MRT Technology (Suzhou) Co., Ltd
Phone: +86-512-66308358
Fax: +86-512-66308368
Web: www.mrt-cert.com

Report No.: 1503RSU02003
Report Version: V01
Issue Date: 06-01-2015

DFS MEASUREMENT REPORT
FCC PART 15.407

FCC ID:	O9C-BJNGAFB0008
APPLICANT:	Hewlett Packard Company

Application Type:	Certification
Product:	Wireless LAN Access Point
Model No.:	BJNGA-FB0008, JH306A
Brand Name:	HP
FCC Classification:	Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s):	Part 15.407 KDB 905462 D02v01r02, KDB 905462 D04v01
Type of Device:	☒ Master Device ☐ Client Device (No radar detection) ☐ Client Device with radar detection
Test Date:	Mar.16 ~ May. 29, 2015

Reviewed By : Robin Wu
(Robin Wu)

Approved By : Marlinchen
(Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

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 D02v01r02. 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
1503RSU02003	Rev. 01	Initial report	06-01-2015

CONTENTS

Description Page

Revision History 2

§2.1033 General Information 5

1. INTRODUCTION 6

1.1. Scope 6
1.2. MRT Test Location 6

2. PRODUCT INFORMATION 7

2.1. Equipment Description 7
2.2. Description of Available Antennas 8
2.3. Description of Antenna RF Port 9
2.4. DFS Band Carrier Frequencies Operation 10
2.5. Test Mode 11

3. DFS DETECTION THRESHOLDS AND RADAR TEST WAVEFORMS 12

3.1. Applicability 12
3.2. DFS Devices Requirements 13
3.3. DFS Detection Threshold Values 14
3.4. Parameters of DFS Test Signals 15
3.5. Test Setup 18

4. TEST EQUIPMENT CALIBRATION DATE 19

5. TEST RESULT 20

5.1. Summary 20
5.2. Radar Waveform Calibration 21
5.2.1. Calibration Setup 21
5.2.2. Calibration Procedure 21
5.2.3. Cablibration Result 22
5.3. Channel Loading Test Result 26
5.4. UNII Detection Bandwidth Measurement 28
5.4.1. Test Limit 28
5.4.2. Test Procedure 28
5.4.3. Test Result 29
5.5. Initial Channel Availability Check Time Measurement 35
5.5.1. Test Limit 35
5.5.2. Test Procedure 35
5.5.3. Test Result 36

5.6. Radar Burst at the Beginning of the Channel Availability Check Time Measurement .. 37
5.6.1. Test Limit 37
5.6.2. Test Procedure 37
5.6.3. Test Result 38
5.7. Radar Burst at the End of the Channel Availability Check Time Measurement 39
5.7.1. Test Limit 39
5.7.2. Test Procedure 39
5.7.3. Test Result 40
5.8. In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period Measurement 41
5.8.1. Test Limit 41
5.8.2. Test Procedure Used 41
5.8.3. Test Result 42
5.9. Statistical Performance Check Measurement 44
5.9.1. Test Limit 44
5.9.2. Test Procedure 44
5.9.3. Test Result 45
6. CONCLUSION 202

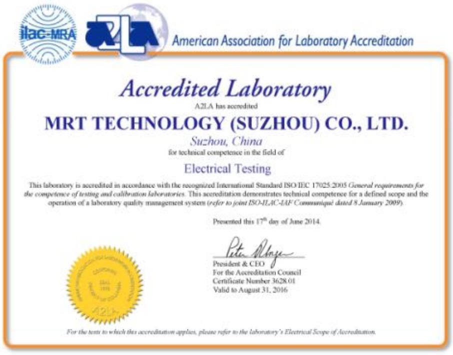
§2.1033 General Information

Applicant:	Hewlett Packard Company
Applicant Address:	153 Taylor Street Littleton Massachusetts, United States 01460-1407
Manufacturer:	Hewlett Packard Company
Manufacturer Address:	153 Taylor Street Littleton Massachusetts, United States 01460-1407
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
MRT FCC Registration No.:	809388
Model No.:	BJNGA-FB0008, JH306A
FCC ID:	O9C-BJNGAFB0008
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

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. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **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-4179, G-814, C-4664, T-2206) 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 and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**



American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MRT TECHNOLOGY (SUZHOU) CO., LTD.

Suzhou, China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 17th day of June 2014.

President & CEO
For the Accreditation Council
Certificate Number 3628.01
Valid to August 31, 2016

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

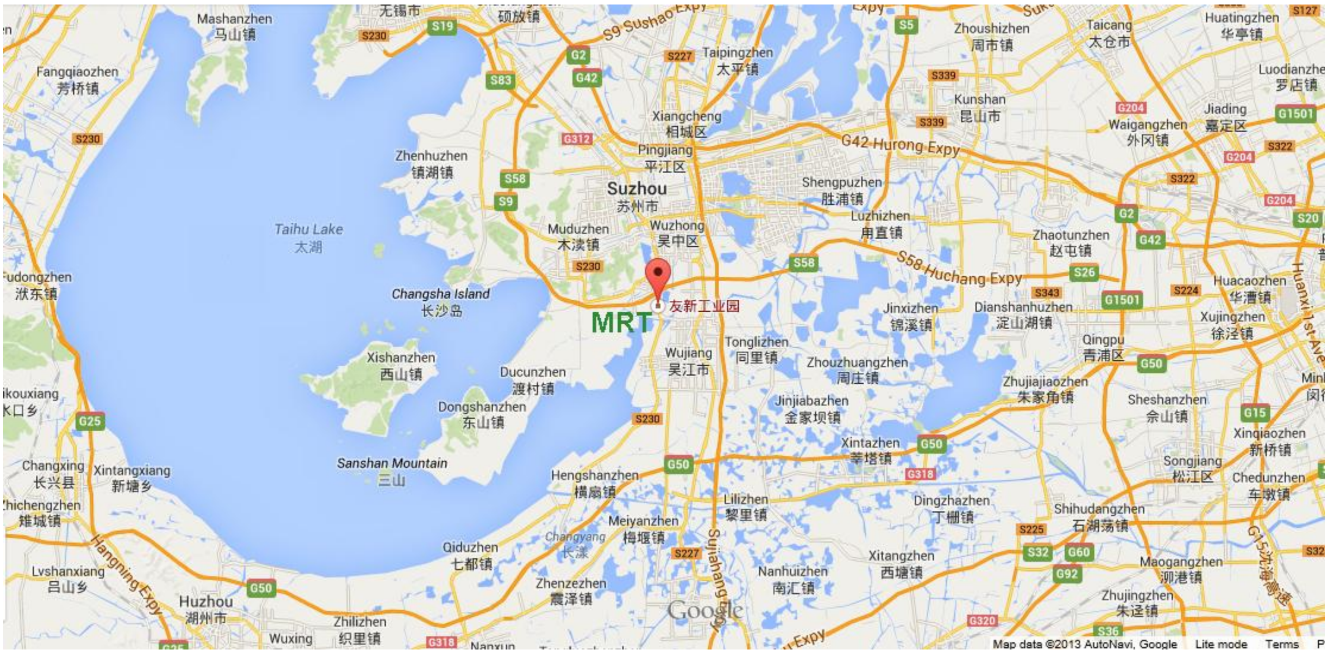
1. INTRODUCTION

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, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

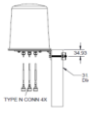
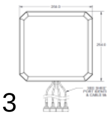
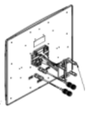

Taihu Lake
太湖
Suzhou
苏州市
MRT
友新工业园
Wuzhong
吴中区
Changsha Island
长沙岛
Xishanzhen
西山镇
Sanshan Mountain
三山
Huzhou
湖州市
Kunshan
昆山市
Wujiang
吴江市
G42 Hurong Expy
S58 Huchang Expy
Map data ©2013 AutoNavi, Google

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Wireless LAN Access Point
Model No.	BJNGA-FB0008, JH306A
Radio Type	Intentional Transceiver
Operation Mode	Master Device, Bridge Mode, Mesh Mode
Frequency Range	For 802.11a/n-HT20: 5260~5320MHz, 5500~5700MHz For 802.11ac-VHT20: 5260~5320MHz, 5500~5720MHz For 802.11n-HT40: 5270~5310MHz, 5510~5670MHz For 802.11ac-VHT40: 5270~5310MHz, 5510~5710MHz For 802.11ac-VHT80: 5290MHz, 5530MHz, 5610MHz, 5690MHz
Maximum Output Power	802.11a: 20.52dBm 802.11n-HT20: 20.58dBm 802.11n-HT40: 23.35dBm 802.11ac-VHT20: 20.13dBm 802.11ac-VHT40: 23.61dBm 802.11ac-VHT80: 23.55dBm
Type of Modulation	802.11a/n/ac: OFDM;
Power-on cycle	Requires 122.7 seconds to complete its power-on cycle.
Uniform Spreading	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 No.	Frequency Band (GHz)	Operation Mode	Product Number	Tx Paths	Max Peak Gain (dBi)	> 30 Degree Peak Gain (dBi)	Directional Gain (dBi)	
							For Power	For PSD
1	2.4	Indoor P-T-MP	JG696A	2	3.83	---	3.83	6.84
	5			2	5.69	---	5.69	8.70
 2	2.4	Outdoor P-T-MP	JL195A	2	6.70	---	6.70	9.71
	5			2	10.70	-2.0	10.70	13.71
 3	2.4	Outdoor P-T-MP	JL193A	2	8.80	---	8.80	8.80
	5			2	8.90	7.0	8.90	8.90
 4	2.4	Outdoor P-T-P	JL194A	2	11.50	---	11.50	11.50
	5			2	15.60	---	15.60	15.60

Note:

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

   For CDD transmissions, directional gain is calculated as follows, $N_{ANT} = 2$, $N_{SS} = 1$.

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

   - For power spectral density (PSD) measurements on all devices,
     Array Gain = 10 log (N_{ANT}/ N_{SS}) dB = 3.01;
   - For power measurements on IEEE 802.11 devices,
     Array Gain = 0 dB for $N_{ANT} \leq 4$;

   2) If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream:

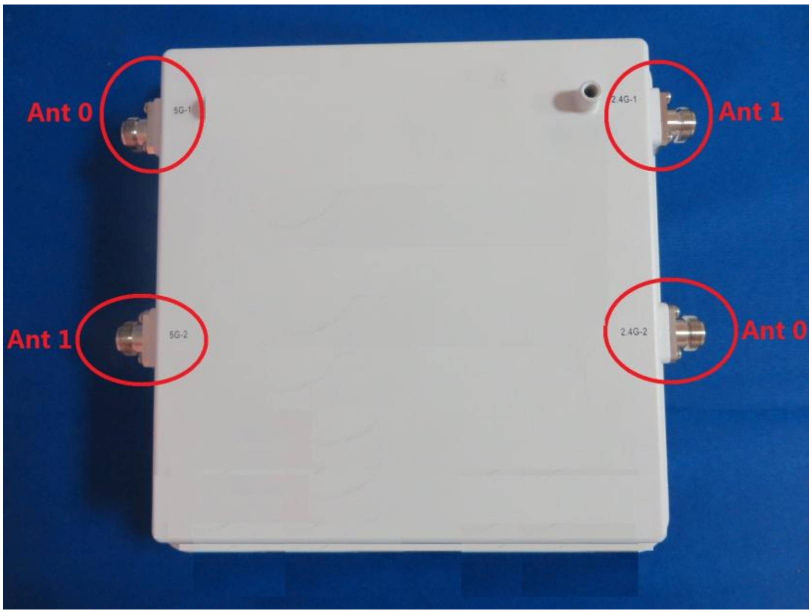
   - Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;
   - $$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$$

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

2. The antenna 3# and antenna 4# belong to cross-polarized antenna (horizontal and vertical polarizations) refer to antenna specification. According to 662911 D02 MIMO with Cross-Polarized Antennas v01, directional gain is the gain of an individual antenna.

2.3. Description of Antenna RF Port

<table>
<tr><th colspan="5">Antenna RF Port</th></tr>
<tr><td rowspan="2">--</td><td colspan="2">2.4GHz RF Port</td><td colspan="2">5GHz RF Port</td></tr>
<tr><td>2.4G-1</td><td>2.4G-2</td><td>5G-1</td><td>5G-2</td></tr>
<tr><td>Software Control Port</td><td>Ant 1</td><td>Ant 0</td><td>Ant 0</td><td>Ant 1</td></tr>
<tr><td colspan="5">Antenna RF Port Plot
 </td></tr>
</table>

2.4. DFS Band Carrier Frequencies Operation

802.11a/n-HT20 Center Working Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency
52	5260 MHz	56	5280 MHz	60	5300 MHz
64	5320 MHz	100	5500 MHz	104	5520 MHz
108	5540 MHz	112	5560 MHz	116	5580 MHz
120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz

802.11ac-VHT20 Center Working Frequency of Each Channel

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	N/A	N/A	N/A	N/A

802.11n-HT40 Center Working Frequency of Each Channel

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	N/A	N/A	N/A	N/A

802.11ac-VHT40 Center Working Frequency of Each Channel

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	5710MHz	N/A	N/A

802.11ac-VHT80 Center Working Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency
58	5290 MHz	106	5530 MHz	122	5610 MHz
138	5690 MHz	N/A	N/A	N/A	N/A

2.5. Test Mode

Mode 1: Communication in master mode
Mode 2: Communication in bridge or mesh mode

Note 1: When the EUT communicate in bridge or mesh mode, we assess the statistical performance check test item for all BW modes.

Note 2: We choose the ANTENNA 1# to test all radiated items.

3. DFS DETECTION THRESHOLDS AND RADAR TEST WAVEFORMS

3.1. Applicability

The following table from FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01r02 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 UNII DFS Compliance Procedures New Rules v01r02 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 a 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. **Note3:** 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	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\text{usec}}}\right)\right\}$	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. Test Setup

The FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01r02 describes a radiated test setup and a conducted test setup. The conducted test setup was used for the master mode testing. Figure 3-1 shows the typical test setup. The radiated test setup was used for the bridge and mesh mode testing. Figure 3-2 shows the typical test setup.

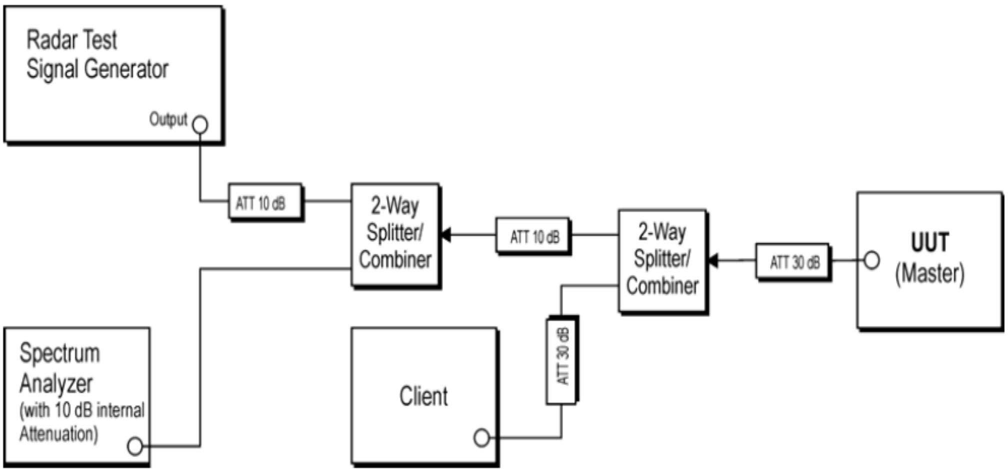

Radar Test Signal Generator
Output
ATT 10 dB
2-Way Splitter/ Combiner
ATT 10 dB
2-Way Splitter/ Combiner
ATT 30 dB
UUT (Master)
Spectrum Analyzer (with 10 dB internal Attenuation)
Client
ATT 30 dB

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

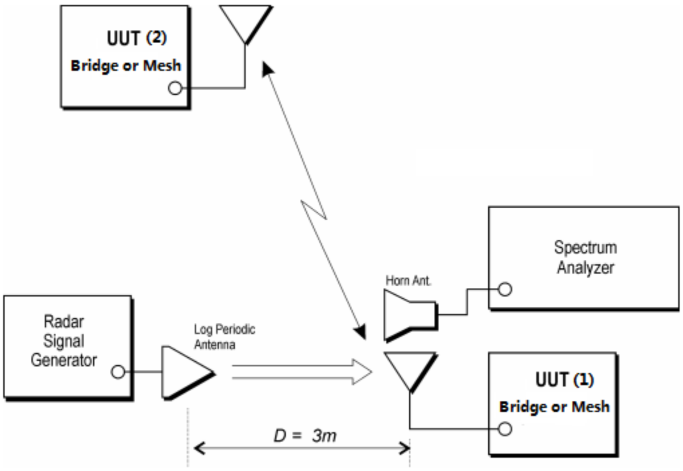

UUT (2)
Bridge or Mesh
Spectrum Analyzer
Horn Ant.
Radar Signal Generator
Log Periodic Antenna
UUT (1)
Bridge or Mesh
D = 3m

Figure 3-2: Radiated Test Setup where UUT is a Bridge or Mesh mode and Radar Test Waveforms are injected into the UUT

4. TEST EQUIPMENT CALIBRATION DATE

Dynamic Frequency Selection (DFS)

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	2016/04/23
ESG Vector Signal Generator	Agilent	E4438C	MRTSUE06026	2015/12/09
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	2015/11/08

Software	Manufacturer	Function
Pulse Building	Agilent	Radar Signal Generation Software
DFS Tool	Agilent	DFS Test Software

5. TEST RESULT

5.1. Summary

Company Name: **Hewlett Packard Company**

FCC ID: **O9C-BJNGAFB0008**

FCC Classification: **Unlicensed National Information Infrastructure (UNII)**

Parameter	Limit	Test Result	Reference
UNII 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.

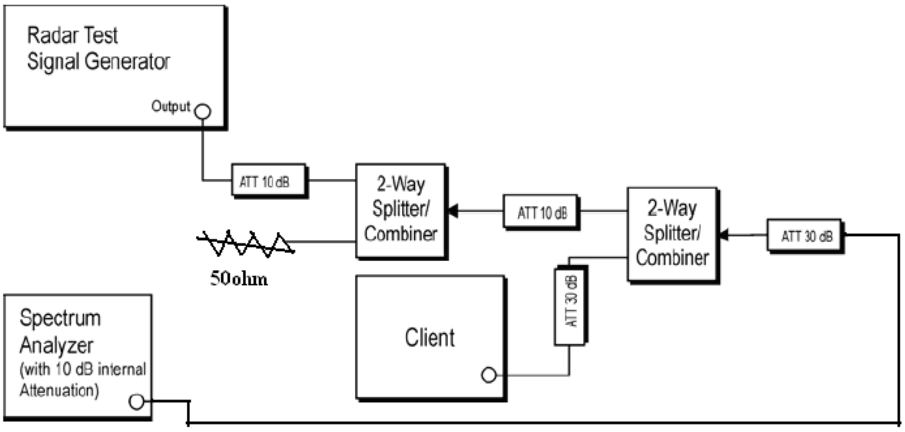

Radar Test
Signal Generator
Output
ATT 10 dB
2-Way
Splitter/
Combiner
ATT 10 dB
2-Way
Splitter/
Combiner
ATT 30 dB
50ohm
Spectrum
Analyzer
(with 10 dB internal
Attenuation)
Client
ATT 30 dB

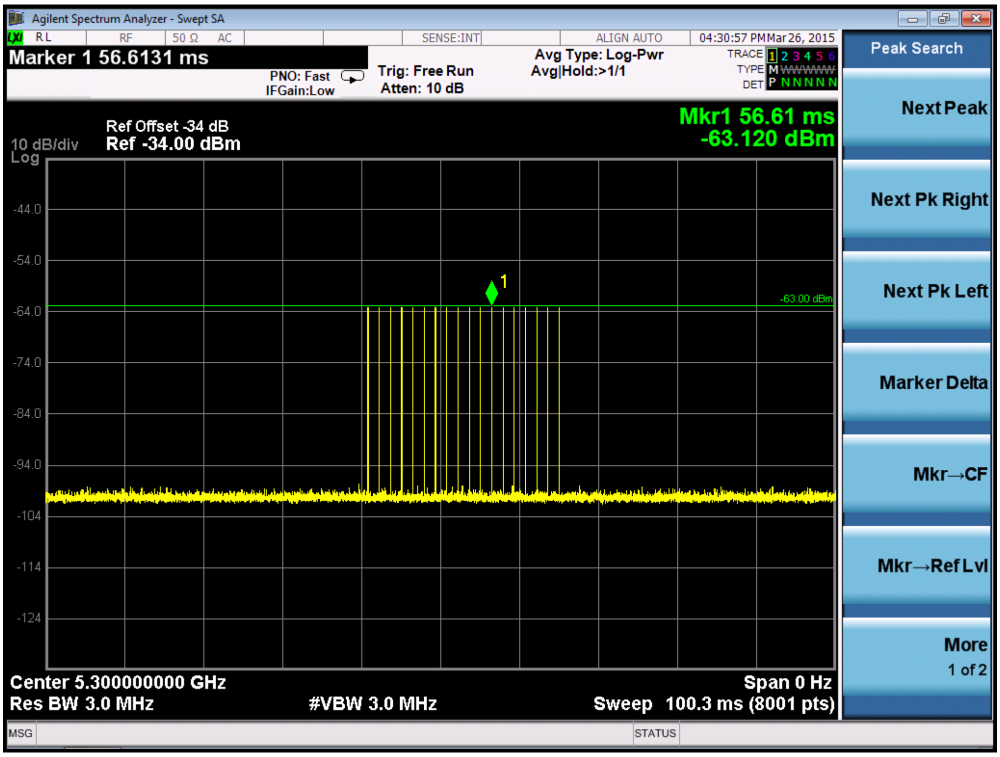
Figure 3-2: Conducted Test Setup

5.2.2. Calibration Procedure

The Interference Radar Detection Threshold Level is (-64dBm) + (0) [dBi] + 1 dB= -63 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 (-64dBm) + (0) [dBi] + 1 dB= -63dBm. Capture the spectrum analyzer plots on short pulse radar types, long pulse radar type and hopping radar waveform.

5.2.3. Cablibration Result

Radar #0 DFS detection threshold level and the burst of pulses on the Channel frequency



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:30:57 PM Mar 26, 2015

Marker 1 56.6131 ms

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

Avg Type: Log-Pwr
Avg|Hold:>1/1

TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N

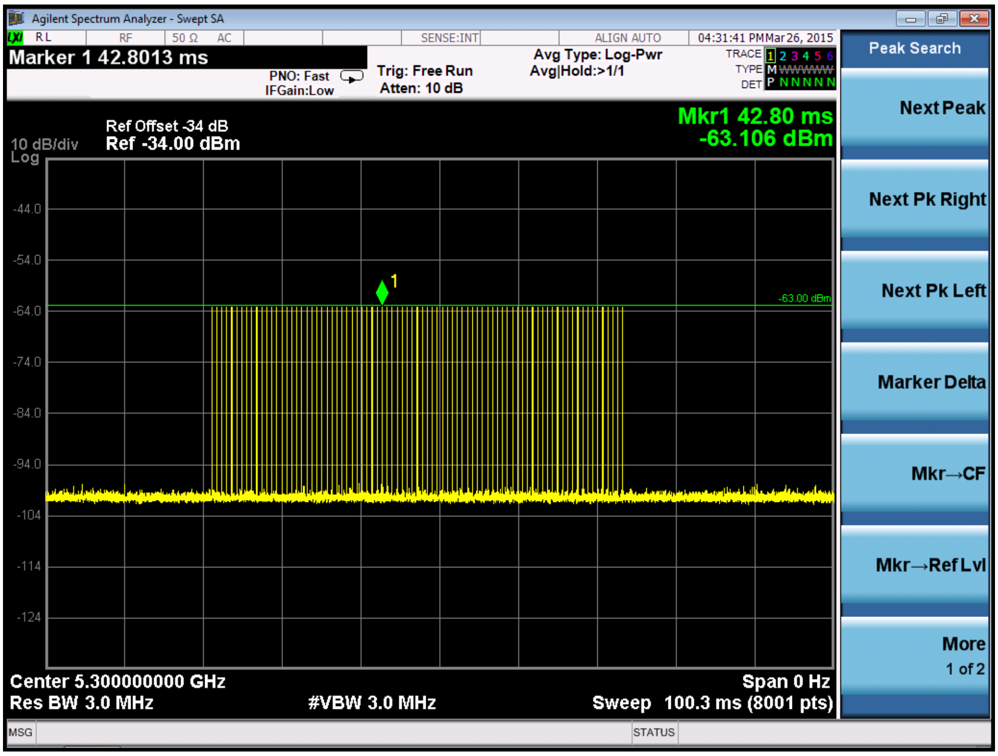
Ref Offset -34 dB
Ref -34.00 dBm

Mkr1 56.61 ms
-63.120 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 100.3 ms (8001 pts)

10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

Radar #1(Test A) DFS detection threshold level and the burst of pulses on the Channel frequency



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 04:31:41 PM Mar 26, 2015

Marker 1 42.8013 ms

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

Avg Type: Log-Pwr
Avg|Hold:>1/1

TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N

Ref Offset -34 dB
Ref -34.00 dBm

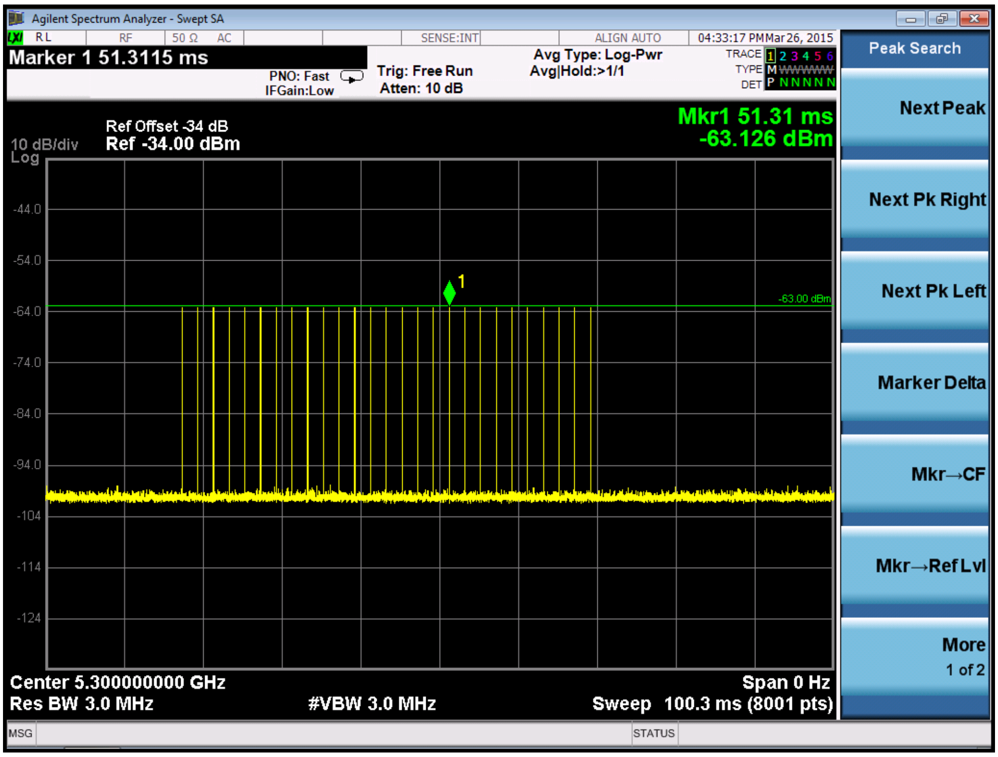
Mkr1 42.80 ms
-63.106 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 100.3 ms (8001 pts)

10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

PRI = 638us and the number of pulses = 83

Radar #1(Test B) DFS detection threshold level and the burst of pulses on the Channel frequency



Agilent Spectrum Analyzer - Swept SA

Marker 1 51.3115 ms

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
04:33:17 PM Mar 26, 2015

Ref Offset -34 dB
Ref -34.00 dBm
10 dB/div
Log

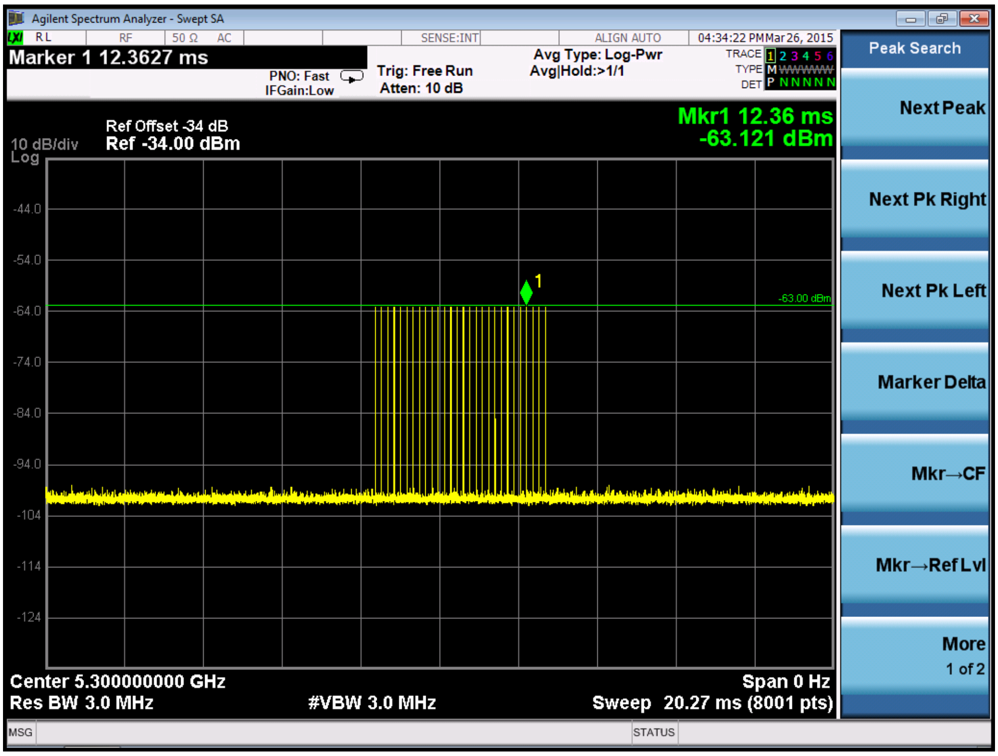
Mkr1 51.31 ms
-63.126 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 100.3 ms (8001 pts)

RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

PRI = 1.991ms and the number of pulses = 28

Radar #2 DFS detection threshold level and the burst of pulses on the Channel frequency



Agilent Spectrum Analyzer - Swept SA

Marker 1 12.3627 ms

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
04:34:22 PM Mar 26, 2015

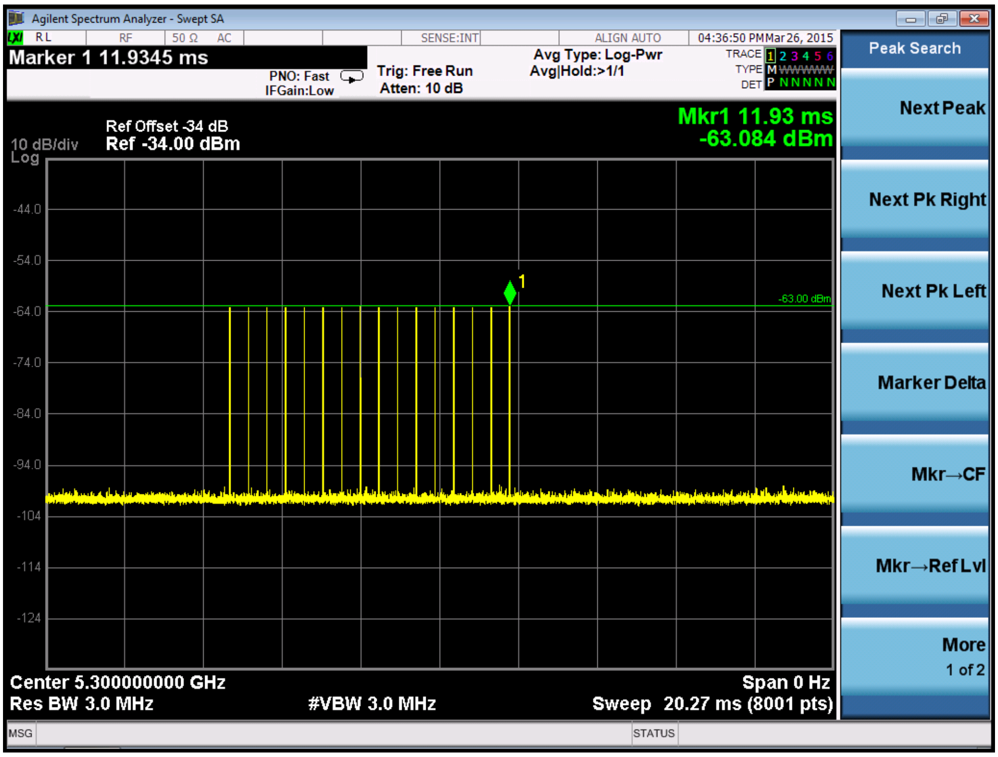
Ref Offset -34 dB
Ref -34.00 dBm
10 dB/div
Log

Mkr1 12.36 ms
-63.121 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 20.27 ms (8001 pts)

RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

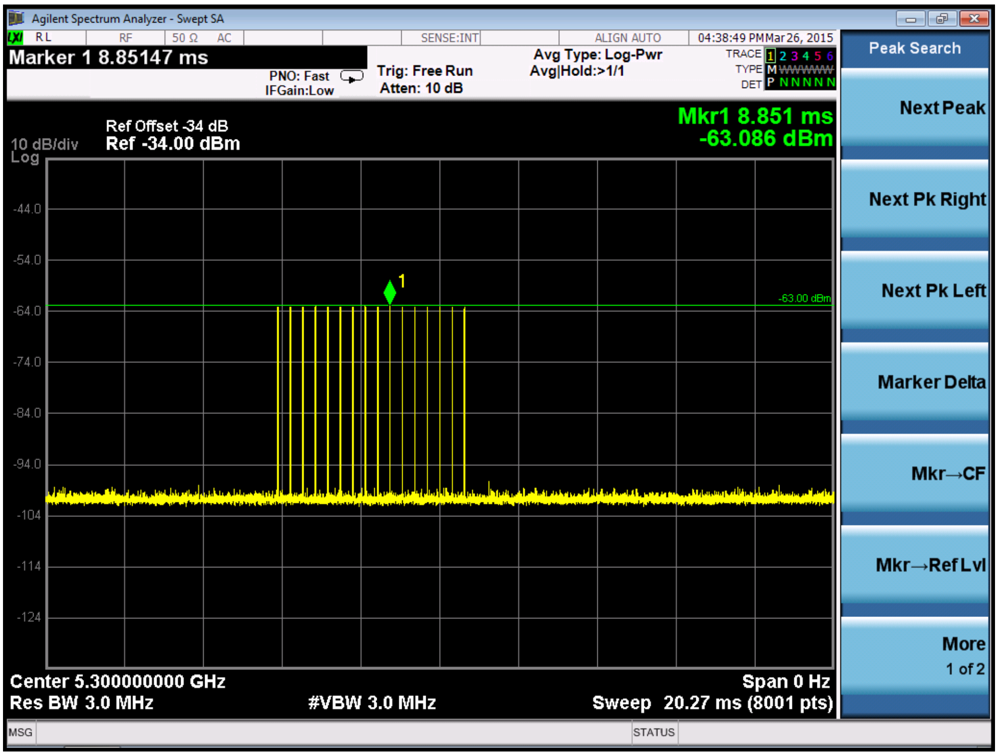
Radar #3 DFS detection threshold level and the burst of pulses on the Channel frequency



Marker 1 11.9345 ms
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
04:36:50 PM Mar 26, 2015
Ref Offset -34 dB
Ref -34.00 dBm
Mkr1 11.93 ms
-63.084 dBm
Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 20.27 ms (8001 pts)

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

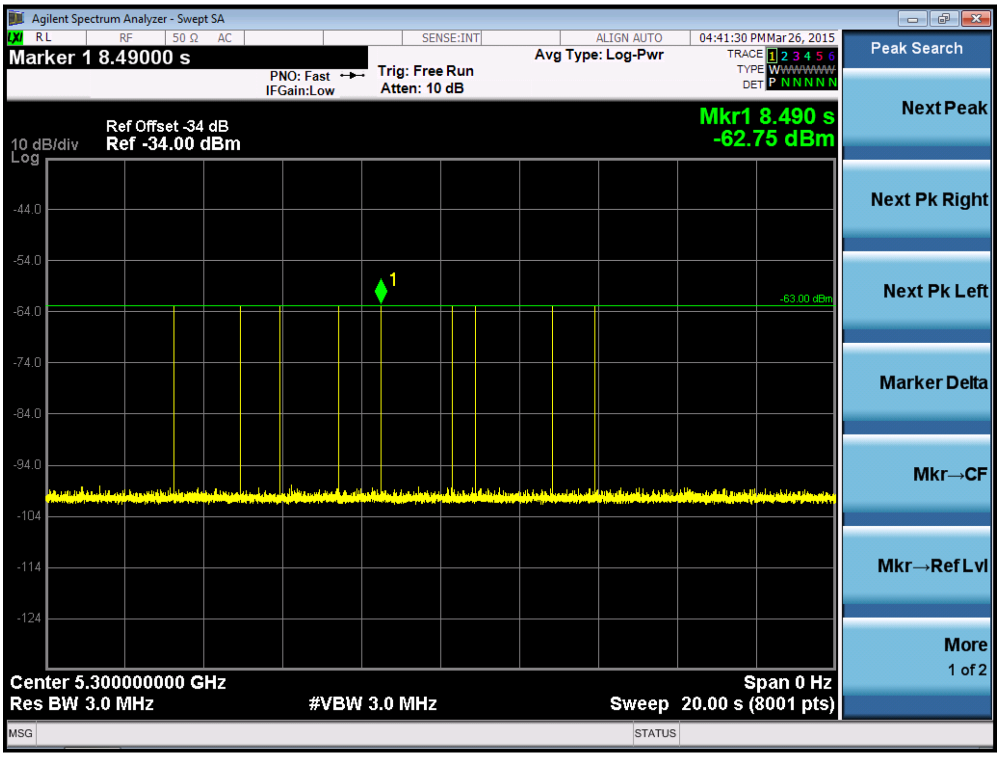
Radar #4 DFS detection threshold level and the burst of pulses on the Channel frequency



Marker 1 8.85147 ms
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1
04:38:49 PM Mar 26, 2015
Ref Offset -34 dB
Ref -34.00 dBm
Mkr1 8.851 ms
-63.086 dBm
Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 20.27 ms (8001 pts)

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

Radar #5 DFS detection threshold level and 12sec long burst on the Channel frequency


Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE W W W W W W
DET P N N N N N
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

04:41:30 PM Mar 26, 2015

Marker 1 8.49000 s

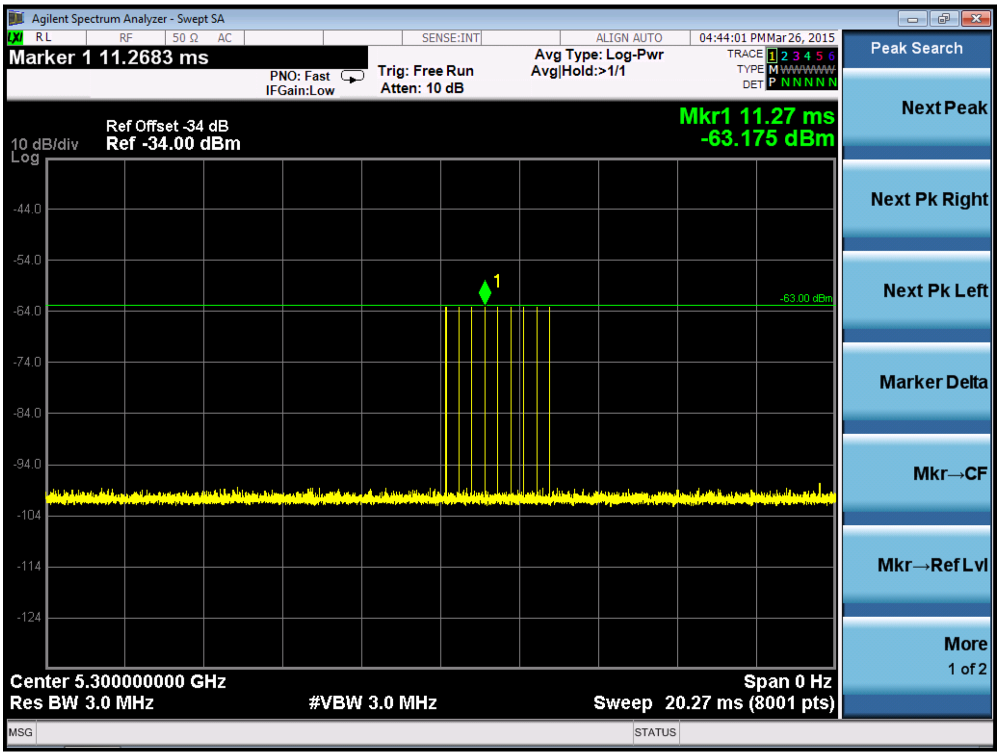
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr

Ref Offset -34 dB
Ref -34.00 dBm

Mkr1 8.490 s
-62.75 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 20.00 s (8001 pts)

Radar #6 DFS detection threshold level and a single hop (9 pulses) on the Channel frequency within UNII detection bandwidth


Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE M W W W W W
DET P N N N N N
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

04:44:01 PM Mar 26, 2015

Marker 1 11.2683 ms

PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>1/1

Ref Offset -34 dB
Ref -34.00 dBm

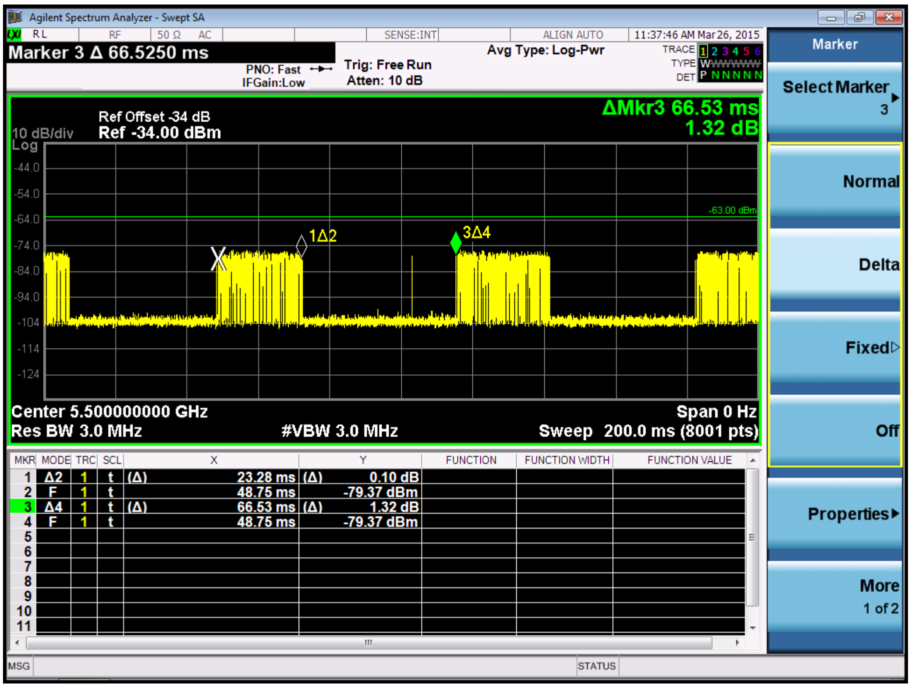
Mkr1 11.27 ms
-63.175 dBm

Center 5.300000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 20.27 ms (8001 pts)

5.3. Channel Loading Test Result

System testing was performed with the designated MPEG test file that streams full motion video from the Wireless LAN Access Point to the Client in full motion video mode using the media player with the V2.61 Codec package. 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).

Channel Loading Plot - 802.11a-5500MHz


Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω
AC
SENSE:INT
ALIGN AUTO
TRACE 1 2 3 4 5 6
TYPE WWWWWW
DET P NNNNN
Marker
Select Marker 3
Normal
Delta
Fixed
Off
Properties
More 1 of 2
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
-63.00 dBm
1Δ2
3Δ4
X
MSG
STATUS

11:37:46 AM Mar 26, 2015

Marker 3 Δ 66.5250 ms

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

Avg Type: Log-Pwr

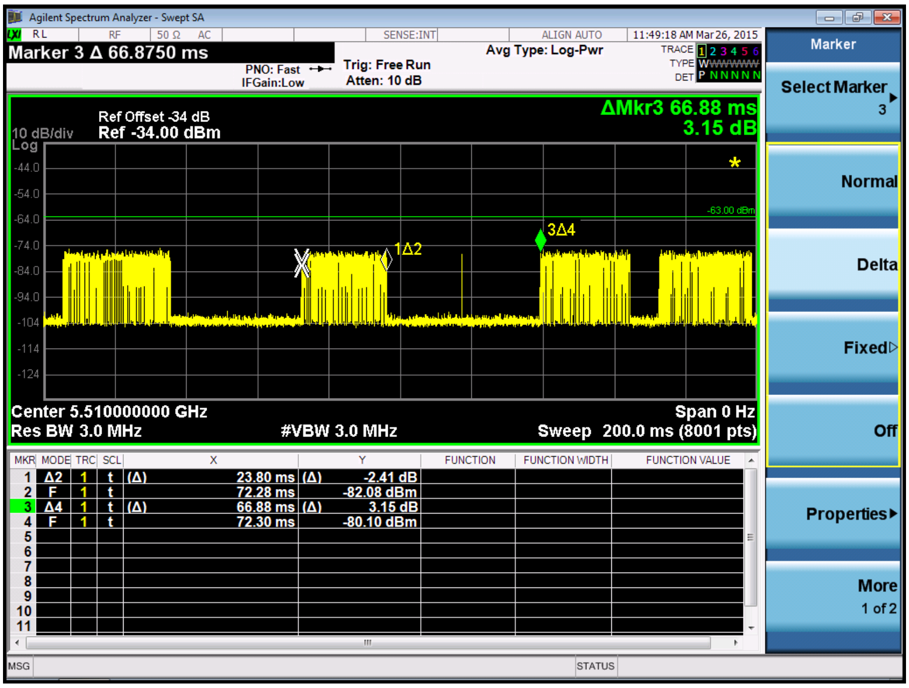
Ref Offset -34 dB
Ref -34.00 dBm

ΔMkr3 66.53 ms
1.32 dB

Center 5.500000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 200.0 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ) 23.28 ms	(Δ) 0.10 dB			
2	F	1	t	48.75 ms	-79.37 dBm			
3	Δ4	1	t	(Δ) 66.53 ms	(Δ) 1.32 dB			
4	F	1	t	48.75 ms	-79.37 dBm			
5								
6								
7								
8								
9								
10								
11								

Channel Loading Plot - 802.11n-HT40 5510MHz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:49:18 AM Mar 26, 2015

Marker 3 Δ 66.8750 ms

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB Avg Type: Log-Pwr

ΔMkr3 66.88 ms 3.15 dB

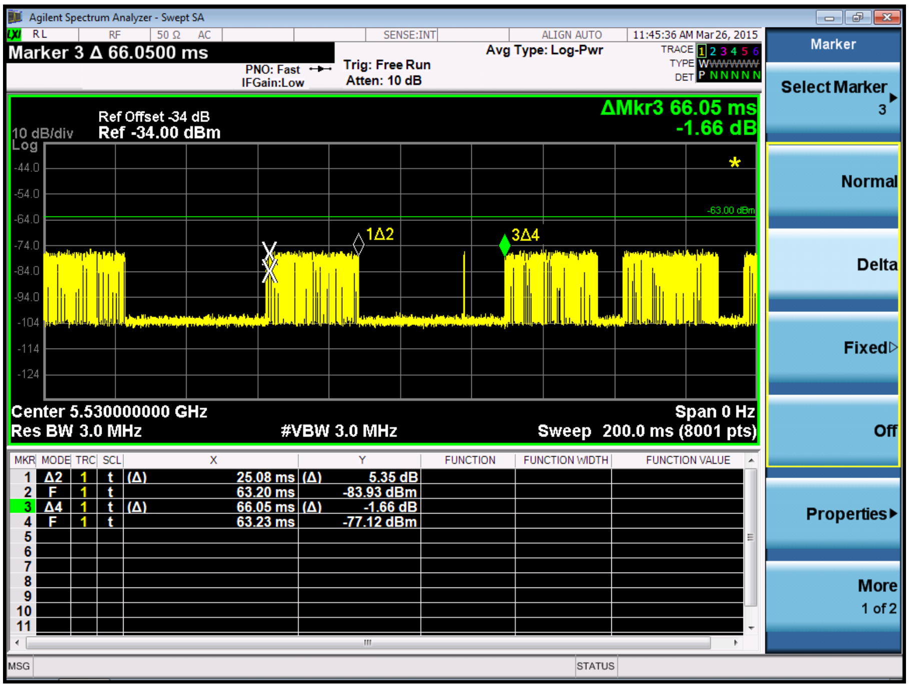
Ref Offset -34 dB Ref -34.00 dBm 10 dB/div Log

Center 5.510000000 GHz Res BW 3.0 MHz #VBW 3.0 MHz Span 0 Hz Sweep 200.0 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t (Δ)	23.80 ms (Δ)	-2.41 dB			
2	F	1	t	72.28 ms	-82.08 dBm			
3	Δ4	1	t (Δ)	66.88 ms (Δ)	3.15 dB			
4	F	1	t	72.30 ms	-80.10 dBm			
5								
6								
7								
8								
9								
10								
11								

TRACE 1 2 3 4 5 6
TYPE WWWWWW
DET P NNNNN
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
-63.00 dBm
1Δ2
3Δ4
Marker
Select Marker 3
Normal
Delta
Fixed
Off
Properties
More 1 of 2
MSG
STATUS

Channel Loading Plot - 802.11ac-VHT80 5530MHz



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:45:36 AM Mar 26, 2015

Marker 3 Δ 66.0500 ms

PNO: Fast IFGain:Low Trig: Free Run Atten: 10 dB Avg Type: Log-Pwr

ΔMkr3 66.05 ms -1.66 dB

Ref Offset -34 dB Ref -34.00 dBm 10 dB/div Log

Center 5.530000000 GHz Res BW 3.0 MHz #VBW 3.0 MHz Span 0 Hz Sweep 200.0 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t (Δ)	25.08 ms (Δ)	5.35 dB			
2	F	1	t	63.20 ms	-83.93 dBm			
3	Δ4	1	t (Δ)	66.05 ms (Δ)	-1.66 dB			
4	F	1	t	63.23 ms	-77.12 dBm			
5								
6								
7								
8								
9								
10								
11								

TRACE 1 2 3 4 5 6
TYPE WWWWWW
DET P NNNNN
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
-63.00 dBm
1Δ2
3Δ4
Marker
Select Marker 3
Normal
Delta
Fixed
Off
Properties
More 1 of 2
MSG
STATUS

Test Mode	Packet ratio	Requirement ratio	Test Result
802.11a	34.99%	>17%	Pass
802.11n-40MHz	35.59%	>17%	Pass
802.11ac-80MHz	37.97%	>17%	Pass

5.4. UNII Detection Bandwidth Measurement

5.4.1. Test Limit

Minimum 100% of the UNII 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.

5.4.2. 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-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.

5.4.3. Test Result

EUT Frequency=5500MHz for 802.11a											
Radar Frequency (MHz)	**DFS Detection Trials (1=Detection, 0= No Detection)**										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Detection Rate (%)**
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%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	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%
Detection Bandwidth = FH - FL = 5509MHz - 5491MHz = 18MHz											
EUT 99% Bandwidth = 16.71MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 16.71MHz x 100% = 16.71MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5500MHz. The 99% channel bandwidth is 16.71MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency=5510MHz for 802.11n-HT40											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
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%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5511	1	1	1	1	1	1	1	1	1	1	100%
5512	1	1	1	1	1	1	1	1	1	1	100%
5513	1	1	1	1	1	1	1	1	1	1	100%
5514	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5516	1	1	1	1	1	1	1	1	1	1	100%
5517	1	1	1	1	1	1	1	1	1	1	100%
5518	1	1	1	1	1	1	1	1	1	1	100%
5519	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%

5521	1	1	1	1	1	1	1	1	1	1	100%
5522	1	1	1	1	1	1	1	1	1	1	100%
5523	1	1	1	1	1	1	1	1	1	1	100%
5524	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%
Detection Bandwidth = FH - FL = 5529MHz - 5492MHz = 37MHz											
EUT 99% Bandwidth = 36.32MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 36.32MHz x 100% = 36.32MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5510MHz. The 99% channel bandwidth is 36.32MHz. (See the 99% BW section of the RF report for further measurement details).

EUT Frequency=5530MHz for 802.11ac-VHT80											
Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										
	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
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%
5496	1	1	1	1	1	1	1	1	1	1	100%
5497	1	1	1	1	1	1	1	1	1	1	100%
5498	1	1	1	1	1	1	1	1	1	1	100%
5499	1	1	1	1	1	1	1	1	1	1	100%
5500	1	1	1	1	1	1	1	1	1	1	100%
5501	1	1	1	1	1	1	1	1	1	1	100%
5502	1	1	1	1	1	1	1	1	1	1	100%
5503	1	1	1	1	1	1	1	1	1	1	100%
5504	1	1	1	1	1	1	1	1	1	1	100%
5505	1	1	1	1	1	1	1	1	1	1	100%
5506	1	1	1	1	1	1	1	1	1	1	100%
5507	1	1	1	1	1	1	1	1	1	1	100%
5508	1	1	1	1	1	1	1	1	1	1	100%
5509	1	1	1	1	1	1	1	1	1	1	100%
5510	1	1	1	1	1	1	1	1	1	1	100%
5511	1	1	1	1	1	1	1	1	1	1	100%
5512	1	1	1	1	1	1	1	1	1	1	100%
5513	1	1	1	1	1	1	1	1	1	1	100%
5514	1	1	1	1	1	1	1	1	1	1	100%
5515	1	1	1	1	1	1	1	1	1	1	100%
5516	1	1	1	1	1	1	1	1	1	1	100%
5517	1	1	1	1	1	1	1	1	1	1	100%
5518	1	1	1	1	1	1	1	1	1	1	100%

5519	1	1	1	1	1	1	1	1	1	1	100%
5520	1	1	1	1	1	1	1	1	1	1	100%
5521	1	1	1	1	1	1	1	1	1	1	100%
5522	1	1	1	1	1	1	1	1	1	1	100%
5523	1	1	1	1	1	1	1	1	1	1	100%
5524	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	1	1	1	1	1	1	1	1	1	1	100%
5530	1	1	1	1	1	1	1	1	1	1	100%
5531	1	1	1	1	1	1	1	1	1	1	100%
5532	1	1	1	1	1	1	1	1	1	1	100%
5533	1	1	1	1	1	1	1	1	1	1	100%
5534	1	1	1	1	1	1	1	1	1	1	100%
5535	1	1	1	1	1	1	1	1	1	1	100%
5536	1	1	1	1	1	1	1	1	1	1	100%
5537	1	1	1	1	1	1	1	1	1	1	100%
5538	1	1	1	1	1	1	1	1	1	1	100%
5539	1	1	1	1	1	1	1	1	1	1	100%
5540	1	1	1	1	1	1	1	1	1	1	100%
5541	1	1	1	1	1	1	1	1	1	1	100%
5542	1	1	1	1	1	1	1	1	1	1	100%
5543	1	1	1	1	1	1	1	1	1	1	100%
5544	1	1	1	1	1	1	1	1	1	1	100%
5545	1	1	1	1	1	1	1	1	1	1	100%
5546	1	1	1	1	1	1	1	1	1	1	100%
5547	1	1	1	1	1	1	1	1	1	1	100%
5548	1	1	1	1	1	1	1	1	1	1	100%
5549	1	1	1	1	1	1	1	1	1	1	100%
5550	1	1	1	1	1	1	1	1	1	1	100%
5551	1	1	1	1	1	1	1	1	1	1	100%

5552	1	1	1	1	1	1	1	1	1	1	100%
5553	1	1	1	1	1	1	1	1	1	1	100%
5554	1	1	1	1	1	1	1	1	1	1	100%
5555	1	1	1	1	1	1	1	1	1	1	100%
5556	1	1	1	1	1	1	1	1	1	1	100%
5557	1	1	1	1	1	1	1	1	1	1	100%
5558	1	1	1	1	1	1	1	1	1	1	100%
5559	1	1	1	1	1	1	1	1	1	1	100%
5560	1	1	1	1	1	1	1	1	1	1	100%
5561	1	1	1	1	1	1	1	1	1	1	100%
5562	1	1	1	1	1	1	1	1	1	1	100%
5563	1	1	1	1	1	1	1	1	1	1	100%
5564	1	1	1	1	1	1	1	1	1	1	100%
5565	1	1	1	1	1	1	1	1	1	1	100%
5566	1	1	1	1	1	1	1	1	1	1	100%
5567	1	1	1	1	1	1	1	1	1	1	100%
5568	1	1	1	1	1	1	1	1	1	1	100%
5569 FH	1	1	1	1	1	1	1	1	1	1	100%
5570	0	0	0	0	0	0	0	0	0	0	0%
Detection Bandwidth = FH - FL = 5569MHz - 5491MHz = 78MHz											
EUT 99% Bandwidth = 75.76MHz (see note)											
UNII Detection Bandwidth Min. Limit (MHz): 75.76MHz x 100% = 75.76MHz											

Note: All UNII channels for this device have identical Channel bandwidths. Therefore, all DFS testing was done at 5530MHz. The 99% channel bandwidth is 75.76MHz. (See the 99% BW section of the RF report for further measurement details).

5.5. Initial Channel Availability Check Time Measurement

5.5.1. 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.

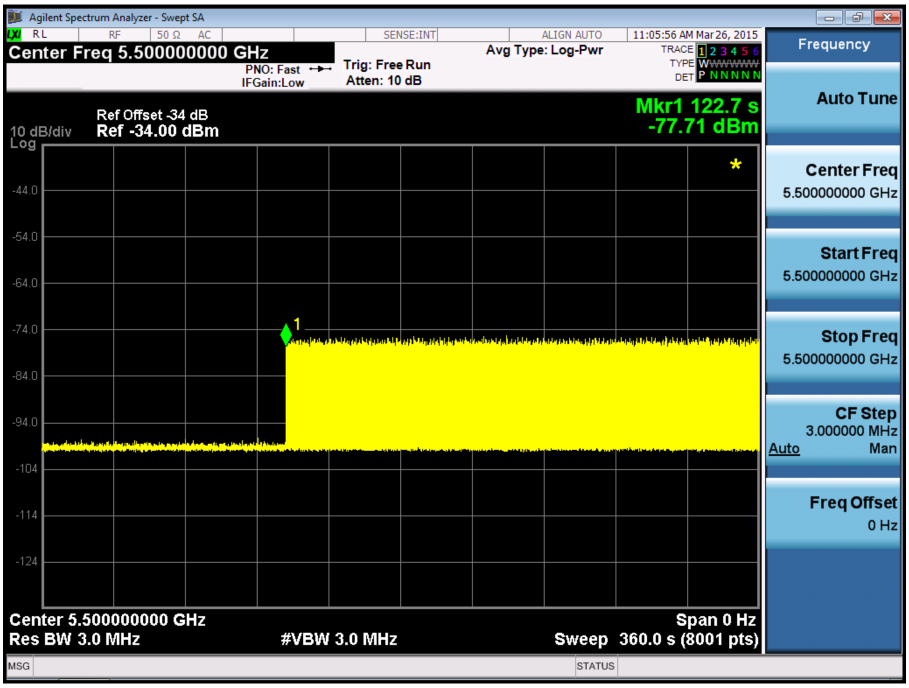
5.5.2. Test Procedure

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.

5.5.3. Test Result

The EUT does not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle (62.7 sec). Initial beacons/data transmissions are indicated by marker 1 (122.7 sec).

Initial Channel Availability Check Time for 802.11a



Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω AC SENSE:INT ALIGN AUTO 11:05:56 AM Mar 26, 2015

Center Freq 5.500000000 GHz

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6

TYPE WWWWWW

DET P N N N N N

Ref Offset -34 dB

10 dB/div Ref -34.00 dBm

Mkr1 122.7 s

-77.71 dBm

Center 5.500000000 GHz

Res BW 3.0 MHz

#VBW 3.0 MHz

Span 0 Hz

Sweep 360.0 s (8001 pts)

Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
Frequency
Auto Tune
Center Freq 5.500000000 GHz
Start Freq 5.500000000 GHz
Stop Freq 5.500000000 GHz
CF Step 3.000000 MHz
Auto Man
Freq Offset 0 Hz
MSG
STATUS

5.6. Radar Burst at the Beginning of the Channel Availability Check Time Measurement

5.6.1. Test Limit

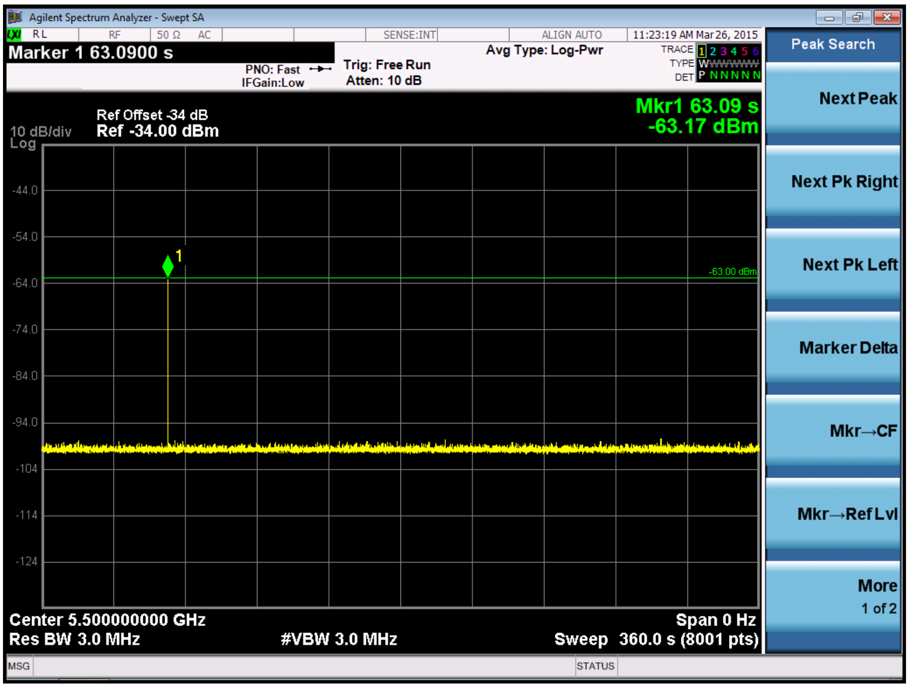
In beginning of the Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

5.6.2. 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 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 at 5500MHz (for 802.11a) 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 at 5500MHz (for 802.11a).

5.6.3. Test Result

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



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:23:19 AM Mar 26, 2015

Marker 1 63.0900 s

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6

TYPE WWWWWW

DET P N N N N N

Ref Offset -34 dB

10 dB/div Ref -34.00 dBm

Mkr1 63.09 s

-63.17 dBm

Center 5.500000000 GHz

Res BW 3.0 MHz

#VBW 3.0 MHz

Span 0 Hz

Sweep 360.0 s (8001 pts)

Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→RefLvl
More
1 of 2
MSG
STATUS

5.7. Radar Burst at the End of the Channel Availability Check Time Measurement

5.7.1. Test Limit

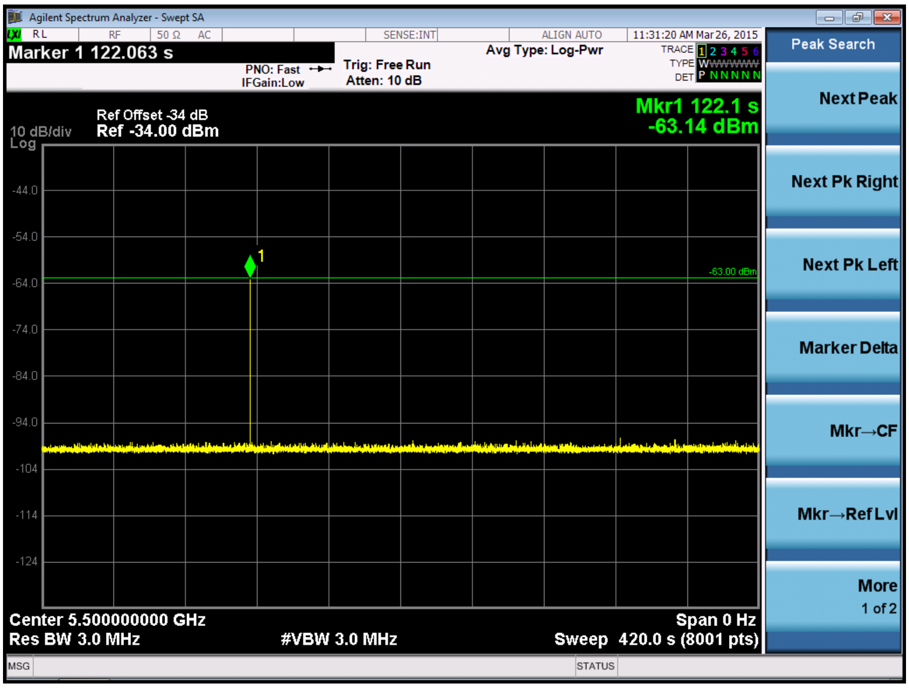
In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC on that channel.

5.7.2. 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 thanT1 + 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 at 5500MHz (for 802.11a) 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 at 5500MHz (for 802.11a).

5.7.3. Test Result

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



Agilent Spectrum Analyzer - Swept SA

RL | RF | 50 Ω AC | SENSE:INT | ALIGN AUTO | 11:31:20 AM Mar 26, 2015

Marker 1 122.063 s

PNO: Fast
IFGain:Low

Trig: Free Run
Atten: 10 dB

Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6
TYPE W W W W W W
DET P N N N N N

Ref Offset -34 dB
Ref -34.00 dBm

10 dB/div
Log

Mkr1 122.1 s
-63.14 dBm

Center 5.500000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 420.0 s (8001 pts)

-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
1
-63.00 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

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

5.8.1. Test Limit

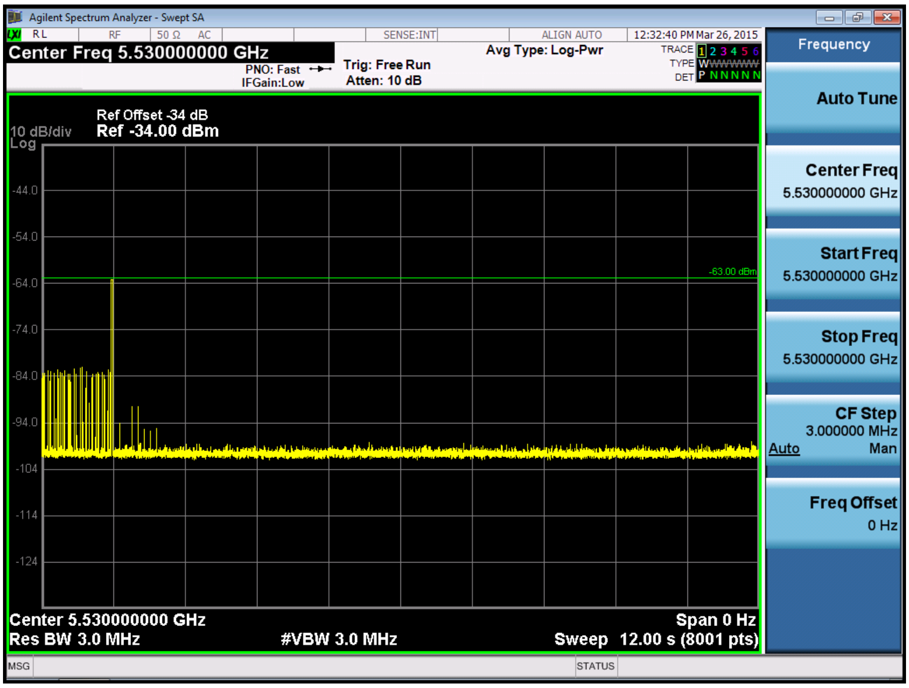
The EUT has In-Service Monitoring function to continuously monitor the radar signals. If the radar is detected, must leave the channel (Shutdown). The Channel Move Time to cease all transmissions on the current channel upon detection of a Radar Waveform above the DFS Detection Threshold within 10 sec. 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.

5.8.2. 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 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: 80MHz: C (7.499 ms) = N (5) X Dwell (1.5 ms); 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.

5.8.3. Test Result

Channel Move Time and Channel Closing Transmission Time for 802.11ac-VHT80



Agilent Spectrum Analyzer - Swept SA

R L RF 50 Ω AC SENSE:INT ALIGN AUTO 12:32:40 PM Mar 26, 2015

Center Freq 5.530000000 GHz

PNO: Fast IFGain:Low

Trig: Free Run

Atten: 10 dB

Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6

TYPE WWWWWW

DET P N N N N N

Ref Offset -34 dB

Ref -34.00 dBm

10 dB/div Log

Center 5.530000000 GHz

Res BW 3.0 MHz

#VBW 3.0 MHz

Span 0 Hz

Sweep 12.00 s (8001 pts)

Frequency

Auto Tune

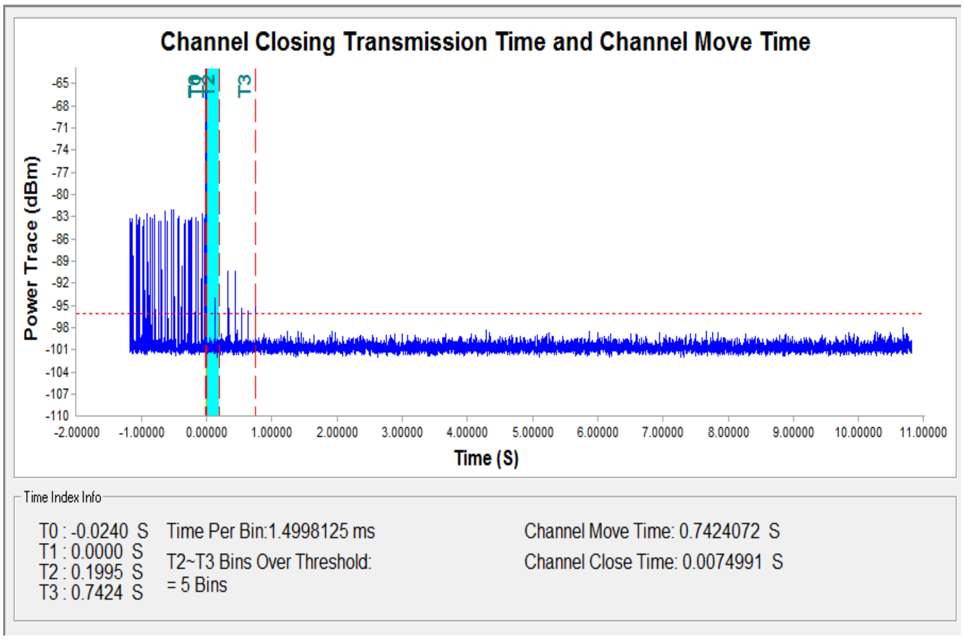
Center Freq 5.530000000 GHz

Start Freq 5.530000000 GHz

Stop Freq 5.530000000 GHz

CF Step 3.000000 MHz Auto Man

Freq Offset 0 Hz



Channel Closing Transmission Time and Channel Move Time

Time Index Info

T0 : -0.0240 S
T1 : 0.0000 S
T2 : 0.1995 S
T3 : 0.7424 S

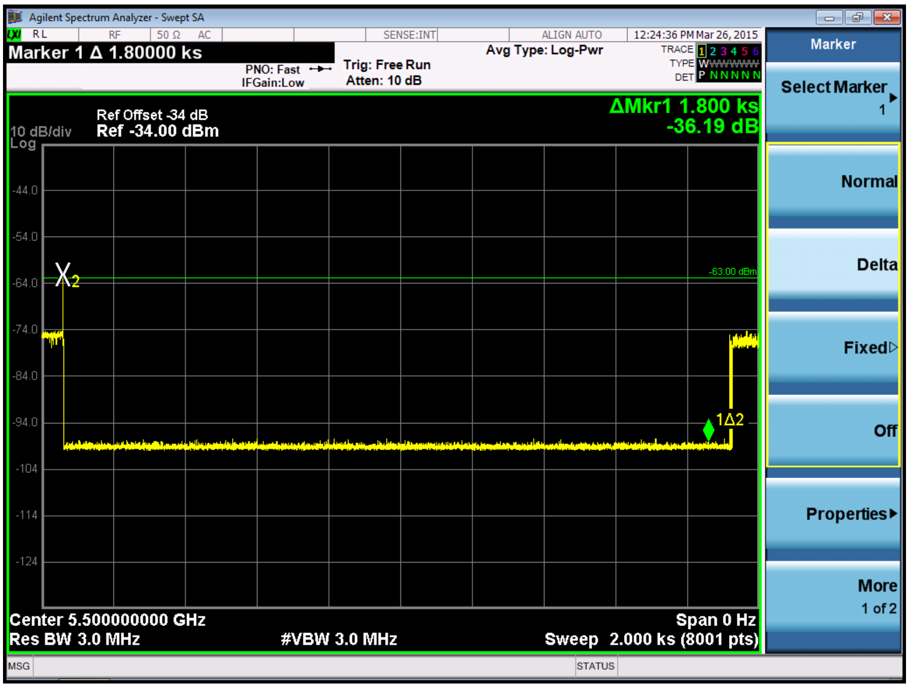
Time Per Bin:1.4998125 ms

T2~T3 Bins Over Threshold:
= 5 Bins

Channel Move Time: 0.7424072 S

Channel Close Time: 0.0074991 S

Non-Occupancy Period for 802.11a



Agilent Spectrum Analyzer - Swept SA
RL RF 50 Ω AC SENSE:INT ALIGN AUTO 12:24:36 PM Mar 26, 2015
Marker 1 Δ 1.80000 ks
PNO: Fast IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Ref Offset -34 dB
Ref -34.00 dBm
ΔMkr1 1.800 ks
-36.19 dB
Center 5.500000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 2.000 ks (8001 pts)

TRACE 1 2 3 4 5 6
TYPE WWWWWW
DET P N N N N N
10 dB/div
Log
-44.0
-54.0
-64.0
-74.0
-84.0
-94.0
-104
-114
-124
-63.00 dBm
X2
1Δ2
Marker
Select Marker 1
Normal
Delta
Fixed
Off
Properties
More 1 of 2
MSG
STATUS

Parameter	Test Result	Limit
	Type 0	
Channel Move Time (s)	0.742s	<10s
Channel Closing Transmission Time (ms) (Note)	7.499ms	< 60ms
Non-Occupancy Period (min)	≥ 30min	≥ 30 min

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.

5.9. Statistical Performance Check Measurement

5.9.1. 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%

The percentage of successful detection is calculated by:

(Total Waveform Detections / Total Waveform Trails) * 100 = 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.

5.9.2. 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.

5.9.3. Test Result

Mode1: Master mode

Statistical Performance Check for 802.11a Radar Type 1 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5491	1	718	74	1
2	5491	1	878	61	1
3	5491	1	558	95	1
4	5491	1	3066	18	1
5	5491	1	618	86	1
6	5491	1	638	83	1
7	5491	1	758	70	1
8	5491	1	598	89	1
9	5491	1	818	65	1
10	5491	1	658	81	1
11	5491	1	858	62	1
12	5491	1	578	92	1
13	5491	1	918	58	1
14	5491	1	698	76	1
15	5491	1	678	78	1
16	5491	1	1301	41	1
17	5491	1	576	92	1
18	5491	1	1276	42	1
19	5491	1	926	57	1
20	5491	1	2584	21	1
21	5491	1	755	70	1
22	5491	1	1446	37	1
23	5491	1	1504	36	1
24	5491	1	546	97	1
25	5491	1	1755	31	1
26	5491	1	2391	23	1
27	5491	1	1611	33	1
28	5491	1	693	77	1
29	5491	1	1371	39	1
30	5491	1	1412	38	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	5500	4.7	209	1.0	1
2	5500	4.2	151	3.7	1
3	5500	3.3	198	1.6	1
4	5500	3.9	176	4.4	1
5	5500	2.3	193	4.3	1
6	5500	4.7	227	3.7	1
7	5500	1.3	167	1.8	1
8	5500	2.3	156	4.8	1
9	5500	4.9	228	1.7	1
10	5500	3.6	165	2.3	1
11	5500	3.9	158	4.8	1
12	5500	1.9	175	4.7	1
13	5500	4.9	183	1.6	0
14	5500	3.7	209	4.4	1
15	5500	4.0	167	2.9	1
16	5500	4.3	229	1.3	1
17	5500	2.2	163	1.2	1
18	5500	3.4	174	4.8	1
19	5500	4.5	178	2.0	1
20	5500	2.4	196	2.0	1
21	5500	2.6	157	1.7	1
22	5500	1.8	169	3.2	1
23	5500	5.0	155	3.8	1
24	5500	3.4	164	4.3	1
25	5500	2.8	200	1.4	1
26	5500	1.5	216	4.3	1
27	5500	1.5	215	1.6	1
28	5500	1.7	196	3.0	1
29	5500	2.7	159	4.4	1
30	5500	3.6	160	2.1	1
Detection Percentage (%)					96.7%

Radar Type 3 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5505	6.5	264	18	1
2	5505	9.8	477	18	1
3	5505	6.9	278	18	1
4	5505	8.9	272	17	1
5	5505	6.5	439	16	1
6	5505	6.0	436	18	1
7	5505	9.5	358	18	1
8	5505	6.0	486	18	1
9	5505	8.4	360	18	1
10	5505	7.2	361	18	1
11	5505	7.0	332	18	1
12	5505	8.0	360	18	1
13	5505	9.9	474	17	1
14	5505	6.7	495	17	1
15	5505	7.5	404	18	1
16	5505	7.0	492	18	1
17	5505	8.9	335	18	1
18	5505	9.7	368	18	1
19	5505	6.1	284	17	1
20	5505	7.8	372	17	1
21	5505	6.4	468	18	1
22	5505	6.4	485	18	1
23	5505	6.5	392	18	1
24	5505	6.6	346	18	1
25	5505	10.0	319	16	1
26	5505	8.7	261	18	1
27	5505	6.4	300	18	1
28	5505	6.9	460	16	1
29	5505	7.5	297	18	1
30	5505	9.9	416	17	1
Detection Percentage (%)					100%

Radar Type 4 - Radar Statistical Performance

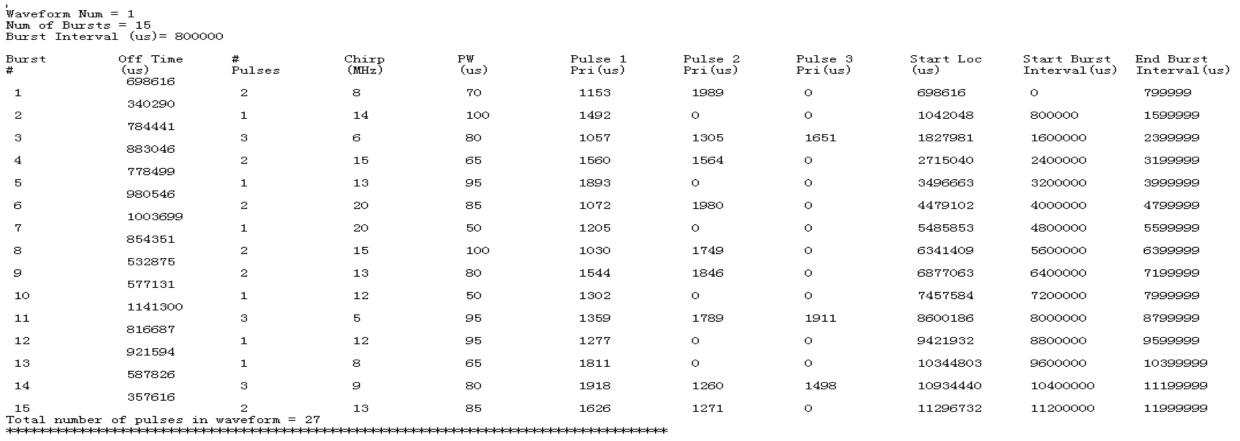
Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5509	11.6	465	13	1
2	5509	19.6	261	15	1
3	5509	17.7	496	16	1
4	5509	11.0	362	14	1
5	5509	19.9	400	12	1
6	5509	17.2	392	14	1
7	5509	14.2	461	16	1
8	5509	16.5	449	14	1
9	5509	14.4	356	13	1
10	5509	19.7	413	15	1
11	5509	12.6	393	14	1
12	5509	12.2	413	13	1
13	5509	11.2	303	15	1
14	5509	17.4	425	14	1
15	5509	12.2	460	13	1
16	5509	19.3	351	13	1
17	5509	16.1	452	14	1
18	5509	13.8	393	16	1
19	5509	15.8	471	13	1
20	5509	14.7	486	13	1
21	5509	15.0	499	16	1
22	5509	16.5	455	15	1
23	5509	15.4	436	15	1
24	5509	17.7	254	14	1
25	5509	14.0	353	16	1
26	5509	14.0	332	13	1
27	5509	19.0	445	16	1
28	5509	19.7	324	14	1
29	5509	18.5	273	12	1
30	5509	15.1	380	13	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%+96.7%+100%+100%)/4 = 99.18% (>80%)

Radar Type 5 - Radar Statistical Performance

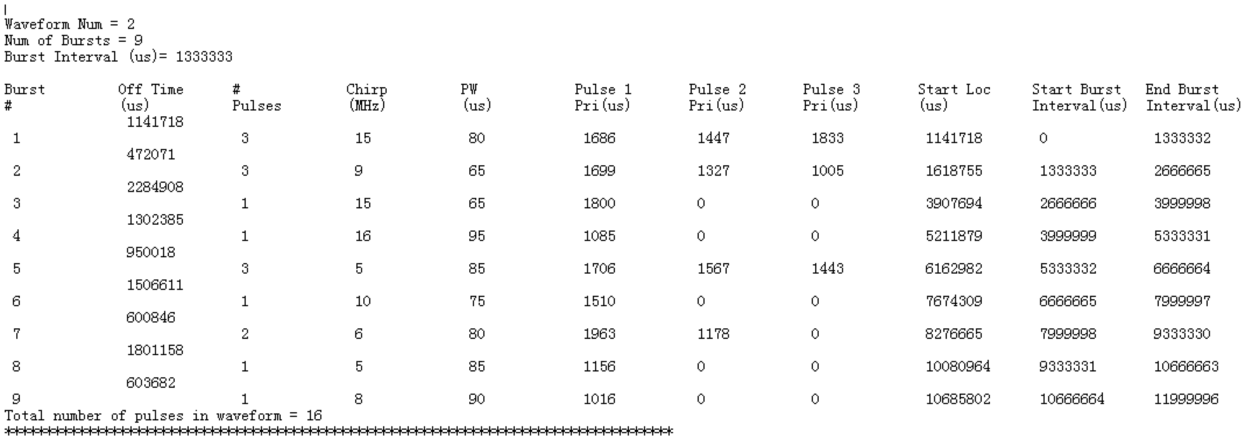
Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5492	1	16	5507	1
2	5493	1	17	5508	1
3	5494	1	18	5492	1
4	5495	1	19	5493	1
5	5496	1	20	5494	1
6	5497	1	21	5495	1
7	5498	1	22	5496	1
8	5499	1	23	5497	1
9	5500	1	24	5498	1
10	5501	1	25	5499	1
11	5502	1	26	5500	1
12	5503	1	27	5501	1
13	5504	1	28	5502	1
14	5505	1	29	5503	1
15	5506	1	30	5504	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1



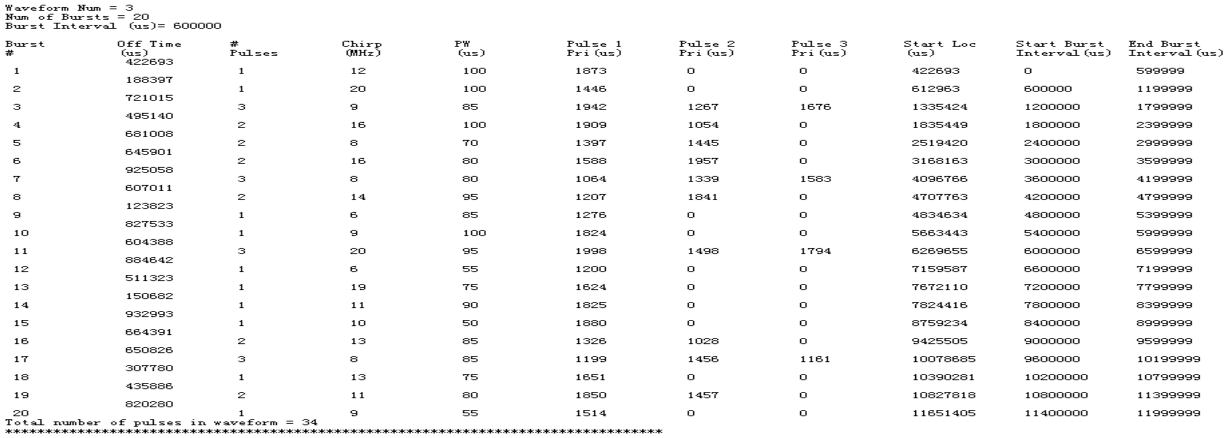
```
Waveform Num = 1
Num of Bursts = 15
Burst Interval (us)= 800000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri(us)        Pri(us)        Pri(us)        (us)           Interval(us)   Interval(us)
                698616
 1                             2              8              70             1153           1989           0              698616         0              799999
                340290
 2                             1              14             100            1492           0              0              1042048        800000         1599999
                784441
 3                             3              6              80             1057           1305           1651           1827981        1600000        2399999
                883046
 4                             2              15             65             1560           1564           0              2715040        2400000        3199999
                778499
 5                             1              13             95             1893           0              0              3496663        3200000        3999999
                980546
 6                             2              20             85             1072           1980           0              4479102        4000000        4799999
                1003699
 7                             1              20             50             1205           0              0              5485853        4800000        5599999
                854351
 8                             2              15             100            1030           1749           0              6341409        5600000        6399999
                532875
 9                             2              13             80             1544           1846           0              6877063        6400000        7199999
                577131
 10                            1              12             50             1302           0              0              7457584        7200000        7999999
                1141300
 11                            3              5              95             1359           1789           1911           8600186        8000000        8799999
                816687
 12                            1              12             95             1277           0              0              9421932        8800000        9599999
                921594
 13                            1              8              65             1811           0              0              10344803       9600000        10399999
                587826
 14                            3              9              80             1918           1260           1498           10934440       10400000       11199999
                357616
 15                            2              13             85             1626           1271           0              11296732       11200000       11999999
Total number of pulses in waveform = 27
**********************************************************************************
```

Type 5 Radar Waveform_2



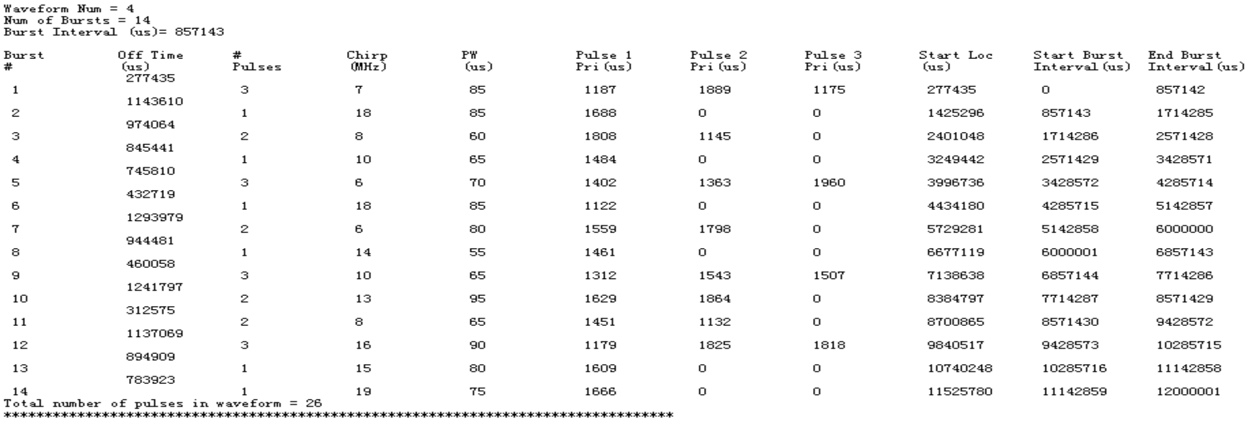
```
|
Waveform Num = 2
Num of Bursts = 9
Burst Interval  (us)= 1333333

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri(us)        Pri(us)        Pri(us)        (us)           Interval(us)   Interval(us)
                1141718
 1                            3              15             80             1686           1447           1833           1141718        0              1333332
                472071
 2                            3              9              65             1699           1327           1005           1618755        1333333        2666665
                2284908
 3                            1              15             65             1800           0              0              3907694        2666666        3999998
                1302385
 4                            1              16             95             1085           0              0              5211879        3999999        5333331
                950018
 5                            3              5              85             1706           1567           1443           6162982        5333332        6666664
                1506611
 6                            1              10             75             1510           0              0              7674309        6666665        7999997
                600846
 7                            2              6              80             1963           1178           0              8276665        7999998        9333330
                1801158
 8                            1              5              85             1156           0              0              10080964       9333331        10666663
                603682
 9                            1              8              90             1016           0              0              10685802       10666664       11999996
Total number of pulses in waveform = 16
*************************************************************************************
```

Type 5 Radar Waveform_3



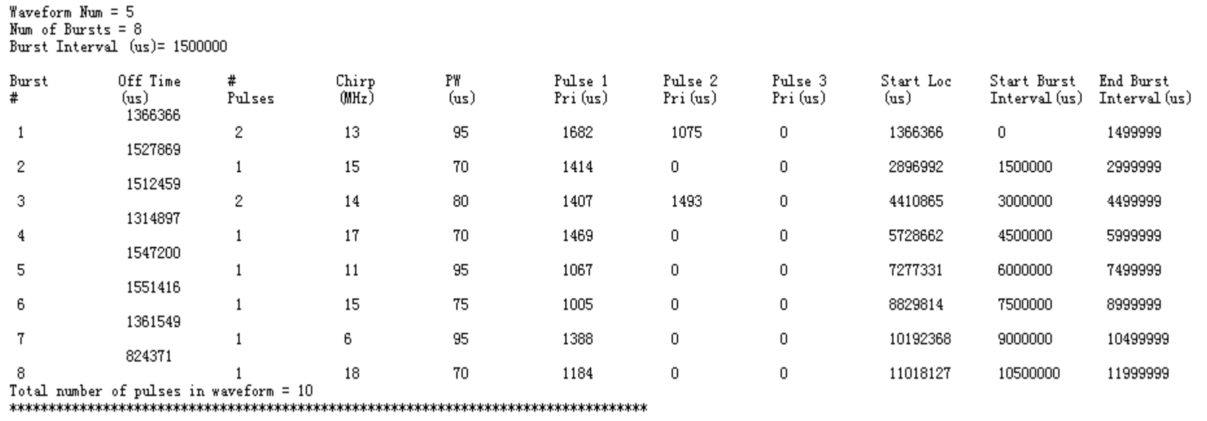
```
Waveform Num = 3
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                422693
 1                            1              12             100            1873           0              0              422693         0              599999
                188397
 2                            1              20             100            1446           0              0              612963         600000         1199999
                721015
 3                            3              9              85             1942           1267           1676           1335424        1200000        1799999
                495140
 4                            2              16             100            1909           1054           0              1835449        1800000        2399999
                681008
 5                            2              8              70             1397           1445           0              2519420        2400000        2999999
                645901
 6                            2              16             80             1588           1957           0              3168163        3000000        3599999
                925058
 7                            3              8              80             1064           1339           1583           4096766        3600000        4199999
                607011
 8                            2              14             95             1207           1841           0              4707763        4200000        4799999
                123823
 9                            1              6              85             1276           0              0              4834634        4800000        5399999
                827533
 10                           1              9              100            1824           0              0              5663443        5400000        5999999
                604388
 11                           3              20             95             1998           1498           1794           6269655        6000000        6599999
                884642
 12                           1              6              55             1200           0              0              7159587        6600000        7199999
                511323
 13                           1              19             75             1624           0              0              7672110        7200000        7799999
                150682
 14                           1              11             90             1825           0              0              7824416        7800000        8399999
                932993
 15                           1              10             50             1880           0              0              8759234        8400000        8999999
                664391
 16                           2              13             85             1326           1028           0              9425505        9000000        9599999
                650826
 17                           3              8              85             1199           1456           1161           10078685       9600000        10199999
                307780
 18                           1              13             75             1651           0              0              10390281       10200000       10799999
                435886
 19                           2              11             80             1850           1457           0              10827818       10800000       11399999
                820280
 20                           1              9              55             1514           0              0              11651405       11400000       11999999
Total number of pulses in waveform = 34
*************************************************************************************
```

Type 5 Radar Waveform_4



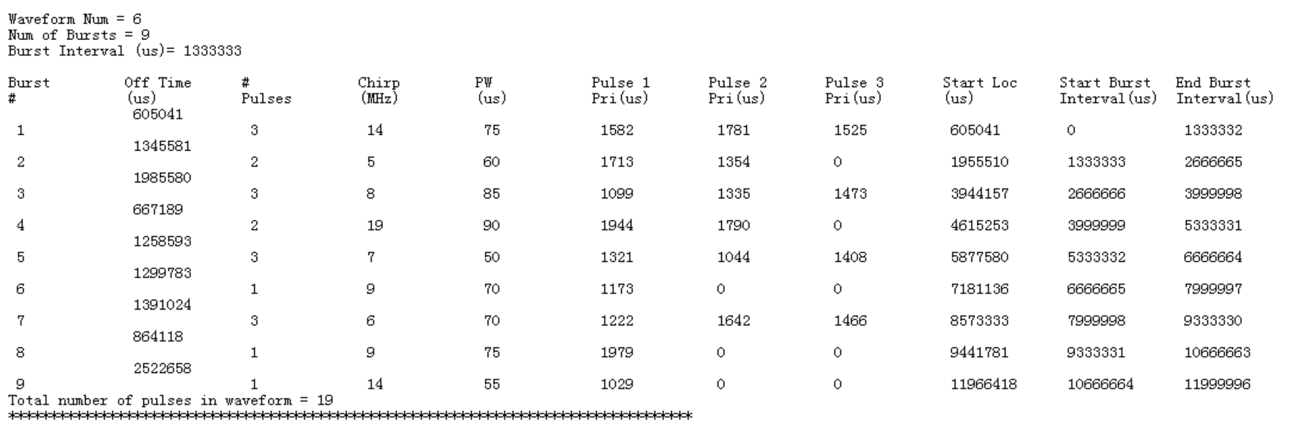
```
Waveform Num = 4
Num of Bursts = 14
Burst Interval  (us)= 857143

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                277435
 1                            3              7              85             1187           1889           1175           277435         0              857142
                1143610
 2                            1              18             85             1688           0              0              1425296        857143         1714285
                974064
 3                            2              8              60             1808           1145           0              2401048        1714286        2571428
                845441
 4                            1              10             65             1484           0              0              3249442        2571429        3428571
                745810
 5                            3              6              70             1402           1363           1960           3996736        3428572        4285714
                432719
 6                            1              18             85             1122           0              0              4434180        4285715        5142857
                1293979
 7                            2              6              80             1559           1798           0              5729281        5142858        6000000
                944481
 8                            1              14             55             1461           0              0              6677119        6000001        6857143
                460058
 9                            3              10             65             1312           1543           1507           7138638        6857144        7714286
                1241797
 10                           2              13             95             1629           1864           0              8384797        7714287        8571429
                312575
 11                           2              8              65             1451           1132           0              8700865        8571430        9428572
                1137069
 12                           3              16             90             1179           1825           1818           9840517        9428573        10285715
                894909
 13                           1              15             80             1609           0              0              10740248       10285716       11142858
                783923
 14                           1              19             75             1666           0              0              11525780       11142859       12000001
Total number of pulses in waveform = 26
*************************************************************************************
```

Type 5 Radar Waveform_5



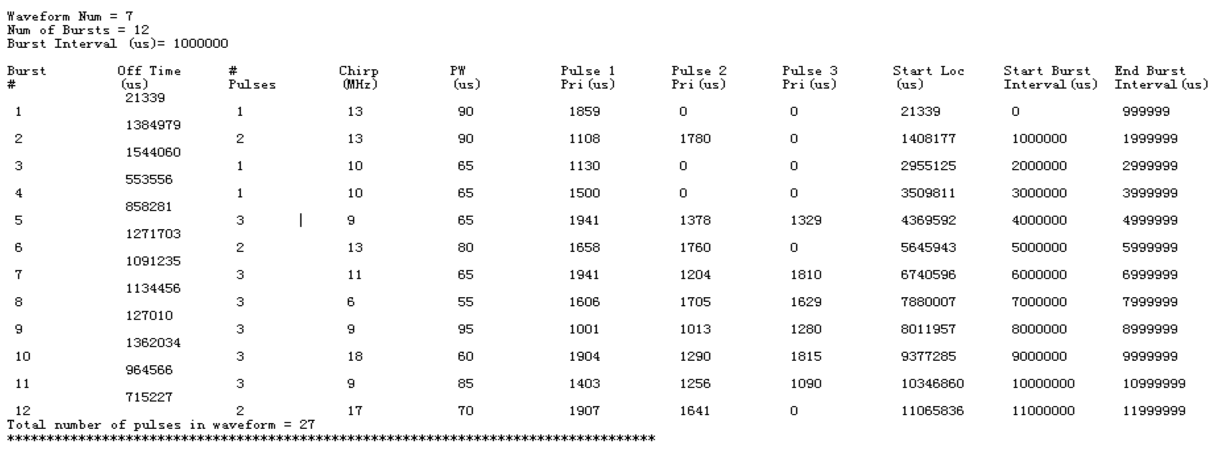
```
Waveform Num = 5
Num of Bursts = 8
Burst Interval  (us)= 1500000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri(us)        Pri(us)        Pri(us)        (us)           Interval(us)   Interval(us)
                1366366
 1                             2              13             95             1682           1075           0              1366366        0              1499999
                1527869
 2                             1              15             70             1414           0              0              2896992        1500000        2999999
                1512459
 3                             2              14             80             1407           1493           0              4410865        3000000        4499999
                1314897
 4                             1              17             70             1469           0              0              5728662        4500000        5999999
                1547200
 5                             1              11             95             1067           0              0              7277331        6000000        7499999
                1551416
 6                             1              15             75             1005           0              0              8829814        7500000        8999999
                1361549
 7                             1              6              95             1388           0              0              10192368       9000000        10499999
                824371
 8                             1              18             70             1184           0              0              11018127       10500000       11999999
Total number of pulses in waveform = 10
**********************************************************************************
```

Type 5 Radar Waveform_6



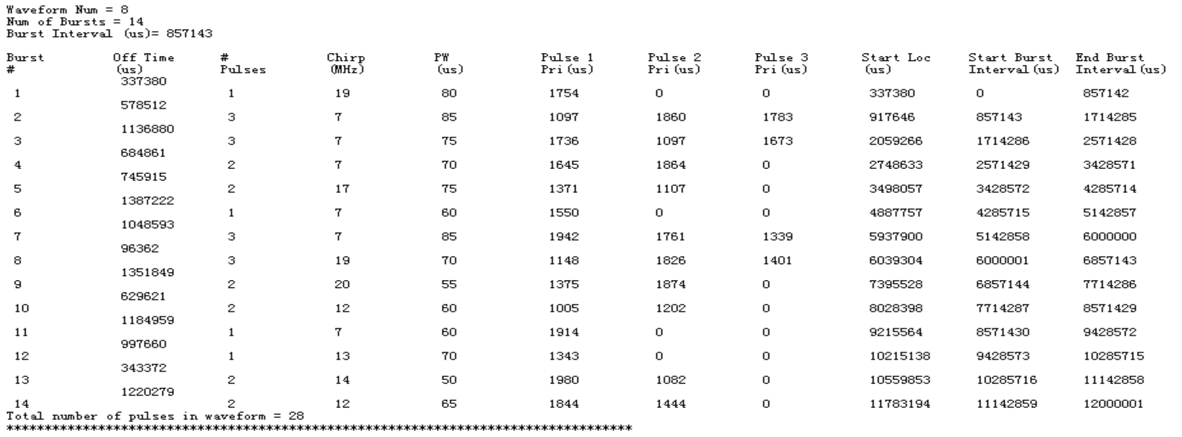
```
Waveform Num = 6
Num of Bursts = 9
Burst Interval  (us)= 1333333

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri(us)        Pri(us)        Pri(us)        (us)           Interval(us)   Interval(us)
                605041
 1                             3              14             75             1582           1781           1525           605041         0              1333332
                1345581
 2                             2              5              60             1713           1354           0              1955510        1333333        2666665
                1985580
 3                             3              8              85             1099           1335           1473           3944157        2666666        3999998
                667189
 4                             2              19             90             1944           1790           0              4615253        3999999        5333331
                1258593
 5                             3              7              50             1321           1044           1408           5877580        5333332        6666664
                1299783
 6                             1              9              70             1173           0              0              7181136        6666665        7999997
                1391024
 7                             3              6              70             1222           1642           1466           8573333        7999998        9333330
                864118
 8                             1              9              75             1979           0              0              9441781        9333331        10666663
                2522658
 9                             1              14             55             1029           0              0              11966418       10666664       11999996
Total number of pulses in waveform = 19
**********************************************************************************
```

Type 5 Radar Waveform_7



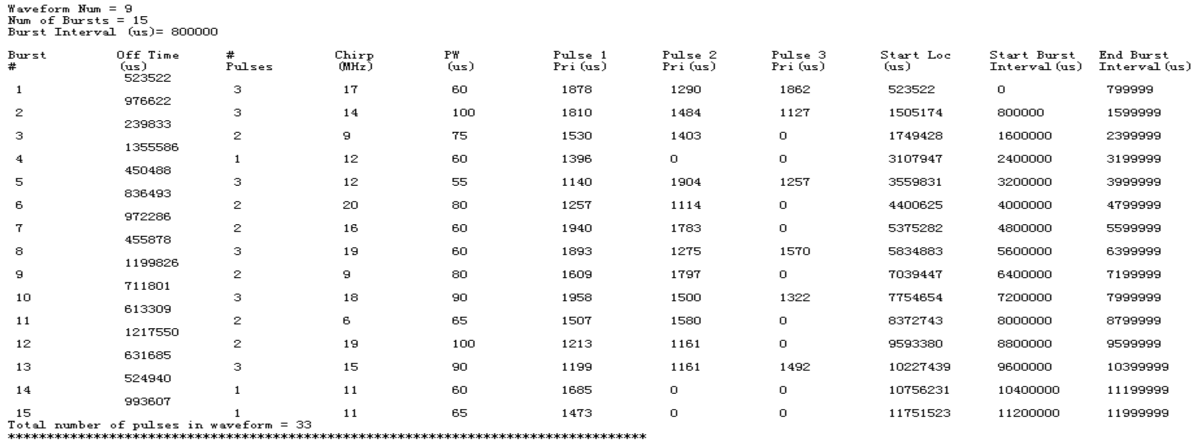
```
Waveform Num = 7
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                21339
 1                             1              13             90             1859           0              0              21339          0              999999
                1384979
 2                             2              13             90             1108           1780           0              1408177        1000000        1999999
                1544060
 3                             1              10             65             1130           0              0              2955125        2000000        2999999
                553556
 4                             1              10             65             1500           0              0              3509811        3000000        3999999
                858281
 5                             3       |      9              65             1941           1378           1329           4369592        4000000        4999999
                1271703
 6                             2              13             80             1658           1760           0              5645943        5000000        5999999
                1091235
 7                             3              11             65             1941           1204           1810           6740596        6000000        6999999
                1134456
 8                             3              6              55             1606           1705           1629           7880007        7000000        7999999
                127010
 9                             3              9              95             1001           1013           1280           8011957        8000000        8999999
                1362034
 10                            3              18             60             1904           1290           1815           9377285        9000000        9999999
                964566
 11                            3              9              85             1403           1256           1090           10346860       10000000       10999999
                715227
 12                            2              17             70             1907           1641           0              11065836       11000000       11999999
Total number of pulses in waveform = 27
**********************************************************************************
```

Type 5 Radar Waveform_8



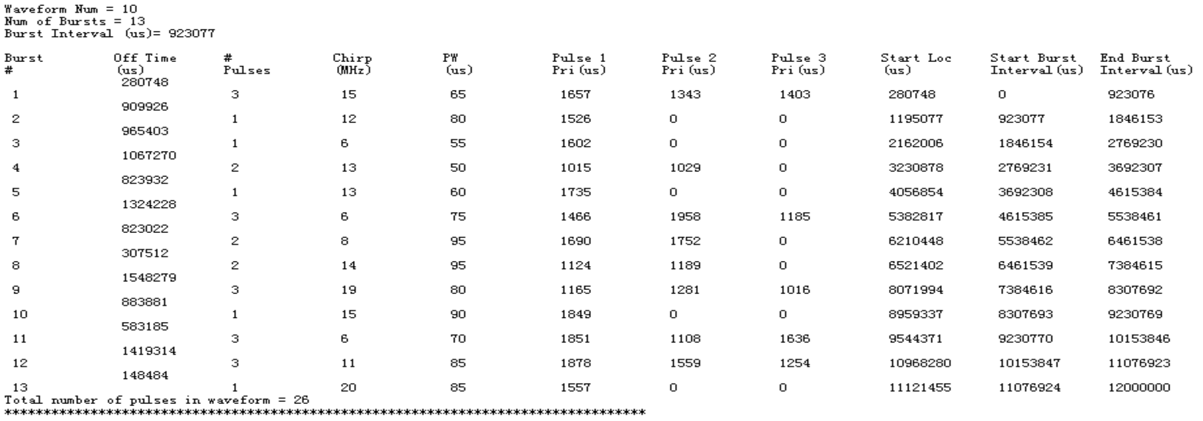
```
Waveform Num = 8
Num of Bursts = 14
Burst Interval  (us)= 857143

Burst           Off Time       #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#               (us)           Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                 337380
 1                             1            19           80           1754         0            0            337380       0              857142
                 578512
 2                             3            7            85           1097         1860         1783         917646       857143         1714285
                 1136880
 3                             3            7            75           1736         1097         1673         2059266      1714286        2571428
                 684861
 4                             2            7            70           1645         1864         0            2748633      2571429        3428571
                 745915
 5                             2            17           75           1371         1107         0            3498057      3428572        4285714
                 1387222
 6                             1            7            60           1550         0            0            4887757      4285715        5142857
                 1048593
 7                             3            7            85           1942         1761         1339         5937900      5142858        6000000
                 96362
 8                             3            19           70           1148         1826         1401         6039304      6000001        6857143
                 1351849
 9                             2            20           55           1375         1874         0            7395528      6857144        7714286
                 629621
 10                            2            12           60           1005         1202         0            8028398      7714287        8571429
                 1184959
 11                            1            7            60           1914         0            0            9215564      8571430        9428572
                 997660
 12                            1            13           70           1343         0            0            10215138     9428573        10285715
                 343372
 13                            2            14           50           1980         1082         0            10559853     10285716       11142858
                 1220279
 14                            2            12           65           1844         1444         0            11783194     11142859       12000001
Total number of pulses in waveform = 28
*********************************************************************************
```

Type 5 Radar Waveform_9



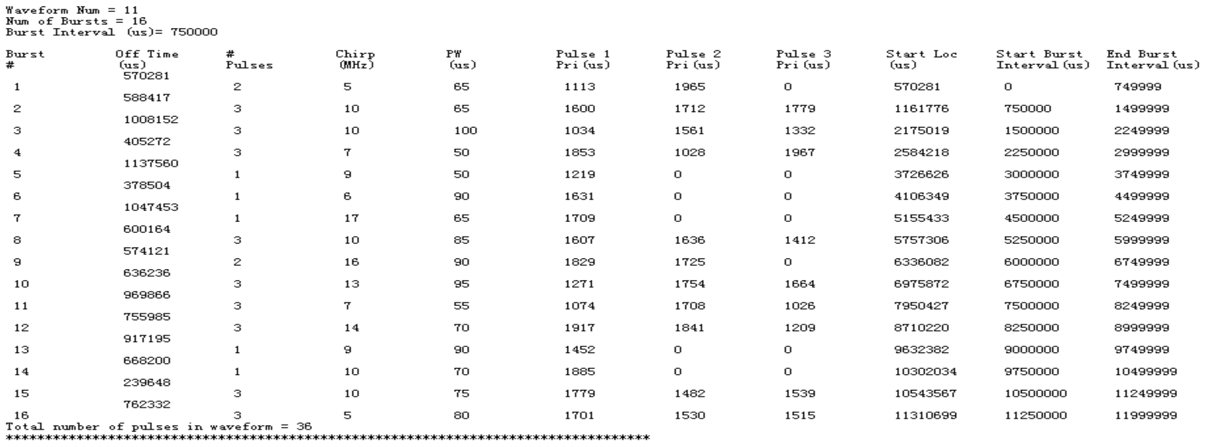
```
Waveform Num = 9
Num of Bursts = 15
Burst Interval  (us)= 800000

Burst           Off Time       #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#               (us)           Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                 523522
 1                             3            17           60           1878         1290         1862         523522       0              799999
                 976622
 2                             3            14           100          1810         1484         1127         1505174      800000         1599999
                 239833
 3                             2            9            75           1530         1403         0            1749428      1600000        2399999
                 1355586
 4                             1            12           60           1396         0            0            3107947      2400000        3199999
                 450488
 5                             3            12           55           1140         1904         1257         3559831      3200000        3999999
                 836493
 6                             2            20           80           1257         1114         0            4400625      4000000        4799999
                 972286
 7                             2            16           60           1940         1783         0            5375282      4800000        5599999
                 455878
 8                             3            19           60           1893         1275         1570         5834883      5600000        6399999
                 1199826
 9                             2            9            80           1609         1797         0            7039447      6400000        7199999
                 711801
 10                            3            18           90           1958         1500         1322         7754654      7200000        7999999
                 613309
 11                            2            6            65           1507         1580         0            8372743      8000000        8799999
                 1217550
 12                            2            19           100          1213         1161         0            9593380      8800000        9599999
                 631685
 13                            3            15           90           1199         1161         1492         10227439     9600000        10399999
                 524940
 14                            1            11           60           1685         0            0            10756231     10400000       11199999
                 993607
 15                            1            11           65           1473         0            0            11751523     11200000       11999999
Total number of pulses in waveform = 33
*********************************************************************************
```

Type 5 Radar Waveform_10



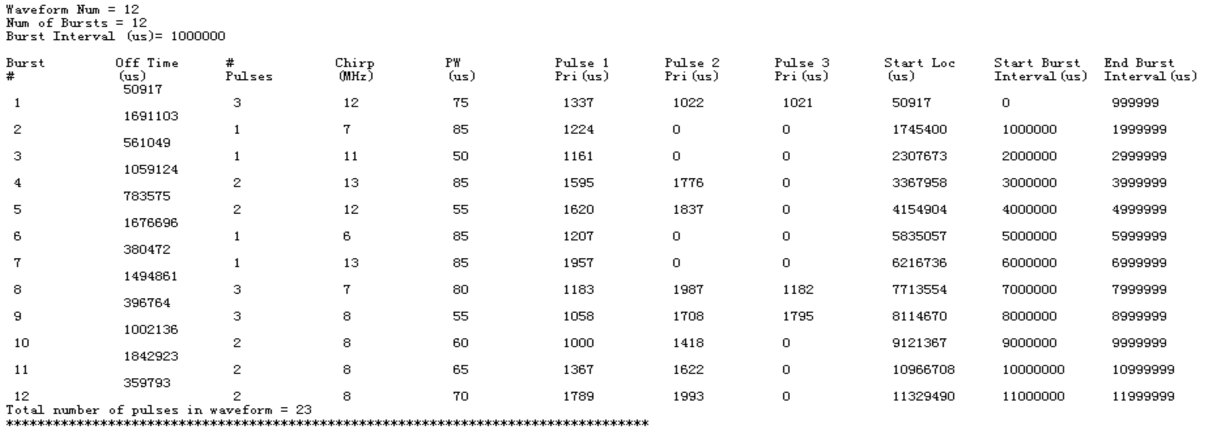
```
Waveform Num = 10
Num of Bursts = 13
Burst Interval  (us)= 923077

Burst           Off Time       #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#               (us)           Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                 280748
 1                             3            15           65           1657         1343         1403         280748       0              923076
                 909926
 2                             1            12           80           1526         0            0            1195077      923077         1846153
                 965403
 3                             1            6            55           1602         0            0            2162006      1846154        2769230
                 1067270
 4                             2            13           50           1015         1029         0            3230878      2769231        3692307
                 823932
 5                             1            13           60           1735         0            0            4056854      3692308        4615384
                 1324228
 6                             3            6            75           1466         1958         1185         5382817      4615385        5538461
                 823022
 7                             2            8            95           1690         1752         0            6210448      5538462        6461538
                 307512
 8                             2            14           95           1124         1189         0            6521402      6461539        7384615
                 1548279
 9                             3            19           80           1165         1281         1016         8071994      7384616        8307692
                 883881
 10                            1            15           90           1849         0            0            8959337      8307693        9230769
                 583185
 11                            3            6            70           1851         1108         1636         9544371      9230770        10153846
                 1419314
 12                            3            11           85           1878         1559         1254         10968280     10153847       11076923
                 148484
 13                            1            20           85           1557         0            0            11121455     11076924       12000000
Total number of pulses in waveform = 26
*********************************************************************************
```

Type 5 Radar Waveform_11



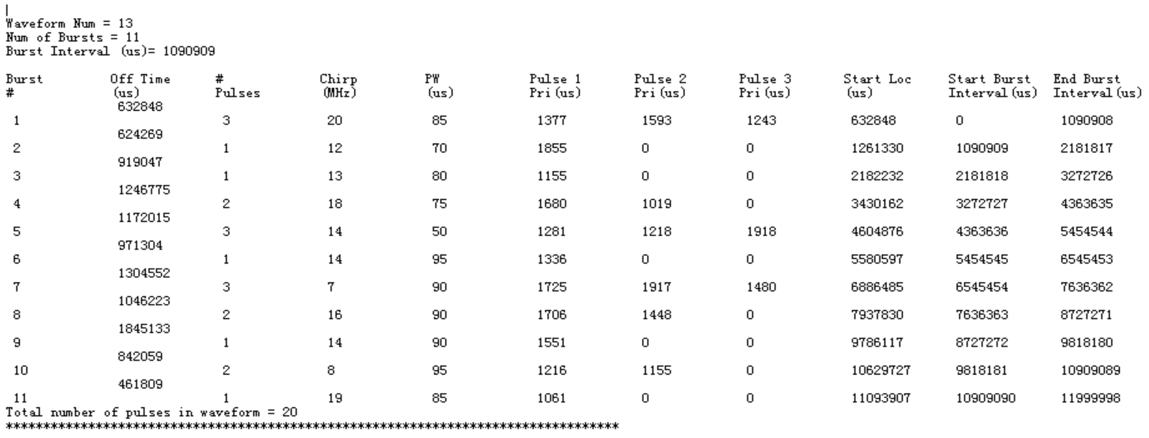
```
Waveform Num = 11
Num of Bursts = 16
Burst Interval  (us)= 750000

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us) Interval (us)
                570281
 1                           2             5             65            1113          1965          0             570281        0             749999
                588417
 2                           3             10            65            1600          1712          1779          1161776       750000        1499999
                1008152
 3                           3             10            100           1034          1561          1332          2175019       1500000       2249999
                405272
 4                           3             7             50            1853          1028          1967          2584218       2250000       2999999
                1137560
 5                           1             9             50            1219          0             0             3726626       3000000       3749999
                378504
 6                           1             6             90            1631          0             0             4106349       3750000       4499999
                1047453
 7                           1             17            65            1709          0             0             5155433       4500000       5249999
                600164
 8                           3             10            85            1607          1636          1412          5757306       5250000       5999999
                574121
 9                           2             16            90            1829          1725          0             6336082       6000000       6749999
                636236
 10                          3             13            95            1271          1754          1664          6975872       6750000       7499999
                969866
 11                          3             7             55            1074          1708          1026          7950427       7500000       8249999
                755985
 12                          3             14            70            1917          1841          1209          8710220       8250000       8999999
                917195
 13                          1             9             90            1452          0             0             9632382       9000000       9749999
                668200
 14                          1             10            70            1885          0             0             10302034      9750000       10499999
                239648
 15                          3             10            75            1779          1482          1539          10543567      10500000      11249999
                762332
 16                          3             5             80            1701          1530          1515          11310699      11250000      11999999
Total number of pulses in waveform = 36
**********************************************************************************
```

Type 5 Radar Waveform_12



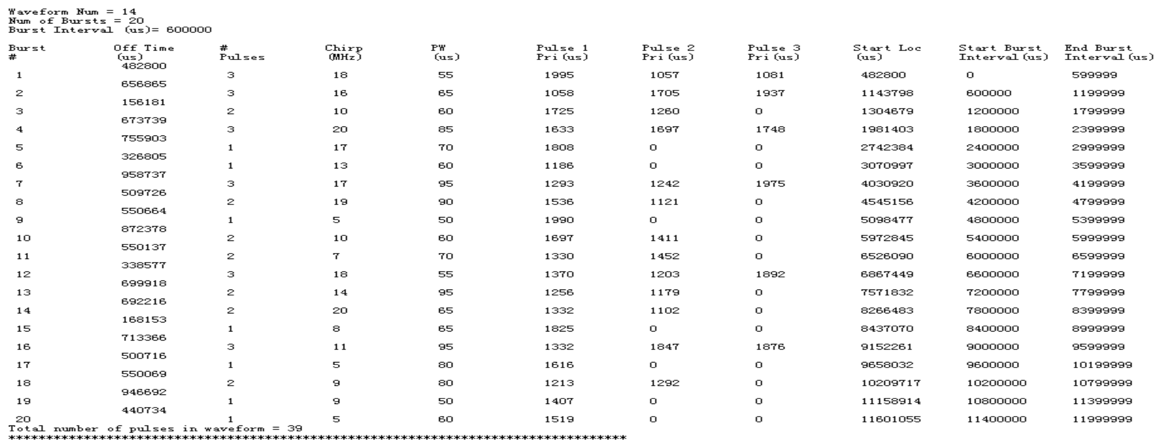
```
Waveform Num = 12
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us) Interval (us)
                50917
 1                           3             12            75            1337          1022          1021          50917         0             999999
                1691103
 2                           1             7             85            1224          0             0             1745400       1000000       1999999
                561049
 3                           1             11            50            1161          0             0             2307673       2000000       2999999
                1059124
 4                           2             13            85            1595          1776          0             3367958       3000000       3999999
                783575
 5                           2             12            55            1620          1837          0             4154904       4000000       4999999
                1676696
 6                           1             6             85            1207          0             0             5835057       5000000       5999999
                380472
 7                           1             13            85            1957          0             0             6216736       6000000       6999999
                1494861
 8                           3             7             80            1183          1987          1182          7713554       7000000       7999999
                396764
 9                           3             8             55            1058          1708          1795          8114670       8000000       8999999
                1002136
 10                          2             8             60            1000          1418          0             9121367       9000000       9999999
                1842923
 11                          2             8             65            1367          1622          0             10966708      10000000      10999999
                359793
 12                          2             8             70            1789          1993          0             11329490      11000000      11999999
Total number of pulses in waveform = 23
**********************************************************************************
```

Type 5 Radar Waveform_13



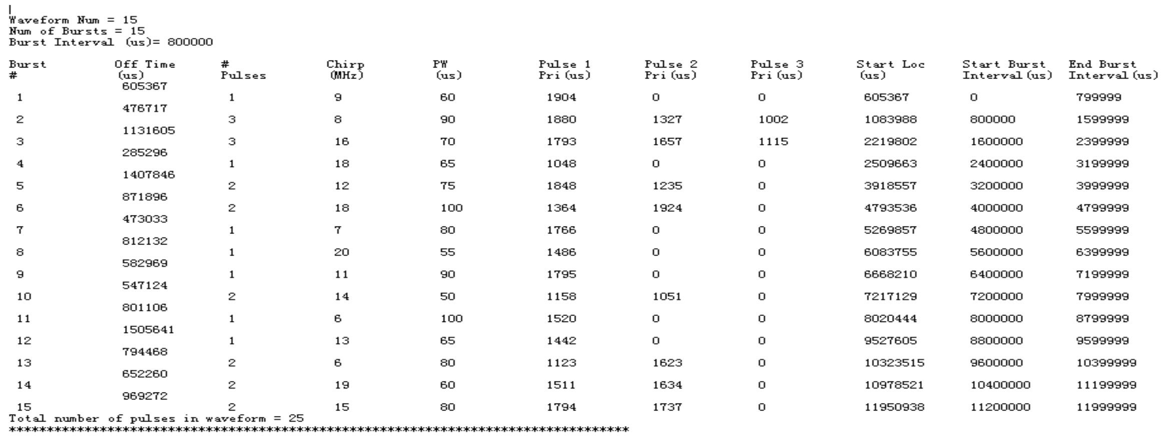
```
|
Waveform Num = 13
Num of Bursts = 11
Burst Interval  (us)= 1090909

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us) Interval (us)
               632848
 1                           3             20            85            1377          1593          1243          632848        0             1090908
               624269
 2                           1             12            70            1855          0             0             1261330       1090909       2181817
               919047
 3                           1             13            80            1155          0             0             2182232       2181818       3272726
               1246775
 4                           2             18            75            1680          1019          0             3430162       3272727       4363635
               1172015
 5                           3             14            50            1281          1218          1918          4604876       4363636       5454544
               971304
 6                           1             14            95            1336          0             0             5580597       5454545       6545453
               1304552
 7                           3             7             90            1725          1917          1480          6886485       6545454       7636362
               1046223
 8                           2             16            90            1706          1448          0             7937830       7636363       8727271
               1845133
 9                           1             14            90            1551          0             0             9786117       8727272       9818180
               842059
 10                          2             8             95            1216          1155          0             10629727      9818181       10909089
               461809
 11                          1             19            85            1061          0             0             11093907      10909090      11999998
Total number of pulses in waveform = 20
******************************************************************************
```

Type 5 Radar Waveform_14



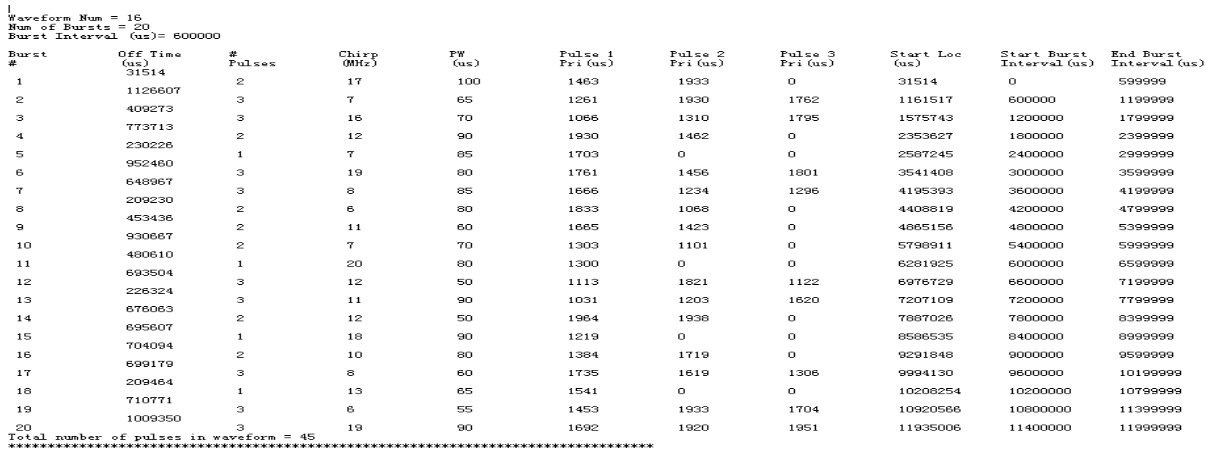
```
Waveform Num = 14
Num of Bursts = 20
Burst Interval  (us)= 600000
Burst        Off Time      #          Chirp      PW         Pulse 1    Pulse 2    Pulse 3    Start Loc   Start Burst   End Burst
#             (us)         Pulses     (MHz)      (us)       Pri (us)   Pri (us)   Pri (us)   (us)        Interval (us) Interval (us)
               482800
 1                          3          18         55         1995       1057       1081       482800      0             599999
               656865
 2                          3          16         65         1058       1705       1937       1143798     600000        1199999
               156181
 3                          2          10         60         1725       1260       0          1304679     1200000       1799999
               673739
 4                          3          20         85         1633       1697       1748       1981403     1800000       2399999
               755903
 5                          1          17         70         1808       0          0          2742384     2400000       2999999
               326805
 6                          1          13         60         1186       0          0          3070997     3000000       3599999
               958737
 7                          3          17         95         1293       1242       1975       4030920     3600000       4199999
               509726
 8                          2          19         90         1536       1121       0          4545156     4200000       4799999
               550664
 9                          1          5          50         1990       0          0          5098477     4800000       5399999
               872378
 10                         2          10         60         1697       1411       0          5972845     5400000       5999999
               550137
 11                         2          7          70         1330       1452       0          6526090     6000000       6599999
               338577
 12                         3          18         55         1370       1203       1892       6867449     6600000       7199999
               699918
 13                         2          14         95         1256       1179       0          7571832     7200000       7799999
               692216
 14                         2          20         65         1332       1102       0          8266483     7800000       8399999
               168153
 15                         1          8          65         1825       0          0          8437070     8400000       8999999
               713366
 16                         3          11         95         1332       1847       1876       9152261     9000000       9599999
               500716
 17                         1          5          80         1616       0          0          9658032     9600000       10199999
               550069
 18                         2          9          80         1213       1292       0          10209717    10200000      10799999
               946692
 19                         1          9          50         1407       0          0          11158914    10800000      11399999
               440734
 20                         1          5          60         1519       0          0          11601055    11400000      11999999
Total number of pulses in waveform = 39
********************************************************************************
```

Type 5 Radar Waveform_15



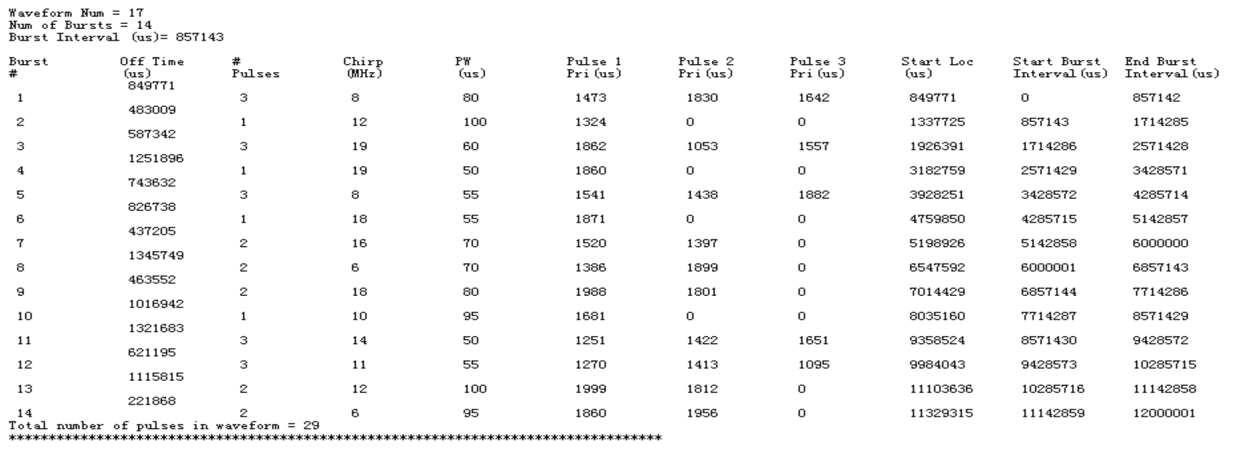
```
|
Waveform Num = 15
Num of Bursts = 15
Burst Interval  (us)= 800000
Burst        Off Time      #          Chirp      PW         Pulse 1    Pulse 2    Pulse 3    Start Loc   Start Burst   End Burst
#             (us)         Pulses     (MHz)      (us)       Pri (us)   Pri (us)   Pri (us)   (us)        Interval (us) Interval (us)
               605367
 1                          1          9          60         1904       0          0          605367      0             799999
               476717
 2                          3          8          90         1880       1327       1002       1083988     800000        1599999
               1131605
 3                          3          16         70         1793       1657       1115       2219802     1600000       2399999
               285296
 4                          1          18         65         1048       0          0          2509663     2400000       3199999
               1407846
 5                          2          12         75         1848       1235       0          3918557     3200000       3999999
               871896
 6                          2          18         100        1364       1924       0          4793536     4000000       4799999
               473033
 7                          1          7          80         1766       0          0          5269857     4800000       5599999
               812132
 8                          1          20         55         1486       0          0          6083755     5600000       6399999
               582969
 9                          1          11         90         1795       0          0          6668210     6400000       7199999
               547124
 10                         2          14         50         1158       1051       0          7217129     7200000       7999999
               801106
 11                         1          6          100        1520       0          0          8020444     8000000       8799999
               1505641
 12                         1          13         65         1442       0          0          9527605     8800000       9599999
               794468
 13                         2          6          80         1123       1623       0          10323515    9600000       10399999
               652260
 14                         2          19         60         1511       1634       0          10978521    10400000      11199999
               969272
 15                         2          15         80         1794       1737       0          11950938    11200000      11999999
Total number of pulses in waveform = 25
********************************************************************************
```

Type 5 Radar Waveform_16



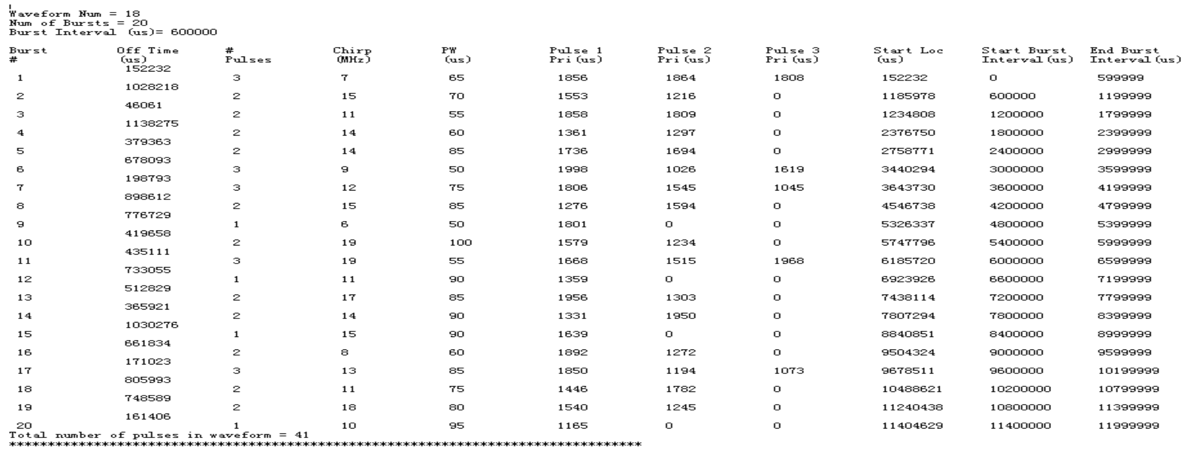
```
|
Waveform Num = 16
Num of Bursts = 20
Burst Interval  (us)= 600000
Burst        Off Time      #          Chirp      PW         Pulse 1    Pulse 2    Pulse 3    Start Loc   Start Burst   End Burst
#             (us)         Pulses     (MHz)      (us)       Pri (us)   Pri (us)   Pri (us)   (us)        Interval (us) Interval (us)
               31514
 1                          2          17         100        1463       1933       0          31514       0             599999
               1126607
 2                          3          7          65         1261       1930       1762       1161517     600000        1199999
               409273
 3                          3          16         70         1066       1310       1795       1575743     1200000       1799999
               773713
 4                          2          12         90         1930       1462       0          2353627     1800000       2399999
               230226
 5                          1          7          85         1703       0          0          2587245     2400000       2999999
               952460
 6                          3          19         80         1761       1456       1801       3541408     3000000       3599999
               648967
 7                          3          8          85         1666       1234       1296       4195393     3600000       4199999
               209230
 8                          2          6          80         1833       1068       0          4408819     4200000       4799999
               453436
 9                          2          11         60         1665       1423       0          4865156     4800000       5399999
               930667
 10                         2          7          70         1303       1101       0          5798911     5400000       5999999
               480610
 11                         1          20         80         1300       0          0          6281925     6000000       6599999
               693504
 12                         3          12         50         1113       1821       1122       6976729     6600000       7199999
               226324
 13                         3          11         90         1031       1203       1620       7207109     7200000       7799999
               676063
 14                         2          12         50         1964       1938       0          7887026     7800000       8399999
               695607
 15                         1          18         90         1219       0          0          8586535     8400000       8999999
               704094
 16                         2          10         80         1384       1719       0          9291848     9000000       9599999
               699179
 17                         3          8          60         1735       1619       1306       9994130     9600000       10199999
               209464
 18                         1          13         65         1541       0          0          10208254    10200000      10799999
               710771
 19                         3          6          55         1453       1933       1704       10920566    10800000      11399999
               1009350
 20                         3          19         90         1692       1920       1951       11935006    11400000      11999999
Total number of pulses in waveform = 45
********************************************************************************
```

Type 5 Radar Waveform_17



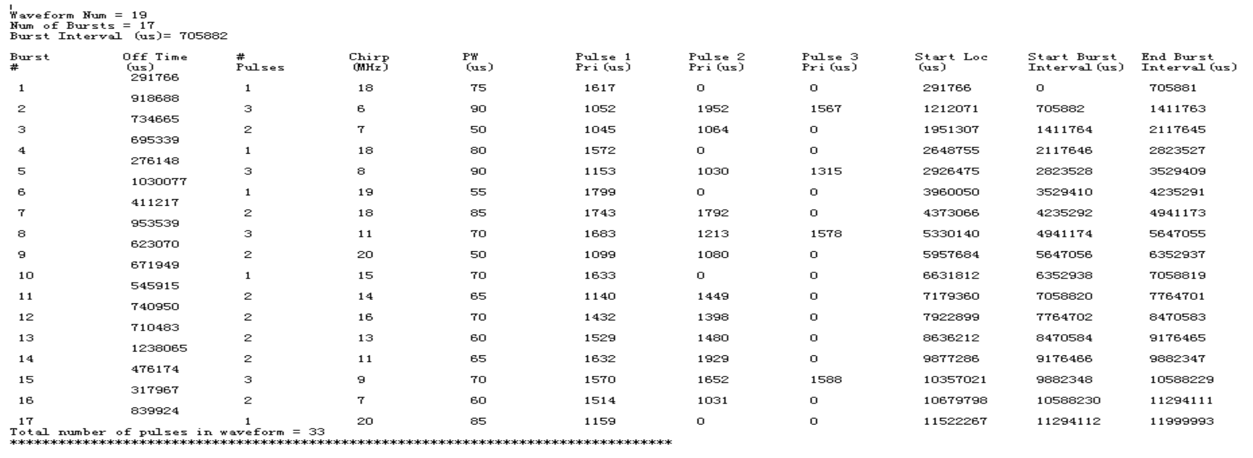
```
Waveform Num = 17
Num of Bursts = 14
Burst Interval  (us)= 857143

Burst       Off Time    #         Chirp     PW        Pulse 1   Pulse 2   Pulse 3   Start Loc   Start Burst     End Burst
#            (us)       Pulses    (MHz)     (us)      Pri (us)  Pri (us)  Pri (us)  (us)        Interval (us)   Interval (us)
              849771
 1                       3         8         80        1473      1830      1642      849771      0               857142
              483009
 2                       1         12        100       1324      0         0         1337725     857143          1714285
              587342
 3                       3         19        60        1862      1053      1557      1926391     1714286         2571428
              1251896
 4                       1         19        50        1860      0         0         3182759     2571429         3428571
              743632
 5                       3         8         55        1541      1438      1882      3928251     3428572         4285714
              826738
 6                       1         18        55        1871      0         0         4759850     4285715         5142857
              437205
 7                       2         16        70        1520      1397      0         5198926     5142858         6000000
              1345749
 8                       2         6         70        1386      1899      0         6547592     6000001         6857143
              463552
 9                       2         18        80        1988      1801      0         7014429     6857144         7714286
              1016942
 10                      1         10        95        1681      0         0         8035160     7714287         8571429
              1321683
 11                      3         14        50        1251      1422      1651      9358524     8571430         9428572
              621195
 12                      3         11        55        1270      1413      1095      9984043     9428573         10285715
              1115815
 13                      2         12        100       1999      1812      0         11103636    10285716        11142858
              221868
 14                      2         6         95        1860      1956      0         11329315    11142859        12000001
Total number of pulses in waveform = 29
********************************************************************************
```

Type 5 Radar Waveform_18



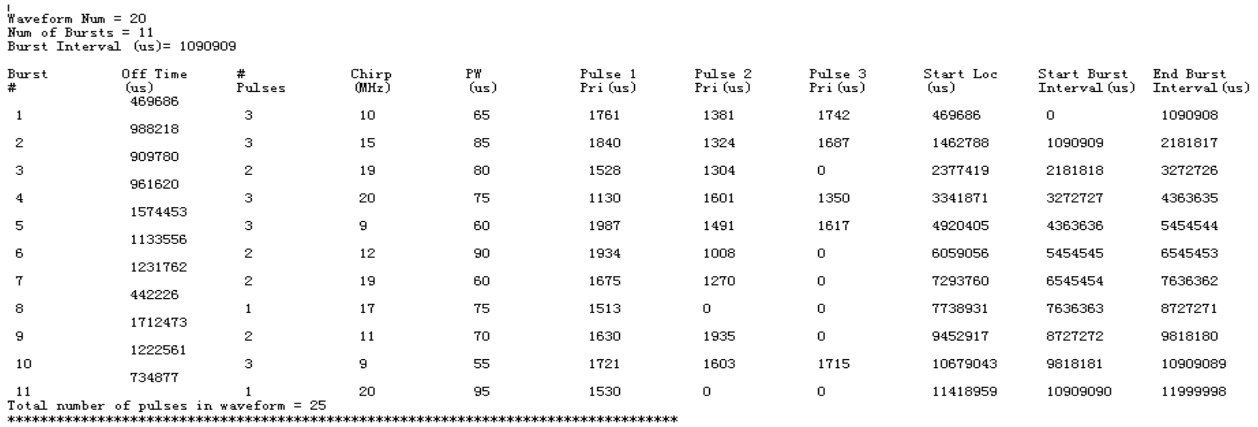
```
Waveform Num = 18
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst       Off Time    #         Chirp     PW        Pulse 1   Pulse 2   Pulse 3   Start Loc   Start Burst     End Burst
#            (us)       Pulses    (MHz)     (us)      Pri (us)  Pri (us)  Pri (us)  (us)        Interval (us)   Interval (us)
              152232
 1                       3         7         65        1856      1864      1808      152232      0               599999
              1028218
 2                       2         15        70        1553      1216      0         1185978     600000          1199999
              46061
 3                       2         11        55        1858      1809      0         1234808     1200000         1799999
              1138275
 4                       2         14        60        1361      1297      0         2376750     1800000         2399999
              379363
 5                       2         14        85        1736      1694      0         2758771     2400000         2999999
              678093
 6                       3         9         50        1998      1026      1619      3440294     3000000         3599999
              198793
 7                       3         12        75        1806      1545      1045      3643730     3600000         4199999
              898612
 8                       2         15        85        1276      1594      0         4546738     4200000         4799999
              776729
 9                       1         6         50        1801      0         0         5326337     4800000         5399999
              419658
 10                      2         19        100       1579      1234      0         5747796     5400000         5999999
              435111
 11                      3         19        55        1668      1515      1968      6185720     6000000         6599999
              733055
 12                      1         11        90        1359      0         0         6923926     6600000         7199999
              512829
 13                      2         17        85        1956      1303      0         7438114     7200000         7799999
              365921
 14                      2         14        90        1331      1950      0         7807294     7800000         8399999
              1030276
 15                      1         15        90        1639      0         0         8840851     8400000         8999999
              661834
 16                      2         8         60        1892      1272      0         9504324     9000000         9599999
              171023
 17                      3         13        85        1850      1194      1073      9678511     9600000         10199999
              805993
 18                      2         11        75        1446      1782      0         10488621    10200000        10799999
              748589
 19                      2         18        80        1540      1245      0         11240438    10800000        11399999
              161406
 20                      1         10        95        1165      0         0         11404629    11400000        11999999
Total number of pulses in waveform = 41
********************************************************************************
```

Type 5 Radar Waveform_19



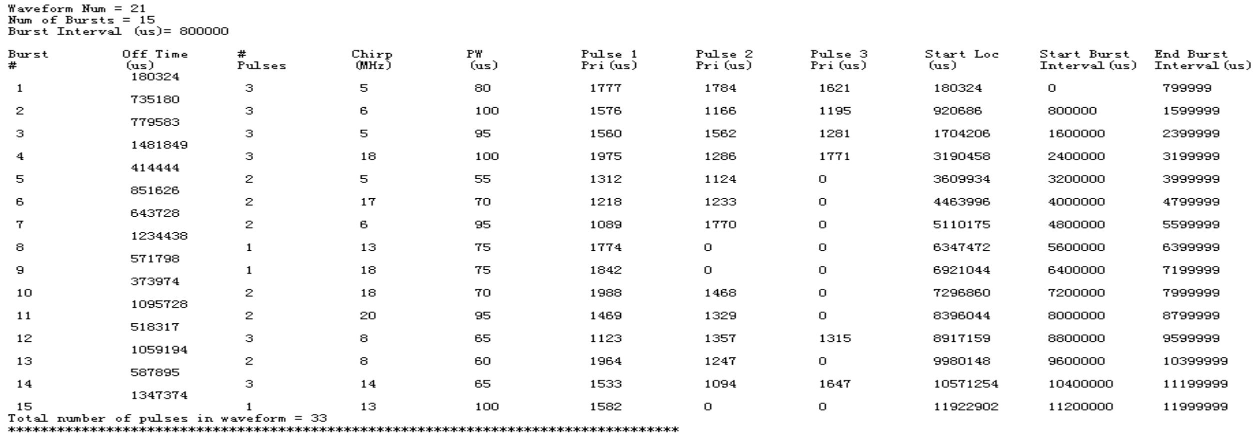
```
Waveform Num = 19
Num of Bursts = 17
Burst Interval  (us)= 705882

Burst       Off Time    #         Chirp     PW        Pulse 1   Pulse 2   Pulse 3   Start Loc   Start Burst     End Burst
#            (us)       Pulses    (MHz)     (us)      Pri (us)  Pri (us)  Pri (us)  (us)        Interval (us)   Interval (us)
              291766
 1                       1         18        75        1617      0         0         291766      0               705881
              918688
 2                       3         6         90        1052      1952      1567      1212071     705882          1411763
              734665
 3                       2         7         50        1045      1064      0         1951307     1411764         2117645
              695339
 4                       1         18        80        1572      0         0         2648755     2117646         2823527
              276148
 5                       3         8         90        1153      1030      1315      2926475     2823528         3529409
              1030077
 6                       1         19        55        1799      0         0         3960050     3529410         4235291
              411217
 7                       2         18        85        1743      1792      0         4373066     4235292         4941173
              953539
 8                       3         11        70        1683      1213      1578      5330140     4941174         5647055
              623070
 9                       2         20        50        1099      1080      0         5957684     5647056         6352937
              671949
 10                      1         15        70        1633      0         0         6631812     6352938         7058819
              545915
 11                      2         14        65        1140      1449      0         7179360     7058820         7764701
              740950
 12                      2         16        70        1432      1398      0         7922899     7764702         8470583
              710483
 13                      2         13        60        1529      1480      0         8636212     8470584         9176465
              1238065
 14                      2         11        65        1632      1929      0         9877286     9176466         9882347
              476174
 15                      3         9         70        1570      1652      1588      10357021    9882348         10588229
              317967
 16                      2         7         60        1514      1031      0         10679798    10588230        11294111
              839924
 17                      1         20        85        1159      0         0         11522267    11294112        11999993
Total number of pulses in waveform = 33
********************************************************************************
```

Type 5 Radar Waveform_20



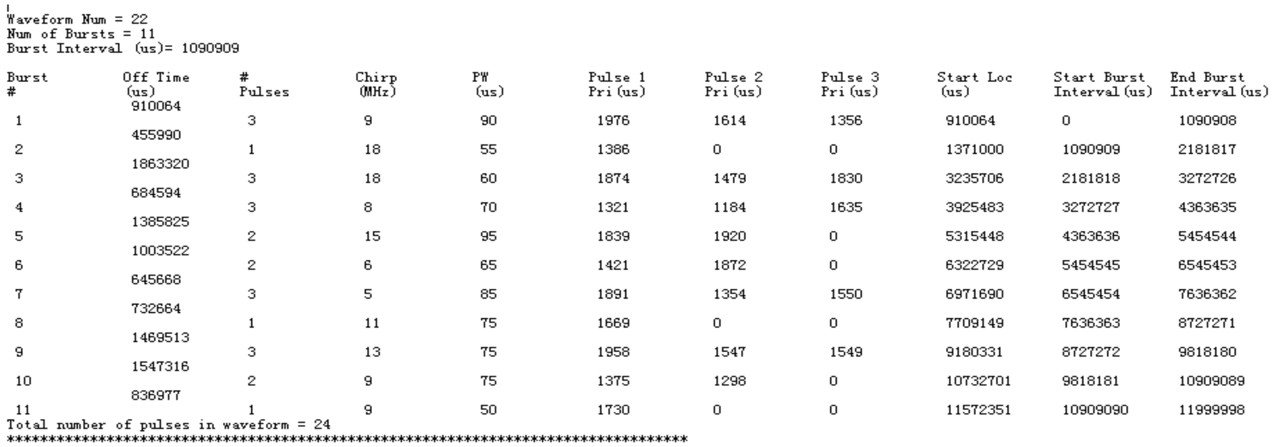
```
Waveform Num = 20
Num of Bursts = 11
Burst Interval  (us)= 1090909

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
               469686
 1                          3             10            65            1761          1381          1742          469686        0             1090908
               988218
 2                          3             15            85            1840          1324          1687          1462788       1090909       2181817
               909780
 3                          2             19            80            1528          1304          0             2377419       2181818       3272726
               961620
 4                          3             20            75            1130          1601          1350          3341871       3272727       4363635
               1574453
 5                          3             9             60            1987          1491          1617          4920405       4363636       5454544
               1133556
 6                          2             12            90            1934          1008          0             6059056       5454545       6545453
               1231762
 7                          2             19            60            1675          1270          0             7293760       6545454       7636362
               442226
 8                          1             17            75            1513          0             0             7738931       7636363       8727271
               1712473
 9                          2             11            70            1630          1935          0             9452917       8727272       9818180
               1222561
 10                         3             9             55            1721          1603          1715          10679043      9818181       10909089
               734877
 11                         1             20            95            1530          0             0             11418959      10909090      11999998
Total number of pulses in waveform = 25
**********************************************************************************
```

Type 5 Radar Waveform_21



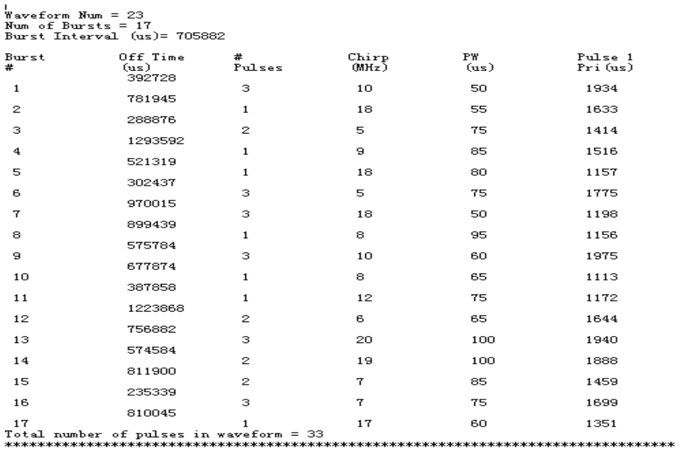
```
Waveform Num = 21
Num of Bursts = 15
Burst Interval  (us)= 800000
Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
               180324
 1                          3             5             80            1777          1784          1621          180324        0             799999
               735180
 2                          3             6             100           1576          1166          1195          920686        800000        1599999
               779583
 3                          3             5             95            1560          1562          1281          1704206       1600000       2399999
               1481849
 4                          3             18            100           1975          1286          1771          3190458       2400000       3199999
               414444
 5                          2             5             55            1312          1124          0             3609934       3200000       3999999
               851626
 6                          2             17            70            1218          1233          0             4463996       4000000       4799999
               643728
 7                          2             6             95            1089          1770          0             5110175       4800000       5599999
               1234438
 8                          1             13            75            1774          0             0             6347472       5600000       6399999
               571798
 9                          1             18            75            1842          0             0             6921044       6400000       7199999
               373974
 10                         2             18            70            1988          1468          0             7296860       7200000       7999999
               1095728
 11                         2             20            95            1469          1329          0             8396044       8000000       8799999
               518317
 12                         3             8             65            1123          1357          1315          8917159       8800000       9599999
               1059194
 13                         2             8             60            1964          1247          0             9980148       9600000       10399999
               587895
 14                         3             14            65            1533          1094          1647          10571254      10400000      11199999
               1347374
 15                         1             13            100           1582          0             0             11922902      11200000      11999999
Total number of pulses in waveform = 33
**********************************************************************************
```

Type 5 Radar Waveform_22



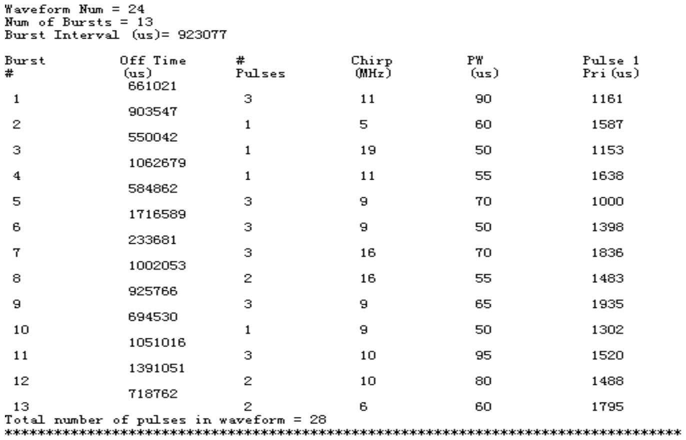
```
Waveform Num = 22
Num of Bursts = 11
Burst Interval  (us)= 1090909

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
               910064
 1                          3             9             90            1976          1614          1356          910064        0             1090908
               455990
 2                          1             18            55            1386          0             0             1371000       1090909       2181817
               1863320
 3                          3             18            60            1874          1479          1830          3235706       2181818       3272726
               684594
 4                          3             8             70            1321          1184          1635          3925483       3272727       4363635
               1385825
 5                          2             15            95            1839          1920          0             5315448       4363636       5454544
               1003522
 6                          2             6             65            1421          1872          0             6322729       5454545       6545453
               645668
 7                          3             5             85            1891          1354          1550          6971690       6545454       7636362
               732664
 8                          1             11            75            1669          0             0             7709149       7636363       8727271
               1469513
 9                          3             13            75            1958          1547          1549          9180331       8727272       9818180
               1547316
 10                         2             9             75            1375          1298          0             10732701      9818181       10909089
               836977
 11                         1             9             50            1730          0             0             11572351      10909090      11999998
Total number of pulses in waveform = 24
**********************************************************************************
```

Type 5 Radar Waveform_23



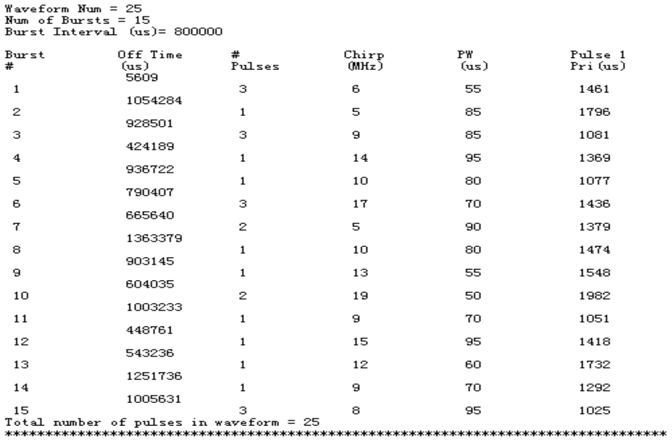
```
Waveform Num = 23
Num of Bursts = 17
Burst Interval  (us)= 705882

Burst          Off Time       #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst     End Burst
#               (us)          Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us)   Interval (us)
                 392728
 1                             3              10            50            1934          1942          1641          392728        0               705881
                 781945
 2                             1              18            55            1633          0             0             1180190       705882          1411763
                 288876
 3                             2              5             75            1414          1439          0             1470699       1411764         2117645
                 1293592
 4                             1              9             85            1516          0             0             2767144       2117646         2823527
                 521319
 5                             1              18            80            1157          0             0             3289979       2823528         3529409
                 302437
 6                             3              5             75            1775          1380          1185          3593573       3529410         4235291
                 970015
 7                             3              18            50            1198          1921          1697          4567928       4235292         4941173
                 899439
 8                             1              8             95            1156          0             0             5472183       4941174         5647055
                 575784
 9                             3              10            60            1975          1103          1365          6049123       5647056         6352937
                 677874
 10                            1              8             65            1113          0             0             6731440       6352938         7058819
                 387858
 11                            1              12            75            1172          0             0             7120411       7058820         7764701
                 1223868
 12                            2              6             65            1644          1344          0             8345451       7764702         8470583
                 756882
 13                            3              20            100           1940          1307          1263          9105321       8470584         9176465
                 574584
 14                            2              19            100           1888          1820          0             9684415       9176466         9882347
                 811900
 15                            2              7             85            1459          1332          0             10500023      9882348         10588229
                 235339
 16                            3              7             75            1699          1294          1326          10738153      10588230        11294111
                 810045
 17                            1              17            60            1351          0             0             11552517      11294112        11999993
Total number of pulses in waveform = 33
*************************************************************************************
```

Type 5 Radar Waveform_24



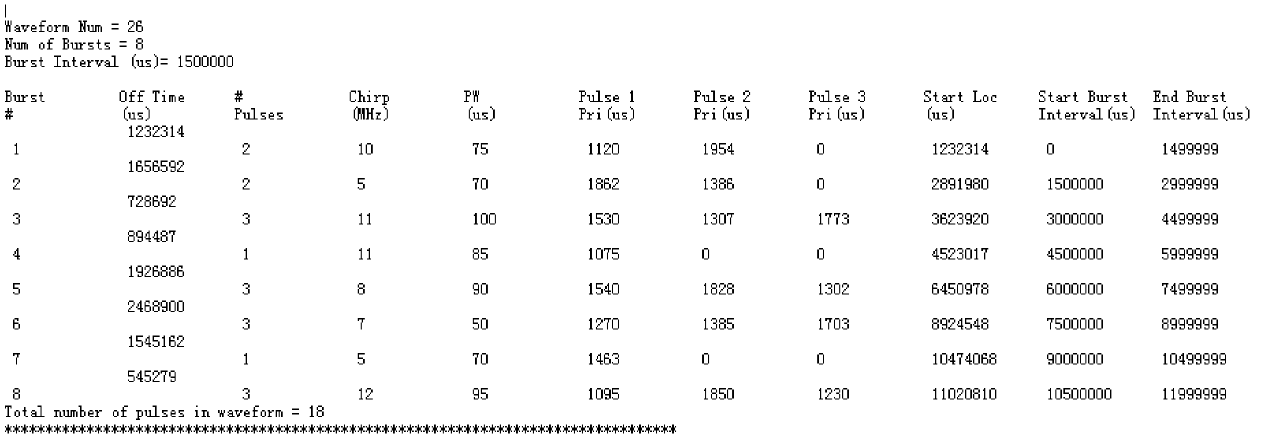
```
Waveform Num = 24
Num of Bursts = 13
Burst Interval  (us)= 923077

Burst          Off Time       #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst     End Burst
#               (us)          Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us)   Interval (us)
                 661021
 1                             3              11            90            1161          1895          1748          661021        0               923076
                 903547
 2                             1              5             60            1587          0             0             1569372       923077          1846153
                 550042
 3                             1              19            50            1153          0             0             2121001       1846154         2769230
                 1062679
 4                             1              11            55            1638          0             0             3184833       2769231         3692307
                 584862
 5                             3              9             70            1000          1226          1085          3771333       3692308         4615384
                 1716589
 6                             3              9             50            1398          1836          1411          5491233       4615385         5538461
                 233681
 7                             3              16            70            1836          1315          1410          5729559       5538462         6461538
                 1002053
 8                             2              16            55            1483          1872          0             6736173       6461539         7384615
                 925766
 9                             3              9             65            1935          1117          1139          7665294       7384616         8307692
                 694530
 10                            1              9             50            1302          0             0             8364015       8307693         9230769
                 1051016
 11                            3              10            95            1520          1118          1613          9416333       9230770         10153846
                 1391051
 12                            2              10            80            1488          1951          0             10811635      10153847        11076923
                 718762
 13                            2              6             60            1795          1674          0             11533836      11076924        12000000
Total number of pulses in waveform = 28
*************************************************************************************
```

Type 5 Radar Waveform_25



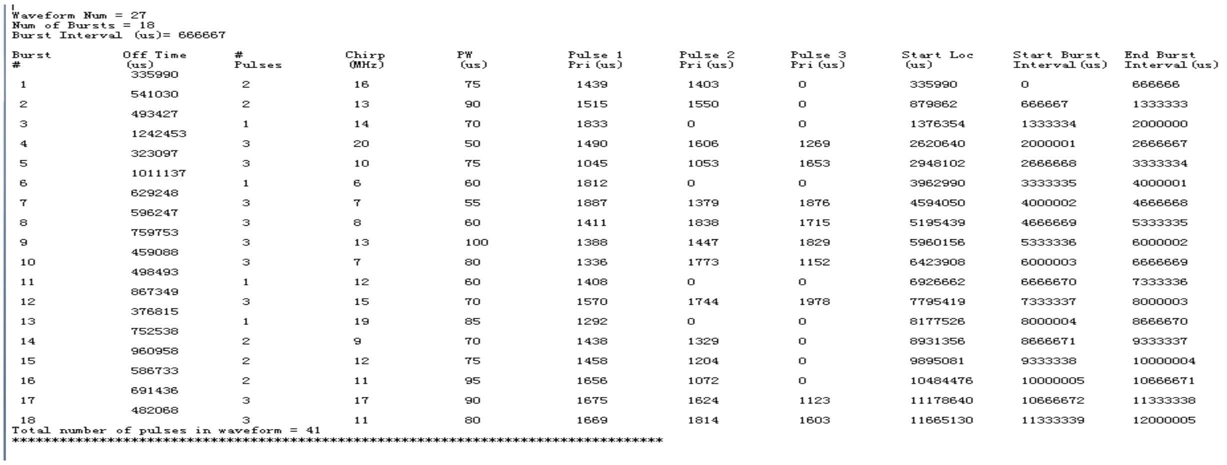
```
Waveform Num = 25
Num of Bursts = 15
Burst Interval  (us)= 800000

Burst          Off Time       #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst     End Burst
#               (us)          Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us)   Interval (us)
                 5609
 1                             3              6             55            1461          1721          1784          5609          0               799999
                 1054284
 2                             1              5             85            1796          0             0             1064859       800000          1599999
                 928501
 3                             3              9             85            1081          1711          1007          1995156       1600000         2399999
                 424189
 4                             1              14            95            1369          0             0             2423144       2400000         3199999
                 936722
 5                             1              10            80            1077          0             0             3361235       3200000         3999999
                 790407
 6                             3              17            70            1436          1450          1314          4152719       4000000         4799999
                 665640
 7                             2              5             90            1379          1344          0             4822559       4800000         5599999
                 1363379
 8                             1              10            80            1474          0             0             6188661       5600000         6399999
                 903145
 9                             1              13            55            1548          0             0             7093280       6400000         7199999
                 604035
 10                            2              19            50            1982          1173          0             7698863       7200000         7999999
                 1003233
 11                            1              9             70            1051          0             0             8705251       8000000         8799999
                 448761
 12                            1              15            95            1418          0             0             9155063       8800000         9599999
                 543236
 13                            1              12            60            1732          0             0             9699717       9600000         10399999
                 1251736
 14                            1              9             70            1292          0             0             10953185      10400000        11199999
                 1005631
 15                            3              8             95            1025          1399          1503          11960108      11200000        11999999
Total number of pulses in waveform = 25
*************************************************************************************
```

Type 5 Radar Waveform_26



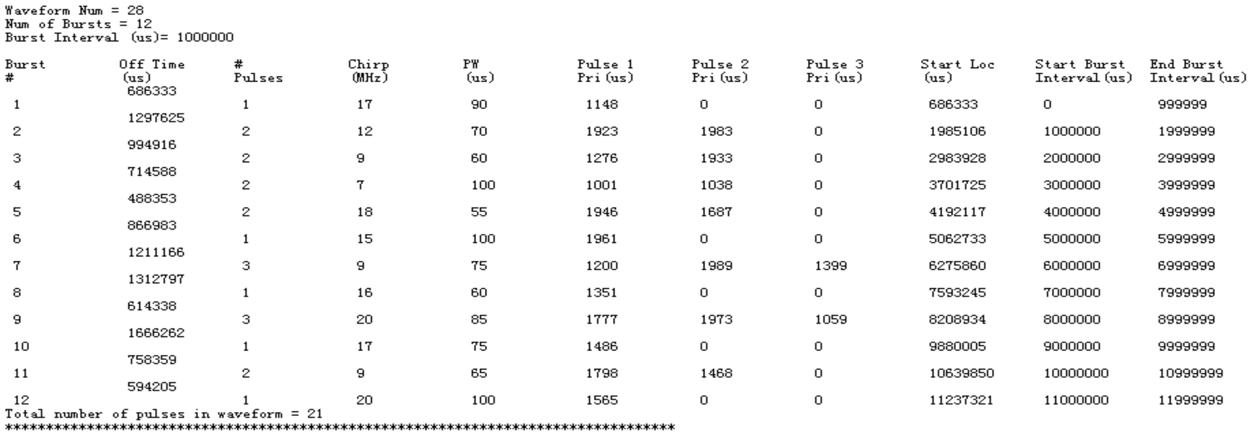
```
|
Waveform Num = 26
Num of Bursts = 8
Burst Interval  (us)= 1500000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                1232314
 1                            2              10             75             1120           1954           0              1232314        0              1499999
                1656592
 2                            2              5              70             1862           1386           0              2891980        1500000        2999999
                728692
 3                            3              11             100            1530           1307           1773           3623920        3000000        4499999
                894487
 4                            1              11             85             1075           0              0              4523017        4500000        5999999
                1926886
 5                            3              8              90             1540           1828           1302           6450978        6000000        7499999
                2468900
 6                            3              7              50             1270           1385           1703           8924548        7500000        8999999
                1545162
 7                            1              5              70             1463           0              0              10474068       9000000        10499999
                545279
 8                            3              12             95             1095           1850           1230           11020810       10500000       11999999
Total number of pulses in waveform = 18
********************************************************************************
```

Type 5 Radar Waveform_27



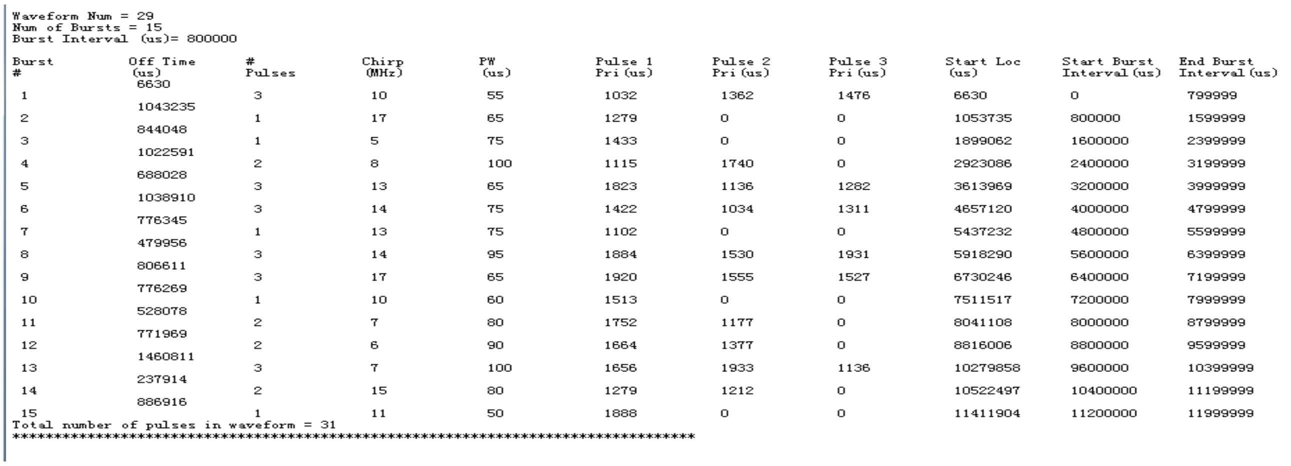
```
|
Waveform Num = 27
Num of Bursts = 18
Burst Interval  (us)= 666667

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                335990
 1                            2              16             75             1439           1403           0              335990         0              666666
                541030
 2                            2              13             90             1515           1550           0              879862         666667         1333333
                493427
 3                            1              14             70             1833           0              0              1376354        1333334        2000000
                1242453
 4                            3              20             50             1490           1606           1269           2620640        2000001        2666667
                323097
 5                            3              10             75             1045           1053           1653           2948102        2666668        3333334
                1011137
 6                            1              6              60             1812           0              0              3962990        3333335        4000001
                629248
 7                            3              7              55             1887           1379           1876           4594050        4000002        4666668
                596247
 8                            3              8              60             1411           1838           1715           5195439        4666669        5333335
                759753
 9                            3              13             100            1388           1447           1829           5960156        5333336        6000002
                459088
 10                           3              7              80             1336           1773           1152           6423908        6000003        6666669
                498493
 11                           1              12             60             1408           0              0              6926662        6666670        7333336
                867349
 12                           3              15             70             1570           1744           1978           7795419        7333337        8000003
                376815
 13                           1              19             85             1292           0              0              8177526        8000004        8666670
                752538
 14                           2              9              70             1438           1329           0              8931356        8666671        9333337
                960958
 15                           2              12             75             1458           1204           0              9895081        9333338        10000004
                586733
 16                           2              11             95             1656           1072           0              10484476       10000005       10666671
                691436
 17                           3              17             90             1675           1624           1123           11178640       10666672       11333338
                482068
 18                           3              11             80             1669           1814           1603           11665130       11333339       12000005
Total number of pulses in waveform = 41
********************************************************************************
```

Type 5 Radar Waveform_28



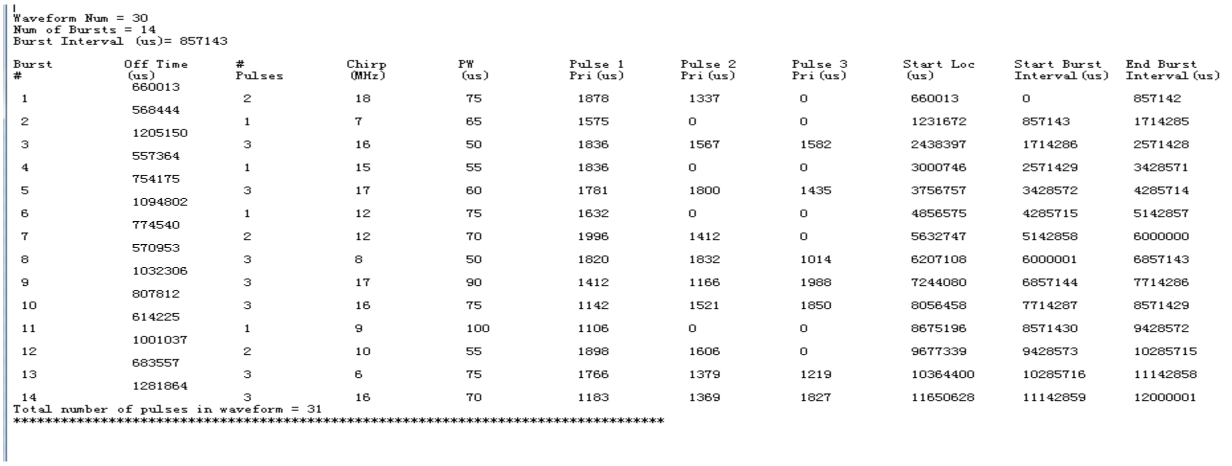
```
Waveform Num = 28
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                686333
 1                            1              17             90             1148           0              0              686333         0              999999
                1297625
 2                            2              12             70             1923           1983           0              1985106        1000000        1999999
                994916
 3                            2              9              60             1276           1933           0              2983928        2000000        2999999
                714588
 4                            2              7              100            1001           1038           0              3701725        3000000        3999999
                488353
 5                            2              18             55             1946           1687           0              4192117        4000000        4999999
                866983
 6                            1              15             100            1961           0              0              5062733        5000000        5999999
                1211166
 7                            3              9              75             1200           1989           1399           6275860        6000000        6999999
                1312797
 8                            1              16             60             1351           0              0              7593245        7000000        7999999
                614338
 9                            3              20             85             1777           1973           1059           8208934        8000000        8999999
                1666262
 10                           1              17             75             1486           0              0              9880005        9000000        9999999
                758359
 11                           2              9              65             1798           1468           0              10639850       10000000       10999999
                594205
 12                           1              20             100            1565           0              0              11237321       11000000       11999999
Total number of pulses in waveform = 21
********************************************************************************
```

Type 5 Radar Waveform_29



```
Waveform Num = 29
Num of Bursts = 15
Burst Interval  (us)= 800000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                6630
 1                            3              10             55             1032           1362           1476           6630           0              799999
                1043235
 2                            1              17             65             1279           0              0              1053735        800000         1599999
                844048
 3                            1              5              75             1433           0              0              1899062        1600000        2399999
                1022591
 4                            2              8              100            1115           1740           0              2923086        2400000        3199999
                688028
 5                            3              13             65             1823           1136           1282           3613969        3200000        3999999
                1038910
 6                            3              14             75             1422           1034           1311           4657120        4000000        4799999
                776345
 7                            1              13             75             1102           0              0              5437232        4800000        5599999
                479956
 8                            3              14             95             1884           1530           1931           5918290        5600000        6399999
                806611
 9                            3              17             65             1920           1555           1527           6730246        6400000        7199999
                776269
 10                           1              10             60             1513           0              0              7511517        7200000        7999999
                528078
 11                           2              7              80             1752           1177           0              8041108        8000000        8799999
                771969
 12                           2              6              90             1664           1377           0              8816006        8800000        9599999
                1460811
 13                           3              7              100            1656           1933           1136           10279858       9600000        10399999
                237914
 14                           2              15             80             1279           1212           0              10522497       10400000       11199999
                886916
 15                           1              11             50             1888           0              0              11411904       11200000       11999999
Total number of pulses in waveform = 31
***************************************************************************************
```

Type 5 Radar Waveform_30



```
|
Waveform Num = 30
Num of Bursts = 14
Burst Interval  (us)= 857143

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                660013
 1                            2              18             75             1878           1337           0              660013         0              857142
                568444
 2                            1              7              65             1575           0              0              1231672        857143         1714285
                1205150
 3                            3              16             50             1836           1567           1582           2438397        1714286        2571428
                557364
 4                            1              15             55             1836           0              0              3000746        2571429        3428571
                754175
 5                            3              17             60             1781           1800           1435           3756757        3428572        4285714
                1094802
 6                            1              12             75             1632           0              0              4856575        4285715        5142857
                774540
 7                            2              12             70             1996           1412           0              5632747        5142858        6000000
                570953
 8                            3              8              50             1820           1832           1014           6207108        6000001        6857143
                1032306
 9                            3              17             90             1412           1166           1988           7244080        6857144        7714286
                807812
 10                           3              16             75             1142           1521           1850           8056458        7714287        8571429
                614225
 11                           1              9              100            1106           0              0              8675196        8571430        9428572
                1001037
 12                           2              10             55             1898           1606           0              9677339        9428573        10285715
                683557
 13                           3              6              75             1766           1379           1219           10364400       10285716       11142858
                1281864
 14                           3              16             70             1183           1369           1827           11650628       11142859       12000001
Total number of pulses in waveform = 31
***********************************************************************************
```

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	5505	1	16	5505	1
2	5505	1	17	5505	1
3	5505	1	18	5505	1
4	5505	1	19	5505	1
5	5505	1	20	5505	1
6	5505	1	21	5505	1
7	5505	1	22	5505	1
8	5505	1	23	5505	1
9	5505	1	24	5505	1
10	5505	1	25	5505	1
11	5505	1	26	5505	1
12	5505	1	27	5505	1
13	5505	1	28	5505	1
14	5505	1	29	5505	1
15	5505	1	30	5505	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5485	3	4	5485	12
5	5516	15	14	5491	42
11	5527	33	15	5534	45
17	5499	51	16	5505	48
27	5510	81	21	5509	63
41	5482	123	25	5479	75
43	5520	129	30	5504	90
55	5522	165	32	5529	96
86	5533	258	33	5517	99
88	5530	264	38	5482	114
89	5514	267	39	5489	117
90	5526	270	53	5498	159
91	5483	273	58	5519	174
96	5489	288	65	5488	195
--	--	--	72	5483	216
--	--	--	85	5527	255
--	--	--	94	5516	282

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5504	18	4	5481	12
28	5534	84	14	5521	42
39	5486	117	17	5487	51
43	5503	129	20	5529	60
45	5477	135	21	5489	63
46	5518	138	32	5509	96
53	5494	159	34	5527	102
55	5479	165	48	5490	144
60	5480	180	55	5513	165
65	5507	195	62	5478	186
73	5528	219	66	5497	198
81	5511	243	78	5496	234
82	5525	246	79	5528	237
84	5529	252	90	5500	270
--	--	--	95	5517	285

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5483	27	23	5525	69
17	5479	51	46	5520	138
25	5499	75	47	5526	141
44	5534	132	53	5478	159
55	5505	165	60	5476	180
61	5507	183	69	5512	207
67	5516	201	78	5493	234
93	5487	279	92	5529	276
--	--	--	95	5494	285

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
5	5516	15	25	5525	75
6	5534	18	30	5524	90
10	5501	30	33	5526	99
17	5487	51	44	5518	132
18	5517	54	56	5476	168
19	5526	57	63	5533	189
21	5490	63	68	5486	204
38	5503	114	69	5475	207
48	5521	144	76	5484	228
73	5504	219	84	5528	252
76	5498	228	86	5485	258
78	5515	234	92	5535	276
80	5485	240	93	5490	279
--	--	--	97	5496	291

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5503	0	2	5517	6
1	5511	3	5	5534	15
24	5497	72	10	5478	30
25	5525	75	27	5525	81
26	5531	78	29	5495	87
32	5494	96	39	5532	117
40	5508	120	41	5505	123
52	5491	156	49	5509	147
66	5481	198	50	5533	150
67	5492	201	55	5507	165
72	5475	216	57	5511	171
83	5509	249	58	5520	174
91	5534	273	60	5512	180
--	--	--	73	5486	219
--	--	--	75	5519	225
--	--	--	91	5504	273
--	--	--	93	5501	279

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Frequency (MHz)	Hopping Number	Pulse Start (ms)
5	5533	15	0	5532	0
10	5482	30	2	5489	6
12	5494	36	16	5495	48
14	5525	42	39	5514	117
23	5528	69	55	5529	165
25	5514	75	56	5523	168
28	5517	84	58	5484	174
38	5529	114	60	5504	180
42	5520	126	79	5519	237
43	5499	129	91	5531	273
49	5524	147	93	5516	279
68	5535	204	--	--	--
76	5478	228	--	--	--
77	5513	231	--	--	--
84	5484	252	--	--	--
85	5476	255	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5476	36	3	5500	9
24	5511	72	32	5533	96
38	5528	114	36	5505	108
47	5523	141	40	5526	120
63	5526	189	51	5479	153
73	5491	219	67	5485	201
76	5515	228	73	5504	219
80	5477	240	77	5482	231
--	--	--	83	5519	249

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5512	0	3	5480	9
12	5480	36	9	5514	27
32	5487	96	18	5498	54
44	5525	132	35	5476	105
58	5527	174	42	5479	126
61	5505	183	51	5531	153
78	5496	234	52	5525	156
79	5526	237	53	5515	159
82	5501	246	55	5481	165
92	5524	276	69	5507	207
--	--	--	71	5478	213
--	--	--	91	5497	273

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5512	6	8	5481	24
9	5509	27	11	5512	33
14	5487	42	15	5492	45
24	5528	72	16	5501	48
25	5488	75	26	5503	78
29	5533	87	31	5484	93
35	5503	105	49	5487	147
38	5476	114	57	5508	171
42	5495	126	59	5518	177
51	5475	153	60	5511	180
59	5517	177	65	5477	195
61	5483	183	75	5523	225
62	5478	186	86	5510	258
72	5486	216	94	5505	282
75	5524	225	--	--	--
82	5501	246	--	--	--
88	5498	264	--	--	--
91	5535	273	--	--	--
92	5532	276	--	--	--
96	5523	288	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5525	3	3	5530	9
26	5484	78	16	5475	48
34	5529	102	20	5477	60
42	5526	126	52	5513	156
50	5507	150	63	5515	189
67	5486	201	75	5503	225
89	5491	267	83	5521	249
--	--	--	89	5527	267

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5499	12	4	5512	12
16	5500	48	5	5490	15
17	5507	51	25	5527	75
18	5501	54	31	5489	93
21	5487	63	35	5530	105
48	5494	144	37	5481	111
49	5530	147	57	5515	171
51	5533	153	61	5476	183
52	5518	156	67	5523	201
57	5478	171	74	5514	222
62	5487	186	88	5500	264
67	5506	201	89	5535	267
82	5486	246	92	5503	276
99	5525	297	--	--	--

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
12	5490	36	14	5510	42
15	5483	45	16	5514	48
18	5529	54	21	5534	63
25	5479	75	24	5475	72
33	5516	99	32	5511	96
47	5534	141	36	5485	108
50	5520	150	38	5503	114
53	5504	159	49	5532	147
54	5499	162	73	5525	219
61	5511	183	74	5516	222
73	5522	219	77	5512	231
77	5481	231	--	--	--

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5491	6	10	5508	30
3	5509	9	11	5486	33
20	5516	60	17	5535	51
25	5483	75	22	5475	66
36	5486	108	33	5526	99
39	5490	117	50	5530	150
43	5488	129	52	5529	156
45	5518	135	54	5515	162
47	5513	141	64	5519	192
49	5489	147	73	5482	219
59	5492	177	82	5493	246
77	5494	231	83	5507	249
82	5521	246	84	5512	252
87	5524	261	86	5481	258
88	5535	264	90	5527	270
95	5480	285	--	--	--

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5489	6	1	5529	3
9	5490	27	3	5527	9
16	5533	48	4	5520	12
31	5493	93	18	5500	54
43	5524	129	31	5496	93
51	5502	153	33	5479	99
53	5476	159	36	5493	108
61	5510	183	61	5535	183
95	5526	285	67	5514	201
--	--	--	72	5513	216
--	--	--	80	5530	240
--	--	--	83	5490	249
--	--	--	85	5497	255
--	--	--	86	5532	258
--	--	--	89	5491	267
--	--	--	92	5502	276

Radar waveform #29			Radar waveform #30		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5493	3	0	5504	0
3	5527	9	22	5497	66
8	5511	24	23	5499	69
11	5513	33	31	5480	93
13	5480	39	32	5492	96
14	5490	42	37	5527	111
29	5522	87	41	5486	123
30	5489	90	42	5503	126
39	5486	117	44	5484	132
61	5479	183	74	5532	222
70	5485	210	77	5529	231
75	5530	225	79	5501	237
86	5477	258	83	5495	249
89	5517	267	86	5475	258
--	--	--	89	5500	267
--	--	--	91	5507	273
--	--	--	93	5519	279

Radar Statistical Performance for 802.11n-HT40 channel 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	798	67	1
2	5492	1	838	63	1
3	5492	1	558	95	1
4	5492	1	3066	18	1
5	5492	1	778	68	1
6	5492	1	518	102	1
7	5492	1	538	99	1
8	5492	1	758	70	1
9	5492	1	598	89	1
10	5492	1	878	61	1
11	5492	1	818	65	1
12	5492	1	578	92	1
13	5492	1	738	72	1
14	5492	1	858	62	1
15	5492	1	938	57	1
16	5492	1	2622	21	1
17	5492	1	2709	20	1
18	5492	1	2345	23	1
19	5492	1	2614	21	1
20	5492	1	2325	23	1
21	5492	1	1384	39	1
22	5492	1	2053	26	1
23	5492	1	1143	47	1
24	5492	1	1780	30	1
25	5492	1	1590	34	1
26	5492	1	942	57	1
27	5492	1	784	68	1
28	5492	1	802	66	1
29	5492	1	1668	32	1
30	5492	1	2823	19	1
Detection Percentage (%)					100%

Radar Type 2 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5500	4.6	199	23	1
2	5500	4.7	174	24	1
3	5500	2.2	157	28	1
4	5500	2.5	152	27	1
5	5500	3.5	150	28	1
6	5500	2.4	185	24	1
7	5500	3.5	213	27	1
8	5500	3.8	163	28	1
9	5500	1.3	214	28	1
10	5500	3.9	196	29	1
11	5500	3.7	212	28	1
12	5500	1.5	224	29	1
13	5500	4.0	217	25	1
14	5500	4.8	188	25	1
15	5500	2.6	160	29	1
16	5500	1.3	170	24	1
17	5500	4.8	208	26	1
18	5500	1.7	157	29	1
19	5500	2.2	197	28	1
20	5500	1.1	174	25	1
21	5500	3.9	153	25	1
22	5500	2.2	195	28	1
23	5500	3.9	228	28	1
24	5500	3.9	184	24	1
25	5500	1.4	221	26	1
26	5500	3.1	202	29	1
27	5500	4.3	169	28	1
28	5500	2.5	188	28	1
29	5500	4.9	197	26	1
30	5500	1.5	156	27	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	5510	8.5	264	17	1
2	5510	9.6	422	17	1
3	5510	6.9	458	16	1
4	5510	6.8	490	17	1
5	5510	6.5	299	18	1
6	5510	6.1	343	18	1
7	5510	8.5	376	17	1
8	5510	6.0	425	17	1
9	5510	7.7	352	17	1
10	5510	9.5	339	17	1
11	5510	8.8	404	18	1
12	5510	6.5	367	17	1
13	5510	9.7	270	16	1
14	5510	6.5	302	17	1
15	5510	6.9	363	18	1
16	5510	10.0	363	18	1
17	5510	7.0	419	18	1
18	5510	6.1	394	18	1
19	5510	8.5	474	17	1
20	5510	8.2	468	18	1
21	5510	9.0	437	18	1
22	5510	7.3	456	17	1
23	5510	8.5	328	17	1
24	5510	8.7	405	16	1
25	5510	7.1	432	16	1
26	5510	9.9	401	16	1
27	5510	8.6	482	17	1
28	5510	6.7	448	16	1
29	5510	9.4	465	18	1
30	5510	8.9	373	17	1
Detection Percentage (%)					100%

Radar Type 4 - Radar Statistical Performance

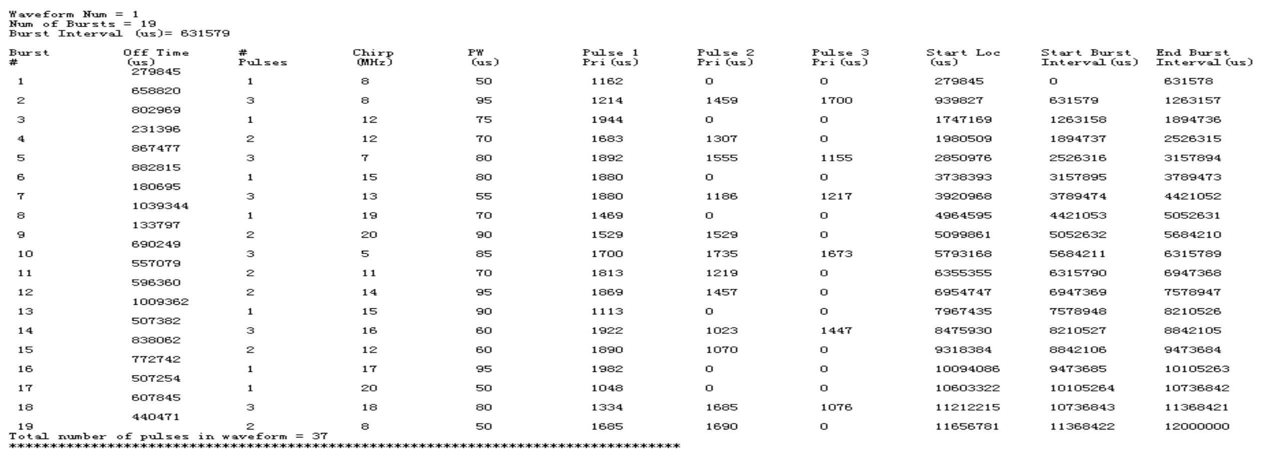
Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5528	12.4	486	14	1
2	5528	12.0	255	13	1
3	5528	19.8	287	15	1
4	5528	12.7	464	16	1
5	5528	11.9	301	12	1
6	5528	11.0	407	13	1
7	5528	17.5	407	16	1
8	5528	15.3	275	14	1
9	5528	19.0	383	16	1
10	5528	15.6	437	15	1
11	5528	13.6	446	15	1
12	5528	16.6	335	15	1
13	5528	12.9	378	15	1
14	5528	14.9	490	16	1
15	5528	13.5	357	14	1
16	5528	14.1	346	15	1
17	5528	14.6	425	15	1
18	5528	18.9	476	12	1
19	5528	16.8	255	14	1
20	5528	17.8	428	15	1
21	5528	17.5	340	15	1
22	5528	18.8	375	13	1
23	5528	13.3	350	14	1
24	5528	19.8	294	15	1
25	5528	15.4	421	14	1
26	5528	18.3	450	16	1
27	5528	16.0	267	14	1
28	5528	16.4	364	12	1
29	5528	13.8	426	15	1
30	5528	16.5	272	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: $\frac{P_d 1 + P_d 2 + P_d 3 + P_d 4}{4}$ = (100%+100%+100%+100%)/4 = 100% (>80%)

Radar Type 5 - Radar Statistical Performance

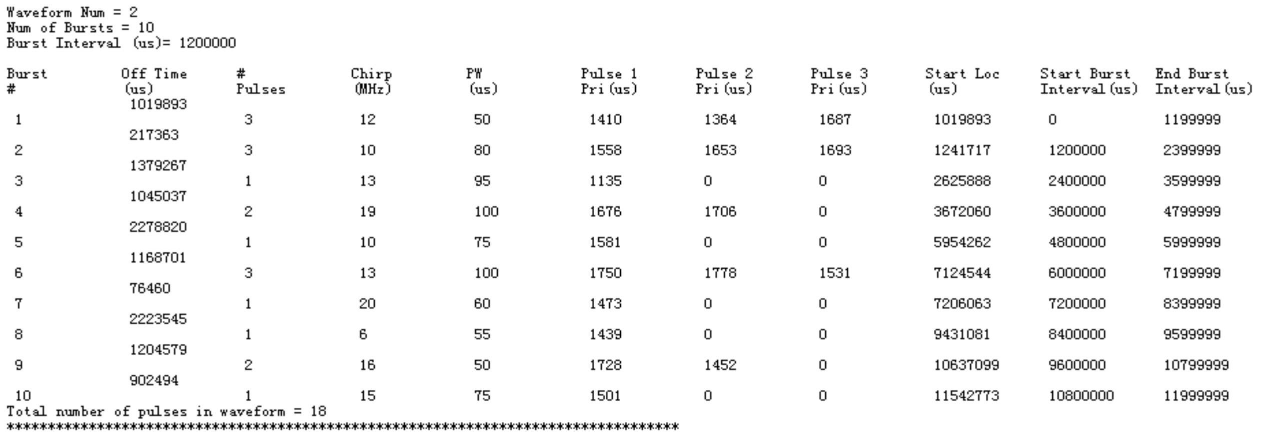
Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5495	1	16	5510	1
2	5496	1	17	5511	1
3	5497	1	18	5512	1
4	5498	1	19	5513	1
5	5499	1	20	5514	1
6	5500	1	21	5515	1
7	5501	1	22	5516	1
8	5502	1	23	5517	1
9	5503	1	24	5518	1
10	5504	1	25	5519	1
11	5505	1	26	5520	1
12	5506	1	27	5521	1
13	5507	1	28	5522	1
14	5508	1	29	5524	1
15	5509	1	30	5525	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1



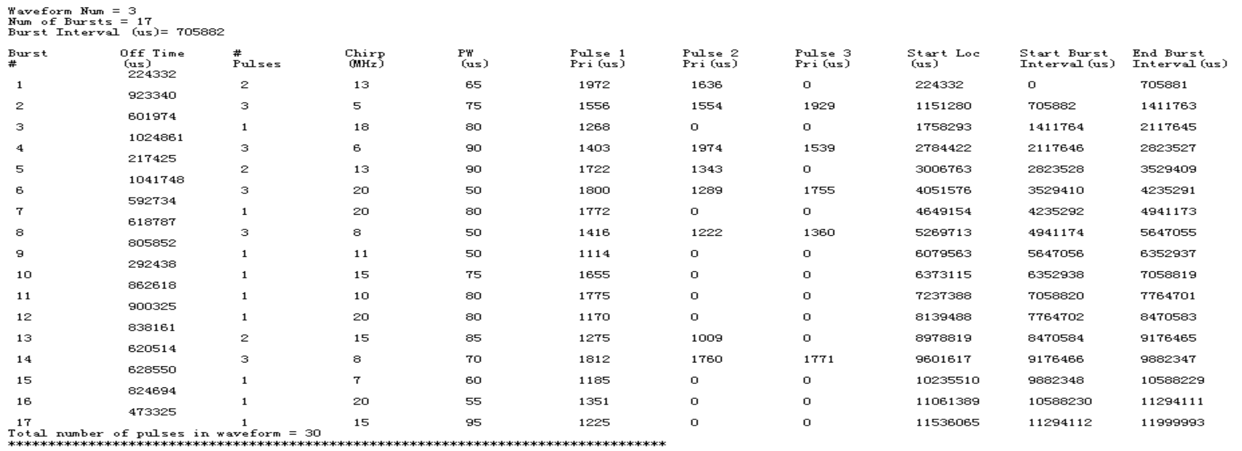
```
Waveform Num = 1
Num of Bursts = 19
Burst Interval (us)= 631579

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                279845
 1                            1              8              50             1162           0              0              279845         0              631578
                658820
 2                            3              8              95             1214           1459           1700           939827         631579         1263157
                802969
 3                            1              12             75             1944           0              0              1747169        1263158        1894736
                231396
 4                            2              12             70             1683           1307           0              1980509        1894737        2526315
                867477
 5                            3              7              80             1892           1555           1155           2850976        2526316        3157894
                882815
 6                            1              15             80             1880           0              0              3738393        3157895        3789473
                180695
 7                            3              13             55             1880           1186           1217           3920968        3789474        4421052
                1039344
 8                            1              19             70             1469           0              0              4964595        4421053        5052631
                133797
 9                            2              20             90             1529           1529           0              5099861        5052632        5684210
                690249
 10                           3              5              85             1700           1735           1673           5793168        5684211        6315789
                557079
 11                           2              11             70             1813           1219           0              6355355        6315790        6947368
                596360
 12                           2              14             95             1869           1457           0              6954747        6947369        7578947
                1009362
 13                           1              15             90             1113           0              0              7967435        7578948        8210526
                507382
 14                           3              16             60             1922           1023           1447           8475930        8210527        8842105
                838062
 15                           2              12             60             1890           1070           0              9318384        8842106        9473684
                772742
 16                           1              17             95             1982           0              0              10094086       9473685        10105263
                507254
 17                           1              20             50             1048           0              0              10603322       10105264       10736842
                607845
 18                           3              18             80             1334           1685           1076           11212215       10736843       11368421
                440471
 19                           2              8              50             1685           1690           0              11656781       11368422       12000000
Total number of pulses in waveform = 37
**************************************************************************************
```

Type 5 Radar Waveform_2



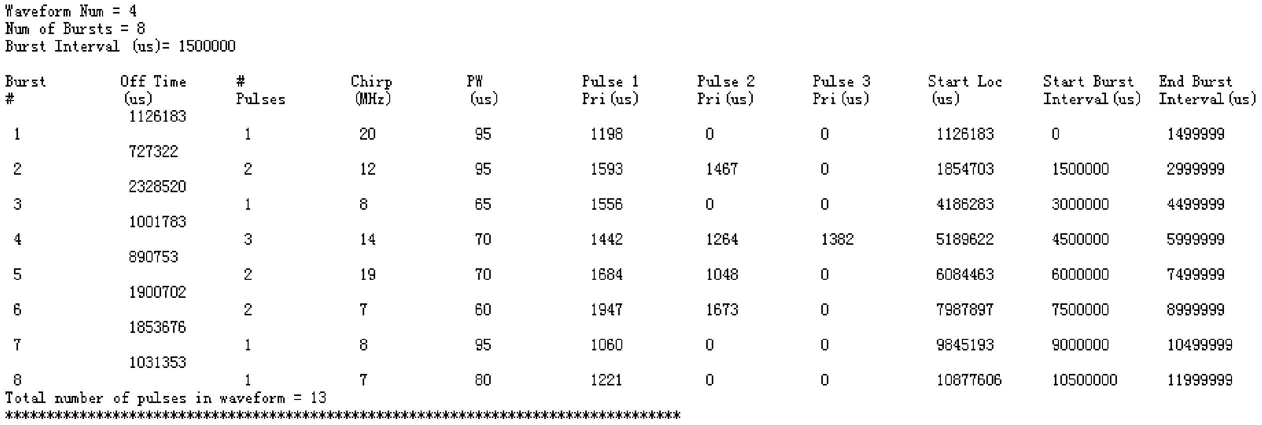
```
Waveform Num = 2
Num of Bursts = 10
Burst Interval (us)= 1200000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                1019893
 1                             3              12             50             1410           1364           1687           1019893        0              1199999
                217363
 2                             3              10             80             1558           1653           1693           1241717        1200000        2399999
                1379267
 3                             1              13             95             1135           0              0              2625888        2400000        3599999
                1045037
 4                             2              19             100            1676           1706           0              3672060        3600000        4799999
                2278820
 5                             1              10             75             1581           0              0              5954262        4800000        5999999
                1168701
 6                             3              13             100            1750           1778           1531           7124544        6000000        7199999
                76460
 7                             1              20             60             1473           0              0              7206063        7200000        8399999
                2223545
 8                             1              6              55             1439           0              0              9431081        8400000        9599999
                1204579
 9                             2              16             50             1728           1452           0              10637099       9600000        10799999
                902494
 10                            1              15             75             1501           0              0              11542773       10800000       11999999
Total number of pulses in waveform = 18
*******************************************************************************
```

Type 5 Radar Waveform_3



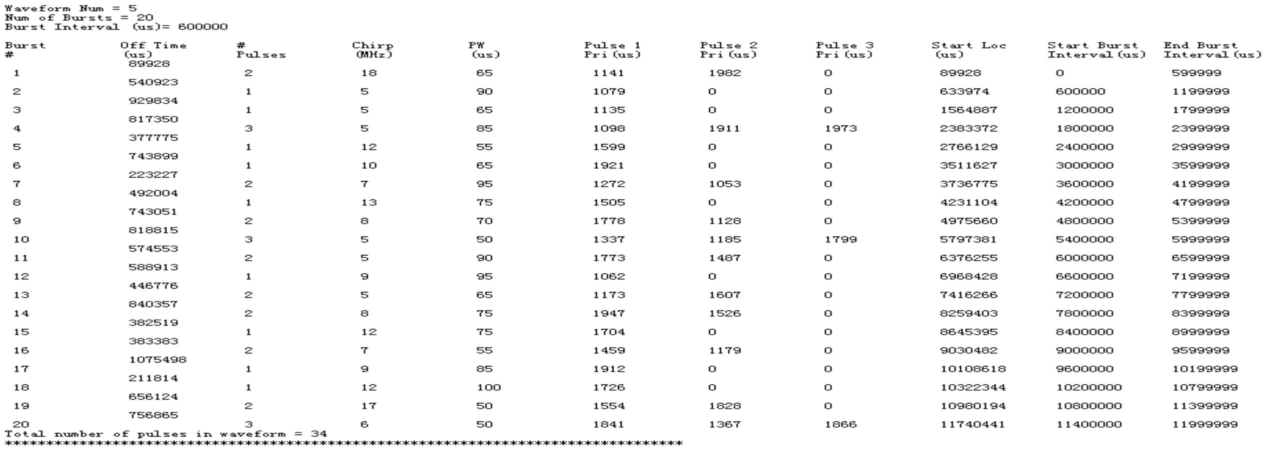
```
Waveform Num = 3
Num of Bursts = 17
Burst Interval (us)= 705882

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                224332
 1                             2              13             65             1972           1636           0              224332         0              705881
                923340
 2                             3              5              75             1556           1554           1929           1151280        705882         1411763
                601974
 3                             1              18             80             1268           0              0              1758293        1411764        2117645
                1024861
 4                             3              6              90             1403           1974           1539           2784422        2117646        2823527
                217425
 5                             2              13             90             1722           1343           0              3006763        2823528        3529409
                1041748
 6                             3              20             50             1800           1289           1755           4051576        3529410        4235291
                592734
 7                             1              20             80             1772           0              0              4649154        4235292        4941173
                618787
 8                             3              8              50             1416           1222           1360           5269713        4941174        5647055
                805852
 9                             1              11             50             1114           0              0              6079563        5647056        6352937
                292438
 10                            1              15             75             1655           0              0              6373115        6352938        7058819
                862618
 11                            1              10             80             1775           0              0              7237388        7058820        7764701
                900325
 12                            1              20             80             1170           0              0              8139488        7764702        8470583
                838161
 13                            2              15             85             1275           1009           0              8978819        8470584        9176465
                620514
 14                            3              8              70             1812           1760           1771           9601617        9176466        9882347
                628550
 15                            1              7              60             1185           0              0              10235510       9882348        10588229
                824694
 16                            1              20             55             1351           0              0              11061389       10588230       11294111
                473325
 17                            1              15             95             1225           0              0              11536065       11294112       11999993
Total number of pulses in waveform = 30
*******************************************************************************
```

Type 5 Radar Waveform_4



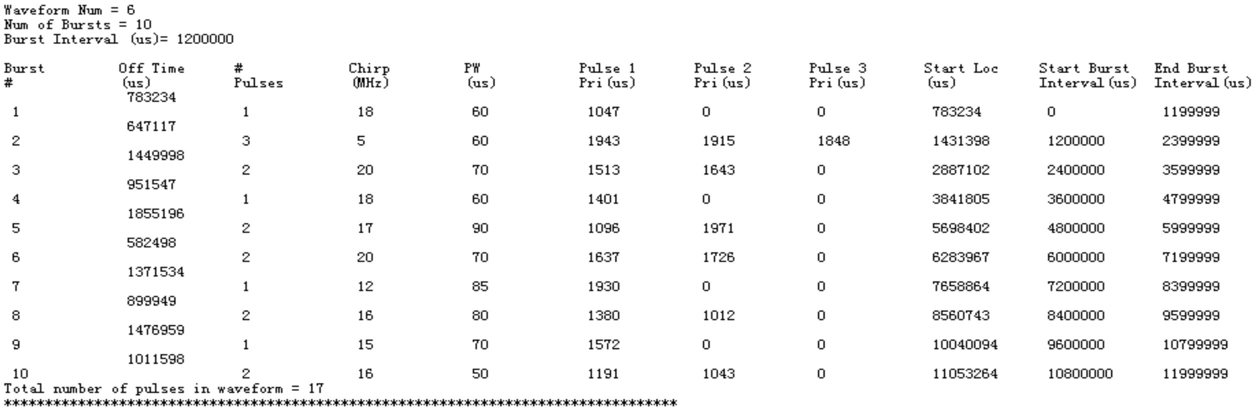
```
Waveform Num = 4
Num of Bursts = 8
Burst Interval (us)= 1500000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                1126183
 1                             1              20             95             1198           0              0              1126183        0              1499999
                727322
 2                             2              12             95             1593           1467           0              1854703        1500000        2999999
                2328520
 3                             1              8              65             1556           0              0              4186283        3000000        4499999
                1001783
 4                             3              14             70             1442           1264           1382           5189622        4500000        5999999
                890753
 5                             2              19             70             1684           1048           0              6084463        6000000        7499999
                1900702
 6                             2              7              60             1947           1673           0              7987897        7500000        8999999
                1853676
 7                             1              8              95             1060           0              0              9845193        9000000        10499999
                1031353
 8                             1              7              80             1221           0              0              10877606       10500000       11999999
Total number of pulses in waveform = 13
*******************************************************************************
```

Type 5 Radar Waveform_5



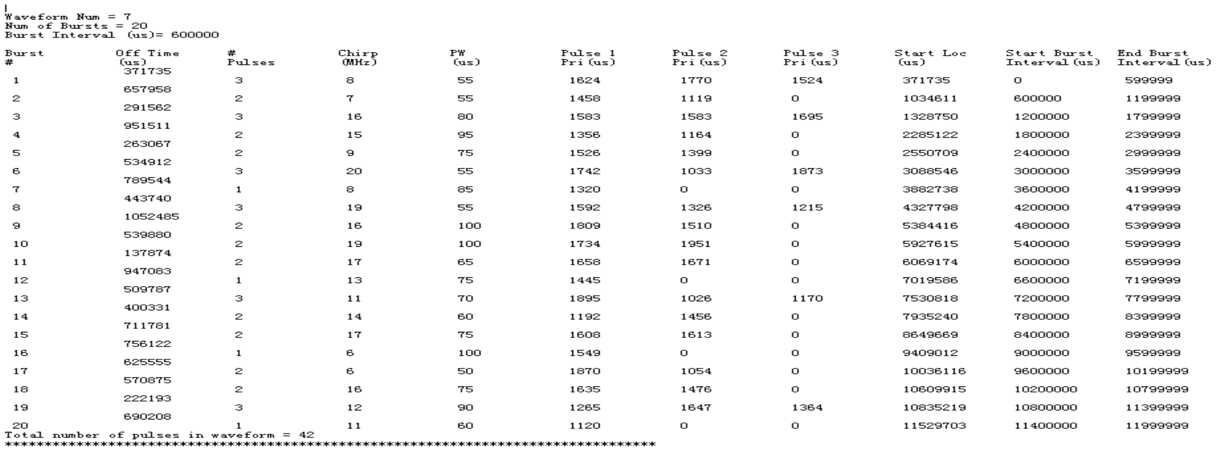
```
Waveform Num = 5
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst          Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst      End Burst
#              (us)          Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)    Interval (us)
                89928
 1                           2            18           65           1141         1982         0            89928        0                599999
                540923
 2                           1            5            90           1079         0            0            633974       600000           1199999
                929834
 3                           1            5            65           1135         0            0            1564887      1200000          1799999
                817350
 4                           3            5            85           1098         1911         1973         2383372      1800000          2399999
                377775
 5                           1            12           55           1599         0            0            2766129      2400000          2999999
                743899
 6                           1            10           65           1921         0            0            3511627      3000000          3599999
                223227
 7                           2            7            95           1272         1053         0            3736775      3600000          4199999
                492004
 8                           1            13           75           1505         0            0            4231104      4200000          4799999
                743051
 9                           2            8            70           1778         1128         0            4975660      4800000          5399999
                818815
 10                          3            5            50           1337         1185         1799         5797381      5400000          5999999
                574553
 11                          2            5            90           1773         1487         0            6376255      6000000          6599999
                588913
 12                          1            9            95           1062         0            0            6968428      6600000          7199999
                446776
 13                          2            5            65           1173         1607         0            7416266      7200000          7799999
                840357
 14                          2            8            75           1947         1526         0            8259403      7800000          8399999
                382519
 15                          1            12           75           1704         0            0            8645395      8400000          8999999
                383383
 16                          2            7            55           1459         1179         0            9030482      9000000          9599999
                1075498
 17                          1            9            85           1912         0            0            10108618     9600000          10199999
                211814
 18                          1            12           100          1726         0            0            10322344     10200000         10799999
                656124
 19                          2            17           50           1554         1828         0            10980194     10800000         11399999
                756865
 20                          3            6            50           1841         1367         1866         11740441     11400000         11999999
Total number of pulses in waveform = 34
********************************************************************************
```

Type 5 Radar Waveform_6



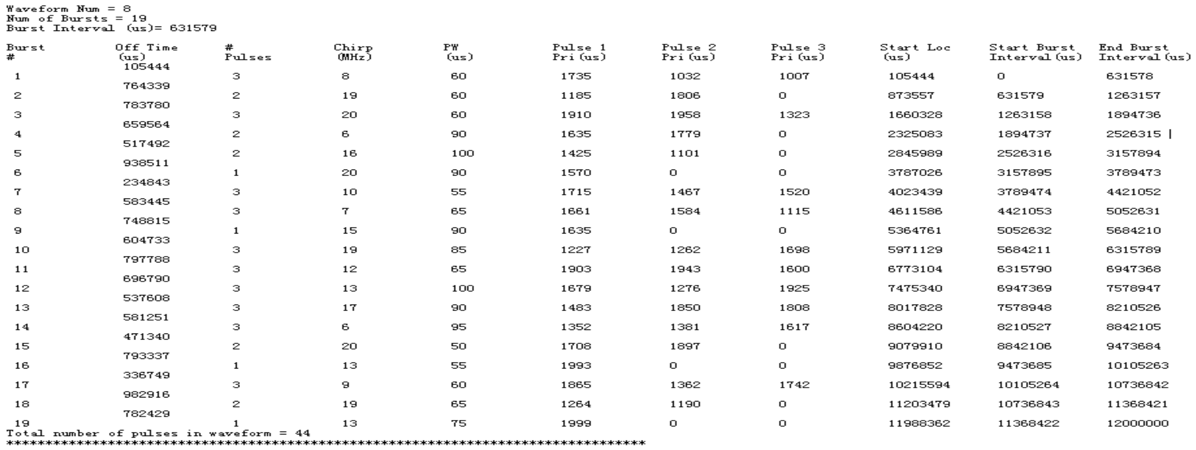
```
Waveform Num = 6
Num of Bursts = 10
Burst Interval  (us)= 1200000

Burst          Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst      End Burst
#              (us)          Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)    Interval (us)
                783234
 1                           1            18           60           1047         0            0            783234       0                1199999
                647117
 2                           3            5            60           1943         1915         1848         1431398      1200000          2399999
                1449998
 3                           2            20           70           1513         1643         0            2887102      2400000          3599999
                951547
 4                           1            18           60           1401         0            0            3841805      3600000          4799999
                1855196
 5                           2            17           90           1096         1971         0            5698402      4800000          5999999
                582498
 6                           2            20           70           1637         1726         0            6283967      6000000          7199999
                1371534
 7                           1            12           85           1930         0            0            7658864      7200000          8399999
                899949
 8                           2            16           80           1380         1012         0            8560743      8400000          9599999
                1476959
 9                           1            15           70           1572         0            0            10040094     9600000          10799999
                1011598
 10                          2            16           50           1191         1043         0            11053264     10800000         11999999
Total number of pulses in waveform = 17
********************************************************************************
```

Type 5 Radar Waveform_7



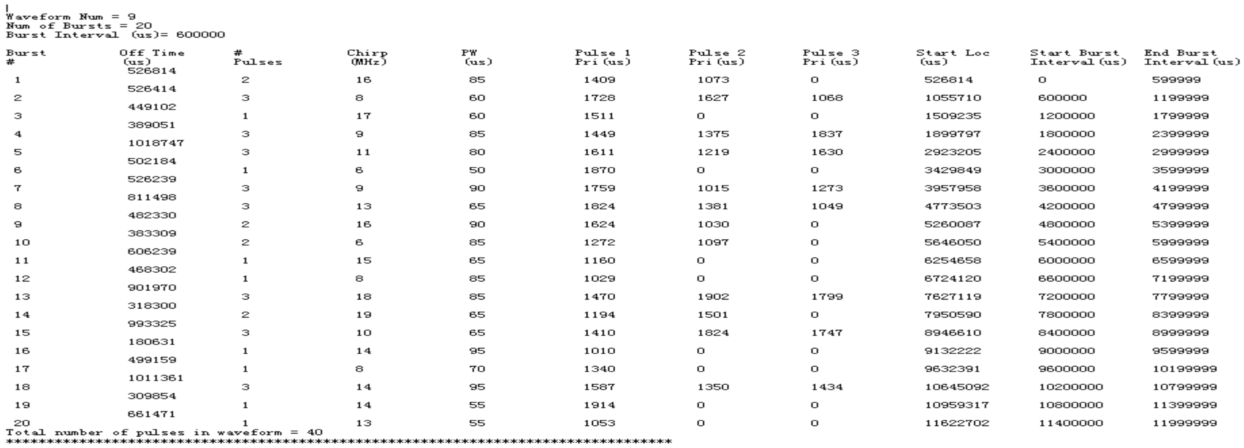
```
|
Waveform Num = 7
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst          Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst      End Burst
#              (us)          Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)    Interval (us)
                371735
 1                           3            8            55           1624         1770         1524         371735       0                599999
                657958
 2                           2            7            55           1458         1119         0            1034611      600000           1199999
                291562
 3                           3            16           80           1583         1583         1695         1328750      1200000          1799999
                951511
 4                           2            15           95           1356         1164         0            2285122      1800000          2399999
                263067
 5                           2            9            75           1526         1399         0            2550709      2400000          2999999
                534912
 6                           3            20           55           1742         1033         1873         3088546      3000000          3599999
                789544
 7                           1            8            85           1320         0            0            3882738      3600000          4199999
                443740
 8                           3            19           55           1592         1326         1215         4327798      4200000          4799999
                1052485
 9                           2            16           100          1809         1510         0            5384416      4800000          5399999
                539880
 10                          2            19           100          1734         1951         0            5927615      5400000          5999999
                137874
 11                          2            17           65           1658         1671         0            6069174      6000000          6599999
                947083
 12                          1            13           75           1445         0            0            7019586      6600000          7199999
                509787
 13                          3            11           70           1895         1026         1170         7530818      7200000          7799999
                400331
 14                          2            14           60           1192         1456         0            7935240      7800000          8399999
                711781
 15                          2            17           75           1608         1613         0            8649669      8400000          8999999
                756122
 16                          1            6            100          1549         0            0            9409012      9000000          9599999
                625555
 17                          2            6            50           1870         1054         0            10036116     9600000          10199999
                570875
 18                          2            16           75           1635         1476         0            10609915     10200000         10799999
                222193
 19                          3            12           90           1265         1647         1364         10835219     10800000         11399999
                690208
 20                          1            11           60           1120         0            0            11529703     11400000         11999999
Total number of pulses in waveform = 42
********************************************************************************
```

Type 5 Radar Waveform_8



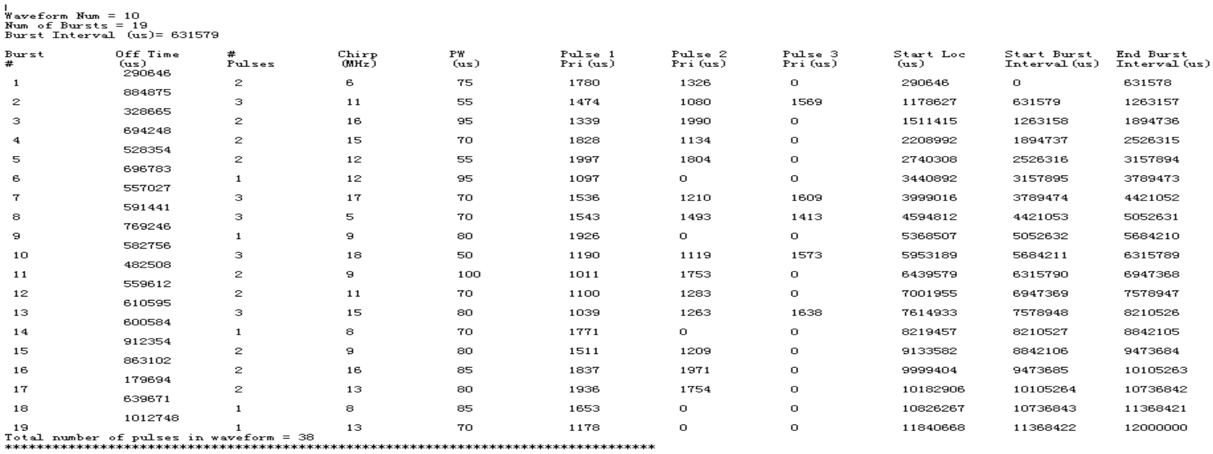
```
Waveform Num = 8
Num of Bursts = 19
Burst Interval  (us)= 631579

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#             (us)          Pulses        (MHz)         (us)          Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
              105444
1                           3             8             60            1735          1032          1007          105444        0             631578
              764339
2                           2             19            60            1185          1806          0             873557        631579        1263157
              783780
3                           3             20            60            1910          1958          1323          1660328       1263158       1894736
              659564
4                           2             6             90            1635          1779          0             2325083       1894737       2526315 |
              517492
5                           2             16            100           1425          1101          0             2845989       2526316       3157894
              938511
6                           1             20            90            1570          0             0             3787026       3157895       3789473
              234843
7                           3             10            55            1715          1467          1520          4023439       3789474       4421052
              583445
8                           3             7             65            1661          1584          1115          4611586       4421053       5052631
              748815
9                           1             15            90            1635          0             0             5364761       5052632       5684210
              604733
10                          3             19            85            1227          1262          1698          5971129       5684211       6315789
              797788
11                          3             12            65            1903          1943          1600          6773104       6315790       6947368
              696790
12                          3             13            100           1679          1276          1925          7475340       6947369       7578947
              537608
13                          3             17            90            1483          1850          1808          8017828       7578948       8210526
              581251
14                          3             6             95            1352          1381          1617          8604220       8210527       8842105
              471340
15                          2             20            50            1708          1897          0             9079910       8842106       9473684
              793337
16                          1             13            55            1993          0             0             9876852       9473685       10105263
              336749
17                          3             9             60            1865          1362          1742          10215594      10105264      10736842
              982916
18                          2             19            65            1264          1190          0             11203479      10736843      11368421
              782429
19                          1             13            75            1999          0             0             11988362      11368422      12000000
Total number of pulses in waveform = 44
********************************************************************************
```

Type 5 Radar Waveform_9



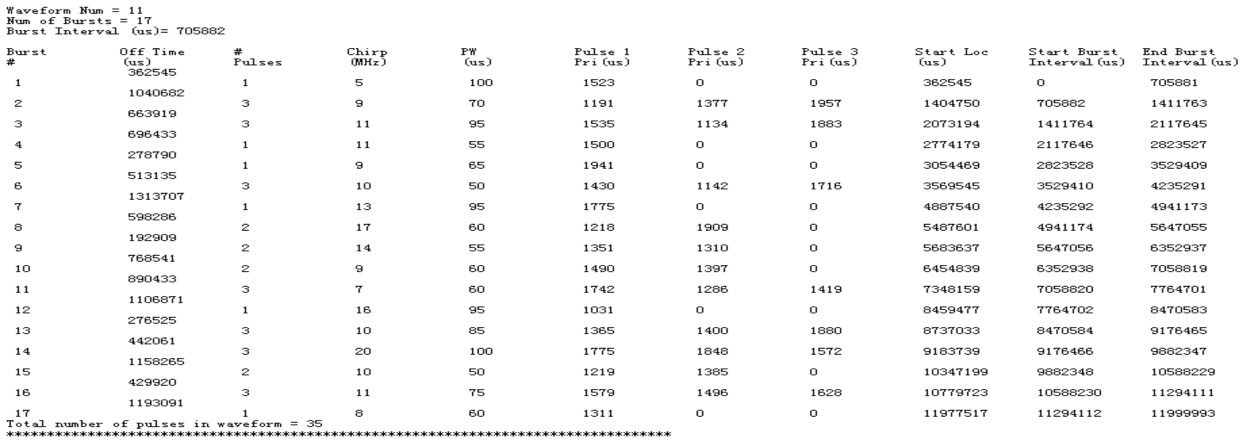
```
|
Waveform Num = 9
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#             (us)          Pulses        (MHz)         (us)          Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
              526814
1                           2             16            85            1409          1073          0             526814        0             599999
              526414
2                           3             8             60            1728          1627          1068          1055710       600000        1199999
              449102
3                           1             17            60            1511          0             0             1509235       1200000       1799999
              389051
4                           3             9             85            1449          1375          1837          1899797       1800000       2399999
              1018747
5                           3             11            80            1611          1219          1630          2923205       2400000       2999999
              502184
6                           1             6             50            1870          0             0             3429849       3000000       3599999
              526239
7                           3             9             90            1759          1015          1273          3957958       3600000       4199999
              811498
8                           3             13            65            1824          1381          1049          4773503       4200000       4799999
              482330
9                           2             16            90            1624          1030          0             5260087       4800000       5399999
              383309
10                          2             6             85            1272          1097          0             5646050       5400000       5999999
              606239
11                          1             15            65            1160          0             0             6254658       6000000       6599999
              468302
12                          1             8             85            1029          0             0             6724120       6600000       7199999
              901970
13                          3             18            85            1470          1902          1799          7627119       7200000       7799999
              318300
14                          2             19            65            1194          1501          0             7950590       7800000       8399999
              993325
15                          3             10            65            1410          1824          1747          8946610       8400000       8999999
              180631
16                          1             14            95            1010          0             0             9132222       9000000       9599999
              499159
17                          1             8             70            1340          0             0             9632391       9600000       10199999
              1011361
18                          3             14            95            1587          1350          1434          10645092      10200000      10799999
              309854
19                          1             14            55            1914          0             0             10959317      10800000      11399999
              661471
20                          1             13            55            1053          0             0             11622702      11400000      11999999
Total number of pulses in waveform = 40
********************************************************************************
```

Type 5 Radar Waveform_10



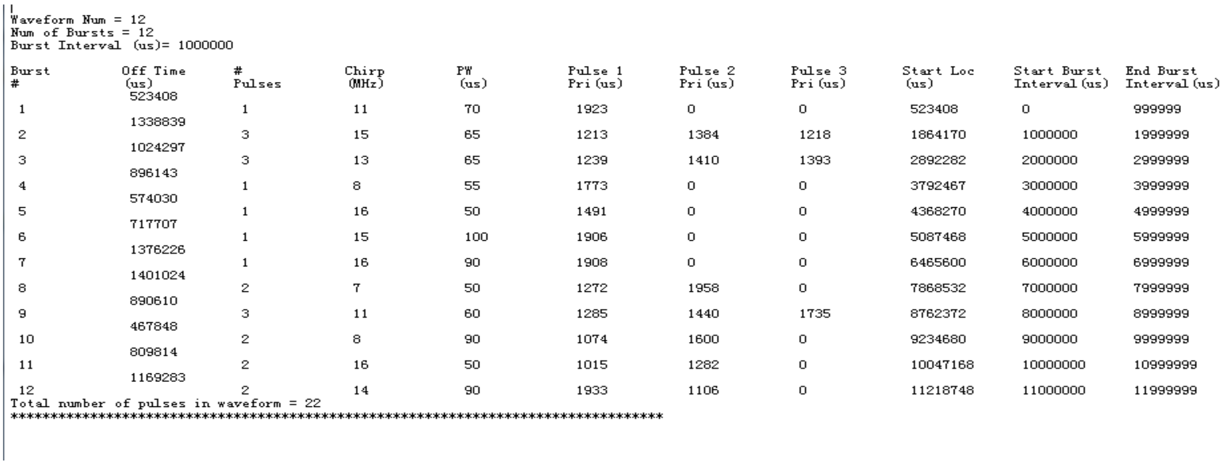
```
|
Waveform Num = 10
Num of Bursts = 19
Burst Interval  (us)= 631579

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#             (us)          Pulses        (MHz)         (us)          Pri (us)      Pri (us)      Pri (us)      (us)          Interval (us) Interval (us)
              290646
1                           2             6             75            1780          1326          0             290646        0             631578
              884875
2                           3             11            55            1474          1080          1569          1178627       631579        1263157
              328665
3                           2             16            95            1339          1990          0             1511415       1263158       1894736
              694248
4                           2             15            70            1828          1134          0             2208992       1894737       2526315
              528354
5                           2             12            55            1997          1804          0             2740308       2526316       3157894
              696783
6                           1             12            95            1097          0             0             3440892       3157895       3789473
              557027
7                           3             17            70            1536          1210          1609          3999016       3789474       4421052
              591441
8                           3             5             70            1543          1493          1413          4594812       4421053       5052631
              769246
9                           1             9             80            1926          0             0             5368507       5052632       5684210
              582756
10                          3             18            50            1190          1119          1573          5953189       5684211       6315789
              482508
11                          2             9             100           1011          1753          0             6439579       6315790       6947368
              559612
12                          2             11            70            1100          1283          0             7001955       6947369       7578947
              610595
13                          3             15            80            1039          1263          1638          7614933       7578948       8210526
              600584
14                          1             8             70            1771          0             0             8219457       8210527       8842105
              912354
15                          2             9             80            1511          1209          0             9133582       8842106       9473684
              863102
16                          2             16            85            1837          1971          0             9999404       9473685       10105263
              179694
17                          2             13            80            1936          1754          0             10182906      10105264      10736842
              639671
18                          1             8             85            1653          0             0             10826267      10736843      11368421
              1012748
19                          1             13            70            1178          0             0             11840668      11368422      12000000
Total number of pulses in waveform = 38
********************************************************************************
```

Type 5 Radar Waveform_11



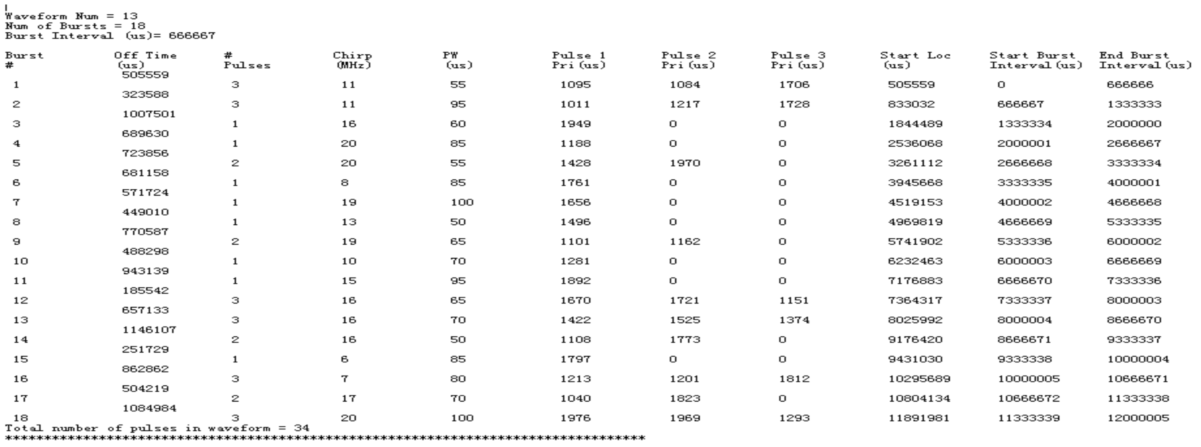
```
Waveform Num = 11
Num of Bursts = 17
Burst Interval  (us)= 705882

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)        (us)          Interval (us)  Interval (us)
                362545
 1                             1              5              100            1523           0              0              362545         0              705881
                1040682
 2                             3              9              70             1191           1377           1957           1404750        705882         1411763
                663919
 3                             3              11             95             1535           1134           1883           2073194        1411764        2117645
                696433
 4                             1              11             55             1500           0              0              2774179        2117646        2823527
                278790
 5                             1              9              65             1941           0              0              3054469        2823528        3529409
                513135
 6                             3              10             50             1430           1142           1716           3569545        3529410        4235291
                1313707
 7                             1              13             95             1775           0              0              4887540        4235292        4941173
                598286
 8                             2              17             60             1218           1909           0              5487601        4941174        5647055
                192909
 9                             2              14             55             1351           1310           0              5683637        5647056        6352937
                768541
 10                            2              9              60             1490           1397           0              6454839        6352938        7058819
                890433
 11                            3              7              60             1742           1286           1419           7348159        7058820        7764701
                1106871
 12                            1              16             95             1031           0              0              8459477        7764702        8470583
                276525
 13                            3              10             85             1365           1400           1880           8737033        8470584        9176465
                442061
 14                            3              20             100            1775           1848           1572           9183739        9176466        9882347
                1158265
 15                            2              10             50             1219           1385           0              10347199       9882348        10588229
                429920
 16                            3              11             75             1579           1496           1628           10779723       10588230       11294111
                1193091
 17                            1              8              60             1311           0              0              11977517       11294112       11999993
Total number of pulses in waveform = 35
****************************************************************************************
```

Type 5 Radar Waveform_12



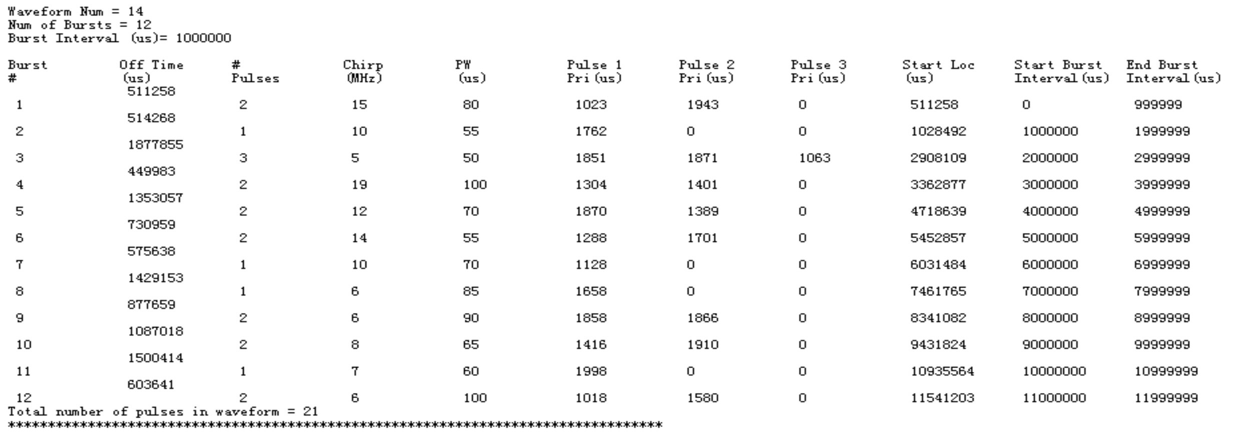
```
|
Waveform Num = 12
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)        (us)          Interval (us)  Interval (us)
                523408
 1                             1              11             70             1923           0              0              523408         0              999999
                1338839
 2                             3              15             65             1213           1384           1218           1864170        1000000        1999999
                1024297
 3                             3              13             65             1239           1410           1393           2892282        2000000        2999999
                896143
 4                             1              8              55             1773           0              0              3792467        3000000        3999999
                574030
 5                             1              16             50             1491           0              0              4368270        4000000        4999999
                717707
 6                             1              15             100            1906           0              0              5087468        5000000        5999999
                1376226
 7                             1              16             90             1908           0              0              6465600        6000000        6999999
                1401024
 8                             2              7              50             1272           1958           0              7868532        7000000        7999999
                890610
 9                             3              11             60             1285           1440           1735           8762372        8000000        8999999
                467848
 10                            2              8              90             1074           1600           0              9234680        9000000        9999999
                809814
 11                            2              16             50             1015           1282           0              10047168       10000000       10999999
                1169283
 12                            2              14             90             1933           1106           0              11218748       11000000       11999999
Total number of pulses in waveform = 22
****************************************************************************************
```

Type 5 Radar Waveform_13



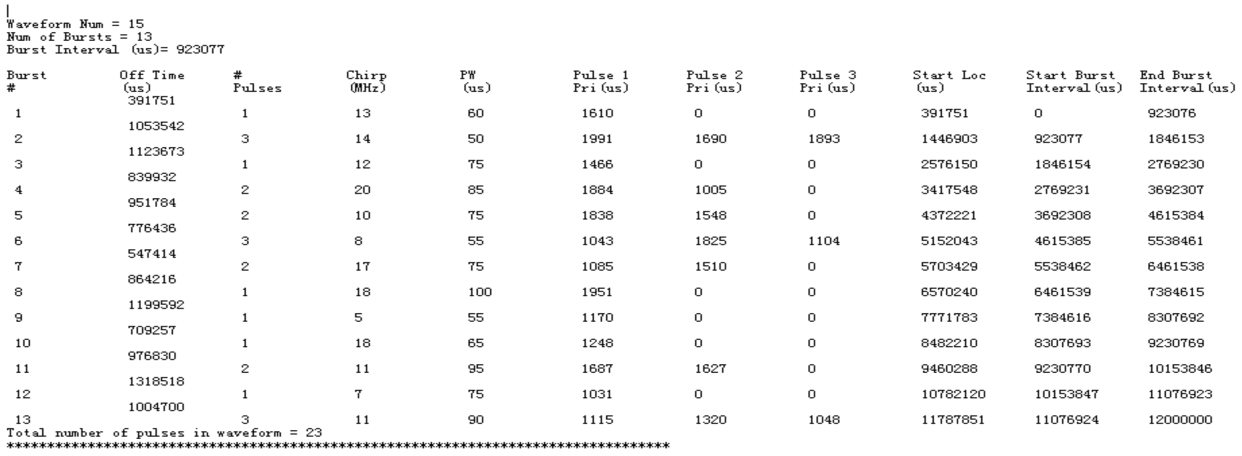
```
|
Waveform Num = 13
Num of Bursts = 18
Burst Interval  (us)= 666667

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)        (us)          Interval (us)  Interval (us)
                505559
 1                             3              11             55             1095           1084           1706           505559         0              666666
                323588
 2                             3              11             95             1011           1217           1728           833032         666667         1333333
                1007501
 3                             1              16             60             1949           0              0              1844489        1333334        2000000
                689630
 4                             1              20             85             1188           0              0              2536068        2000001        2666667
                723856
 5                             2              20             55             1428           1970           0              3261112        2666668        3333334
                681158
 6                             1              8              85             1761           0              0              3945668        3333335        4000001
                571724
 7                             1              19             100            1656           0              0              4519153        4000002        4666668
                449010
 8                             1              13             50             1496           0              0              4969819        4666669        5333335
                770587
 9                             2              19             65             1101           1162           0              5741902        5333336        6000002
                488298
 10                            1              10             70             1281           0              0              6232463        6000003        6666669
                943139
 11                            1              15             95             1892           0              0              7176883        6666670        7333336
                185542
 12                            3              16             65             1670           1721           1151           7364317        7333337        8000003
                657133
 13                            3              16             70             1422           1525           1374           8025992        8000004        8666670
                1146107
 14                            2              16             50             1108           1773           0              9176420        8666671        9333337
                251729
 15                            1              6              85             1797           0              0              9431030        9333338        10000004
                862862
 16                            3              7              80             1213           1201           1812           10295689       10000005       10666671
                504219
 17                            2              17             70             1040           1823           0              10804134       10666672       11333338
                1084984
 18                            3              20             100            1976           1969           1293           11891981       11333339       12000005
Total number of pulses in waveform = 34
****************************************************************************************
```

Type 5 Radar Waveform_14



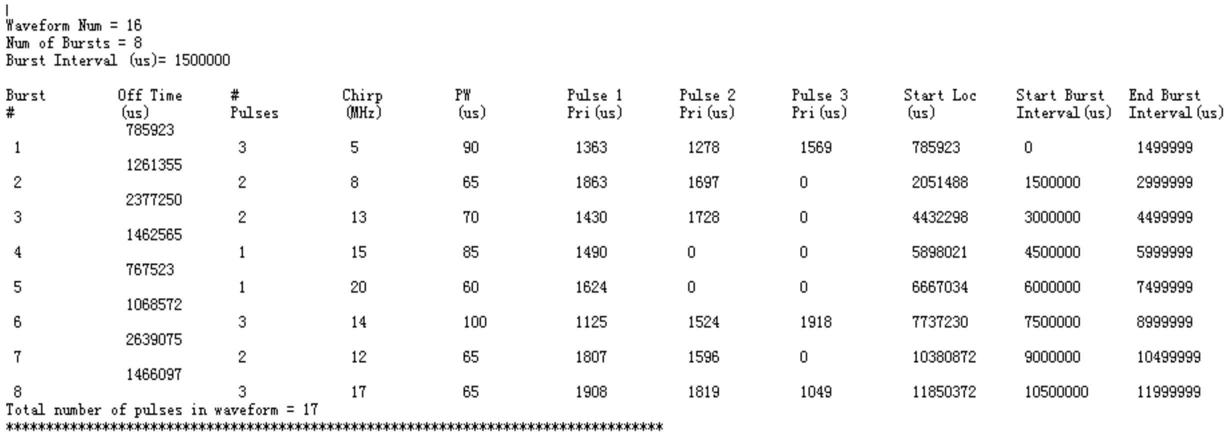
```
Waveform Num = 14
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst  End Burst
#            (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us) Interval (us)
              511258
 1                         2            15           80           1023         1943         0            511258       0            999999
              514268
 2                         1            10           55           1762         0            0            1028492      1000000      1999999
              1877855
 3                         3            5            50           1851         1871         1063         2908109      2000000      2999999
              449983
 4                         2            19           100          1304         1401         0            3362877      3000000      3999999
              1353057
 5                         2            12           70           1870         1389         0            4718639      4000000      4999999
              730959
 6                         2            14           55           1288         1701         0            5452857      5000000      5999999
              575638
 7                         1            10           70           1128         0            0            6031484      6000000      6999999
              1429153
 8                         1            6            85           1658         0            0            7461765      7000000      7999999
              877659
 9                         2            6            90           1858         1866         0            8341082      8000000      8999999
              1087018
 10                        2            8            65           1416         1910         0            9431824      9000000      9999999
              1500414
 11                        1            7            60           1998         0            0            10935564     10000000     10999999
              603641
 12                        2            6            100          1018         1580         0            11541203     11000000     11999999
Total number of pulses in waveform = 21
***********************************************************************************
```

Type 5 Radar Waveform_15



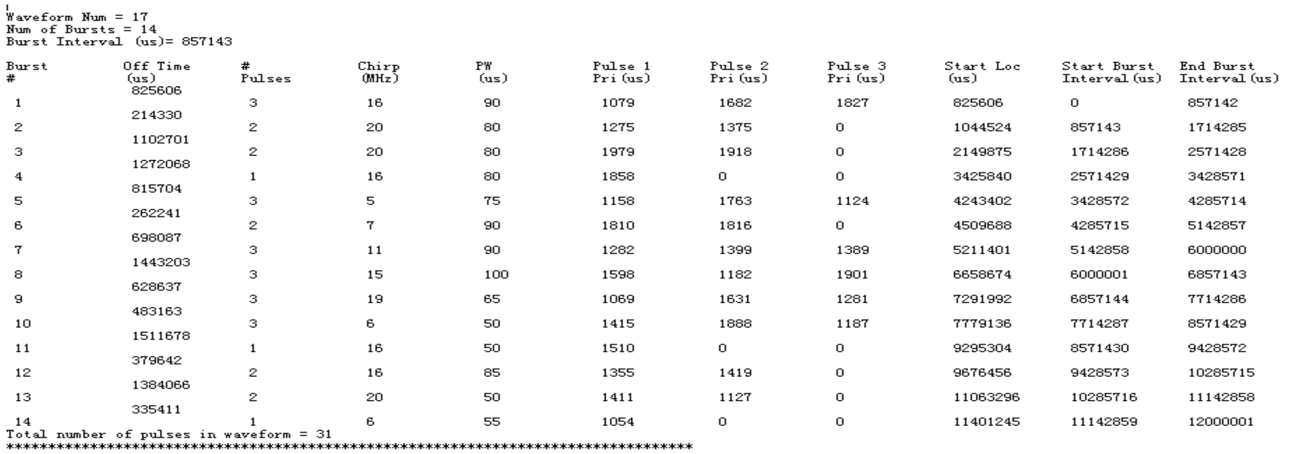
```
|
Waveform Num = 15
Num of Bursts = 13
Burst Interval  (us)= 923077

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst  End Burst
#            (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us) Interval (us)
              391751
 1                         1            13           60           1610         0            0            391751       0            923076
              1053542
 2                         3            14           50           1991         1690         1893         1446903      923077       1846153
              1123673
 3                         1            12           75           1466         0            0            2576150      1846154      2769230
              839932
 4                         2            20           85           1884         1005         0            3417548      2769231      3692307
              951784
 5                         2            10           75           1838         1548         0            4372221      3692308      4615384
              776436
 6                         3            8            55           1043         1825         1104         5152043      4615385      5538461
              547414
 7                         2            17           75           1085         1510         0            5703429      5538462      6461538
              864216
 8                         1            18           100          1951         0            0            6570240      6461539      7384615
              1199592
 9                         1            5            55           1170         0            0            7771783      7384616      8307692
              709257
 10                        1            18           65           1248         0            0            8482210      8307693      9230769
              976830
 11                        2            11           95           1687         1627         0            9460288      9230770      10153846
              1318518
 12                        1            7            75           1031         0            0            10782120     10153847     11076923
              1004700
 13                        3            11           90           1115         1320         1048         11787851     11076924     12000000
Total number of pulses in waveform = 23
***********************************************************************************
```

Type 5 Radar Waveform_16



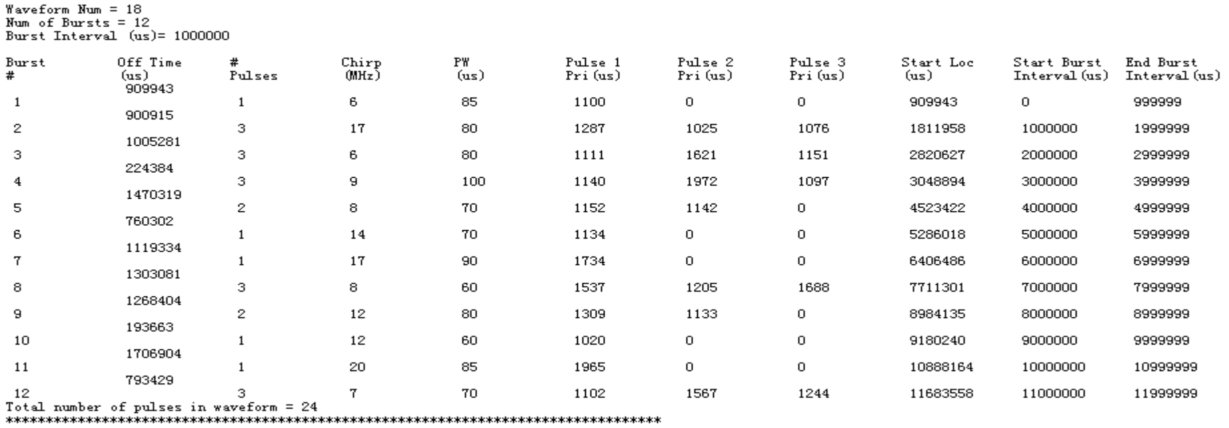
```
|
Waveform Num = 16
Num of Bursts = 8
Burst Interval  (us)= 1500000

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst  End Burst
#            (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us) Interval (us)
              785923
 1                         3            5            90           1363         1278         1569         785923       0            1499999
              1261355
 2                         2            8            65           1863         1697         0            2051488      1500000      2999999
              2377250
 3                         2            13           70           1430         1728         0            4432298      3000000      4499999
              1462565
 4                         1            15           85           1490         0            0            5898021      4500000      5999999
              767523
 5                         1            20           60           1624         0            0            6667034      6000000      7499999
              1068572
 6                         3            14           100          1125         1524         1918         7737230      7500000      8999999
              2639075
 7                         2            12           65           1807         1596         0            10380872     9000000      10499999
              1466097
 8                         3            17           65           1908         1819         1049         11850372     10500000     11999999
Total number of pulses in waveform = 17
***********************************************************************************
```

Type 5 Radar Waveform_17



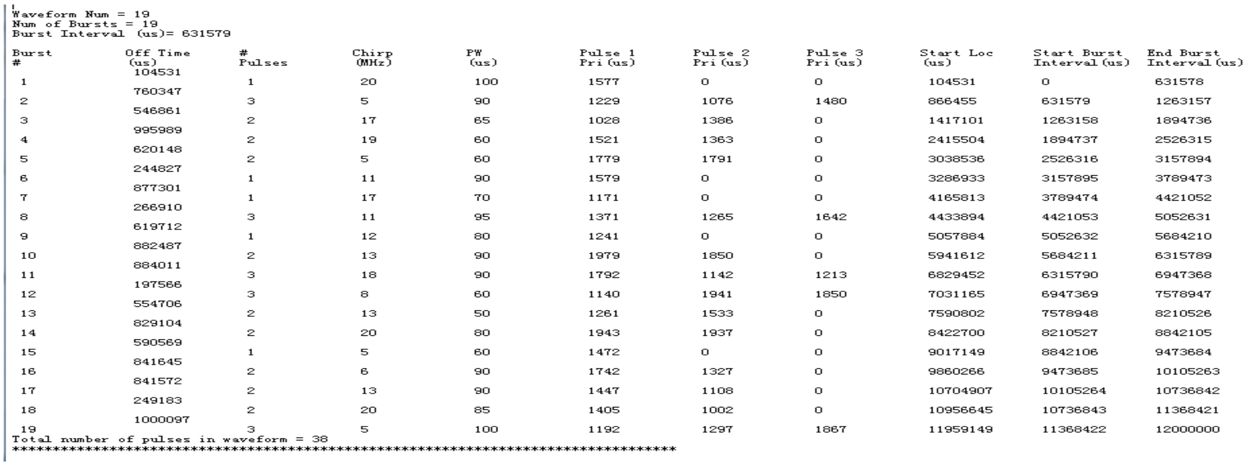
```
Waveform Num = 17
Num of Bursts = 14
Burst Interval  (us)= 857143

Burst         Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#              (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                825606
 1                          3            16           90           1079         1682         1827         825606       0              857142
                214330
 2                          2            20           80           1275         1375         0            1044524      857143         1714285
                1102701
 3                          2            20           80           1979         1918         0            2149875      1714286        2571428
                1272068
 4                          1            16           80           1858         0            0            3425840      2571429        3428571
                815704
 5                          3            5            75           1158         1763         1124         4243402      3428572        4285714
                262241
 6                          2            7            90           1810         1816         0            4509688      4285715        5142857
                698087
 7                          3            11           90           1282         1399         1389         5211401      5142858        6000000
                1443203
 8                          3            15           100          1598         1182         1901         6658674      6000001        6857143
                628637
 9                          3            19           65           1069         1631         1281         7291992      6857144        7714286
                483163
 10                         3            6            50           1415         1888         1187         7779136      7714287        8571429
                1511678
 11                         1            16           50           1510         0            0            9295304      8571430        9428572
                379642
 12                         2            16           85           1355         1419         0            9676456      9428573        10285715
                1384066
 13                         2            20           50           1411         1127         0            11063296     10285716       11142858
                335411
 14                         1            6            55           1054         0            0            11401245     11142859       12000001
Total number of pulses in waveform = 31
************************************************************************************
```

Type 5 Radar Waveform_18



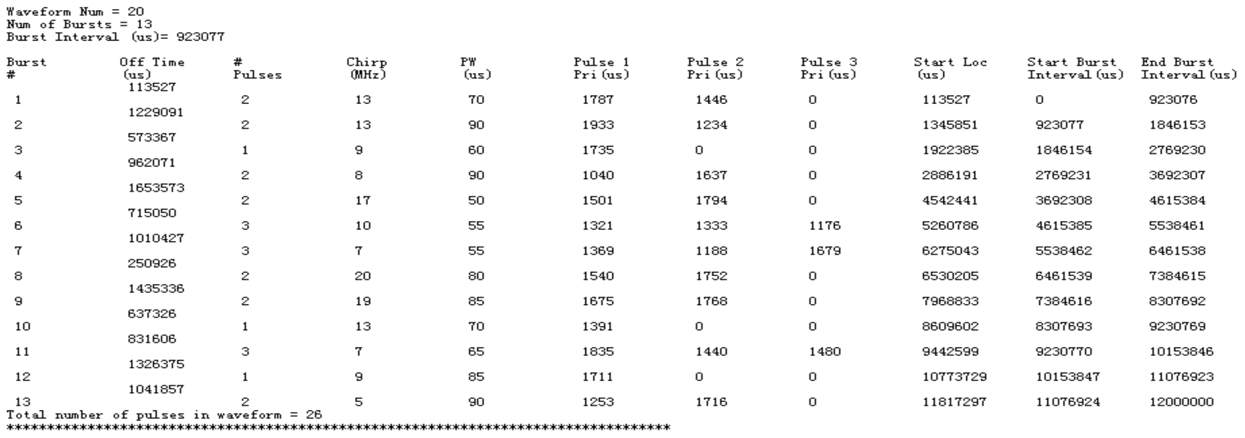
```
Waveform Num = 18
Num of Bursts = 12
Burst Interval  (us)= 1000000

Burst         Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#              (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                909943
 1                          1            6            85           1100         0            0            909943       0              999999
                900915
 2                          3            17           80           1287         1025         1076         1811958      1000000        1999999
                1005281
 3                          3            6            80           1111         1621         1151         2820627      2000000        2999999
                224384
 4                          3            9            100          1140         1972         1097         3048894      3000000        3999999
                1470319
 5                          2            8            70           1152         1142         0            4523422      4000000        4999999
                760302
 6                          1            14           70           1134         0            0            5286018      5000000        5999999
                1119334
 7                          1            17           90           1734         0            0            6406486      6000000        6999999
                1303081
 8                          3            8            60           1537         1205         1688         7711301      7000000        7999999
                1268404
 9                          2            12           80           1309         1133         0            8984135      8000000        8999999
                193663
 10                         1            12           60           1020         0            0            9180240      9000000        9999999
                1706904
 11                         1            20           85           1965         0            0            10888164     10000000       10999999
                793429
 12                         3            7            70           1102         1567         1244         11683558     11000000       11999999
Total number of pulses in waveform = 24
************************************************************************************
```

Type 5 Radar Waveform_19



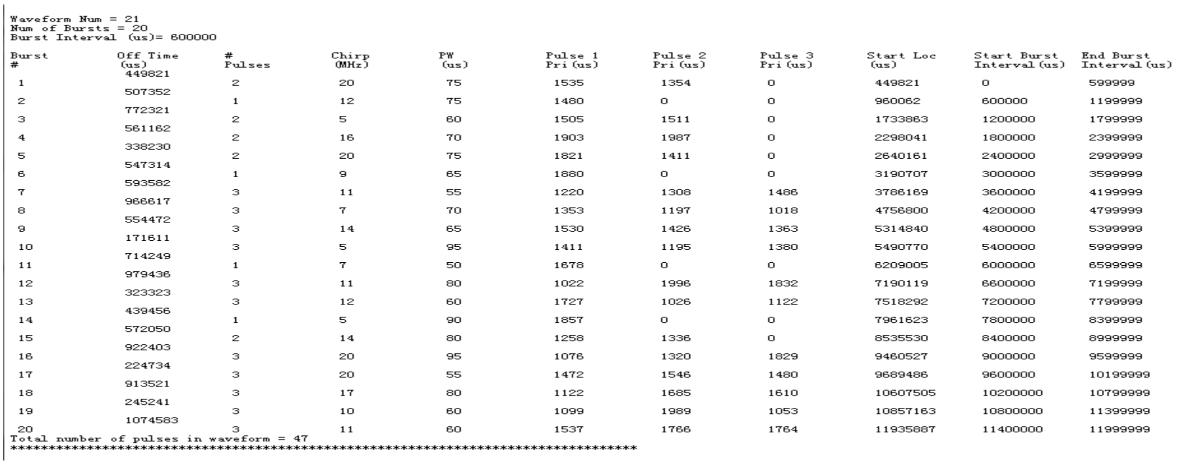
```
Waveform Num = 19
Num of Bursts = 19
Burst Interval  (us)= 631579

Burst         Off Time      #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#              (us)         Pulses       (MHz)        (us)         Pri (us)     Pri (us)     Pri (us)     (us)         Interval (us)  Interval (us)
                104531
 1                          1            20           100          1577         0            0            104531       0              631578
                760347
 2                          3            5            90           1229         1076         1480         866455       631579         1263157
                546861
 3                          2            17           65           1028         1386         0            1417101      1263158        1894736
                995989
 4                          2            19           60           1521         1363         0            2415504      1894737        2526315
                620148
 5                          2            5            60           1779         1791         0            3038536      2526316        3157894
                244827
 6                          1            11           90           1579         0            0            3286933      3157895        3789473
                877301
 7                          1            17           70           1171         0            0            4165813      3789474        4421052
                266910
 8                          3            11           95           1371         1265         1642         4433894      4421053        5052631
                619712
 9                          1            12           80           1241         0            0            5057884      5052632        5684210
                882487
 10                         2            13           90           1979         1850         0            5941612      5684211        6315789
                884011
 11                         3            18           90           1792         1142         1213         6829452      6315790        6947368
                197566
 12                         3            8            60           1140         1941         1850         7031165      6947369        7578947
                554706
 13                         2            13           50           1261         1533         0            7590802      7578948        8210526
                829104
 14                         2            20           80           1943         1937         0            8422700      8210527        8842105
                590569
 15                         1            5            60           1472         0            0            9017149      8842106        9473684
                841645
 16                         2            6            90           1742         1327         0            9860266      9473685        10105263
                841572
 17                         2            13           90           1447         1108         0            10704907     10105264       10736842
                249183
 18                         2            20           85           1405         1002         0            10956645     10736843       11368421
                1000097
 19                         3            5            100          1192         1297         1867         11959149     11368422       12000000
Total number of pulses in waveform = 38
************************************************************************************
```

Type 5 Radar Waveform_20



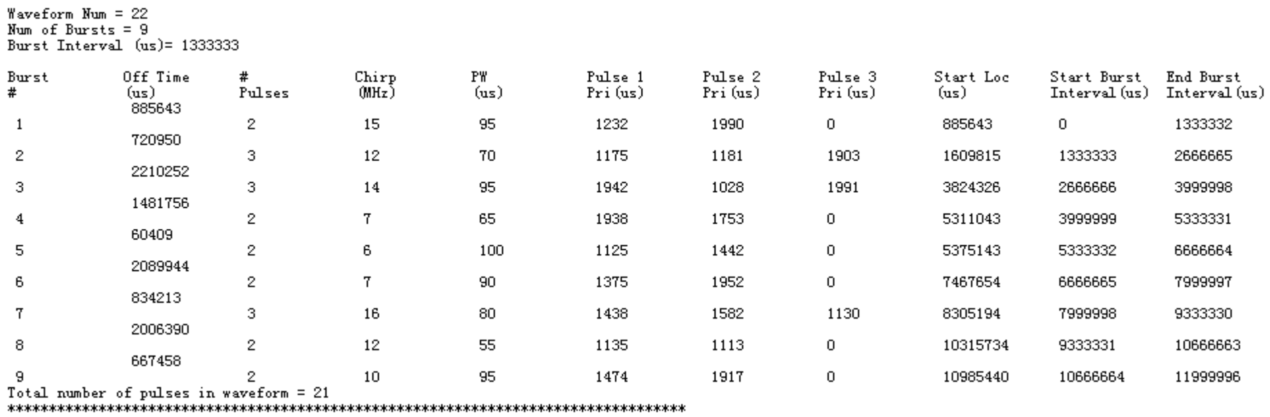
```
Waveform Num = 20
Num of Bursts = 13
Burst Interval  (us)= 923077

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                 113527
 1                             2              13             70             1787           1446           0              113527         0              923076
                 1229091
 2                             2              13             90             1933           1234           0              1345851        923077         1846153
                 573367
 3                             1              9              60             1735           0              0              1922385        1846154        2769230
                 962071
 4                             2              8              90             1040           1637           0              2886191        2769231        3692307
                 1653573
 5                             2              17             50             1501           1794           0              4542441        3692308        4615384
                 715050
 6                             3              10             55             1321           1333           1176           5260786        4615385        5538461
                 1010427
 7                             3              7              55             1369           1188           1679           6275043        5538462        6461538
                 250926
 8                             2              20             80             1540           1752           0              6530205        6461539        7384615
                 1435336
 9                             2              19             85             1675           1768           0              7968833        7384616        8307692
                 637326
 10                            1              13             70             1391           0              0              8609602        8307693        9230769
                 831606
 11                            3              7              65             1835           1440           1480           9442599        9230770        10153846
                 1326375
 12                            1              9              85             1711           0              0              10773729       10153847       11076923
                 1041857
 13                            2              5              90             1253           1716           0              11817297       11076924       12000000
Total number of pulses in waveform = 26
**********************************************************************************
```

Type 5 Radar Waveform_21



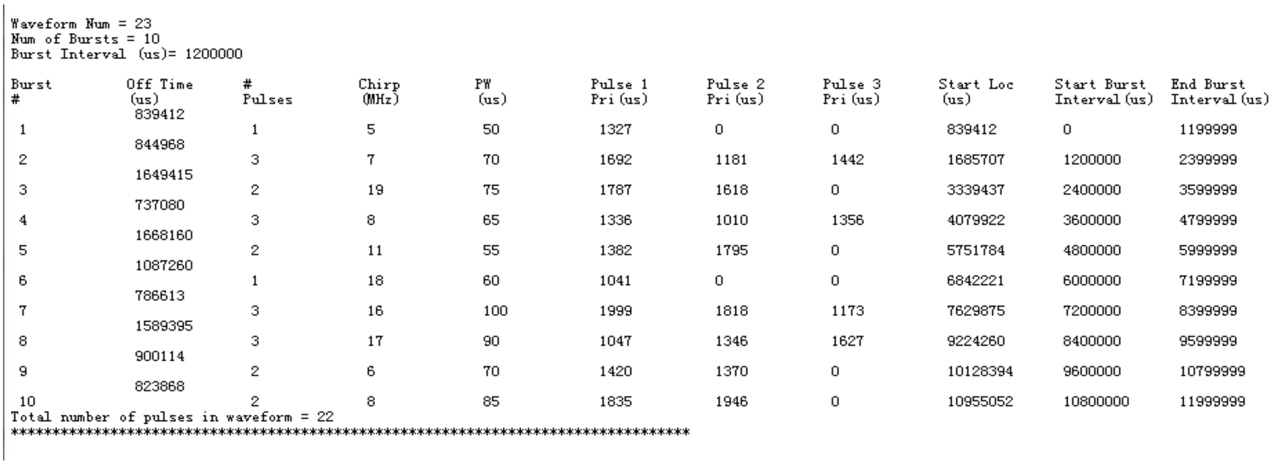
```
Waveform Num = 21
Num of Bursts = 20
Burst Interval  (us)= 600000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                 449821
 1                             2              20             75             1535           1354           0              449821         0              599999
                 507352
 2                             1              12             75             1480           0              0              960062         600000         1199999
                 772321
 3                             2              5              60             1505           1511           0              1733863        1200000        1799999
                 561162
 4                             2              16             70             1903           1987           0              2298041        1800000        2399999
                 338230
 5                             2              20             75             1821           1411           0              2640161        2400000        2999999
                 547314
 6                             1              9              65             1880           0              0              3190707        3000000        3599999
                 593582
 7                             3              11             55             1220           1308           1486           3786169        3600000        4199999
                 966617
 8                             3              7              70             1353           1197           1018           4756800        4200000        4799999
                 554472
 9                             3              14             65             1530           1426           1363           5314840        4800000        5399999
                 171611
 10                            3              5              95             1411           1195           1380           5490770        5400000        5999999
                 714249
 11                            1              7              50             1678           0              0              6209005        6000000        6599999
                 979436
 12                            3              11             80             1022           1996           1832           7190119        6600000        7199999
                 323323
 13                            3              12             60             1727           1026           1122           7518292        7200000        7799999
                 439456
 14                            1              5              90             1857           0              0              7961623        7800000        8399999
                 572050
 15                            2              14             80             1258           1336           0              8535530        8400000        8999999
                 922403
 16                            3              20             95             1076           1320           1829           9460527        9000000        9599999
                 224734
 17                            3              20             55             1472           1546           1480           9689486        9600000        10199999
                 913521
 18                            3              17             80             1122           1685           1610           10607505       10200000       10799999
                 245241
 19                            3              10             60             1099           1989           1053           10857163       10800000       11399999
                 1074583
 20                            3              11             60             1537           1766           1764           11935887       11400000       11999999
Total number of pulses in waveform = 47
**********************************************************************************
```

Type 5 Radar Waveform_22



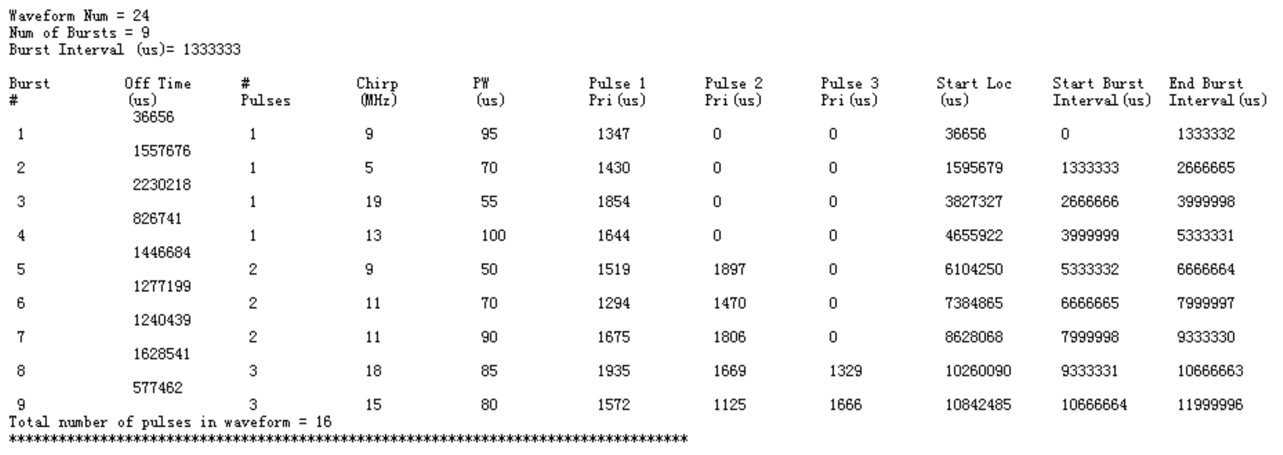
```
Waveform Num = 22
Num of Bursts = 9
Burst Interval  (us)= 1333333

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                 885643
 1                             2              15             95             1232           1990           0              885643         0              1333332
                 720950
 2                             3              12             70             1175           1181           1903           1609815        1333333        2666665
                 2210252
 3                             3              14             95             1942           1028           1991           3824326        2666666        3999998
                 1481756
 4                             2              7              65             1938           1753           0              5311043        3999999        5333331
                 60409
 5                             2              6              100            1125           1442           0              5375143        5333332        6666664
                 2089944
 6                             2              7              90             1375           1952           0              7467654        6666665        7999997
                 834213
 7                             3              16             80             1438           1582           1130           8305194        7999998        9333330
                 2006390
 8                             2              12             55             1135           1113           0              10315734       9333331        10666663
                 667458
 9                             2              10             95             1474           1917           0              10985440       10666664       11999996
Total number of pulses in waveform = 21
**********************************************************************************
```

Type 5 Radar Waveform_23



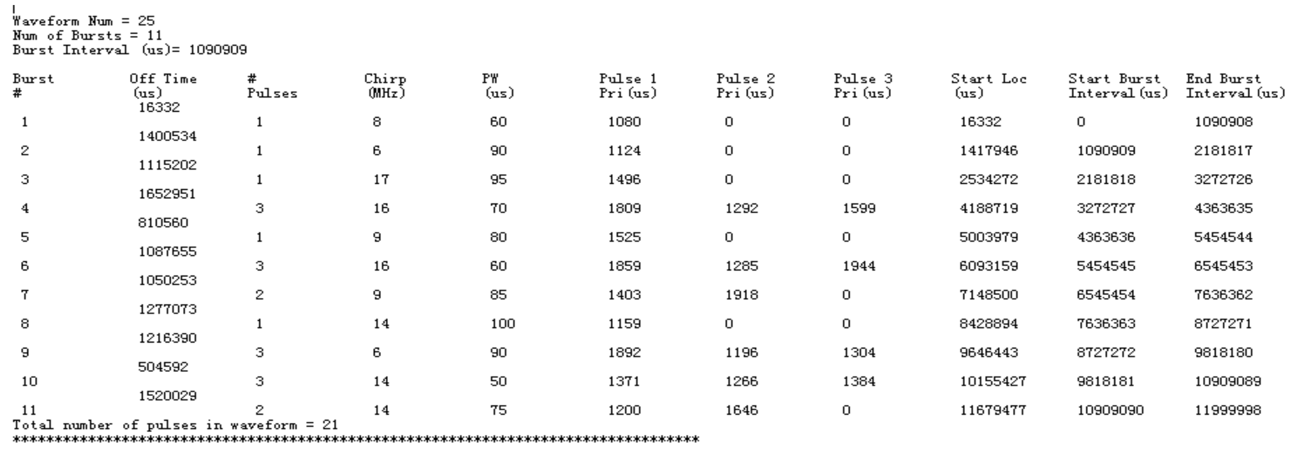
```
Waveform Num = 23
Num of Bursts = 10
Burst Interval  (us)= 1200000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                839412
 1                            1              5              50             1327           0              0              839412         0              1199999
                844968
 2                            3              7              70             1692           1181           1442           1685707        1200000        2399999
                1649415
 3                            2              19             75             1787           1618           0              3339437        2400000        3599999
                737080
 4                            3              8              65             1336           1010           1356           4079922        3600000        4799999
                1668160
 5                            2              11             55             1382           1795           0              5751784        4800000        5999999
                1087260
 6                            1              18             60             1041           0              0              6842221        6000000        7199999
                786613
 7                            3              16             100            1999           1818           1173           7629875        7200000        8399999
                1589395
 8                            3              17             90             1047           1346           1627           9224260        8400000        9599999
                900114
 9                            2              6              70             1420           1370           0              10128394       9600000        10799999
                823868
 10                           2              8              85             1835           1946           0              10955052       10800000       11999999
Total number of pulses in waveform = 22
********************************************************************************
```

Type 5 Radar Waveform_24



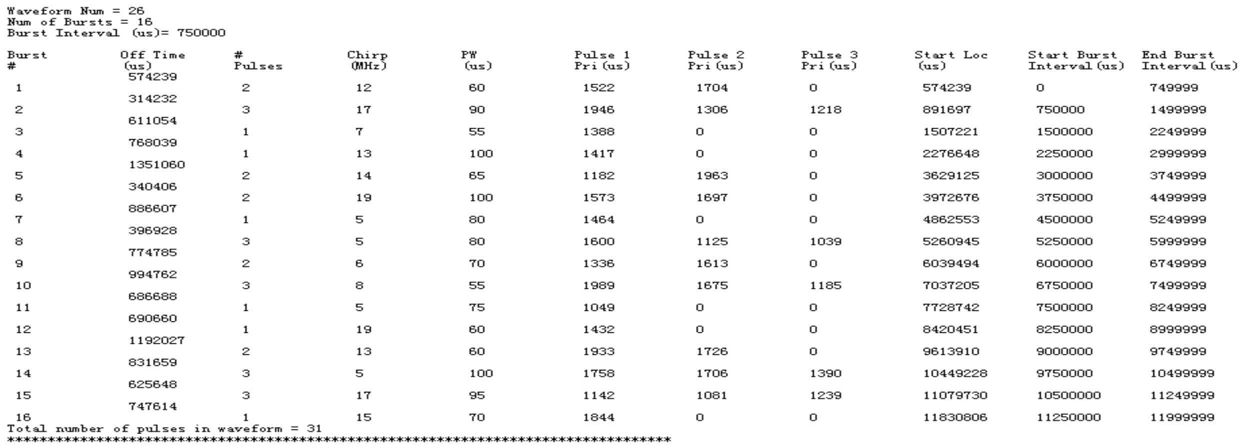
```
Waveform Num = 24
Num of Bursts = 9
Burst Interval  (us)= 1333333

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                36656
 1                            1              9              95             1347           0              0              36656          0              1333332
                1557676
 2                            1              5              70             1430           0              0              1595679        1333333        2666665
                2230218
 3                            1              19             55             1854           0              0              3827327        2666666        3999998
                826741
 4                            1              13             100            1644           0              0              4655922        3999999        5333331
                1446684
 5                            2              9              50             1519           1897           0              6104250        5333332        6666664
                1277199
 6                            2              11             70             1294           1470           0              7384865        6666665        7999997
                1240439
 7                            2              11             90             1675           1806           0              8628068        7999998        9333330
                1628541
 8                            3              18             85             1935           1669           1329           10260090       9333331        10666663
                577462
 9                            3              15             80             1572           1125           1666           10842485       10666664       11999996
Total number of pulses in waveform = 16
********************************************************************************
```

Type 5 Radar Waveform_25



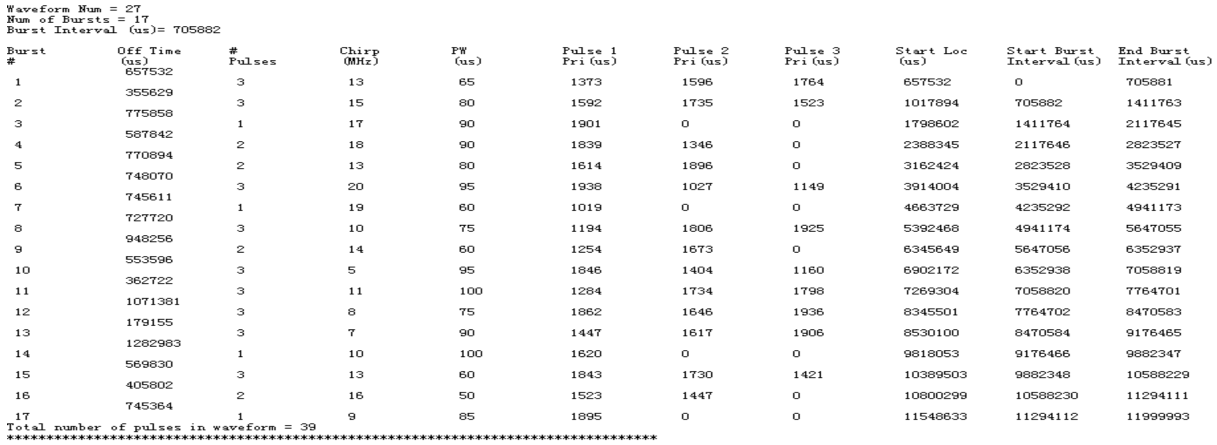
```
|
Waveform Num = 25
Num of Bursts = 11
Burst Interval  (us)= 1090909

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#              (us)           Pulses         (MHz)          (us)           Pri (us)       Pri (us)       Pri (us)       (us)           Interval (us)  Interval (us)
                16332
 1                            1              8              60             1080           0              0              16332          0              1090908
                1400534
 2                            1              6              90             1124           0              0              1417946        1090909        2181817
                1115202
 3                            1              17             95             1496           0              0              2534272        2181818        3272726
                1652951
 4                            3              16             70             1809           1292           1599           4188719        3272727        4363635
                810560
 5                            1              9              80             1525           0              0              5003979        4363636        5454544
                1087655
 6                            3              16             60             1859           1285           1944           6093159        5454545        6545453
                1050253
 7                            2              9              85             1403           1918           0              7148500        6545454        7636362
                1277073
 8                            1              14             100            1159           0              0              8428894        7636363        8727271
                1216390
 9                            3              6              90             1892           1196           1304           9646443        8727272        9818180
                504592
 10                           3              14             50             1371           1266           1384           10155427       9818181        10909089
                1520029
 11                           2              14             75             1200           1646           0              11679477       10909090       11999998
Total number of pulses in waveform = 21
********************************************************************************
```

Type 5 Radar Waveform_26



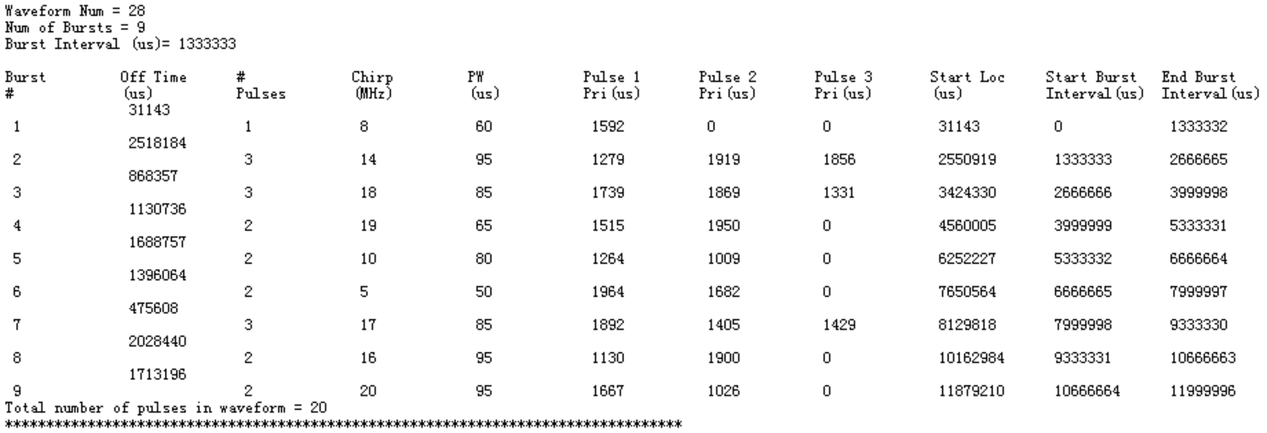
```
Waveform Num = 26
Num of Bursts = 16
Burst Interval  (us)= 750000

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#             (us)        Pulses        (MHz)        (us)        Pri (us)     Pri (us)     Pri (us)      (us)        Interval (us)  Interval (us)
               574239
 1                          2            12           60           1522         1704         0            574239       0              749999
               314232
 2                          3            17           90           1946         1306         1218         891697       750000         1499999
               611054
 3                          1            7            55           1388         0            0            1507221      1500000        2249999
               768039
 4                          1            13           100          1417         0            0            2276648      2250000        2999999
               1351060
 5                          2            14           65           1182         1963         0            3629125      3000000        3749999
               340406
 6                          2            19           100          1573         1697         0            3972676      3750000        4499999
               886607
 7                          1            5            80           1464         0            0            4862553      4500000        5249999
               396928
 8                          3            5            80           1600         1125         1039         5260945      5250000        5999999
               774785
 9                          2            6            70           1336         1613         0            6039494      6000000        6749999
               994762
 10                         3            8            55           1989         1675         1185         7037205      6750000        7499999
               686688
 11                         1            5            75           1049         0            0            7728742      7500000        8249999
               690660
 12                         1            19           60           1432         0            0            8420451      8250000        8999999
               1192027
 13                         2            13           60           1933         1726         0            9613910      9000000        9749999
               831659
 14                         3            5            100          1758         1706         1390         10449228     9750000        10499999
               625648
 15                         3            17           95           1142         1081         1239         11079730     10500000       11249999
               747614
 16                         1            15           70           1844         0            0            11830806     11250000       11999999
Total number of pulses in waveform = 31
*********************************************************************************
```

Type 5 Radar Waveform_27



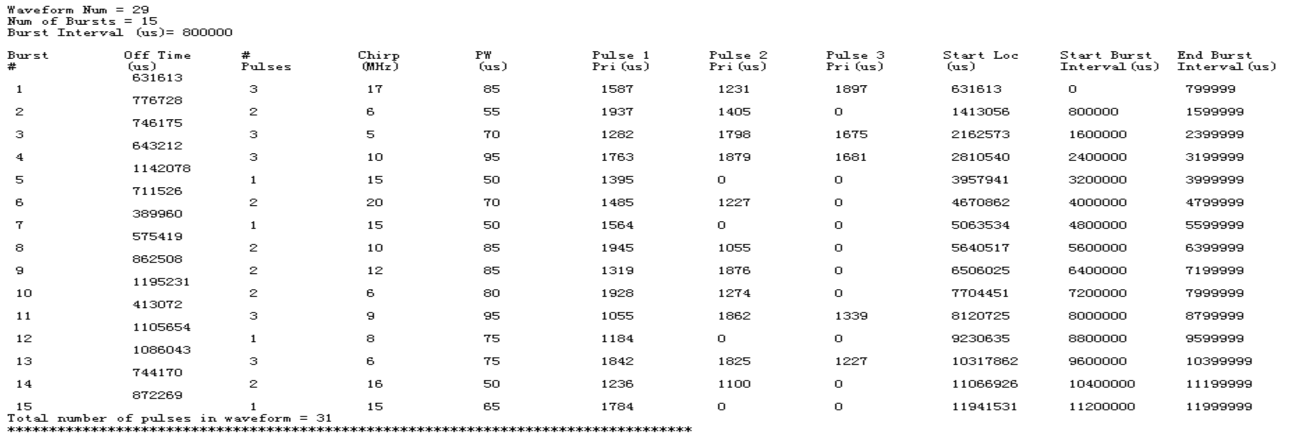
```
Waveform Num = 27
Num of Bursts = 17
Burst Interval  (us)= 705882

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#             (us)        Pulses        (MHz)        (us)        Pri (us)     Pri (us)     Pri (us)      (us)        Interval (us)  Interval (us)
               657532
 1                          3            13           65           1373         1596         1764         657532       0              705881
               355629
 2                          3            15           80           1592         1735         1523         1017894      705882         1411763
               775858
 3                          1            17           90           1901         0            0            1798602      1411764        2117645
               587842
 4                          2            18           90           1839         1346         0            2388345      2117646        2823527
               770894
 5                          2            13           80           1614         1896         0            3162424      2823528        3529409
               748070
 6                          3            20           95           1938         1027         1149         3914004      3529410        4235291
               745611
 7                          1            19           60           1019         0            0            4663729      4235292        4941173
               727720
 8                          3            10           75           1194         1806         1925         5392468      4941174        5647055
               948256
 9                          2            14           60           1254         1673         0            6345649      5647056        6352937
               553596
 10                         3            5            95           1846         1404         1160         6902172      6352938        7058819
               362722
 11                         3            11           100          1284         1734         1798         7269304      7058820        7764701
               1071381
 12                         3            8            75           1862         1646         1936         8345501      7764702        8470583
               179155
 13                         3            7            90           1447         1617         1906         8530100      8470584        9176465
               1282983
 14                         1            10           100          1620         0            0            9818053      9176466        9882347
               569830
 15                         3            13           60           1843         1730         1421         10389503     9882348        10588229
               405802
 16                         2            16           50           1523         1447         0            10800299     10588230       11294111
               745364
 17                         1            9            85           1895         0            0            11548633     11294112       11999993
Total number of pulses in waveform = 39
*********************************************************************************
```

Type 5 Radar Waveform_28



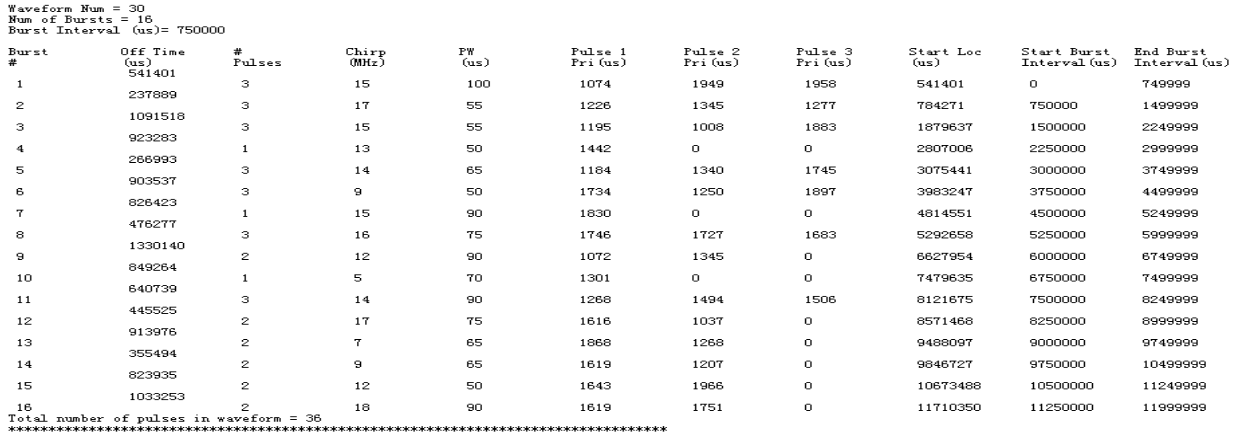
```
Waveform Num = 28
Num of Bursts = 9
Burst Interval  (us)= 1333333

Burst        Off Time     #            Chirp        PW           Pulse 1      Pulse 2      Pulse 3      Start Loc    Start Burst    End Burst
#             (us)        Pulses        (MHz)        (us)        Pri (us)     Pri (us)     Pri (us)      (us)        Interval (us)  Interval (us)
               31143
 1                          1            8            60           1592         0            0            31143        0              1333332
               2518184
 2                          3            14           95           1279         1919         1856         2550919      1333333        2666665
               868357
 3                          3            18           85           1739         1869         1331         3424330      2666666        3999998
               1130736
 4                          2            19           65           1515         1950         0            4560005      3999999        5333331
               1688757
 5                          2            10           80           1264         1009         0            6252227      5333332        6666664
               1396064
 6                          2            5            50           1964         1682         0            7650564      6666665        7999997
               475608
 7                          3            17           85           1892         1405         1429         8129818      7999998        9333330
               2028440
 8                          2            16           95           1130         1900         0            10162984     9333331        10666663
               1713196
 9                          2            20           95           1667         1026         0            11879210     10666664       11999996
Total number of pulses in waveform = 20
*********************************************************************************
```

Type 5 Radar Waveform_29



```
Waveform Num = 29
Num of Bursts = 15
Burst Interval  (us)= 800000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)        (us)          Interval (us)  Interval (us)
                 631613
 1                            3              17             85             1587           1231           1897           631613         0              799999
                 776728
 2                            2              6              55             1937           1405           0              1413056        800000         1599999
                 746175
 3                            3              5              70             1282           1798           1675           2162573        1600000        2399999
                 643212
 4                            3              10             95             1763           1879           1681           2810540        2400000        3199999
                 1142078
 5                            1              15             50             1395           0              0              3957941        3200000        3999999
                 711526
 6                            2              20             70             1485           1227           0              4670862        4000000        4799999
                 389960
 7                            1              15             50             1564           0              0              5063534        4800000        5599999
                 575419
 8                            2              10             85             1945           1055           0              5640517        5600000        6399999
                 862508
 9                            2              12             85             1319           1876           0              6506025        6400000        7199999
                 1195231
 10                           2              6              80             1928           1274           0              7704451        7200000        7999999
                 413072
 11                           3              9              95             1055           1862           1339           8120725        8000000        8799999
                 1105654
 12                           1              8              75             1184           0              0              9230635        8800000        9599999
                 1086043
 13                           3              6              75             1842           1825           1227           10317862       9600000        10399999
                 744170
 14                           2              16             50             1236           1100           0              11066926       10400000       11199999
                 872269
 15                           1              15             65             1784           0              0              11941531       11200000       11999999
Total number of pulses in waveform = 31
***************************************************************************************
```

Type 5 Radar Waveform_30



```
Waveform Num = 30
Num of Bursts = 16
Burst Interval  (us)= 750000

Burst          Off Time       #              Chirp          PW             Pulse 1        Pulse 2        Pulse 3        Start Loc      Start Burst    End Burst
#               (us)          Pulses          (MHz)          (us)          Pri (us)       Pri (us)       Pri (us)        (us)          Interval (us)  Interval (us)
                 541401
 1                            3              15             100            1074           1949           1958           541401         0              749999
                 237889
 2                            3              17             55             1226           1345           1277           784271         750000         1499999
                 1091518
 3                            3              15             55             1195           1008           1883           1879637        1500000        2249999
                 923283
 4                            1              13             50             1442           0              0              2807006        2250000        2999999
                 266993
 5                            3              14             65             1184           1340           1745           3075441        3000000        3749999
                 903537
 6                            3              9              50             1734           1250           1897           3983247        3750000        4499999
                 826423
 7                            1              15             90             1830           0              0              4814551        4500000        5249999
                 476277
 8                            3              16             75             1746           1727           1683           5292658        5250000        5999999
                 1330140
 9                            2              12             90             1072           1345           0              6627954        6000000        6749999
                 849264
 10                           1              5              70             1301           0              0              7479635        6750000        7499999
                 640739
 11                           3              14             90             1268           1494           1506           8121675        7500000        8249999
                 445525
 12                           2              17             75             1616           1037           0              8571468        8250000        8999999
                 913976
 13                           2              7              65             1868           1268           0              9488097        9000000        9749999
                 355494
 14                           2              9              65             1619           1207           0              9846727        9750000        10499999
                 823935
 15                           2              12             50             1643           1966           0              10673488       10500000       11249999
                 1033253
 16                           2              18             90             1619           1751           0              11710350       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	5528	1	16	5528	1
2	5528	1	17	5528	1
3	5528	1	18	5528	1
4	5528	1	19	5528	1
5	5528	1	20	5528	1
6	5528	1	21	5528	1
7	5528	1	22	5528	1
8	5528	1	23	5528	1
9	5528	1	24	5528	1
10	5528	1	25	5528	1
11	5528	1	26	5528	1
12	5528	1	27	5528	1
13	5528	1	28	5528	1
14	5528	1	29	5528	1
15	5528	1	30	5528	1
Detection Percentage (%)					100%

Radar waveform #1			Radar waveform #2		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
14	5523	42	10	5512	30
18	5540	54	13	5513	39
23	5498	69	27	5553	81
30	5552	90	29	5556	87
34	5543	102	42	5543	126
38	5522	114	49	5504	147
42	5551	126	57	5514	171
48	5549	144	58	5539	174
52	5511	156	80	5524	240
68	5521	204	89	5541	267
83	5538	249	91	5549	273
88	5515	264	--	--	--
98	5527	294	--	--	--

Radar waveform #3			Radar waveform #4		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5550	0	10	5526	30
9	5548	27	14	5498	42
17	5557	51	21	5512	63
21	5506	63	30	5535	90
30	5512	90	37	5500	111
33	5514	99	46	5550	138
35	5555	105	59	5538	177
37	5536	111	62	5531	186
40	5527	120	71	5521	213
47	5501	141	72	5520	216
57	5518	171	74	5501	222
79	5556	237	75	5549	225
90	5534	270	90	5533	270
--	--	--	99	5532	297

Radar waveform #5			Radar waveform #6		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5529	27	16	5526	48
16	5510	48	18	5553	54
23	5544	69	30	5536	90
32	5516	96	40	5543	120
33	5536	99	42	5537	126
35	5533	105	44	5514	132
37	5546	111	45	5503	135
38	5532	114	48	5498	144
42	5515	126	54	5557	162
53	5513	159	58	5535	174
65	5505	195	62	5519	186
67	5556	201	64	5513	192
68	5535	204	77	5534	231
69	5500	207	81	5547	243
74	5517	222	86	5554	258
83	5555	249	92	5512	276
84	5514	252	98	5551	294

Radar waveform #7			Radar waveform #8		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5555	6	7	5552	21
11	5503	33	8	5550	24
13	5550	39	29	5521	87
24	5508	72	37	5526	111
27	5513	81	45	5502	135
38	5544	114	50	5551	150
45	5547	135	59	5528	177
60	5525	180	60	5498	180
63	5532	189	73	5539	219
70	5498	210	80	5514	240
79	5556	237	88	5522	264
84	5542	252	97	5504	291
92	5516	276	--	--	--
98	5528	294	--	--	--

Radar waveform #9			Radar waveform #10		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
29	5516	87	2	5521	6
41	5554	123	6	5540	18
43	5542	129	8	5500	24
82	5508	246	14	5529	42
94	5539	282	18	5498	54
--	--	--	34	5545	102
--	--	--	40	5551	120
--	--	--	46	5534	138
--	--	--	55	5536	165
--	--	--	61	5512	183
--	--	--	62	5550	186
--	--	--	65	5555	195
--	--	--	71	5533	213
--	--	--	91	5527	273

Radar waveform #11			Radar waveform #12		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5529	12	6	5513	18
13	5531	39	10	5540	30
14	5555	42	17	5512	51
26	5507	78	39	5542	117
36	5500	108	50	5556	150
37	5547	111	85	5545	255
39	5530	117	88	5549	264
40	5514	120	89	5525	267
48	5544	144	95	5515	285
58	5541	174	--	--	--
59	5556	177	--	--	--
66	5498	198	--	--	--
82	5521	246	--	--	--
86	5550	258	--	--	--
90	5552	270	--	--	--
91	5545	273	--	--	--
92	5557	276	--	--	--
95	5534	285	--	--	--

Radar waveform #13			Radar waveform #14		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
4	5545	12	10	5557	30
9	5538	27	12	5554	36
12	5511	36	14	5529	42
22	5533	66	18	5528	54
45	5542	135	21	5519	63
63	5540	189	53	5504	159
75	5514	225	56	5539	168
83	5529	249	70	5500	210
93	5512	279	71	5543	213
99	5543	297	98	5521	294
--	--	--	99	5547	297

Radar waveform #15			Radar waveform #16		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
6	5509	18	1	5513	3
11	5527	33	10	5548	30
13	5533	39	15	5521	45
17	5549	51	40	5534	120
19	5523	57	65	5528	195
24	5506	72	75	5526	225
26	5510	78	89	5524	267
37	5512	111	94	5501	282
39	5519	117	--	--	--
46	5516	138	--	--	--
63	5555	189	--	--	--
64	5522	192	--	--	--
82	5540	246	--	--	--
87	5500	261	--	--	--

Radar waveform #17			Radar waveform #18		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5502	0	0	5509	0
7	5520	21	17	5555	51
16	5512	48	35	5498	105
19	5509	57	43	5506	129
26	5550	78	53	5553	159
28	5539	84	55	5515	165
37	5554	111	58	5508	174
67	5501	201	59	5512	177
74	5519	222	68	5546	204
77	5536	231	84	5503	252
88	5557	264	--	--	--
90	5504	270	--	--	--
91	5541	273	--	--	--
97	5549	291	--	--	--

Radar waveform #19			Radar waveform #20		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
1	5522	3	4	5550	12
3	5524	9	22	5531	66
6	5501	18	25	5535	75
21	5556	63	29	5540	87
23	5512	69	35	5524	105
39	5507	117	44	5503	132
50	5499	150	53	5549	159
52	5519	156	64	5548	192
68	5503	204	90	5556	270
83	5545	249	99	5536	297
87	5539	261	--	--	--
94	5527	282	--	--	--

Radar waveform #21			Radar waveform #22		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
2	5505	6	12	5556	36
14	5551	42	16	5535	48
21	5503	63	17	5545	51
22	5555	66	18	5529	54
29	5514	87	25	5519	75
33	5540	99	34	5539	102
43	5512	129	44	5531	132
50	5524	150	45	5510	135
64	5518	192	56	5528	168
75	5527	225	58	5522	174
96	5547	288	71	5527	213
--	--	--	75	5536	225
--	--	--	85	5543	255
--	--	--	89	5500	267

Radar waveform #23			Radar waveform #24		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5516	27	14	5534	42
17	5533	51	20	5551	60
19	5542	57	23	5556	69
34	5548	102	25	5546	75
36	5503	108	29	5532	87
40	5531	120	40	5515	120
42	5552	126	43	5523	129
46	5550	138	52	5540	156
63	5510	189	53	5538	159
64	5554	192	56	5552	168
67	5513	201	61	5522	183
72	5532	216	63	5516	189
78	5537	234	65	5547	195
86	5498	258	79	5510	237
90	5523	270	81	5498	243
93	5553	279	89	5535	267
97	5549	291	90	5529	270
--	--	--	92	5555	276
--	--	--	94	5550	282

Radar waveform #25			Radar waveform #26		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
9	5547	27	3	5557	9
20	5529	60	10	5526	30
30	5498	90	22	5554	66
37	5553	111	26	5529	78
44	5551	132	32	5498	96
60	5525	180	36	5503	108
70	5556	210	44	5517	132
72	5513	216	61	5538	183
79	5501	237	96	5550	288

Radar waveform #27			Radar waveform #28		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
0	5526	0	2	5506	6
6	5510	18	19	5508	57
10	5505	30	29	5512	87
23	5530	69	37	5547	111
53	5531	159	47	5498	141
54	5551	162	51	5513	153
57	5558	171	53	5505	159
58	5537	174	60	5520	180
72	5504	216	--	--	--
73	5554	219	--	--	--
87	5506	261	--	--	--
98	5508	294	--	--	--

Radar waveform #29			**Radar waveform #30**		
Hopping Number	Frequency (MHz)	Pulse Start (ms)	Hopping Number	Frequency (MHz)	Pulse Start (ms)
23	5501	69	5	5534	15
34	5505	102	11	5541	33
45	5547	135	17	5523	51
49	5509	147	26	5543	78
57	5539	171	36	5517	108
61	5542	183	44	5542	132
70	5520	210	50	5499	150
72	5546	216	52	5520	156
74	5499	222	83	5540	249
76	5507	228	84	5553	252
85	5550	255	88	5527	264
87	5535	261	90	5511	270
98	5534	294	--	--	--

Radar Statistical Performance for 802.11ac-VHT80 channel 5530MHz

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	898	59	1
2	5492	1	658	81	1
3	5492	1	618	86	1
4	5492	1	918	58	1
5	5492	1	718	74	1
6	5492	1	778	68	1
7	5492	1	538	99	1
8	5492	1	3066	18	1
9	5492	1	558	95	1
10	5492	1	698	76	1
11	5492	1	678	78	1
12	5492	1	598	89	1
13	5492	1	578	92	1
14	5492	1	838	63	1
15	5492	1	878	61	1
16	5492	1	1376	39	1
17	5492	1	1830	29	1
18	5492	1	2163	25	1
19	5492	1	2905	19	1
20	5492	1	1048	51	1
21	5492	1	585	91	1
22	5492	1	1932	28	1
23	5492	1	2363	23	1
24	5492	1	2216	24	1
25	5492	1	1988	27	1
26	5492	1	583	91	1
27	5492	1	2441	22	1
28	5492	1	2789	19	1
29	5492	1	1195	45	1
30	5492	1	1778	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	5509	1.5	183	24	1
2	5509	2.2	187	26	1
3	5509	2.3	193	23	1
4	5509	5.0	163	28	1
5	5509	4.2	179	24	1
6	5509	2.1	184	26	1
7	5509	2.6	168	23	1
8	5509	2.9	188	25	1
9	5509	5.0	193	24	1
10	5509	1.6	229	23	1
11	5509	4.0	207	27	1
12	5509	4.2	161	25	1
13	5509	3.0	158	23	1
14	5509	3.3	172	26	1
15	5509	3.8	212	26	1
16	5509	1.9	189	23	1
17	5509	1.2	196	29	1
18	5509	3.4	204	26	1
19	5509	3.7	192	23	1
20	5509	3.2	188	29	1
21	5509	2.3	222	24	1
22	5509	1.9	223	24	1
23	5509	3.0	172	29	1
24	5509	3.0	222	27	1
25	5509	1.3	164	26	1
26	5509	2.2	158	23	1
27	5509	3.6	153	27	1
28	5509	4.6	177	25	1
29	5509	3.9	180	25	1
30	5509	1.2	196	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	5531	8.5	443	18	1
2	5531	7.0	354	16	1
3	5531	7.6	365	17	1
4	5531	6.5	293	16	1
5	5531	9.9	313	17	1
6	5531	7.0	271	18	1
7	5531	9.3	322	17	1
8	5531	7.6	463	16	1
9	5531	7.9	364	17	1
10	5531	6.3	276	18	1
11	5531	9.5	342	17	1
12	5531	9.2	358	18	1
13	5531	7.1	278	16	1
14	5531	7.7	349	18	1
15	5531	7.2	253	16	1
16	5531	7.5	333	16	1
17	5531	7.3	409	16	1
18	5531	6.1	421	17	1
19	5531	9.4	406	16	1
20	5531	6.3	386	18	1
21	5531	7.4	423	16	1
22	5531	7.1	382	16	1
23	5531	9.8	319	18	1
24	5531	7.2	363	16	1
25	5531	9.8	424	18	1
26	5531	7.9	273	17	1
27	5531	7.8	455	18	1
28	5531	8.2	332	17	1
29	5531	9.8	448	18	1
30	5531	9.5	356	18	1
Detection Percentage (%)					100%

Radar Type 4 - Radar Statistical Performance

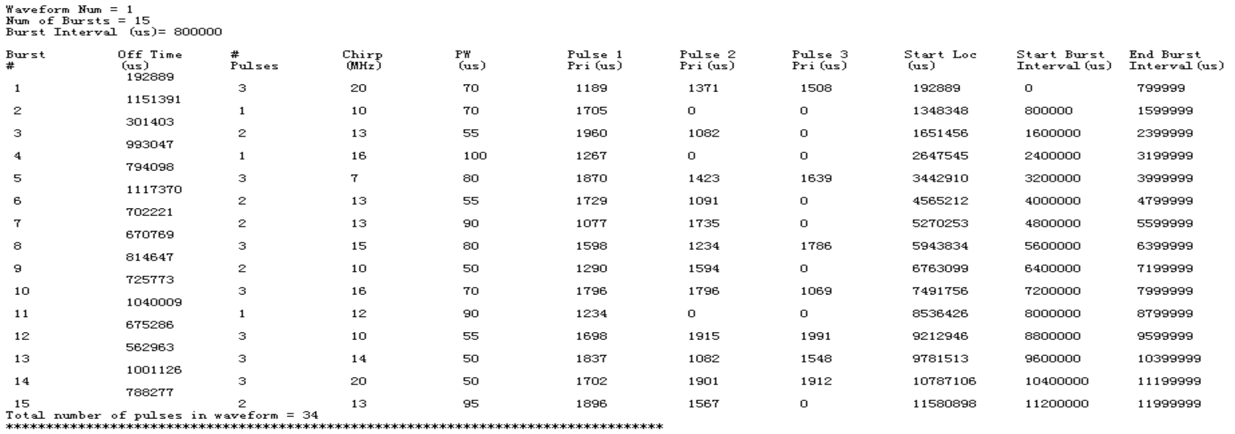
Trail #	Test Freq. (MHz)	Pulse Width (us)	PRI (us)	Pulses / Burst	1=Detection 0=No Detection
1	5550	17.9	460	12	1
2	5550	13.2	374	15	1
3	5550	16.1	355	13	1
4	5550	13.5	274	12	1
5	5550	14.8	262	15	1
6	5550	13.3	417	13	1
7	5550	17.6	389	16	1
8	5550	18.9	259	16	1
9	5550	18.0	261	13	1
10	5550	11.5	440	13	1
11	5550	17.8	284	16	1
12	5550	16.0	390	14	1
13	5550	17.5	452	12	1
14	5550	12.8	357	15	1
15	5550	19.8	305	12	1
16	5550	16.8	476	13	1
17	5550	11.0	399	14	1
18	5550	11.9	342	15	1
19	5550	18.1	384	15	1
20	5550	14.2	354	14	1
21	5550	14.2	483	16	1
22	5550	11.0	332	14	1
23	5550	16.4	379	12	1
24	5550	11.5	382	13	1
25	5550	11.9	262	13	1
26	5550	17.9	402	16	1
27	5550	11.7	435	13	1
28	5550	11.2	419	14	1
29	5550	18.3	260	16	1
30	5550	12.2	394	14	1
Detection Percentage (%)					100%

Note: In addition an average minimum percentage of successful detection across all four Short pulse radar test waveforms is as follows: $\frac{P_d1+P_d2+P_d3+P_d4}{4}$ = (100%+100%+100%+100%)/4 = 100% (>80%)

Radar Type 5 - Radar Statistical Performance

Trail #	Test Freq. (MHz)	1=Detection 0=No Detection	Trail #	Test Freq. (MHz)	1=Detection 0=No Detection
1	5500	1	16	5530	1
2	5502	1	17	5532	1
3	5504	1	18	5534	1
4	5506	1	19	5536	1
5	5508	1	20	5538	1
6	5510	1	21	5540	1
7	5512	1	22	5542	1
8	5514	1	23	5544	1
9	5516	1	24	5546	1
10	5518	1	25	5548	1
11	5520	1	26	5550	1
12	5522	1	27	5552	1
13	5524	1	28	5554	1
14	5526	1	29	5557	1
15	5528	1	30	5560	1
Detection Percentage (%)					100%

Type 5 Radar Waveform_1



```
Waveform Num = 1
Num of Bursts = 15
Burst Interval  (us)= 800000

Burst         Off Time      #             Chirp         PW            Pulse 1       Pulse 2       Pulse 3       Start Loc     Start Burst   End Burst
#              (us)         Pulses         (MHz)         (us)         Pri (us)      Pri (us)      Pri (us)       (us)         Interval (us) Interval (us)
                192889
 1                             3             20            70            1189          1371          1508          192889        0             799999
                1151391
 2                             1             10            70            1705          0             0             1348348       800000        1599999
                301403
 3                             2             13            55            1960          1082          0             1651456       1600000       2399999
                993047
 4                             1             16            100           1267          0             0             2647545       2400000       3199999
                794098
 5                             3             7             80            1870          1423          1639          3442910       3200000       3999999
                1117370
 6                             2             13            55            1729          1091          0             4565212       4000000       4799999
                702221
 7                             2             13            90            1077          1735          0             5270253       4800000       5599999
                670769
 8                             3             15            80            1598          1234          1786          5943834       5600000       6399999
                814647
 9                             2             10            50            1290          1594          0             6763099       6400000       7199999
                725773
 10                            3             16            70            1796          1796          1069          7491756       7200000       7999999
                1040009
 11                            1             12            90            1234          0             0             8536426       8000000       8799999
                675286
 12                            3             10            55            1698          1915          1991          9212946       8800000       9599999
                562963
 13                            3             14            50            1837          1082          1548          9781513       9600000       10399999
                1001126
 14                            3             20            50            1702          1901          1912          10787106      10400000      11199999
                788277
 15                            2             13            95            1896          1567          0             11580898      11200000      11999999
Total number of pulses in waveform = 34
**********************************************************************************
```