

TEST REPORT
DYNAMIC FREQUENCY SELECTION REQUIREMENTS
OF

FCC Part 15 Subpart E (UNII)

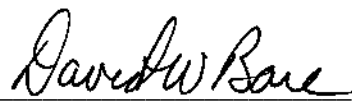
Airspan Networks (Israel) Ltd.
Model(s): MicroMAX 5.6G TDD, ProST 5.6G TDD and EasyST 5.6G

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SCOPE

The Federal Communications Commission published standards regarding ElectroMagnetic Compatibility and radio spectrum matters for radio-communications devices. Tests have been performed on the Airspan Networks Ltd. models MicroMAX 5.6G TDD and ProST 5.6G TDD in accordance with these standards.

- Test data has been taken pursuant to the relevant requirements of FCC Part 15 Subpart E Unlicensed National Information Infrastructure (U-NII) Devices

Tests were performed in accordance with these standards together with the current published versions of the basic standards referenced therein as outlined in Elliott Laboratories test procedures.

The test results recorded herein are based on a single type test of the Airspan Networks Ltd. models MicroMAX 5.6G TDD and ProST 5.6G TDD and therefore apply only to the tested samples. The samples were selected and prepared by Zion Levi of Airspan Networks (Israel) Ltd.

OBJECTIVE

The objective of the manufacturer is to comply with the standards identified in the previous section. In order to demonstrate compliance, the manufacturer or a contracted laboratory makes measurements and takes the necessary steps to ensure that the equipment complies with the appropriate technical standards. Compliance with some DFS features is covered through a manufacturer statement or through observation of the device.

STATEMENT OF COMPLIANCE

The tested samples of Airspan Networks Ltd. models MicroMAX 5.6G TDD and ProST 5.6G TDD complied with the DFS requirements of FCC Part 15.407(h).

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

Testing of the ProST 5.6G TDD was considered representative of the EasyST 5.6G. Refer to the EUT details.

DEVIATIONS FROM THE STANDARD

No deviations were made from the test methods and requirements covered by the scope of this report.

EQUIPMENT UNDER TEST (EUT) DETAILS**GENERAL**

The Airspan Networks Ltd. model MicroMAX 5.6G TDD is a Base Station radio. The Airspan Networks Ltd. model ProST 5.6G TDD is the associated Subscriber radio. The MicroMAX 5.6GHz TDD and ProST 5.6G TDD are part of a WiMAX broadband fixed cellular wireless access system. The system provides a radio link between an end-user (a subscriber) and a network to give high-speed data access. The MicroMAX's transceiver/receiver (Up to 64 QAM modulation, data rate up to 37Mbps) uses OFDM and operates in a TDD mode. The Base Station unit is equipped with a 14.5dBi internal antenna. The Subscriber (ProST) unit is equipped with a 17.5dBi internal antenna. The maximum RF output power is 12.3dBm for the Base Station and 9.1dBm for the Subscriber (ProST). Both can be reduced by software. External antennas may also be used but will exceed the gain of the internal antennas.

The Airspan Networks Ltd. Model EasyST 5.6G is similar to the ProST 5.6G TDD in that it uses the identical digital and RF circuit boards and software. The EasyST is designed in a different housing. It is intended for self-installation by the user as opposed to professional installation for the ProST. Due to these similarities, testing of the ProST for DFS purposes is applicable to the EasyST and only the ProST was tested. The EasyST is equipped with 9.0dBi antenna. The maximum RF output power is 17.6dBm.

The samples were received on August 23, 2007 and tested on August 28 and August 30, 2007. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Serial Number
<i>Airspan</i>	<i>MicroMAX 5.6G TDD</i>	<i>Base Station Radio</i>	<i>809F6C101188</i>
Airspan	ProST 5.6G TDD	Subscriber radio	893F72C24C98

The italicized device above was the master device.

The manufacturer declared values for the EUT operational characteristics that affect DFS are as follows:

Operating Modes

- Master Device - Base Station (MicroMAX)
- Client Device – Subscriber (ProST or EasyST)

Antenna Gains / EIRP

Base Station (MicroMAX)	5470 – 5725 MHz
Lowest Antenna Gain (dBi)	14.5
Output Power (dBm)	12.3

Subscriber (ProST)	5470 – 5725 MHz
Lowest Antenna Gain (dBi)	17.5
Output Power (dBm)	9.1
Subscriber (EasyST)	
Lowest Antenna Gain (dBi)	9.0
Output Power (dBm)	17.6

- Power can exceed 200mW eirp

Channel Protocol

- IP Based
 Frame Based

ENCLOSURE

The Base Station (MicroMAX) enclosure measures approximately 40 by 32 by 11 centimeters. The Subscriber (ProST) enclosure measures approximately 22 by 28 by 8 centimeters. The Subscriber (EasyST) enclosure is 15 centimeters in diameter and 2.7 centimeters tall without the antenna and 14.5cm tall with the antenna. All are primarily constructed of uncoated plastic.

MODIFICATIONS

The EUT did not require modifications during testing in order to comply with the requirements of the standard(s) referenced in this test report.

SUPPORT EQUIPMENT

The following equipment was used as local support equipment for testing:

Manufacturer	Model	Description	Serial Number	FCC ID
Airspan	SDA-4S Type 2	Power supply and Ethernet switch	09200025 A1	DoC
Airspan	SDA-4S Type 2	Power supply and Ethernet switch	09220025 C0	DoC
Dell	Latitude PPX	Laptop Computer	-	DoC
IBM	T43	Laptop Computer	L3-AFKW5	DoC

EUT INTERFACE PORTS

The I/O cabling configuration during testing was as follows:

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Ethernet on Master laptop	SDA-4S Type2	CAT5	Unshielded	1
MicroMAX data & pwr	SDA-4S Type2	CAT5	Unshielded	1
USB on Master laptop	MicroMAX	9pin serial	Unshielded	2
Ethernet on client laptop	SDA-4S Type2	CAT5	Unshielded	1
ProST 5.4-5.7G TDD data & pwr	SDA-4S Type2	CAT5	Unshielded	1

EUT OPERATION

The EUT was operating with the following software:

Master Device: version 6.0.17.0

Client Device: version 6.0.24.0

The manufacturer provided special software that over-rode the non-occupancy mechanism (allowing return to the same channel) for the purposes of determining the probability of detection. This test feature was disabled and the normal operating software enabled for verifying the 30 minute non-occupancy period and channel move time.

During the in-service monitoring detection probability and channel moving tests the system was configured with a streaming video file from the master device (sourced by the PC connected to the master device via an Ethernet interface) to the client device.

The streamed file was the "FCC" test file and the client device was using Windows Media Player Classic as required by FCC Part 15 Subpart E, with a fixed talk/listen ratio set to 45/55%.

During testing of the client, the 30 minute non-occupancy period was verified after the channel closing test and again with the master off.

TEST RESULTS**TEST RESULTS SUMMARY – FCC Part 15, MASTER DEVICE**

Description	Radar Type	Radar Frequency	Measured Value	Requirement	Test Data	Status
Channel Availability Check (CAC) Time	Type 1	5570	60.9s	≥ 60s	Appendix D	Pass
CAC Detection Threshold	Type 1	5570	-50dBm	-50dBm	Appendix D	Pass
In-Service Monitoring Detection Threshold	Type 1 Type 2 Type 3 Type 4 Type 5 Type 6	5570	-50dBm	-50dBm	Appendix C	Pass
Bandwidth Detection	Type 1	Varies	17 MHz	80% of the 99% BW	-	Pass
Channel closing transmission time	Type 1 Type 5	5570	0ms 0ms	≤ 260ms	Appendix C	Pass
Channel move time	Type 1 Type 5	5570	0s 0s	≤ 10s	Appendix C	Pass
Non-occupancy period	N/A	5570	> 30 minutes	> 30 minutes	Appendix C	Pass
Uniform Loading		-	-	Uniform Loading	Appendix E	Pass

Table 1 FCC Part 15 Subpart E Master Device Test Result Summary**TEST RESULTS SUMMARY – FCC Part 15, CLIENT DEVICE**

Description	Radar Type		Measured Value	Requirement	Test Data	Status
Channel closing transmission time	Type 1	5560	0ms	≤ 260ms	Appendix C	Pass
Channel move time	Type 1	5560	0s	≤ 10s	Appendix C	Pass
Non-occupancy period	N/A	5560	> 30 minutes	> 30 minutes	Appendix C	Pass

Table 2 FCC Part 15 Subpart E Client Device Test Result Summary

Notes:

1) Channel availability check, detection threshold and non-occupancy period are not applicable to client devices.

MEASUREMENT UNCERTAINTIES

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level, with a coverage factor (k=2) and were calculated in accordance with UKAS document LAB 34.

Measurement	Measurement Unit	Expanded Uncertainty
Timing (Channel move time, aggregate transmission time)	ms	Timing resolution +/- 0.24%
Timing (non occupancy period)	seconds	5 seconds
DFS Threshold (radiated)	dBm	1.6
DFS Threshold (conducted)	dBm	1.2

DFS TEST METHODS**RADIATED TEST METHOD**

The combination of master and slave devices is located in an anechoic chamber. The simulated radar waveform is transmitted from a directional horn antenna (typically an EMCO 3115) toward the unit performing the radar detection (radar detection device, RDD). Every effort is made to ensure that the main beam of the EUT's antenna is aligned with the radar generating antenna.

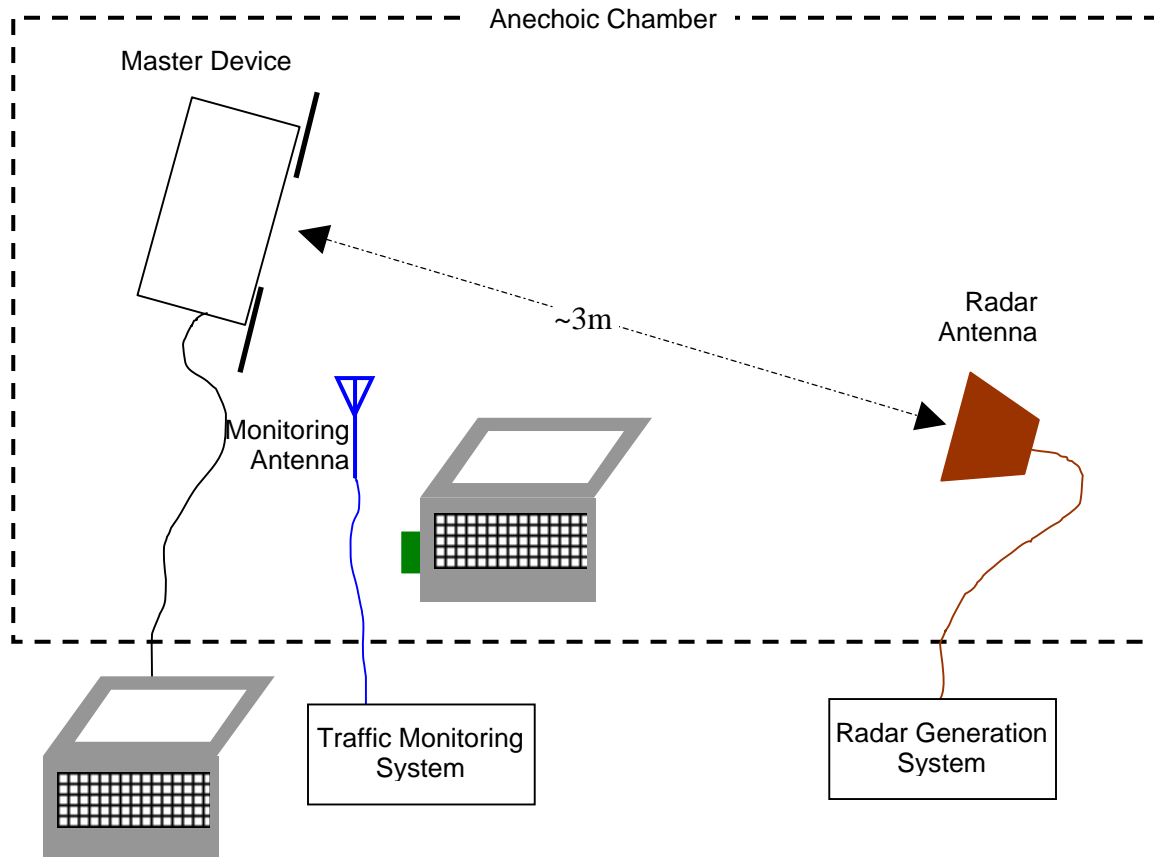


Figure 1 Test Configuration for radiated Measurement Method

The signal level of the simulated waveform is set to a reference level equal to the threshold level (plus 1dB if testing against FCC requirements). Lower levels may also be applied on request of the manufacturer. The level reported is the level at the RDD antenna and so it is not corrected for the RDD's antenna gain. The RDD is configured with the lowest gain antenna assembly intended for use with the device.

The signal level is verified by measuring the CW signal level from the radar generation system using a reference antenna of gain G (dBi). The radar signal level is calculated from the measured level, R (dBm), and any cable loss, L (dB), between the reference antenna and the measuring instrument:

$$\text{Applied level (dBm)} = R - G_{REF} + L$$

If both master and client devices have radar detection capability then the device not under test is positioned with absorbing material between its antenna and the radar generating antenna, and the radar level at the non RDD is verified to be at least 20dB below the threshold level to ensure that any responses are due to the RDD detecting radar.

The antenna connected to the channel monitoring subsystem is positioned to allow both master and client transmissions to be observed, with the level of the EUT's transmissions between 6 and 10dB higher than those from the other device.

CONDUCTED TEST METHOD

The combination of master and slave devices is located in an anechoic chamber. The simulated radar waveform is coupled into the unit performing the radar detection (radar detection device, RDD) via couplers and attenuators.

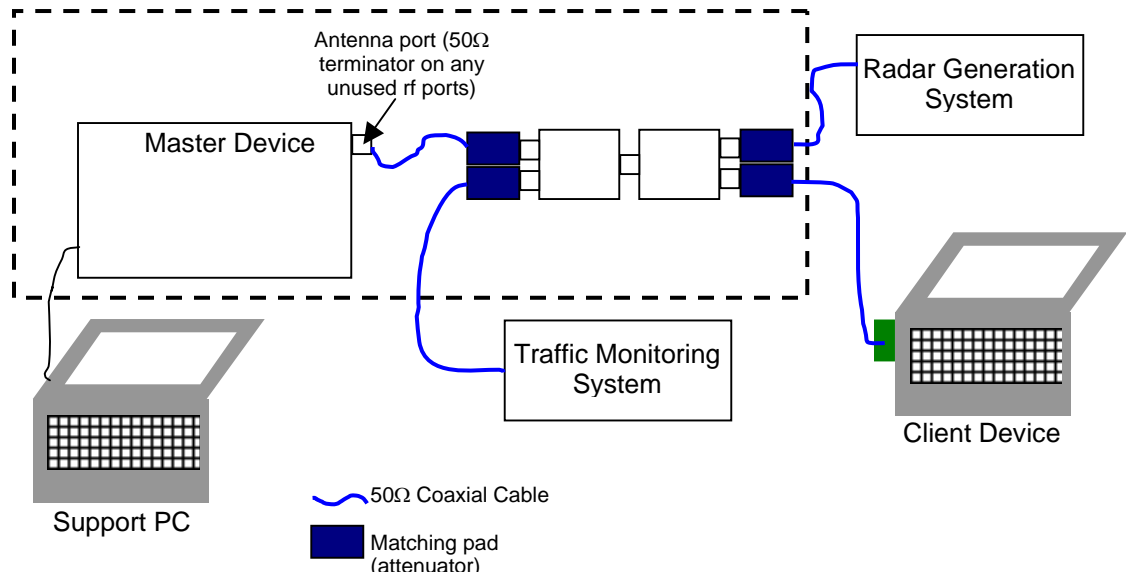


Figure 2 Test Configuration for Conducted Measurement Method

The signal level of the simulated waveform is set to a reference level equal to the threshold level (plus 1dB if testing against FCC requirements). Lower levels may also be applied on request of the manufacturer.

The signal level is verified by measuring the CW signal level at the coupling point to the RDD antenna port. The radar signal level is calculated from the measured level, R (dBm) and the lowest gain antenna assembly intended for use with the RDD, GRDD (dBi):

$$\text{Applied level (dBm)} = R - \text{GRDD}$$

If both master and client devices have radar detection capability then the radar level at the non RDD is verified to be at least 20dB below the threshold level to ensure that any responses are due to the RDD detecting radar.

The antenna connected to the channel monitoring subsystem is positioned to allow both master and client transmissions to be observed, with the level of the EUT's transmissions between 6 and 10dB higher than those from the other device.

DFS MEASUREMENT INSTRUMENTATION

RADAR GENERATION SYSTEM

An Agilent PSG is used as the radar generating source. The integral arbitrary waveform generators are programmed using Agilent's "Pulse Building" software and Elliott custom software to produce the required waveforms, with the capability to produce both unmodulated and modulated (FM Chirp) pulses. Where there are multiple values for a specific radar parameter then the software selects a value at random and, for FCC tests, the software verifies that the resulting waveform is truly unique.

With the exception of the hopping waveforms required by the FCC's rules (see below), the radar generator is set to a single frequency within the radar detection bandwidth of the EUT.

Frequency hopping radar waveforms are simulated using a time domain model. A randomly hopping sequence algorithm (which uses each channel in the hopping radar's range once in a hopping sequence) generates a hop sequence. A segment of the first 100 elements of the hop sequence are then examined to determine if it contains one or more frequencies within the radar detection bandwidth of the EUT. If it does not then the first element of the segment is discarded and the next frequency in the sequence is added. The process repeats until a valid segment is produced. The radar system is then programmed to produce bursts at time slots coincident with the frequencies within the segment that fall in the detection bandwidth. The frequency of the generator is stepped in 1 MHz increments across the EUT's detection range.

The radar signal level is verified during testing using a CW signal with the AGC function switched on. Correction factors to account for the fact that pulses are generated with the AGC functions switched off are measured annually and an offset is used to account for this in the software.

The generator output is connected to the coupling port of the conducted set-up or to the radar generating antenna.

CHANNEL MONITORING SYSTEM

Channel monitoring is achieved using a spectrum analyzer and digital storage oscilloscope. The analyzer is configured in a zero-span mode, center frequency set to the radar waveform's frequency or the center frequency of the EUT's operating channel. The IF output of the analyzer is connected to one input of the oscilloscope.

A signal generator output is set to send either the modulating signal directly or a pulse gate with an output pulse co-incident with each radar pulse. This output is connected to a second input on the oscilloscope and the oscilloscope displays both the channel traffic (via the if input) and the radar pulses on its display.

For in service monitoring tests the analyzer sweep time is set to > 20 seconds and the oscilloscope is configured with a data record length of 10 seconds for the short duration and frequency hopping waveforms, 20 seconds for the long duration waveforms. Both instruments are set for a single acquisition sequence. The analyzer is triggered 500ms before the start of the waveform and the oscilloscope is triggered directly by the modulating pulse train. Timing measurements for aggregate channel transmission time and channel move time are made from the oscilloscope data, with the end of the waveform clearly identified by the pulse train on one trace. The analyzer trace data is used to confirm that the last transmission occurred within the 10 second record of the oscilloscope. If necessary the record length of the oscilloscope is expanded to capture the last transmission on the channel prior to the channel move.

Channel availability check time timing plots are made using the analyzer. The analyzer is triggered at start of the EUT's channel availability check and used to verify that the EUT does not transmit when radar is applied during the check time.

The analyzer detector and oscilloscope sampling mode is set to peak detect for all plots.

DFS MEASUREMENT METHODS

DFS RADAR DETECTION BANDWIDTH

The radar detection bandwidth is determined by using on of the radar waveforms (in the FCC case, the selection is limited to the short duration burst waveforms) and applying radar pulses at offset from the center channel frequency by multiples of 1MHz. These bursts are applied with no traffic on the channel. The first frequencies above and below the center channel frequency that have a detection rate below 90% define the radar bandwidth, the actual range being 1MHz below the upper frequency and 1MHz above the lower frequency.

DFS - CHANNEL CLOSING TRANSMISSION TIME AND CHANNEL MOVE TIME

Channel clearing and closing times are measured by applying a radar burst with the device configured to change channel and by observing the channel for transmissions. The time between the end of the applied radar waveform and the final transmission on the channel is the channel move time.

The aggregate transmission closing time is measured in two ways:

FCC – the total time of all individual transmissions from the EUT that are observed starting 200ms at the end of the last radar pulse in the waveform. This value is required to be less than 60ms.

DFS CHANNEL AVAILABILITY CHECK TIME

It is preferred that the EUT report when it starts the radar channel availability check. In this case a single burst of one radar type is applied within 6 seconds of observing the start of the channel availability check and it is verified that the device does not use the channel. The test is repeated by applying a radar burst no sooner than 54 seconds and no later than 60 seconds after the start of the check.

If the EUT does not report the start of the check time, then the time to start transmitting on a channel after switching the device on is measured to approximate the time from power-on to the end of the channel availability check. The start of the channel availability check is assumed to be 60 seconds prior to the first transmission on the channel.

UNIFORM LOADING

Compliance with the channel loading requirement, where appropriate (i.e. when channel selection is not determined under control of the network), is demonstrated through the manufacturer's statement(s).

SAMPLE CALCULATIONS

DETECTION PROBABILITY / SUCCESS RATE

The detection probability, or success rate, for any one radar waveform equals the number of successful trials divided by the total number of trials for that waveform.

In the case of the FCC requirements, for radar waveform types 1 through 4 an additional calculation is made to determine the average detection probability over all four radar waveform types. This calculation is the arithmetic mean of the four individual probabilities.

THRESHOLD LEVEL

The threshold level is the level of the simulated radar waveform at the EUT's antenna. If the test is performed in a conducted fashion then the level at the rf input equals the level at the antenna plus the gain of the antenna assembly, in dBi. The gain of the antenna assembly equals the gain of the antenna minus the loss of the cabling between the rf input and the antenna. The lowest gain value for all antenna assemblies intended for use with the device is used when making this calculation.

If the test is performed using the radiated method then the threshold level is the level at the antenna.

Appendix A Test Equipment Calibration Data

<u>Manufacturer</u>	<u>Description</u>	<u>Model #</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Spectrum Analyzer	8595EM	787	21-Dec-07
Tektronics	Oscilloscope	TDS5104	1435	26-Apr-08
Agilent	PSG Vector Signal Generator	E8267C	1877	23-Nov-07

Appendix B Test Data Tables for Radar Detection Probability**Table 3 - Summary of All Results**

Waveform Name	Success Rate	Number of Trials
FCC Short Pulse Radar (Type 1)	100.0 %	30
FCC Short Pulse Radar (Type 2)	100.0 %	30
FCC Short Pulse Radar (Type 3)	90.0 %	30
FCC Short Pulse Radar (Type 4)	86.7 %	30
FCC frequency hopping radar (Type 6)	88.9 %	36
Long Sequence	86.7 %	30

Table 4 - FCC Short Pulse Radar (Type 1) Test Results

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
0	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
1	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
2	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
3	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
4	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
5	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
6	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
7	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
8	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
9	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
10	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
11	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
12	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
13	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
14	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
15	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
16	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
17	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
18	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
19	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
20	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
21	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
22	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
23	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
24	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
25	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
26	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
27	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
28	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A
29	18	1.0	1428.0	Yes	5560.0MHz, -64.0dBm	N/A

Table 5 - FCC Short Pulse Radar (Type 2) Test Results

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
0	25	2.9	172.0	Yes	5560.0MHz, -64.0dBm	N/A
1	28	2.4	181.0	Yes	5560.0MHz, -64.0dBm	N/A
2	27	3.1	229.0	Yes	5560.0MHz, -64.0dBm	N/A
3	29	3.2	212.0	Yes	5560.0MHz, -64.0dBm	N/A
4	27	1.1	154.0	Yes	5560.0MHz, -64.0dBm	N/A
5	26	1.4	162.0	Yes	5560.0MHz, -64.0dBm	N/A
6	27	3.2	170.0	Yes	5560.0MHz, -64.0dBm	N/A
7	27	2.2	185.0	Yes	5560.0MHz, -64.0dBm	N/A
8	24	3.9	201.0	Yes	5560.0MHz, -64.0dBm	N/A
9	25	1.9	195.0	Yes	5560.0MHz, -64.0dBm	N/A
10	23	4.2	210.0	Yes	5560.0MHz, -64.0dBm	N/A
11	29	2.5	184.0	Yes	5560.0MHz, -64.0dBm	N/A
12	25	4.9	198.0	Yes	5560.0MHz, -64.0dBm	N/A

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
13	29	2.2	193.0	Yes	5560.0MHz, -64.0dBm	N/A
14	25	2.1	173.0	Yes	5560.0MHz, -64.0dBm	N/A
15	27	3.2	181.0	Yes	5560.0MHz, -64.0dBm	N/A
16	29	3.6	227.0	Yes	5560.0MHz, -64.0dBm	N/A
17	25	4.7	181.0	Yes	5560.0MHz, -64.0dBm	N/A
18	26	2.4	222.0	Yes	5560.0MHz, -64.0dBm	N/A
19	26	1.8	178.0	Yes	5560.0MHz, -64.0dBm	N/A
20	26	4.6	229.0	Yes	5560.0MHz, -64.0dBm	N/A
21	27	2.3	183.0	Yes	5560.0MHz, -64.0dBm	N/A
22	27	3.1	169.0	Yes	5560.0MHz, -64.0dBm	N/A
23	26	1.3	209.0	Yes	5560.0MHz, -64.0dBm	N/A
24	27	1.7	213.0	Yes	5560.0MHz, -64.0dBm	N/A
25	24	4.2	220.0	Yes	5560.0MHz, -64.0dBm	N/A
26	25	1.8	205.0	Yes	5560.0MHz, -64.0dBm	N/A
27	24	4.0	210.0	Yes	5560.0MHz, -64.0dBm	N/A
28	23	2.2	188.0	Yes	5560.0MHz, -64.0dBm	N/A
29	28	1.8	183.0	Yes	5560.0MHz, -64.0dBm	N/A

Table 6 - FCC Short Pulse Radar (Type 3) Test Results

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
0	16	9.2	429.0	Yes	5560.0MHz, -64.0dBm	N/A
1	17	6.0	310.0	Yes	5560.0MHz, -64.0dBm	N/A
2	18	7.2	206.0	Yes	5560.0MHz, -64.0dBm	N/A
3	18	8.8	498.0	Yes	5560.0MHz, -64.0dBm	N/A
4	16	9.3	264.0	Yes	5560.0MHz, -64.0dBm	N/A
5	17	6.3	239.0	No	5560.0MHz, -64.0dBm	N/A
6	17	7.8	484.0	Yes	5560.0MHz, -64.0dBm	N/A

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
7	16	6.6	236.0	Yes	5560.0MHz, -64.0dBm	N/A
8	18	6.8	421.0	Yes	5560.0MHz, -64.0dBm	N/A
9	17	7.4	211.0	Yes	5560.0MHz, -64.0dBm	N/A
10	17	9.4	444.0	Yes	5560.0MHz, -64.0dBm	N/A
11	17	7.7	438.0	Yes	5560.0MHz, -64.0dBm	N/A
12	16	8.6	270.0	Yes	5560.0MHz, -64.0dBm	N/A
13	17	6.3	302.0	Yes	5560.0MHz, -64.0dBm	N/A
14	17	9.4	432.0	Yes	5560.0MHz, -64.0dBm	N/A
15	17	7.9	396.0	Yes	5560.0MHz, -64.0dBm	N/A
16	17	9.7	499.0	Yes	5560.0MHz, -64.0dBm	N/A
17	16	7.5	463.0	Yes	5560.0MHz, -64.0dBm	N/A
18	17	8.3	231.0	No	5560.0MHz, -64.0dBm	N/A
19	18	9.0	288.0	Yes	5560.0MHz, -64.0dBm	N/A
20	17	7.7	204.0	Yes	5560.0MHz, -64.0dBm	N/A
21	18	9.5	460.0	Yes	5560.0MHz, -64.0dBm	N/A
22	17	6.9	372.0	Yes	5560.0MHz, -64.0dBm	N/A
23	18	7.0	225.0	Yes	5560.0MHz, -64.0dBm	N/A
24	16	9.3	429.0	Yes	5560.0MHz, -64.0dBm	N/A
25	17	9.5	234.0	No	5560.0MHz, -64.0dBm	N/A
26	17	6.9	414.0	Yes	5560.0MHz, -64.0dBm	N/A
27	18	9.3	336.0	Yes	5560.0MHz, -64.0dBm	N/A
28	17	6.8	234.0	Yes	5560.0MHz, -64.0dBm	N/A
29	17	8.0	416.0	Yes	5560.0MHz, -64.0dBm	N/A

Table 7 - FCC Short Pulse Radar (Type 4) Test Results

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
0	15	19.7	385.0	Yes	5560.0MHz, -64.0dBm	N/A

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
1	13	13.8	463.0	Yes	5560.0MHz, -64.0dBm	N/A
2	15	19.8	287.0	No	5560.0MHz, -64.0dBm	N/A
3	13	13.1	290.0	Yes	5560.0MHz, -64.0dBm	N/A
4	15	14.7	489.0	Yes	5560.0MHz, -64.0dBm	N/A
5	15	19.0	468.0	Yes	5560.0MHz, -64.0dBm	N/A
6	12	19.6	330.0	Yes	5560.0MHz, -64.0dBm	N/A
7	15	14.8	359.0	Yes	5560.0MHz, -64.0dBm	N/A
8	15	17.4	304.0	Yes	5560.0MHz, -64.0dBm	N/A
9	15	13.9	273.0	No	5560.0MHz, -64.0dBm	N/A
10	14	17.9	376.0	Yes	5560.0MHz, -64.0dBm	N/A
11	12	13.7	348.0	Yes	5560.0MHz, -64.0dBm	N/A
12	16	18.1	391.0	Yes	5560.0MHz, -64.0dBm	N/A
13	13	19.0	427.0	Yes	5560.0MHz, -64.0dBm	N/A
14	14	11.0	311.0	Yes	5560.0MHz, -64.0dBm	N/A
15	14	14.7	452.0	No	5560.0MHz, -64.0dBm	N/A
16	16	16.1	402.0	Yes	5560.0MHz, -64.0dBm	N/A
17	12	12.2	301.0	Yes	5560.0MHz, -64.0dBm	N/A
18	12	16.4	333.0	Yes	5560.0MHz, -64.0dBm	N/A
19	14	12.4	437.0	Yes	5560.0MHz, -64.0dBm	N/A
20	13	14.2	230.0	Yes	5560.0MHz, -64.0dBm	N/A
21	14	18.9	271.0	No	5560.0MHz, -64.0dBm	N/A
22	13	14.4	472.0	Yes	5560.0MHz, -64.0dBm	N/A
23	13	18.0	211.0	Yes	5560.0MHz, -64.0dBm	N/A
24	13	11.5	210.0	Yes	5560.0MHz, -64.0dBm	N/A
25	16	15.3	242.0	Yes	5560.0MHz, -64.0dBm	N/A
26	14	12.2	390.0	Yes	5560.0MHz, -64.0dBm	N/A
27	15	11.5	404.0	Yes	5560.0MHz, -64.0dBm	N/A

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
28	14	15.3	430.0	Yes	5560.0MHz, -64.0dBm	N/A
29	12	20.0	285.0	Yes	5560.0MHz, -64.0dBm	N/A

Table 8 - FCC frequency hopping radar (Type 6) Test Results

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
0	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	5614, 5559, 5677, 5426, 5506, 5628, 5535, 5392, 5284, 5581, 5536, 5464, 5393, 5422, 5703, 5252, 5405, 5263, 5503, 5318, 5725, 5468, 5550, 5478, 5671, 5389, 5370, 5429, 5347, 5353, 5378, 5257, 5357, 5289, 5299, 5316, 5637, 5401, 5344, 5386, 5678, 5350, 5366, 5473, 5343, 5286, 5709, 5638, 5348, 5472, 5292, 5404, 5279, 5604, 5463, 5413, 5712, 5358, 5398, 5253, 5487, 5689, 5341, 5381, 5326, 5717, 5504, 5394, 5435, 5466, 5526, 5670, 5375, 5278, 5465, 5567, 5271, 5302, 5272, 5674, 5485, 5428, 5274, 5632, 5654, 5314, 5658, 5494, 5720, 5591, 5681, 5483, 5626, 5601, 5602, 5499, 5399, 5433, 5313, 5553 (3 hits)
1	9	1.0	333.0	Yes	5550.0MHz, -64.0dBm	5641, 5597, 5426, 5258, 5271, 5324, 5630, 5480, 5711, 5521, 5404, 5328, 5581, 5481, 5478, 5459, 5392, 5272, 5534, 5723, 5592, 5473, 5266, 5558, 5567, 5412, 5487, 5542, 5302, 5331, 5596, 5522, 5389, 5431, 5500, 5483, 5395, 5255, 5694, 5352, 5644, 5460, 5682, 5688, 5654, 5535, 5648, 5291, 5387, 5257, 5590, 5661, 5710, 5344, 5552, 5656, 5264, 5358, 5586, 5491, 5699, 5618, 5439, 5337, 5251, 5427, 5477, 5545, 5325, 5376, 5578, 5277, 5621, 5544, 5652, 5462, 5667, 5377, 5717, 5294, 5256, 5683, 5312, 5660, 5501, 5490, 5474, 5716, 5603, 5673, 5253, 5602, 5441, 5400, 5383, 5651, 5538, 5622, 5628, 5670 (2 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
2	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	5415, 5290, 5667, 5402, 5419, 5593, 5441, 5629, 5564, 5295, 5694, 5514, 5293, 5503, 5329, 5557, 5300, 5341, 5621, 5444, 5350, 5405, 5496, 5715, 5683, 5559, 5513, 5701, 5334, 5516, 5470, 5377, 5663, 5524, 5522, 5338, 5622, 5610, 5703, 5449, 5354, 5400, 5275, 5498, 5530, 5659, 5296, 5500, 5332, 5327, 5606, 5664, 5318, 5506, 5560, 5684, 5343, 5429, 5519, 5263, 5492, 5678, 5379, 5370, 5387, 5548, 5466, 5674, 5349, 5633, 5531, 5484, 5306, 5709, 5681, 5401, 5724, 5607, 5287, 5475, 5433, 5690, 5615, 5305, 5691, 5455, 5521, 5660, 5359, 5574, 5491, 5700, 5604, 5520, 5602, 5404, 5646, 5577, 5285, 5372 (4 hits)
3	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	5367, 5494, 5586, 5560, 5589, 5651, 5302, 5378, 5354, 5321, 5431, 5455, 5487, 5605, 5253, 5660, 5649, 5254, 5389, 5685, 5585, 5588, 5535, 5490, 5304, 5572, 5427, 5382, 5284, 5358, 5541, 5626, 5599, 5478, 5515, 5348, 5344, 5553, 5277, 5266, 5434, 5328, 5376, 5521, 5278, 5303, 5594, 5408, 5419, 5295, 5279, 5479, 5621, 5323, 5570, 5682, 5404, 5688, 5446, 5597, 5602, 5428, 5665, 5601, 5308, 5280, 5256, 5704, 5285, 5347, 5517, 5483, 5495, 5718, 5600, 5338, 5415, 5720, 5529, 5461, 5691, 5486, 5393, 5526, 5287, 5307, 5268, 5525, 5714, 5593, 5564, 5522, 5591, 5272, 5453, 5596, 5559, 5640, 5469, 5554 (5 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
4	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	5277, 5261, 5649, 5666, 5597, 5426, 5493, 5648, 5661, 5687, 5675, 5422, 5699, 5525, 5591, 5344, 5535, 5413, 5356, 5342, 5652, 5610, 5603, 5678, 5497, 5400, 5439, 5608, 5575, 5573, 5402, 5358, 5420, 5324, 5396, 5626, 5318, 5530, 5293, 5609, 5559, 5469, 5373, 5444, 5331, 5389, 5267, 5669, 5664, 5332, 5546, 5625, 5514, 5270, 5459, 5705, 5564, 5679, 5592, 5544, 5489, 5709, 5292, 5368, 5357, 5391, 5334, 5615, 5557, 5659, 5547, 5384, 5375, 5253, 5273, 5385, 5584, 5645, 5315, 5392, 5500, 5281, 5282, 5407, 5484, 5370, 5398, 5671, 5271, 5528, 5447, 5704, 5505, 5437, 5521, 5633, 5380, 5485, 5310, 5320 (3 hits)
5	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	5271, 5267, 5325, 5380, 5366, 5442, 5448, 5637, 5301, 5478, 5251, 5711, 5419, 5277, 5326, 5633, 5467, 5397, 5470, 5617, 5432, 5320, 5660, 5332, 5638, 5291, 5680, 5679, 5361, 5496, 5412, 5472, 5494, 5625, 5641, 5469, 5511, 5663, 5595, 5443, 5468, 5458, 5296, 5280, 5294, 5558, 5553, 5368, 5649, 5696, 5259, 5302, 5533, 5404, 5555, 5256, 5634, 5255, 5265, 5298, 5343, 5579, 5594, 5400, 5373, 5477, 5457, 5570, 5592, 5632, 5501, 5636, 5258, 5697, 5306, 5310, 5411, 5673, 5723, 5354, 5676, 5624, 5403, 5520, 5359, 5716, 5539, 5415, 5257, 5629, 5665, 5525, 5628, 5576, 5260, 5444, 5485, 5549, 5490, 5410 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
6	9	1.0	333.0	Yes	5555.0MHz, -64.0dBm	5390, 5467, 5607, 5664, 5555, 5543, 5464, 5506, 5556, 5604, 5589, 5489, 5370, 5564, 5283, 5527, 5473, 5648, 5295, 5598, 5425, 5628, 5456, 5353, 5457, 5621, 5493, 5408, 5305, 5480, 5636, 5412, 5509, 5420, 5251, 5587, 5285, 5528, 5600, 5483, 5689, 5431, 5430, 5484, 5627, 5410, 5593, 5376, 5313, 5272, 5271, 5323, 5619, 5691, 5705, 5622, 5708, 5359, 5550, 5487, 5388, 5517, 5554, 5613, 5723, 5542, 5436, 5529, 5465, 5253, 5532, 5482, 5686, 5548, 5369, 5714, 5707, 5362, 5594, 5584, 5601, 5618, 5354, 5623, 5301, 5270, 5276, 5547, 5267, 5639, 5405, 5634, 5552, 5468, 5438, 5581, 5398, 5278, 5328, 5667 (6 hits)
7	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	5349, 5658, 5522, 5490, 5461, 5288, 5262, 5511, 5626, 5685, 5607, 5314, 5623, 5684, 5466, 5489, 5464, 5267, 5555, 5340, 5484, 5496, 5452, 5281, 5606, 5701, 5427, 5497, 5406, 5409, 5648, 5710, 5538, 5628, 5513, 5278, 5283, 5714, 5324, 5330, 5442, 5486, 5619, 5277, 5455, 5521, 5576, 5476, 5291, 5480, 5597, 5493, 5453, 5500, 5692, 5563, 5578, 5426, 5566, 5553, 5394, 5440, 5415, 5348, 5448, 5374, 5505, 5300, 5653, 5315, 5592, 5610, 5501, 5256, 5260, 5638, 5589, 5299, 5280, 5618, 5265, 5709, 5588, 5469, 5634, 5417, 5378, 5350, 5369, 5695, 5673, 5706, 5382, 5385, 5320, 5705, 5527, 5529, 5718, 5276 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
8	9	1.0	333.0	No	5557.0MHz, -64.0dBm	5523, 5472, 5668, 5577, 5553, 5521, 5303, 5666, 5602, 5504, 5707, 5615, 5328, 5460, 5638, 5449, 5623, 5608, 5291, 5453, 5425, 5260, 5525, 5689, 5624, 5397, 5526, 5405, 5285, 5376, 5520, 5411, 5336, 5419, 5445, 5590, 5324, 5466, 5385, 5621, 5302, 5351, 5548, 5353, 5637, 5681, 5436, 5717, 5720, 5314, 5639, 5480, 5357, 5386, 5724, 5483, 5470, 5645, 5494, 5713, 5288, 5503, 5361, 5571, 5722, 5321, 5661, 5398, 5415, 5677, 5546, 5433, 5407, 5280, 5301, 5721, 5462, 5559, 5488, 5587, 5281, 5342, 5286, 5284, 5334, 5699, 5557, 5576, 5487, 5501, 5469, 5272, 5674, 5568, 5420, 5383, 5646, 5657, 5259, 5343 (3 hits)
9	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	5406, 5657, 5535, 5511, 5513, 5600, 5432, 5496, 5428, 5515, 5560, 5387, 5327, 5547, 5596, 5271, 5676, 5371, 5334, 5601, 5478, 5395, 5721, 5531, 5608, 5308, 5690, 5493, 5467, 5618, 5385, 5454, 5619, 5599, 5470, 5283, 5272, 5430, 5488, 5566, 5358, 5422, 5361, 5289, 5681, 5301, 5484, 5722, 5719, 5509, 5494, 5376, 5313, 5403, 5554, 5651, 5405, 5437, 5603, 5565, 5696, 5542, 5479, 5323, 5306, 5439, 5703, 5699, 5698, 5386, 5307, 5461, 5304, 5382, 5429, 5718, 5483, 5692, 5617, 5623, 5529, 5544, 5346, 5303, 5276, 5394, 5314, 5341, 5683, 5682, 5624, 5270, 5679, 5424, 5275, 5474, 5396, 5590, 5587, 5296 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
10	9	1.0	333.0	Yes	5559.0MHz, -64.0dBm	5302, 5535, 5295, 5388, 5562, 5605, 5313, 5441, 5289, 5467, 5572, 5522, 5582, 5373, 5336, 5277, 5360, 5627, 5531, 5288, 5666, 5641, 5445, 5702, 5418, 5339, 5349, 5307, 5639, 5257, 5647, 5538, 5370, 5680, 5454, 5517, 5648, 5580, 5534, 5293, 5591, 5490, 5600, 5333, 5453, 5340, 5604, 5267, 5266, 5262, 5424, 5630, 5320, 5564, 5431, 5283, 5553, 5667, 5385, 5448, 5359, 5476, 5500, 5683, 5369, 5341, 5612, 5556, 5404, 5543, 5516, 5559, 5311, 5354, 5519, 5554, 5530, 5279, 5704, 5573, 5377, 5560, 5374, 5444, 5501, 5268, 5300, 5325, 5458, 5386, 5495, 5492, 5586, 5581, 5649, 5701, 5275, 5506, 5661, 5611 (7 hits)
11	9	1.0	333.0	No	5560.0MHz, -64.0dBm	5295, 5550, 5724, 5570, 5449, 5273, 5520, 5318, 5289, 5608, 5638, 5590, 5721, 5583, 5567, 5489, 5404, 5431, 5392, 5700, 5644, 5696, 5618, 5327, 5279, 5338, 5335, 5593, 5519, 5332, 5290, 5669, 5399, 5659, 5598, 5622, 5299, 5310, 5451, 5722, 5649, 5599, 5686, 5376, 5383, 5439, 5518, 5667, 5269, 5396, 5606, 5302, 5298, 5403, 5480, 5257, 5668, 5526, 5569, 5491, 5516, 5578, 5322, 5434, 5291, 5498, 5711, 5689, 5288, 5507, 5406, 5339, 5643, 5527, 5692, 5479, 5364, 5620, 5448, 5494, 5559, 5582, 5584, 5276, 5514, 5589, 5466, 5421, 5619, 5442, 5454, 5592, 5714, 5300, 5391, 5505, 5640, 5313, 5623, 5552 (3 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
12	9	1.0	333.0	Yes	5561.0MHz, -64.0dBm	5436, 5614, 5405, 5482, 5540, 5480, 5334, 5450, 5670, 5706, 5331, 5503, 5562, 5556, 5714, 5631, 5460, 5504, 5431, 5341, 5299, 5301, 5453, 5517, 5399, 5617, 5691, 5379, 5577, 5476, 5647, 5430, 5527, 5294, 5543, 5339, 5632, 5608, 5578, 5352, 5721, 5601, 5427, 5314, 5422, 5692, 5582, 5336, 5258, 5678, 5257, 5380, 5565, 5502, 5434, 5362, 5411, 5266, 5464, 5550, 5408, 5563, 5626, 5407, 5567, 5526, 5391, 5554, 5516, 5588, 5541, 5593, 5508, 5417, 5717, 5724, 5298, 5664, 5533, 5435, 5340, 5686, 5330, 5398, 5447, 5404, 5589, 5386, 5551, 5285, 5356, 5521, 5368, 5568, 5396, 5703, 5410, 5471, 5437, 5345 (7 hits)
13	9	1.0	333.0	Yes	5562.0MHz, -64.0dBm	5313, 5597, 5312, 5556, 5487, 5334, 5286, 5554, 5407, 5525, 5671, 5663, 5689, 5505, 5348, 5474, 5585, 5379, 5440, 5335, 5458, 5572, 5456, 5564, 5666, 5329, 5472, 5462, 5565, 5264, 5685, 5584, 5716, 5649, 5522, 5656, 5377, 5469, 5450, 5548, 5652, 5610, 5532, 5489, 5575, 5606, 5418, 5605, 5660, 5437, 5416, 5636, 5378, 5542, 5303, 5356, 5451, 5361, 5347, 5496, 5670, 5510, 5536, 5664, 5308, 5372, 5294, 5696, 5668, 5319, 5667, 5288, 5296, 5495, 5408, 5402, 5447, 5382, 5362, 5310, 5344, 5539, 5637, 5317, 5326, 5275, 5541, 5519, 5454, 5425, 5561, 5630, 5534, 5359, 5646, 5569, 5643, 5442, 5702, 5486 (5 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
14	9	1.0	333.0	Yes	5563.0MHz, -64.0dBm	5505, 5419, 5391, 5295, 5635, 5475, 5618, 5634, 5492, 5384, 5627, 5285, 5338, 5649, 5664, 5329, 5450, 5392, 5429, 5308, 5456, 5278, 5610, 5565, 5303, 5617, 5717, 5578, 5594, 5511, 5376, 5342, 5448, 5439, 5640, 5466, 5522, 5409, 5562, 5435, 5358, 5398, 5277, 5411, 5374, 5677, 5311, 5402, 5708, 5585, 5566, 5310, 5330, 5721, 5503, 5687, 5494, 5715, 5602, 5322, 5692, 5619, 5257, 5385, 5651, 5528, 5461, 5339, 5443, 5560, 5576, 5390, 5259, 5589, 5616, 5686, 5714, 5641, 5533, 5586, 5582, 5478, 5688, 5293, 5312, 5684, 5321, 5427, 5373, 5256, 5452, 5414, 5467, 5250, 5646, 5320, 5626, 5453, 5568, 5291 (4 hits)
15	9	1.0	333.0	Yes	5564.0MHz, -64.0dBm	5294, 5365, 5529, 5579, 5348, 5359, 5701, 5592, 5461, 5311, 5410, 5454, 5265, 5681, 5598, 5430, 5449, 5516, 5564, 5364, 5341, 5554, 5483, 5437, 5481, 5695, 5433, 5710, 5667, 5253, 5390, 5357, 5664, 5649, 5570, 5705, 5619, 5501, 5680, 5625, 5277, 5558, 5629, 5606, 5333, 5332, 5526, 5447, 5506, 5421, 5590, 5289, 5324, 5659, 5652, 5319, 5611, 5485, 5424, 5588, 5549, 5472, 5636, 5448, 5521, 5426, 5376, 5300, 5312, 5714, 5612, 5651, 5458, 5717, 5563, 5674, 5657, 5640, 5514, 5380, 5313, 5634, 5402, 5609, 5656, 5255, 5593, 5628, 5507, 5498, 5386, 5391, 5347, 5344, 5665, 5322, 5366, 5599, 5643, 5690 (5 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
16	9	1.0	333.0	Yes	5565.0MHz, -64.0dBm	5630, 5372, 5371, 5445, 5637, 5720, 5257, 5363, 5567, 5469, 5255, 5329, 5316, 5601, 5265, 5286, 5408, 5659, 5539, 5676, 5653, 5562, 5624, 5700, 5588, 5396, 5715, 5615, 5393, 5619, 5493, 5669, 5518, 5611, 5677, 5342, 5523, 5571, 5602, 5552, 5311, 5376, 5398, 5645, 5665, 5380, 5452, 5488, 5340, 5318, 5442, 5643, 5405, 5256, 5590, 5587, 5358, 5581, 5670, 5395, 5477, 5668, 5279, 5512, 5266, 5261, 5497, 5364, 5291, 5596, 5540, 5267, 5517, 5711, 5470, 5423, 5294, 5402, 5685, 5277, 5550, 5709, 5253, 5362, 5420, 5678, 5299, 5687, 5260, 5440, 5345, 5426, 5389, 5338, 5498, 5281, 5428, 5714, 5696, 5620 (3 hits)
17	9	1.0	333.0	No	5566.0MHz, -64.0dBm	5261, 5625, 5437, 5348, 5336, 5639, 5702, 5517, 5677, 5480, 5256, 5601, 5422, 5615, 5376, 5483, 5416, 5612, 5619, 5337, 5251, 5427, 5290, 5425, 5371, 5368, 5664, 5692, 5583, 5253, 5538, 5451, 5696, 5649, 5536, 5276, 5258, 5642, 5552, 5372, 5319, 5617, 5683, 5295, 5419, 5586, 5514, 5496, 5473, 5561, 5306, 5551, 5507, 5573, 5472, 5611, 5724, 5475, 5670, 5701, 5341, 5430, 5630, 5631, 5526, 5268, 5320, 5461, 5641, 5400, 5396, 5629, 5270, 5515, 5694, 5340, 5345, 5682, 5323, 5274, 5288, 5599, 5540, 5669, 5571, 5587, 5708, 5665, 5613, 5390, 5707, 5585, 5351, 5554, 5719, 5652, 5504, 5537, 5610, 5698 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
18	9	1.0	333.0	Yes	5549.0MHz, -64.0dBm	5413, 5618, 5627, 5553, 5399, 5533, 5681, 5379, 5489, 5536, 5442, 5576, 5581, 5617, 5472, 5397, 5546, 5570, 5715, 5566, 5316, 5563, 5512, 5461, 5541, 5407, 5309, 5689, 5344, 5394, 5547, 5288, 5302, 5294, 5705, 5685, 5506, 5382, 5589, 5567, 5629, 5378, 5556, 5491, 5709, 5521, 5304, 5436, 5257, 5298, 5717, 5308, 5650, 5552, 5712, 5602, 5456, 5449, 5683, 5478, 5262, 5398, 5699, 5612, 5592, 5579, 5675, 5665, 5631, 5340, 5527, 5703, 5300, 5405, 5310, 5690, 5687, 5351, 5622, 5522, 5499, 5501, 5409, 5420, 5377, 5476, 5374, 5271, 5562, 5269, 5640, 5557, 5275, 5274, 5313, 5587, 5473, 5497, 5632, 5620 (7 hits)
19	9	1.0	333.0	No	5550.0MHz, -64.0dBm	5489, 5546, 5643, 5624, 5661, 5604, 5664, 5252, 5611, 5323, 5668, 5274, 5597, 5717, 5487, 5435, 5586, 5482, 5507, 5594, 5404, 5417, 5276, 5712, 5493, 5357, 5484, 5334, 5686, 5462, 5710, 5565, 5716, 5459, 5714, 5477, 5659, 5476, 5527, 5669, 5389, 5708, 5532, 5543, 5301, 5408, 5625, 5403, 5384, 5587, 5304, 5425, 5535, 5292, 5504, 5649, 5679, 5466, 5295, 5671, 5402, 5401, 5447, 5718, 5379, 5475, 5297, 5528, 5331, 5691, 5511, 5473, 5652, 5360, 5657, 5257, 5707, 5260, 5588, 5580, 5599, 5422, 5407, 5541, 5429, 5607, 5498, 5321, 5673, 5719, 5423, 5501, 5505, 5443, 5441, 5314, 5310, 5518, 5350, 5285 (1 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
20	9	1.0	333.0	Yes	5551.0MHz, -64.0dBm	5340, 5487, 5357, 5496, 5448, 5480, 5681, 5520, 5323, 5581, 5412, 5630, 5647, 5482, 5281, 5502, 5693, 5690, 5590, 5537, 5614, 5500, 5662, 5349, 5493, 5582, 5673, 5703, 5447, 5658, 5613, 5315, 5262, 5654, 5641, 5534, 5331, 5278, 5497, 5656, 5531, 5584, 5525, 5283, 5675, 5643, 5516, 5539, 5657, 5588, 5521, 5699, 5428, 5553, 5483, 5595, 5257, 5320, 5321, 5295, 5598, 5430, 5575, 5338, 5481, 5692, 5312, 5294, 5402, 5507, 5296, 5454, 5266, 5648, 5599, 5710, 5704, 5597, 5451, 5511, 5476, 5651, 5270, 5640, 5627, 5409, 5573, 5697, 5653, 5311, 5577, 5665, 5669, 5701, 5574, 5360, 5615, 5542, 5403, 5310 (1 hits)
21	9	1.0	333.0	Yes	5552.0MHz, -64.0dBm	5393, 5404, 5673, 5409, 5622, 5429, 5375, 5400, 5573, 5638, 5423, 5571, 5674, 5350, 5323, 5596, 5585, 5659, 5640, 5603, 5330, 5524, 5706, 5281, 5555, 5642, 5324, 5274, 5370, 5630, 5306, 5284, 5575, 5560, 5317, 5604, 5658, 5690, 5631, 5352, 5360, 5544, 5512, 5301, 5364, 5621, 5514, 5401, 5447, 5358, 5686, 5696, 5340, 5354, 5675, 5331, 5326, 5720, 5295, 5701, 5268, 5431, 5663, 5572, 5538, 5721, 5310, 5347, 5425, 5548, 5564, 5540, 5394, 5357, 5526, 5300, 5723, 5451, 5456, 5590, 5535, 5644, 5489, 5355, 5463, 5308, 5493, 5517, 5258, 5620, 5359, 5506, 5515, 5595, 5491, 5697, 5265, 5692, 5369, 5289 (3 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
22	9	1.0	333.0	Yes	5553.0MHz, -64.0dBm	5669, 5658, 5584, 5268, 5352, 5299, 5482, 5685, 5264, 5279, 5571, 5309, 5414, 5525, 5704, 5282, 5339, 5464, 5486, 5346, 5450, 5384, 5701, 5475, 5614, 5393, 5655, 5692, 5433, 5468, 5540, 5411, 5516, 5693, 5689, 5702, 5321, 5369, 5354, 5340, 5296, 5683, 5394, 5367, 5308, 5345, 5301, 5383, 5578, 5527, 5633, 5563, 5471, 5454, 5714, 5418, 5677, 5505, 5674, 5402, 5497, 5722, 5322, 5723, 5344, 5323, 5557, 5574, 5556, 5325, 5315, 5392, 5500, 5389, 5400, 5671, 5491, 5581, 5362, 5412, 5401, 5317, 5555, 5707, 5717, 5524, 5324, 5630, 5297, 5659, 5487, 5719, 5616, 5447, 5539, 5665, 5492, 5490, 5329, 5570 (4 hits)
23	9	1.0	333.0	Yes	5554.0MHz, -64.0dBm	5552, 5304, 5585, 5451, 5623, 5557, 5463, 5581, 5560, 5538, 5399, 5588, 5316, 5563, 5697, 5289, 5597, 5575, 5426, 5685, 5420, 5604, 5693, 5287, 5542, 5638, 5403, 5603, 5477, 5643, 5683, 5376, 5296, 5618, 5561, 5319, 5577, 5589, 5312, 5432, 5487, 5257, 5684, 5434, 5535, 5295, 5703, 5400, 5527, 5274, 5713, 5578, 5288, 5506, 5672, 5326, 5282, 5594, 5558, 5415, 5300, 5466, 5573, 5433, 5397, 5520, 5632, 5272, 5359, 5395, 5462, 5671, 5414, 5562, 5442, 5475, 5550, 5717, 5447, 5652, 5419, 5547, 5252, 5569, 5670, 5548, 5448, 5605, 5389, 5488, 5454, 5385, 5409, 5654, 5340, 5587, 5595, 5677, 5718, 5700 (8 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
24	9	1.0	333.0	Yes	5555.0MHz, -64.0dBm	5355, 5697, 5382, 5530, 5708, 5395, 5438, 5486, 5429, 5404, 5273, 5569, 5540, 5363, 5381, 5634, 5584, 5496, 5469, 5356, 5325, 5570, 5654, 5597, 5552, 5320, 5287, 5315, 5589, 5298, 5268, 5683, 5657, 5374, 5265, 5595, 5291, 5425, 5274, 5668, 5478, 5412, 5715, 5279, 5620, 5623, 5332, 5294, 5583, 5293, 5629, 5276, 5420, 5330, 5590, 5544, 5393, 5424, 5358, 5406, 5300, 5650, 5559, 5377, 5450, 5432, 5280, 5524, 5322, 5558, 5335, 5357, 5270, 5604, 5592, 5696, 5701, 5684, 5417, 5560, 5612, 5263, 5327, 5587, 5593, 5565, 5403, 5615, 5295, 5660, 5640, 5646, 5568, 5517, 5485, 5532, 5513, 5633, 5285, 5688 (5 hits)
25	9	1.0	333.0	Yes	5556.0MHz, -64.0dBm	5443, 5668, 5624, 5641, 5680, 5540, 5330, 5659, 5489, 5393, 5300, 5514, 5262, 5564, 5392, 5582, 5447, 5368, 5274, 5308, 5690, 5303, 5423, 5722, 5693, 5469, 5449, 5592, 5553, 5476, 5548, 5532, 5639, 5251, 5337, 5297, 5699, 5551, 5479, 5372, 5462, 5373, 5648, 5676, 5577, 5270, 5360, 5487, 5677, 5636, 5283, 5675, 5285, 5586, 5279, 5400, 5709, 5642, 5554, 5651, 5496, 5311, 5452, 5344, 5623, 5328, 5602, 5725, 5275, 5395, 5512, 5688, 5569, 5666, 5606, 5674, 5312, 5531, 5304, 5354, 5575, 5667, 5282, 5700, 5310, 5581, 5498, 5448, 5584, 5411, 5588, 5568, 5467, 5391, 5422, 5396, 5519, 5686, 5669, 5276 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
26	9	1.0	333.0	Yes	5557.0MHz, -64.0dBm	5619, 5396, 5332, 5303, 5623, 5713, 5342, 5610, 5286, 5289, 5615, 5571, 5282, 5269, 5385, 5411, 5719, 5347, 5413, 5661, 5542, 5324, 5680, 5565, 5650, 5526, 5450, 5506, 5378, 5253, 5531, 5662, 5663, 5669, 5641, 5297, 5648, 5391, 5374, 5584, 5582, 5670, 5452, 5656, 5620, 5687, 5408, 5595, 5688, 5405, 5357, 5700, 5621, 5268, 5320, 5439, 5430, 5353, 5605, 5420, 5383, 5290, 5330, 5498, 5404, 5522, 5322, 5569, 5503, 5372, 5294, 5456, 5363, 5267, 5410, 5321, 5264, 5534, 5624, 5376, 5407, 5310, 5519, 5252, 5288, 5381, 5645, 5560, 5575, 5586, 5349, 5505, 5422, 5300, 5334, 5469, 5495, 5283, 5302, 5394 (2 hits)
27	9	1.0	333.0	Yes	5558.0MHz, -64.0dBm	5569, 5290, 5342, 5639, 5366, 5560, 5564, 5332, 5522, 5421, 5598, 5326, 5457, 5501, 5291, 5549, 5259, 5617, 5469, 5604, 5289, 5267, 5415, 5534, 5701, 5438, 5703, 5325, 5436, 5363, 5286, 5518, 5706, 5350, 5311, 5390, 5725, 5665, 5440, 5372, 5400, 5444, 5252, 5459, 5361, 5678, 5556, 5680, 5609, 5621, 5406, 5388, 5319, 5536, 5555, 5559, 5266, 5520, 5526, 5580, 5565, 5587, 5333, 5479, 5651, 5497, 5648, 5584, 5610, 5270, 5360, 5460, 5260, 5428, 5304, 5461, 5495, 5308, 5563, 5373, 5313, 5383, 5596, 5474, 5531, 5310, 5597, 5593, 5418, 5676, 5483, 5618, 5352, 5578, 5288, 5688, 5473, 5717, 5279, 5315 (8 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
28	9	1.0	333.0	Yes	5559.0MHz, -64.0dBm	5383, 5445, 5323, 5302, 5630, 5535, 5536, 5541, 5472, 5297, 5647, 5413, 5690, 5599, 5722, 5296, 5499, 5304, 5364, 5340, 5554, 5498, 5656, 5698, 5560, 5548, 5687, 5378, 5628, 5479, 5407, 5626, 5264, 5500, 5272, 5295, 5315, 5324, 5592, 5337, 5346, 5597, 5314, 5478, 5491, 5333, 5694, 5492, 5306, 5638, 5544, 5480, 5338, 5609, 5602, 5684, 5391, 5559, 5298, 5688, 5570, 5662, 5668, 5660, 5400, 5446, 5254, 5716, 5612, 5488, 5299, 5607, 5411, 5392, 5476, 5474, 5398, 5261, 5606, 5305, 5448, 5268, 5365, 5685, 5461, 5439, 5673, 5283, 5357, 5611, 5355, 5322, 5425, 5530, 5369, 5517, 5349, 5470, 5393, 5318 (3 hits)
29	9	1.0	333.0	Yes	5560.0MHz, -64.0dBm	5256, 5387, 5430, 5485, 5404, 5423, 5303, 5305, 5265, 5296, 5401, 5519, 5710, 5704, 5596, 5570, 5372, 5598, 5577, 5721, 5613, 5406, 5645, 5482, 5714, 5445, 5524, 5335, 5339, 5453, 5507, 5536, 5702, 5723, 5393, 5563, 5356, 5281, 5307, 5492, 5273, 5342, 5640, 5622, 5567, 5717, 5586, 5611, 5658, 5688, 5319, 5380, 5376, 5399, 5416, 5353, 5725, 5347, 5521, 5675, 5293, 5487, 5301, 5539, 5327, 5591, 5336, 5545, 5478, 5458, 5585, 5603, 5464, 5291, 5337, 5488, 5525, 5720, 5575, 5699, 5656, 5435, 5261, 5317, 5578, 5718, 5362, 5610, 5590, 5396, 5351, 5634, 5550, 5298, 5501, 5576, 5663, 5715, 5384, 5411 (2 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
30	9	1.0	333.0	Yes	5561.0MHz, -64.0dBm	5508, 5625, 5303, 5674, 5467, 5514, 5355, 5421, 5620, 5624, 5356, 5532, 5434, 5405, 5466, 5706, 5369, 5603, 5698, 5524, 5473, 5497, 5660, 5292, 5255, 5440, 5650, 5254, 5401, 5322, 5363, 5574, 5368, 5415, 5492, 5572, 5690, 5647, 5694, 5561, 5628, 5446, 5629, 5277, 5379, 5479, 5417, 5607, 5562, 5439, 5262, 5495, 5485, 5445, 5328, 5432, 5371, 5256, 5593, 5663, 5359, 5595, 5552, 5670, 5280, 5314, 5723, 5266, 5329, 5257, 5682, 5441, 5438, 5320, 5600, 5701, 5407, 5454, 5721, 5520, 5443, 5564, 5504, 5700, 5330, 5319, 5382, 5499, 5460, 5592, 5645, 5483, 5684, 5570, 5679, 5336, 5672, 5699, 5662, 5707 (4 hits)
31	9	1.0	333.0	Yes	5562.0MHz, -64.0dBm	5669, 5344, 5415, 5338, 5594, 5591, 5588, 5284, 5723, 5567, 5619, 5609, 5598, 5464, 5289, 5569, 5411, 5315, 5684, 5687, 5544, 5671, 5359, 5643, 5600, 5362, 5353, 5342, 5310, 5644, 5469, 5620, 5705, 5413, 5375, 5445, 5395, 5450, 5570, 5543, 5656, 5625, 5634, 5525, 5611, 5453, 5432, 5562, 5672, 5335, 5277, 5463, 5460, 5322, 5400, 5576, 5487, 5720, 5522, 5373, 5626, 5419, 5291, 5533, 5352, 5360, 5304, 5377, 5547, 5515, 5650, 5654, 5676, 5707, 5324, 5555, 5333, 5485, 5368, 5431, 5693, 5510, 5433, 5392, 5645, 5499, 5379, 5481, 5297, 5372, 5314, 5260, 5623, 5255, 5579, 5296, 5301, 5455, 5559, 5496 (3 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
32	9	1.0	333.0	Yes	5563.0MHz, -64.0dBm	5339, 5357, 5512, 5710, 5601, 5676, 5657, 5319, 5575, 5331, 5355, 5383, 5376, 5458, 5687, 5340, 5390, 5542, 5663, 5492, 5273, 5489, 5551, 5362, 5500, 5705, 5665, 5473, 5555, 5441, 5298, 5675, 5369, 5667, 5645, 5515, 5266, 5626, 5416, 5491, 5658, 5708, 5359, 5524, 5508, 5334, 5343, 5320, 5624, 5534, 5373, 5372, 5353, 5291, 5570, 5478, 5641, 5487, 5404, 5621, 5568, 5381, 5638, 5301, 5449, 5519, 5517, 5722, 5278, 5697, 5419, 5262, 5629, 5509, 5690, 5257, 5670, 5521, 5579, 5518, 5366, 5469, 5442, 5673, 5456, 5474, 5668, 5288, 5683, 5507, 5556, 5405, 5593, 5537, 5546, 5559, 5480, 5392, 5721, 5642 (4 hits)
33	9	1.0	333.0	Yes	5564.0MHz, -64.0dBm	5457, 5578, 5282, 5521, 5423, 5382, 5347, 5391, 5265, 5321, 5672, 5532, 5593, 5448, 5522, 5251, 5460, 5438, 5555, 5275, 5409, 5621, 5495, 5634, 5519, 5667, 5384, 5336, 5587, 5337, 5695, 5471, 5605, 5553, 5492, 5683, 5484, 5415, 5722, 5596, 5629, 5705, 5446, 5403, 5421, 5295, 5326, 5490, 5572, 5654, 5341, 5357, 5669, 5671, 5594, 5287, 5563, 5319, 5278, 5372, 5603, 5407, 5542, 5504, 5463, 5360, 5405, 5684, 5720, 5362, 5428, 5574, 5269, 5350, 5663, 5381, 5425, 5524, 5274, 5299, 5498, 5656, 5367, 5606, 5286, 5315, 5371, 5718, 5334, 5449, 5650, 5600, 5379, 5610, 5548, 5715, 5677, 5564, 5439, 5267 (4 hits)

Trial #	Pulses/ Burst	Pulse Width (us)	PRI (us)	Detected?	Fr (MHz) and level (dBm)	Hop seq.
34	9	1.0	333.0	Yes	5565.0MHz, -64.0dBm	5631, 5512, 5676, 5494, 5361, 5446, 5441, 5520, 5513, 5413, 5463, 5526, 5316, 5337, 5277, 5535, 5336, 5453, 5385, 5584, 5549, 5452, 5400, 5418, 5653, 5567, 5397, 5658, 5401, 5341, 5702, 5602, 5718, 5657, 5674, 5335, 5659, 5417, 5724, 5667, 5604, 5402, 5572, 5268, 5691, 5519, 5291, 5681, 5683, 5431, 5677, 5368, 5696, 5285, 5260, 5515, 5528, 5481, 5333, 5493, 5669, 5332, 5264, 5580, 5710, 5644, 5558, 5570, 5601, 5543, 5359, 5283, 5310, 5407, 5437, 5290, 5272, 5627, 5329, 5288, 5434, 5554, 5571, 5275, 5540, 5707, 5459, 5646, 5325, 5403, 5666, 5376, 5556, 5339, 5559, 5503, 5442, 5456, 5537, 5616 (5 hits)
35	9	1.0	333.0	Yes	5566.0MHz, -64.0dBm	5333, 5599, 5510, 5592, 5545, 5435, 5387, 5721, 5479, 5375, 5722, 5278, 5639, 5373, 5389, 5296, 5647, 5493, 5394, 5532, 5348, 5658, 5260, 5676, 5459, 5685, 5290, 5325, 5597, 5711, 5398, 5588, 5671, 5607, 5724, 5356, 5432, 5687, 5554, 5525, 5718, 5702, 5454, 5455, 5571, 5657, 5529, 5270, 5301, 5626, 5410, 5400, 5693, 5430, 5648, 5344, 5596, 5491, 5654, 5663, 5659, 5550, 5420, 5707, 5541, 5709, 5656, 5555, 5437, 5323, 5306, 5465, 5546, 5352, 5406, 5610, 5623, 5467, 5360, 5283, 5292, 5308, 5714, 5563, 5612, 5446, 5548, 5653, 5288, 5257, 5660, 5281, 5628, 5662, 5697, 5620, 5390, 5499, 5569, 5438 (4 hits)

Table 9 - Long Sequence Waveform Summary

Long Sequence Trial	Result	Radar Frequency / Amplitude
Trial #1	Detected	5560.0MHz, -64.0dBm
Trial #2	Detected	5560.0MHz, -64.0dBm
Trial #3	NOT Detected	5560.0MHz, -64.0dBm
Trial #4	Detected	5560.0MHz, -64.0dBm
Trial #5	Detected	5560.0MHz, -64.0dBm
Trial #6	Detected	5560.0MHz, -64.0dBm
Trial #7	Detected	5560.0MHz, -64.0dBm
Trial #8	NOT Detected	5560.0MHz, -64.0dBm
Trial #9	Detected	5560.0MHz, -64.0dBm
Trial #10	Detected	5560.0MHz, -64.0dBm
Trial #11	Detected	5560.0MHz, -64.0dBm
Trial #12	Detected	5560.0MHz, -64.0dBm
Trial #13	Detected	5560.0MHz, -64.0dBm
Trial #14	Detected	5560.0MHz, -64.0dBm
Trial #15	Detected	5560.0MHz, -64.0dBm
Trial #16	NOT Detected	5560.0MHz, -64.0dBm
Trial #17	Detected	5560.0MHz, -64.0dBm
Trial #18	Detected	5560.0MHz, -64.0dBm
Trial #19	Detected	5560.0MHz, -64.0dBm
Trial #20	Detected	5560.0MHz, -64.0dBm
Trial #21	Detected	5560.0MHz, -64.0dBm
Trial #22	Detected	5560.0MHz, -64.0dBm
Trial #23	Detected	5560.0MHz, -64.0dBm
Trial #24	Detected	5560.0MHz, -64.0dBm
Trial #25	Detected	5560.0MHz, -64.0dBm
Trial #26	Detected	5560.0MHz, -64.0dBm
Trial #27	Detected	5560.0MHz, -64.0dBm
Trial #28	Detected	5560.0MHz,

		-64.0dBm
Trial #29	NOT Detected	5560.0MHz, -64.0dBm
Trial #30	Detected	5560.0MHz, -64.0dBm

Table 10 - Long Sequence Waveform Trial#1 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	56.1	10	1121.0	1435.0	0.272291
1	2	92.6	10	1862.0	-	1.016762
2	2	64.8	14	1230.0	-	2.181401
3	2	80.6	14	1612.0	-	3.013918
4	3	95.6	13	1710.0	1863.0	3.873555
5	2	95.1	10	1323.0	-	4.158052
6	1	99.1	8	-	-	5.461000
7	2	53.8	13	1249.0	-	5.700039
8	1	79.7	12	-	-	7.074267
9	2	57.0	11	1060.0	-	7.588923
10	3	53.3	5	1339.0	1656.0	8.176782
11	2	62.2	6	1984.0	-	9.498604
12	2	61.1	16	1219.0	-	9.802819
13	2	99.1	12	1820.0	-	10.998932
14	3	59.4	11	1058.0	1919.0	11.930421

Table 11 - Long Sequence Waveform Trial#2 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	93.4	18	1390.0	-	0.626865
1	2	63.6	13	1067.0	-	1.396812
2	2	71.2	19	1714.0	-	1.619014
3	3	59.6	18	1755.0	1746.0	2.501627
4	2	94.4	13	1020.0	-	3.073441
5	3	64.0	6	1682.0	1289.0	4.177107
6	1	64.5	7	-	-	5.083557
7	2	60.7	13	1759.0	-	5.468256
8	1	98.4	16	-	-	6.547499
9	1	64.7	7	-	-	6.999548
10	2	50.4	17	1497.0	-	7.540907
11	1	97.0	12	-	-	8.315513
12	2	66.9	7	1726.0	-	9.197904
13	2	82.4	15	1193.0	-	10.075671
14	2	59.3	14	1837.0	-	11.012563
15	2	91.4	17	1021.0	-	11.673840

Table 12 - Long Sequence Waveform Trial#3 (NOT Detected **)**

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	92.4	16	1936.0	-	0.878190
1	2	66.0	16	1797.0	-	1.151462
2	2	70.0	17	1308.0	-	2.903333
3	2	86.6	8	1199.0	-	3.453538
4	1	57.3	13	-	-	4.374455

5	2	69.5	20	1463.0	-	5.635355
6	3	58.1	9	1187.0	1433.0	6.141474
7	2	70.5	20	1890.0	-	7.645198
8	1	81.6	10	-	-	8.466202
9	2	98.2	16	1351.0	-	9.357478
10	2	57.8	19	1695.0	-	10.175923
11	1	69.9	19	-	-	11.332967

Table 13 - Long Sequence Waveform Trial#4 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	93.7	6	-	-	0.393033
1	3	57.9	10	1906.0	1713.0	1.574750
2	3	84.1	18	1397.0	1231.0	2.389656
3	3	76.5	6	1869.0	1736.0	3.295878
4	1	51.2	12	-	-	4.421999
5	2	79.6	19	1816.0	-	4.695038
6	3	75.1	19	1018.0	1634.0	5.851027
7	2	77.6	7	1226.0	-	6.739798
8	1	55.8	11	-	-	8.120665
9	3	94.2	18	1153.0	1185.0	9.170526
10	2	86.4	6	1774.0	-	9.773273
11	2	64.1	17	1128.0	-	10.256569
12	2	94.9	18	1024.0	-	11.435147

Table 14 - Long Sequence Waveform Trial#5 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	84.6	8	1851.0	-	0.522880
1	2	69.7	10	1800.0	-	1.473966
2	1	84.4	19	-	-	2.360895
3	2	56.5	6	1866.0	-	4.105335
4	3	86.9	11	1157.0	1474.0	4.949005
5	1	63.3	6	-	-	5.618048
6	3	61.2	16	1255.0	1362.0	7.537524
7	2	55.0	13	1604.0	-	7.749043
8	1	99.1	15	-	-	9.012160
9	2	65.4	7	1119.0	-	10.246287
10	2	84.7	9	1845.0	-	11.246774

Table 15 - Long Sequence Waveform Trial#6 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	78.5	12	1651.0	-	0.351081
1	2	78.5	17	1462.0	-	1.778972
2	1	58.9	8	-	-	2.225342
3	3	87.3	11	1248.0	1454.0	3.756950
4	3	79.4	11	1100.0	1383.0	5.160217
5	2	62.2	7	1279.0	-	6.112862
6	1	80.8	12	-	-	6.663315
7	1	66.6	7	-	-	8.522255
8	1	91.9	6	-	-	8.957556
9	1	61.3	9	-	-	10.557677

10	1	53.0	18	-	-	11.182647
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Table 16 - Long Sequence Waveform Trial#7 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	63.9	17	-	-	1.139849
1	3	76.6	13	1142.0	1624.0	1.342732
2	1	81.3	6	-	-	2.608103
3	3	88.9	16	1934.0	1873.0	3.664434
4	2	52.6	12	1874.0	-	5.544789
5	1	82.8	5	-	-	6.852710
6	2	93.2	8	1578.0	-	7.578436
7	2	99.7	9	1539.0	-	8.929689
8	3	54.5	6	1253.0	1938.0	10.651592
9	3	60.1	9	1619.0	1340.0	10.879640

Table 17 - Long Sequence Waveform Trial#8 (NOT Detected **)**

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	68.1	15	1083.0	-	0.585905
1	2	58.2	10	1826.0	-	1.659228
2	3	67.6	12	1110.0	1229.0	3.678333
3	3	62.5	14	1977.0	1394.0	5.921815
4	1	60.4	11	-	-	6.221414
5	2	99.9	8	1322.0	-	8.864204
6	3	91.8	15	1266.0	1592.0	10.168870
7	2	79.6	13	1793.0	-	11.342091

Table 18 - Long Sequence Waveform Trial#9 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	68.6	20	1580.0	1525.0	0.331278
1	3	88.2	15	1671.0	1881.0	0.706806
2	2	57.4	17	1648.0	-	1.579325
3	3	71.1	7	1867.0	1618.0	2.331808
4	3	70.4	9	1533.0	1001.0	2.690693
5	2	73.9	19	1436.0	-	3.982584
6	2	55.9	19	1975.0	-	4.223158
7	2	81.9	16	1739.0	-	4.712829
8	1	98.5	6	-	-	5.836418
9	2	66.5	15	1327.0	-	6.546899
10	3	80.9	14	1076.0	1837.0	7.187119
11	2	52.5	12	1136.0	-	7.771960
12	2	98.6	15	1172.0	-	8.386609
13	2	83.6	14	1759.0	-	9.193454
14	2	62.2	14	1654.0	-	9.806612
15	1	82.4	20	-	-	10.396906
16	1	79.8	6	-	-	11.147175
17	1	71.5	8	-	-	11.337213

Table 19 - Long Sequence Waveform Trial#10 (Detected)

Burst #	#	Pulse Width	Chirp	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
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	Pulses	(us)	(MHz)			
0	2	70.3	10	1827.0	-	0.443510
1	1	60.5	13	-	-	1.072819
2	1	61.9	10	-	-	1.490652
3	1	71.7	17	-	-	2.218569
4	1	93.7	13	-	-	2.611884
5	2	78.6	14	1540.0	-	3.233634
6	2	90.8	16	1018.0	-	3.815251
7	2	84.3	7	1496.0	-	4.809165
8	1	59.9	10	-	-	5.163359
9	3	90.1	8	1607.0	1628.0	6.041644
10	3	67.4	13	1423.0	1287.0	6.878805
11	3	58.8	15	1758.0	1184.0	7.106798
12	3	50.3	18	1093.0	1178.0	7.958761
13	1	81.2	6	-	-	8.243098
14	2	96.6	8	1061.0	-	8.865082
15	2	83.6	9	1292.0	-	9.718188
16	2	61.0	16	1594.0	-	10.259338
17	2	73.1	19	1425.0	-	10.953638
18	1	57.8	14	-	-	11.711906

Table 20 - Long Sequence Waveform Trial#11 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	52.9	17	-	-	0.567053
1	2	63.2	6	1987.0	-	1.085311
2	3	74.1	12	1025.0	1554.0	1.987227
3	3	71.5	13	1439.0	1334.0	2.159622
4	2	64.7	15	1180.0	-	3.053639
5	3	96.4	16	1972.0	1844.0	3.619799
6	1	63.7	15	-	-	4.228902
7	3	82.1	10	1593.0	1336.0	4.783917
8	1	57.3	16	-	-	5.828486
9	2	64.8	14	1329.0	-	6.131446
10	1	84.3	8	-	-	6.779953
11	2	58.0	15	1337.0	-	7.947141
12	1	52.7	12	-	-	8.278727
13	3	76.8	8	1552.0	1170.0	9.244449
14	1	94.2	9	-	-	9.478388
15	3	98.5	5	1420.0	1484.0	10.463527
16	2	68.6	16	1667.0	-	11.091183
17	3	65.0	14	1572.0	1237.0	11.591498

Table 21 - Long Sequence Waveform Trial#12 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	72.8	13	1925.0	-	0.321966
1	2	71.6	11	1862.0	-	1.249997
2	2	98.1	15	1267.0	-	1.283746
3	3	89.0	13	1434.0	1450.0	2.474389
4	1	89.2	12	-	-	2.969742
5	1	84.4	6	-	-	3.328353
6	1	72.0	13	-	-	3.866128
7	2	57.5	20	1366.0	-	4.868330

8	3	68.0	14	1021.0	1934.0	5.622942
9	2	76.1	8	1790.0	-	6.284134
10	1	75.8	15	-	-	6.564888
11	1	79.7	16	-	-	7.559281
12	2	79.0	14	1580.0	-	8.092027
13	3	54.8	9	1162.0	1924.0	8.404751
14	3	58.4	16	1472.0	1772.0	9.130638
15	3	91.5	5	1092.0	1670.0	9.500593
16	2	84.8	7	1136.0	-	10.179924
17	2	98.9	12	1756.0	-	10.824230
18	1	82.9	15	-	-	11.491289

Table 22 - Long Sequence Waveform Trial#13 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	95.8	15	-	-	0.331768
1	1	78.8	9	-	-	2.293500
2	2	67.2	8	1772.0	-	3.936594
3	2	65.0	12	1366.0	-	5.716856
4	2	91.7	6	1044.0	-	6.927213
5	3	61.7	6	1434.0	1543.0	8.461622
6	2	65.9	8	1747.0	-	10.105884
7	1	51.6	12	-	-	10.648925

Table 23 - Long Sequence Waveform Trial#14 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	57.3	5	1843.0	-	0.649372
1	1	81.8	9	-	-	0.802937
2	2	64.5	7	1335.0	-	1.501184
3	2	95.7	14	1830.0	-	2.410087
4	2	86.5	13	1080.0	-	2.955325
5	2	50.3	15	1483.0	-	3.497666
6	2	93.8	7	1483.0	-	4.116638
7	3	80.5	12	1715.0	1410.0	4.671579
8	1	65.3	8	-	-	5.448672
9	2	78.4	10	1790.0	-	6.651329
10	3	80.7	18	1541.0	1415.0	7.003322
11	3	77.3	7	1412.0	1933.0	7.865623
12	3	54.0	19	1140.0	1609.0	8.494600
13	2	62.1	16	1952.0	-	9.297482
14	2	72.7	14	1770.0	-	9.834654
15	3	94.1	18	1120.0	1957.0	10.039304
16	2	53.7	16	1768.0	-	11.217260
17	2	90.9	6	1423.0	-	11.768024

Table 24 - Long Sequence Waveform Trial#15 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	73.5	20	1204.0	-	0.556847
1	3	73.4	5	1021.0	1142.0	1.504056
2	3	83.8	19	1644.0	1735.0	2.502441
3	1	91.8	8	-	-	3.105735

4	3	82.4	12	1183.0	1502.0	3.732450
5	1	50.3	6	-	-	4.722602
6	3	65.3	5	1891.0	1139.0	5.675130
7	2	70.0	18	1562.0	-	7.159725
8	3	52.5	16	1050.0	1024.0	8.283237
9	1	68.5	19	-	-	9.137418
10	3	63.4	10	1140.0	1756.0	10.080689
11	2	63.8	6	1724.0	-	10.435477
12	2	63.8	13	1491.0	-	11.986282

Table 25 - Long Sequence Waveform Trial#16 (NOT Detected **)**

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	69.4	6	1653.0	1157.0	1.204837
1	2	81.4	11	1935.0	-	1.794646
2	2	72.5	13	1716.0	-	3.288068
3	3	51.3	8	1907.0	1968.0	4.085187
4	2	80.8	15	1346.0	-	6.623676
5	3	65.1	15	1228.0	1691.0	7.591497
6	1	56.2	17	-	-	9.089853
7	1	92.8	13	-	-	10.215439
8	2	83.5	14	1903.0	-	10.715814

Table 26 - Long Sequence Waveform Trial#17 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	55.2	5	1627.0	-	1.157211
1	3	64.3	8	1302.0	1951.0	2.296131
2	1	62.1	9	-	-	3.708054
3	3	81.1	8	1558.0	1409.0	4.807787
4	2	60.1	6	1965.0	-	6.464877
5	1	76.2	15	-	-	7.856665
6	2	50.0	16	1915.0	-	8.835853
7	2	96.8	14	1087.0	-	10.338781
8	2	63.8	19	1886.0	-	11.405758

Table 27 - Long Sequence Waveform Trial#18 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	89.5	16	-	-	0.201096
1	3	78.2	18	1674.0	1520.0	1.595844
2	2	80.3	14	1396.0	-	2.212217
3	2	99.3	20	1838.0	-	3.034587
4	2	85.3	19	1206.0	-	3.447595
5	2	72.2	14	1267.0	-	4.147311
6	3	78.6	12	1095.0	1027.0	5.591283
7	1	65.8	17	-	-	5.906967
8	1	52.0	15	-	-	6.830923
9	2	52.1	18	1038.0	-	7.902139
10	2	56.7	15	1341.0	-	8.616964
11	2	59.6	17	1744.0	-	9.265162
12	2	59.0	10	1338.0	-	9.749988
13	3	76.3	18	1551.0	1969.0	11.164510

14	3	94.2	9	1119.0	1959.0	11.899242
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Table 28 - Long Sequence Waveform Trial#19 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	1	78.1	9	-	-	0.165537
1	2	88.6	13	1137.0	-	1.192664
2	2	97.2	8	1772.0	-	1.834219
3	2	94.9	10	1383.0	-	2.665827
4	2	60.8	19	1064.0	-	4.239209
5	1	57.6	10	-	-	4.666305
6	1	91.6	19	-	-	5.958904
7	2	79.9	19	1415.0	-	6.286519
8	2	69.5	11	1846.0	-	7.589880
9	2	69.2	12	1801.0	-	8.001722
10	2	73.9	7	1647.0	-	8.892280
11	1	50.8	9	-	-	10.029969
12	3	52.2	6	1587.0	1495.0	10.508354
13	2	79.5	14	1443.0	-	11.457359

Table 29 - Long Sequence Waveform Trial#20 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	50.9	15	1044.0	-	0.313603
1	3	70.2	8	1609.0	1515.0	0.754438
2	2	92.0	18	1405.0	-	1.306582
3	1	72.3	8	-	-	2.213267
4	1	70.6	19	-	-	2.562071
5	1	56.1	15	-	-	3.554773
6	1	96.2	16	-	-	4.090060
7	2	70.1	12	1327.0	-	4.561660
8	2	70.8	8	1506.0	-	4.976781
9	3	52.2	8	1434.0	1722.0	5.683599
10	3	55.1	11	1316.0	1732.0	6.128065
11	1	70.0	6	-	-	6.830626
12	2	89.8	12	1238.0	-	7.578915
13	3	87.1	17	1909.0	1837.0	8.001842
14	3	76.2	19	1314.0	1999.0	8.788721
15	1	60.9	16	-	-	9.478323
16	2	85.8	17	1654.0	-	9.606094
17	1	92.0	14	-	-	10.413822
18	1	77.4	10	-	-	11.207578
19	2	80.7	10	1119.0	-	11.812125

Table 30 - Long Sequence Waveform Trial#21 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	50.9	17	1460.0	-	0.226455
1	2	66.6	10	1383.0	-	0.709192
2	2	67.5	15	1228.0	-	1.619137
3	3	63.2	13	1347.0	1914.0	2.218196
4	2	86.9	16	1582.0	-	3.124462
5	2	76.0	19	1768.0	-	3.552975

6	2	50.4	10	1969.0	-	4.153546
7	1	63.1	18	-	-	5.024280
8	2	95.8	13	1759.0	-	5.068769
9	2	55.4	11	1471.0	-	6.235279
10	1	86.3	5	-	-	6.841362
11	3	66.4	7	1351.0	1295.0	7.175057
12	2	65.6	16	1427.0	-	8.128589
13	1	53.9	17	-	-	8.530955
14	2	91.6	19	1132.0	-	9.352355
15	2	66.6	17	1642.0	-	9.974112
16	3	62.4	12	1599.0	1566.0	10.228009
17	3	93.0	18	1169.0	1651.0	10.999831
18	3	67.7	18	1112.0	1411.0	11.756306

Table 31 - Long Sequence Waveform Trial#22 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	87.7	16	1362.0	-	0.184341
1	2	68.5	18	1745.0	-	1.510994
2	3	92.4	15	1993.0	1214.0	2.038527
3	2	90.1	17	1673.0	-	2.886993
4	1	97.6	16	-	-	3.228173
5	1	59.5	15	-	-	4.512526
6	1	60.5	5	-	-	5.552961
7	2	76.2	11	1153.0	-	6.335061
8	2	86.0	14	1816.0	-	6.464561
9	2	82.2	14	1942.0	-	7.708149
10	2	62.8	10	1766.0	-	8.399436
11	3	78.2	12	1757.0	1944.0	9.012923
12	3	99.6	12	1897.0	1562.0	10.228423
13	1	55.6	12	-	-	11.169159
14	1	69.0	14	-	-	11.299353

Table 32 - Long Sequence Waveform Trial#23 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	84.9	19	1044.0	-	0.135718
1	2	85.4	20	1137.0	-	1.326139
2	1	57.8	13	-	-	2.012985
3	2	98.1	6	1898.0	-	2.265102
4	1	50.0	5	-	-	3.004997
5	1	96.4	19	-	-	4.228093
6	2	70.3	12	1514.0	-	4.883167
7	3	86.6	7	1885.0	1684.0	5.237125
8	3	60.7	16	1767.0	1252.0	6.176363
9	3	53.4	18	1617.0	1352.0	6.870629
10	3	72.7	17	1366.0	1707.0	7.322545
11	1	84.0	17	-	-	7.881367
12	2	97.4	9	1220.0	-	8.623918
13	2	59.0	12	1705.0	-	9.738023
14	2	70.8	14	1462.0	-	9.964741
15	2	58.2	7	1603.0	-	11.023076
16	2	68.5	6	1378.0	-	11.654441

Table 33 - Long Sequence Waveform Trial#24 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	62.7	9	1595.0	-	1.181534
1	3	78.5	11	1881.0	1973.0	1.651050
2	3	51.1	18	1014.0	1446.0	3.906379
3	3	96.1	16	1657.0	1520.0	4.100638
4	3	88.3	17	1862.0	1668.0	6.126134
5	2	63.7	9	1640.0	-	7.699253
6	1	54.6	12	-	-	9.231152
7	3	84.5	6	1981.0	1422.0	10.156738
8	2	87.0	12	1611.0	-	11.785534

Table 34 - Long Sequence Waveform Trial#25 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	63.9	11	1286.0	1204.0	0.293442
1	1	65.6	7	-	-	1.592797
2	2	81.2	16	1734.0	-	3.483561
3	1	86.0	17	-	-	3.812942
4	3	78.5	18	1690.0	1680.0	5.297913
5	2	94.4	11	1271.0	-	6.215432
6	2	70.1	11	1148.0	-	8.016331
7	1	81.2	6	-	-	8.656884
8	2	75.8	8	1281.0	-	9.868014
9	3	95.6	14	1542.0	1923.0	10.888190

Table 35 - Long Sequence Waveform Trial#26 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	64.2	10	1791.0	1263.0	0.126121
1	3	85.6	17	1294.0	1279.0	1.678683
2	3	81.2	9	1229.0	1873.0	3.118313
3	2	91.9	13	1345.0	-	3.591875
4	3	89.9	13	1799.0	1282.0	5.171752
5	2	54.5	7	1905.0	-	5.839563
6	2	57.7	12	1674.0	-	7.189309
7	2	70.1	19	1326.0	-	8.685388
8	3	72.7	7	1194.0	1715.0	9.752095
9	2	99.4	17	1613.0	-	10.599988
10	2	67.5	17	1375.0	-	11.039991

Table 36 - Long Sequence Waveform Trial#27 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	90.4	14	1712.0	-	0.964553
1	2	72.5	6	1168.0	-	1.971464
2	1	85.8	14	-	-	3.022668
3	2	84.8	17	1124.0	-	5.054954
4	2	70.7	14	1275.0	-	6.146181
5	1	74.6	5	-	-	7.902997
6	2	66.6	12	1367.0	-	9.068595
7	1	85.1	17	-	-	9.501805

8	1	57.7	16	-	-	11.808311
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Table 37 - Long Sequence Waveform Trial#28 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	2	65.0	10	1042.0	-	0.146033
1	1	88.8	11	-	-	1.115277
2	2	74.1	6	1598.0	-	1.748939
3	2	83.0	9	1926.0	-	2.157766
4	2	71.2	16	1622.0	-	3.340983
5	1	77.0	19	-	-	3.670032
6	1	85.9	19	-	-	4.338729
7	1	57.8	17	-	-	5.415689
8	2	61.8	11	1834.0	-	5.994414
9	2	89.2	7	1898.0	-	6.942027
10	2	72.0	17	1655.0	-	7.559975
11	2	73.3	20	1291.0	-	8.408102
12	2	80.6	7	1701.0	-	9.167639
13	2	50.1	16	1543.0	-	9.664794
14	2	83.3	8	1541.0	-	10.280227
15	3	79.9	10	1037.0	1709.0	11.241750
16	3	58.4	6	1418.0	1535.0	11.407536

Table 38 - Long Sequence Waveform Trial#29 (NOT Detected **)**

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	54.6	10	1727.0	1642.0	1.304522
1	2	77.4	9	1205.0	-	1.483870
2	1	86.7	9	-	-	3.859438
3	3	61.7	15	1325.0	1318.0	4.679878
4	1	71.7	15	-	-	5.778977
5	3	62.8	5	1064.0	1694.0	7.047461
6	2	84.9	19	1548.0	-	8.634609
7	1	55.3	15	-	-	10.080355
8	2	83.9	9	1942.0	-	10.724371

Table 39 - Long Sequence Waveform Trial#30 (Detected)

Burst #	# Pulses	Pulse Width (us)	Chirp (MHz)	Interval 1 to 2 (us)	Interval 2 to 3 (us)	Start time (us)
0	3	69.2	5	1361.0	1960.0	0.253657
1	1	96.6	7	-	-	0.781685
2	2	90.5	13	1516.0	-	1.950409
3	3	69.5	8	1666.0	1986.0	2.305442
4	2	64.6	6	1229.0	-	3.074137
5	3	68.3	13	1787.0	1414.0	3.799848
6	3	73.0	14	1603.0	1019.0	4.708034
7	2	58.4	20	1825.0	-	5.340100
8	1	73.0	16	-	-	6.324942
9	1	80.2	5	-	-	7.475868
10	2	66.2	19	1533.0	-	8.016855
11	2	99.9	12	1520.0	-	8.853123
12	1	77.1	9	-	-	9.664152
13	2	79.7	5	1837.0	-	10.016478

14	1	52.2	10	-	-	10.585716
15	3	83.7	15	1969.0	1116.0	11.738729

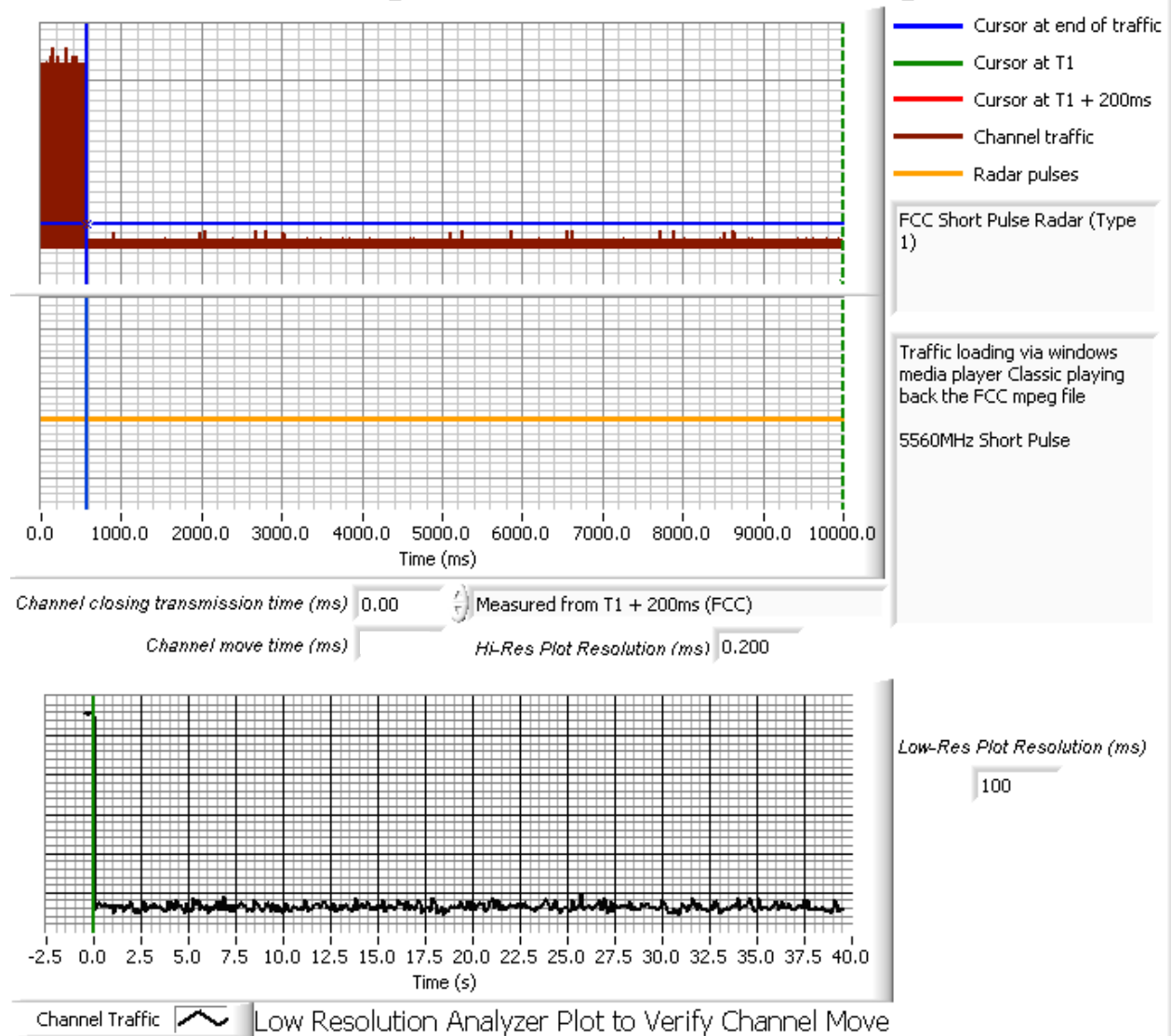
Appendix C Test Data Tables and Plots for Channel Closing

MASTER

Waveform Type	Channel Closing Transmission Time ¹		Channel Move Time		Result
	Measured	Limit	Measured	Limit	
Radar Type 1	0 ms	60 ms	0 s	10 s	Pass
Radar Type 5	0 ms	60 ms	0 s	10 s	Pass

Table 40 FCC Part 15 Subpart E Channel Closing Test Results - Master

Elliott Timing Plots - Channel Closing



¹ Channel closing time for FCC measurements is the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.

Elliott Timing Plots - Channel Closing

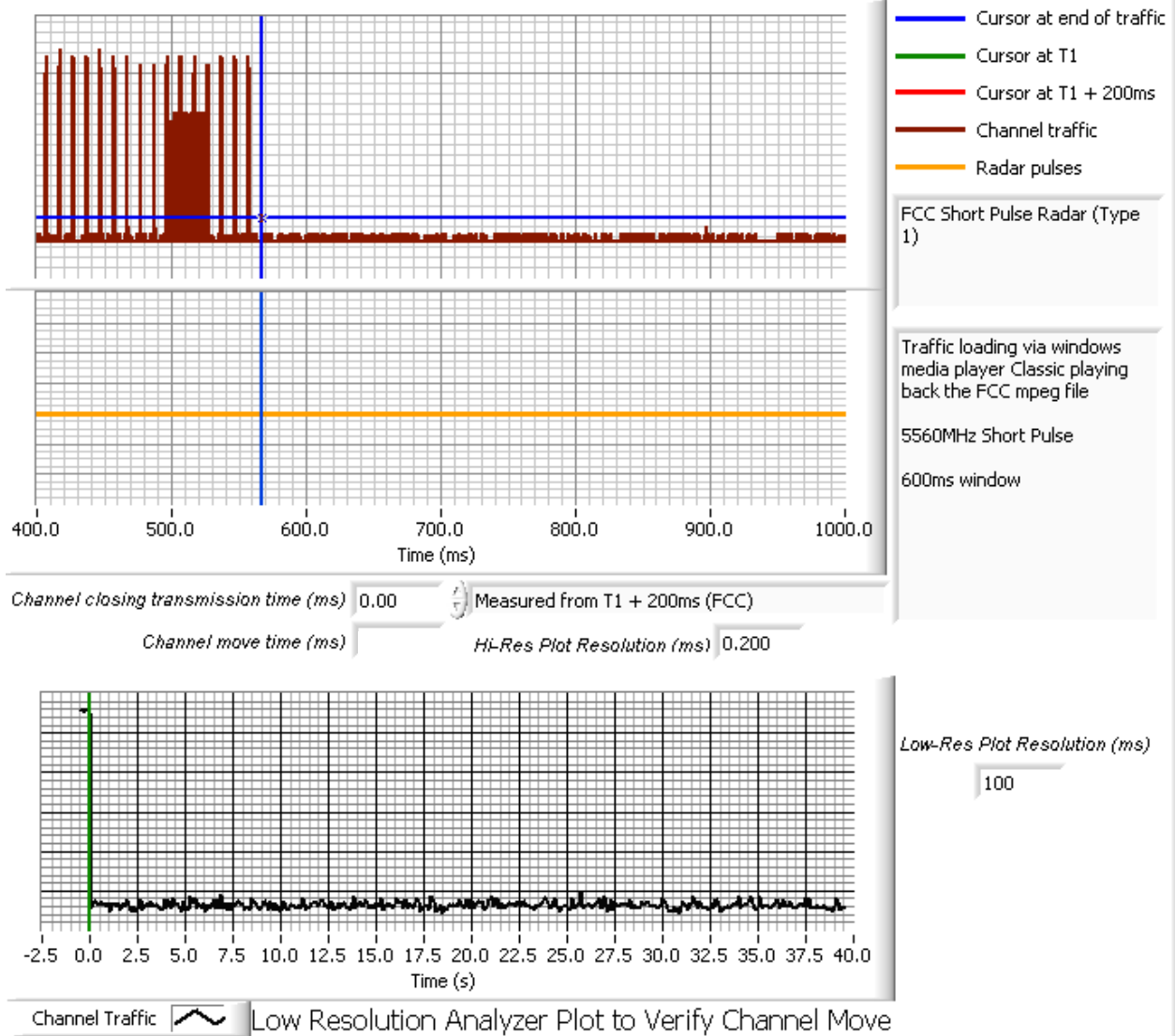
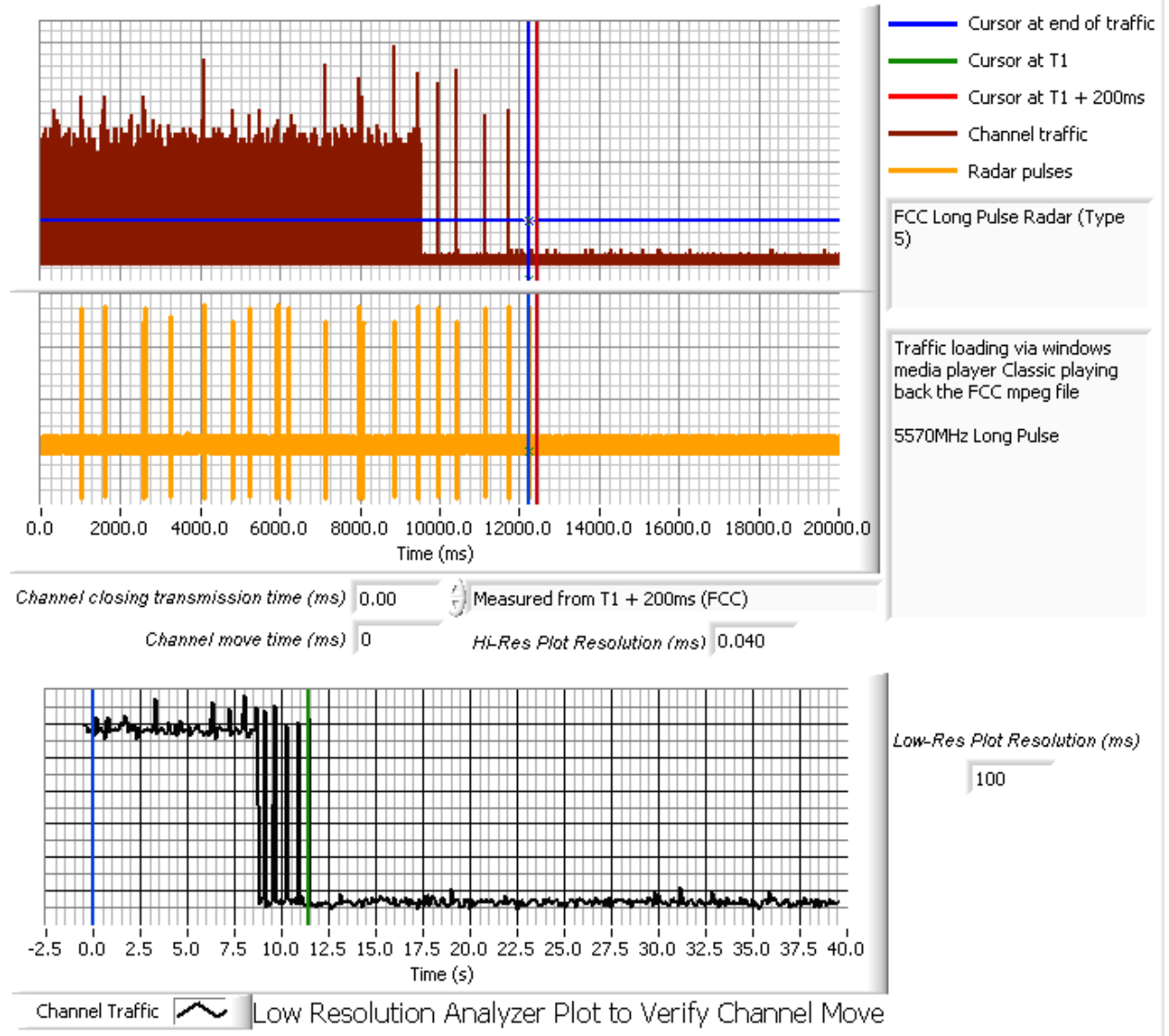


Figure 3 - Channel Closing Plots, Type 1 radar - Master

After the final channel closing test the channel was monitored for a further 30 minutes. No transmissions occurred on the channel.

Elliott Timing Plots - Channel Closing



Elliott Timing Plots - Channel Closing

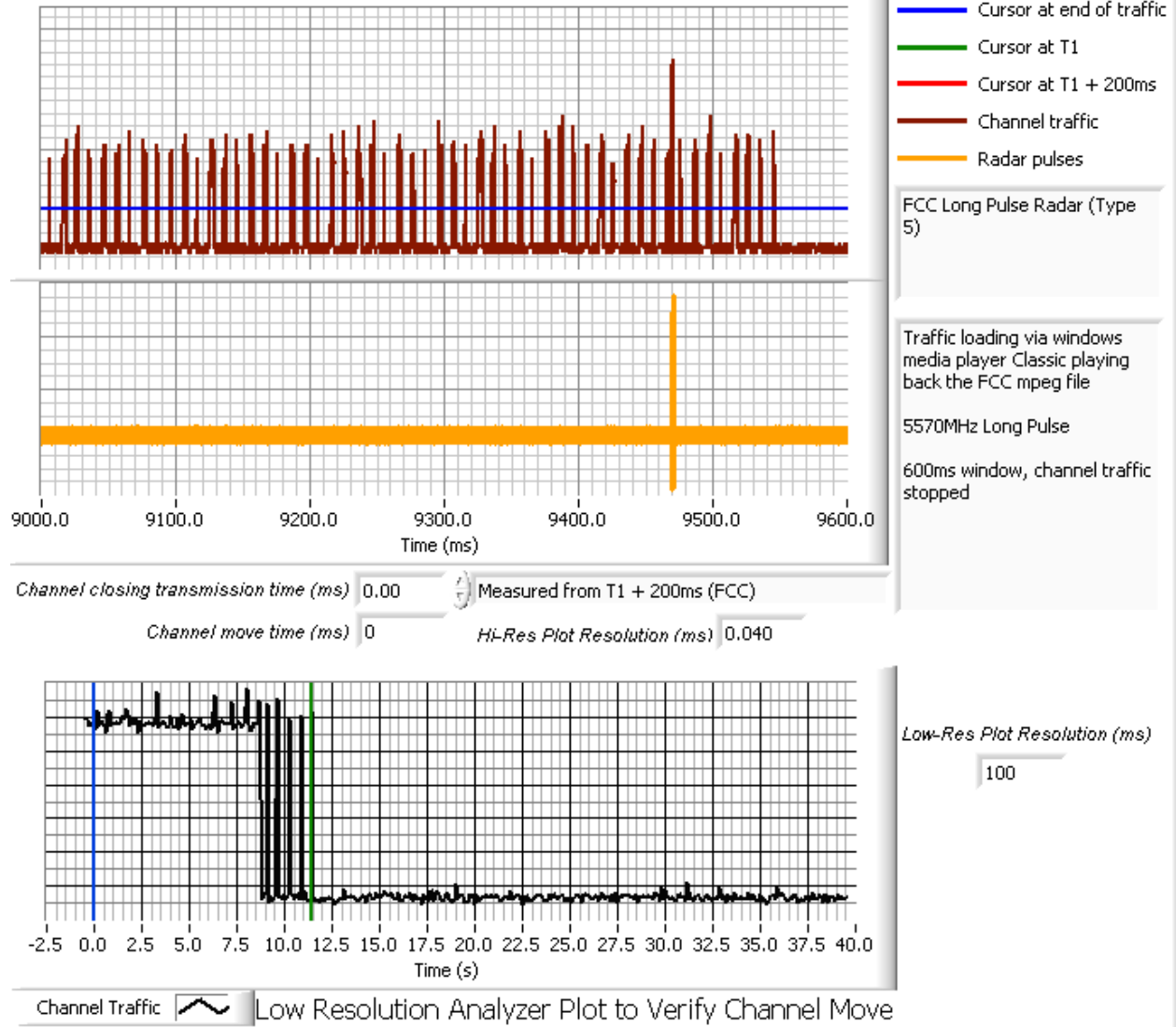


Figure 4- Channel Closing Plots, Type 5 radar - Master

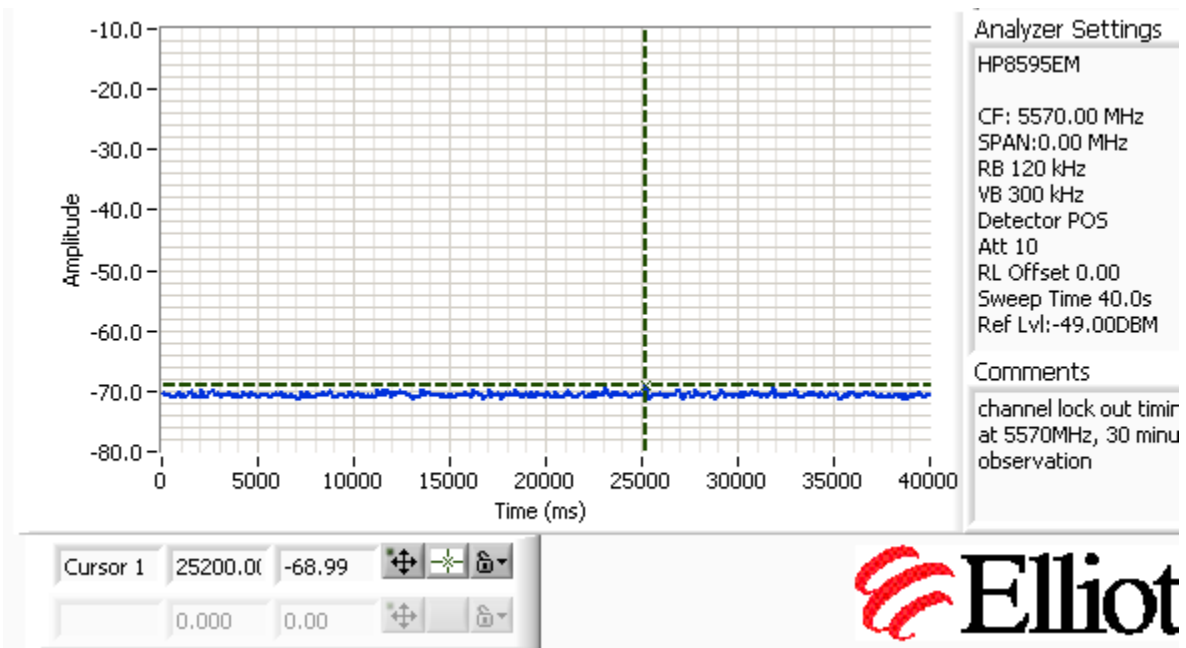


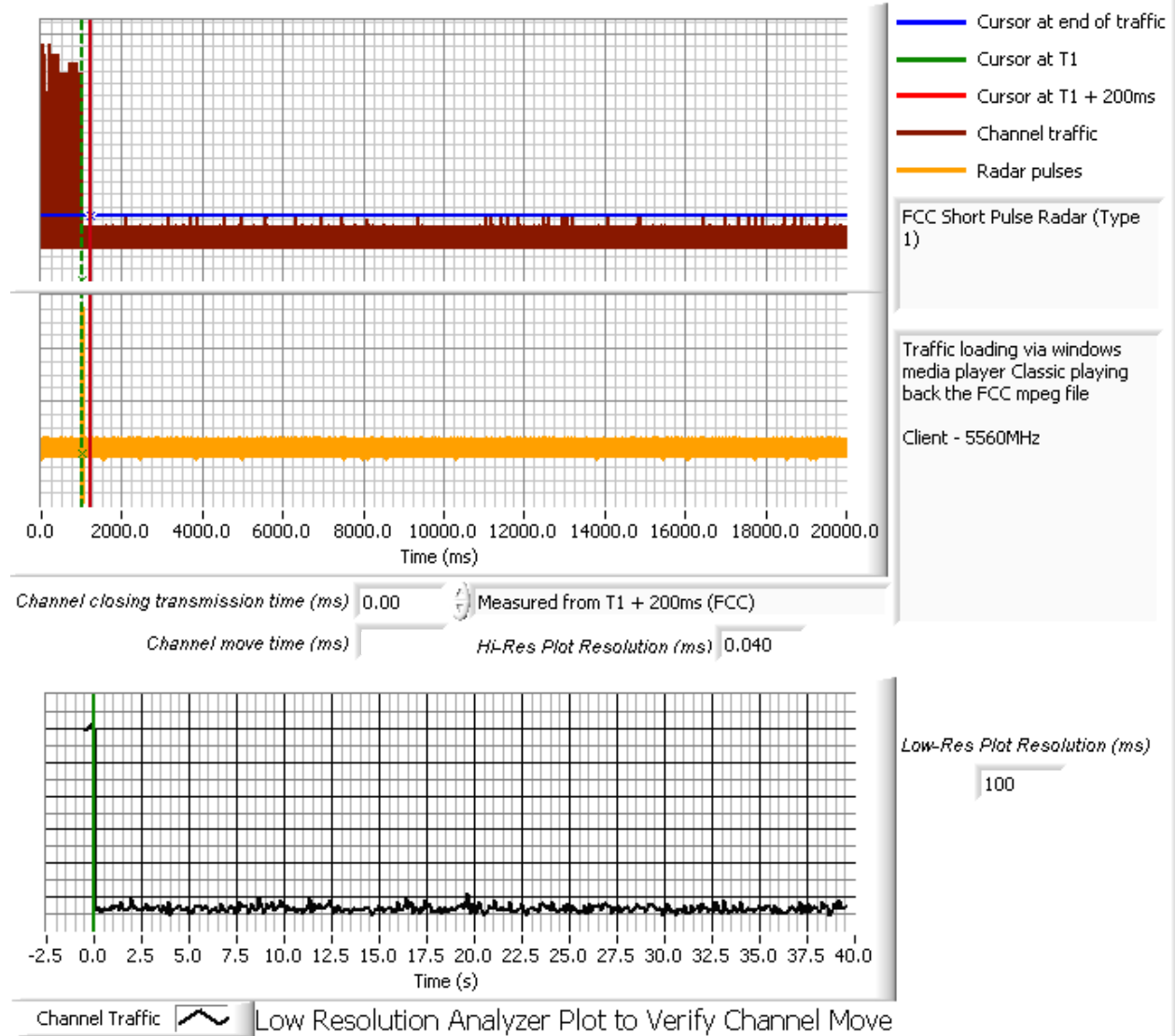
Figure 5 – Non occupancy - Master

CLIENT

Waveform Type	Channel Closing Transmission Time ¹		Channel Move Time		Result
	Measured	Limit	Measured	Limit	
Radar Type 1	0 ms	60 ms	0 s	10 s	Pass

Table 41 FCC Part 15 Subpart E Channel Closing Test Results - Client

Elliott Timing Plots - Channel Closing



¹ Channel closing time for FCC measurements is the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.

Elliott Timing Plots - Channel Closing

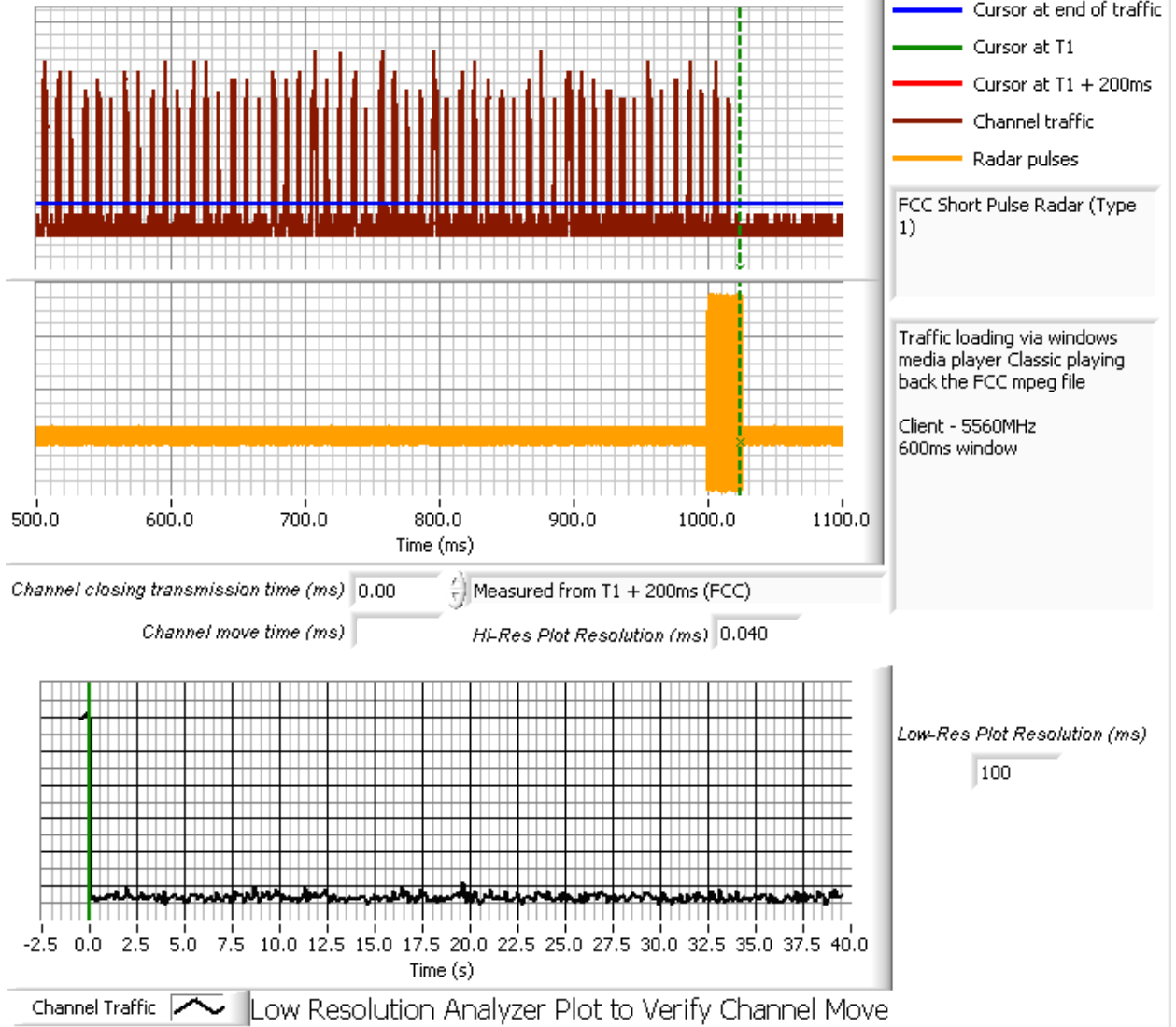


Figure 6 - Channel Closing Plots, Type 1 radar - Client

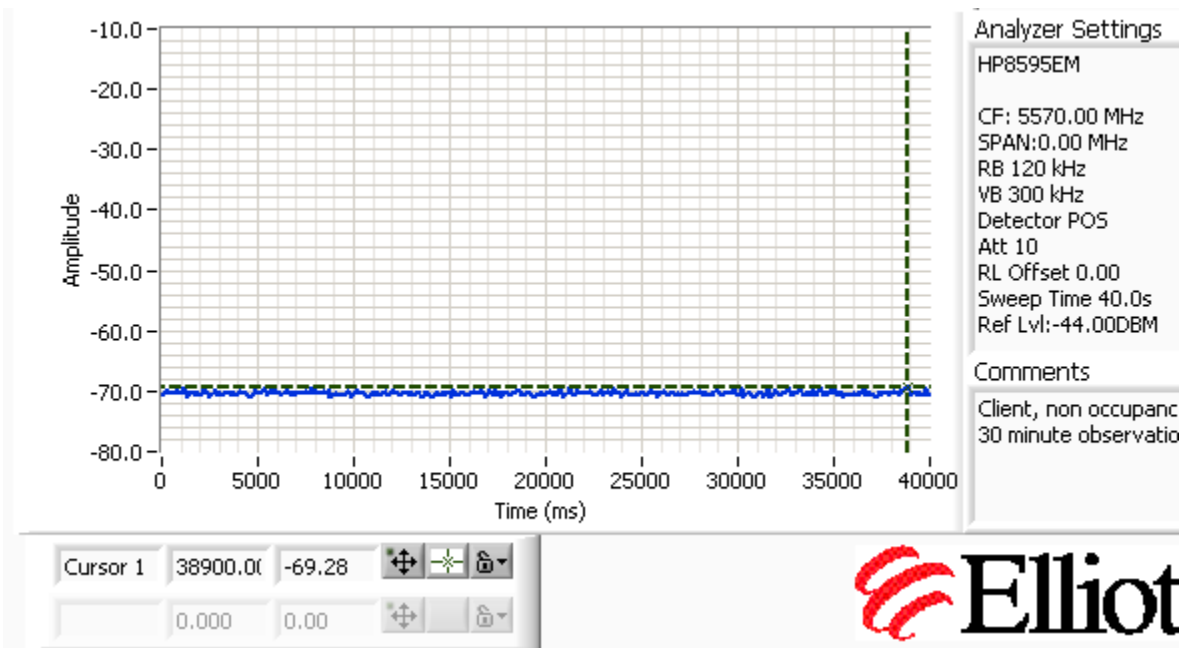


Figure 7 Non-Occupancy - Client

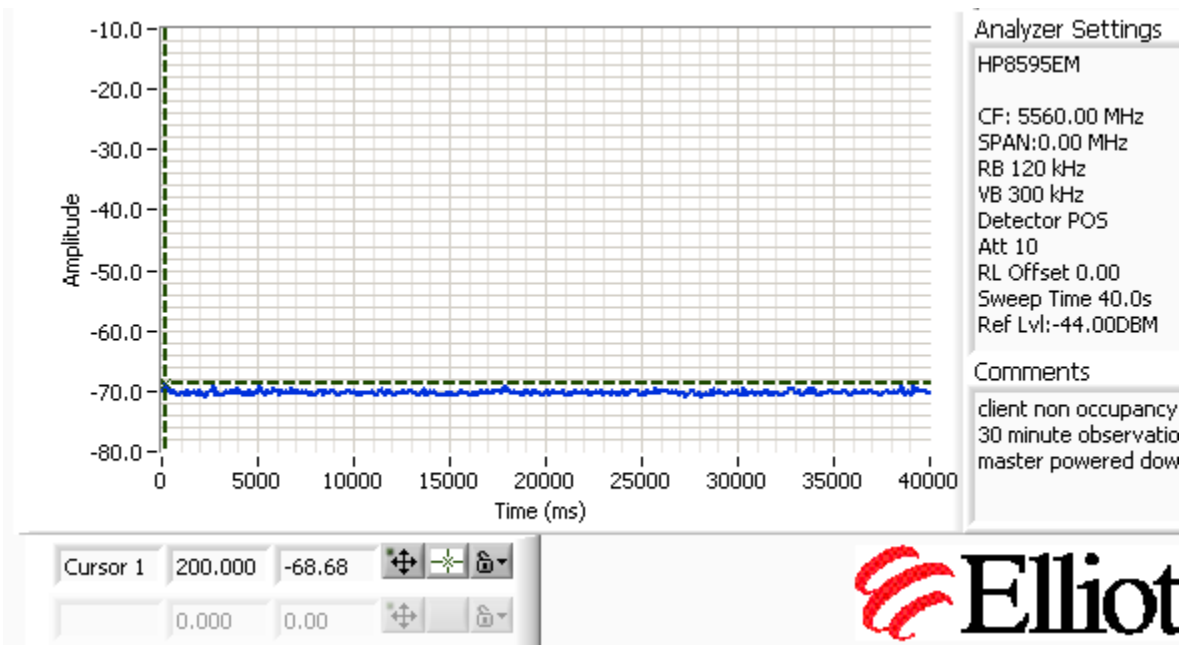


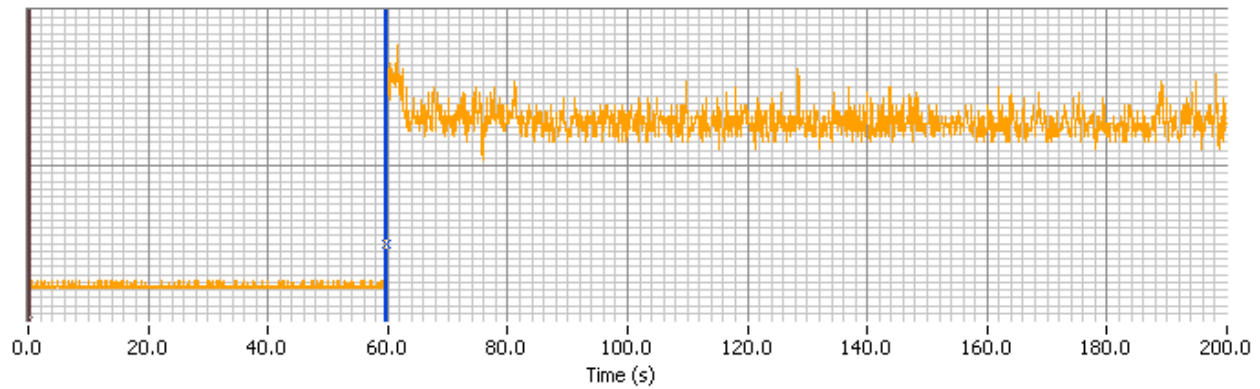
Figure 8 – Non-Occupancy – Client with master off

Appendix D Test Data – Channel Availability Check

The first plot shows the start of transmissions approximately 60.9s after the start of the CAC (no radar applied during the CAC).



Timing Plots - Channel Availability Check



Time From T1 to Cursor 2 60.85

Plot Resolution (ms) 80.0

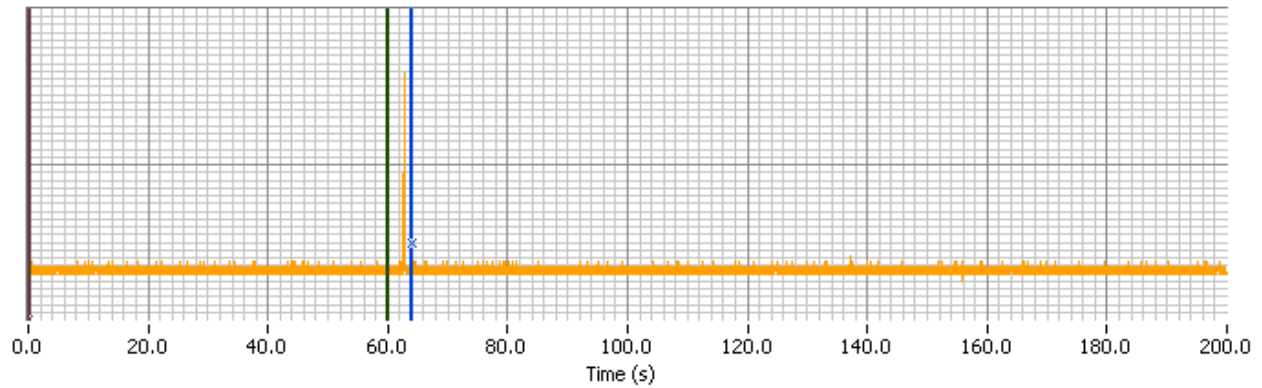
- Cursor at T0 (start of power on sequence)
- Cursor at T1 (start of CAC)
- Cursor 2
- Channel traffic

CAC verification plot, no radar applied, device starting up on channel 60 seconds or more after start of CAC. Cursor 2 is at the first transmission on the channel.

Figure 9 Plot of EUT Start-Up After CAC



Timing Plots - Channel Availability Check



Time From T1 to Cursor 2 4.00
Plot Resolution (ms) 80.0

- Cursor at T0 (start of power on sequence)
- Cursor at T1 (start of CAC)
- Cursor 2
- Channel traffic

Radar details: FCC Short Pulse Radar (Type 1)
Applied 4 seconds after start of CAC.
Cursor 2 is on the radar signal, no transmissions on the channel from the EUT observed.

Figure 10 – Plot of EUT transmissions during CAC, radar at beginning



Timing Plots - Channel Availability Check

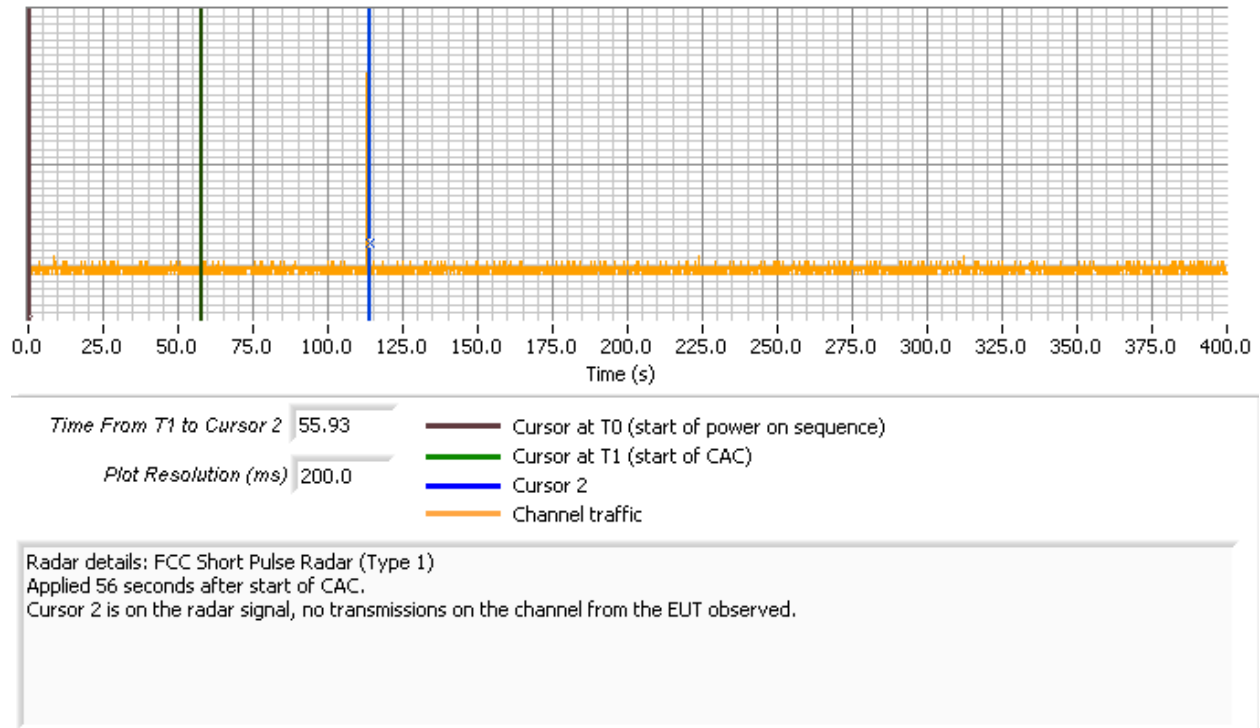


Figure 11 – Plot of EUT transmissions during CAC, radar at end

The channel availability check (CAC) was made by applying radar type 1 during either the first 6 seconds or last 6 seconds of the CAC period.

The level of the radar signal applied was -50dBm. Measurements were made at 5570 MHz.

The plots show that there were no transmissions on the channel for 2.5minutes after the radar burst was applied during the CAC, and confirm that the CAC is at least 60 seconds. The description of “Channel Traffic” in the plot legend indicates the transmissions from both the radar system and the EUT on the start-up channel. In all cases only the radar burst is observed. The resolution of the plot is not fine enough to resolve the individual pulses within the burst.

Appendix E Test Data – Uniform Loading

The master device was rebooted 62 times and the start-up channel recorded. The results are shown in the table below.

Number of Channels Available: 49
Theoretical Loading (1/n): 2.04%

Channel (MHz)	Times Selected	Theoretical Loading
5475	1	1.3
5480	1	1.3
5485	1	1.3
5490	2	1.3
5495	1	1.3
5500	1	1.3
5505	1	1.3
5510	1	1.3
5515	2	1.3
5520	1	1.3
5525	1	1.3
5530	1	1.3
5535	1	1.3
5540	2	1.3
5545	1	1.3
5550	1	1.3
5555	2	1.3
5560	1	1.3
5565	1	1.3
5570	1	1.3
5575	1	1.3
5580	2	1.3
5585	1	1.3
5590	1	1.3
5595	1	1.3
5600	1	1.3
5605	1	1.3
5610	1	1.3
5615	1	1.3
5620	1	1.3
5625	1	1.3
5630	1	1.3
5635	3	1.3
5640	1	1.3
5645	1	1.3
5650	1	1.3
5655	2	1.3
5660	2	1.3
5665	1	1.3

5670	2	1.3
5675	1	1.3
5680	1	1.3
5685	1	1.3
5690	1	1.3
5695	3	1.3
5700	1	1.3
5705	1	1.3
5710	2	1.3
5715	1	1.3

Total: 62

The graph on the next page shows an expected distribution of random channel selection for a number of trials. It was obtained using an Excel algorithm to determine the maximum and minimum number of times any channel was randomly selected. The algorithm determines this based on 100,000 trials for each set of multiple selections.

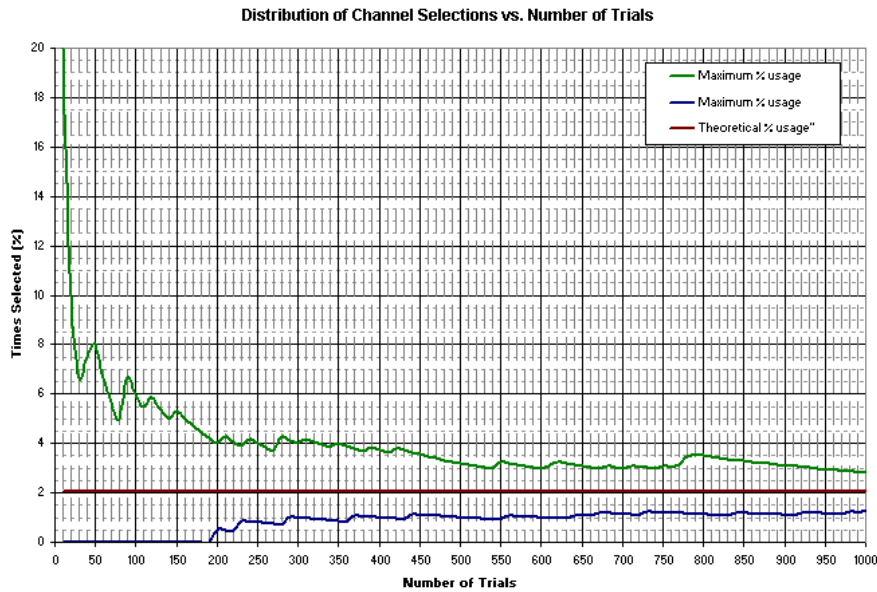


Figure 12 Expected Loading For a 49 Channel System (1,000 Trials)

For a trial size of 62, the expected distribution would be that each channel would be selected between 0% and 5% of the total number of trials. As the actual data of each channel being selected (1.3% of the time), falls within these bounds it is considered that the device is using a random channel selection algorithm that would produce loading within 10% of the theoretical loading (2.1%).

To obtain a reading within 10% of the theoretical loading on all channels could require somewhere in excess of 6000 trials.

Appendix F Antenna Specification Sheet**Base Station (MicroMAX)**

4.9 - 5.875 GHz Antenna

MA-WC55-AS16

Specifications: (FINAL)

Electrical

Frequency range	4.9-5.875G Hz
GAIN, min.	14.5
VSWR, max.	1.4: 1
3dB Beam Width - Azimuth, Typical	60 degrees
3dB Beam Width - Elevation, Typical	12 degrees
Polarization	Linear, Vertical
Side-lobes Level, min.	-10d8
Cross Polarization, min	-16d8
Front to back, min	-25d8
Power Handling	5 Watt
Input Impedance	50 Ohm

Mechanical and Environmental

Dimensions (LXWXH)	275 x215 x 0.8 mm
Connector	MCX, Male
Radome	Airspan Enclosure
Flammability	UL 94V-0
Operating Temperature	-40° to +85°
Lightning Protection	DC Grounded

Subscriber (ProST)

FLAT PANEL ANTENNA

MTI PART NUMBER	MT- 464008/MV
REGULATORY COMPLIANCE	ETSI EN 302 085 V1.1.2 (2001-02) RANGE 1
1. ELECTRICAL	
FREQUENCY RANGE	4.9 – 5.875 GHz
GAIN	4.9 – 5.15 GHz 17 dBi (min) 5.15 – 5.875 GHz 17.5 dBi (min)
VSWR	1.5 : 1 (typ) 1.7:1(max)
AZIMUTH BEAMWIDTH	9.5°(typ)
POLARIZATION	Linear Vertical
ELEVATION BEAMWIDTH	18° (typ)
SIDELOBES LEVEL	EN 302 085 V1.1.2 TS2
CROSS POLARIZATION	EN 302 085 V1.1.2 TS2
F/B RATIO	EN 302 085 V1.1.2 TS2
INPUT IMPEDANCE	50 (ohm)
INPUT POWER	6W (max)
LIGHTNING PROTECTION	DC Grounded
2. MECHANICAL	
DIMENSIONS (LxWxD)	PCB 270X150X0.8mm (max)
WEIGHT	0.1 kg (max)
CONNECTOR	MCX- Male
RADOME	Supply by customer
BASE PLATE	Supply by customer
OUTLINE DRAWING	TBD

Subscriber (EasyST)

Directional 4-Sector Antenna

for 5 GHz (RoHS Compliance)

Preliminary 0.1

ALA07-200390

Electrical Specification

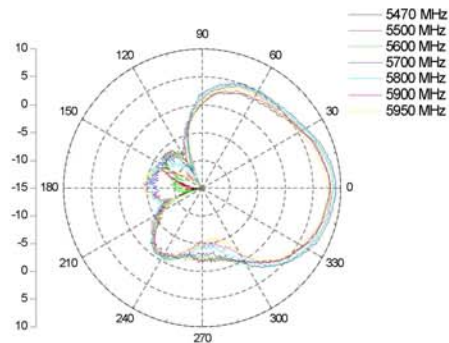
Frequency range	5470 MHz - 5950 MHz
Gain	7 ~ 9 dBi
VSWR	2.0 : 1 Max.
Polarization	Linear, vertical
HPBW / horizontal	90° (typ)
HPBW / vertical	20°
Front-to-back ratio	8 dB
Power handling	1 W (cw)
Impedance	50 ohms
Connector	MCX



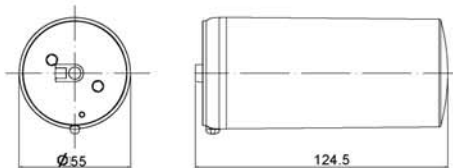
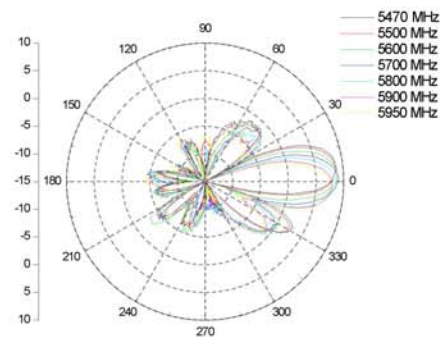
Environmental & Mechanical Characteristics

Temperature	- 30°C to +75°C
Humidity	95% @ 25°C
Radome material	PC, UV resistant
Weight	127 g
Dimensions	∅55 x 124.5 mm

H-plane Co-polarization Pattern



V-plane Co-polarization Pattern



Appendix G Test Configuration Photographs

