



# DFS MEASUREMENT REPORT

## FCC PART 15 Subpart E / RSS-247 Issue 2

**FCC ID:** 2ABLK-8X4G-1V2  
**IC:** 4009A-8X4G1  
**APPLICANT:** Calix Inc.  
  
**Application Type:** Certification  
**Product:** WIFI dual band 4 GE LAN GPON HGU  
**Model No.:** 844G-1, 854G-1, 844GE-1, C844G  
**Brand Name:** Calix  
**FCC Classification:** Unlicensed National Information Infrastructure (NII)  
**FCC Rule Part(s):** Part 15 Subpart E – 15.407 Section (h)(2)  
 KDB 905462 D02v02, KDB 905462 D04v01  
**IC Part(s):** RSS-247 Issue 2  
**Type of Device:**  Master Device  
 Client Device (No radar detection)  
 Client Device with radar detection  
**Test Date:** August 19 ~ November 16, 2018

Reviewed By: Sunny Sun  
 ( Sunny Sun )

Approved By: Robin Wu  
 ( Robin Wu )



The test results relate only to the samples tested.  
 This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 905462 D02v02. Test results reported herein relate only to the item(s) tested.  
 The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

## Revision History

Report No.	Version	Description	Issue Date	Note
1808RSU021-U1	Rev. 01	Initial Report	09-25-2018	Invalid
1808RSU021-U1	Rev. 02	Added Spot Data	11-16-2018	Valid

Note: Here is the same software version and RF circuit with “FCC ID: 2ABLK-8X4G-2V2”, and spot the test items “Channel Loading, Detection Bandwidth, Channel Move Time and Channel Closing, Transmission Time & Radar Statistical Performance Check” with 802.11ac-VHT80 mode, the other test items are based on MRT report “1808RSU022-U1” to copy report.

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## §2.1033 General Information

<b>Applicant:</b>	Calix Inc.
<b>Applicant Address:</b>	1035 N. McDowell Blvd Petaluma, CA94954 U.S.A
<b>Manufacturer:</b>	Calix Inc.
<b>Manufacturer Address:</b>	1035 N. McDowell Blvd Petaluma, CA94954 U.S.A
<b>Test Site:</b>	MRT Technology (Suzhou) Co., Ltd
<b>Test Site Address:</b>	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
<b>FCC Registration No.:</b>	893164
<b>IC Registration No.:</b>	11384A-1
<b>Test Device Serial No.:</b>	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

### Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



## 1. INTRODUCTION

### 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

### 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The measurement facility compliant with the test site requirements specified in ANSI C63.4-2014.



## 2. PRODUCT INFORMATION

### 2.1. Equipment Description

Product Name:	WIFI dual band 4 GE LAN GPON HGU
Model No.:	844G-1, 854G-1, 844GE-1, C844G
Brand Name:	Calix
Wi-Fi Specification:	802.11a/b/g/n/ac
Frequency Range	<p><b><u>2.4GHz:</u></b>            For 802.11b/g/n-HT20: 2412 ~ 2462 MHz            For 802.11n-HT40: 2422 ~ 2452 MHz</p> <p><b><u>5GHz:</u></b>            For 802.11a/n-HT20/ac-VHT20:5180~5320MHz, 5500~5720MHz,            5745~5825MHz            For 802.11n-HT40/ac-VHT40:5190~5310MHz, 5510~5710MHz,            5755~5795MHz            For 802.11ac-VHT80:5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz,            5775MHz</p>
Type of Modulation	802.11b: DSSS, 802.11a/g/n/ac: OFDM
Modulation Type	CCK, DQPSK, DBPSK for DSSS 16QAM, 64QAM, 256QAM, QPSK, BPSK for OFDM
Power-on cycle	Requires 178.1 seconds to complete its power-on cycle
Uniform Spreading (For DFS Frequency Band)	For the 5250-5350MHz, 5470-5725 MHz bands, the Master device provides, on aggregate, uniform loading of the spectrum across all devices by selecting an operating channel among the available channels using a random algorithm.



## 2.2. Description of Available Antennas


Antenna Type	Frequency Band (GHz)	T <sub>x</sub> Paths	Directional Gain (dBi)	
			Beam Forming	CDD
PCB Antenna	5.2	4	8.04	8.04
	5.3	4	7.78	7.78
	5.6	4	8.38	8.38
	5.8	4	8.70	8.70

Note:

- The EUT working on Beam Forming technology with 802.11n/ac mode, and 802.11a working on CDD mode.
- Correlated signals include, but are not limited to, signals transmitted in any of the following modes:
  - Any transmit Beam Forming mode, whether fixed or adaptive (e.g., phased array modes, closed loop MIMO modes, Transmitter Adaptive Antenna modes, Maximum Ratio Transmission (MRT) modes, and Statistical Eigen Beam Forming (EBF) modes).
- Unequal antenna gains, with equal transmit powers. For antenna gains given by  $G_1, G_2, \dots, G_N$  dBi
  - transmit signals are correlated, then
  - Directional gain =  $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$  dBi [Note the "20"s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]



### 2.3. Description of Antenna RF Port

Antenna RF Port						
--	2.4GHz RF Port		5GHz RF Port			
Software Control Port	Ant 0	Ant 1	Ant 0	Ant 1	Ant 2	Ant 3
						

## 2.4. DFS Band Carrier Frequencies Operation

### 802.11 a/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
110	5550 MHz	118	5590 MHz	126	5630 MHz
134	5670 MHz	142	5710 MHz	--	--

### 802.11ac-VHT80

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

## 2.5. Test Mode

Test Mode	Mode 1: Communication with Notebook
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### 3. DFS DETECTION THRESHOLDS AND RADAR TEST WAVEFORMS

#### 3.1. Applicability

The following table from FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 lists the applicable requirements for the DFS testing.

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

**Table 3-1: Applicability of DFS Requirements Prior to Use of a Channel**

Requirement	Operational Mode	
	Master Device or Client With Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

**Table 3-2: Applicability of DFS Requirements during normal operation**

### 3.2. DFS Devices Requirements

**Per FCC KDB 905462 D02 NII DFS Compliance Procedures New Rules v02 the following are the requirements for Master Devices:**

- (a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5250 ~ 5350 MHz and 5470 ~ 5725 MHz bands. DFS is not required in the 5150 ~ 5250 MHz or 5725 ~ 5825 MHz bands.
- (b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.
- (c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.
- (d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).
- (e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.
- (f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period.
- (g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

**Channel Move Time and Channel Closing Transmission Time requirements are listed in the following table.**

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

**Table 3-3: DFS Response Requirements**

### 3.3. DFS Detection Threshold Values

The DFS detection thresholds are defined for Master devices and Client Devices with In-service monitoring. These detection thresholds are listed in the following table.

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

**Table 3-4: Detection Thresholds for Master Devices and Client Devices with Radar Detection**

### 3.4. Parameters of DFS Test Signals

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	$\text{Roundup} \left\{ \left( \frac{1}{360} \right) \cdot \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, 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.					

**Table 3-5: 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

**Table 3-6: 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

**Table 3-7: 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

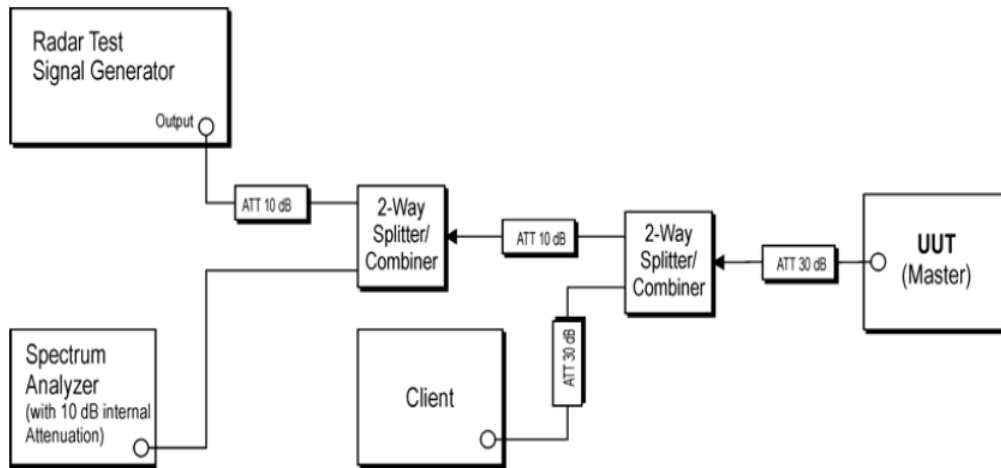
**Table 3-8: Parameters for Frequency Hopping Radar Waveforms**

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.

### 3.5. Conducted Test Setup

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



**Figure 3-1: Conducted Test Setup where UUT is a Master and Radar Test Waveforms are injected into the Masters**

#### 4. TEST EQUIPMENT CALIBRATION DATE

##### Dynamic Frequency Selection (DFS) - TR4

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2019/04/20
Spectrum Analyzer	Agilent	N9010B	MRTSUE06452	1 year	2019/07/20
Vector Signal Generator	Agilent	E4438C	MRTSUE06026	1 year	2018/12/08
Thermohygrometer	Testo	608-H1	MRTSUE06222	1 year	2018/11/21

##### Client Information

Instrument	Manufacturer	Type No.
Wireless Network Adapter	Intel	7260HMW

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

## 5. TEST RESULT

### 5.1. Summary

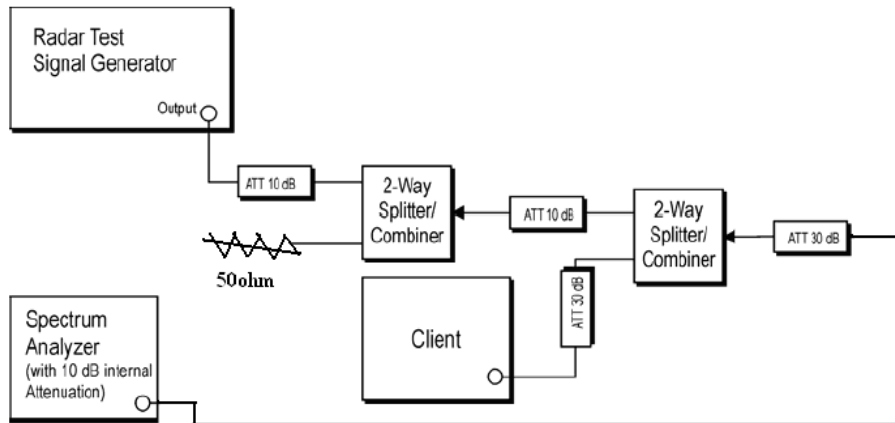
**Product Name:** WIFI dual band 4 GE LAN GPON HGU  
**FCC ID:** 2ABLK-8X4G-1V2  
**IC:** 4009A-8X4G1

Parameter	Limit	Test Result	Reference
NII Detection Bandwidth Measurement	Refer Table 3-3	Pass	Section 5.4
Initial Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.5
Radar Burst at the Beginning of the Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.6
Radar Burst at the End of the Channel Availability Check Time	Refer Table 3-3	Pass	Section 5.7
In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time	Refer Table 3-3	Pass	Section 5.8
Non-Occupancy Period	Refer Table 3-3	Pass	Section 5.8
Statistical Performance Check	Refer Table 3-3	Pass	Section 5.9

## 5.2. Radar Waveform Calibration

### 5.2.1. Calibration Setup

The conducted test setup was used for this calibration testing. Figure 3-2 shows the typical test setup.



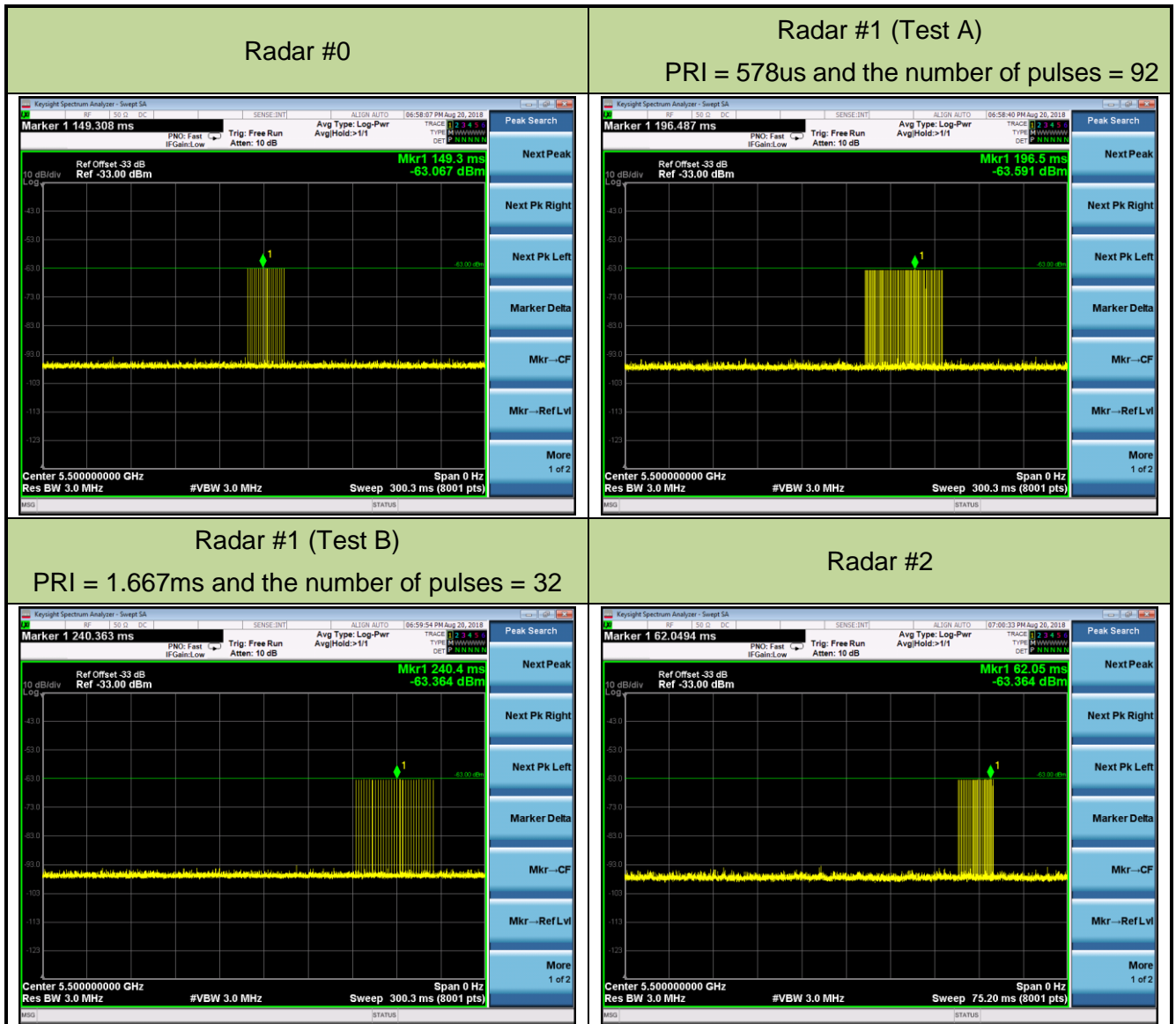
**Figure 3-2: Conducted Test Setup**

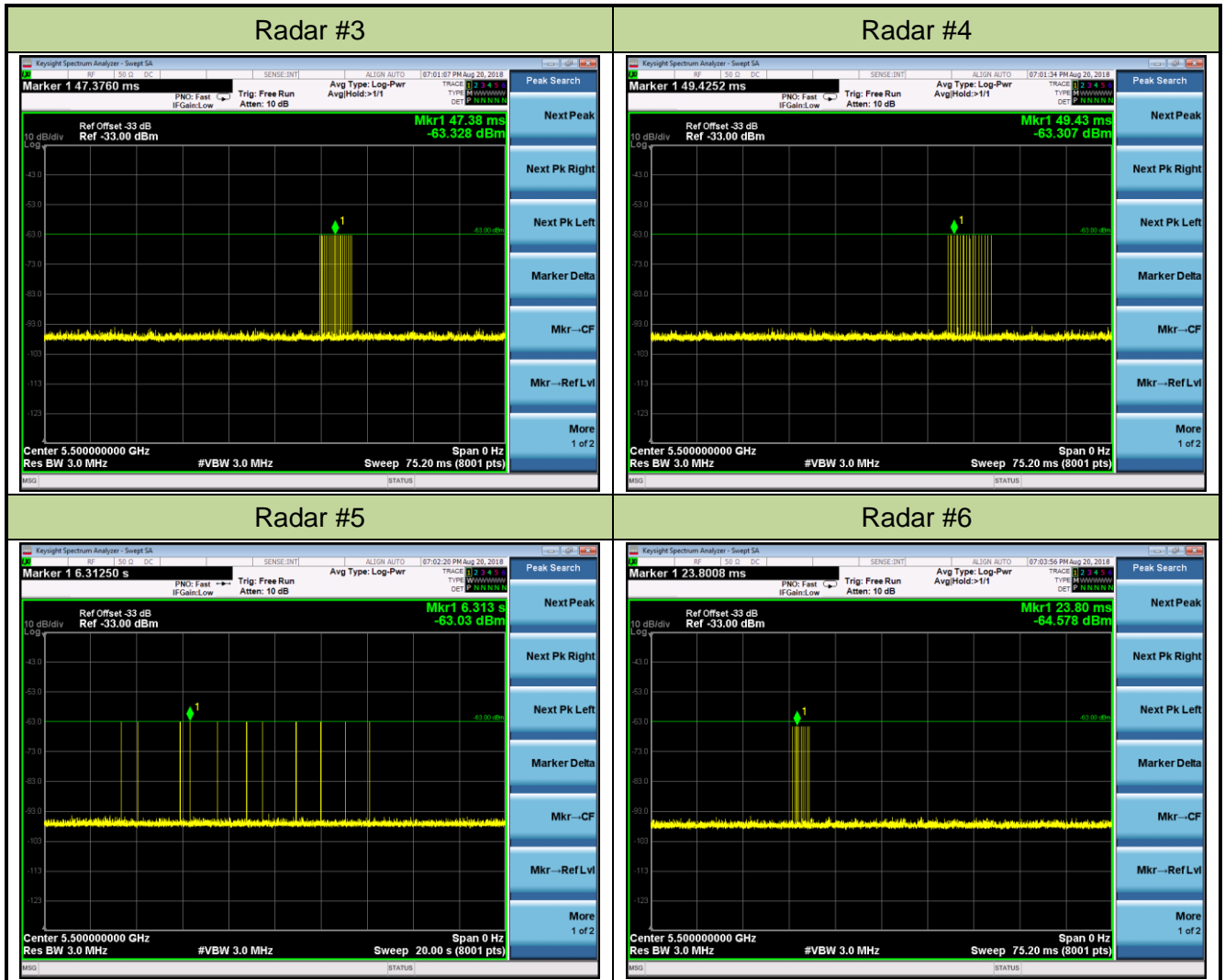
### 5.2.2. Calibration Procedure

The Interference Radar Detection Threshold Level is  $(-64\text{dBm}) + (0) [\text{dBi}] + 1 \text{ dB} = -63 \text{ dBm}$  that had been taken into account the output power range and antenna gain. The above equipment setup was used to calibrate the conducted Radar Waveform. A vector signal generator was utilized to establish the test signal level for each radar type. During this process there were replace 50ohm terminal form Master and Client device and no transmissions by either the Master or Client Device. The spectrum analyzer was switched to the zero span (Time Domain) at the frequency of the Radar Waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to at least 3MHz. The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was  $(-64\text{dBm}) + (0) [\text{dBi}] + 1 \text{ dB} = -63\text{dBm}$ . Capture the spectrum analyzer plots on short pulse radar types, long pulse radar type and hopping radar waveform.

### 5.2.3. Cablibration Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/20
Test Item	Radar Waveform Calibration		

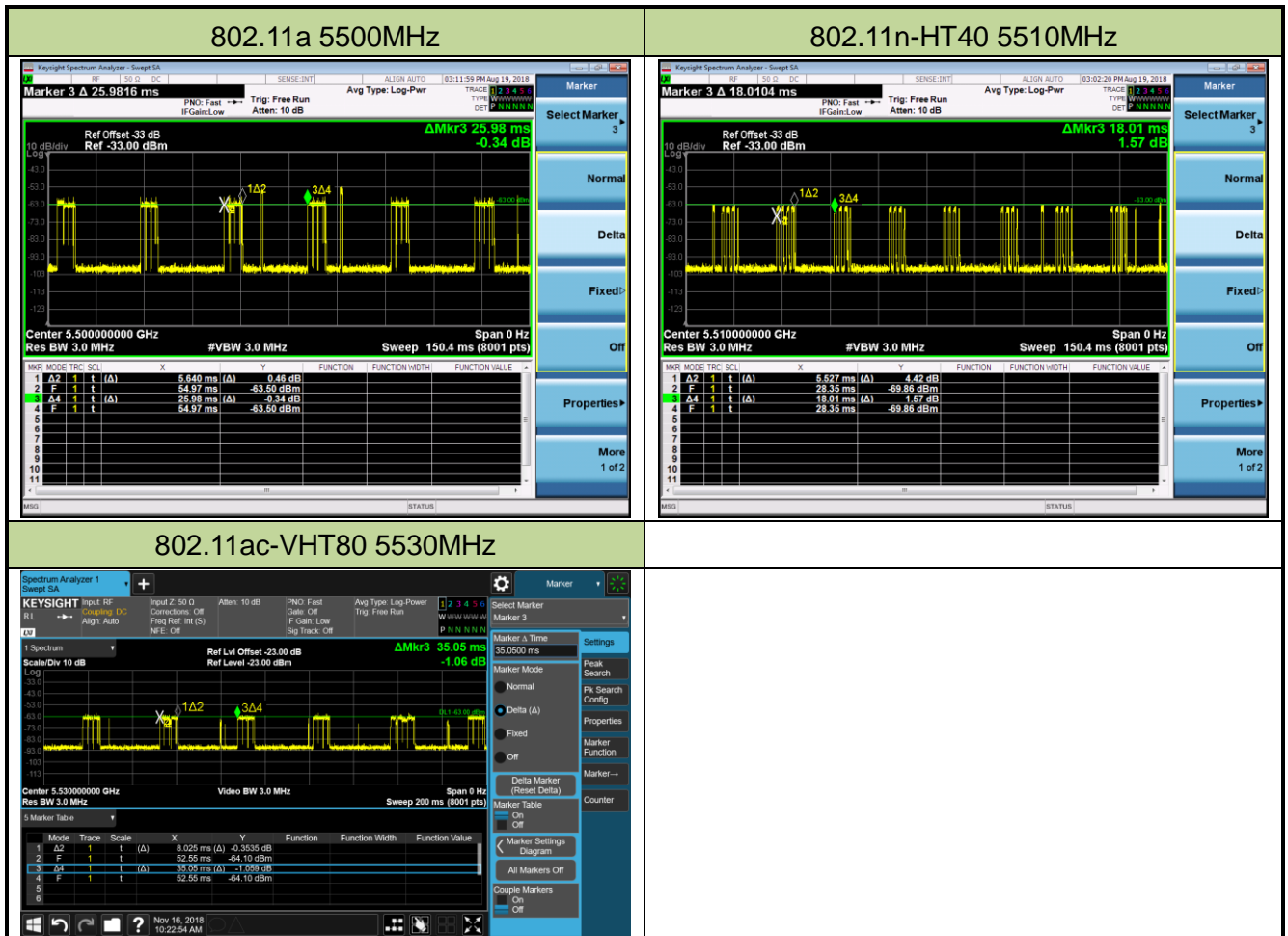






### 5.2.4. Channel Loading Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/19 ~ 2018/11/16
Test Item	Channel Loading		



Test Mode	Test Frequency	Packet ratio	Requirement ratio	Test Result
802.11a	5500 MHz	21.71%	≥ 17%	Pass
802.11n-HT40	5510 MHz	30.69%	≥ 17%	Pass
802.11ac-VHT80	5530 MHz	22.90%	≥ 17%	Pass

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

### **5.3. NII Detection Bandwidth Measurement**

#### **5.3.1. Test Limit**

Minimum 100% of the NII 99% transmission power bandwidth. During the U-NII Detection Bandwidth detection test, each frequency step the minimum percentage of detection is 90 percent.

Measurements are performed with no data traffic.

#### **5.3.2. Test Procedure**

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:  $U\text{-NII Detection Bandwidth} = FH - FL$
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.

### 5.3.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/24
Test Item	Detection Bandwidth (802.11a mode – 5500MHz)		

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5490	0	0	0	0	0	0	0	0	0	0	0%
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%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509 FH	1	1	1	1	1	1	1	1	1	1	100%
5510	0	0	0	0	0	0	0	0	0	0	0%

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5500MHz. The 99% channel bandwidth is 16.80MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5309MHz - 5291MHz = 18MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 16.80MHz x 100% = 16.80MHz.

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/24
Test Item	Detection Bandwidth (802.11n-HT40 mode – 5510MHz)		

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

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 36.45MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5329MHz - 5292MHz = 37MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz): 36.45MHz x 100% = 36.45MHz.



Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/11/16
Test Item	Detection Bandwidth (802.11ac-VHT80 mode – 5530MHz)		

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

Note 1: All NII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 75.15MHz. (See the 99% BW section of the RF report for further measurement details).

Note 2: Detection Bandwidth = FH - FL = 5329MHz - 5251MHz = 78MHz.

Note 3: NII Detection Bandwidth Min. Limit (MHz):  $75.15\text{MHz} \times 100\% = 75.15\text{MHz}$ .

## **5.4. Initial Channel Availability Check Time Measurement**

### **5.4.1. Test Limit**

The EUT shall perform a Channel Availability Check to ensure that there is no radar operating on the channel. After power-up sequence, receive at least 1 minute on the intended operating frequency.

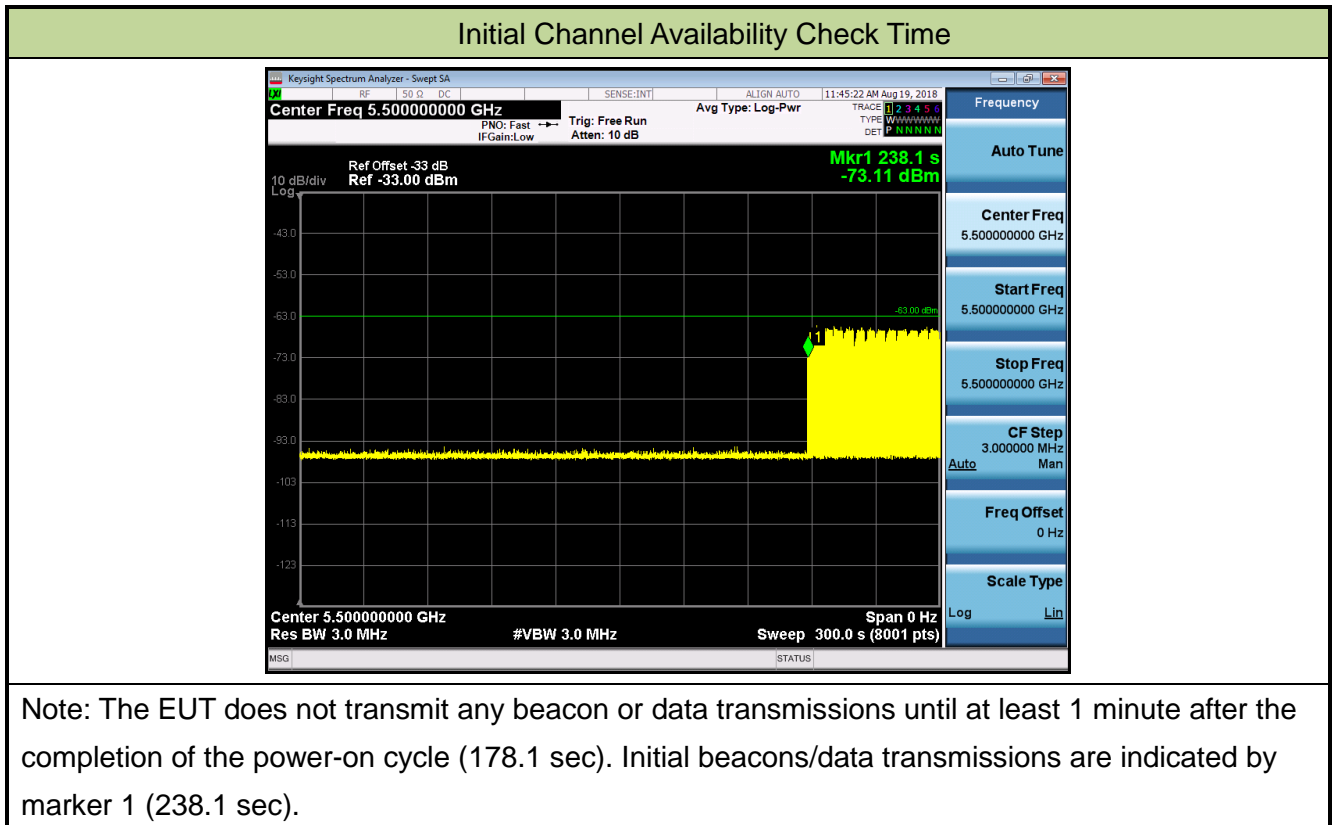
### **5.4.2. Test Procedure**

1. The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.
2. The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.
3. Confirm that the EUT initiates transmission on the channel. Measurement system showing its nominal noise floor is marker1.



5.4.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/19
Test Item	Initial Channel Availability Check Time (802.11a mode – 5500MHz)		



## **5.5. Radar Burst at the Beginning of the Channel Availability Check Time Measurement**

### **5.5.1. Test Limit**

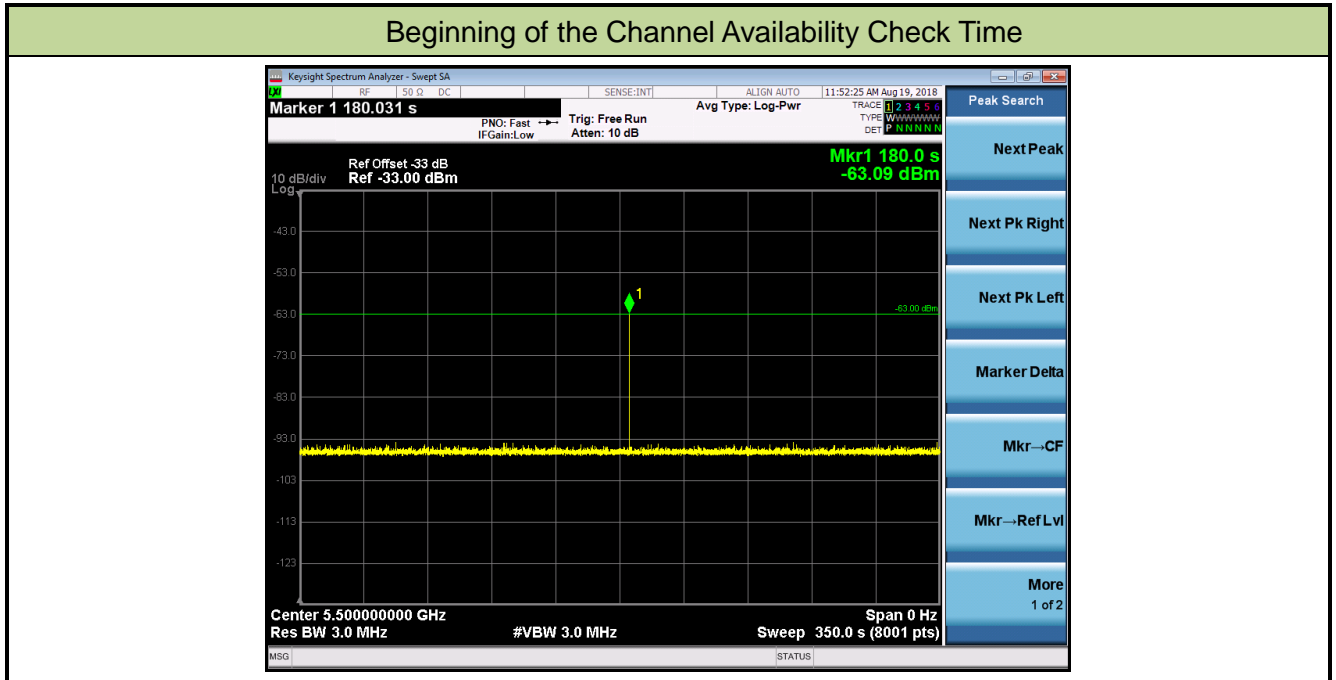
In beginning of the Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

### **5.5.2. Test Procedure**

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. 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.

### 5.5.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/19
Test Item	Beginning of the Channel Availability Check Time (802.11a mode – 5500MHz)		



## **5.6. Radar Burst at the End of the Channel Availability Check Time Measurement**

### **5.6.1. Test Limit**

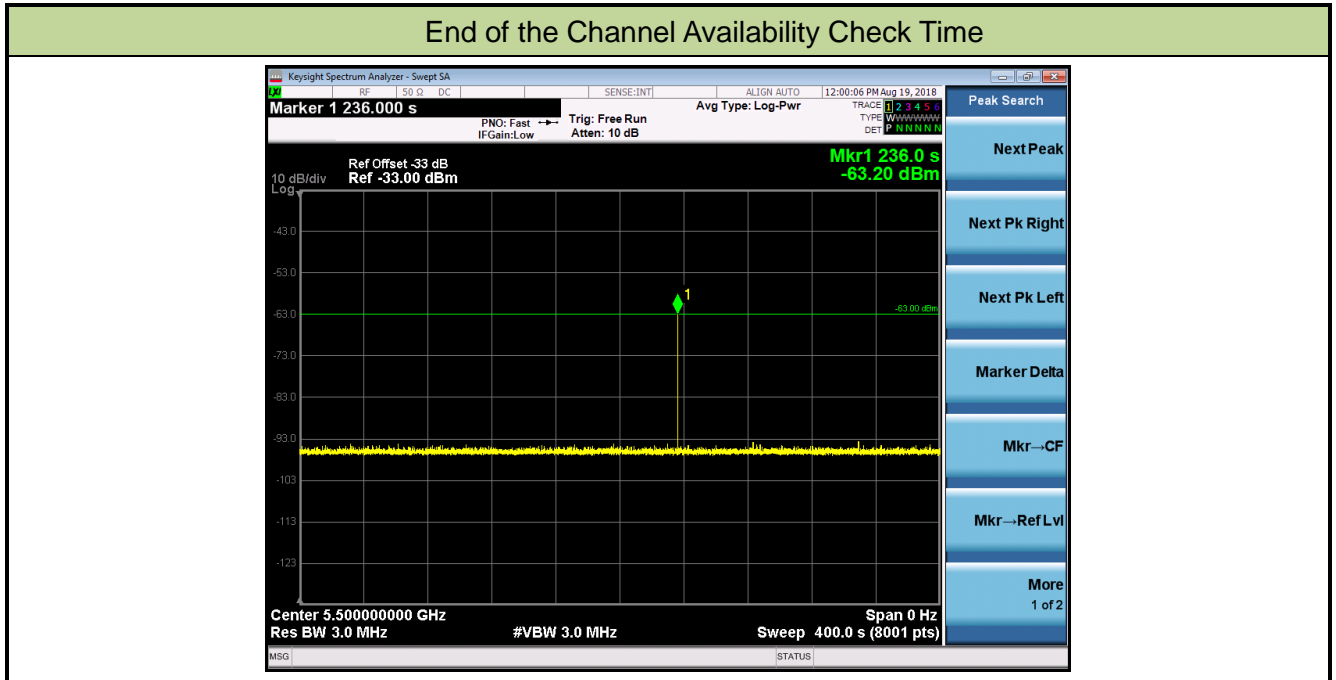
In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

### **5.6.2. Test Procedure**

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 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.
3. 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.

5.6.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/19
Test Item	End of the Channel Availability Check Time (802.11a mode – 5500MHz)		



## **5.7. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement**

### **5.7.1. Test Limit**

The EUT has In-Service Monitoring function to continuously monitor the radar signals. If the radar is detected, must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. The total duration of Channel Closing Transmission Time is 260ms, consisting of data signals and the aggregate of control signals, by a U-NII device during the Channel Move Time. The Non-Occupancy Period time is 30 minute during which a Channel will not be utilized after a Radar Waveform is detected on that Channel.

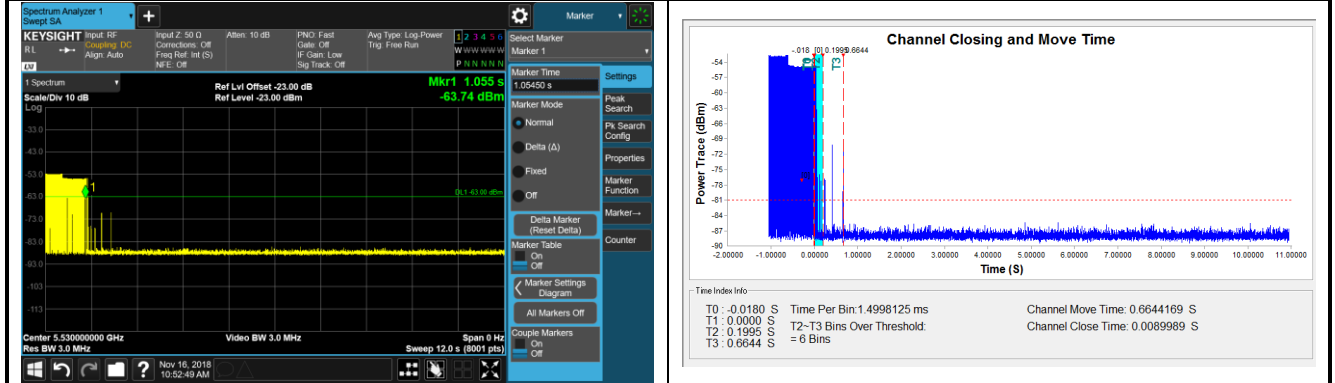
### **5.7.2. Test Procedure Used**

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.

### 5.7.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/11/16
Test Item	Channel Move Time and Channel Closing Transmission Time (802.11ac-VHT80 mode – 5530MHz)		

#### Channel Move Time and Channel Closing Transmission Time



#### Non-Occupancy Period





Parameter	Test Result	Limit
	Type 0	
Channel Move Time (s)	0.664s	<10s
Channel Closing Transmission Time (ms) (Note)	9.0ms	< 60ms
Non-Occupancy Period (min)	≥ 30min	≥ 30 min
<p>Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p>		

## 5.8. Statistical Performance Check Measurement

### 5.8.1. Test Limit

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%

Note: 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:  $(Pd1 + Pd2 + Pd3 + Pd4) / 4$ .

### 5.8.2. Test Procedure

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.

### 5.8.3. Test Result

Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/25
Test Item	Radar Statistical Performance Check (802.11a mode – 5500MHz)		

#### Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	1	718	74	1
2	5491	1	698	76	1
3	5491	1	598	89	1
4	5491	1	678	78	1
5	5491	1	778	68	1
6	5491	1	638	83	1
7	5491	1	658	81	1
8	5491	1	538	99	1
9	5491	1	738	72	1
10	5491	1	838	63	1
11	5500	1	858	62	1
12	5500	1	578	92	1
13	5500	1	898	59	1
14	5500	1	618	86	1
15	5500	1	3066	18	1
16	5500	1	2242	24	1
17	5500	1	1008	53	1
18	5500	1	2088	26	1
19	5500	1	2411	22	1
20	5500	1	2153	25	1
21	5509	1	2302	23	1
22	5509	1	894	60	1
23	5509	1	2368	23	1
24	5509	1	3014	18	1
25	5509	1	779	68	1
26	5509	1	2311	23	1



Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5509	1	2848	19	1
28	5509	1	1848	29	1
29	5509	1	646	82	1
30	5509	1	1782	30	1
Detection Percentage (%)					100%



## Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	2.9	167	29	1
2	5491	2.6	171	23	1
3	5491	2.9	168	26	1
4	5491	2.6	200	27	1
5	5491	3.3	188	28	1
6	5491	2.3	218	24	1
7	5491	3.7	173	29	1
8	5491	3.1	208	27	1
9	5491	4.2	186	28	1
10	5491	3.0	218	26	1
11	5500	1.2	223	27	1
12	5500	4.2	204	25	1
13	5500	2.7	169	24	1
14	5500	2.8	175	28	1
15	5500	2.3	157	26	1
16	5500	2.1	178	28	1
17	5500	2.2	202	27	1
18	5500	4.5	183	25	1
19	5500	2.6	156	29	1
20	5500	3.6	190	23	1
21	5509	2.5	188	27	1
22	5509	3.1	183	24	1
23	5509	1.1	208	24	1
24	5509	1.4	175	28	1
25	5509	4.1	226	24	1
26	5509	1.5	212	24	1
27	5509	2.7	159	23	1
28	5509	4.0	187	23	1
29	5509	1.0	194	29	1
30	5509	2.7	228	24	1
Detection Percentage (%)					100%



## Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	9.8	404	16	1
2	5491	9.6	262	18	1
3	5491	7.5	433	17	1
4	5491	9.2	356	18	1
5	5491	6.0	265	17	1
6	5491	8.7	340	17	1
7	5491	8.1	336	16	1
8	5491	6.3	306	16	1
9	5491	9.2	485	16	1
10	5491	9.4	326	16	1
11	5500	7.3	267	17	1
12	5500	9.3	495	18	1
13	5500	8.3	280	17	1
14	5500	9.1	268	18	1
15	5500	9.3	306	18	1
16	5500	9.4	476	17	1
17	5500	8.6	253	17	1
18	5500	8.2	458	16	1
19	5500	6.9	460	16	1
20	5500	9.6	346	16	1
21	5509	6.5	296	18	1
22	5509	7.5	419	17	1
23	5509	8.6	421	16	1
24	5509	6.4	351	18	1
25	5509	6.0	361	18	1
26	5509	6.4	413	18	1
27	5509	7.6	369	16	1
28	5509	8.0	305	16	1
29	5509	7.6	459	18	1
30	5509	8.2	389	16	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	5491	14.8	275	12	1
2	5491	12.5	498	13	1
3	5491	13.2	472	15	1
4	5491	11.9	252	12	1
5	5491	18.8	257	13	1
6	5491	19.9	364	16	1
7	5491	14.0	316	14	1
8	5491	19.2	312	13	1
9	5491	13.5	333	14	1
10	5491	12.9	351	16	1
11	5500	14.9	423	16	1
12	5500	18.6	482	14	1
13	5500	19.9	258	14	1
14	5500	17.0	447	13	1
15	5500	13.4	432	15	1
16	5500	15.1	402	15	1
17	5500	11.7	430	13	1
18	5500	12.2	276	16	1
19	5500	14.7	350	13	1
20	5500	15.0	481	14	1
21	5509	11.1	411	12	1
22	5509	11.3	381	16	1
23	5509	19.9	454	13	1
24	5509	16.1	373	16	1
25	5509	19.5	416	14	1
26	5509	16.1	273	14	1
27	5509	14.3	340	13	1
28	5509	13.3	448	14	1
29	5509	17.1	466	14	1
30	5509	13.0	285	12	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:  $\frac{P_d1+P_d2+P_d3+P_d4}{4} = (100\%+100\%+100\%+100\%)/4 = 100\%$

4

(>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	5495.8	1	16	5500.0	1
2	5493.0	1	17	5500.0	1
3	5493.4	1	18	5500.0	1
4	5498.6	1	19	5500.0	1
5	5497.8	1	20	5500.0	1
6	5495.0	1	21	5505.8	1
7	5496.6	1	22	5502.2	1
8	5498.2	1	23	5501.8	1
9	5494.2	1	24	5506.6	1
10	5494.6	1	25	5505.4	1
11	5500.0	1	26	5505.0	1
12	5500.0	1	27	5501.4	1
13	5500.0	1	28	5504.2	1
14	5500.0	1	29	5507.0	1
15	5500.0	1	30	5503.4	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1										
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	541096	2	12	100	1253	1447	0	541096	0	999999
2	986501	1	12	50	1860	0	0	1530297	1000000	1999999
3	1203876	3	12	75	1366	1041	1023	2736033	2000000	2999999
4	422104	2	12	55	1427	1438	0	3161567	3000000	3999999
5	1434952	1	12	50	1227	0	0	4599384	4000000	4999999
6	501555	2	12	85	1286	1586	0	5102166	5000000	5999999
7	1169762	2	12	70	1473	1089	0	6274800	6000000	6999999
8	748281	1	12	90	1210	0	0	7025643	7000000	7999999
9	1088353	3	12	70	1111	1688	1251	8115206	8000000	8999999
10	1161801	2	12	50	1998	1740	0	9281057	9000000	9999999
11	1412326	2	12	85	1429	1167	0	10697121	10000000	10999999
12	764862	2	12	95	1240	1135	0	11464579	11000000	11999999
Total number of pulses in waveform = 23										
*****										



### Type 5 Radar Waveform\_2

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	638258	3	5	65	1542	1925	1397	638258	0	799999
2	199432	1	5	100	1001	0	0	842554	800000	1599999
3	1460508	2	5	85	1560	1274	0	2304063	1600000	2399999
4	583052	2	5	55	1115	1298	0	2889949	2400000	3199999
5	560223	1	5	80	1604	0	0	3452585	3200000	3999999
6	840661	3	5	75	1667	1953	1541	4294850	4000000	4799999
7	583207	1	5	60	1886	0	0	4883218	4800000	5599999
8	918033	2	5	80	1622	1358	0	5803137	5600000	6399999
9	827028	1	5	85	1997	0	0	6633145	6400000	7199999
10	1024569	2	5	60	1210	1600	0	7659711	7200000	7999999
11	703654	3	5	100	1131	1367	1562	8366175	8000000	8799999
12	577360	3	5	95	1947	1506	1952	8947595	8800000	9599999
13	1065678	3	5	55	1701	1169	1993	10018678	9600000	10399999
14	1121773	3	5	60	1322	1073	1036	11145314	10400000	11199999
15	780392	2	5	80	1369	1910	0	11929137	11200000	11999999

Total number of pulses in waveform = 32  
\*\*\*\*\*

### Type 5 Radar Waveform\_3

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	44504	1	6	100	1485	0	0	44504	0	705881
2	1336753	2	6	70	1260	1190	0	1382742	705882	1411763
3	100448	1	6	55	1697	0	0	1485640	1411764	2117645
4	716668	2	6	90	1370	1466	0	2204005	2117646	2823527
5	807780	1	6	60	1897	0	0	3014621	2823528	3529409
6	565350	3	6	60	1013	1454	1475	3581868	3529410	4235291
7	1211032	1	6	95	1143	0	0	4796842	4235292	4941173
8	302983	1	6	100	1685	0	0	5100968	4941174	5647055
9	992607	2	6	50	1518	1952	0	6095260	5647056	6352937
10	321471	2	6	55	1561	1206	0	6420201	6352938	7058819
11	1271540	2	6	50	1475	1763	0	7694508	7058820	7764701
12	625440	2	6	90	1441	1228	0	8323186	7764702	8470583
13	471457	3	6	90	1222	1520	1383	8797312	8470584	9176465
14	493947	2	6	100	1047	1120	0	9295384	9176466	9882347
15	642738	3	6	55	1047	1788	1034	9940289	9882348	10588229
16	677991	1	6	65	1920	0	0	10622149	10588230	11294111
17	1175202	1	6	70	1543	0	0	11799271	11294112	11999993

Total number of pulses in waveform = 30  
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### Type 5 Radar Waveform\_4

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	772801	1	19	50	1601	0	0	772801	0	799999
2	726467	2	19	55	1191	1255	0	1500869	800000	1599999
3	450613	1	19	55	1547	0	0	1953928	1600000	2399999
4	1195933	3	19	100	1509	1472	1281	3151408	2400000	3199999
5	563390	1	19	60	1786	0	0	3719060	3200000	3999999
6	990856	1	19	95	1651	0	0	4711702	4000000	4799999
7	550556	1	19	95	1832	0	0	5263909	4800000	5599999
8	1005105	3	19	95	1653	1249	1194	6270846	5600000	6399999
9	314090	2	19	75	1211	1582	0	6589032	6400000	7199999
10	1189430	2	19	50	1207	1735	0	7781255	7200000	7999999
11	684515	3	19	95	1276	1560	1532	8468712	8000000	8799999
12	982576	1	19	95	1912	0	0	9455656	8800000	9599999
13	479712	2	19	75	1723	1867	0	9937280	9600000	10399999
14	1020868	1	19	85	1435	0	0	10961738	10400000	11199999
15	483284	2	19	95	1535	1428	0	11446457	11200000	11999999

Total number of pulses in waveform = 26  
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### Type 5 Radar Waveform\_5

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	256895	2	17	60	1473	1609	0	256895	0	749999
2	981477	2	17	80	1216	1505	0	1241454	750000	1499999
3	436238	2	17	60	1971	1172	0	1680413	1500000	2249999
4	675310	3	17	70	1504	1829	1869	2358866	2250000	2999999
5	1279473	3	17	85	1498	1712	1935	3643541	3000000	3749999
6	271890	3	17	50	1680	1922	1612	3920576	3750000	4499999
7	988260	2	17	70	1170	1163	0	4914050	4500000	5249999
8	707868	3	17	80	1384	1530	1310	5624251	5250000	5999999
9	758324	3	17	70	1670	1330	1492	6386799	6000000	6749999
10	824244	1	17	90	1443	0	0	7215535	6750000	7499999
11	934513	2	17	85	1830	1653	0	8151491	7500000	8249999
12	786836	1	17	95	1937	0	0	8941810	8250000	8999999
13	99494	2	17	95	1846	1775	0	9043241	9000000	9749999
14	1062070	3	17	100	1592	1752	1355	10108932	9750000	10499999
15	990768	3	17	60	1313	1063	1552	11104399	10500000	11249999
16	575229	1	17	65	1807	0	0	11683556	11250000	11999999

Total number of pulses in waveform = 36  
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### Type 5 Radar Waveform\_6

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	212330	2	10	65	1944	1903	0	212330	0	749999
2	1245728	2	10	90	1255	1470	0	1461905	750000	1499999
3	327137	3	10	50	1842	1796	1596	1791767	1500000	2249999
4	747785	3	10	90	1121	1200	1207	2544786	2250000	2999999
5	618707	2	10	65	1365	1634	0	3167021	3000000	3749999
6	652435	3	10	65	1795	1554	1717	3822455	3750000	4499999
7	709290	3	10	95	1046	1719	1029	4536811	4500000	5249999
8	1408251	1	10	65	1187	0	0	5948856	5250000	5999999
9	460238	1	10	85	1869	0	0	6410281	6000000	6749999
10	692777	2	10	70	1807	1493	0	7104927	6750000	7499999
11	440603	2	10	80	1525	1296	0	7548830	7500000	8249999
12	1052377	1	10	50	1553	0	0	8604028	8250000	8999999
13	553926	2	10	90	1594	1053	0	9159507	9000000	9749999
14	1068273	2	10	70	1747	1148	0	10230427	9750000	10499999
15	480707	3	10	55	1182	1302	1176	10714029	10500000	11249999
16	829717	2	10	60	1032	1875	0	11547406	11250000	11999999

Total number of pulses in waveform = 34  
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### Type 5 Radar Waveform\_7

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	112630	3	14	70	1762	1300	1352	112630	0	857142
2	1395075	1	14	80	1606	0	0	1512119	857143	1714285
3	745553	3	14	80	1339	1969	1890	2259278	1714286	2571428
4	481920	1	14	85	1746	0	0	2746396	2571429	3428571
5	865510	2	14	85	1438	1891	0	3613652	3428572	4285714
6	1164806	1	14	65	1369	0	0	4781787	4285715	5142857
7	559402	1	14	80	1966	0	0	5342558	5142858	6000000
8	1283117	2	14	55	1852	1351	0	6627641	6000001	6857143
9	340547	3	14	75	1756	1864	1903	6971391	6857144	7714286
10	1380651	1	14	95	1160	0	0	8357565	7714287	8571429
11	983725	1	14	85	1846	0	0	9342450	8571430	9428572
12	133303	2	14	70	1400	1776	0	9477599	9428573	10285715
13	1426162	3	14	95	1182	1507	1515	10906937	10285716	11142858
14	531262	3	14	80	1338	1961	1950	11442403	11142859	12000001

Total number of pulses in waveform = 27  
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### Type 5 Radar Waveform\_8

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	195999	3	18	80	1922	1571	1718	195999	0	1090908
2	1412920	2	18	50	1847	1151	0	1614130	1090909	2181817
3	1315057	3	18	75	1480	1713	1786	2932185	2181818	3272726
4	1414944	1	18	50	1183	0	0	4352108	3272727	4363635
5	668004	1	18	55	1664	0	0	5021295	4363636	5454544
6	1348833	2	18	95	1755	1364	0	6371792	5454545	6545453
7	659580	1	18	50	1127	0	0	7034491	6545454	7636362
8	1204884	3	18	65	1754	1854	1221	8240502	7636363	8727271
9	1130429	3	18	60	1695	1262	1612	9375760	8727272	9818180
10	1433111	3	18	100	1901	1496	1928	10813440	9818181	10909089
11	666116	1	18	100	1648	0	0	11484881	10909090	11999998

Total number of pulses in waveform = 23  
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### 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	499243	3	8	65	1421	1673	1992	499243	0	999999
2	1248776	2	8	55	1300	1404	0	1753105	1000000	1999999
3	349319	1	8	85	1000	0	0	2105128	2000000	2999999
4	1216323	2	8	80	1459	1498	0	3322451	3000000	3999999
5	733844	1	8	70	1027	0	0	4059252	4000000	4999999
6	1083455	3	8	75	1642	1178	1407	5143734	5000000	5999999
7	1351106	3	8	65	1764	1292	1437	6499067	6000000	6999999
8	1177681	3	8	65	1317	1436	1660	7681241	7000000	7999999
9	789614	1	8	95	1712	0	0	8475268	8000000	8999999
10	1247575	1	8	95	1197	0	0	9724555	9000000	9999999
11	1037191	3	8	70	1486	1136	1377	10762943	10000000	10999999
12	402276	1	8	70	1810	0	0	11169218	11000000	11999999

Total number of pulses in waveform = 24  
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### Type 5 Radar Waveform\_10

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	344207	3	9	55	1059	1348	1377	344207	0	631578
2	574769	2	9	80	1153	1995	0	922760	631579	1263157
3	750461	3	9	90	1471	1834	1453	1676369	1263158	1894736
4	547751	1	9	55	2000	0	0	2228878	1894737	2526315
5	506995	1	9	95	1929	0	0	2737873	2526316	3157894
6	554224	1	9	65	1331	0	0	3294026	3157895	3789473
7	699832	2	9	55	1468	1004	0	3995189	3789474	4421052
8	560305	1	9	90	1727	0	0	4557966	4421053	5052631
9	798107	2	9	60	1633	1627	0	5317800	5052632	5684210
10	410848	1	9	80	1545	0	0	5731908	5684211	6315789
11	965276	3	9	70	1923	1215	1848	6698729	6315790	6947368
12	665262	3	9	55	1875	1205	1905	7368977	6947369	7578947
13	442983	3	9	100	1322	1680	1836	7816945	7578948	8210526
14	1007567	2	9	75	1355	1284	0	8829349	8210527	8842105
15	328255	3	9	60	1816	1696	1737	9160243	8842106	9473684
16	465559	3	9	50	1121	1791	1232	9631051	9473685	10105263
17	1064671	1	9	65	1057	0	0	10699866	10105264	10736842
18	451984	3	9	85	1246	1882	1318	11152907	10736843	11368421
19	525755	2	9	55	1905	1706	0	11683108	11368422	12000000

Total number of pulses in waveform = 40  
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### Type 5 Radar Waveform\_11

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	309948	1	9	70	1919	0	0	309948	0	599999
2	495179	3	9	60	1479	1920	1429	807046	600000	1199999
3	506480	2	9	55	1946	1727	0	1318354	1200000	1799999
4	528350	1	9	55	1814	0	0	1848377	1800000	2399999
5	934016	1	9	85	1551	0	0	2784207	2400000	2999999
6	460829	2	9	85	1977	1977	0	3246587	3000000	3599999
7	677553	2	9	50	1173	1307	0	3919416	3600000	4199999
8	599718	1	9	100	1219	0	0	4599449	4200000	4799999
9	673013	3	9	60	1516	1325	1161	5273681	4800000	5399999
10	599718	2	9	95	1130	1933	0	5877401	5400000	5999999
11	176757	1	9	55	1551	0	0	6057221	6000000	6599999
12	753941	3	9	50	1677	1065	1395	6812713	6600000	7199999
13	790226	1	9	50	1389	0	0	7607076	7200000	7799999
14	512221	2	9	90	1392	1760	0	8120686	7800000	8399999
15	463826	1	9	65	1049	0	0	8587684	8400000	8999999
16	968579	3	9	90	1591	1772	1250	9557292	9000000	9599999
17	133872	3	9	80	1684	1780	1920	9695777	9600000	10199999
18	892169	2	9	55	1047	1748	0	10593330	10200000	10799999
19	476757	2	9	65	1521	1382	0	11072882	10800000	11399999
20	719705	2	9	55	1556	1441	0	11795490	11400000	11999999

Total number of pulses in waveform = 38  
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### Type 5 Radar Waveform\_12

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	275278	3	19	75	1372	1622	1988	275278	0	1199999
2	1798305	2	19	95	1451	1723	0	2078565	1200000	2399999
3	781837	2	19	50	1674	1175	0	2863576	2400000	3599999
4	1767068	2	19	95	1771	1681	0	4633493	3600000	4799999
5	950941	1	19	95	1546	0	0	5587886	4800000	5999999
6	1596735	2	19	75	1936	1505	0	7186167	6000000	7199999
7	543842	1	19	85	1878	0	0	7733450	7200000	8399999
8	1786456	3	19	55	1652	1336	1372	9521784	8400000	9599999
9	437897	2	19	60	1819	1065	0	9964041	9600000	10799999
10	1240290	2	19	65	1237	1912	0	11207215	10800000	11999999

Total number of pulses in waveform = 20  
\*\*\*\*\*

### 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	1483569	1	6	50	1373	0	0	1483569	0	1499999
2	619802	2	6	50	1083	1996	0	2104744	1500000	2999999
3	1358339	1	6	75	1824	0	0	3466162	3000000	4499999
4	1069901	1	6	95	1354	0	0	4537887	4500000	5999999
5	2829569	2	6	100	1668	1701	0	7368810	6000000	7499999
6	923079	3	6	50	1999	1674	1475	8295258	7500000	8999999
7	1747229	1	6	75	1169	0	0	10047635	9000000	10499999
8	1806512	2	6	100	1653	1245	0	11855316	10500000	11999999

Total number of pulses in waveform = 13  
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### Type 5 Radar Waveform\_14

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	668321	3	8	75	1603	1371	1410	668321	0	705881
2	73433	1	8	55	1798	0	0	746138	705882	1411763
3	1121446	2	8	75	1019	1166	0	1869382	1411764	2117645
4	714490	1	8	50	1478	0	0	2586057	2117646	2823527
5	402753	2	8	90	1964	1203	0	2990288	2823528	3529409
6	903836	1	8	100	1400	0	0	3897291	3529410	4235291
7	1028852	3	8	95	1465	1932	1918	4927543	4235292	4941173
8	678268	1	8	95	1149	0	0	5611126	4941174	5647055
9	240702	1	8	55	1543	0	0	5852977	5647056	6352937
10	1124797	3	8	90	1617	1242	1875	6979317	6352938	7058819
11	199461	3	8	85	1292	1376	1302	7183512	7058820	7764701
12	1254881	1	8	90	1350	0	0	8442363	7764702	8470583
13	315573	3	8	55	1996	1524	1834	8759286	8470584	9176465
14	688851	2	8	100	1760	1546	0	9453491	9176466	9882347
15	571543	1	8	100	1945	0	0	10028340	9882348	10588229
16	682342	1	8	100	1350	0	0	10712627	10588230	11294111
17	1158338	2	8	100	1246	1912	0	11872315	11294112	11999993

Total number of pulses in waveform = 31  
\*\*\*\*\*

### Type 5 Radar Waveform\_15

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	526142	3	17	75	1132	1193	1837	526142	0	857142
2	667141	2	17	80	1212	1407	0	1197445	857143	1714285
3	929975	2	17	90	1002	1604	0	2130039	1714286	2571428
4	1273616	1	17	90	1450	0	0	3406261	2571429	3428571
5	845999	2	17	95	1414	1666	0	4253710	3428572	4285714
6	330386	1	17	85	1127	0	0	4587176	4285715	5142857
7	1303319	1	17	95	1634	0	0	5891622	5142858	6000000
8	904407	2	17	50	1145	1074	0	6797663	6000001	6857143
9	611667	2	17	100	1778	1653	0	7411549	6857144	7714286
10	551829	2	17	65	1854	1578	0	7966809	7714287	8571429
11	1028274	2	17	100	1450	1294	0	8998515	8571430	9428572
12	1263422	2	17	60	1755	1736	0	10264681	9428573	10285715
13	31803	3	17	60	1505	1496	1546	10299975	10285716	11142858
14	1159047	3	17	60	1491	1596	1138	11463569	11142859	12000001

Total number of pulses in waveform = 28  
\*\*\*\*\*

### Type 5 Radar Waveform\_16

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	1009891	1	12	50	1305	0	0	1009891	0	1199999
2	215126	3	12	100	1311	1623	1969	1226322	1200000	2399999
3	2319736	3	12	75	1686	1031	1960	3550961	2400000	3599999
4	443332	2	12	50	1459	1319	0	3998970	3600000	4799999
5	1091916	3	12	95	1716	1795	1549	5093664	4800000	5999999
6	1624157	2	12	90	1997	1833	0	6722881	6000000	7199999
7	1628327	1	12	70	1620	0	0	8355038	7200000	8399999
8	690772	1	12	70	1682	0	0	9047430	8400000	9599999
9	1504669	2	12	90	1184	1018	0	10553781	9600000	10799999
10	999037	1	12	90	1218	0	0	11555020	10800000	11999999

Total number of pulses in waveform = 19  
\*\*\*\*\*



### Type 5 Radar Waveform\_17

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)
Num of Bursts = 20 Burst Interval (us)= 600000										
1	340495	2	10	65	1779	1800	0	340495	0	599999
2	502075	1	10	75	1868	0	0	846149	600000	1199999
3	463240	2	10	95	1052	1882	0	1311257	1200000	1799999
4	506819	1	10	55	1880	0	0	1821010	1800000	2399999
5	1026551	3	10	100	1599	1120	1643	2849441	2400000	2999999
6	669158	2	10	55	1865	1484	0	3522961	3000000	3599999
7	354384	2	10	85	1071	1555	0	3880694	3600000	4199999
8	890725	3	10	95	1407	1032	1458	4774045	4200000	4799999
9	567884	1	10	100	1569	0	0	5345826	4800000	5399999
10	280089	3	10	50	1217	1233	1713	5627464	5400000	5999999
11	505074	3	10	60	1711	1447	1052	6136701	6000000	6599999
12	768751	2	10	80	1012	1969	0	6909662	6600000	7199999
13	335094	3	10	100	1649	1591	1935	7247737	7200000	7799999
14	901296	1	10	70	1888	0	0	8154208	7800000	8399999
15	445784	3	10	60	1971	1724	1983	8801880	8400000	8999999
16	625876	3	10	60	1998	1063	1767	9233434	9000000	9599999
17	638730	3	10	70	1548	1848	1422	9876992	9600000	10199999
18	699954	2	10	55	1698	1014	0	10581764	10200000	10799999
19	728409	3	10	80	1980	1201	1957	11312885	10800000	11399999
20	335459	1	10	90	1961	0	0	11652882	11400000	11999999
Total number of pulses in waveform = 44 *****										

### Type 5 Radar Waveform\_18

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)
Num of Bursts = 17 Burst Interval (us)= 705882										
1	511490	1	5	100	1434	0	0	511490	0	705881
2	451375	3	5	60	1119	1740	1935	964299	705882	1411763
3	804671	2	5	50	1556	1414	0	1773764	1411764	2117645
4	610859	1	5	100	1653	0	0	2387593	2117646	2823527
5	1056816	1	5	95	1211	0	0	3446062	2823528	3529409
6	602780	3	5	60	1950	1464	1670	4050053	3529410	4235291
7	368118	2	5	60	1283	1333	0	4423255	4235292	4941173
8	627968	3	5	95	1421	1359	1748	5053839	4941174	5647055
9	802190	2	5	75	1963	1381	0	5860557	5647056	6352937
10	656977	3	5	65	1516	1448	1298	6520878	6352938	7058819
11	772260	2	5	85	1341	1589	0	7297400	7058820	7764701
12	787077	3	5	75	1136	1870	1370	8087407	7764702	8470583
13	632614	2	5	85	1291	1650	0	8724397	8470584	9176465
14	596240	1	5	75	1456	0	0	9323578	9176466	9882347
15	925079	3	5	90	1726	1791	1165	10250113	9882348	10588229
16	386111	2	5	55	1139	1445	0	10640906	10588230	11294111
17	1349436	2	5	100	1681	1544	0	11992926	11294112	11999993
Total number of pulses in waveform = 36 *****										

### Type 5 Radar Waveform\_19

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)
Num of Bursts = 12 Burst Interval (us)= 1000000										
1	730092	1	14	90	1656	0	0	730092	0	999999
2	274933	1	14	50	1374	0	0	1006681	1000000	1999999
3	1805223	3	14	75	1438	1340	1458	2813278	2000000	2999999
4	1152309	1	14	75	1868	0	0	3969823	3000000	3999999
5	411090	2	14	95	1301	1350	0	4382781	4000000	4999999
6	914717	3	14	65	1308	1048	1003	5300149	5000000	5999999
7	1525190	3	14	65	1471	1948	1201	6828698	6000000	6999999
8	915878	2	14	70	1684	1089	0	7749196	7000000	7999999
9	537211	1	14	70	1497	0	0	8289180	8000000	8999999
10	1563524	1	14	70	1859	0	0	9854201	9000000	9999999
11	1026038	2	14	100	1618	1000	0	10882098	10000000	10999999
12	978997	1	14	90	1300	0	0	11863713	11000000	11999999
Total number of pulses in waveform = 21 *****										



### Type 5 Radar Waveform\_20

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	238672	2	18	75	1575	1346	0	238672	0	631578
2	697524	3	18	95	1186	1723	1991	939117	631579	1263157
3	326474	1	18	80	1884	0	0	1270491	1263158	1894736
4	975046	3	18	70	1216	1878	1538	2247421	1894737	2526315
5	902467	2	18	70	1097	1949	0	3154520	2526316	3157894
6	126488	3	18	80	1412	1999	1740	3284054	3157895	3789473
7	920467	1	18	75	1380	0	0	4209672	3789474	4421052
8	222557	2	18	60	1227	1854	0	4433609	4421053	5052631
9	1101802	2	18	60	1616	1291	0	5538492	5052632	5684210
10	457151	2	18	95	1349	1216	0	5998550	5684211	6315789
11	756698	1	18	85	1045	0	0	6757813	6315790	6947368
12	799617	1	18	85	1693	0	0	7558475	6947369	7578947
13	109429	3	18	95	1010	1226	1491	7669597	7578948	8210526
14	1009620	1	18	50	1835	0	0	8682944	8210527	8842105
15	316683	2	18	95	1423	1439	0	9001462	8842106	9473684
16	696155	2	18	90	1890	1700	0	9700479	9473685	10105263
17	721628	3	18	55	1410	1977	1888	10425697	10105264	10736842
18	485191	1	18	50	1775	0	0	10916163	10736843	11368421
19	917758	1	18	85	1735	0	0	11835696	11368422	12000000

Total number of pulses in waveform = 36  
\*\*\*\*\*

### Type 5 Radar Waveform\_21

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	835893	2	8	70	1588	1191	0	835893	0	1333332
2	544704	1	8	85	1988	0	0	1383376	1333333	2666665
3	2131463	3	8	60	1768	1951	1771	3516827	2666666	3999998
4	1146192	3	8	55	1383	1411	1779	4668509	3999999	5333331
5	1457709	1	8	90	1453	0	0	6130791	5333332	6666664
6	914720	2	8	70	1707	1299	0	7046964	6666665	7999997
7	1511350	1	8	95	1322	0	0	8561320	7999998	9333330
8	1952119	3	8	80	1339	1812	1333	10514761	9333331	10666663
9	1109299	1	8	100	1047	0	0	11628544	10666664	11999996

Total number of pulses in waveform = 17  
\*\*\*\*\*

### Type 5 Radar Waveform\_22

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	374745	2	17	65	1201	1996	0	374745	0	631578
2	820048	1	17	50	1950	0	0	1197990	631579	1263157
3	180369	3	17	55	1840	1830	1413	1380309	1263158	1894736
4	985304	3	17	65	1270	1954	1350	2370696	1894737	2526315
5	719124	3	17	65	1787	1679	1165	3094394	2526316	3157894
6	93071	1	17	55	1476	0	0	3192096	3157895	3789473
7	878073	3	17	60	1438	1795	1358	4071645	3789474	4421052
8	398266	3	17	50	1507	1107	1920	4474492	4421053	5052631
9	847195	2	17	75	1408	1722	0	5326221	5052632	5684210
10	384741	2	17	100	1852	1268	0	5714092	5684211	6315789
11	1185845	1	17	70	1309	0	0	6903057	6315790	6947368
12	78325	3	17	50	1580	1350	1310	6982691	6947369	7578947
13	1156643	2	17	80	1736	1236	0	8143574	7578948	8210526
14	77093	2	17	95	1718	1390	0	8223639	8210527	8842105
15	752756	3	17	80	1098	1599	1212	8979503	8842106	9473684
16	1034486	1	17	65	1178	0	0	10017898	9473685	10105263
17	444006	2	17	80	1834	1896	0	10463062	10105264	10736842
18	528601	1	17	60	1060	0	0	10995413	10736843	11368421
19	971397	1	17	80	1919	0	0	11967870	11368422	12000000

Total number of pulses in waveform = 39  
\*\*\*\*\*





### Type 5 Radar Waveform\_23

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	1152080	1	18	55	1074	0	0	1152080	0	1333332
2	282592	3	18	90	1838	1658	1835	1435746	1333333	2666665
3	2251574	3	18	55	1915	1550	1850	3692651	2666666	3999998
4	1305956	1	18	85	1702	0	0	5003922	3999999	5333331
5	1089454	3	18	95	1331	1478	1282	6095078	5333332	6666664
6	736319	1	18	85	1604	0	0	6835488	6666665	7999997
7	1575526	1	18	95	1583	0	0	8412618	7999998	9333330
8	1469114	3	18	85	1659	1740	1197	9883315	9333331	10666663
9	878754	3	18	60	1094	1210	1517	10766665	10666664	11999996

Total number of pulses in waveform = 19  
\*\*\*\*\*

### Type 5 Radar Waveform\_24

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	277919	2	6	55	1755	1921	0	277919	0	749999
2	1194645	2	6	95	1405	1992	0	1476240	750000	1499999
3	715043	2	6	60	1519	1474	0	2194680	1500000	2249999
4	719775	3	6	90	1231	1641	1390	2917448	2250000	2999999
5	151612	1	6	90	1418	0	0	3073322	3000000	3749999
6	1416607	1	6	80	1893	0	0	4491347	3750000	4499999
7	185055	1	6	100	1018	0	0	4678295	4500000	5249999
8	1283108	2	6	65	1388	1958	0	5962421	5250000	5999999
9	385918	1	6	55	1702	0	0	6351685	6000000	6749999
10	408131	3	6	80	1761	1557	1820	6761518	6750000	7499999
11	754861	2	6	80	1550	1639	0	7521517	7500000	8249999
12	826209	2	6	55	1641	1298	0	8350915	8250000	8999999
13	1139347	2	6	90	1012	1800	0	9493201	9000000	9749999
14	860592	1	6	75	1898	0	0	10356605	9750000	10499999
15	637694	2	6	80	1193	1079	0	10996197	10500000	11249999
16	567960	2	6	80	1070	1033	0	11566429	11250000	11999999

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_25

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	659503	2	9	80	1025	1184	0	659503	0	1090908
2	1016332	3	9	55	1482	1255	1945	1678044	1090909	2181817
3	839611	3	9	60	1848	1204	1027	2522337	2181818	3272726
4	1413522	3	9	50	1391	1270	1056	3939938	3272727	4363635
5	731316	2	9	80	1268	1009	0	4674971	4363636	5454544
6	902645	3	9	80	1876	1261	1683	5579893	5454545	6545453
7	1494298	2	9	85	1635	1206	0	7079011	6545454	7636362
8	1482926	3	9	65	1841	1904	1337	8564778	7636363	8727271
9	180992	3	9	50	1316	1052	1221	8750852	8727272	9818180
10	1558226	2	9	75	1583	1832	0	10312667	9818181	10909089
11	1631427	3	9	90	1640	1614	1129	11947509	10909090	11999998

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_26

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	243956	2	10	90	1744	1999	0	243956	0	631578
2	426396	2	10	80	1794	1956	0	674095	631579	1263157
3	640911	1	10	100	1811	0	0	1318756	1263158	1894736
4	971029	3	10	100	1913	1674	1499	2291596	1894737	2526315
5	820314	2	10	60	1971	1482	0	3116996	2526316	3157894
6	170341	1	10	70	1598	0	0	3290790	3157895	3789473
7	666983	3	10	50	1550	1798	1145	3959371	3789474	4421052
8	617662	1	10	50	1575	0	0	4581526	4421053	5052631
9	723133	2	10	75	1974	1745	0	5306234	5052632	5684210
10	742997	3	10	75	1026	1046	1490	6052950	5684211	6315789
11	372123	1	10	95	1067	0	0	6428635	6315790	6947368
12	1107379	1	10	85	1645	0	0	7537081	6947369	7578947
13	438116	1	10	60	1351	0	0	7976842	7578948	8210526
14	826714	3	10	90	1346	1099	1662	8804907	8210527	8842105
15	90400	3	10	70	1922	1540	1154	8899414	8842106	9473684
16	685754	2	10	50	1714	1107	0	9589784	9473685	10105263
17	660758	1	10	90	1841	0	0	10253363	10105264	10736842
18	837110	2	10	85	1263	1064	0	11092314	10736843	11368421
19	348370	1	10	50	1841	0	0	11443011	11368422	12000000

Total number of pulses in waveform = 35  
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### Type 5 Radar Waveform\_27

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	462539	1	19	90	1030	0	0	462539	0	631578
2	323780	2	19	90	1622	1996	0	787349	631579	1263157
3	983239	1	19	95	1056	0	0	1774206	1263158	1894736
4	610357	1	19	80	1835	0	0	2385619	1894737	2526315
5	722963	3	19	70	1738	1351	1068	3110417	2526316	3157894
6	61646	1	19	55	1953	0	0	3176220	3157895	3789473
7	1223081	1	19	65	1916	0	0	4401254	3789474	4421052
8	502578	2	19	70	1745	1338	0	4905748	4421053	5052631
9	616637	3	19	90	1422	1812	1210	5525468	5052632	5684210
10	173106	2	19	55	1286	1431	0	5703018	5684211	6315789
11	803686	1	19	95	1573	0	0	6509421	6315790	6947368
12	610130	1	19	80	1134	0	0	7121124	6947369	7578947
13	789013	1	19	60	1778	0	0	7911271	7578948	8210526
14	919892	1	19	90	1797	0	0	8832941	8210527	8842105
15	168644	2	19	50	1501	1426	0	9003382	8842106	9473684
16	605465	2	19	70	1722	1579	0	9611774	9473685	10105263
17	918653	3	19	65	1618	1926	1957	10533728	10105264	10736842
18	274134	3	19	70	1980	1572	1883	10813363	10736843	11368421
19	742970	2	19	65	1991	1537	0	11561768	11368422	12000000

Total number of pulses in waveform = 33  
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### 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	145649	2	12	90	1220	1152	0	145649	0	857142
2	848869	2	12	80	1540	1153	0	996890	857143	1714285
3	1038546	3	12	70	1272	1929	1794	2038129	1714286	2571428
4	820621	1	12	65	1144	0	0	2863745	2571429	3428571
5	565622	2	12	100	1833	1512	0	3430511	3428572	4285714
6	1696737	2	12	75	1654	1261	0	5130593	4285715	5142857
7	192893	2	12	55	1073	1073	0	5326401	5142858	6000000
8	1178855	1	12	75	1373	0	0	6507402	6000001	6857143
9	761484	1	12	50	1989	0	0	7270259	6857144	7714286
10	538678	3	12	100	1360	1763	1505	7810926	7714287	8571429
11	1529678	3	12	65	1037	1790	1300	9345232	8571430	9428572
12	600783	2	12	90	1539	1538	0	9950142	9428573	10285715
13	1139943	2	12	50	1133	1737	0	11093162	10285716	11142858
14	580287	3	12	55	1683	1437	1679	11676319	11142859	12000001

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_29

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	805641	3	5	80	1528	1104	1127	805641	0	1090908
2	283633	1	5	65	1208	0	0	1093033	1090909	2181817
3	1945536	2	5	85	1566	1229	0	3039777	2181818	3272726
4	699870	2	5	100	1943	1286	0	3742442	3272727	4363635
5	1446636	3	5	95	1649	1660	1206	5192307	4363636	5454544
6	837720	3	5	95	1340	1576	1297	6034542	5454545	6545453
7	709493	2	5	65	1750	1158	0	6748248	6545454	7636362
8	1666445	3	5	100	1263	1067	1478	8417601	7636363	8727271
9	906127	3	5	60	1673	1773	1375	9327536	8727272	9818180
10	559505	1	5	100	1180	0	0	9891862	9818181	10909089
11	1945969	1	5	55	1071	0	0	11839011	10909090	11999998

Total number of pulses in waveform = 24  
\*\*\*\*\*

### Type 5 Radar Waveform\_30

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	163853	3	14	60	1797	1286	1056	163853	0	749999
2	824807	3	14	80	1578	1284	1593	992799	750000	1499999
3	1181823	2	14	55	1918	1859	0	2179077	1500000	2249999
4	257219	3	14	80	1149	1925	1301	2440073	2250000	2999999
5	746064	2	14	95	1023	1382	0	3190512	3000000	3749999
6	1065287	3	14	70	1512	1231	1134	4258204	3750000	4499999
7	600005	3	14	50	1196	1219	1362	4862086	4500000	5249999
8	663645	3	14	85	1097	1972	1304	5529508	5250000	5999999
9	1023326	1	14	100	1545	0	0	6557207	6000000	6749999
10	563191	2	14	90	1185	1265	0	7121943	6750000	7499999
11	951362	1	14	80	1367	0	0	8075755	7500000	8249999
12	619454	1	14	50	1370	0	0	8696576	8250000	8999999
13	805864	3	14	50	1830	1359	1130	9503810	9000000	9749999
14	474532	2	14	55	1136	1171	0	9982661	9750000	10499999
15	795745	3	14	100	1382	1547	1722	10780713	10500000	11249999
16	1042471	1	14	95	1124	0	0	11827835	11250000	11999999

Total number of pulses in waveform = 36  
\*\*\*\*\*

## Radar Type 6 - Radar Statistical Performance

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



Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
20	5466	60	0	5501	0
31	5474	93	1	5520	3
46	5492	138	3	5502	9
51	5510	153	18	5491	54
52	5462	156	20	5503	60
81	5500	243	26	5495	78
92	5469	276	31	5497	93
--	--	--	41	5496	123
--	--	--	43	5474	129
--	--	--	45	5463	135
--	--	--	53	5510	159
--	--	--	59	5493	177
--	--	--	65	5484	195
--	--	--	73	5488	219
--	--	--	82	5515	246
--	--	--	84	5485	252

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5520	3	2	5514	6
3	5515	9	13	5512	39
14	5485	42	16	5482	48
15	5470	45	34	5501	102
20	5513	60	49	5464	147
34	5479	102	57	5483	171
60	5484	180	73	5463	219
62	5509	186	75	5479	225
74	5471	222	84	5507	252
78	5475	234	86	5506	258
87	5498	261	--	--	--
95	5490	285	--	--	--
96	5483	288	--	--	--
99	5462	297	--	--	--



Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5473	27	0	5496	0
28	5513	84	3	5519	9
33	5487	99	10	5510	30
39	5499	117	19	5482	57
54	5495	162	22	5489	66
55	5491	165	23	5498	69
68	5508	204	24	5463	72
77	5498	231	33	5516	99
93	5505	279	44	5492	132
97	5496	291	46	5515	138
--	--	--	60	5477	180
--	--	--	64	5466	192
--	--	--	70	5495	210
--	--	--	73	5465	219
--	--	--	79	5493	237
--	--	--	80	5508	240
--	--	--	90	5473	270
--	--	--	92	5520	276

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5469	15	0	5513	0
16	5466	48	4	5497	12
22	5500	66	10	5511	30
35	5467	105	15	5507	45
44	5505	132	18	5486	54
60	5475	180	20	5492	60
67	5463	201	28	5473	84
75	5504	225	33	5484	99
82	5499	246	36	5494	108
86	5484	258	55	5479	165
87	5496	261	74	5499	222
92	5488	276	88	5500	264



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--	--	--	99	5466	297
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Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5486	3	14	5512	42
4	5498	12	27	5508	81
11	5489	33	30	5505	90
17	5519	51	50	5481	150
22	5482	66	59	5475	177
37	5516	111	63	5496	189
45	5466	135	69	5494	207
62	5517	186	71	5470	213
70	5472	210	84	5480	252
77	5471	231	86	5462	258
86	5506	258	87	5511	261
88	5497	264	88	5513	264
96	5477	288	92	5517	276





Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
5	5517	15	5	5471	15
6	5522	18	6	5523	18
17	5498	51	19	5475	57
18	5486	54	42	5487	126
20	5505	60	44	5490	132
22	5529	66	49	5477	147
33	5510	99	52	5502	156
80	5512	240	53	5524	159
88	5475	264	56	5495	168
90	5504	270	61	5503	183
--	--	--	66	5511	198
--	--	--	77	5527	231
--	--	--	92	5472	276
--	--	--	97	5493	291

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5520	6	9	5494	27
6	5482	18	10	5519	30
41	5502	123	18	5471	54
42	5509	126	19	5522	57
48	5510	144	22	5485	66
50	5505	150	23	5499	69
51	5486	153	25	5523	75
61	5512	183	31	5514	93
68	5507	204	33	5489	99
71	5476	213	43	5473	129
72	5474	216	61	5492	183
82	5470	246	73	5504	219
--	--	--	77	5503	231
--	--	--	80	5488	240



Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5493	9	0	5482	0
7	5482	21	11	5511	33
18	5487	54	12	5489	36
21	5519	63	18	5491	54
24	5504	72	23	5483	69
39	5496	117	28	5519	84
46	5494	138	29	5493	87
49	5485	147	33	5477	99
61	5473	183	41	5498	123
66	5471	198	52	5496	156
70	5516	210	55	5476	165
93	5529	279	68	5500	204
94	5474	282	70	5523	210
--	--	--	75	5507	225
--	--	--	77	5502	231

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5520	0	5	5475	15
15	5522	45	8	5526	24
18	5495	54	13	5513	39
36	5516	108	17	5471	51
37	5488	111	25	5484	75
58	5498	174	30	5504	90
78	5492	234	32	5476	96
80	5487	240	33	5472	99
93	5475	279	34	5477	102
96	5507	288	35	5507	105
--	--	--	59	5512	177
--	--	--	67	5525	201
--	--	--	74	5508	222
--	--	--	75	5506	225
--	--	--	77	5515	231



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--	--	--	91	5519	273
--	--	--	98	5499	294



Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
37	5487	111	2	5490	6
41	5505	123	7	5505	21
47	5492	141	8	5517	24
51	5494	153	21	5516	63
--	--	--	22	5487	66
--	--	--	23	5479	69
--	--	--	26	5484	78
--	--	--	34	5471	102
--	--	--	36	5493	108
--	--	--	40	5492	120
--	--	--	66	5507	198
--	--	--	75	5514	225
--	--	--	87	5504	261
--	--	--	93	5524	279
--	--	--	96	5478	288

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5519	30	5	5530	15
37	5487	111	12	5479	36
43	5520	129	33	5502	99
48	5516	144	34	5527	102
49	5501	147	44	5497	132
50	5497	150	49	5488	147
51	5503	153	51	5494	153
64	5500	192	54	5495	162
68	5517	204	67	5509	201
86	5485	258	77	5537	231
97	5536	291	78	5480	234
--	--	--	86	5500	258
--	--	--	88	5504	264
--	--	--	91	5481	273
--	--	--	94	5521	282

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5516	0	2	5521	6
9	5498	27	3	5492	9
21	5511	63	5	5531	15
40	5539	120	27	5485	81
43	5527	129	40	5504	120
45	5505	135	44	5525	132
54	5513	162	47	5538	141
63	5493	189	58	5501	174
72	5506	216	59	5498	177
--	--	--	64	5532	192
--	--	--	75	5493	225
--	--	--	79	5530	237
--	--	--	82	5502	246



Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5492	9	6	5501	18
7	5539	21	19	5522	57
12	5532	36	20	5486	60
13	5521	39	39	5488	117
28	5494	84	44	5496	132
29	5503	87	46	5492	138
36	5508	108	54	5531	162
38	5488	114	63	5533	189
42	5527	126	64	5487	192
43	5497	129	76	5512	228
44	5506	132	79	5489	237
46	5493	138	80	5493	240
49	5479	147	--	--	--
61	5496	183	--	--	--
66	5513	198	--	--	--
75	5531	225	--	--	--
93	5524	279	--	--	--
95	5522	285	--	--	--
96	5518	288	--	--	--
98	5530	294	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5531	6	8	5529	24
4	5522	12	38	5487	114
5	5479	15	40	5521	120
51	5515	153	49	5482	147
55	5529	165	50	5483	150
59	5491	177	52	5480	156
69	5520	207	57	5519	171
73	5516	219	59	5527	177
98	5523	294	67	5532	201
--	--	--	69	5488	207



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--	--	--	77	5489	231
--	--	--	80	5491	240
--	--	--	90	5504	270

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5529	18	11	5523	33
11	5512	33	33	5488	99
34	5523	102	35	5504	105
43	5511	129	61	5489	183
62	5534	186	--	--	--
63	5537	189	--	--	--
73	5522	219	--	--	--
77	5521	231	--	--	--
87	5519	261	--	--	--
90	5491	270	--	--	--
99	5516	297	--	--	--





Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/08/26
Test Item	Radar Statistical Performance Check (802.11n-HT40 mode – 5510MHz)		

## Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5492	1	758	70	1
2	5492	1	878	61	1
3	5492	1	558	95	1
4	5492	1	918	58	1
5	5500	1	798	67	1
6	5500	1	938	57	1
7	5500	1	718	74	1
8	5500	1	678	78	1
9	5508	1	518	102	1
10	5508	1	698	76	1
11	5508	1	838	63	1
12	5508	1	598	89	1
13	5510	1	858	62	1
14	5510	1	538	99	1
15	5510	1	738	72	1
16	5510	1	1099	49	1
17	5510	1	1325	40	1
18	5510	1	1446	37	1
19	5512	1	1056	50	1
20	5512	1	759	70	1
21	5512	1	722	74	1
22	5512	1	1743	31	1
23	5520	1	633	84	1
24	5520	1	935	57	1
25	5520	1	666	80	1
26	5520	1	2382	23	1



Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5529	1	1051	51	1
28	5529	1	584	91	1
29	5529	1	1114	48	1
30	5529	1	1962	27	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	5492	2.1	193	28	1
2	5492	4.7	192	27	1
3	5492	2.5	190	26	1
4	5492	1.9	181	26	1
5	5500	2.7	213	28	1
6	5500	2.3	190	28	1
7	5500	2.2	181	27	1
8	5500	2.0	224	28	1
9	5508	2.3	209	27	1
10	5508	2.0	172	27	1
11	5508	4.3	158	26	1
12	5508	4.9	151	28	1
13	5510	1.3	153	28	1
14	5510	4.4	160	23	1
15	5510	2.3	158	26	1
16	5510	3.5	211	23	1
17	5510	3.2	226	28	1
18	5510	1.6	212	29	1
19	5512	1.1	201	28	1
20	5512	1.7	163	26	1
21	5512	1.5	200	24	1
22	5512	3.0	188	26	1
23	5520	4.7	207	24	1
24	5520	3.6	220	27	1
25	5520	3.5	205	24	1
26	5520	2.0	197	28	1
27	5529	1.2	172	23	1
28	5529	5.0	150	26	1
29	5529	5.0	194	26	1
30	5529	1.2	210	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	5492	9.1	429	18	1
2	5492	6.6	382	17	1
3	5492	9.5	384	17	1
4	5492	9.4	267	16	1
5	5500	8.0	303	16	1
6	5500	6.2	387	16	1
7	5500	9.9	482	16	1
8	5500	8.3	381	17	1
9	5508	7.7	391	16	1
10	5508	6.2	485	17	1
11	5508	6.9	285	16	1
12	5508	9.4	318	16	1
13	5510	9.7	287	16	1
14	5510	8.8	317	17	1
15	5510	9.5	435	17	1
16	5510	6.6	414	16	1
17	5510	7.2	269	18	1
18	5510	9.0	341	17	1
19	5512	7.1	458	18	1
20	5512	7.1	481	16	1
21	5512	6.2	482	18	1
22	5512	7.2	443	18	1
23	5520	9.2	316	17	1
24	5520	7.8	397	16	1
25	5520	6.7	442	17	1
26	5520	7.1	353	17	1
27	5529	6.6	475	16	1
28	5529	8.4	428	18	1
29	5529	8.5	473	17	1
30	5529	6.1	342	16	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	5492	16.5	396	15	1
2	5492	20.0	280	15	1
3	5492	15.5	284	16	1
4	5492	14.2	398	14	1
5	5500	16.4	428	16	1
6	5500	19.2	457	16	1
7	5500	13.0	273	13	1
8	5500	17.6	261	12	1
9	5508	19.7	323	16	1
10	5508	14.3	458	14	1
11	5508	18.5	440	15	1
12	5508	14.5	472	16	1
13	5510	12.8	323	14	1
14	5510	14.2	303	12	1
15	5510	14.5	379	15	1
16	5510	11.4	348	15	1
17	5510	12.6	352	15	1
18	5510	18.5	277	13	1
19	5512	14.4	359	12	1
20	5512	14.6	385	13	1
21	5512	13.0	346	12	1
22	5512	13.3	312	13	1
23	5520	13.2	490	16	1
24	5520	12.8	428	16	1
25	5520	12.6	294	14	1
26	5520	17.4	449	15	1
27	5529	17.8	407	12	1
28	5529	16.8	376	16	1
29	5529	17.9	485	14	1
30	5529	15.6	306	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:  $\frac{P_d1+P_d2+P_d3+P_d4}{4} = (100\%+100\%+100\%+100\%)/4 = 100\%$

4

(>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	5499.2	1	16	5510.0	1
2	5496.0	1	17	5510.0	1
3	5494.0	1	18	5510.0	1
4	5496.8	1	19	5510.0	1
5	5498.8	1	20	5510.0	1
6	5494.4	1	21	5524.2	1
7	5495.2	1	22	5525.0	1
8	5497.6	1	23	5527.0	1
9	5495.6	1	24	5522.2	1
10	5499.6	1	25	5525.4	1
11	5510.0	1	26	5521.4	1
12	5510.0	1	27	5523.4	1
13	5510.0	1	28	5525.8	1
14	5510.0	1	29	5526.6	1
15	5510.0	1	30	5521.8	1
Detection Percentage (%)					5296.8

Type 5 Radar Waveform_1										
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	484551	1	18	95	1293	0	0	484551	0	923076
2	595451	3	18	80	1597	1897	1940	1081295	923077	1846153
3	953923	3	18	75	1710	1045	1596	2040652	1846154	2769230
4	1145824	3	18	60	1251	1056	1465	3190827	2769231	3692307
5	588198	3	18	65	1513	1355	1378	3782797	3692308	4615384
6	1649205	1	18	75	1045	0	0	5436248	4615385	5538461
7	636022	3	18	55	1904	1991	1803	6073315	5538462	6461538
8	1259705	1	18	75	1245	0	0	7338718	6461539	7384615
9	384572	1	18	75	1496	0	0	7724535	7384616	8307692
10	1258524	3	18	55	1047	1744	1429	8984555	8307693	9230769
11	811921	2	18	75	1668	1792	0	9800696	9230770	10153846
12	890017	3	18	55	1050	1693	1145	10694173	10153847	11076923
13	1209650	1	18	50	1786	0	0	11907711	11076924	12000000
Total number of pulses in waveform = 28										
*****										



### Type 5 Radar Waveform\_2

Burst #	Interval (us)	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	705882	523347	2	10	70	1152	1232	0	523347	0	705881
2		726218	3	10	80	1205	1469	1219	1251949	705882	1411763
3		247714	2	10	60	1310	1545	0	1503556	1411764	2117645
4		647059	3	10	60	1375	1165	1703	2153470	2117646	2823527
5		1243392	1	10	70	1854	0	0	3401105	2823528	3529409
6		337634	2	10	65	1007	1575	0	3740593	3529410	4235291
7		698609	2	10	65	1575	1037	0	4441784	4235292	4941173
8		924318	3	10	100	1987	1278	1023	5368714	4941174	5647055
9		722403	1	10	55	1881	0	0	6095405	5647056	6352937
10		398243	3	10	75	1076	1665	1636	6495529	6352938	7058819
11		990768	1	10	90	1942	0	0	7490674	7058820	7764701
12		747852	1	10	95	1862	0	0	8240468	7764702	8470583
13		787426	1	10	80	1231	0	0	9029756	8470584	9176465
14		174294	1	10	85	1031	0	0	9205281	9176466	9882347
15		1346792	2	10	85	1277	1863	0	10553104	9882348	10588229
16		588677	2	10	60	1247	1164	0	11144921	10588230	11294111
17		609274	3	10	90	1897	1508	1264	11756606	11294112	11999993

Total number of pulses in waveform = 33  
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### 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	42668	2	5	80	1733	1333	0	42668	0	1333332
2	2580991	3	5	75	1051	1862	1369	2626725	1333333	2666665
3	176481	3	5	75	1245	1713	1331	2807488	2666666	3999998
4	2014712	3	5	70	1104	1591	1396	4826489	3999999	5333331
5	736777	3	5	55	1849	1041	1305	5567357	5333332	6666664
6	1394985	1	5	65	1121	0	0	6966537	6666665	7999997
7	1710298	1	5	70	1998	0	0	8677956	7999998	9333330
8	1657721	3	5	90	1604	1468	1142	10337675	9333331	10666663
9	1390091	3	5	75	1769	1726	1425	11731980	10666664	11999996

Total number of pulses in waveform = 22  
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### Type 5 Radar Waveform\_4

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	618713	1	12	70	1945	0	0	618713	0	923076
2	1025362	2	12	95	1250	1755	0	1646020	923077	1846153
3	1104706	3	12	95	1913	1138	1399	2753731	1846154	2769230
4	784676	2	12	60	1155	1294	0	3542857	2769231	3692307
5	766108	1	12	95	1246	0	0	4311414	3692308	4615384
6	1016025	1	12	75	1711	0	0	5328635	4615385	5538461
7	926067	1	12	85	1029	0	0	6256463	5538462	6461538
8	458960	1	12	70	1595	0	0	6716452	6461539	7384615
9	1358846	1	12	65	1326	0	0	8076893	7384616	8307692
10	914986	1	12	95	1506	0	0	8993205	8307693	9230769
11	1059435	1	12	65	1007	0	0	10054146	9230770	10153846
12	721048	3	12	95	1249	1638	1368	10776201	10153847	11076923
13	325423	3	12	65	1318	1813	1266	11105879	11076924	12000000

Total number of pulses in waveform = 21  
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### Type 5 Radar Waveform\_5

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	425174	3	17	90	1302	1167	1974	425174	0	799999
2	521475	2	17	60	1009	1663	0	951092	800000	1599999
3	1079257	1	17	55	1237	0	0	2033021	1600000	2399999
4	795122	1	17	55	1176	0	0	2829380	2400000	3199999
5	458881	2	17	85	1013	1337	0	3289437	3200000	3999999
6	1429507	2	17	80	1568	1603	0	4721294	4000000	4799999
7	770010	1	17	95	1995	0	0	5494475	4800000	5599999
8	798522	3	17	50	1582	1638	1127	6294992	5600000	6399999
9	154431	2	17	65	1451	1604	0	6453770	6400000	7199999
10	1458516	3	17	80	1691	1177	1845	7915341	7200000	7999999
11	238587	1	17	85	1472	0	0	8158641	8000000	8799999
12	952285	1	17	50	1993	0	0	9112398	8800000	9599999
13	521190	2	17	65	1889	1587	0	9635581	9600000	10399999
14	974781	2	17	85	1784	1851	1284	10613838	10400000	11199999
15	944577	3	17	95	1031	1327	1758	11563334	11200000	11999999

Total number of pulses in waveform = 30

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### Type 5 Radar Waveform\_6

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	600438	3	6	80	1820	1302	1000	600438	0	923076
2	929015	3	6	90	1667	1426	1199	1533575	923077	1846153
3	1016398	1	6	85	1196	0	0	2554265	1846154	2769230
4	1120649	1	6	65	1877	0	0	3676110	2769231	3692307
5	394544	3	6	65	1153	1682	1221	4072531	3692308	4615384
6	1370072	3	6	100	1416	1807	1671	5446659	4615385	5538461
7	388497	3	6	50	1175	1983	1597	5840050	5538462	6461538
8	1155015	2	6	60	1347	1070	0	6999820	6461539	7384615
9	517487	2	6	85	1400	1627	0	7519724	7384616	8307692
10	1250390	3	6	55	1002	1457	1116	8773141	8307693	9230769
11	674313	3	6	80	1041	1547	1536	9451029	9230770	10153846
12	1450952	2	6	70	1172	1398	0	10906105	10153847	11076923
13	912827	1	6	85	1135	0	0	11821502	11076924	12000000

Total number of pulses in waveform = 30

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### Type 5 Radar Waveform\_7

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	305304	3	8	85	1379	1684	1993	305304	0	923076
2	870722	3	8	60	1554	1639	1495	1181082	923077	1846153
3	1159094	3	8	75	1858	1396	1284	2344864	1846154	2769230
4	1248296	3	8	100	1832	1565	1816	3597698	2769231	3692307
5	331899	2	8	90	1660	1343	0	3934810	3692308	4615384
6	1349194	2	8	100	1941	1907	0	5287007	4615385	5538461
7	748750	2	8	95	1741	1465	0	6039605	5538462	6461538
8	1307566	2	8	65	1551	1076	0	7350377	6461539	7384615
9	674311	2	8	85	1616	1585	0	8027315	7384616	8307692
10	557932	1	8	55	1549	0	0	8588448	8307693	9230769
11	782098	2	8	100	1331	1781	0	9372095	9230770	10153846
12	1666661	2	8	65	1887	1958	0	11041868	10153847	11076923
13	903864	2	8	100	1988	1621	0	11949577	11076924	12000000

Total number of pulses in waveform = 29

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### Type 5 Radar Waveform\_8

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	320637	3	14	90	1233	1346	1324	320637	0	857142
2	1268979	2	14	95	1712	1676	0	1593519	857143	1714285
3	685572	3	14	65	1661	1620	1522	2282479	1714286	2571428
4	421833	1	14	85	1418	0	0	2709115	2571429	3428571
5	1519656	1	14	50	1110	0	0	4230189	3428572	4285714
6	417050	1	14	60	1269	0	0	4648349	4285715	5142857
7	1025571	2	14	85	1728	1148	0	5675189	5142858	6000000
8	425483	3	14	85	1228	1828	1928	6103548	6000001	6857143
9	831794	2	14	75	1372	1843	0	6940326	6857144	7714286
10	883036	1	14	100	1956	0	0	7826577	7714287	8571429
11	1319534	2	14	80	1949	1059	0	9148067	8571430	9428572
12	1115923	3	14	85	1670	1327	1450	10266998	9428573	10285715
13	88605	1	14	65	1868	0	0	10360050	10285716	11142858
14	1416090	3	14	70	1290	1142	1726	11778008	11142859	12000001

Total number of pulses in waveform = 28

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### Type 5 Radar Waveform\_9

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	163099	1	9	60	1735	0	0	163099	0	599999
2	838159	2	9	75	1171	1684	0	1002993	600000	1199999
3	631950	3	9	80	1622	1368	1388	1637798	1200000	1799999
4	534152	3	9	85	1697	1772	1853	2176328	1800000	2399999
5	403178	2	9	65	1536	1072	0	2584828	2400000	2999999
6	429421	3	9	60	1418	1055	1350	3016887	3000000	3599999
7	979588	3	9	90	1932	1832	1631	4000288	3600000	4199999
8	364434	2	9	65	1883	1097	0	4370097	4200000	4799999
9	737634	3	9	50	1099	1385	1481	5110711	4800000	5399999
10	804152	3	9	60	1426	1304	1698	5918828	5400000	5999999
11	377711	3	9	80	1126	1827	1969	6300887	6000000	6599999
12	811993	3	9	85	1620	1058	1195	7117782	6600000	7199999
13	551018	1	9	95	1614	0	0	7672673	7200000	7799999
14	453889	1	9	90	1262	0	0	8128176	7800000	8399999
15	301515	1	9	95	1503	0	0	8430953	8400000	8999999
16	795569	3	9	60	1344	1459	1655	9228025	9000000	9599999
17	824508	2	9	90	1970	1137	0	10056991	9600000	10199999
18	225032	1	9	80	1152	0	0	10285130	10200000	10799999
19	926497	3	9	70	1457	1842	1467	11212779	10800000	11399999
20	335411	2	9	85	1151	1888	0	11552956	11400000	11999999

Total number of pulses in waveform = 45

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### 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	745490	1	19	80	1915	0	0	745490	0	799999
2	713299	2	19	60	1496	1931	0	1460704	800000	1599999
3	491266	3	19	85	1009	1083	1666	1955397	1600000	2399999
4	491300	3	19	90	1855	1798	1585	2450455	2400000	3199999
5	1460803	1	19	85	1434	0	0	3916496	3200000	3999999
6	293184	3	19	95	1696	1410	1091	4211114	4000000	4799999
7	1334495	1	19	75	1392	0	0	5549806	4800000	5599999
8	528056	3	19	50	1280	1874	1798	6079254	5600000	6399999
9	929017	2	19	90	1547	1990	0	7013223	6400000	7199999
10	838470	2	19	60	1897	1519	0	7855230	7200000	7999999
11	415529	2	19	65	1115	1834	0	8274175	8000000	8799999
12	1011714	1	19	95	1671	0	0	9288838	8800000	9599999
13	419058	1	19	95	1704	0	0	9709567	9600000	10399999
14	908479	3	19	75	1891	1541	1111	10619750	10400000	11199999
15	649268	3	19	85	1840	1333	1131	11273561	11200000	11999999

Total number of pulses in waveform = 31

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### Type 5 Radar Waveform\_11

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	406386	2	18	60	1762	1122	0	406386	0	857142
2	479012	3	18	95	1196	1739	1741	888282	857143	1714285
3	1086941	3	18	100	1978	1412	1236	1979899	1714286	2571428
4	1290842	2	18	60	1196	1954	0	3275367	2571429	3428571
5	310727	2	18	90	1753	1706	0	3589244	3428572	4285714
6	1058412	3	18	55	1384	1383	1312	4651115	4285715	5142857
7	1159468	1	18	80	1175	0	0	5814662	5142858	6000000
8	713371	3	18	50	1030	1829	1572	6529208	6000001	6857143
9	563859	2	18	65	1362	1390	0	7097498	6857144	7714286
10	1239114	1	18	65	1558	0	0	8339364	7714287	8571429
11	831548	3	18	85	1300	1835	1736	9172470	8571430	9428572
12	607211	1	18	55	1342	0	0	9784552	9428573	10285715
13	1282022	2	18	75	1893	1374	0	11067916	10285716	11142858
14	752686	2	18	50	1961	1438	0	11823869	11142859	12000001

Total number of pulses in waveform = 30

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### Type 5 Radar Waveform\_12

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	101583	3	14	65	1668	1955	1894	101583	0	923076
2	1111539	1	14	100	1862	0	0	1218639	923077	1846153
3	821823	1	14	60	1019	0	0	2042324	1846154	2769230
4	782734	3	14	55	1614	1762	1973	2826077	2769231	3692307
5	1575938	2	14	80	1833	1309	0	4407364	3692308	4615384
6	530044	1	14	95	1260	0	0	4940550	4615385	5538461
7	1478623	1	14	65	1313	0	0	6420433	5538462	6461538
8	112853	1	14	65	1792	0	0	6534599	6461539	7384615
9	974908	2	14	75	1393	1857	0	7511299	7384616	8307692
10	829568	3	14	75	1260	1344	1291	8344117	8307693	9230769
11	1369691	2	14	75	1008	1609	0	9717703	9230770	10153846
12	997233	2	14	90	1691	1466	0	10717553	10153847	11076923
13	971475	1	14	70	1444	0	0	11692185	11076924	12000000

Total number of pulses in waveform = 23

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### 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	879696	1	9	80	1189	0	0	879696	0	923076
2	85474	2	9	75	1371	1061	0	966359	923077	1846153
3	1445658	3	9	80	1256	1814	1938	2414449	1846154	2769230
4	1188868	1	9	75	1806	0	0	3608325	2769231	3692307
5	161764	3	9	55	1335	1368	1654	3771895	3692308	4615384
6	1650900	2	9	70	1072	1944	0	5427152	4615385	5538461
7	826936	2	9	65	1863	1754	0	6257104	5538462	6461538
8	532947	1	9	75	1519	0	0	6793668	6461539	7384615
9	750753	1	9	55	1337	0	0	7545940	7384616	8307692
10	905831	1	9	50	1030	0	0	8453108	8307693	9230769
11	976965	3	9	80	1154	1110	1955	9431103	9230770	10153846
12	742825	1	9	90	1395	0	0	10178147	10153847	11076923
13	1335427	1	9	80	1229	0	0	11514969	11076924	12000000

Total number of pulses in waveform = 22

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### 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	284009	1	10	90	1833	0	0	284009	0	799999
2	1121180	2	10	85	1202	1373	0	1407022	800000	1599999
3	888309	2	10	85	1768	1819	0	2297906	1600000	2399999
4	135083	1	10	65	1821	0	0	2436576	2400000	3199999
5	1304770	3	10	75	1414	1590	1241	3743167	3200000	3999999
6	676658	2	10	100	1229	1120	0	4424070	4000000	4799999
7	705814	3	10	100	1810	1461	1135	5132233	4800000	5599999
8	828270	1	10	70	1305	0	0	5964909	5600000	6399999
9	758239	1	10	80	1847	0	0	6724453	6400000	7199999
10	537801	3	10	80	1247	1562	1780	7264101	7200000	7999999
11	1081706	1	10	75	1976	0	0	8350396	8000000	8799999
12	587042	1	10	65	1045	0	0	8939414	8800000	9599999
13	1025124	3	10	75	1592	1143	1625	9965583	9600000	10399999
14	865746	1	10	85	1310	0	0	10835689	10400000	11199999
15	575854	3	10	80	1854	1827	1925	11412853	11200000	11999999

Total number of pulses in waveform = 28  
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### Type 5 Radar Waveform\_15

Num of Bursts = 15  
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	72129	3	19	55	1850	1275	1829	72129	0	631578
2	1006818	1	19	65	1360	0	0	1083901	631579	1263157
3	431524	3	19	55	1520	1195	1026	1516785	1263158	1894736
4	736842	2	19	75	1210	1454	0	2257368	1894737	2526315
5	485543	3	19	65	1190	1952	1640	2745575	2526316	3157894
6	561874	3	19	75	1490	1333	1721	3312231	3157895	3789473
7	982754	1	19	70	1325	0	0	4299529	3789474	4421052
8	732856	2	19	90	1507	1557	0	5033710	4421053	5052631
9	556707	2	19	100	1059	1477	0	5593481	5052632	5684210
10	386950	3	19	50	1802	1396	1838	5982967	5684211	6315789
11	889675	2	19	50	1419	1713	0	6877478	6315790	6947368
12	446256	2	19	85	1678	1519	0	7326866	6947369	7578947
13	570090	1	19	60	1835	0	0	7900153	7578948	8210526
14	356208	1	19	95	1888	0	0	8268196	8210527	8842105
15	854352	3	19	70	1809	1080	1058	9114436	8842106	9473684
16	692350	1	19	60	1832	0	0	9810733	9473685	10105263
17	533328	1	19	100	1739	0	0	10345893	10105264	10736842
18	593449	2	19	55	1757	1728	0	10941081	10736843	11368421
19	466468	3	19	65	1435	1168	1956	11411034	11368422	12000000

Total number of pulses in waveform = 39  
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### Type 5 Radar Waveform\_16

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	437828	2	17	65	1127	1472	0	437828	0	1090908
2	764906	1	17	60	1485	0	0	1205333	1090909	2181817
3	1173760	3	17	50	1781	1280	1238	2380578	2181818	3272726
4	1134680	1	17	70	1131	0	0	3519557	3272727	4363635
5	1348261	3	17	60	1290	1373	1843	4868949	4363636	5454544
6	703195	3	17	75	1736	1731	1250	5576650	5454545	6545453
7	1342311	2	17	95	1228	1110	0	6923678	6545454	7636362
8	808511	3	17	90	1017	1617	1081	7734527	7636363	8727271
9	1860084	1	17	65	1011	0	0	9598326	8727272	9818180
10	797336	2	17	75	1656	1543	0	10396673	9818181	10909089
11	516380	3	17	80	1231	1580	1005	10916252	10909090	11999998

Total number of pulses in waveform = 24  
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### Type 5 Radar Waveform\_17

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	889779	2	12	80	1882	1423	0	889779	0	1499999
2	1745370	2	12	55	1145	1145	0	2638454	1500000	2999999
3	1624562	1	12	50	1693	0	0	4265306	3000000	4499999
4	1168960	2	12	100	1525	1068	0	5435959	4500000	5999999
5	1137483	1	12	85	1402	0	0	6576035	6000000	7499999
6	1835139	1	12	55	1402	0	0	8412576	7500000	8999999
7	1759339	2	12	55	1325	1007	0	10173317	9000000	10499999
8	866709	3	12	60	1954	1189	1417	11042358	10500000	11999999

Total number of pulses in waveform = 14

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### Type 5 Radar Waveform\_18

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	134410	3	5	100	1832	1965	1920	134410	0	749999
2	1004860	2	5	75	1444	1038	0	1144987	750000	1499999
3	585309	1	5	65	1456	0	0	1732778	1500000	2249999
4	1009504	1	5	50	1933	0	0	2743738	2250000	2999999
5	737193	2	5	85	1657	1867	0	3482864	3000000	3749999
6	593455	1	5	65	1273	0	0	4079843	3750000	4499999
7	1034026	1	5	65	1321	0	0	5115142	4500000	5249999
8	385373	3	5	85	1376	1735	1957	5501836	5250000	5999999
9	748480	1	5	95	1356	0	0	6255384	6000000	6749999
10	1134538	1	5	80	1060	0	0	7391278	6750000	7499999
11	382369	3	5	80	1773	1071	1311	7774707	7500000	8249999
12	566584	1	5	50	1194	0	0	8345446	8250000	8999999
13	964161	3	5	50	1115	1638	1579	9310801	9000000	9749999
14	609236	2	5	65	1133	1429	0	9924369	9750000	10499999
15	639586	3	5	95	1631	1351	1595	10566517	10500000	11249999
16	748817	2	5	70	1121	1418	0	11319911	11250000	11999999

Total number of pulses in waveform = 30

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### Type 5 Radar Waveform\_19

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	644439	1	6	100	1552	0	0	644439	0	749999
2	337758	1	6	95	1886	0	0	983749	750000	1499999
3	584794	2	6	60	1064	1034	0	1570429	1500000	2249999
4	895557	2	6	50	1500	1076	0	2468084	2250000	2999999
5	924337	3	6	85	1581	1217	1096	3394997	3000000	3749999
6	584637	3	6	75	1319	1541	1826	3983528	3750000	4499999
7	552307	1	6	80	1891	0	0	4540521	4500000	5249999
8	1065301	1	6	70	1871	0	0	5607713	5250000	5999999
9	700201	3	6	80	1667	1468	1323	6309785	6000000	6749999
10	1003530	3	6	90	1451	1126	1622	7317773	6750000	7499999
11	518067	3	6	85	1494	1255	1031	7840039	7500000	8249999
12	11103028	1	6	75	1204	0	0	8946847	8250000	8999999
13	111226	2	6	65	1736	1509	0	9059277	9000000	9749999
14	1069436	2	6	70	1061	1510	0	10131958	9750000	10499999
15	718724	3	6	90	1853	1704	1606	10853253	10500000	11249999
16	952959	1	6	95	1020	0	0	11811375	11250000	11999999

Total number of pulses in waveform = 32

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### Type 5 Radar Waveform\_20

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	385868	1	8	95	1244	0	0	385868	0	631578
2	718352	1	8	55	1895	0	0	1105464	631579	1263157
3	363132	1	8	80	1708	0	0	1470491	1263158	1894736
4	962116	3	8	100	1434	1102	1735	2434315	1894737	2526315
5	319934	2	8	70	1975	1988	0	2768520	2526316	3157894
6	646299	2	8	60	1835	1171	0	3408782	3157895	3789473
7	556930	1	8	80	1327	0	0	3968718	3789474	4421052
8	774634	1	8	60	1532	0	0	4744579	4421053	5052631
9	314633	3	8	65	1636	1638	1396	5060744	5052632	5684210
10	1223272	3	8	60	1398	1149	1022	6286686	5684211	6315789
11	537489	2	8	95	1772	1092	0	6829744	6315790	6947368
12	482503	1	8	100	1141	0	0	7315111	6947369	7578947
13	608759	2	8	70	1449	1674	0	7925011	7578948	8210526
14	458349	3	8	95	1397	1071	1002	8386483	8210527	8842105
15	699291	2	8	75	1872	1763	0	9089244	8842106	9473684
16	395889	1	8	85	1757	0	0	9488748	9473685	10105263
17	751422	3	8	65	1002	1882	1933	10241927	10105264	10736842
18	972292	2	8	50	1538	1806	0	11219016	10736843	11368421
19	584668	3	8	80	1284	1825	1814	11806928	11368422	12000000

Total number of pulses in waveform = 97  
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### Type 5 Radar Waveform\_21

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	744502	3	12	70	1277	1795	1059	744502	0	1499999
2	846719	2	12	50	1991	1067	0	1595352	1500000	2999999
3	2079250	3	12	60	1656	1144	1991	3677660	3000000	4499999
4	1302361	1	12	65	1293	0	0	4984812	4500000	5999999
5	2204953	3	12	95	1553	1687	1411	7191058	6000000	7499999
6	954330	1	12	70	1325	0	0	8150039	7500000	8999999
7	2214128	3	12	85	1666	1084	1753	10365492	9000000	10499999
8	764972	1	12	60	1382	0	0	11134967	10500000	11999999

Total number of pulses in waveform = 17  
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### Type 5 Radar Waveform\_22

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	1283126	3	10	95	1510	1646	1976	1283126	0	1333332
2	609415	2	10	80	1459	1575	0	1897673	1333333	2666665
3	1379275	1	10	85	1495	0	0	3279982	2666666	3999998
4	1860338	1	10	95	1001	0	0	5141815	3999999	5333331
5	435992	3	10	100	1817	1859	1505	5578808	5333332	6666664
6	2079907	2	10	80	1992	1024	0	7663896	6666665	7999997
7	1203747	3	10	90	1843	1831	1125	8870659	7999998	9333330
8	1013794	1	10	65	1167	0	0	9889252	9333331	10666663
9	1411120	1	10	65	1987	0	0	11301539	10666664	11999996

Total number of pulses in waveform = 17  
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### Type 5 Radar Waveform\_23

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	919996	1	5	90	1729	0	0	919996	0	999999
2	741344	1	5	60	1189	0	0	1663069	1000000	1999999
3	928412	2	5	60	1089	1100	0	2592670	2000000	2999999
4	728694	2	5	80	1980	1708	0	3323553	3000000	3999999
5	1193062	2	5	75	1336	1202	0	4520303	4000000	4999999
6	736974	3	5	65	1528	1628	1610	5259815	5000000	5999999
7	1537373	1	5	85	1702	0	0	6801954	6000000	6999999
8	513113	1	5	95	1208	0	0	7316769	7000000	7999999
9	1211652	1	5	50	1967	0	0	8529629	8000000	8999999
10	802290	3	5	90	1374	1694	1978	9333886	9000000	9999999
11	1110153	3	5	85	1560	1300	1475	10449085	10000000	10999999
12	591782	3	5	55	1757	1356	1428	11045202	11000000	11999999

Total number of pulses in waveform = 23  
\*\*\*\*\*

### Type 5 Radar Waveform\_24

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	215139	1	17	75	1821	0	0	215139	0	631578
2	654641	1	17	85	1928	0	0	871601	631579	1263157
3	936605	3	17	100	1059	1887	1838	1810134	1263158	1894736
4	207971	2	17	90	1624	1906	0	2022889	1894737	2526315
5	984266	3	17	85	1885	1249	1176	3010685	2526316	3157894
6	551562	2	17	100	1973	1590	0	3566557	3157895	3789473
7	586461	3	17	85	1921	1344	1470	4156581	3789474	4421052
8	459936	3	17	90	1736	1612	1582	4621252	4421053	5052631
9	556146	3	17	90	1311	1191	1242	5182328	5052632	5684210
10	1028539	2	17	60	1651	1843	0	6214611	5684211	6315789
11	323954	1	17	90	1096	0	0	6542059	6315790	6947368
12	791414	1	17	55	1320	0	0	7334569	6947369	7578947
13	374019	1	17	65	1559	0	0	7709908	7578948	8210526
14	1061627	2	17	90	1790	1993	0	8763094	8210527	8842105
15	102066	3	17	55	1940	1212	1092	8868943	8842106	9473684
16	1037660	2	17	60	1495	1789	0	9910847	9473685	10105263
17	583415	1	17	85	1668	0	0	10497546	10105264	10736842
18	450818	2	17	95	1245	1983	0	10949932	10736843	11368421
19	852254	3	17	50	1175	1709	1488	11805414	11368422	12000000

Total number of pulses in waveform = 39  
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### Type 5 Radar Waveform\_25

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	610898	2	9	70	1770	1366	0	610898	0	1199999
2	796468	3	9	100	1160	1762	1985	1410502	1200000	2399999
3	1285955	1	9	55	1190	0	0	2701364	2400000	3599999
4	1243391	2	9	55	1894	1404	0	3945945	3600000	4799999
5	1462938	1	9	60	1192	0	0	5412181	4800000	5999999
6	1530807	2	9	75	1681	1984	0	6944180	6000000	7199999
7	1267173	3	9	65	1473	1874	1194	8215018	7200000	8399999
8	548632	2	9	75	1217	1499	0	8768191	8400000	9599999
9	1482519	3	9	65	1614	1301	1302	10253426	9600000	10799999
10	1068735	3	9	80	1363	1162	1706	11326378	10800000	11999999

Total number of pulses in waveform = 22  
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### 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	494917	2	19	50	1983	1886	0	494917	0	1199999
2	1425041	3	19	55	1743	1426	1198	1923827	1200000	2399999
3	1359581	2	19	75	1596	1650	0	3287775	2400000	3599999
4	421834	2	19	60	1509	1951	0	3712855	3600000	4799999
5	1206105	3	19	70	1037	1070	1994	4922420	4800000	5999999
6	1885701	1	19	70	1448	0	0	6812222	6000000	7199999
7	847904	2	19	100	1707	1127	0	7661574	7200000	8399999
8	982939	3	19	90	1173	1066	1919	8647347	8400000	9599999
9	1149770	2	19	100	1598	1774	0	9801275	9600000	10799999
10	1912145	2	19	90	1247	1179	0	11716792	10800000	11999999

Total number of pulses in waveform = 22

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### Type 5 Radar Waveform\_27

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	87368	1	14	95	1568	0	0	87368	0	705881
2	1289538	1	14	95	1767	0	0	1378474	705882	1411763
3	358845	3	14	65	1692	1324	1896	1739086	1411764	2117645
4	457850	3	14	90	1326	1062	1814	2201848	2117646	2823527
5	741476	1	14	70	1784	0	0	2947526	2823528	3529409
6	913840	1	14	85	1005	0	0	3863150	3529410	4235291
7	719820	3	14	70	1449	1719	1215	4583975	4235292	4941173
8	851256	1	14	90	1442	0	0	5439614	4941174	5647055
9	234828	2	14	75	1386	1300	0	5675884	5647056	6352937
10	930075	1	14	65	1888	0	0	6608645	6352938	7058819
11	747151	1	14	90	1950	0	0	7357684	7058820	7764701
12	577112	2	14	90	1983	1372	0	7936746	7764702	8470583
13	1092735	1	14	95	1141	0	0	9032836	8470584	9176465
14	373375	1	14	55	1749	0	0	9407352	9176466	9882347
15	1162582	3	14	95	1923	1225	1666	10571683	9882348	10588229
16	633141	1	14	60	1039	0	0	11209638	10588230	11294111
17	321487	3	14	55	1515	1265	1838	11532164	11294112	11999993

Total number of pulses in waveform = 29

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### Type 5 Radar Waveform\_28

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	531312	1	8	80	1963	0	0	531312	0	749999
2	770741	2	8	100	1131	1888	0	1304016	750000	1499999
3	743470	3	8	95	1686	1904	1032	2050505	1500000	2249999
4	464567	1	8	70	1956	0	0	2519694	2250000	2999999
5	628961	1	8	55	1332	0	0	3150611	3000000	3749999
6	1020736	1	8	70	1946	0	0	4172679	3750000	4499999
7	349201	1	8	60	1507	0	0	4523826	4500000	5249999
8	1203571	1	8	100	1532	0	0	5728904	5250000	5999999
9	689621	2	8	65	1383	1103	0	6420057	6000000	6749999
10	994622	3	8	65	1447	1067	1574	7417165	6750000	7499999
11	197662	2	8	70	1626	1004	0	7618915	7500000	8249999
12	911778	2	8	60	1918	1175	0	8533323	8250000	8999999
13	565970	1	8	60	1612	0	0	9102386	9000000	9749999
14	1166793	1	8	70	1393	0	0	10270791	9750000	10499999
15	421388	3	8	50	1243	1052	1192	10693572	10500000	11249999
16	1134216	1	8	90	1122	0	0	11831275	11250000	11999999

Total number of pulses in waveform = 26

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### Type 5 Radar Waveform\_29

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	734300	2	6	85	1593	1093	0	734300	0	749999
2	317736	2	6	85	1978	1508	0	1054722	750000	1499999
3	882799	1	6	60	1901	0	0	1941007	1500000	2249999
4	616709	3	6	90	1354	1748	1644	2559617	2250000	2999999
5	688683	2	6	100	1382	1100	0	3253046	3000000	3749999
6	833856	3	6	80	1783	1112	1038	4089384	3750000	4499999
7	560014	3	6	70	1890	1938	1936	4653331	4500000	5249999
8	1237321	2	6	60	1470	1422	0	5896416	5250000	5999999
9	665170	1	6	50	1177	0	0	6564478	6000000	6749999
10	668151	3	6	50	1634	1117	1779	7233806	6750000	7499999
11	310635	3	6	60	1940	1636	1484	7548971	7500000	8249999
12	1126697	1	6	60	1282	0	0	8680728	8250000	8999999
13	905006	2	6	65	1824	1718	0	9587016	9000000	9749999
14	643085	1	6	95	1646	0	0	10233643	9750000	10499999
15	740027	1	6	50	1137	0	0	10975316	10500000	11249999
16	372461	2	6	50	1454	1715	0	11348914	11250000	11999999

Total number of pulses in waveform = 32  
\*\*\*\*\*

### Type 5 Radar Waveform\_30

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	283781	1	18	100	1280	0	0	283781	0	749999
2	819976	1	18	75	1009	0	0	1105037	750000	1499999
3	592075	3	18	85	1000	1621	1213	1698121	1500000	2249999
4	904131	1	18	75	1670	0	0	2606086	2250000	2999999
5	1048430	2	18	70	1507	1709	0	3656186	3000000	3749999
6	525977	1	18	80	1650	0	0	4185379	3750000	4499999
7	359151	1	18	60	1103	0	0	4546180	4500000	5249999
8	1304570	1	18	85	1572	0	0	5851853	5250000	5999999
9	401801	3	18	50	1292	1177	1439	6255226	6000000	6749999
10	1048124	1	18	80	1097	0	0	7307258	6750000	7499999
11	675823	1	18	65	1227	0	0	7984178	7500000	8249999
12	702732	3	18	90	1267	1418	1651	8688137	8250000	8999999
13	728179	3	18	55	1552	1795	1892	9420652	9000000	9749999
14	805121	2	18	75	1558	1546	0	10231012	9750000	10499999
15	289720	2	18	55	1447	1460	0	10523836	10500000	11249999
16	1293072	1	18	70	1501	0	0	11819815	11250000	11999999

Total number of pulses in waveform = 27  
\*\*\*\*\*



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	5492	1	16	5510	1
2	5492	1	17	5510	1
3	5492	1	18	5510	1
4	5492	1	19	5512	1
5	5500	1	20	5512	1
6	5500	1	21	5512	1
7	5500	1	22	5512	1
8	5500	1	23	5520	1
9	5508	1	24	5520	1
10	5508	1	25	5520	1
11	5508	1	26	5520	1
12	5508	1	27	5529	1
13	5510	1	28	5529	1
14	5510	1	29	5529	1
15	5510	1	30	5529	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5517	0	5	5498	15
6	5483	18	7	5508	21
9	5492	27	8	5487	24
10	5522	30	9	5511	27
34	5481	102	36	5492	108
42	5509	126	50	5469	150
45	5513	135	52	5501	156
53	5502	159	54	5473	162
56	5497	168	71	5503	213
57	5463	171	73	5490	219
59	5504	177	82	5515	246
68	5488	204	84	5506	252
75	5510	225	92	5520	276
77	5482	231	--	--	--
84	5479	252	--	--	--
98	5478	294	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
21	5511	63	3	5481	9
31	5499	93	13	5471	39
37	5516	111	19	5506	57
49	5484	147	33	5521	99
72	5473	216	34	5516	102
77	5490	231	37	5498	111
92	5519	276	46	5499	138
97	5476	291	51	5497	153
--	--	--	64	5490	192
--	--	--	70	5493	210
--	--	--	79	5522	237
--	--	--	85	5491	255
--	--	--	91	5518	273
--	--	--	92	5501	276
--	--	--	94	5512	282
--	--	--	96	5488	288

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5489	18	20	5489	60
13	5472	39	24	5477	72
17	5507	51	30	5503	90
20	5509	60	39	5498	117
22	5528	66	49	5507	147
35	5523	105	54	5473	162
40	5504	120	58	5497	174
50	5486	150	62	5470	186
52	5493	156	66	5479	198
64	5513	192	71	5502	213
66	5521	198	80	5483	240
67	5526	201	84	5521	252
77	5494	231	87	5528	261
79	5522	237	--	--	--
92	5517	276	--	--	--
96	5476	288	--	--	--

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5520	18	19	5529	57
16	5479	48	21	5479	63
17	5518	51	27	5510	81
25	5496	75	43	5522	129
39	5508	117	57	5512	171
41	5521	123	74	5476	222
65	5504	195	86	5516	258
69	5494	207	88	5485	264
97	5480	291	95	5514	285
99	5489	297	--	--	--



Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5501	3	3	5519	9
2	5482	6	7	5482	21
6	5521	18	15	5529	45
9	5484	27	16	5528	48
10	5525	30	23	5478	69
21	5515	63	25	5533	75
24	5486	72	29	5489	87
34	5520	102	32	5487	96
46	5530	138	33	5518	99
54	5528	162	38	5510	114
55	5538	165	40	5524	120
63	5537	189	45	5530	135
66	5516	198	53	5494	159
79	5508	237	57	5483	171
91	5481	273	61	5485	183
99	5522	297	62	5537	186
--	--	--	82	5531	246
--	--	--	83	5492	249

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5503	15	17	5532	51
7	5492	21	22	5531	66
16	5525	48	26	5519	78
23	5538	69	29	5516	87
25	5493	75	34	5483	102
40	5508	120	41	5510	123
45	5511	135	45	5487	135
47	5517	141	53	5514	159
50	5526	150	57	5501	171
51	5513	153	61	5522	183
53	5527	159	62	5529	186
60	5534	180	87	5538	261



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63	5515	189	89	5530	267
82	5529	246	98	5504	294
93	5490	279	--	--	--



Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5525	15	5	5521	15
8	5481	24	24	5531	72
11	5518	33	47	5518	141
23	5495	69	56	5512	168
27	5493	81	64	5535	192
35	5487	105	73	5538	219
36	5539	108	74	5523	222
57	5507	171	79	5481	237
58	5536	174	81	5506	243
62	5516	186	94	5490	282
63	5515	189	95	5496	285
65	5497	195	97	5539	291
79	5519	237	--	--	--
87	5514	261	--	--	--
88	5524	264	--	--	--

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5486	9	4	5488	12
8	5489	24	21	5532	63
18	5492	54	24	5496	72
26	5517	78	30	5530	90
27	5487	81	31	5511	93
29	5540	87	37	5480	111
34	5488	102	39	5491	117
41	5481	123	44	5537	132
45	5523	135	45	5489	135
48	5511	144	50	5481	150
49	5528	147	62	5509	186
50	5513	150	63	5524	189
51	5524	153	68	5498	204
54	5537	162	70	5501	210
--	--	--	74	5485	222





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--	--	--	81	5500	243
--	--	--	90	5529	270



Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
13	5489	39	2	5489	6
30	5524	90	6	5538	18
37	5503	111	22	5483	66
43	5526	129	23	5485	69
49	5505	147	24	5519	72
51	5534	153	32	5499	96
52	5497	156	35	5522	105
54	5499	162	48	5510	144
57	5530	171	54	5511	162
61	5494	183	58	5529	174
64	5485	192	62	5480	186
66	5506	198	74	5512	222
76	5483	228	76	5492	228
83	5481	249	--	--	--
86	5517	258	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5528	6	2	5541	6
5	5494	15	7	5494	21
26	5490	78	8	5482	24
29	5533	87	22	5497	66
30	5527	90	24	5520	72
32	5537	96	44	5542	132
33	5509	99	46	5488	138
58	5513	174	61	5518	183
60	5521	180	65	5510	195
65	5486	195	67	5536	201
66	5526	198	69	5535	207
69	5503	207	70	5499	210
74	5539	222	78	5516	234
76	5499	228	79	5540	237
77	5531	231	85	5517	255



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82	5506	246	89	5538	267
86	5514	258	99	5513	297



Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5502	15	6	5529	18
9	5497	27	7	5487	21
13	5531	39	30	5534	90
14	5516	42	31	5509	93
56	5506	168	35	5536	105
58	5510	174	39	5528	117
62	5514	186	49	5493	147
66	5494	198	54	5517	162
75	5507	225	68	5484	204
77	5537	231	94	5535	282
83	5503	249	--	--	--
87	5504	261	--	--	--
89	5527	267	--	--	--
94	5535	282	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5545	3	6	5497	18
2	5528	6	15	5493	45
10	5518	30	18	5546	54
11	5527	33	20	5515	60
39	5520	117	26	5544	78
67	5510	201	28	5543	84
70	5517	210	33	5540	99
74	5490	222	35	5548	105
82	5533	246	52	5531	156
85	5516	255	53	5492	159
90	5505	270	54	5536	162
--	--	--	79	5507	237
--	--	--	91	5525	273
--	--	--	98	5504	294



Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5548	27	3	5532	9
13	5512	39	5	5504	15
21	5495	63	9	5546	27
26	5527	78	19	5534	57
33	5494	99	23	5539	69
34	5500	102	24	5523	72
37	5497	111	35	5525	105
42	5498	126	38	5542	114
44	5503	132	50	5529	150
52	5522	156	63	5530	189
79	5538	237	81	5516	243
84	5511	252	98	5541	294
93	5529	279	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5528	0	6	5556	18
4	5538	12	9	5533	27
19	5502	57	11	5543	33
42	5506	126	22	5544	66
43	5529	129	28	5538	84
51	5546	153	37	5529	111
58	5517	174	75	5509	225
65	5507	195	96	5535	288
66	5523	198	98	5498	294
94	5515	282	--	--	--

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5499	3	2	5507	6
13	5526	39	3	5524	9
24	5536	72	12	5502	36
36	5509	108	16	5549	48
40	5547	120	23	5529	69
41	5535	123	30	5522	90
50	5544	150	42	5536	126
51	5551	153	59	5516	177
74	5514	222	64	5521	192
88	5519	264	79	5527	237
--	--	--	80	5503	240
--	--	--	97	5538	291



Product	WIFI dual band 4 GE LAN GPON HGU	Temperature	27°C
Test Engineer	Amy Zhang	Relative Humidity	65%
Test Site	TR5	Test Date	2018/11/16
Test Item	Radar Statistical Performance Check (802.11ac-VHT80 mode – 5530MHz)		

## Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	1	678	78	1
2	5491	1	798	67	1
3	5500	1	878	61	1
4	5500	1	598	89	1
5	5509	1	638	83	1
6	5509	1	698	76	1
7	5510	1	578	92	1
8	5510	1	518	102	1
9	5511	1	938	57	1
10	5511	1	838	63	1
11	5520	1	658	81	1
12	5520	1	858	62	1
13	5529	1	558	95	1
14	5529	1	898	59	1
15	5530	1	718	74	1
16	5530	1	1830	29	1
17	5531	1	2906	19	1
18	5531	1	1178	45	1
19	5540	1	1458	37	1
20	5540	1	725	73	1
21	5549	1	1783	30	1
22	5549	1	2747	20	1
23	5550	1	3017	18	1
24	5550	1	1084	49	1
25	5551	1	835	64	1
26	5551	1	2553	21	1



Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
27	5560	1	1795	30	1
28	5560	1	719	74	1
29	5569	1	1055	51	1
30	5569	1	2543	21	1
Detection Percentage (%)					100%





## Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	4.1	217	24	1
2	5491	4.7	183	26	1
3	5500	4.3	154	28	1
4	5500	2.1	182	23	1
5	5509	3.2	199	24	1
6	5509	3.3	229	28	1
7	5510	4.5	156	29	1
8	5510	2.2	151	29	1
9	5511	1.4	198	29	1
10	5511	1.7	176	23	1
11	5520	4.8	178	25	1
12	5520	3.4	151	24	1
13	5529	3.2	190	25	1
14	5529	4.3	154	27	1
15	5530	2.5	201	27	1
16	5530	4.0	176	26	1
17	5531	2.5	185	23	1
18	5531	1.1	161	23	1
19	5540	3.9	181	27	1
20	5540	4.5	201	26	1
21	5549	2.3	169	26	1
22	5549	2.1	180	26	1
23	5550	1.1	153	25	1
24	5550	4.5	175	23	1
25	5551	3.4	172	26	1
26	5551	1.3	190	29	1
27	5560	4.5	199	26	1
28	5560	2.0	152	23	1
29	5569	2.7	180	25	1
30	5569	3.5	168	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	5491	8.3	390	16	1
2	5491	7.4	435	18	1
3	5500	8.6	436	18	1
4	5500	7.8	381	16	1
5	5509	6.8	446	18	1
6	5509	7.8	413	16	1
7	5510	7.7	263	18	1
8	5510	8.4	284	18	1
9	5511	6.9	257	18	1
10	5511	9.5	282	16	1
11	5520	7.5	477	18	1
12	5520	9.4	260	18	1
13	5529	6.2	275	17	1
14	5529	9.7	251	18	1
15	5530	7.2	454	18	1
16	5530	8.3	400	16	1
17	5531	9.4	451	18	1
18	5531	6.6	447	16	1
19	5540	7.5	382	16	1
20	5540	8.1	408	17	1
21	5549	6.6	251	17	1
22	5549	8.9	413	17	1
23	5550	9.3	455	18	1
24	5550	7.2	378	16	1
25	5551	7.1	471	18	1
26	5551	7.1	402	17	1
27	5560	9.8	251	17	1
28	5560	8.8	386	18	1
29	5569	7.9	444	17	1
30	5569	9.8	394	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	5491	11.7	454	12	1
2	5491	15.5	436	13	1
3	5500	13.5	311	12	1
4	5500	12.6	317	16	1
5	5509	12.6	404	12	1
6	5509	16.8	493	14	1
7	5510	17.6	305	16	1
8	5510	16.9	303	15	1
9	5511	14.6	355	12	1
10	5511	13.8	365	13	1
11	5520	14.2	381	13	1
12	5520	13.5	292	12	1
13	5529	12.4	417	15	1
14	5529	19.1	440	16	1
15	5530	14.1	473	16	1
16	5530	14.8	396	12	1
17	5531	15.8	277	13	1
18	5531	19.6	298	15	1
19	5540	13.0	457	13	1
20	5540	11.6	272	13	1
21	5549	15.3	437	13	1
22	5549	17.8	350	15	1
23	5550	19.7	295	12	1
24	5550	19.4	293	16	1
25	5551	17.4	265	12	1
26	5551	14.9	255	14	1
27	5560	13.5	260	16	1
28	5560	18.1	452	12	1
29	5569	14.6	428	15	1
30	5569	11.5	293	15	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:  $\frac{P_d1+P_d2+P_d3+P_d4}{4} = (100\%+100\%+100\%+100\%)/4 = 100\%$

4

(>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	5495.0	1	16	5530.0	1
2	5498.2	1	17	5530.0	1
3	5494.2	1	18	5530.0	1
4	5496.6	1	19	5530.0	1
5	5493.4	1	20	5530.0	1
6	5497.8	1	21	5563.4	1
7	5493.0	1	22	5565.8	1
8	5494.6	1	23	5565.4	1
9	5498.6	1	24	5564.2	1
10	5495.8	1	25	5567.0	1
11	5530.0	1	26	5561.8	1
12	5530.0	1	27	5565.0	1
13	5530.0	1	28	5561.4	1
14	5530.0	1	29	5562.2	1
15	5530.0	1	30	5566.6	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1										
Num of Bursts = 11										
Burst Interval (us)= 1090909										
Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	813828	3	10	100	1129	1327	1876	813828	0	1090908
2	644638	3	10	90	1008	1233	1344	1462798	1090909	2181817
3	992643	1	10	80	1085	0	0	2459026	2181818	3272726
4	1805287	2	10	90	1029	1232	0	4265398	3272727	4363635
5	924522	3	10	75	1427	1620	1881	5192181	4363636	5454544
6	1217361	2	10	75	1119	1007	0	6414470	5454545	6545453
7	657833	2	10	55	1128	1122	0	7074429	6545454	7636362
8	657584	3	10	60	1330	1263	1205	7734263	7636363	8727271
9	2048212	2	10	60	1635	1481	0	9786273	8727272	9818180
10	639065	1	10	55	1776	0	0	10428454	9818181	10909089
11	1191622	1	10	65	1248	0	0	11621852	10909090	11999998
Total number of pulses in waveform = 23										
*****										



### Type 5 Radar Waveform\_2

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	424010	2	18	60	1325	1657	0	424010	0	1090908
2	742251	3	18	50	1308	1189	1715	1169243	1090909	2181817
3	1829137	3	18	85	1053	1756	1929	3002592	2181818	3272726
4	1319296	3	18	85	1668	1759	1941	4326626	3272727	4363635
5	734562	2	18	100	1243	1580	0	5066556	4363636	5454544
6	927535	3	18	95	1175	1289	1880	5996914	5454545	6545453
7	1223524	3	18	90	1795	1575	1148	7224782	6545454	7636362
8	427730	3	18	65	1693	1027	1164	7657030	7636363	8727271
9	1647121	2	18	90	1322	1365	0	9308035	8727272	9818180
10	712737	2	18	75	1322	1819	0	10023459	9818181	10909089
11	1015372	2	18	95	1837	1120	0	11041972	10909090	11999988

Total number of pulses in waveform = 28

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### Type 5 Radar Waveform\_3

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	665245	3	8	50	1083	1226	1523	665245	0	749999
2	820594	3	8	95	1215	1182	1917	1489671	750000	1499999
3	633457	2	8	50	1670	1106	0	2127442	1500000	2249999
4	213035	2	8	85	1154	1728	0	2343253	2250000	2999999
5	927273	1	8	60	1053	0	0	3273408	3000000	3749999
6	1169507	2	8	85	1927	1529	0	4443968	3750000	4499999
7	209716	1	8	70	1674	0	0	4657140	4500000	5249999
8	737564	3	8	55	1957	1404	1227	5396378	5250000	5999999
9	1280559	1	8	70	1776	0	0	6681525	6000000	6749999
10	620697	2	8	60	1362	1334	0	7303998	6750000	7499999
11	489740	2	8	100	1556	1997	0	7796434	7500000	8249999
12	1193147	2	8	65	1214	1806	0	8993134	8250000	8999999
13	649796	2	8	75	1250	1169	0	9645950	9000000	9749999
14	246364	3	8	80	1077	1060	1451	9894733	9750000	10499999
15	683655	2	8	90	1893	1195	0	10581976	10500000	11249999
16	669289	2	8	65	1039	1473	0	11254353	11250000	11999999

Total number of pulses in waveform = 33

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### Type 5 Radar Waveform\_4

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	589325	2	14	75	1659	1448	0	589325	0	666666
2	595934	1	14	65	1124	0	0	1188366	666667	1333333
3	199290	1	14	50	1380	0	0	1388780	1333334	2000000
4	821191	2	14	80	1062	1939	0	2211351	2000001	2666667
5	734946	1	14	95	1391	0	0	2949298	2666668	3333334
6	650989	3	14	100	1630	1835	1890	3601678	3333335	4000001
7	700774	3	14	85	1216	1759	1129	4307807	4000002	4666668
8	930329	3	14	75	1141	1769	1056	5242240	4666669	5333335
9	375210	3	14	70	1545	1579	1133	5621416	5333336	6000002
10	525381	3	14	100	1753	1610	1882	6152054	6000003	6666669
11	949263	2	14	65	1211	1470	0	7106562	6666670	7333336
12	730531	2	14	85	1510	1567	0	7839774	7333337	8000003
13	543028	1	14	75	1254	0	0	8385879	8000004	8666670
14	363448	2	14	100	1872	1474	0	8750581	8666671	9333337
15	664088	2	14	85	1092	1288	0	9418015	9333338	10000004
16	1106711	2	14	50	1372	1738	0	10527106	10000005	10666671
17	776601	3	14	55	1688	1253	1731	11306817	10666672	11333338
18	505694	3	14	50	1597	1615	1947	11817183	11333339	12000005

Total number of pulses in waveform = 39

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### Type 5 Radar Waveform\_5

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	740500	1	6	55	1211	0	0	740500	0	749999
2	63288	3	6	75	1363	1916	1928	804999	750000	1499999
3	892051	2	6	50	1061	1739	0	1702257	1500000	2249999
4	1230098	3	6	100	1798	1872	1216	2935155	2250000	2999999
5	288490	1	6	55	1235	0	0	3228531	3000000	3749999
6	1187712	3	6	50	1926	1866	1855	4417478	3750000	4499999
7	557071	2	6	55	1371	1284	0	4980196	4500000	5249999
8	537768	2	6	65	1358	1331	0	5520619	5250000	5999999
9	1137984	1	6	80	1318	0	0	6661292	6000000	6749999
10	604784	1	6	80	1270	0	0	7267394	6750000	7499999
11	690848	1	6	80	1868	0	0	7959512	7500000	8249999
12	330357	1	6	90	1164	0	0	8291737	8250000	8999999
13	842755	3	6	85	1728	1858	1998	9135656	9000000	9749999
14	1332813	1	6	75	1356	0	0	10474053	9750000	10499999
15	524861	1	6	50	1176	0	0	11000270	10500000	11249999
16	511124	3	6	55	1910	1972	1871	11512570	11250000	11999999

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_6

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	157233	1	17	100	1517	0	0	157233	0	666666
2	862959	1	17	90	1591	0	0	1021709	666667	1333333
3	422805	2	17	90	1288	1707	0	1446105	1333334	2000000
4	949440	2	17	80	1142	1583	0	2398540	2000001	2666667
5	379006	3	17	50	1695	1091	1950	2780271	2666668	3333334
6	947153	1	17	75	1124	0	0	3732160	3333335	4000001
7	898672	3	17	50	1217	1696	1370	4631956	4000002	4666668
8	309244	2	17	65	1477	1434	0	4945483	4666669	5333335
9	747374	2	17	90	1717	1033	0	5695768	5333336	6000002
10	660427	3	17	95	1783	1368	1817	6368945	6000003	6666669
11	630643	1	17	90	1235	0	0	6994556	6666670	7333336
12	510555	1	17	50	1984	0	0	7506346	7333337	8000003
13	1042314	2	17	70	1544	1004	0	8550644	8000004	8666670
14	320909	3	17	100	1678	1997	1047	8874101	8666671	9333337
15	987670	3	17	85	1274	1333	1971	9866493	9333338	10000004
16	350134	2	17	55	1481	1224	0	10221205	10000005	10666671
17	768407	3	17	90	1290	1195	1594	10992317	10666672	11333338
18	469677	1	17	55	1429	0	0	11466073	11333339	12000005

Total number of pulses in waveform = 36  
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### Type 5 Radar Waveform\_7

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	656634	1	5	80	1833	0	0	656634	0	1333332
2	1420632	1	5	65	1268	0	0	2079099	1333333	2666665
3	1060086	3	5	95	1394	1235	1734	3140453	2666666	3999998
4	2166582	2	5	85	1821	1314	0	5311398	3999999	5333331
5	771473	2	5	95	1059	1588	0	6086006	5333332	6666664
6	1724373	2	5	50	1457	1505	0	7813026	6666665	7999997
7	276824	1	5	80	1019	0	0	8092812	7999998	9333330
8	2135784	3	5	80	1512	1952	1754	10229615	9333331	10666663
9	884038	3	5	90	1608	1138	1831	11118871	10666664	11999996

Total number of pulses in waveform = 18  
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### Type 5 Radar Waveform\_8

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	566469	2	9	80	1305	1675	0	566469	0	666666
2	612944	3	9	70	1313	1367	1979	1172393	666667	1333333
3	350839	3	9	100	1899	1302	1915	1627891	1333334	2000000
4	941349	2	9	60	1735	1438	0	2474356	2000001	2666667
5	815085	1	9	90	1993	0	0	3292605	2666668	3333334
6	202926	3	9	60	1464	1044	1998	3497524	3333335	4000001
7	699903	2	9	95	1617	1859	0	4201933	4000002	4666668
8	908713	2	9	90	1151	1223	0	5114122	4666669	5333335
9	636650	3	9	70	1368	1022	1310	5753146	5333336	6000002
10	723576	1	9	50	1436	0	0	6480422	6000003	6666669
11	604905	1	9	50	1159	0	0	7086763	6666670	7333336
12	625560	1	9	80	1594	0	0	7714482	7333337	8000003
13	464253	3	9	80	1102	1850	1108	8180329	8000004	8666670
14	853199	2	9	65	1131	1117	0	9037588	8666671	9333337
15	473750	1	9	80	1108	0	0	9513586	9333338	10000004
16	1037148	3	9	95	1536	1675	1380	10551842	10000005	10666671
17	346228	3	9	70	1707	1624	1964	10902661	10666672	11333338
18	936580	3	9	55	1781	1920	1566	11844536	11333339	12000005

Total number of pulses in waveform = 39  
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### 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	430508	1	19	80	1626	0	0	430508	0	631578
2	678848	3	19	75	1972	1638	1751	1110982	631579	1263157
3	191794	2	19	60	1111	1885	0	1308137	1263158	1894736
4	612224	2	19	100	1687	1755	0	1923357	1894737	2526315
5	976314	2	19	65	1452	1244	0	2903113	2526316	3157894
6	589300	3	19	95	1964	1892	1479	3495109	3157895	3789473
7	538371	1	19	85	1021	0	0	4038815	3789474	4421052
8	597802	3	19	80	1332	1509	1211	4637638	4421053	5052631
9	435606	2	19	65	1415	1548	0	5077296	5052632	5684210
10	618200	2	19	85	1952	1393	0	5698459	5684211	6315789
11	669570	2	19	65	1490	1553	0	6315790	6315790	6947368
12	602674	1	19	90	1607	0	0	6977091	6947369	7578947
13	1024774	3	19	55	1250	1346	1795	8003472	7578948	8210526
14	310452	1	19	90	1206	0	0	8318315	8210527	8842105
15	703908	2	19	80	1704	1542	0	9023429	8842106	9473684
16	626678	3	19	75	1439	1367	1100	9653353	9473685	10105263
17	711095	3	19	80	1766	1656	1239	10368354	10105264	10736842
18	822433	1	19	70	1116	0	0	11195448	10736843	11368421
19	379834	3	19	75	1757	1365	1815	11576398	11368422	12000000

Total number of pulses in waveform = 40  
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### Type 5 Radar Waveform\_10

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	162350	1	12	80	1564	0	0	162350	0	1499999
2	1496274	3	12	80	1161	1273	1793	1660188	1500000	2999999
3	2226731	1	12	75	1163	0	0	3891146	3000000	4499999
4	635903	1	12	95	1672	0	0	4528212	4500000	5999999
5	1802182	2	12	100	1915	1477	0	6332066	6000000	7499999
6	2362325	2	12	90	1199	1433	0	8697783	7500000	8999999
7	520833	3	12	60	1487	1907	1241	9221248	9000000	10499999
8	1386560	2	12	55	1362	1298	0	10612443	10500000	11999999

Total number of pulses in waveform = 15  
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### Type 5 Radar Waveform\_11

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	770443	2	10	50	1667	1558	0	770443	0	799999
2	371769	1	10	75	1069	0	0	1145437	800000	1599999
3	594483	3	10	55	1887	1111	1982	1740989	1600000	2399999
4	1276150	3	10	70	1204	1085	1597	3022119	2400000	3199999
5	514073	2	10	70	1882	1524	0	3540078	3200000	3999999
6	1103193	2	10	95	1512	0	0	4646677	4000000	4799999
7	586637	2	10	100	1186	1391	0	5234826	4800000	5599999
8	636831	2	10	55	1490	1615	0	5874234	5600000	6399999
9	787604	1	10	95	1624	0	0	6664943	6400000	7199999
10	721961	3	10	55	1651	1200	1192	7388528	7200000	7999999
11	764866	1	10	75	1488	0	0	8157437	8000000	8799999
12	1083577	2	10	50	1189	1624	0	9242502	8800000	9599999
13	834625	3	10	85	1638	1876	1389	10079940	9600000	10399999
14	343047	2	10	100	1932	1379	0	10427890	10400000	11199999
15	1327183	1	10	95	1418	0	0	11758384	11200000	11999999

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_12

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	906497	2	17	55	1503	1489	0	906497	0	923076
2	181517	1	17	60	1983	0	0	1091006	923077	1846153
3	835495	2	17	50	1124	1340	0	1928484	1846154	2769230
4	1352935	2	17	65	1300	1729	0	3283883	2769231	3692307
5	926302	1	17	75	1740	0	0	4213214	3692308	4615384
6	554944	3	17	90	1738	1782	1863	4769898	4615385	5538461
7	831302	1	17	85	1970	0	0	5606583	5538462	6461538
8	1477838	2	17	70	1901	1694	0	7086391	6461539	7384615
9	1049030	3	17	70	1366	1423	1979	8139016	7384616	8307692
10	464202	3	17	85	1638	1809	1286	8607986	8307693	9230769
11	975000	2	17	90	1155	1235	0	9587719	9230770	10153846
12	874994	3	17	95	1883	1383	1828	10465103	10153847	11076923
13	949126	1	17	50	1706	0	0	11419323	11076924	12000000

Total number of pulses in waveform = 26  
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### Type 5 Radar Waveform\_13

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	188121	2	18	90	1752	1253	0	188121	0	857142
2	1130809	3	18	50	1444	1761	1321	1321935	857143	1714285
3	642750	3	18	90	1238	1674	1002	1969211	1714286	2571428
4	757550	1	18	80	1986	0	0	2730675	2571429	3428571
5	1087512	3	18	70	1884	1824	1042	3820173	3428572	4285714
6	860031	2	18	50	1227	1166	0	4684954	4285715	5142857
7	790370	1	18	75	1007	0	0	5477717	5142858	6000000
8	761668	2	18	85	1416	1090	0	6240392	6000001	6857143
9	1429812	3	18	85	1316	1478	1729	7672710	6857144	7714286
10	713521	3	18	80	1688	1139	1984	8390754	7714287	8571429
11	404612	2	18	90	1913	1055	0	8800177	8571430	9428572
12	709776	2	18	55	1202	1963	0	9512921	9428573	10285715
13	977397	2	18	60	1149	1831	0	10493483	10285716	11142858
14	670139	1	18	100	1086	0	0	11166602	11142859	12000001

Total number of pulses in waveform = 30  
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### Type 5 Radar Waveform\_14

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	198170	3	14	50	1577	1299	1330	198170	0	599999
2	933439	3	14	50	1395	1519	1708	1135815	600000	1199999
3	104874	3	14	75	1884	1061	1376	1245111	1200000	1799999
4	999501	2	14	100	1222	1251	0	2248933	1800000	2399999
5	437068	2	14	80	1424	1721	0	2688474	2400000	2999999
6	557547	3	14	75	1623	1885	1093	3249166	3000000	3599999
7	749431	3	14	70	1602	1431	1817	4030567	3600000	4199999
8	749431	3	14	80	1485	1175	1459	4784848	4200000	4799999
9	270001	3	14	50	1489	1993	1835	5058968	4800000	5399999
10	781425	3	14	80	1089	1102	1338	5845710	5400000	5999999
11	310187	2	14	50	1585	1339	0	6159426	6000000	6599999
12	513088	2	14	100	1515	1612	0	6675438	6600000	7199999
13	683700	2	14	50	1897	1329	0	7362266	7200000	7799999
14	948661	2	14	60	1740	1446	0	8314053	7800000	8399999
15	170794	1	14	80	1418	0	0	8488033	8400000	8999999
16	839047	2	14	75	1652	1698	0	9328498	9000000	9599999
17	552725	1	14	70	1003	0	0	9884473	9600000	10199999
18	477717	2	14	90	1826	1994	0	10363193	10200000	10799999
19	578109	2	14	95	1884	1124	0	10944522	10800000	11399999
20	810793	2	14	50	1785	1524	0	11758323	11400000	11999999

Total number of pulses in waveform = 46  
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### Type 5 Radar Waveform\_15

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	1185300	3	6	90	1840	1137	1309	1185300	0	1499999
2	723551	3	6	90	1656	1414	1865	1913137	1500000	2999999
3	1963695	3	6	95	1037	1786	1015	3881767	3000000	4499999
4	880881	1	6	70	1545	0	0	4766486	4500000	5999999
5	1359066	1	6	80	1128	0	0	6127097	6000000	7499999
6	2641967	1	6	50	1810	0	0	8770192	7500000	8999999
7	631389	2	6	90	1505	1689	0	9403391	9000000	10499999
8	1684396	1	6	100	1197	0	0	11090981	10500000	11999999

Total number of pulses in waveform = 15  
\*\*\*\*\*

### 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	263072	2	12	70	1419	1599	0	263072	0	799999
2	870036	2	12	90	1815	1135	0	1136126	800000	1599999
3	557496	2	12	90	1285	1125	0	1696572	1600000	2399999
4	991697	3	12	90	1173	1218	1446	2690679	2400000	3199999
5	729124	3	12	65	1425	1882	1267	3423640	3200000	3999999
6	653978	2	12	65	1378	1865	0	4082192	4000000	4799999
7	779785	2	12	80	1848	1976	0	4865220	4800000	5599999
8	866016	3	12	60	1613	1002	1906	5735060	5600000	6399999
9	964131	3	12	75	1061	1190	1308	6703712	6400000	7199999
10	844862	1	12	55	1397	0	0	7552133	7200000	7999999
11	1086429	2	12	70	1864	1529	0	8639959	8000000	8799999
12	800068	1	12	70	1778	0	0	9443420	8800000	9599999
13	256356	1	12	60	1695	0	0	9701554	9600000	10399999
14	1300223	3	12	100	1081	1155	1089	11003472	10400000	11199999
15	221833	2	12	70	1845	1488	0	11228630	11200000	11999999

Total number of pulses in waveform = 32  
\*\*\*\*\*



### Type 5 Radar Waveform\_17

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	210628	2	19	75	1215	1104	0	210628	0	666666
2	1017578	2	19	90	1671	1728	0	1230525	666667	1333333
3	715010	2	19	100	1236	1430	0	1948934	1333334	2000000
4	637103	2	19	70	1033	1302	0	2588703	2000001	2666667
5	250120	3	19	50	1423	1291	1823	2841158	2666668	3333334
6	650849	2	19	65	1727	1484	0	3496544	3333335	4000001
7	800994	1	19	90	1101	0	0	4300749	4000002	4666668
8	576010	3	19	75	1670	1545	1203	4877860	4666669	5333335
9	912409	3	19	75	1733	1891	1382	5794687	5333336	6000002
10	776125	1	19	60	1944	0	0	6575818	6000003	6666669
11	442372	3	19	50	1183	1825	1466	7020134	6666670	7333336
12	836174	1	19	90	1548	0	0	7860782	7333337	8000003
13	497222	2	19	80	1508	1784	0	8369552	8000004	8666670
14	747343	1	19	80	1123	0	0	9110187	8666671	9333337
15	638109	2	19	95	1513	1982	0	9749419	9333338	10000004
16	904071	3	19	85	1088	1140	1865	10656985	10000005	10666671
17	17115	3	19	60	1526	1278	1914	10678193	10666672	11333338
18	651227	2	19	60	1981	1926	0	11334138	11333339	12000005

Total number of pulses in waveform = 38  
\*\*\*\*\*

### Type 5 Radar Waveform\_18

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	39648	3	9	85	1985	1006	1797	39648	0	857142
2	958640	3	9	100	1160	1958	1067	1003076	857143	1714285
3	966913	3	9	55	1829	1674	1565	1974174	1714286	2571428
4	1006262	3	9	80	1533	1701	1129	2985504	2571429	3428571
5	1161543	1	9	65	1328	0	0	4151410	3428572	4285714
6	713493	2	9	65	1291	1763	0	4866231	4285715	5142857
7	1026159	2	9	85	1205	1255	0	5895444	5142858	6000000
8	771238	2	9	85	1454	1460	0	6669142	6000001	6857143
9	612209	1	9	85	1986	0	0	7284265	6857144	7714286
10	990480	1	9	60	1770	0	0	8276731	7714287	8571429
11	535226	1	9	85	1489	0	0	8813727	8571430	9428572
12	939870	2	9	50	1620	1894	0	9755086	9428573	10285715
13	759277	3	9	60	1784	1249	1645	10517877	10285716	11142858
14	841284	2	9	75	1939	1008	0	11363839	11142859	12000001

Total number of pulses in waveform = 29  
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### Type 5 Radar Waveform\_19

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	97258	5	75	75	1115	1561	0	97258	0	599999
2	794517	2	5	60	1327	0	0	894451	600000	1199999
3	712144	2	5	85	1544	1383	0	1607922	1200000	1799999
4	760463	3	5	85	1192	1514	1434	2371312	1800000	2399999
5	563126	3	5	95	1563	1524	1857	2938578	2400000	2999999
6	372322	2	5	100	1913	1231	0	3315844	3000000	3599999
7	863170	1	5	90	1542	0	0	4182158	3600000	4199999
8	156310	3	5	95	1460	1320	1627	4940010	4200000	4799999
9	645992	1	5	90	1652	0	0	4989809	4800000	5399999
10	580233	2	5	65	1736	1089	0	5671694	5400000	5999999
11	998909	1	5	85	1006	0	0	6573328	6000000	6599999
12	55519	2	5	80	1895	1526	0	6629853	6600000	7199999
13	831606	1	5	75	1805	0	0	7464880	7200000	7799999
14	359274	3	5	50	1354	1586	1615	7825959	7800000	8399999
15	645426	1	5	60	1551	0	0	8475940	8400000	8999999
16	1016228	2	5	60	1507	1446	0	9493719	9000000	9599999
17	289434	3	5	70	1743	1026	1096	9786106	9600000	10199999
18	902703	3	5	95	1732	1330	1940	10692674	10200000	10799999
19	636052	1	5	80	1847	0	0	11333728	10800000	11399999
20	393868	2	5	70	1402	1180	0	11729443	11400000	11999999

Total number of pulses in waveform = 39  
\*\*\*\*\*



### Type 5 Radar Waveform\_20

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	375625	3	8	80	1956	1947	1789	375625	0	749999
2	998099	2	8	80	1940	1805	0	1379416	750000	1499999
3	507379	1	8	60	1019	0	0	1890540	1500000	2249999
4	622110	1	8	75	1207	0	0	2513669	2250000	2999999
5	551635	3	8	70	1807	1287	1149	3066511	3000000	3749999
6	940310	2	8	55	1694	1140	0	4011064	3750000	4499999
7	866740	1	8	70	1262	0	0	4880638	4500000	5249999
8	1016807	3	8	100	1692	1773	1395	5898707	5250000	5999999
9	292397	2	8	100	1656	1317	0	6195964	6000000	6749999
10	616174	1	8	90	1513	0	0	6815111	6750000	7499999
11	1110117	3	8	50	1902	1197	1078	7926741	7500000	8249999
12	635789	2	8	95	1407	1934	0	8566707	8250000	8999999
13	1089301	3	8	55	1025	1061	1970	9659349	9000000	9749999
14	443230	1	8	85	1504	0	0	10106635	9750000	10499999
15	419858	1	8	65	1112	0	0	10527997	10500000	11249999
16	1275224	1	8	55	1804	0	0	11804333	11250000	11999999

Total number of pulses in waveform = 30  
\*\*\*\*\*

### Type 5 Radar Waveform\_21

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	297489	2	14	50	1600	1647	0	297489	0	857142
2	825190	1	14	65	1255	0	0	1125926	857143	1714285
3	1388244	3	14	80	1250	1341	1896	2515425	1714286	2571428
4	460450	1	14	70	1356	0	0	2980362	2571429	3428571
5	570734	3	14	50	1549	1298	1217	3552452	3428572	4285714
6	735063	3	14	75	1805	1414	1786	4291579	4285715	5142857
7	1470510	2	14	90	1259	1709	0	5767094	5142858	6000000
8	1057785	1	14	75	1235	0	0	6827847	6000001	6857143
9	338921	1	14	60	1017	0	0	7168003	6857144	7714286
10	769201	1	14	100	1883	0	0	7938221	7714287	8571429
11	1042375	3	14	85	1374	1986	1973	8982479	8571430	9428572
12	967870	3	14	65	1550	1391	1770	9955682	9428573	10285715
13	632391	1	14	100	1500	0	0	10592784	10285716	11142858
14	1302683	2	14	50	1664	1327	0	11896967	11142859	12000001

Total number of pulses in waveform = 27  
\*\*\*\*\*

### Type 5 Radar Waveform\_22

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	823703	2	8	100	1952	1593	0	823703	0	1090908
2	943148	2	8	75	1658	1785	0	1770396	1090909	2181817
3	646440	2	8	80	1953	1806	0	2420279	2181818	3272726
4	1869490	2	8	70	1076	1897	0	4293528	3272727	4363635
5	225021	1	8	50	1173	0	0	4521522	4363636	5454544
6	1592912	3	8	50	1945	1898	1177	6115607	5454545	6545453
7	1449787	2	8	95	1017	1839	0	7570414	6545454	7636362
8	842758	2	8	70	1869	1329	0	8416028	7636363	8727271
9	866896	1	8	95	1754	0	0	9286122	8727272	9818180
10	1209780	1	8	60	1049	0	0	10497656	9818181	10909089
11	1098283	2	8	80	1631	1866	0	11596988	10909090	11999998

Total number of pulses in waveform = 20  
\*\*\*\*\*



### Type 5 Radar Waveform\_23

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	817063	3	9	55	1886	1618	1638	817063	0	1333332
2	1805115	2	9	85	1043	1502	0	2627320	1333333	2666665
3	805333	2	9	70	1232	1681	0	3435198	2666666	3999998
4	1649212	1	9	95	1853	0	0	5087323	3999999	5333331
5	758162	2	9	50	1171	1982	0	5847338	5333332	6666664
6	1874109	2	9	65	1271	1910	0	7724600	6666665	7999997
7	668533	3	9	100	1595	1975	1364	8396314	7999998	9333330
8	1506562	1	9	100	1030	0	0	9907810	9333331	10666663
9	1216963	3	9	75	1887	1384	1033	11125803	10666664	11999996

Total number of pulses in waveform = 19  
\*\*\*\*\*

### Type 5 Radar Waveform\_24

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	196384	1	12	85	1188	0	0	196384	0	857142
2	1457834	3	12	100	1255	1962	1684	1655406	857143	1714285
3	245078	1	12	85	1018	0	0	1905385	1714286	2571428
4	1255468	1	12	75	1794	0	0	3161871	2571429	3428571
5	690241	1	12	55	1037	0	0	3853906	3428572	4285714
6	747446	2	12	50	1508	1699	0	4602389	4285715	5142857
7	1237064	1	12	60	1818	0	0	5842660	5142858	6000000
8	314162	1	12	70	1258	0	0	6158640	6000001	6857143
9	741151	1	12	95	1501	0	0	6901049	6857144	7714286
10	1193499	1	12	50	1716	0	0	8096049	7714287	8571429
11	880530	3	12	65	1958	1505	1112	8978295	8571430	9428572
12	1199780	1	12	50	1800	0	0	10182650	9428573	10285715
13	222182	1	12	75	1073	0	0	10406632	10285716	11142858
14	1496927	1	12	80	1905	0	0	11904632	11142859	12000001

Total number of pulses in waveform = 19  
\*\*\*\*\*

### Type 5 Radar Waveform\_25

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	731073	3	5	80	1649	1772	1096	731073	0	999999
2	357661	3	5	55	1749	1978	1029	1093251	1000000	1999999
3	1695020	3	5	90	1046	1846	1454	2793027	2000000	2999999
4	253657	3	5	90	1311	1327	1741	3051030	3000000	3999999
5	1317501	2	5	90	1060	1900	0	4372910	4000000	4999999
6	943363	3	5	85	1261	1445	1176	5319233	5000000	5999999
7	1255445	1	5	55	1032	0	0	6578560	6000000	6999999
8	715043	3	5	80	1470	1498	1725	7294635	7000000	7999999
9	1578472	1	5	90	1657	0	0	8877800	8000000	8999999
10	412457	1	5	55	1887	0	0	9291914	9000000	9999999
11	1173855	3	5	90	1013	1888	1685	10467656	10000000	10999999
12	787729	1	5	100	1095	0	0	11259971	11000000	11999999

Total number of pulses in waveform = 27  
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### Type 5 Radar Waveform\_26

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	384181	1	18	85	1930	0	0	384181	0	749999
2	377547	3	18	50	1276	1646	1893	763658	750000	1499999
3	1242132	1	18	95	1819	0	0	2010605	1500000	2249999
4	850992	2	18	65	1906	1673	0	2863416	2250000	2999999
5	415642	3	18	100	1399	1975	1946	3282637	3000000	3749999
6	488536	3	18	100	1061	1777	1475	3776493	3750000	4499999
7	1125334	3	18	55	1813	1592	1387	4906140	4500000	5249999
8	537368	2	18	95	1643	1836	0	5448300	5250000	5999999
9	921069	2	18	70	1766	1592	0	6372848	6000000	6749999
10	503031	3	18	80	1516	1915	1683	6879237	6750000	7499999
11	1121932	1	18	80	1442	0	0	8006283	7500000	8249999
12	253260	3	18	65	1311	1309	1909	8260985	8250000	8999999
13	1242267	3	18	60	1648	1385	1487	9507781	9000000	9749999
14	324685	1	18	65	1023	0	0	9836986	9750000	10499999
15	698993	1	18	95	1881	0	0	10537002	10500000	11249999
16	1027801	1	18	80	1125	0	0	11566684	11250000	11999999

Total number of pulses in waveform = 33

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### Type 5 Radar Waveform\_27

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	63783	3	10	85	1780	1090	1376	63783	0	1199999
2	1859999	3	10	90	1343	1062	1045	1928028	1200000	2399999
3	967285	2	10	80	1701	1599	0	2898763	2400000	3599999
4	1681207	1	10	100	1920	0	0	4583270	3600000	4799999
5	1184223	3	10	75	1725	1311	1242	5769413	4800000	5999999
6	1140524	3	10	80	1298	1711	1995	6914215	6000000	7199999
7	652080	1	10	90	1873	0	0	7571299	7200000	8399999
8	1723606	3	10	50	1714	1351	1161	9296778	8400000	9599999
9	1434248	2	10	60	1960	1446	0	10735252	9600000	10799999
10	765976	2	10	100	1540	1530	0	11504634	10800000	11999999

Total number of pulses in waveform = 23

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### Type 5 Radar Waveform\_28

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

Burst #	Off Time (us)	# Pulses	Chirp (MHz)	PW (us)	Pulse 1 Pri (us)	Pulse 2 Pri (us)	Pulse 3 Pri (us)	Start Loc (us)	Start Burst Interval (us)	End Burst Interval (us)
1	742571	3	19	50	1287	1730	1981	742571	0	1090908
2	754280	2	19	100	1427	1547	0	1501849	1090909	2181817
3	712612	1	19	80	1856	0	0	2217435	2181818	3272726
4	1145892	3	19	70	1501	1748	1573	3365183	3272727	4363635
5	1979034	2	19	65	1283	1529	0	5349039	4363636	5454544
6	1174689	3	19	80	1837	1737	1053	6526540	5454545	6545453
7	587551	3	19	90	1553	1892	1492	7118718	6545454	7636362
8	560217	3	19	85	1589	1156	1645	7683872	7636363	8727271
9	2003337	3	19	60	1132	1612	1330	9691599	8727272	9818180
10	1072579	2	19	65	1068	1878	0	10768252	9818181	10909089
11	151735	2	19	60	1460	1997	0	10922933	10909090	11999998

Total number of pulses in waveform = 27

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### Type 5 Radar Waveform\_29

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	547076	3	17	85	1702	1806	1290	547076	0	857142
2	1092859	2	17	60	1483	1290	0	1644733	857143	1714285
3	177626	3	17	60	1681	1994	1290	1825132	1714286	2571428
4	792376	1	17	100	1879	0	0	2622473	2571429	3428571
5	1303946	2	17	95	1943	1510	0	3928298	3428572	4285714
6	1115454	2	17	100	1289	1836	0	5047205	4285715	5142857
7	532467	2	17	95	1883	1404	0	5582797	5142858	6000000
8	983878	2	17	90	1416	1474	0	6569962	6000001	6857143
9	725139	3	17	70	1455	1247	1054	7297991	6857144	7714286
10	1231290	1	17	50	1667	0	0	8533037	7714287	8571429
11	496085	1	17	90	1640	0	0	9030789	8571430	9428572
12	1157855	2	17	65	1991	1543	0	10190284	9428573	10285715
13	835553	2	17	90	1529	1051	0	11029371	10285716	11142858
14	565330	2	17	95	1555	1549	0	11597281	11142859	12000001

Total number of pulses in waveform = 28  
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### Type 5 Radar Waveform\_30

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	652067	2	6	85	1791	1991	0	652067	0	799999
2	356950	2	6	60	1216	1174	0	1012799	800000	1599999
3	729793	1	6	85	1252	0	0	1744982	1600000	2399999
4	981810	1	6	70	1768	0	0	2728044	2400000	3199999
5	765192	3	6	75	1172	1051	1393	3495004	3200000	3999999
6	734922	2	6	65	1562	1287	0	4233542	4000000	4799999
7	1025936	2	6	90	1695	1017	0	5262327	4800000	5599999
8	341326	2	6	70	1158	1898	0	5606365	5600000	6399999
9	1221193	2	6	85	1219	1362	0	6830614	6400000	7199999
10	1163933	2	6	75	1452	1250	0	7997128	7200000	7999999
11	162022	1	6	65	1429	0	0	8161852	8000000	8799999
12	670100	2	6	100	1134	1105	0	8833381	8800000	9599999
13	1425615	1	6	65	1786	0	0	10261235	9600000	10399999
14	814511	1	6	90	1347	0	0	11077532	10400000	11199999
15	856024	1	6	60	1843	0	0	11934903	11200000	11999999

Total number of pulses in waveform = 25  
\*\*\*\*\*

## Radar Type 6 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5491	1	16	5530	1
2	5491	1	17	5531	1
3	5500	1	18	5531	1
4	5500	1	19	5540	1
5	5509	1	20	5540	1
6	5509	1	21	5549	1
7	5510	1	22	5549	1
8	5510	1	23	5550	1
9	5511	1	24	5550	1
10	5511	1	25	5551	1
11	5520	1	26	5551	1
12	5520	1	27	5560	1
13	5529	1	28	5560	1
14	5529	1	29	5569	1
15	5530	1	30	5569	1
Detection Percentage (%)					100%





Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5488	30	5	5469	15
14	5491	42	8	5464	24
19	5510	57	17	5516	51
25	5463	75	20	5518	60
32	5477	96	44	5467	132
48	5462	144	50	5485	150
49	5484	147	55	5480	165
64	5499	192	83	5471	249
81	5507	243	93	5481	279
86	5467	258	--	--	--
92	5504	276	--	--	--
93	5476	279	--	--	--
95	5470	285	--	--	--
97	5489	291	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5507	27	3	5513	9
19	5519	57	26	5509	78
21	5506	63	33	5504	99
27	5513	81	34	5530	102
28	5492	84	48	5486	144
29	5471	87	58	5472	174
44	5482	132	60	5481	180
45	5499	135	62	5511	186
51	5524	153	71	5506	213
64	5526	192	80	5470	240
67	5517	201	87	5512	261
80	5483	240	95	5497	285
85	5514	255	99	5496	297
86	5511	258	--	--	--



Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5522	3	9	5502	27
11	5499	33	12	5488	36
17	5480	51	15	5526	45
20	5481	60	21	5523	63
25	5512	75	25	5510	75
29	5506	87	37	5499	111
43	5513	129	44	5495	132
48	5538	144	48	5531	144
57	5536	171	49	5512	147
73	5523	219	75	5513	225
74	5508	222	86	5539	258
--	--	--	90	5486	270
--	--	--	99	5533	297

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5491	0	3	5523	9
5	5514	15	8	5538	24
10	5515	30	17	5529	51
20	5527	60	46	5490	138
35	5517	105	47	5483	141
43	5506	129	48	5503	144
47	5516	141	55	5521	165
52	5492	156	56	5507	168
60	5490	180	60	5495	180
61	5497	183	64	5508	192
68	5512	204	65	5496	195
70	5483	210	71	5510	213
82	5520	246	74	5514	222
99	5498	297	85	5498	255
--	--	--	99	5505	297



Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5489	15	18	5541	54
8	5516	24	35	5530	105
14	5521	42	53	5521	159
15	5535	45	58	5513	174
18	5511	54	61	5518	183
20	5495	60	62	5528	186
22	5486	66	63	5533	189
24	5534	72	70	5532	210
28	5523	84	78	5496	234
29	5481	87	81	5505	243
30	5490	90	82	5486	246
35	5526	105	84	5481	252
40	5507	120	93	5516	279
41	5505	123	97	5517	291
49	5503	147	--	--	--
72	5484	216	--	--	--
83	5509	249	--	--	--
86	5522	258	--	--	--
90	5488	270	--	--	--
91	5517	273	--	--	--
92	5514	276	--	--	--

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5532	15	7	5550	21
12	5539	36	18	5518	54
33	5511	99	23	5544	69
37	5538	111	29	5517	87
38	5512	114	30	5525	90
46	5550	138	32	5533	96
51	5497	153	39	5493	117
65	5510	195	46	5499	138
76	5526	228	47	5522	141



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85	5503	255	54	5534	162
87	5542	261	64	5530	192
96	5500	288	72	5501	216
--	--	--	79	5538	237
--	--	--	81	5511	243
--	--	--	94	5537	282



Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5522	0	3	5509	9
17	5546	51	6	5529	18
18	5540	54	8	5550	24
26	5530	78	31	5512	93
43	5547	129	34	5510	102
58	5536	174	42	5519	126
67	5557	201	47	5538	141
69	5506	207	50	5537	150
79	5509	237	61	5548	183
90	5537	270	63	5557	189
94	5518	282	64	5514	192
97	5523	291	76	5533	228
99	5544	297	77	5525	231
--	--	--	81	5505	243
--	--	--	82	5559	246

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
8	5552	24	3	5551	9
9	5530	27	7	5514	21
12	5539	36	12	5529	36
31	5506	93	14	5506	42
52	5541	156	26	5555	78
66	5523	198	27	5517	81
69	5559	207	30	5560	90
76	5522	228	31	5558	93
84	5556	252	32	5504	96
94	5521	282	35	5518	105
97	5507	291	41	5535	123
--	--	--	44	5531	132
--	--	--	74	5536	222
--	--	--	76	5507	228
--	--	--	78	5546	234



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--	--	--	84	5527	252
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Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5538	0	10	5514	30
3	5511	9	11	5553	33
11	5551	33	13	5534	39
24	5503	72	16	5558	48
29	5520	87	18	5503	54
47	5553	141	19	5505	57
52	5552	156	26	5549	78
61	5524	183	48	5528	144
75	5512	225	52	5518	156
83	5556	249	55	5512	165
89	5557	267	67	5556	201
94	5531	282	89	5508	267

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
10	5518	30	7	5526	21
21	5554	63	14	5544	42
43	5566	129	20	5538	60
46	5523	138	29	5554	87
57	5563	171	33	5511	99
78	5511	234	39	5530	117
87	5560	261	46	5515	138
94	5555	282	53	5545	159
97	5512	291	60	5533	180
--	--	--	68	5558	204
--	--	--	79	5537	237
--	--	--	81	5531	243
--	--	--	85	5551	255
--	--	--	89	5547	267



Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5564	6	3	5576	9
16	5571	48	28	5525	84
37	5523	111	34	5573	102
88	5538	264	55	5527	165
93	5563	279	60	5531	180
95	5574	285	71	5523	213
97	5568	291	76	5526	228
			86	5519	258

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5573	6	4	5521	12
4	5568	12	13	5570	39
13	5536	39	22	5550	66
24	5531	72	28	5525	84
34	5528	102	46	5547	138
44	5565	132	47	5573	141
50	5557	150	48	5548	144
53	5537	159	53	5555	159
56	5570	168	63	5565	189
57	5549	171	65	5546	195
66	5533	198	78	5580	234
67	5534	201	81	5541	243
70	5579	210	--	--	--
87	5567	261	--	--	--
89	5555	267	--	--	--
92	5530	276	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
29	5578	87	6	5534	18
46	5548	138	31	5526	93





48	5573	144	44	5524	132
57	5575	171	48	5537	144
60	5577	180	53	5575	159
62	5547	186	56	5567	168
77	5557	231	68	5549	204
78	5571	234	70	5560	210
89	5522	267	80	5543	240
94	5523	282	83	5564	249
97	5551	291	97	5570	291

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5556	6	0	5543	0
7	5546	21	25	5530	75
19	5588	57	28	5562	84
49	5536	147	31	5537	93
52	5562	156	34	5553	102
58	5545	174	35	5576	105
59	5572	177	39	5580	117
70	5589	210	42	5581	126
85	5561	255	49	5569	147
--	--	--	58	5540	174
--	--	--	68	5542	204
--	--	--	72	5566	216
--	--	--	87	5550	261
--	--	--	94	5544	282

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
3	5594	9	12	5543	36
11	5575	33	27	5583	81
21	5591	63	29	5550	87
24	5573	72	30	5549	90
25	5582	75	35	5567	105
26	5579	78	37	5588	111
28	5598	84	43	5575	129
37	5552	111	46	5597	138
46	5576	138	48	5572	144
47	5588	141	49	5555	147
48	5539	144	50	5594	150
50	5596	150	61	5566	183
57	5556	171	81	5540	243
69	5565	207	88	5577	264

## 6. CONCLUSION

The data collected relate only the item(s) tested and show that the **WIFI dual band 4 GE LAN GPON HGU, FCC ID: 2ABLK-8X4G-1V2** is in compliance with FCC Rules & ISED Rules.

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The End

## Appendix A – Test Setup Photograph

Refer to “1808RSU021-UT” file.

## **Appendix B – EUT Photograph**

Refer to “1808RSU021-UE” file.