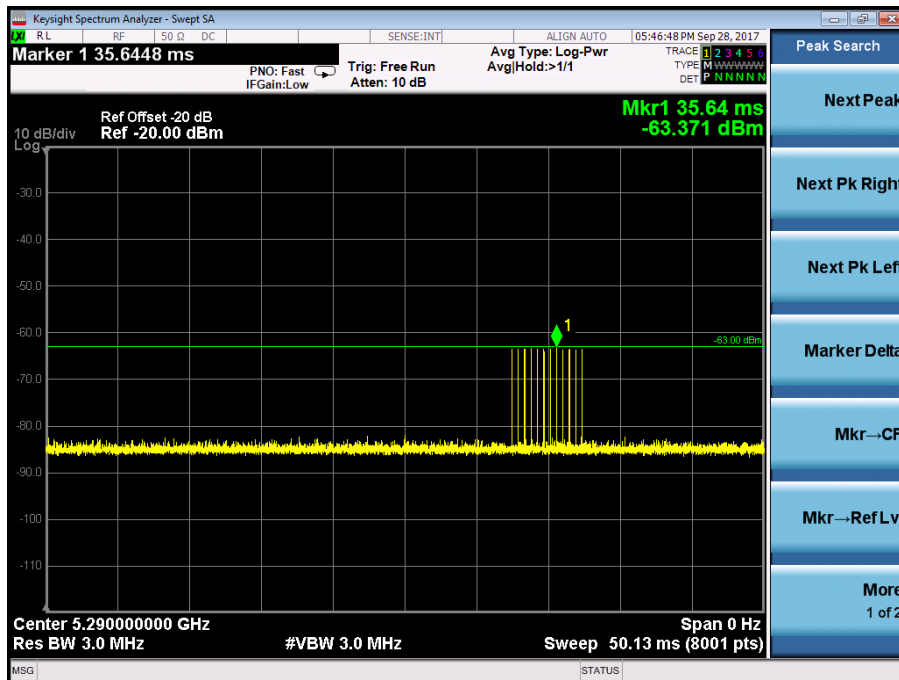
雷達測試信號 Type #2 校驗圖 for 5290MHz



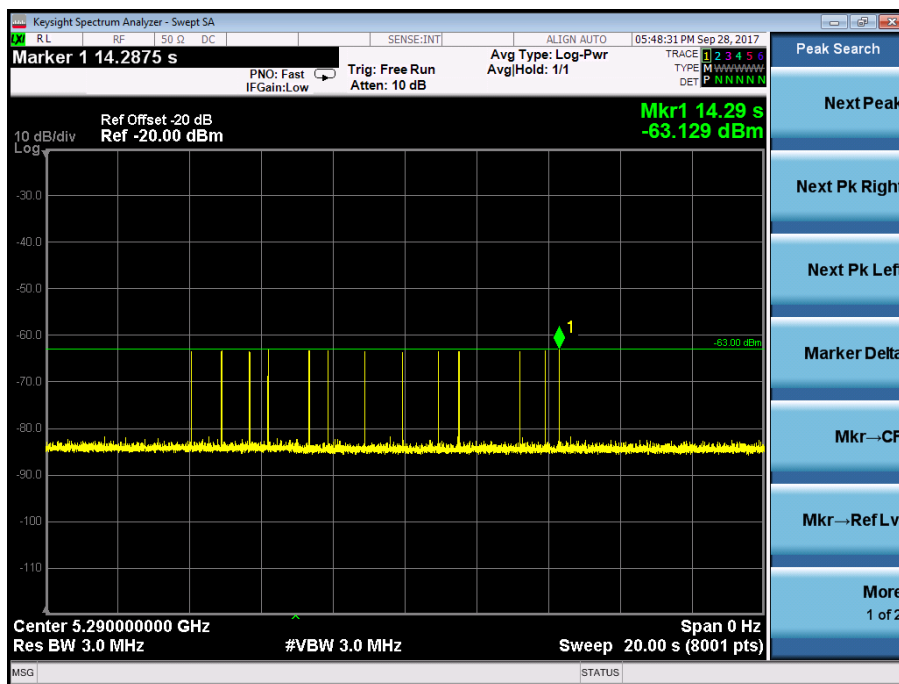
雷達測試信號 Type #3 校驗圖 for 5290MHz



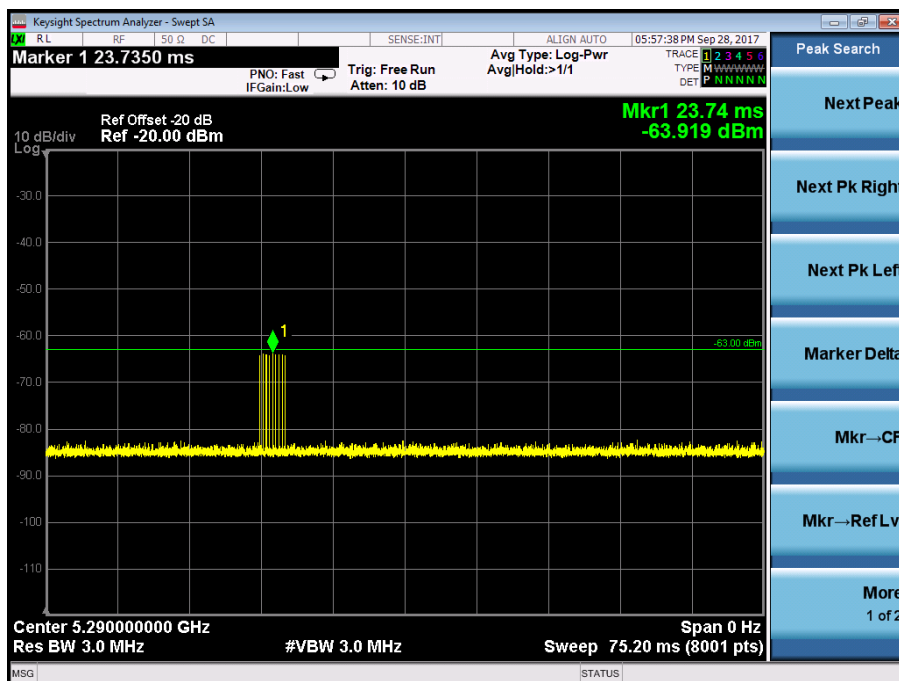
雷達測試信號 Type #4 校驗圖 for 5290MHz



雷達測試信號 Type #5 校驗圖 for 5290MHz

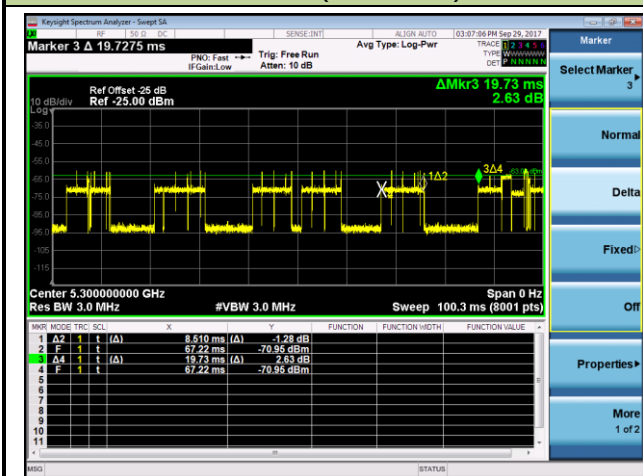


雷達測試信號 Type #6 校驗圖 for 5290MHz

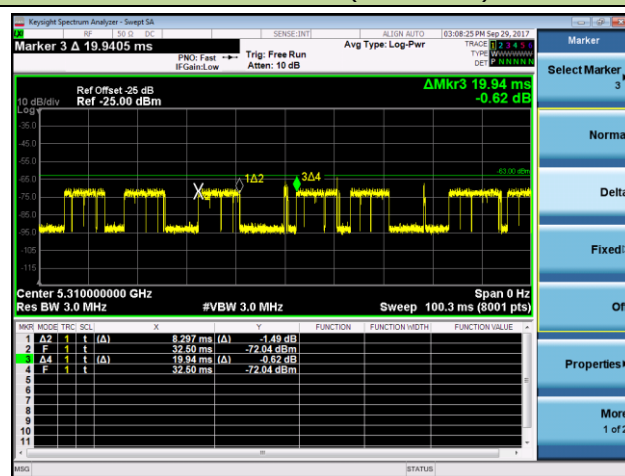


Channel Loading Plot

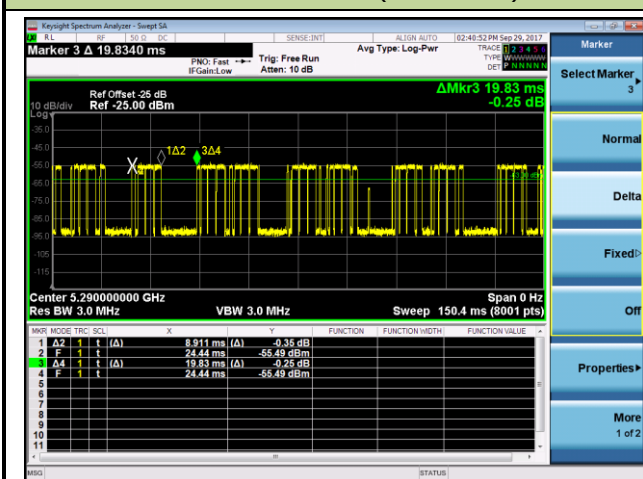
802.11a (5300MHz)



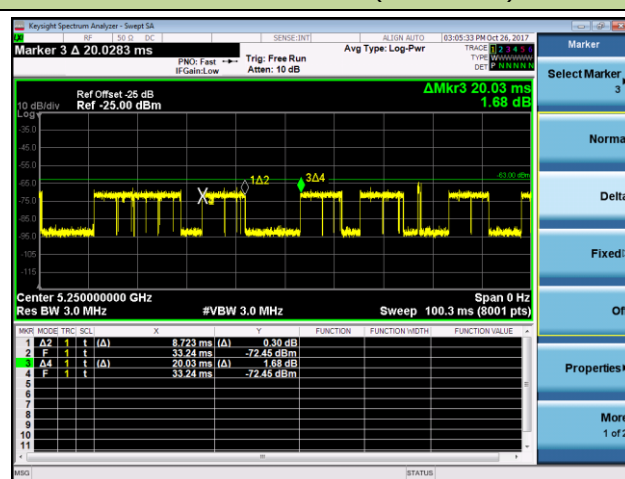
802.11n-HT40 (5310MHz)



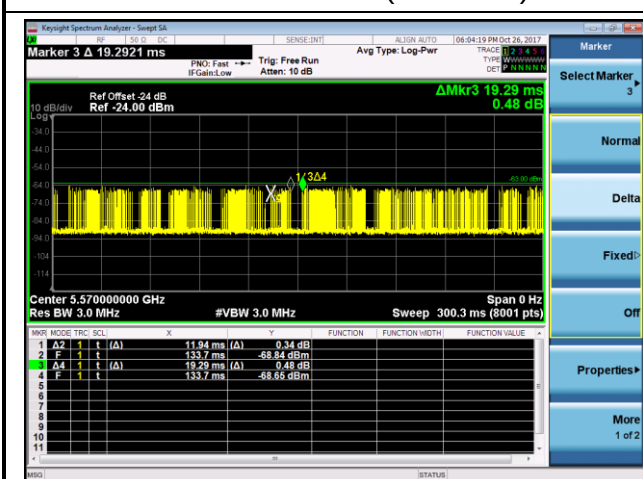
802.11ac-VHT80 (5290MHz)



802.11ac-VHT160 (5250MHz)



802.11ac-VHT160 (5570MHz)



測試模式	測試頻率	占空比	要求占空比	測試結果
802.11a	5300 MHz	43.13%	>17%	Pass
802.11n-HT40	5310 MHz	41.61%	>17%	Pass
802.11ac-VHT80	5290 MHz	44.94%	>17%	Pass
802.11ac-VHT160	5250 MHz	43.55%	>17%	Pass
802.11ac-VHT160	5570 MHz	61.90%	>17%	Pass

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

EUT Frequency = 5300MHz for 802.11a											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5290	0	0	0	0	0	0	0	0	0	0	0%
5291 FL	1	1	1	1	1	1	1	1	1	1	100%
5292	1	1	1	1	1	1	1	1	1	1	100%
5293	1	1	1	1	1	1	1	1	1	1	100%
5294	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%
5306	1	1	1	1	1	1	1	1	1	1	100%
5307	1	1	1	1	1	1	1	1	1	1	100%
5308	1	1	1	1	1	1	1	1	1	1	100%
5309 FH	1	1	1	1	1	1	1	1	1	1	100%
5310	0	0	0	0	0	0	0	0	0	0	0%
Detection Bandwidth = FH - FL = 5309MHz - 5291MHz = 18MHz											
EUT 99% Bandwidth = 16.41MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 16.41MHz x 100% = 16.41MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5300MHz. The 99% channel bandwidth is 16.41MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5310MHz for 802.11n-HT40											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5290	0	0	0	0	0	0	0	0	0	0	0%
5291	0	0	0	0	0	0	0	0	0	0	0%
5292 FL	1	1	1	1	1	1	1	1	1	1	100%
5293	1	1	1	1	1	1	1	1	1	1	100%
5294	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%
Detection Bandwidth = FH - FL = 5329MHz - 5292MHz = 37MHz											
EUT 99% Bandwidth = 35.75MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 35.75MHz x 100% = 35.75MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5310MHz. The 99% channel bandwidth is 35.75MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5290MHz for 802.11ac-VHT80											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250	0	0	0	0	0	0	0	0	0	0	0%
5251 FL	1	1	1	1	1	1	1	1	1	1	100%
5252	1	1	1	1	1	1	1	1	1	1	100%
5253	1	1	1	1	1	1	1	1	1	1	100%
5254	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%
Detection Bandwidth = FH - FL = 5329MHz - 5251MHz = 78MHz											
EUT 99% Bandwidth = 75.67MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 75.67MHz x 100% = 75.67MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5290MHz. The 99% channel bandwidth is 75.67MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5290MHz for 802.11ac-VHT80 + 80											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5250	0	0	0	0	0	0	0	0	0	0	0%
5251 FL	1	1	1	1	1	1	1	1	1	1	100%
5252	1	1	1	1	1	1	1	1	1	1	100%
5253	1	1	1	1	1	1	1	1	1	1	100%
5254	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%
Detection Bandwidth = FH - FL = 5329MHz - 5251MHz = 78MHz											
EUT 99% Bandwidth = 75.75MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 75.75MHz x 100% = 75.75MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5290MHz. The 99% channel bandwidth is 75.75MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5530MHz for 802.11ac-VHT80 + 80											
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%
Detection Bandwidth = FH - FL = 5569MHz - 5491MHz = 78MHz											
EUT 99% Bandwidth = 75.81MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 75.81MHz x 100% = 75.81MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 75.81MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5250MHz for 802.11ac-VHT160											
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%
Detection Bandwidth = FH - FL = 5329MHz - 5250MHz = 79MHz											
EUT 99% Bandwidth = 75.82MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 75.82MHz x 100% = 75.82MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5290MHz. The 99% channel bandwidth is 75.82MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency = 5570MHz for 802.11ac-VHT160											
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%
5605	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%
Detection Bandwidth = FH - FL = 5649MHz - 5491MHz = 158MHz											
EUT 99% Bandwidth = 154.79MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 154.79MHz x 100% = 154.79MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5570MHz. The 99% channel bandwidth is 154.79MHz. (See the 99% BW section of the RF report for further measurement details).

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。

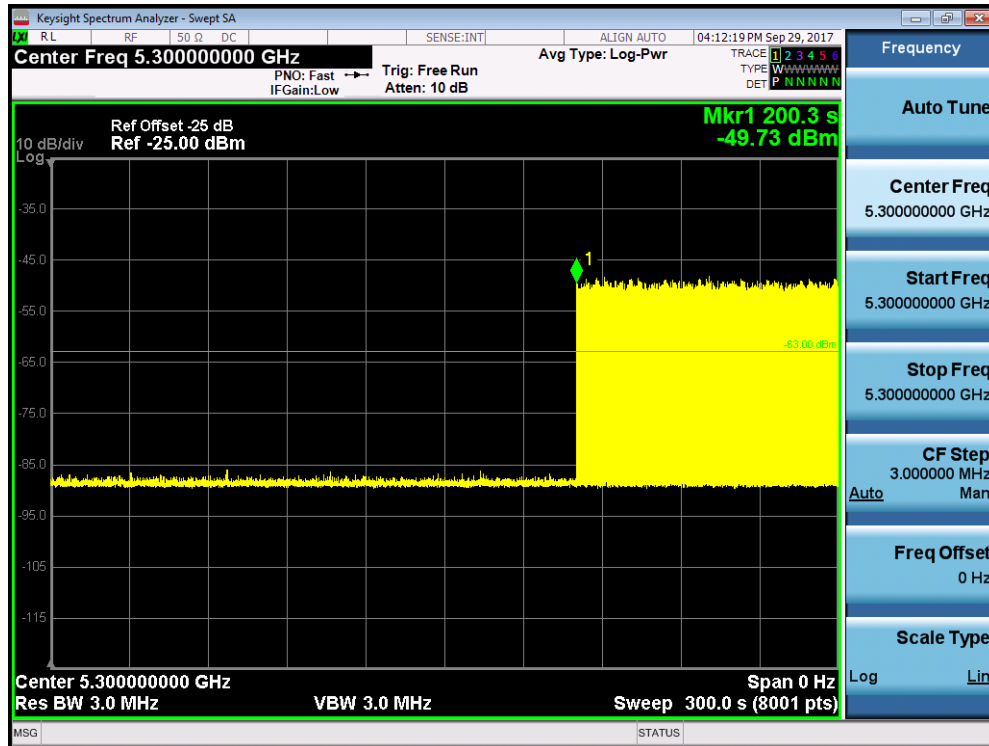
8.2. 量測方法

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.

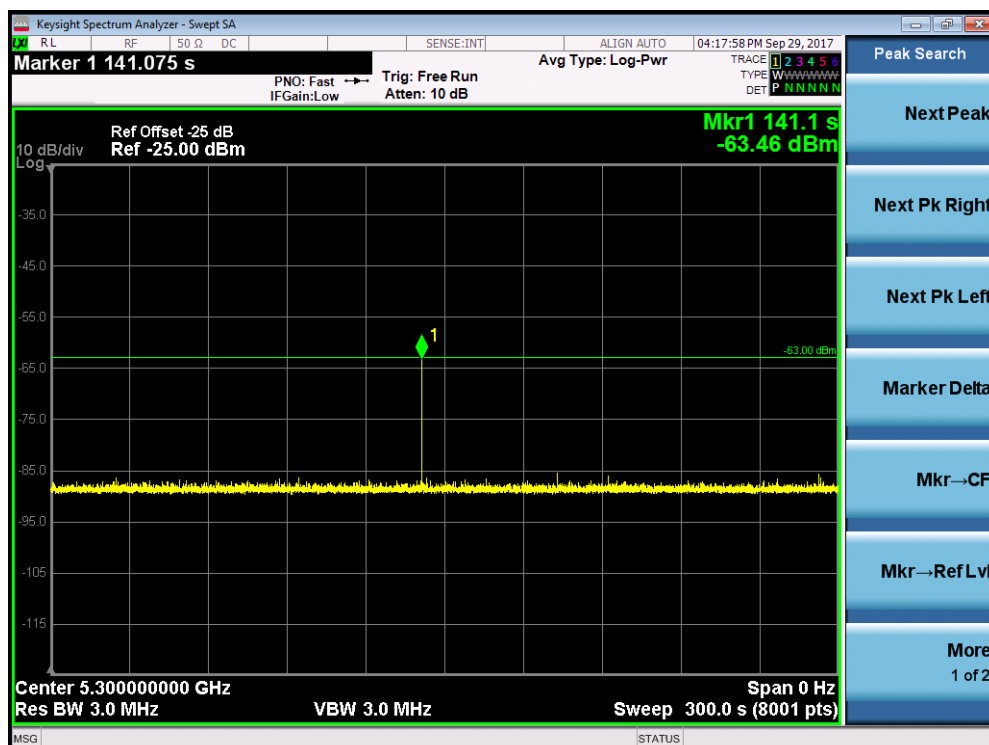
8.3. 頻道可用性檢查時間量測測試結果

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (140.3 sec). Initial beacons/data transmissions are indicated by marker 1 (200.3 sec).

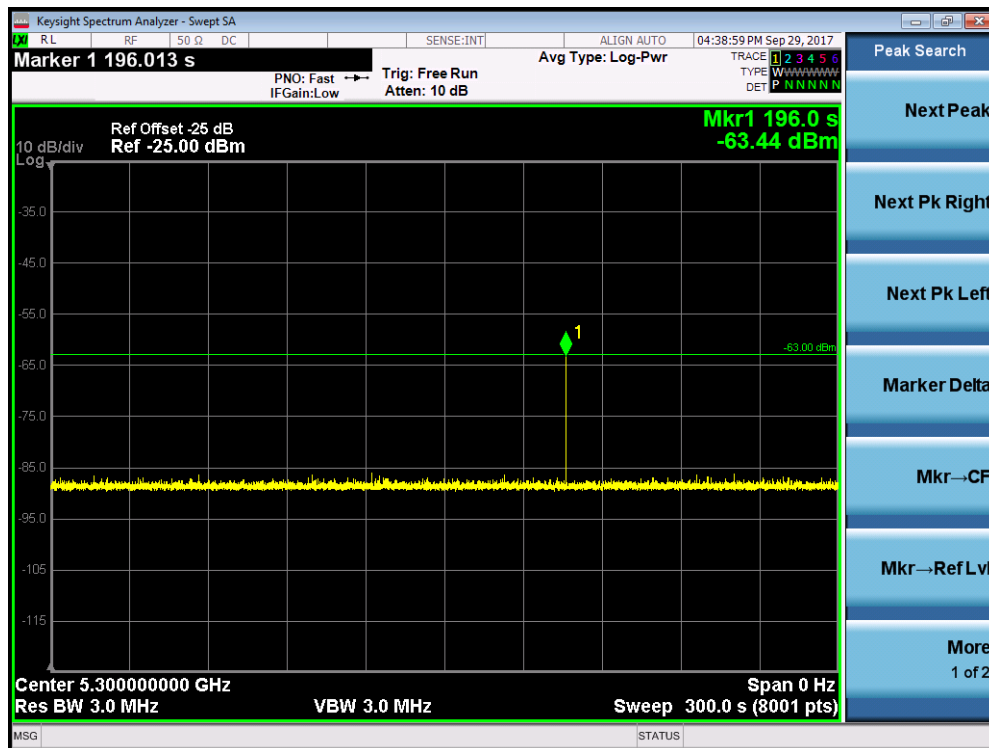
Initial Channel Availability Check Time for 802.11a



Radar Burst at the Beginning of the Channel Availability Check Time for 802.11a



Radar Burst at the End of the Channel Availability Check Time for 802.11a



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。

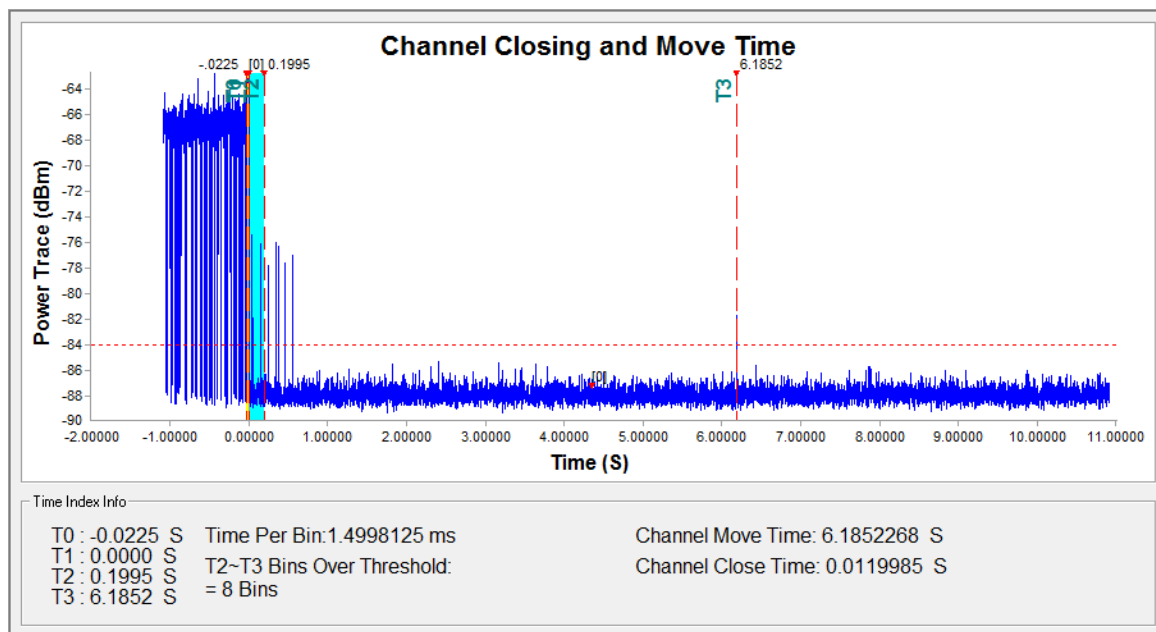
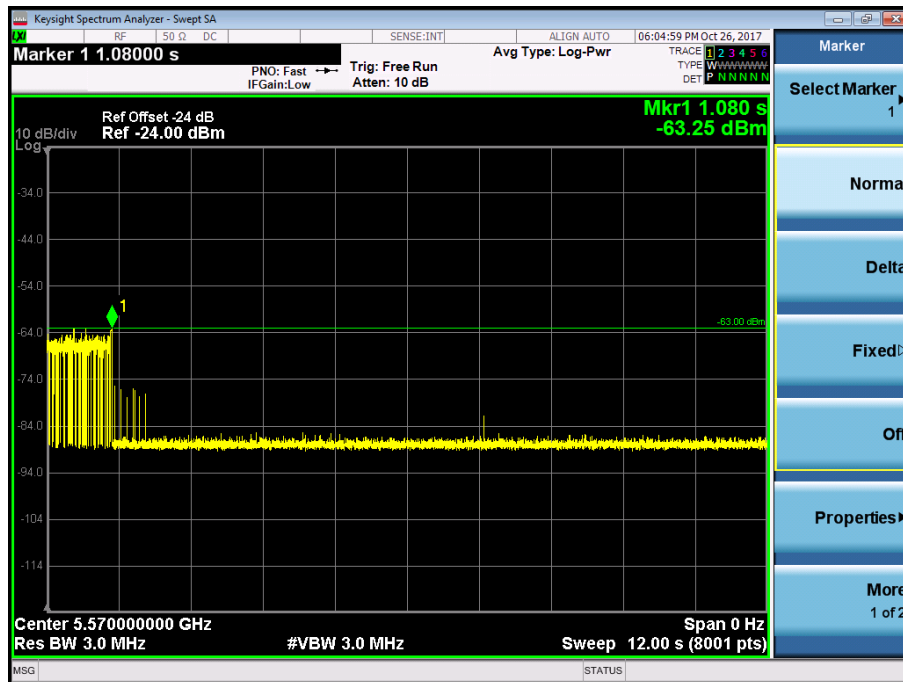
不可佔用期間：某一頻道已被頻道可用性檢查或”服務中”監視顯示含有雷達系統，至少須有30 分鐘的不可佔用期間。不可佔用期間起始於偵測到雷達系統的當時。

9.2. 量測方法

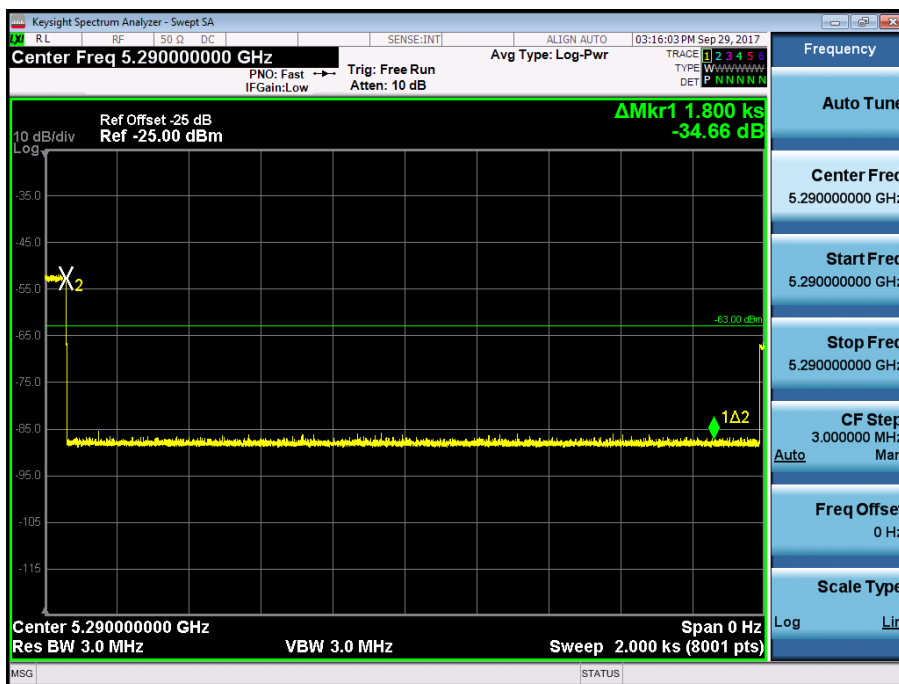
1. The test should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0.
2. When the radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device. A U-NII device operating as a Master Device will 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

頻道關閉傳輸時間 for 802.11ac-VHT160 – 5570MHz



不可佔用期間 for 802.11ac-VHT80 – 5290MHz



項目	結果	限值
	Type 0	
頻道關閉傳輸時間 (s)	6.185s	<10s
頻率移動時間 (ms)	12.0ms	< 60ms
不可佔用期間 (min)	≥ 30min	≥ 30 min

10.動態頻率選擇偵測門檻

10.1. 適用標準

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

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

The percentage of successful detection is calculated by:

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

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

10.2. 量測方法

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

10.3. 動態頻率選擇偵測門檻測試結果

Statistical Performance Check for 802.11a

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5298.9	1	3066	18	1
2	5302.7	1	518	102	1
3	5292.3	1	898	59	1
4	5307.3	1	778	68	1
5	5299.3	1	678	78	1
6	5307.8	1	598	89	1
7	5291.0	1	938	57	1
8	5306.1	1	858	62	1
9	5302.2	1	538	99	1
10	5300.0	1	758	70	1
11	5296.4	1	838	63	1
12	5308.0	1	818	65	1
13	5301.8	1	738	72	1
14	5297.6	1	578	92	1
15	5293.2	1	798	67	1
16	5306.8	1	2536	21	1
17	5300.4	1	1049	51	1
18	5295.3	1	1629	33	1
19	5303.5	1	1441	37	1
20	5305.2	1	2800	19	1
21	5293.8	1	787	68	1
22	5301.3	1	1992	27	1
23	5305.6	1	786	68	1
24	5295.8	1	796	67	1
25	5304.2	1	2017	27	1
26	5303.9	1	1948	28	1
27	5309.0	1	2664	20	1
28	5294.0	1	839	63	1
29	5304.8	1	2345	23	1
30	5294.8	1	806	66	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	5295.2	2.4	230	24	1
2	5302.2	2.8	228	29	1
3	5295.7	3.2	214	27	1
4	5306.9	2.0	179	27	1
5	5301.1	2.1	187	29	1
6	5307.7	4.2	230	25	1
7	5291.0	2.8	210	26	1
8	5302.7	1.1	204	27	1
9	5296.3	4.0	183	27	1
10	5307.1	2.9	218	29	1
11	5292.2	3.0	173	27	1
12	5306.2	4.9	218	29	1
13	5301.4	2.2	179	27	1
14	5308.0	2.2	201	25	1
15	5297.8	3.8	185	27	1
16	5309.0	1.4	221	24	1
17	5293.3	4.7	209	28	1
18	5305.3	4.0	213	25	1
19	5303.8	4.9	150	26	1
20	5300.0	2.9	201	23	1
21	5303.5	4.3	168	25	1
22	5293.8	4.4	222	26	1
23	5304.2	3.5	208	24	1
24	5308.6	4.6	193	27	1
25	5305.8	3.2	197	25	1
26	5304.8	3.0	216	29	1
27	5294.0	3.4	226	27	1
28	5299.9	2.8	192	26	1
29	5300.2	2.4	175	27	1
30	5294.4	1.1	188	28	1
Detection Percentage (%)					100%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5297.8	6.0	316	18	1
2	5302.2	8.2	312	18	1
3	5301.5	8.8	487	17	1
4	5292.4	8.6	349	17	1
5	5306.9	7.2	374	17	1
6	5306.3	8.3	452	16	1
7	5297.6	8.1	382	17	1
8	5291.0	6.1	265	18	1
9	5301.1	8.1	431	16	1
10	5308.6	7.3	279	16	1
11	5296.5	6.7	275	18	1
12	5305.8	9.5	343	17	1
13	5293.0	9.4	355	18	1
14	5302.8	7.8	420	17	1
15	5299.2	6.2	402	17	1
16	5295.8	6.8	376	16	1
17	5305.2	6.7	319	17	1
18	5300.0	7.8	466	16	1
19	5303.1	9.7	471	18	1
20	5300.9	9.5	400	17	1
21	5293.6	7.3	344	18	1
22	5307.0	6.7	317	18	1
23	5303.9	9.8	280	18	1
24	5295.2	7.6	395	16	1
25	5307.4	7.0	316	16	1
26	5294.4	7.6	440	18	1
27	5309.0	7.8	400	16	1
28	5304.9	9.1	470	16	1
29	5304.3	8.1	285	16	1
30	5294.8	6.9	379	17	1
Detection Percentage (%)					100%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5294.6	16.6	378	12	1
2	5302.8	16.0	380	16	1
3	5302.3	12.6	486	13	1
4	5291.0	19.8	395	12	1
5	5306.8	14.7	323	16	1
6	5296.6	17.2	297	14	1
7	5294.9	20.0	275	15	1
8	5303.1	18.9	288	13	1
9	5301.6	16.2	382	16	1
10	5295.8	16.2	276	15	1
11	5306.2	17.1	377	16	1
12	5295.2	17.6	500	13	1
13	5307.3	12.8	428	16	1
14	5301.4	13.3	490	13	1
15	5292.2	19.0	321	12	1
16	5305.8	19.6	259	16	1
17	5297.9	16.0	396	13	1
18	5300.0	16.5	272	16	1
19	5293.9	15.3	387	16	1
20	5303.6	12.7	339	14	1
21	5307.6	14.2	339	12	1
22	5308.0	12.0	406	16	1
23	5293.3	11.3	414	12	1
24	5309.0	12.8	471	16	1
25	5304.2	15.6	273	16	1
26	5300.8	16.9	286	15	1
27	5304.7	15.6	422	13	1
28	5299.2	12.7	438	15	1
29	5305.1	13.9	307	15	1
30	5300.3	11.0	262	16	1
Detection Percentage (%)					100%

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

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

(>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	5296.0	1	16	5300.0	1
2	5299.2	1	17	5300.0	1
3	5295.6	1	18	5300.0	1
4	5299.6	1	19	5300.0	1
5	5294.0	1	20	5300.0	1
6	5298.8	1	21	5302.4	1
7	5294.4	1	22	5306.0	1
8	5297.6	1	23	5304.8	1
9	5295.2	1	24	5301.2	1
10	5296.8	1	25	5305.6	1
11	5300.0	1	26	5300.4	1
12	5300.0	1	27	5300.8	1
13	5300.0	1	28	5304.0	1
14	5300.0	1	29	5304.4	1
15	5300.0	1	30	5303.2	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1

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	752260	3	10	60	1978	1285	1999	752260	0	857142
2	788445	2	10	65	1292	1313	0	1545967	857143	1714285
3	799800	2	10	70	1895	1567	0	2348372	1714286	2571428
4	805929	3	10	95	1232	1140	1134	3157763	2571429	3428571
5	910065	2	10	95	1890	1562	0	4071334	3428572	4285714
6	829860	3	10	50	1223	1008	1440	4904646	4285715	5142857
7	1061166	1	10	55	1294	0	0	5969483	5142858	6000000
8	581793	3	10	85	1466	1660	1101	6552570	6000001	6857143
9	864990	2	10	55	1709	1838	0	7421787	6857144	7714286
10	761004	1	10	55	1189	0	0	8186338	7714287	8571429
11	1075380	3	10	85	1996	1316	1527	9262907	8571430	9428572
12	875750	3	10	95	1620	1912	1639	10143496	9428573	10285715
13	313915	2	10	75	1460	1985	0	10462582	10285716	11142858
14	1352873	1	10	60	1658	0	0	11818900	11142859	12000001
Total number of pulses in waveform = 31 *****										

Type 5 Radar Waveform_2

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	1120262	1	18	70	1359	0	0	1120262	0	1333332
2	633173	2	18	60	1863	1873	0	1754794	1333333	2666665
3	1464070	1	18	65	1344	0	0	3222600	2666666	3999998
4	1884777	2	18	50	1656	1315	0	5108721	3999999	5333331
5	820154	1	18	65	1009	0	0	5931846	5333332	6666664
6	1252230	1	18	85	1294	0	0	7185085	6666665	7999997
7	1208638	1	18	60	1471	0	0	8395017	7999998	9333330
8	1344694	2	18	95	1050	1093	0	9741182	9333331	10666663
9	1948112	1	18	100	1212	0	0	11691437	10666664	11999996

Total number of pulses in waveform = 12

Type 5 Radar Waveform_3

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	910333	2	9	95	1355	1779	0	910333	0	1199999
2	1066910	2	9	75	1261	1333	0	1980377	1200000	2399999
3	781680	1	9	95	1556	0	0	2764651	2400000	3599999
4	920709	2	9	50	1574	1972	0	3686916	3600000	4799999
5	1206602	2	9	50	1376	1079	0	4897064	4800000	5999999
6	1479714	3	9	60	1187	1986	1220	6379233	6000000	7199999
7	1677875	2	9	75	1980	1390	0	8061501	7200000	8399999
8	1263533	2	9	95	1469	1209	0	9328404	8400000	9599999
9	361145	2	9	50	1786	1081	0	9692227	9600000	10799999
10	1434386	3	9	100	1718	1096	1966	11129480	10800000	11999999

Total number of pulses in waveform = 21

Type 5 Radar Waveform_4

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	46004	3	19	70	1018	1211	1634	46004	0	999999
2	1889090	3	19	85	1115	1294	1329	1938957	1000000	1999999
3	863435	2	19	60	1323	1622	0	2806130	2000000	2999999
4	974360	1	19	50	1492	0	0	3783435	3000000	3999999
5	1017141	1	19	55	1625	0	0	4802068	4000000	4999999
6	704677	3	19	75	1106	1734	1086	5508370	5000000	5999999
7	670033	1	19	100	1048	0	0	6182329	6000000	6999999
8	1247549	2	19	60	1331	1296	0	7430926	7000000	7999999
9	709779	1	19	60	1198	0	0	8143332	8000000	8999999
10	1466982	2	19	65	1523	1114	0	9611512	9000000	9999999
11	1058500	1	19	65	1832	0	0	10672649	10000000	10999999
12	662681	3	19	100	1743	1292	1632	11337162	11000000	11999999

Total number of pulses in waveform = 23

Type 5 Radar Waveform_5

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	777587	1	5	90	1991	0	0	777587	0	999999
2	912616	3	5	65	1308	1223	1768	1692194	1000000	1999999
3	549340	3	5	95	1861	1204	1215	2245833	2000000	2999999
4	1576417	2	5	75	1627	1881	0	3826530	3000000	3999999
5	822466	3	5	55	1152	1987	1840	4652494	4000000	4999999
6	934533	3	5	65	1567	1036	1117	5592006	5000000	5999999
7	683299	2	5	60	1742	1675	0	6279025	6000000	6999999
8	1569828	1	5	100	1120	0	0	7852270	7000000	7999999
9	277952	1	5	75	1824	0	0	8131342	8000000	8999999
10	1351020	3	5	75	1209	1565	1729	9484186	9000000	9999999
11	1216769	2	5	90	1241	1156	0	10705458	10000000	10999999
12	897416	3	5	60	1258	1442	1716	11605271	11000000	11999999

Total number of pulses in waveform = 27

Type 5 Radar Waveform_6

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	641012	3	17	90	1267	1881	1382	641012	0	1199999
2	1474795	1	17	95	1060	0	0	2120337	1200000	2399999
3	1302475	3	17	90	1565	1026	1568	3423872	2400000	3599999
4	464778	1	17	90	1217	0	0	3892809	3600000	4799999
5	969407	2	17	85	1507	1825	0	4863433	4800000	5999999
6	2317500	2	17	100	1283	1984	0	7184265	6000000	7199999
7	628526	3	17	70	1855	1677	1566	7816058	7200000	8399999
8	755636	3	17	50	1461	1138	1404	8576792	8400000	9599999
9	1356415	3	17	65	1753	1106	1273	9937210	9600000	10799999
10	1718708	1	17	90	1706	0	0	11660050	10800000	11999999

Total number of pulses in waveform = 22

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	969601	3	6	65	1237	1954	1331	969601	0	1199999
2	672053	3	6	75	1215	1949	1130	1646176	1200000	2399999
3	1512019	2	6	90	1549	1498	0	3162489	2400000	3599999
4	881628	3	6	65	1127	1796	1515	4047164	3600000	4799999
5	1234318	1	6	70	1046	0	0	5285920	4800000	5999999
6	1394986	1	6	80	1935	0	0	6681952	6000000	7199999
7	1481103	2	6	60	1643	1340	0	8164990	7200000	8399999
8	369410	1	6	60	1992	0	0	8537383	8400000	9599999
9	1936060	2	6	65	1633	1294	0	10475435	9600000	10799999
10	349157	2	6	70	1359	1468	0	10827519	10800000	11999999

Total number of pulses in waveform = 20



Type 5 Radar Waveform_8

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	347285	2	14	80	1166	1341	0	347285	0	749999
2	622904	1	14	60	1926	0	0	972696	750000	1499999
3	983439	1	14	90	1897	0	0	1958061	1500000	2249999
4	719512	1	14	50	1061	0	0	2679470	2250000	2999999
5	962812	1	14	85	1848	0	0	3643343	3000000	3749999
6	210049	2	14	100	1998	1919	0	3855240	3750000	4499999
7	1130153	3	14	80	1583	1492	1810	4989310	4500000	5249999
8	586501	3	14	85	1877	1871	1704	5580696	5250000	5999999
9	1160145	2	14	60	1577	1115	0	6746293	6000000	6749999
10	702876	1	14	80	1857	0	0	7451861	6750000	7499999
11	97224	3	14	85	1651	1628	1819	7550942	7500000	8249999
12	994941	1	14	90	1830	0	0	8550981	8250000	8999999
13	647771	1	14	85	1699	0	0	9200582	9000000	9749999
14	1027917	1	14	95	1350	0	0	10230198	9750000	10499999
15	661574	2	14	50	1970	1844	0	10893122	10500000	11249999
16	902180	1	14	80	1526	0	0	11799116	11250000	11999999

Total number of pulses in waveform = 26

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	146681	3	8	65	1136	1445	1236	146681	0	999999
2	1075218	1	8	90	1545	0	0	1225716	1000000	1999999
3	1315356	1	8	65	1262	0	0	2542617	2000000	2999999
4	1421058	1	8	65	1848	0	0	3964937	3000000	3999999
5	844111	1	8	85	1006	0	0	4810896	4000000	4999999
6	1019700	2	8	70	1720	1063	0	5831602	5000000	5999999
7	266423	1	8	70	1720	0	0	6100808	6000000	6999999
8	1119837	2	8	60	1198	1750	0	7222365	7000000	7999999
9	1759248	2	8	95	1086	1519	0	8984561	8000000	8999999
10	582907	3	8	90	1471	1684	1911	9570073	9000000	9999999
11	1365818	3	8	85	1550	1886	1807	10940957	10000000	10999999
12	544013	3	8	80	1099	1013	1159	11490213	11000000	11999999

Total number of pulses in waveform = 23

Type 5 Radar Waveform_10

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	506829	2	12	60	1770	1907	0	506829	0	799999
2	316242	3	12	60	1448	1529	1169	826748	800000	1599999
3	1026366	3	12	85	1354	1166	1510	1857260	1600000	2399999
4	796427	3	12	85	1677	1077	1696	2657717	2400000	3199999
5	741154	1	12	95	1550	0	0	3403321	3200000	3999999
6	858451	2	12	90	1948	1024	0	4263322	4000000	4799999
7	1289133	3	12	75	1476	1581	1611	5535427	4800000	5599999
8	285261	2	12	70	1507	1975	0	5825356	5600000	6399999
9	1031042	2	12	75	1257	1113	0	6859880	6400000	7199999
10	860802	3	12	65	1621	1525	1709	7723052	7200000	7999999
11	865957	3	12	90	1736	1558	1028	8593864	8000000	8799999
12	591202	2	12	95	1875	1577	0	9189388	8800000	9599999
13	600828	2	12	85	1181	1470	0	9793668	9600000	10399999
14	934386	1	12	65	1928	0	0	10730705	10400000	11199999
15	1115438	3	12	90	1650	1345	1586	11848071	11200000	11999999

Total number of pulses in waveform = 35

Type 5 Radar Waveform_11

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	1212223	1	6	50	1675	0	0	1212223	0	1499999
2	1459805	1	6	100	1902	0	0	2673703	1500000	2999999
3	1674203	1	6	95	1781	0	0	4349808	3000000	4499999
4	609072	1	6	55	1734	0	0	4960661	4500000	5999999
5	2057990	2	6	90	1158	1378	0	7020385	6000000	7499999
6	1738485	1	6	100	1143	0	0	8761406	7500000	8999999
7	375841	2	6	70	1101	1323	0	9138390	9000000	10499999
8	1507666	2	6	90	1893	1281	0	10648480	10500000	11999999

Total number of pulses in waveform = 11

Type 5 Radar Waveform_12

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	508909	1	14	95	1804	0	0	508909	0	1333332
2	1312343	2	14	65	1209	1293	0	1823056	1333333	2666665
3	1720710	1	14	65	1264	0	0	3546268	2666666	3999998
4	1110478	1	14	70	1402	0	0	4658010	3999999	5333331
5	807168	2	14	90	1208	1839	0	5466580	5333332	6666664
6	1344500	3	14	90	1856	1421	1153	6814127	6666665	7999997
7	2211669	2	14	65	1796	1960	0	9030226	7999998	9333330
8	1367073	2	14	95	1333	1961	0	10401055	9333331	10666663
9	414863	3	14	50	1957	1760	1279	10819212	10666664	11999996

Total number of pulses in waveform = 17

Type 5 Radar Waveform_13

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	735876	1	9	90	1913	0	0	735876	0	1499999
2	780067	2	9	60	1682	1894	0	1517856	1500000	2999999
3	1527305	1	9	95	1864	0	0	3048737	3000000	4499999
4	2358603	3	9	80	1764	1500	1691	5409204	4500000	5999999
5	1712070	1	9	55	1097	0	0	7126229	6000000	7499999
6	618904	1	9	85	1465	0	0	7746230	7500000	8999999
7	1938538	1	9	85	1202	0	0	9686233	9000000	10499999
8	1981616	3	9	80	1783	1204	1168	11689051	10500000	11999999

Total number of pulses in waveform = 13

Type 5 Radar Waveform_14

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	523859	3	5	75	1030	1109	1639	523859	0	1199999
2	1197915	3	5	55	1630	1413	1485	1725552	1200000	2399999
3	1355504	3	5	90	1726	1812	1543	3085584	2400000	3599999
4	580348	1	5	60	1508	0	0	3671013	3600000	4799999
5	1202214	2	5	95	1087	1474	0	4874735	4800000	5999999
6	1544866	1	5	95	1888	0	0	6422162	6000000	7199999
7	1173801	2	5	65	1141	1484	0	7597851	7200000	8399999
8	1811427	1	5	95	1236	0	0	9411903	8400000	9599999
9	338013	3	5	60	1037	1527	1064	9751152	9600000	10799999
10	1086090	3	5	75	1684	1029	1294	10840870	10800000	11999999

Total number of pulses in waveform = 22

Type 5 Radar Waveform_15

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	39422	1	12	70	1535	0	0	39422	0	999999
2	1894528	1	12	65	1985	0	0	1935485	1000000	1999999
3	483485	3	12	75	1250	1330	1206	2420955	2000000	2999999
4	965488	3	12	65	1212	1483	1201	3390229	3000000	3999999
5	878659	3	12	55	1307	1410	1590	4272784	4000000	4999999
6	1391097	2	12	65	1995	1210	0	5668188	5000000	5999999
7	965131	2	12	100	1342	1924	0	6636524	6000000	6999999
8	934214	1	12	70	1971	0	0	7574004	7000000	7999999
9	889958	2	12	65	1472	1934	0	8465933	8000000	8999999
10	1406702	3	12	60	1749	1044	1183	9876041	9000000	9999999
11	596815	3	12	50	1262	1933	1804	10476832	10000000	10999999
12	848388	3	12	95	1642	1846	1719	11330219	11000000	11999999

Total number of pulses in waveform = 27

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	164156	1	17	80	1141	0	0	164156	0	923076
2	881803	2	17	90	1736	1104	0	1047100	923077	1846153
3	1711603	1	17	75	1581	0	0	2761543	1846154	2769230
4	654329	2	17	90	1689	1839	0	3417453	2769231	3692307
5	1083492	2	17	65	1081	1034	0	4504473	3692308	4615384
6	752685	3	17	50	1078	1732	1599	5259273	4615385	5538461
7	448036	3	17	65	1098	1193	1210	5711718	5538462	6461538
8	1482804	2	17	65	1462	1851	0	7198023	6461539	7384615
9	547106	1	17	95	1687	0	0	7748442	7384616	8307692
10	1237927	2	17	85	1152	1211	0	8988056	8307693	9230769
11	344049	2	17	65	1155	1540	0	9334468	9230770	10153846
12	976134	1	17	60	1891	0	0	10313297	10153847	11076923
13	838594	1	17	55	1185	0	0	11153782	11076924	12000000

Total number of pulses in waveform = 23

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	324628	2	19	80	1698	1567	0	324628	0	999999
2	1522147	3	19	65	1330	1091	1857	1850040	1000000	1999999
3	871063	3	19	60	1178	1643	1228	2725381	2000000	2999999
4	1166511	3	19	70	1109	1567	1865	3895941	3000000	3999999
5	325770	1	19	75	1424	0	0	4226252	4000000	4999999
6	1079666	3	19	80	1416	1813	1386	5307342	5000000	5999999
7	1559895	3	19	50	1726	1299	1490	6871852	6000000	6999999
8	636972	3	19	85	1196	1514	1029	7513339	7000000	7999999
9	587085	2	19	90	1143	1466	0	8104163	8000000	8999999
10	1514988	2	19	60	1145	1690	0	9621760	9000000	9999999
11	481084	3	19	50	1443	1545	1686	10105679	10000000	10999999
12	1002181	3	19	95	1611	1768	1404	11112534	11000000	11999999

Total number of pulses in waveform = 31

Type 5 Radar Waveform_18

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	431225	2	8	100	1491	1474	0	431225	0	705881
2	705558	2	8	100	1991	1287	0	1139748	705882	1411763
3	279676	3	8	60	1359	1085	1880	1422702	1411764	2117645
4	1194757	3	8	80	1860	1548	1913	2621783	2117646	2823527
5	588997	1	8	70	1538	0	0	3216101	2823528	3529409
6	988823	1	8	85	1226	0	0	4206462	3529410	4235291
7	678900	3	8	95	1533	1791	1587	4886588	4235292	4941173
8	65240	2	8	55	1089	1936	0	4956739	4941174	5647055
9	1279420	1	8	75	1738	0	0	6239184	5647056	6352937
10	518826	2	8	65	1425	1476	0	6759748	6352938	7058819
11	935673	2	8	85	1758	1983	0	7698322	7058820	7764701
12	315824	3	8	90	1908	1535	1628	8017887	7764702	8470583
13	757779	1	8	95	1205	0	0	8780737	8470584	9176465
14	807587	1	8	100	1436	0	0	9589529	9176466	9882347
15	529768	1	8	95	1296	0	0	10120733	9882348	10588229
16	1017230	1	8	90	1218	0	0	11139259	10588230	11294111
17	533571	3	8	75	1877	1105	1545	11674048	11294112	11999993

Total number of pulses in waveform = 32

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	1020204	2	10	50	1689	1149	0	1020204	0	1199999
2	1139079	3	10	55	1004	1517	1675	2162121	1200000	2399999
3	821891	2	10	70	1048	1492	0	2988208	2400000	3599999
4	1581652	3	10	90	1939	1054	1481	4572400	3600000	4799999
5	954770	1	10	55	1517	0	0	5531644	4800000	5999999
6	1225972	3	10	65	1985	1502	1131	6759133	6000000	7199999
7	596022	1	10	100	1456	0	0	7359773	7200000	8399999
8	1306719	3	10	65	1548	1277	1161	8667948	8400000	9599999
9	1364741	1	10	65	1436	0	0	10036675	9600000	10799999
10	1685760	2	10	85	1052	1043	0	11723871	10800000	11999999

Total number of pulses in waveform = 21

Type 5 Radar Waveform_20

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	274345	3	18	90	1636	1789	1239	274345	0	799999
2	1073775	1	18	55	1465	0	0	1352784	800000	1599999
3	612311	3	18	60	1996	1397	1098	1966560	1600000	2399999
4	485081	2	18	60	1234	1470	0	2456132	2400000	3199999
5	757185	1	18	65	1414	0	0	3216021	3200000	3999999
6	1409685	2	18	55	1842	1451	0	4627120	4000000	4799999
7	961633	3	18	80	1977	1733	1757	5592046	4800000	5599999
8	277144	3	18	75	1663	1931	1954	5874657	5600000	6399999
9	710954	3	18	60	1080	1215	1305	6591159	6400000	7199999
10	1258098	3	18	55	1474	1099	1517	7852857	7200000	7999999
11	218227	3	18	75	1068	1024	1929	8075174	8000000	8799999
12	927057	2	18	90	1691	1630	0	9006252	8800000	9599999
13	977953	3	18	85	1366	1276	1683	9987526	9600000	10399999
14	873185	3	18	75	1446	1742	1478	10865036	10400000	11199999
15	447440	3	18	85	1227	1276	1801	11317142	11200000	11999999

Total number of pulses in waveform = 38

Type 5 Radar Waveform_21

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	386802	1	14	55	1824	0	0	386802	0	599999
2	220718	2	14	95	1925	1706	0	609344	600000	1199999
3	783184	3	14	50	1114	1599	1818	1396159	1200000	1799999
4	982399	3	14	80	1453	1170	1906	2383029	1800000	2399999
5	578866	1	14	80	1746	0	0	2966424	2400000	2999999
6	171302	2	14	100	1925	1033	0	3139472	3000000	3599999
7	888073	3	14	65	1277	1073	1197	4030503	3600000	4199999
8	359289	1	14	60	1160	0	0	4393339	4200000	4799999
9	534058	1	14	70	1118	0	0	4928557	4800000	5399999
10	950688	2	14	100	1431	1314	0	5880363	5400000	5999999
11	131977	2	14	95	1645	1269	0	6015085	6000000	6599999
12	894976	1	14	60	1941	0	0	6912975	6600000	7199999
13	717830	3	14	75	1038	1628	1135	7632746	7200000	7799999
14	647788	3	14	80	1928	1754	1192	8284335	7800000	8399999
15	154401	1	14	50	1944	0	0	8443610	8400000	8999999
16	917673	1	14	60	1423	0	0	9363227	9000000	9599999
17	594222	2	14	55	1402	1590	0	9958872	9600000	10199999
18	694709	3	14	80	1436	1053	1887	10656573	10200000	10799999
19	261592	3	14	95	1490	1807	1194	10922541	10800000	11399999
20	530609	1	14	75	1336	0	0	11457641	11400000	11999999

Total number of pulses in waveform = 39

Type 5 Radar Waveform_22

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	903297	2	5	60	1809	1829	0	903297	0	1199999
2	1348435	3	5	60	1033	1539	1848	2255370	1200000	2399999
3	937156	2	5	65	1847	1400	0	3196946	2400000	3599999
4	1320929	1	5	80	1487	0	0	4521122	3600000	4799999
5	511506	2	5	85	1146	1499	0	5034115	4800000	5999999
6	981670	3	5	95	1735	1419	1755	6018430	6000000	7199999
7	2200374	1	5	75	1609	0	0	8223713	7200000	8399999
8	954846	2	5	75	1030	1951	0	9180168	8400000	9599999
9	1583535	2	5	80	1754	1374	0	10766684	9600000	10799999
10	1091820	3	5	55	1688	1934	1587	11861632	10800000	11999999

Total number of pulses in waveform = 21

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	154603	3	8	65	1136	1594	1779	154603	0	666666
2	881442	3	8	55	1996	1872	1443	1040554	666667	1333333
3	592891	2	8	65	1225	1076	0	1638756	1333334	2000000
4	987487	3	8	60	1144	1650	1618	2628544	2000001	2666667
5	183470	1	8	80	1527	0	0	2816426	2666668	3333334
6	1019441	3	8	70	1167	1440	1422	3837394	3333335	4000001
7	679481	3	8	50	1144	1842	1284	4520904	4000002	4666668
8	460730	2	8	50	1232	1228	0	4985904	4666669	5333335
9	460046	1	8	95	1877	0	0	5448410	5333336	6000002
10	970662	3	8	85	1857	1786	1331	6420949	6000003	6666669
11	580840	1	8	85	1874	0	0	7006763	6666670	7333336
12	796228	2	8	80	1691	1597	0	7804865	7333337	8000003
13	428746	3	8	75	1466	1767	1176	8236899	8000004	8666670
14	448880	1	8	60	1506	0	0	8690178	8666671	9333337
15	1198535	2	8	50	1935	1564	0	9890219	9333338	10000004
16	129788	3	8	65	1839	1475	1606	10023506	10000005	10666671
17	806564	2	8	65	1256	1209	0	10834990	10666672	11333338
18	640077	1	8	70	1635	0	0	11477532	11333339	12000005

Total number of pulses in waveform = 39

Type 5 Radar Waveform_24

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	297358	1	17	80	1263	0	0	297358	0	599999
2	775338	1	17	60	1672	0	0	1073959	600000	1199999
3	387505	1	17	65	1211	0	0	1463136	1200000	1799999
4	857388	2	17	100	1561	1546	0	2321735	1800000	2399999
5	290412	1	17	95	1701	0	0	2615254	2400000	2999999
6	973531	2	17	90	1131	1973	0	3590486	3000000	3599999
7	253740	1	17	50	1795	0	0	3847330	3600000	4199999
8	901685	3	17	55	1097	1642	1342	4750810	4200000	4799999
9	255602	1	17	85	1192	0	0	5010493	4800000	5399999
10	534248	1	17	90	1900	0	0	5545933	5400000	5999999
11	981638	1	17	75	1846	0	0	6529471	6000000	6599999
12	657597	3	17	55	1359	1005	1683	7188914	6600000	7199999
13	499964	2	17	70	1605	1873	0	7692925	7200000	7799999
14	656391	2	17	95	1779	1324	0	8352794	7800000	8399999
15	106369	3	17	85	1384	1804	1976	8462266	8400000	8999999
16	601921	3	17	80	1708	1094	1131	9069351	9000000	9599999
17	573287	3	17	65	1416	1179	1312	9646571	9600000	10199999
18	1029064	3	17	90	1521	1618	1044	10679542	10200000	10799999
19	140292	3	17	65	1639	1357	1114	10824017	10800000	11399999
20	998829	3	17	55	1770	1576	1434	11826956	11400000	11999999

Total number of pulses in waveform = 40

Type 5 Radar Waveform_25

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	2142	2	6	95	1220	1316	0	2142	0	857142
2	1363940	2	6	65	1975	1982	0	1368618	857143	1714285
3	913418	3	6	80	1466	1341	1387	2285993	1714286	2571428
4	880725	1	6	80	1158	0	0	3170912	2571429	3428571
5	536073	1	6	50	1404	0	0	3708143	3428572	4285714
6	960688	3	6	75	1222	1151	1157	4670235	4285715	5142857
7	1314987	2	6	90	1635	1904	0	5988752	5142858	6000000
8	11612	2	6	65	1619	1989	0	6003903	6000001	6857143
9	1636660	2	6	75	1443	1662	0	7644171	6857144	7714286
10	587552	3	6	50	1177	1050	1354	8234828	7714287	8571429
11	362351	2	6	95	1822	1607	0	8600760	8571430	9428572
12	1626235	1	6	100	1927	0	0	10230424	9428573	10285715
13	838802	3	6	90	1227	1152	1421	11071153	10285716	11142858
14	494083	1	6	100	1432	0	0	11569036	11142859	12000001

Total number of pulses in waveform = 28

**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	838952	1	19	50	1567	0	0	838952	0	1199999
2	578634	1	19	50	1429	0	0	1419153	1200000	2399999
3	2120011	2	19	75	1277	1301	0	3540593	2400000	3599999
4	752963	3	19	80	1946	1489	1180	4296134	3600000	4799999
5	645228	2	19	70	1326	1481	0	4945977	4800000	5999999
6	1555130	1	19	70	1600	0	0	6503914	6000000	7199999
7	1724909	3	19	60	1000	1024	1602	8230423	7200000	8399999
8	803791	1	19	80	1448	0	0	9037840	8400000	9599999
9	1601600	2	19	85	1777	1274	0	10640888	9600000	10799999
10	1028551	3	19	90	1019	1802	1896	11672490	10800000	11999999

Total number of pulses in waveform = 19

Type 5 Radar Waveform_27

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	148119	2	18	100	1232	1174	0	148119	0	799999
2	1269875	1	18	65	1989	0	0	1420400	800000	1599999
3	569571	2	18	85	1426	1050	0	1991960	1600000	2399999
4	943742	2	18	85	1701	1838	0	2938178	2400000	3199999
5	327936	2	18	90	1205	1073	0	3269653	3200000	3999999
6	849233	2	18	55	1490	1198	0	4121164	4000000	4799999
7	942224	3	18	55	1504	1012	1520	5066076	4800000	5599999
8	622108	2	18	85	1035	1502	0	5692220	5600000	6399999
9	1037916	2	18	100	1284	1224	0	6732673	6400000	7199999
10	867250	2	18	55	1450	1607	0	7602431	7200000	7999999
11	970131	3	18	95	1686	1494	1931	8575619	8000000	8799999
12	310986	3	18	75	1546	1364	1028	8891716	8800000	9599999
13	837543	1	18	85	1642	0	0	9733197	9600000	10399999
14	1001186	2	18	55	1454	1729	0	10736025	10400000	11199999
15	927498	1	18	90	1871	0	0	11666706	11200000	11999999

Total number of pulses in waveform = 30

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	124478	2	10	60	1902	1405	0	124478	0	857142
2	1152814	2	10	85	1140	1968	0	1280599	857143	1714285
3	1259167	2	10	75	1386	2000	0	2542874	1714286	2571428
4	536306	3	10	90	1169	1086	1271	3082566	2571429	3428571
5	607509	3	10	85	1749	1866	1453	3693601	3428572	4285714
6	628760	2	10	100	1959	1503	0	4327429	4285715	5142857
7	1532463	1	10	65	1204	0	0	5863354	5142858	6000000
8	289174	3	10	75	1165	1623	1276	6153732	6000001	6857143
9	954603	1	10	90	1443	0	0	7112399	6857144	7714286
10	917272	2	10	75	1203	1843	0	8031114	7714287	8571429
11	1284664	2	10	95	1443	1795	0	9318824	8571430	9428572
12	372300	2	10	60	1073	1506	0	9694362	9428573	10285715
13	1097221	2	10	85	1545	1147	0	10794162	10285716	11142858
14	916842	3	10	75	1340	1858	1551	11713696	11142859	12000001

Total number of pulses in waveform = 30



Type 5 Radar Waveform_29

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	471262	3	9	60	1403	1926	1388	471262	0	799999
2	1112047	1	9	70	1515	0	0	1588026	800000	1599999
3	246122	1	9	80	1379	0	0	1835663	1600000	2399999
4	1303761	1	9	70	1662	0	0	3140803	2400000	3199999
5	102322	3	9	55	1132	1701	1044	3244787	3200000	3999999
6	1513298	1	9	50	1953	0	0	4761962	4000000	4799999
7	742914	3	9	55	1823	1120	1067	5506829	4800000	5599999
8	741241	3	9	55	1786	1230	1300	6252080	5600000	6399999
9	481406	1	9	65	1467	0	0	6737802	6400000	7199999
10	1116385	3	9	90	1166	1683	1913	7855654	7200000	7999999
11	250077	2	9	75	1031	1983	0	8110493	8000000	8799999
12	1360245	1	9	95	1942	0	0	9473752	8800000	9599999
13	570833	2	9	95	1791	1992	0	10046527	9600000	10399999
14	609529	3	9	70	1145	1132	1904	10659839	10400000	11199999
15	583015	1	9	70	1944	0	0	11247035	11200000	11999999

Total number of pulses in waveform = 29

Type 5 Radar Waveform_30

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	110317	2	12	80	1262	1627	0	110317	0	857142
2	897929	3	12	70	1927	1291	1544	1011135	857143	1714285
3	1278774	3	12	75	1856	1593	1686	2294671	1714286	2571428
4	421407	1	12	85	1551	0	0	2721213	2571429	3428571
5	1246103	2	12	95	1886	1514	0	3968867	3428572	4285714
6	533040	2	12	75	1793	1863	0	4505307	4285715	5142857
7	945562	3	12	80	1295	1350	1685	5454525	5142858	6000000
8	1084924	3	12	50	1669	1800	1184	6543779	6000001	6857143
9	800119	2	12	80	1841	1113	0	7348551	6857144	7714286
10	767143	1	12	100	1781	0	0	8118648	7714287	8571429
11	659394	3	12	100	1318	1195	1094	8779823	8571430	9428572
12	1376567	3	12	90	1082	1349	1605	10159997	9428573	10285715
13	829493	2	12	70	1146	1143	0	10993526	10285716	11142858
14	260472	3	12	50	1004	1827	1373	11256287	11142859	12000001

Total number of pulses in waveform = 33

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	5309.0	1	16	5303.1	1
2	5306.2	1	17	5294.8	1
3	5303.7	1	18	5300.6	1
4	5292.3	1	19	5304.2	1
5	5301.3	1	20	5297.4	1
6	5296.0	1	21	5308.0	1
7	5293.2	1	22	5306.9	1
8	5302.7	1	23	5300.0	1
9	5299.4	1	24	5307.6	1
10	5291.0	1	25	5305.6	1
11	5304.8	1	26	5294.1	1
12	5307.1	1	27	5301.5	1
13	5308.3	1	28	5302.2	1
14	5293.5	1	29	5305.1	1
15	5295.7	1	30	5295.2	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5294	0	2	5325	6
20	5328	60	3	5289	9
23	5276	69	7	5324	21
24	5280	72	11	5270	33
25	5293	75	18	5315	54
27	5289	81	21	5284	63
52	5298	156	31	5323	93
74	5283	222	38	5318	114
77	5300	231	39	5285	117
81	5306	243	58	5327	174
96	5278	288	70	5310	210
98	5317	294	79	5314	237
--	--	--	83	5328	249
--	--	--	87	5296	261
--	--	--	96	5305	288

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5323	30	5	5287	15
14	5294	42	41	5305	123
21	5314	63	50	5328	150
23	5299	69	55	5309	165
27	5270	81	64	5280	192
29	5309	87	67	5289	201
34	5327	102	71	5310	213
53	5318	159	83	5327	249
62	5278	186	87	5294	261
66	5287	198	89	5307	267
78	5328	234	92	5298	276
95	5313	285	93	5291	279
96	5289	288	--	--	--
98	5295	294	--	--	--

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
15	5328	45	41	5308	123
16	5305	48	52	5326	156
27	5283	81	57	5314	171
29	5300	87	74	5286	222
32	5272	96	89	5284	267
34	5330	102	90	5309	270
35	5318	105	96	5278	288
39	5315	117	--	--	--
42	5274	126	--	--	--
52	5288	156	--	--	--
53	5294	159	--	--	--
73	5289	219	--	--	--
75	5313	225	--	--	--
78	5302	234	--	--	--
83	5285	249	--	--	--
84	5279	252	--	--	--
95	5310	285	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5315	36	3	5315	9
15	5271	45	5	5323	15
40	5293	120	12	5325	36
54	5314	162	16	5282	48
73	5278	219	26	5312	78
77	5275	231	44	5290	132
81	5282	243	46	5285	138
--	--	--	50	5306	150
--	--	--	51	5299	153
--	--	--	54	5272	162
--	--	--	66	5319	198
--	--	--	67	5288	201
--	--	--	74	5302	222
--	--	--	88	5274	264
--	--	--	91	5291	273
--	--	--	99	5309	297

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5281	0	3	5319	9
7	5285	21	10	5316	30
9	5287	27	11	5300	33
22	5291	66	21	5288	63
28	5328	84	22	5273	66
29	5330	87	26	5286	78
30	5277	90	31	5325	93
33	5301	99	59	5304	177
41	5317	123	99	5303	297
43	5323	129	--	--	--
50	5329	150	--	--	--
75	5279	225	--	--	--
82	5297	246	--	--	--
85	5309	255	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
7	5328	21	5	5277	15
13	5287	39	10	5328	30
50	5303	150	12	5284	36
51	5278	153	14	5288	42
59	5324	177	19	5306	57
62	5283	186	24	5286	72
66	5271	198	29	5327	87
71	5315	213	35	5317	105
76	5298	228	50	5281	150
80	5323	240	51	5315	153
83	5327	249	61	5322	183
86	5291	258	62	5289	186
90	5279	270	64	5274	192
--	--	--	92	5323	276

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5312	9	36	5323	108
15	5315	45	41	5280	123
28	5318	84	49	5321	147
30	5328	90	51	5311	153
37	5276	111	57	5281	171
42	5278	126	59	5282	177
49	5316	147	65	5329	195
59	5279	177	76	5318	228
62	5271	186	84	5297	252
72	5306	216	89	5284	267
73	5288	219	--	--	--
83	5281	249	--	--	--
94	5274	282	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5281	6	1	5324	3
6	5289	18	6	5308	18
14	5283	42	8	5289	24
39	5291	117	11	5329	33
51	5285	153	16	5282	48
80	5290	240	22	5301	66
90	5312	270	24	5322	72
--	--	--	25	5287	75
--	--	--	26	5272	78
--	--	--	27	5271	81
--	--	--	33	5279	99
--	--	--	40	5290	120
--	--	--	51	5326	153
--	--	--	61	5288	183
--	--	--	62	5330	186
--	--	--	66	5273	198
--	--	--	67	5306	201
--	--	--	71	5283	213

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5274	9	1	5312	3
8	5297	24	9	5271	27
12	5306	36	10	5288	30
26	5310	78	11	5293	33
29	5284	87	16	5285	48
46	5295	138	20	5307	60
57	5281	171	26	5284	78
66	5278	198	28	5279	84
67	5303	201	34	5294	102
71	5308	213	39	5280	117
--	--	--	40	5310	120
--	--	--	62	5301	186
--	--	--	63	5327	189
--	--	--	89	5313	267
--	--	--	99	5281	297

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5292	30	0	5275	0
31	5325	93	8	5280	24
34	5326	102	22	5317	66
40	5308	120	36	5313	108
58	5297	174	38	5303	114
59	5281	177	48	5292	144
97	5329	291	52	5316	156
--	--	--	82	5285	246
--	--	--	84	5330	252
--	--	--	95	5308	285
--	--	--	96	5312	288

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5303	27	20	5285	60
21	5327	63	24	5280	72
23	5328	69	26	5316	78
32	5326	96	28	5325	84
51	5302	153	32	5317	96
56	5310	168	37	5286	111
58	5319	174	42	5272	126
62	5313	186	44	5322	132
76	5300	228	47	5324	141
79	5324	237	50	5326	150
82	5273	246	53	5296	159
86	5274	258	54	5303	162
--	--	--	62	5270	186
--	--	--	74	5274	222
--	--	--	80	5284	240
--	--	--	81	5273	243
--	--	--	85	5278	255
--	--	--	97	5311	291
--	--	--	99	5292	297

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5325	0	10	5301	30
1	5303	3	23	5324	69
8	5288	24	30	5328	90
15	5284	45	31	5317	93
20	5309	60	33	5287	99
31	5307	93	49	5322	147
66	5273	198	65	5288	195
74	5329	222	74	5290	222
80	5282	240	77	5283	231
81	5278	243	78	5314	234
83	5294	249	80	5315	240
--	--	--	87	5313	261
--	--	--	91	5279	273
--	--	--	93	5282	279
--	--	--	98	5316	294

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5294	0	1	5329	3
3	5313	9	2	5303	6
5	5298	15	7	5298	21
8	5286	24	21	5284	63
13	5271	39	25	5312	75
14	5325	42	28	5327	84
21	5302	63	30	5270	90
29	5304	87	45	5275	135
31	5328	93	48	5319	144
45	5323	135	76	5271	228
55	5279	165	79	5316	237
80	5316	240	83	5314	249
--	--	--	86	5288	258
--	--	--	93	5306	279
--	--	--	98	5273	294

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5273	15	1	5318	3
14	5290	42	12	5314	36
28	5304	84	14	5274	42
30	5325	90	15	5328	45
37	5315	111	16	5291	48
49	5309	147	17	5296	51
54	5286	162	20	5284	60
57	5319	171	25	5325	75
62	5301	186	29	5286	87
81	5312	243	58	5298	174
82	5321	246	59	5300	177
84	5318	252	66	5295	198
98	5308	294	72	5270	216
--	--	--	85	5327	255
--	--	--	88	5289	264
--	--	--	90	5329	270
--	--	--	96	5276	288

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5277	18	7	5321	21
28	5329	84	29	5288	87
33	5291	99	43	5300	129
45	5303	135	46	5282	138
51	5288	153	47	5318	141
60	5295	180	74	5317	222
61	5300	183	77	5293	231
68	5292	204	81	5310	243
70	5325	210	84	5290	252
75	5283	225	90	5325	270
78	5271	234	99	5323	297
83	5285	249	--	--	--
86	5327	258	--	--	--
88	5294	264	--	--	--

Radar Statistical Performance for 802.11n-HT40

Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5306.7	1	518	102	1
2	5295.7	1	798	67	1
3	5293.2	1	598	89	1
4	5320.4	1	618	86	1
5	5305.5	1	758	70	1
6	5318.8	1	838	63	1
7	5294.3	1	898	59	1
8	5324.5	1	678	78	1
9	5296.0	1	878	61	1
10	5307.9	1	3066	18	1
11	5292.0	1	938	57	1
12	5316.6	1	538	99	1
13	5308.3	1	638	83	1
14	5304.4	1	578	92	1
15	5313.5	1	698	76	1
16	5309.2	1	789	67	1
17	5297.4	1	1652	32	1
18	5326.3	1	1267	42	1
19	5310.0	1	606	88	1
20	5299.3	1	2292	24	1
21	5298.5	1	3008	18	1
22	5314.8	1	755	70	1
23	5303.9	1	997	53	1
24	5300.4	1	723	73	1
25	5329.0	1	1368	39	1
26	5311.2	1	1049	51	1
27	5315.3	1	981	54	1
28	5301.6	1	2203	24	1
29	5312.3	1	925	58	1
30	5302.2	1	2888	19	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	5303.8	4.9	176	24	1
2	5315.7	2.0	189	28	1
3	5304.5	2.7	214	28	1
4	5292.0	3.3	199	29	1
5	5306.3	4.4	181	28	1
6	5292.5	3.2	170	25	1
7	5312.4	4.6	218	28	1
8	5302.1	1.2	170	27	1
9	5314.3	1.3	184	24	1
10	5305.6	3.2	168	24	1
11	5313.5	2.9	224	23	1
12	5293.7	2.7	165	24	1
13	5316.5	2.1	205	26	1
14	5301.6	1.9	195	27	1
15	5307.9	1.4	155	23	1
16	5300.6	3.4	221	26	1
17	5309.9	3.7	204	29	1
18	5308.5	2.0	176	26	1
19	5318.2	2.4	208	28	1
20	5295.3	5.0	179	27	1
21	5329.0	4.8	152	29	1
22	5320.9	2.6	196	27	1
23	5310.2	1.9	179	27	1
24	5297.2	4.7	178	24	1
25	5299.4	4.5	192	26	1
26	5323.4	2.0	200	24	1
27	5296.9	2.6	163	24	1
28	5311.0	3.1	181	24	1
29	5327.5	2.7	196	28	1
30	5298.8	1.0	158	25	1
Detection Percentage (%)					100%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5306.8	7.2	389	17	1
2	5295.8	8.3	396	16	1
3	5316.9	9.9	360	17	1
4	5303.6	8.6	313	17	1
5	5321.0	9.7	396	17	1
6	5292.0	8.4	307	16	1
7	5315.2	9.9	349	17	1
8	5302.2	9.2	372	18	1
9	5307.2	9.5	250	16	1
10	5304.9	8.0	477	18	1
11	5293.3	8.3	385	16	1
12	5305.3	9.3	313	17	1
13	5296.5	9.2	333	18	1
14	5308.3	7.4	471	18	1
15	5294.6	8.0	278	18	1
16	5317.3	7.3	437	18	1
17	5314.5	9.9	324	16	1
18	5301.6	7.3	334	16	1
19	5309.2	9.9	334	16	1
20	5297.7	9.6	368	16	1
21	5313.0	6.2	449	16	1
22	5310.3	7.7	432	17	1
23	5329.0	7.4	271	18	1
24	5298.5	8.3	382	17	1
25	5312.9	6.1	382	17	1
26	5325.3	7.3	351	16	1
27	5300.4	9.0	366	16	1
28	5327.8	6.4	314	18	1
29	5311.6	6.4	274	16	1
30	5299.3	9.2	397	18	1
Detection Percentage (%)					100%

Radar Type 4 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5301.4	11.4	403	12	1
2	5299.3	11.3	430	14	1
3	5316.7	19.4	264	16	1
4	5292.0	13.1	350	14	1
5	5309.2	17.0	422	15	1
6	5315.5	18.1	384	15	1
7	5298.2	17.0	422	12	1
8	5310.1	19.4	304	12	1
9	5302.5	19.5	262	16	1
10	5300.0	16.9	341	15	1
11	5308.4	14.0	423	16	1
12	5292.3	11.0	380	13	1
13	5314.7	17.7	341	14	1
14	5311.5	19.1	323	14	1
15	5303.3	11.5	267	15	1
16	5312.6	17.7	484	12	1
17	5297.5	17.1	286	12	1
18	5329.0	14.5	385	14	1
19	5307.9	18.2	365	14	1
20	5293.4	13.3	454	16	1
21	5313.4	14.3	500	14	1
22	5306.4	16.1	269	13	1
23	5304.7	19.1	257	16	1
24	5322.5	17.1	439	12	1
25	5318.2	15.2	353	12	1
26	5294.7	14.2	281	15	1
27	5320.3	12.8	462	12	1
28	5305.6	18.8	361	12	1
29	5325.8	11.3	479	14	1
30	5296.0	13.6	304	14	1
Detection Percentage (%)					100%

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

radar test waveforms is as follows: $\frac{P_d1+P_d2+P_d3+P_d4}{4} = (100\%+100\%+100\%+100\%)/4 = 100\%$
(>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	5297.6	1	16	5310.0	1
2	5295.2	1	17	5310.0	1
3	5296.0	1	18	5310.0	1
4	5296.8	1	19	5310.0	1
5	5299.2	1	20	5310.0	1
6	5295.6	1	21	5324.0	1
7	5294.0	1	22	5320.4	1
8	5299.6	1	23	5326.0	1
9	5294.4	1	24	5324.8	1
10	5298.8	1	25	5322.4	1
11	5310.0	1	26	5325.6	1
12	5310.0	1	27	5323.2	1
13	5310.0	1	28	5320.8	1
14	5310.0	1	29	5324.4	1
15	5310.0	1	30	5321.2	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1

Type 5 Radar Waveform_1										
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	1084559	2	14	85	1893	1409	0	49681	0	631578
2	575223	1	14	55	1887	0	0	1137542	631579	1263157
3	363433	2	14	95	1258	1139	0	1714652	1263158	1894736
4	875797	3	14	50	1697	1964	1204	2080482	1894737	2526315
5	684961	3	14	60	1000	1641	1216	2961144	2526316	3157894
6	169080	2	14	70	1679	1206	0	3649962	3157895	3789473
7	855548	1	14	65	1294	0	0	3821927	3789474	4421052
8	843263	2	14	75	1681	1025	0	4678769	4421053	5052631
9	364828	1	14	70	1343	0	0	5524738	5052632	5684210
10	852226	3	14	90	1390	1402	1583	5890909	5684211	6315789
11	567598	2	14	55	1005	1764	0	6747510	6315790	6947368
12	754485	1	14	100	1886	0	0	7317877	6947369	7578947
13	627927	3	14	100	1380	1740	1769	8074248	7578948	8210526
14	271381	1	14	95	1947	0	0	8707064	8210527	8842105
15	677284	3	14	100	1366	1330	1105	8980392	8842106	9473684
16	757306	1	14	65	1943	0	0	9661477	9473685	10105263
17	654301	2	14	75	1119	1093	0	10420726	10105264	10736842
18	713843	3	14	60	1263	1071	1710	11077239	10736843	11368421
19	713843	3	14	65	1307	1815	1666	11795126	11368422	12000000
Total number of pulses in waveform = 39										

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	234876	2	8	50	1449	1604	0	234876	0	705881
2	969622	2	8	65	1253	1899	0	1207551	705882	1411763
3	631465	2	8	55	1516	1917	0	1842168	1411764	2117645
4	304005	3	8	95	1160	1540	1444	2149606	2117646	2823527
5	1014590	3	8	65	1953	1522	1740	3168340	2823528	3529409
6	844748	2	8	100	1534	1250	0	4018303	3529410	4235291
7	263291	2	8	65	1327	1061	0	4284378	4235292	4941173
8	1051138	3	8	50	1351	1906	1162	5337904	4941174	5647055
9	939198	1	8	70	1159	0	0	6281521	5647056	6352937
10	254979	3	8	50	1228	1946	1778	6537559	6352938	7058819
11	1052793	1	8	95	1670	0	0	7595404	7058820	7764701
12	603968	3	8	70	1956	1941	1018	8201032	7764702	8470583
13	491234	2	8	60	1109	1794	0	8697181	8470584	9176465
14	654249	3	8	75	1895	1055	1563	9354333	9176466	9882347
15	798315	3	8	90	1728	1284	1248	10157161	9882348	10588229
16	630204	1	8	80	1338	0	0	10791625	10588230	11294111
17	665051	2	8	50	1378	1103	0	11458014	11294112	11999993
Total number of pulses in waveform = 38 *****										

Type 5 Radar Waveform_3

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	85339	1	10	100	1987	0	0	85339	0	1333332
2	1580425	3	10	90	1627	1808	1330	1667751	1333333	2666665
3	1293000	3	10	90	1739	1567	1832	2965516	2666666	3999998
4	1850901	1	10	55	1601	0	0	4821555	3999999	5333331
5	1323422	1	10	50	1009	0	0	6146578	5333332	6666664
6	1120673	3	10	50	1687	1268	1523	7268260	6666665	7999997
7	1222627	2	10	60	1354	1971	0	8495365	7999998	9333330
8	968273	3	10	75	1360	1760	1960	9466963	9333331	10666663
9	2100953	2	10	90	1082	1690	0	11572996	10666664	11999996
Total number of pulses in waveform = 19 *****										

Type 5 Radar Waveform_4

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	47659	3	12	90	1572	1998	1602	47659	0	599999
2	595267	3	12	75	1621	1113	1672	647998	600000	1199999
3	572572	1	12	50	1390	0	0	1224976	1200000	1799999
4	957706	3	12	70	1433	1613	1120	2184072	1800000	2399999
5	415803	2	12	85	1069	1882	0	2604041	2400000	2999999
6	566756	1	12	80	1237	0	0	3173748	3000000	3599999
7	600727	3	12	65	1453	1694	1077	3775712	3600000	4199999
8	677671	2	12	85	1839	1066	0	4457607	4200000	4799999
9	700146	2	12	85	1778	1025	0	5160658	4800000	5399999
10	491692	3	12	70	1964	1245	1990	5655153	5400000	5999999
11	895766	3	12	1338	1619	1688	0	6556118	6000000	6599999
12	269851	1	12	100	1725	0	0	6830614	6600000	7199999
13	607931	1	12	95	1391	0	0	7440270	7200000	7799999
14	553548	1	12	65	1861	0	0	7995209	7800000	8399999
15	602346	3	12	100	1692	1995	1119	8599416	8400000	8999999
16	643817	3	12	50	1193	1423	1098	9248039	9000000	9599999
17	937390	1	12	85	1063	0	0	10189143	9600000	10199999
18	251304	1	12	50	1199	0	0	10441510	10200000	10799999
19	756838	2	12	95	1921	1811	0	11198487	10800000	11399999
20	567987	1	12	75	1115	0	0	11770206	11400000	11999999
Total number of pulses in waveform = 40 *****										



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	416872	1	18	60	1699	0	0	416872	0	631578
2	543292	1	18	90	1677	0	0	961863	631579	1263157
3	611013	1	18	70	1216	0	0	1574553	1263158	1894736
4	627960	3	18	95	1352	1358	1809	2203729	1894737	2526315
5	524137	1	18	70	1783	0	0	2732385	2526316	3157894
6	962816	2	18	90	1705	1780	0	3696984	3157895	3789473
7	102449	1	18	60	1027	0	0	3802918	3789474	4421052
8	945423	3	18	55	1396	1635	1065	4749368	4421053	5052631
9	640473	2	18	75	1585	1199	0	5393937	5052632	5684210
10	873037	3	18	55	1251	1326	1158	6269758	5684211	6315789
11	600069	2	18	75	1878	1818	0	6873562	6315790	6947368
12	232749	1	18	60	1860	0	0	7110007	6947369	7578947
13	742598	2	18	50	1758	1207	0	7854655	7578948	8210526
14	676528	3	18	75	1697	1069	1196	8534058	8210527	8842105
15	760920	1	18	60	1478	0	0	9298940	8842106	9473684
16	302143	2	18	65	1286	1141	0	9602561	9473685	10105263
17	621775	2	18	75	1370	1914	0	10226763	10105264	10736842
18	890160	2	18	70	1555	1963	0	11120207	10736843	11368421
19	505602	2	18	80	1559	1719	0	11629327	11368422	12000000

Total number of pulses in waveform = 35

Type 5 Radar Waveform_6

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	95389	3	9	60	1981	1996	1272	95389	0	599999
2	1065929	1	9	60	1858	0	0	1166567	600000	1199999
3	173797	3	9	85	1209	1271	1304	1342222	1200000	1799999
4	745407	1	9	80	1613	0	0	2091413	1800000	2399999
5	746294	2	9	60	1705	1582	0	2839320	2400000	2999999
6	336710	2	9	60	1754	1727	0	3179317	3000000	3599999
7	986616	1	9	65	1020	0	0	4169414	3600000	4199999
8	75200	2	9	100	1758	1394	0	4245634	4200000	4799999
9	1091128	1	9	90	1710	0	0	5339914	4800000	5399999
10	534663	3	9	70	1537	1322	1551	5876287	5400000	5999999
11	246781	1	9	95	1310	0	0	6127478	6000000	6599999
12	563086	1	9	75	1179	0	0	6691874	6600000	7199999
13	830671	2	9	100	1823	1843	0	7523724	7200000	7799999
14	603758	1	9	90	1792	0	0	8131148	7800000	8399999
15	427230	3	9	80	1478	1227	1407	8560170	8400000	8999999
16	606230	2	9	90	1752	1680	0	9170512	9000000	9599999
17	662038	3	9	100	1052	1524	1889	9835982	9600000	10199999
18	683255	1	9	80	1345	0	0	10523702	10200000	10799999
19	620287	3	9	55	1069	1822	1703	11145334	10800000	11399999
20	780762	2	9	65	1783	1689	0	11930690	11400000	11999999

Total number of pulses in waveform = 38

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	603964	2	5	85	1704	1295	0	603964	0	1499999
2	1203604	2	5	100	1901	1929	0	1810567	1500000	2999999
3	1671689	3	5	75	1558	1502	1224	3486086	3000000	4499999
4	1079619	2	5	55	1427	1529	0	4569989	4500000	5999999
5	2139404	3	5	75	1423	1079	1656	6712349	6000000	7499999
6	965027	3	5	55	1393	1314	1081	7681534	7500000	8999999
7	1821271	1	5	70	1479	0	0	9506593	9000000	10499999
8	2326674	3	5	80	1885	1202	1080	11834746	10500000	11999999

Total number of pulses in waveform = 19

Type 5 Radar Waveform_8

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	1054199	2	19	75	1385	1232	0	1054199	0	1499999
2	1394099	3	19	80	1199	1848	1561	2450915	1500000	2999999
3	1265634	1	19	100	1669	0	0	3721157	3000000	4499999
4	928793	1	19	55	1424	0	0	4651619	4500000	5999999
5	2561932	3	19	90	1048	1887	1880	7214975	6000000	7499999
6	686416	3	19	80	1288	1861	1185	7906206	7500000	8999999
7	2192827	1	19	80	1165	0	0	10103367	9000000	10499999
8	887780	2	19	95	1642	1764	0	10992312	10500000	11999999

Total number of pulses in waveform = 16

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	464026	2	6	55	1709	1940	0	464026	0	631578
2	714271	3	6	80	1669	1554	1784	1181946	631579	1263157
3	400751	3	6	95	1318	1495	1609	1687704	1263158	1894736
4	371959	2	6	50	1620	1218	0	1964085	1894737	2526315
5	589441	1	6	60	1720	0	0	2556364	2526316	3157894
6	892451	2	6	95	1045	1365	0	3450535	3157895	3789473
7	786860	3	6	60	1264	1592	1014	4239805	3789474	4421052
8	347194	1	6	100	1446	0	0	4590869	4421053	5052631
9	890248	3	6	60	1026	1723	1114	5482563	5052632	5684210
10	463130	1	6	80	1245	0	0	5949556	5684211	6315789
11	574852	2	6	50	1169	1264	0	6525653	6315790	6947368
12	945517	1	6	60	1518	0	0	7473603	6947369	7578947
13	270418	2	6	70	1173	1071	0	7745539	7578948	8210526
14	865138	3	6	85	1099	1630	1960	8612921	8210527	8842105
15	403728	1	6	85	1610	0	0	9021338	8842106	9473684
16	701870	3	6	65	1471	1311	1269	9724818	9473685	10105263
17	671120	3	6	50	1203	1250	1359	10399989	10105264	10736842
18	790906	1	6	70	1807	0	0	11194707	10736843	11368421
19	182079	2	6	75	1113	1567	0	11378593	11368422	12000000

Total number of pulses in waveform = 39

Type 5 Radar Waveform_10

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	206817	1	17	70	1413	0	0	206817	0	666666
2	1114489	1	17	80	1435	0	0	1322719	666667	1333333
3	322529	3	17	90	1776	1077	1494	1646683	1333334	2000000
4	818234	1	17	100	1305	0	0	2469264	2000001	2666667
5	594467	2	17	65	1755	1216	0	3065036	2666668	3333334
6	675038	1	17	70	1196	0	0	3743045	3333335	4000001
7	340059	1	17	90	1168	0	0	4084300	4000002	4666668
8	842718	1	17	100	1000	0	0	4928186	4666669	5333335
9	818632	1	17	50	1110	0	0	5747818	5333336	6000002
10	462147	2	17	65	1413	1297	0	6211075	6000003	6666669
11	780759	3	17	55	1854	1061	1639	6994544	6666670	7333336
12	756741	2	17	90	1910	1406	0	7755839	7333337	8000003
13	699573	3	17	65	1432	1745	1279	8458728	8000004	8666670
14	790434	1	17	70	1207	0	0	9253618	8666671	9333337
15	426753	3	17	85	1115	1695	1173	9681578	9333338	10000004
16	454380	3	17	85	1146	1578	1912	10139941	10000005	10666671
17	935521	3	17	60	1678	1532	1964	11080098	10666672	11333338
18	846240	3	17	65	1790	1144	1092	11931512	11333339	12000005

Total number of pulses in waveform = 35

Type 5 Radar Waveform_11

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	732440	2	10	60	1100	1925	0	732440	0	1333332
2	1921915	1	10	100	2000	0	0	2657381	1333333	2666665
3	690965	2	10	80	1762	1950	0	3350346	2666666	3999998
4	1105995	1	10	95	1325	0	0	4460053	3999999	5333331
5	1905415	3	10	50	1164	1162	1930	6366793	5333332	6666664
6	437366	2	10	90	1893	1092	0	6808415	6666665	7999997
7	1371689	2	10	100	1240	1211	0	8183089	7999998	9333330
8	2183686	2	10	95	1551	1618	0	10369226	9333331	10666663
9	1393265	2	10	60	1478	1031	0	11765660	10666664	11999996

Total number of pulses in waveform = 17

Type 5 Radar Waveform_12

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	718659	2	6	100	1356	1180	0	718659	0	857142
2	373134	3	6	70	1367	1816	1304	1094329	857143	1714285
3	1458452	1	6	75	1914	0	0	2557268	1714286	2571428
4	842576	1	6	100	1838	0	0	3401758	2571429	3428571
5	402509	3	6	85	1703	1168	1112	3806105	3428572	4285714
6	932510	2	6	90	1665	1248	0	4742598	4285715	5142857
7	1180667	2	6	55	1538	1771	0	5926178	5142858	6000000
8	98251	2	6	55	1783	1780	0	6027738	6000001	6857143
9	1366668	2	6	95	1694	1042	0	7397969	6857144	7714286
10	979653	2	6	70	1974	1160	0	8380358	7714287	8571429
11	757106	1	6	100	1536	0	0	9140598	8571430	9428572
12	582104	1	6	85	1054	0	0	9724238	9428573	10285715
13	1086083	1	6	65	1994	0	0	10811375	10285716	11142858
14	390343	3	6	100	1875	1262	1241	11203712	11142859	12000001

Total number of pulses in waveform = 26

Type 5 Radar Waveform_13

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	49564	2	5	100	1308	1404	0	49564	0	923076
2	1703504	1	5	90	1410	0	0	1755780	923077	1846153
3	592733	2	5	55	1528	1670	0	2349923	1846154	2769230
4	687407	3	5	90	1262	1738	1408	3040528	2769231	3692307
5	1038131	2	5	70	1682	1365	0	4083067	3692308	4615384
6	765390	3	5	50	1191	1005	1376	4851504	4615385	5538461
7	982279	1	5	95	1227	0	0	5837355	5538462	6461538
8	1292085	2	5	50	1726	1270	0	7130667	6461539	7384615
9	762419	2	5	65	1205	1141	0	7896082	7384616	8307692
10	1028894	2	5	70	1336	1655	0	8927322	8307693	9230769
11	807148	1	5	55	1859	0	0	9737461	9230770	10153846
12	539423	3	5	80	1920	1417	1415	10278743	10153847	11076923
13	1141501	1	5	95	1164	0	0	11424996	11076924	12000000

Total number of pulses in waveform = 25



Type 5 Radar Waveform_14

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	786302	3	17	75	1718	1794	1907	786302	0	799999
2	569697	1	17	100	1998	0	0	1361418	800000	1599999
3	567924	1	17	100	1832	0	0	1931340	1600000	2399999
4	918165	3	17	95	1094	1505	1690	2851337	2400000	3199999
5	498036	2	17	90	1543	1091	0	3353662	3200000	3999999
6	1300914	1	17	100	1865	0	0	4657210	4000000	4799999
7	455993	1	17	85	1355	0	0	5115068	4800000	5599999
8	966552	2	17	100	1651	1193	0	6082975	5600000	6399999
9	1067624	3	17	75	1522	1958	1562	7153443	6400000	7199999
10	424182	2	17	70	1275	1311	0	7582667	7200000	7999999
11	927502	3	17	60	1103	1716	1466	8512755	8000000	8799999
12	955825	1	17	85	1076	0	0	9472865	8800000	9599999
13	770690	2	17	75	1764	1126	0	10244631	9600000	10399999
14	684435	2	17	60	1571	1252	0	10931956	10400000	11199999
15	936010	3	17	65	1923	1029	1713	11870789	11200000	11999999

Total number of pulses in waveform = 30

Type 5 Radar Waveform_15

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	195147	1	9	90	1466	0	0	195147	0	666666
2	1024309	3	9	80	1896	1197	1513	1230922	666667	1333333
3	217241	1	9	95	1889	0	0	1442769	1333334	2000000
4	662349	2	9	65	1133	1357	0	2107007	2000001	2666667
5	1103488	1	9	55	1603	0	0	3212985	2666668	3333334
6	772184	2	9	80	1197	1301	0	3986772	3333335	4000001
7	324522	2	9	90	1118	1151	0	4313792	4000002	4666668
8	429604	2	9	85	1892	1362	0	4745665	4666669	5333335
9	1020647	1	9	85	1274	0	0	5769566	5333336	6000002
10	706710	3	9	60	1444	1831	1645	6477550	6000003	6666669
11	600102	2	9	75	1050	1977	0	7082572	6666670	7333336
12	889837	2	9	65	1271	1068	0	7975436	7333337	8000003
13	374944	1	9	85	1370	0	0	8352719	8000004	8666670
14	606554	1	9	75	1650	0	0	8960643	8666671	9333337
15	992218	2	9	90	1209	1833	0	9954511	9333338	10000004
16	684891	2	9	60	1012	1769	0	10642444	10000005	10666671
17	458962	1	9	75	1872	0	0	11104187	10666672	11333338
18	584658	3	9	55	1439	1941	1906	11690717	11333339	12000005

Total number of pulses in waveform = 32

Type 5 Radar Waveform_16

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	701454	2	14	90	1029	1685	0	701454	0	799999
2	609854	3	14	60	1367	1243	1873	1314022	800000	1599999
3	376319	1	14	65	1056	0	0	1694824	1600000	2399999
4	1436238	3	14	90	1360	1405	1708	3132118	2400000	3199999
5	417193	2	14	55	1808	1830	0	3553784	3200000	3999999
6	456876	3	14	65	1731	1138	1165	4014298	4000000	4799999
7	1462674	2	14	75	1503	1875	0	5481006	4800000	5599999
8	808461	1	14	55	1980	0	0	6292845	5600000	6399999
9	891663	3	14	95	1227	1092	1594	7186488	6400000	7199999
10	686791	2	14	70	1785	1307	0	7877192	7200000	7999999
11	457454	3	14	65	1620	1969	1737	8337738	8000000	8799999
12	1014441	1	14	50	1853	0	0	9357505	8800000	9599999
13	295114	2	14	85	1041	1573	0	9654472	9600000	10399999
14	1085023	3	14	95	1832	1513	1692	10742109	10400000	11199999
15	837820	2	14	65	1860	1307	0	11584966	11200000	11999999

Total number of pulses in waveform = 33

Type 5 Radar Waveform_17

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	448739	3	8	65	1400	1731	1207	448739	0	799999
2	477071	2	8	65	1917	1057	0	930148	800000	1599999
3	794283	1	8	60	1582	0	0	1727405	1600000	2399999
4	971185	3	8	95	1759	1364	1809	2700172	2400000	3199999
5	990541	3	8	100	1548	1926	1394	3695645	3200000	3999999
6	646138	3	8	80	1077	1779	1824	4346551	4000000	4799999
7	568937	3	8	65	1046	1536	1120	4920268	4800000	5599999
8	1324119	3	8	65	1609	1781	1402	6248089	5600000	6399999
9	716667	3	8	50	1645	1764	1246	6969548	6400000	7199999
10	823170	1	8	100	1422	0	0	7797373	7200000	7999999
11	379666	2	8	100	1428	1884	0	8178461	8000000	8799999
12	1041275	2	8	70	1394	1613	0	9223048	8800000	9599999
13	803496	3	8	75	1741	1139	1629	10029551	9600000	10399999
14	390299	2	8	100	1138	1861	0	10424359	10400000	11199999
15	934119	3	8	95	1177	1203	1495	11361477	11200000	11999999

Total number of pulses in waveform = 37

Type 5 Radar Waveform_18

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	799297	2	12	55	1190	1000	0	799297	0	1199999
2	1532825	3	12	60	1223	1435	1137	2334312	1200000	2399999
3	798109	3	12	100	1457	1781	1770	3136216	2400000	3599999
4	1221090	2	12	60	1525	1378	0	4362314	3600000	4799999
5	477986	3	12	70	1922	1087	1186	4843203	4800000	5999999
6	1290898	1	12	50	1091	0	0	6138296	6000000	7199999
7	2144476	1	12	90	1023	0	0	8283863	7200000	8399999
8	171773	1	12	95	1653	0	0	8456659	8400000	9599999
9	1906786	3	12	80	1819	1849	1924	10365098	9600000	10799999
10	500118	2	12	50	1486	1043	0	10870808	10800000	11999999

Total number of pulses in waveform = 21

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	20007	1	19	75	1556	0	0	20007	0	1199999
2	1462983	1	19	80	1678	0	0	1484546	1200000	2399999
3	1124192	1	19	60	1996	0	0	2610416	2400000	3599999
4	1579017	3	19	65	1723	1037	1216	4191429	3600000	4799999
5	1547861	2	19	100	1420	1322	0	5743266	4800000	5999999
6	1248276	3	19	90	1279	1359	1208	6994284	6000000	7199999
7	1221587	1	19	60	1960	0	0	8219717	7200000	8399999
8	1022831	2	19	85	1284	1561	0	9244508	8400000	9599999
9	862707	3	19	80	1449	1528	1794	10110060	9600000	10799999
10	1525637	2	19	70	1075	1907	0	11640468	10800000	11999999

Total number of pulses in waveform = 19
