DFS TEST REPORT

REPORT NO.:	RF981009L07-2
MODEL NO.:	WMDA-118AN
RECEIVED:	Oct. 09, 2009
TESTED:	Jan. 23, 2010
ISSUED:	Jan. 25, 2010

APPLICANT:	LG Electronics USA
ADDRESS:	1000 Sylvan Avenue, Englewood Cliffs, NJ 07632, United States

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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1. LAB DECLARATION

PRODUCT:	RF Receiver
MODEL NO.:	WMDA-118AN
BRAND:	LG
APPLICANT:	LG Electronics USA
TESTED:	Jan. 23, 2010
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	FCC 06-96

The above equipment (Model: WMDA-118AN) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY	: Joanna Wang / Senior Specialist	**, DATE :**	Jan. 25, 2010
TECHNICAL ACCEPTANCE Responsible for RF	: Dylan Chiou / Senior Engineer	**, DATE :**	Jan. 25, 2010
APPROVED BY	: Gary Chang / Assistant Manager	**, DATE :**	Jan. 25, 2010

2. EUT INFORMATION

2.1 OPERATING FREQUENCY BANDS AND MODE OF EUT

Table 1: Operating frequency bands and mode of EUT.

Operational Mode	Operating Frequency Range	
	5260~5320MHz	5500~5560MHz
Master	✓	✓

2.2 EUT SOFTWARE AND FIRMWARE VERSION

Table 2: The EUT software/firmware version.

No.	Product	Model No.	Software/Firmware Version
1	RF Receiver	WMDA-118AN	Mac : 3.0.34 APP : 1.0.43.

2.3 DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT

Table 3: Antenna list.

NO.	ANTENNA	OPERATION FREQUENCY BAND	MAX. GAIN(dBi)
1	PIFA	5GHz	3.5

2.4 EUT MAXIMUM AND MINIMUM CONDUCTED POWER

TABLE 4: THE MEASURED CONDUCTED OUTPUT POWER

TX (20MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)	OUTPUT POWER(dBm)	OUTPUT POWER(mW)
1	5260~5320	15.1	32.4	12.0	15.8
1	5500~5560	14.2	26.3	12.0	15.8

TX (40MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)	OUTPUT POWER(dBm)	OUTPUT POWER(mW)
1	5270~5310	15.1	32.4	12.0	15.8
1	5510~5550	13.1	20.4	12.0	15.8

2.5 EUT MAXIMUM AND MINIMUM E.I.R.P. POWER

TABLE 5: THE E.I.R.P OUTPUT POWER LIST

TX (20MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)	OUTPUT POWER(dBm)	OUTPUT POWER(mW)
1	5260~5320	18.6	72.4	15.5	35.5
1	5500~5560	17.7	58.9	15.5	35.5

TX (40MHz)

ANT NO.	FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
		OUTPUT POWER(dBm)	OUTPUT POWER(mW)	OUTPUT POWER(dBm)	OUTPUT POWER(mW)
1	5270~5310	18.6	72.4	15.5	35.5
1	5510~5550	16.6	45.7	15.5	35.5

3. U-NII DFS RULE REQUIREMENTS

3.1 WORKING MODES AND REQUIRED TEST ITEMS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 6: Applicability of DFS requirements prior to use a channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	Not required	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

Table 7: Applicability of DFS requirements during normal operation.

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓
U-NII Detection Bandwidth	✓	Not required	✓

3.2 TEST LIMITS AND RADAR SIGNAL PARAMETERS

DETECTION THRESHOLD VALUES

Table 8: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection.

Maximum Transmit Power	Value (See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.

Table 9: DFS Response Requirement Values

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 80% of the UNII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:
• For the Short Pulse Radar Test Signals this instant is the end of the Burst.
• For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
• For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.
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 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

PARAMETERS OF DFS TEST SIGNALS

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.

Table 10: Short Pulse Radar Test Waveforms.

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
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

Table 11: 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 12: 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

4. TEST & SUPPORT EQUIPMENT LIST

4.1 TEST INSTRUMENTS

Table 1: Test instruments list.

DESCRIPTION & MANUFACTURER	MODEL NO.	BRAND	CALIBRATED UNTIL
R&S Spectrum analyzer	FSP40	R&S	2010/07/06
Signal generator	8645A	Agilent	2010/06/04
Oscilloscope	TDS 5104	Tektronix	2010/09/15
Control PC	Pavilion a320d	HP	--
Horn antenna	BBHA 9120D	SCHWARZBECK	2010/08/09
Horn antenna	BBHA 912D	SCHWARZBECK	2010/06/30
TV	32LD550-UB	LG	--
NB	PP35L	DELL	--

4.2 DESCRIPTION OF SUPPORT UNITS

TABLE 2: SUPPORT UNIT INFORMATION.

NO.	PRODUCT	BRAND	MODEL NO.	FCC ID
1	RF Transmitter	LG	WMDA-119AN	BEJ-119AN

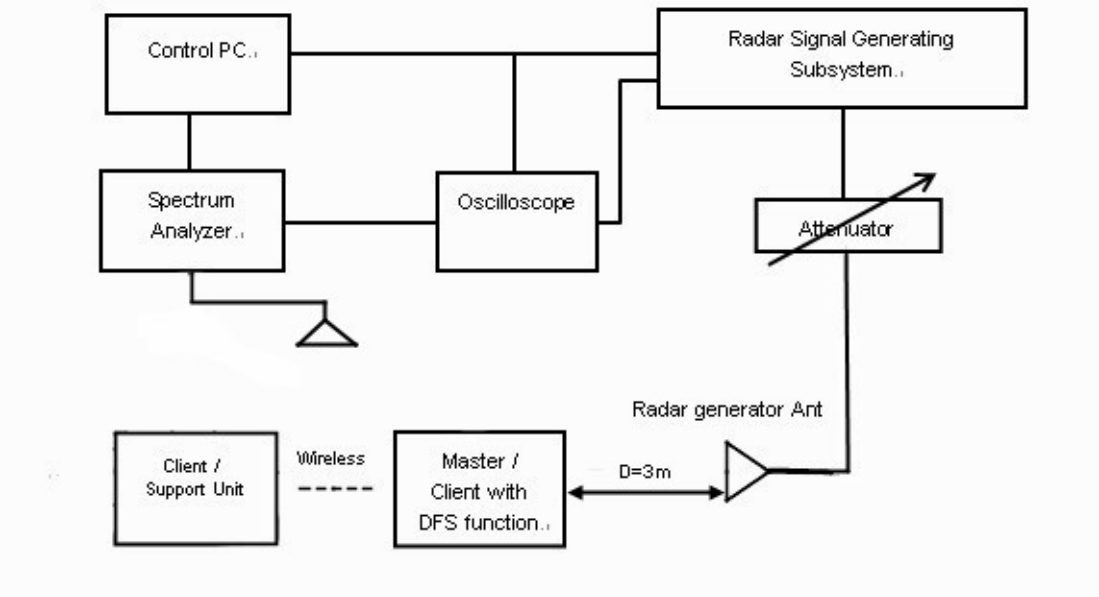
NOTE: This device was functioned as a □Master ■Slave device during the DFS test.

5. TEST PROCEDURE

5.1 BV ADT DFS MEASUREMENT SYSTEM:

A complete BV ADT DFS Measurement System consists of two subsystems: (1) the Radar Signal Generating Subsystem and (2) the Traffic Monitoring Subsystem. The control PC is necessary for generating the Radar waveforms in Table 10, 11 and 12. The traffic monitoring subsystem is specified to the type of unit under test (UUT).

Radiated setup configuration of BV ADT DFS Measurement System

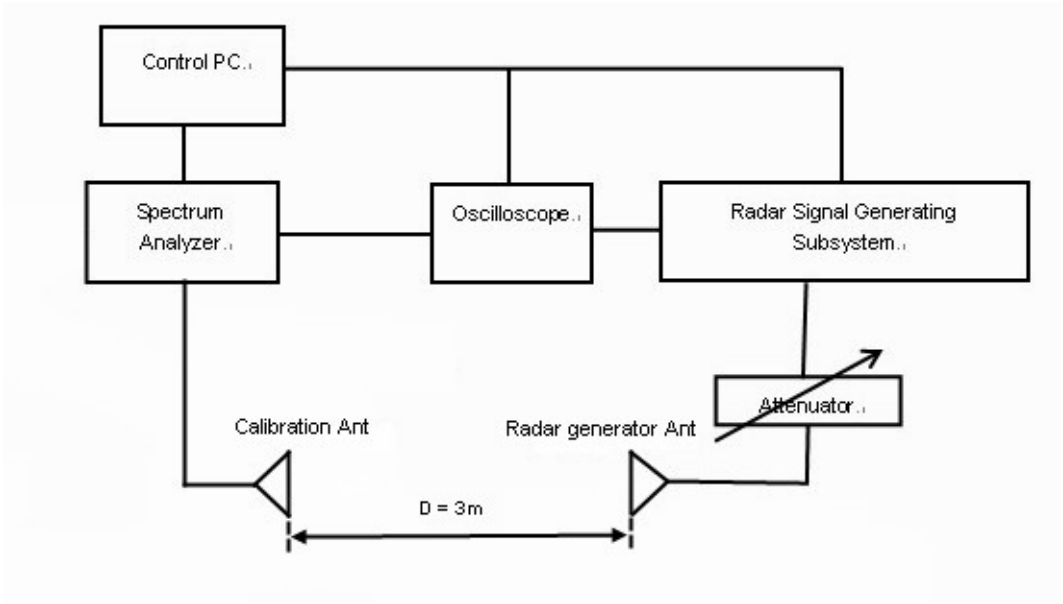


The test transmission will always be from the Master Device to the Client Device. While the Client device is set up to associate with the Master device and play the MPEG file (6 $\frac{1}{2}$ Magic Hours) from Master device, the designated MPEG test file and instructions are located at: http://ntiacsd.ntia.doc.gov/dfs/.

5.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:

The measured channel is 5550MHz, The radar signal was the same as transmitted channels, and injected to Master or Client Device to measure Radar Detection, the channel closing transmission time and channel move time. The Calibration antenna gain is 13dBi , cable loss is 2dB and required detection threshold is -51dBm.

Radiated setup configuration of Calibration of DFS Detection Threshold Level

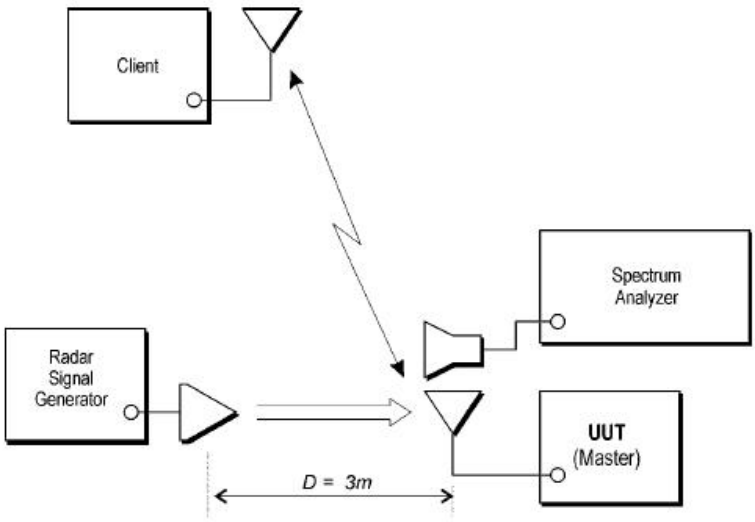


5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 RADIATED TEST SETUP CONFIGURATION

Master with injection at the Master



The UUT is a U-NII Device operating in Master mode. The radar test signals are injected to the Master Device.

6. TEST RESULTS

6.1 SUMMARY OF TEST RESULT

Clause	Test Parameter	Remarks	Pass/Fail
15.407	DFS Detection Threshold	Applicable	Pass
15.407	Channel Availability Check Time	Applicable	Pass
15.407	Channel Move Time	Applicable	Pass
15.407	Channel Closing Transmission Time	Applicable	Pass
15.407	Non- Occupancy Period	Applicable	Pass
15.407	Uniform Spreading	Applicable	Pass
15.407	U-NII Detection Bandwidth	Applicable	Pass

6.2 DETELED TEST RESULTS

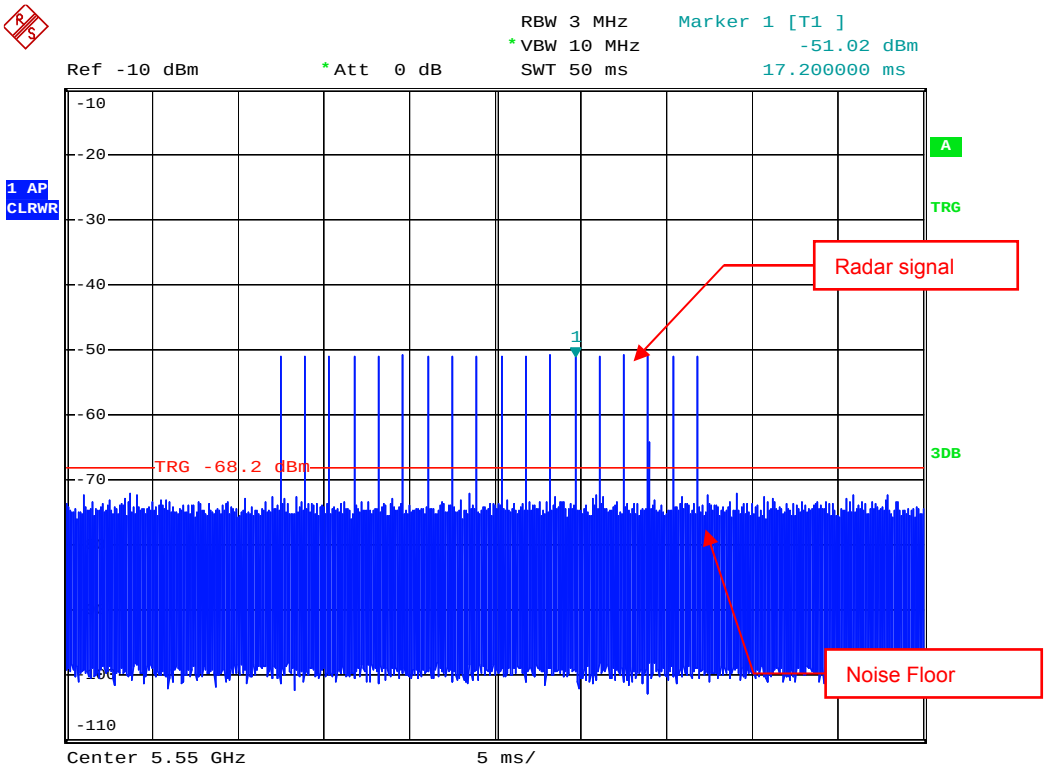
6.2.1 TEST MODE: DEVICE OPERATING IN MASTER MODE.

Master with injection at the Master. (Radar Test Waveforms are injected into the Master)

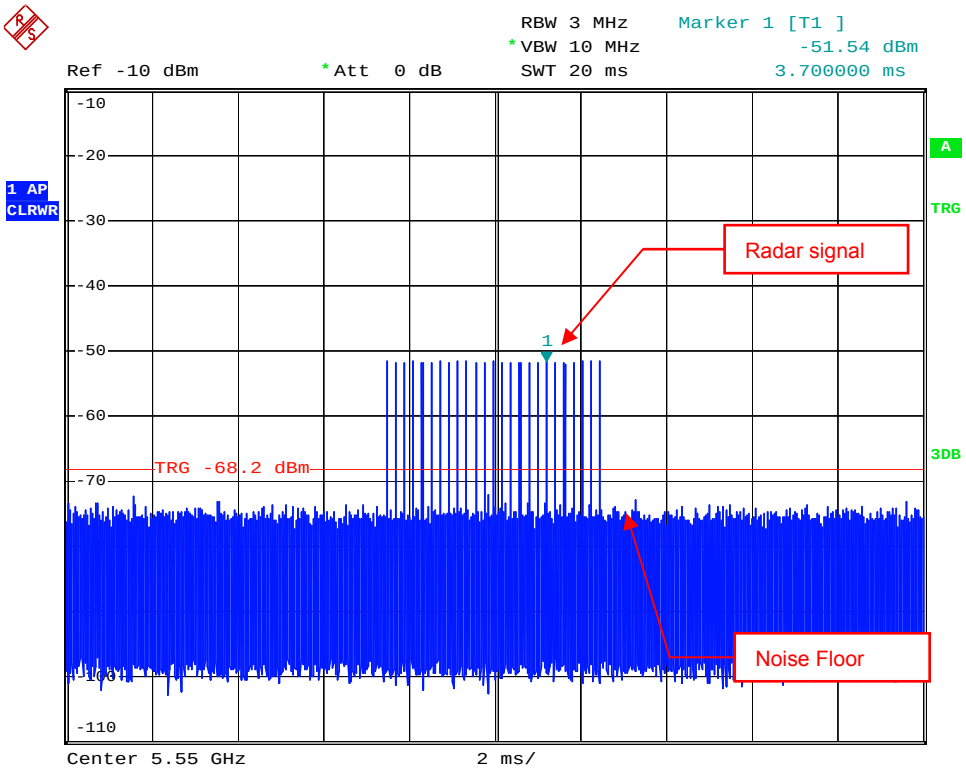
6.2.1.1 DFS DETECTION THRESHOLD

Calibration:

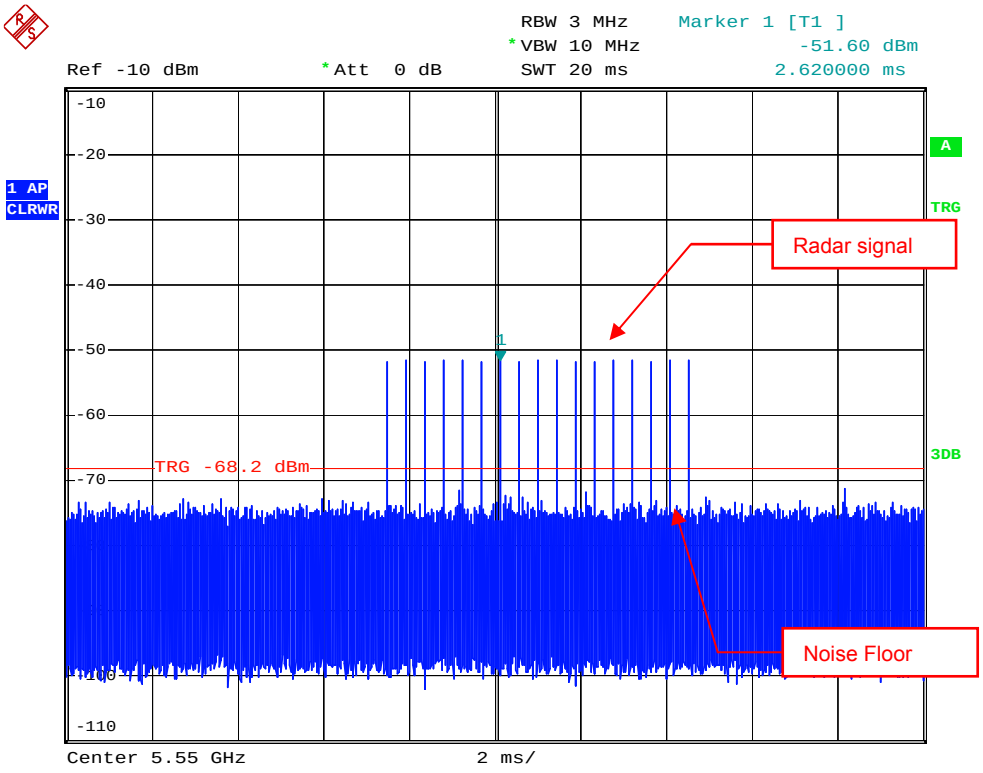
For a detection threshold level of –62dBm and the horn antenna gain is 13dBi, cable loss is 2dB and required detection threshold is -51dBm (= -62-2+13).



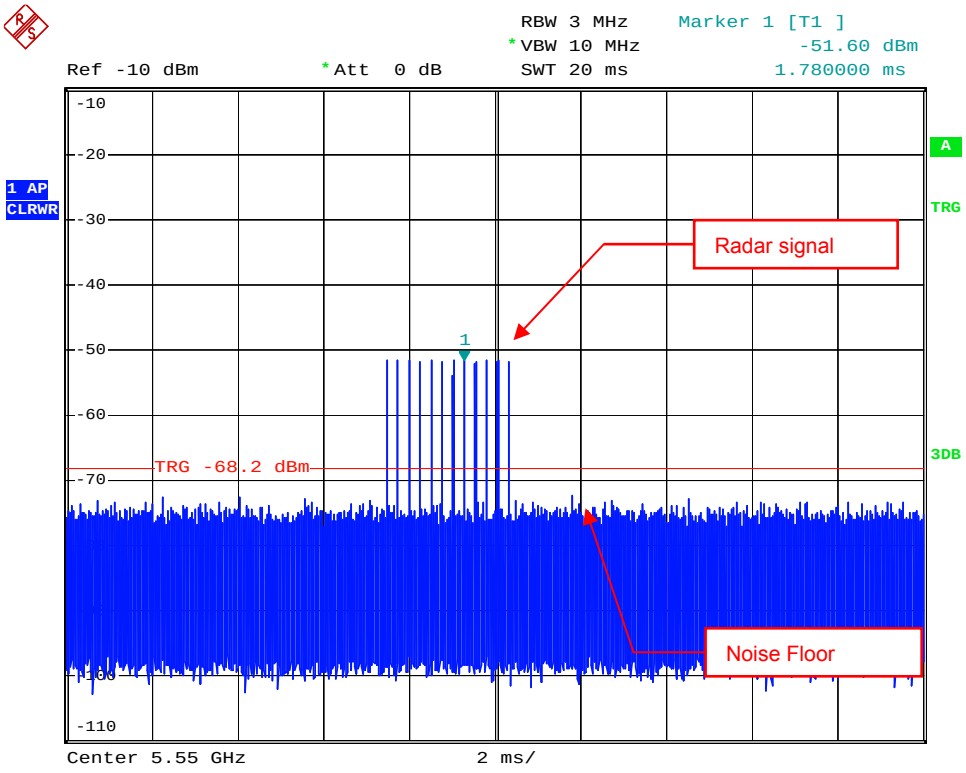
Radar Signal 1



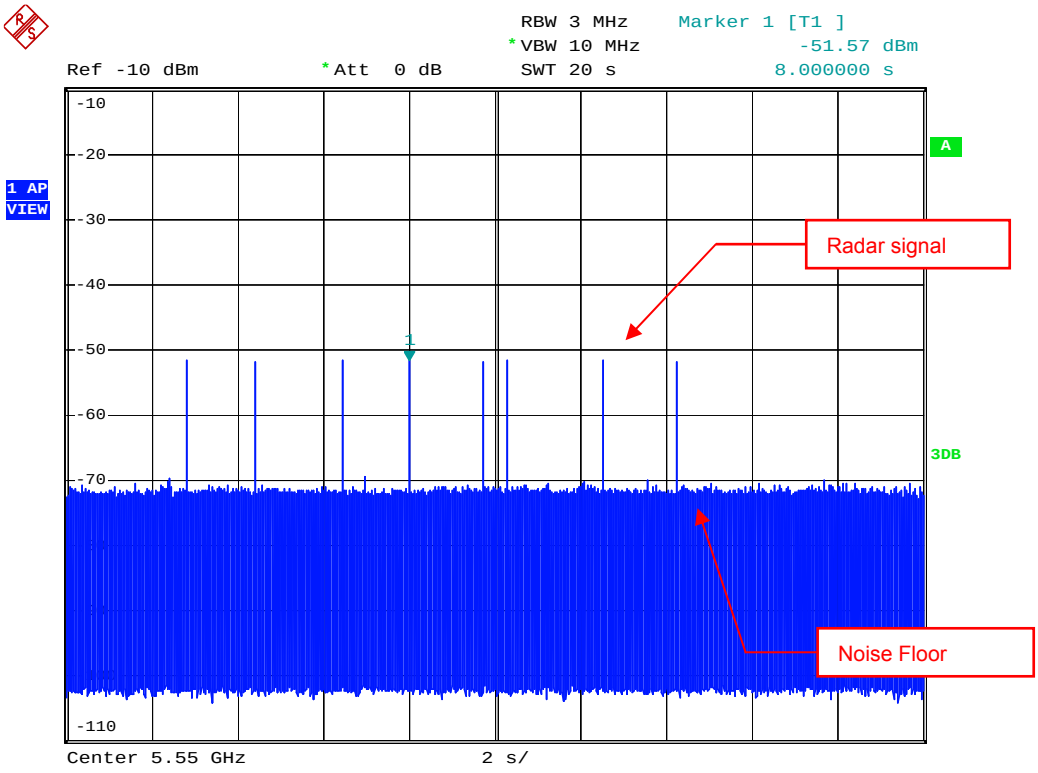
Radar Signal 2



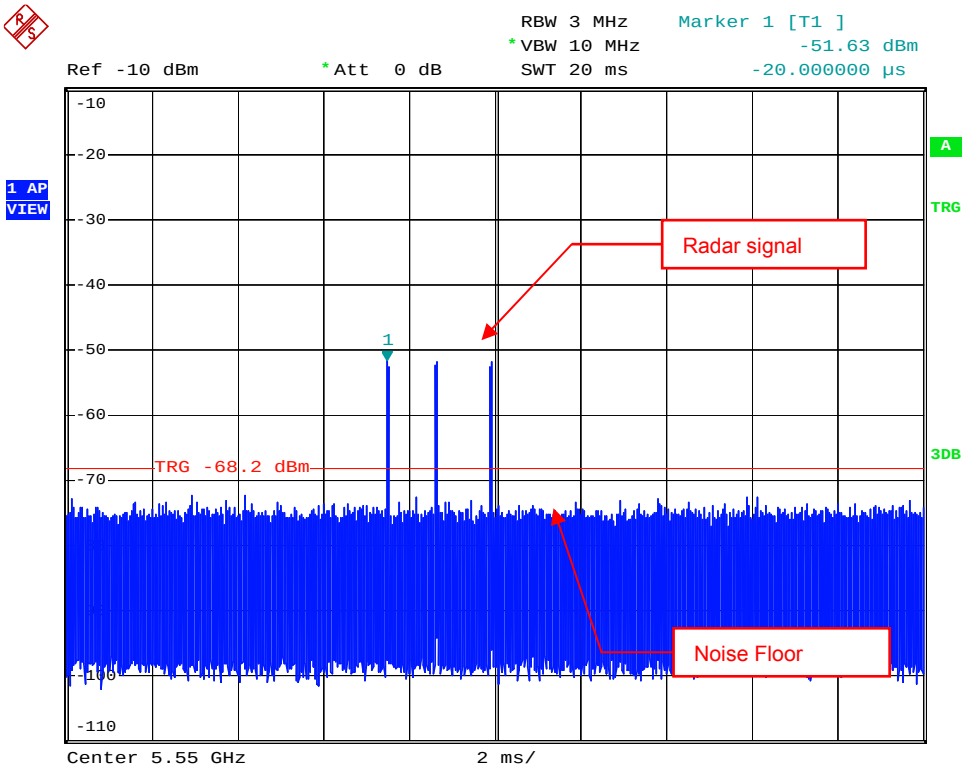
Radar Signal 3



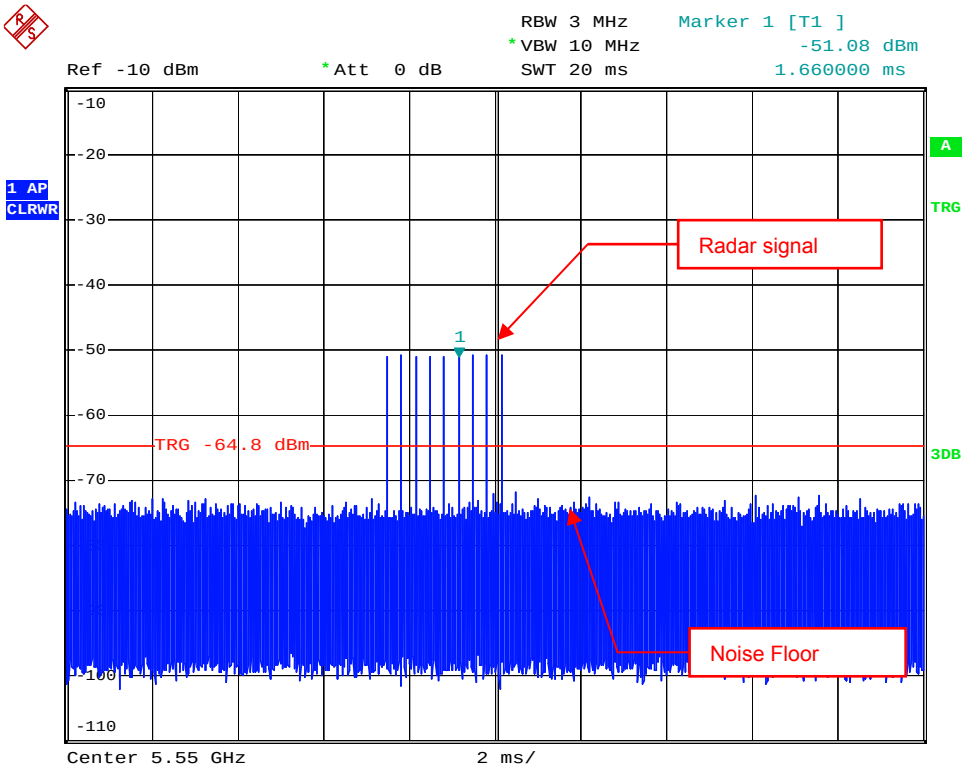
Radar Signal 4



Radar Signal 5



Single Burst of Radar Signal 5



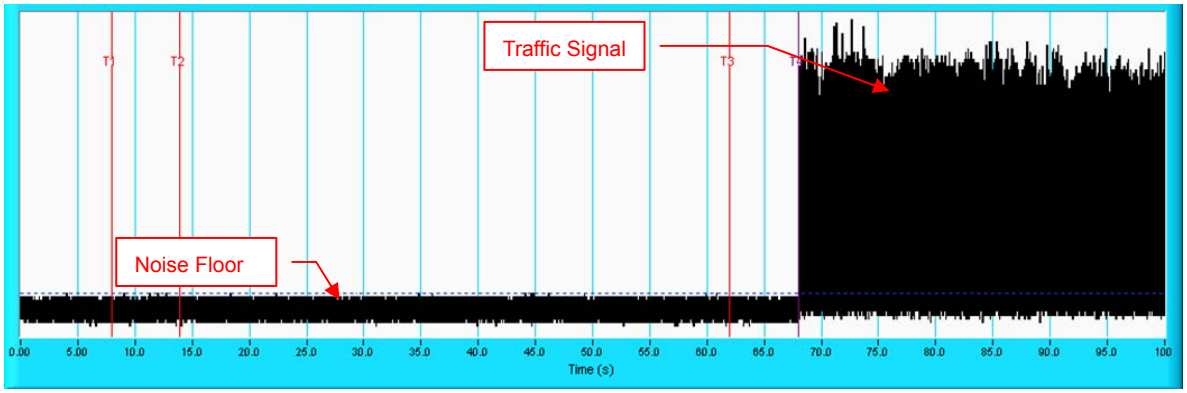
Radar Signal 6

6.2.1.2 CHANNEL AVAILABILITY CHECK TIME

If the UUT successfully detected the radar burst, it should be observed as the UUT has no transmissions occurred until the UUT starts transmitting on another channel.

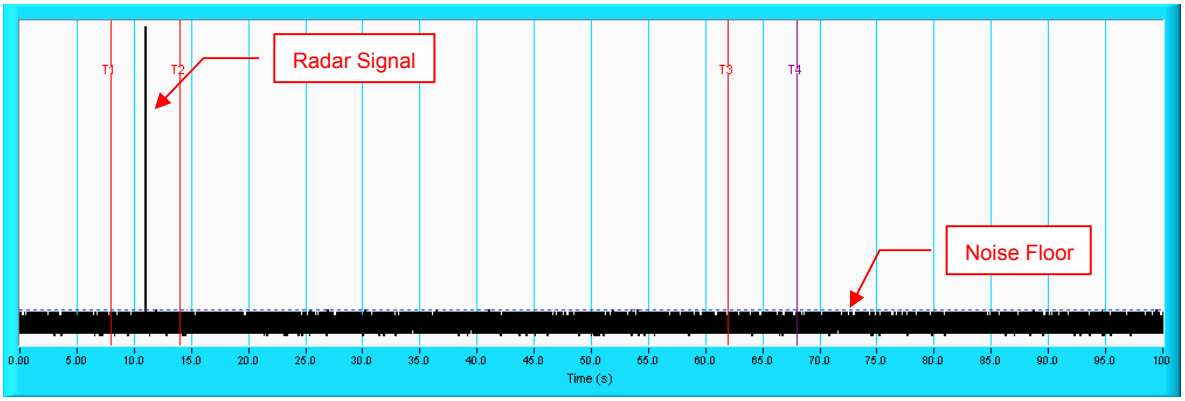
Timing of Radar Signal	Observation	
	UUT	Spectrum Analyzer
Within 1 to 6 second	Detected	No transmissions
Within 54 to 60 second	Detected	No transmissions

Initial Channel Availability Check Time



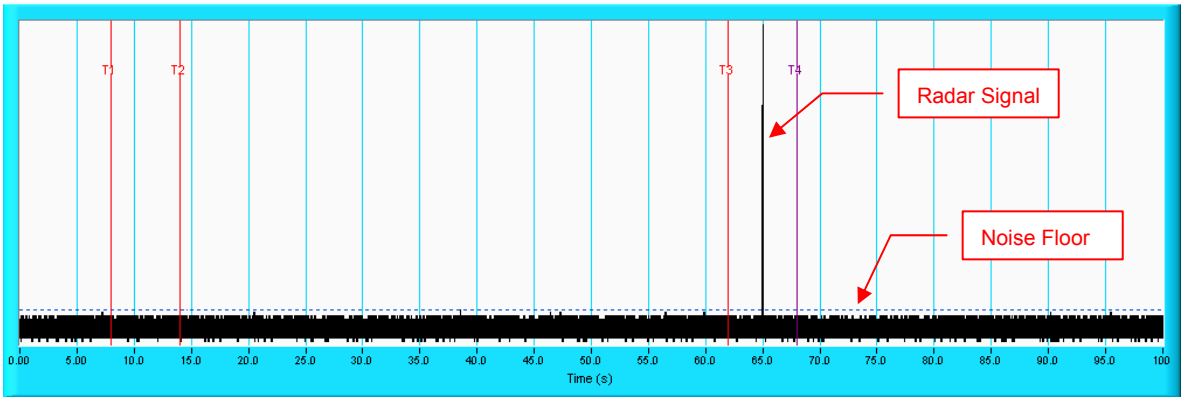
NOTE: T1 denotes the end of power-up time period is 8 second. T4 denotes the end of Channel Availability Check time is 68 second. Channel Availability Check time is equal to (T4 – T1) 60 seconds.

Radar Burst at the Beginning of the Channel Availability Check Time



NOTE: T1 denotes the end of power up time period is 8 second. T2 denotes 14 second , the radar burst was commenced within a 6 second window starting from the end of power-up sequence. T4 denotes the 68 second.

Radar Burst at the End of the Channel Availability Check Time

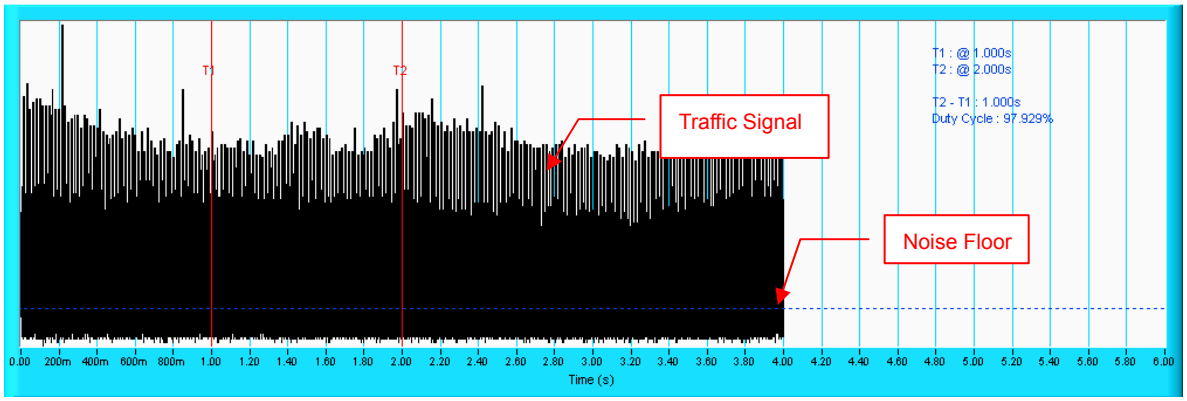


NOTE: T1 denotes the end of power up time period is 8 second. T3 denotes 62 second and radar burst was commenced within 54th second to 60th second window starting from the end of power-up sequence. T4 denotes the 68 second.

6.2.1.3 CHANNEL CLOSING TRANSMISSION AND CHANNEL MOVE TIME

WLAN TRAFFIC

TX (40MHz)



TX (40MHz)

Table 1: Short Pulse Radar Test Waveforms.

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Number of Trials(Times)	Percentage of Successful Detection (%)
1	1	1428	18	30	96.7
2	1-5	150-230	23-29	30	100
3	6-10	200-500	16-18	30	96.7
4	11-20	200-500	12-16	30	70
Aggregate (Radar Types 1-4)				120	90.85

Table 2: Long Pulse Radar Test Waveform

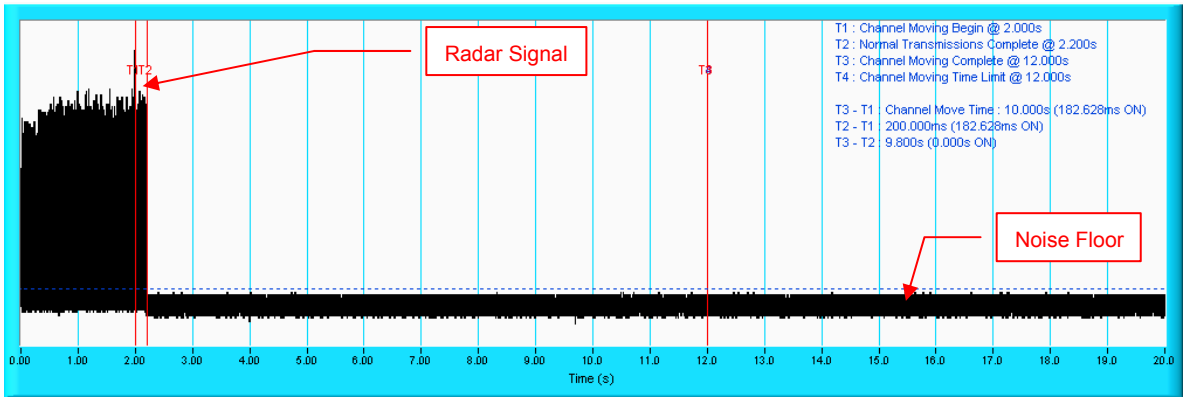
Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Number of Trials(Times)	Percentage of Successful Detection (%)
5	50-100	5-20	1000-2000	1-3	8-20	30	93.3

Table 3: Frequency Hopping Radar Test Waveform

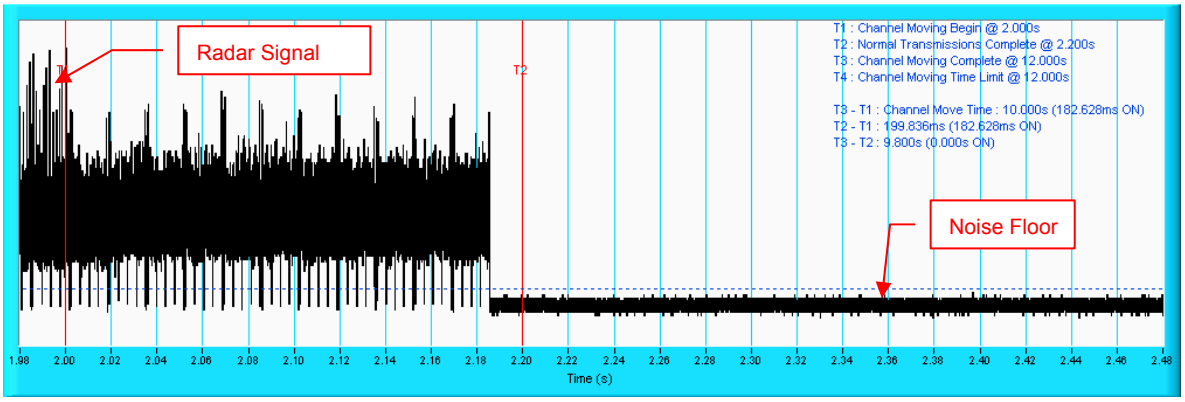
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Number of Trials(Times)	Percentage of Successful Detection (%)
6	1	333	9	0.333	300	30	93.3

TX (40MHz)

Radar signal 1

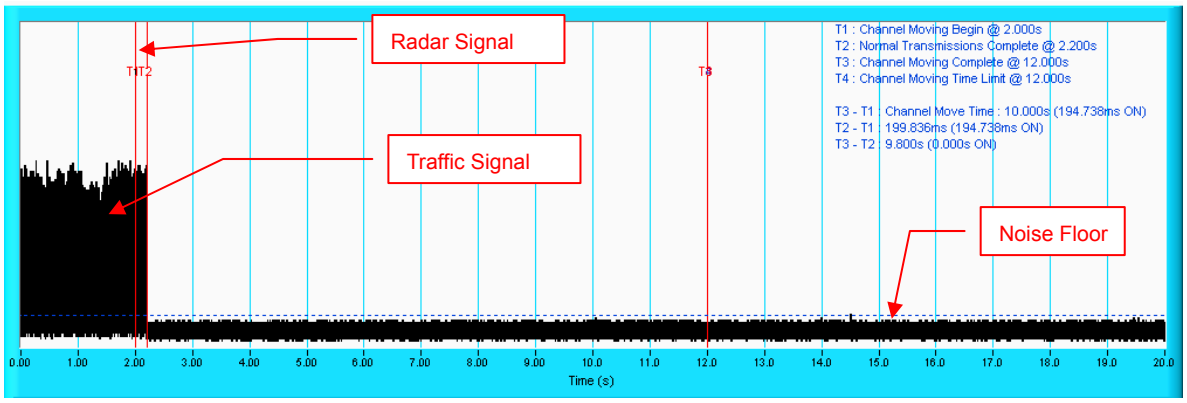


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

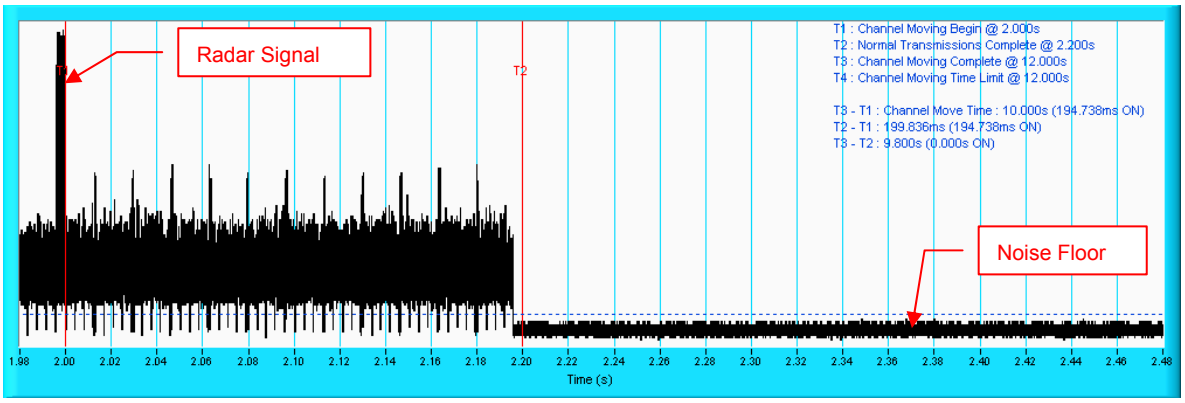


NOTE: An expanded plot for the device vacates the channel in the required 500ms

Radar signal 2

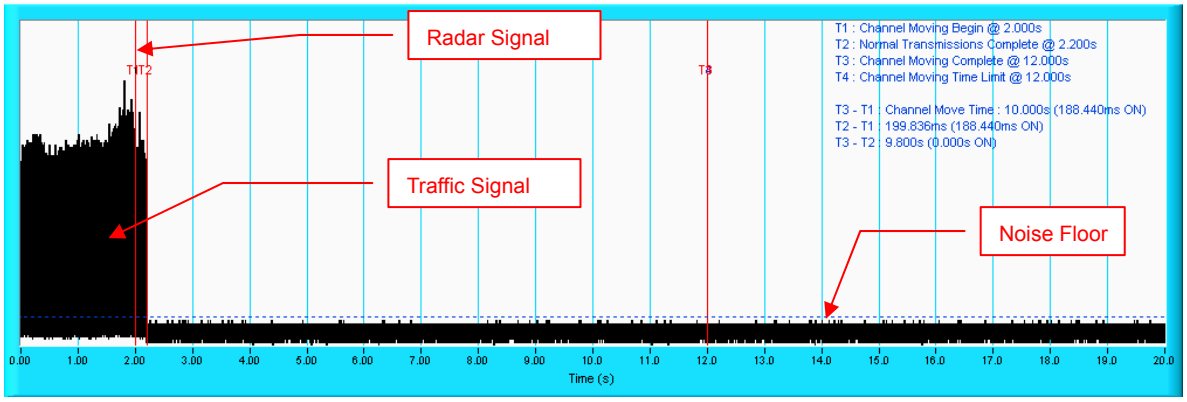


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

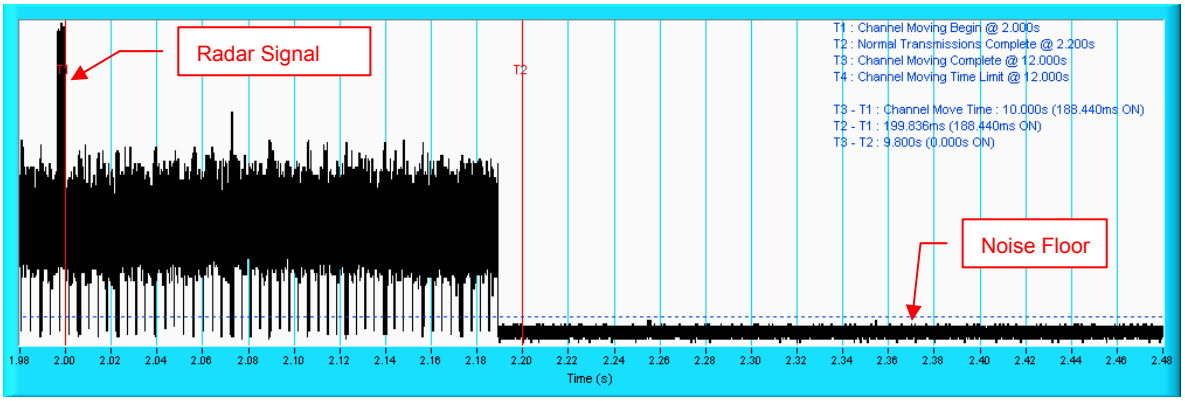


NOTE: An expanded plot for the device vacates the channel in the required 500ms

Radar signal 3

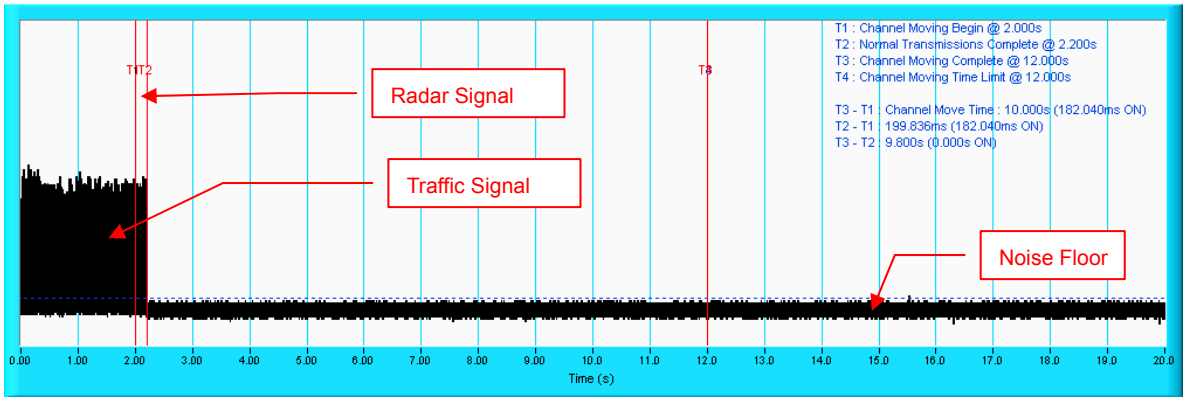


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

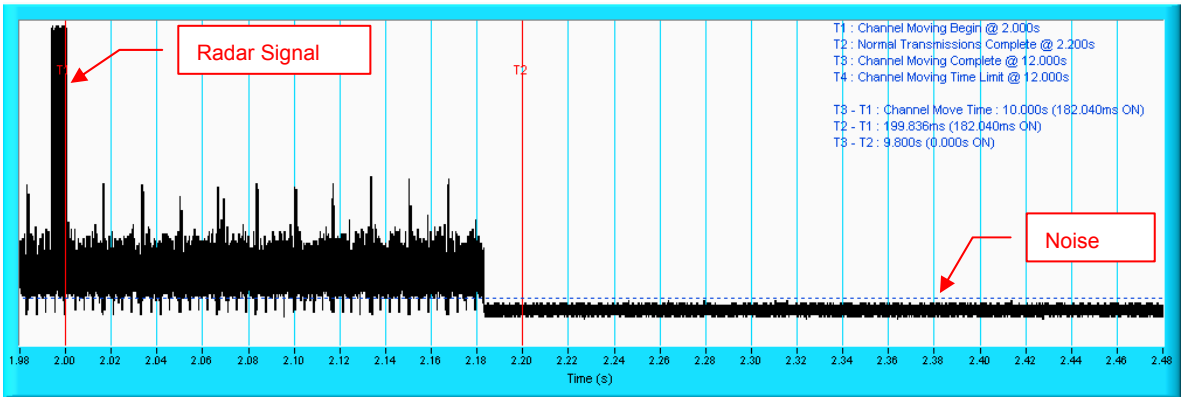


NOTE: An expanded plot for the device vacates the channel in the required 500ms

Radar signal 4



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



NOTE: An expanded plot for the device vacates the channel in the required 500ms

Radar signal 5

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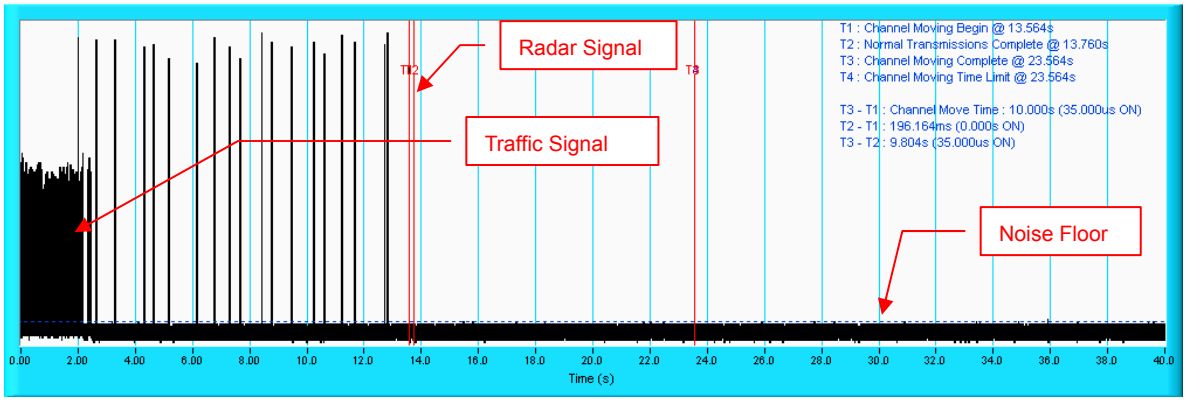
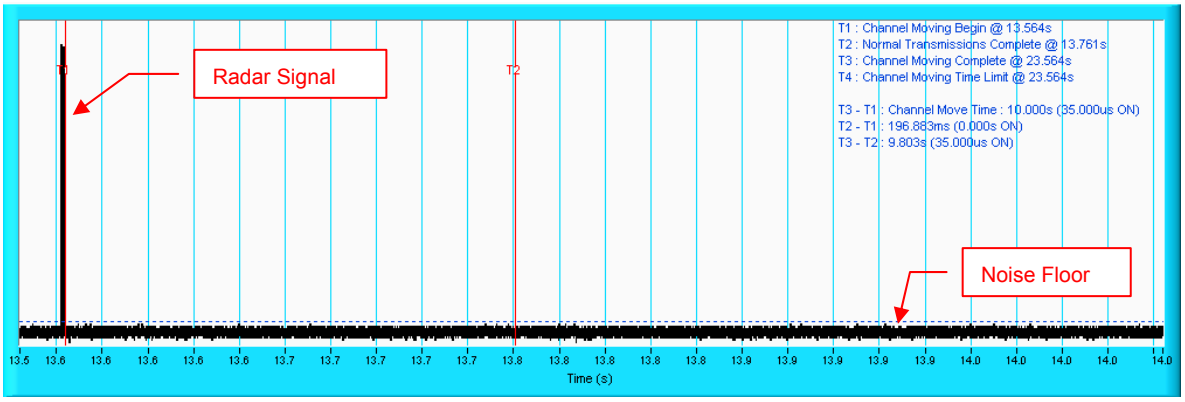
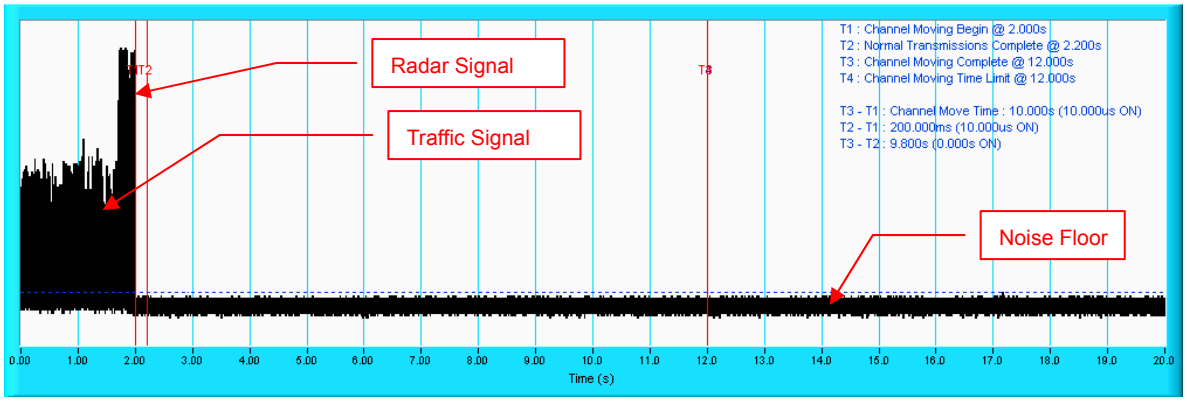


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

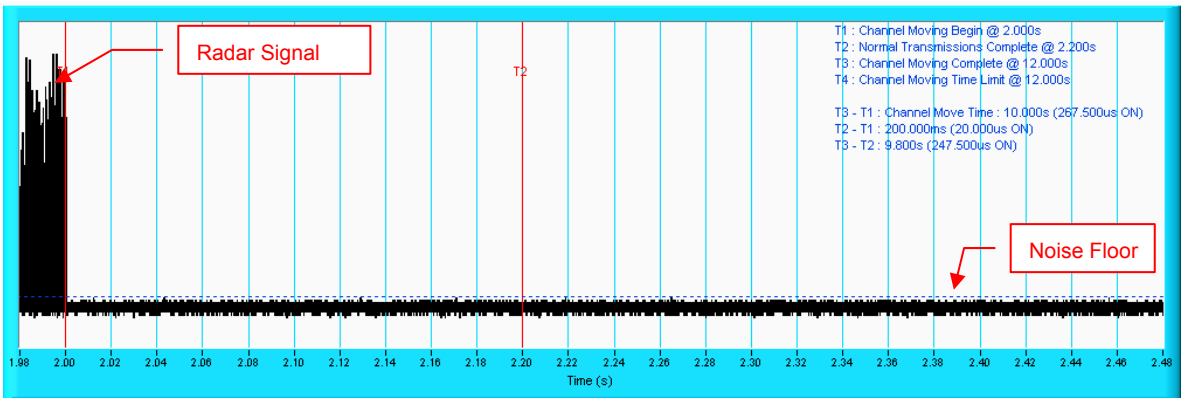


NOTE: An expanded plot for the device vacates the channel in the required 500ms

Radar signal 6



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



NOTE: An expanded plot for the device vacates the channel in the required 500ms

TX (40MHz)

Type 1 Radar Statistical Performances				
Trial #	Pulses per Burst	Pulse Width (s)	PRI (s)	Detection
1	18	1.0u	1.428m	Yes
2	18	1.0u	1.428m	Yes
3	18	1.0u	1.428m	Yes
4	18	1.0u	1.428m	Yes
5	18	1.0u	1.428m	Yes
6	18	1.0u	1.428m	Yes
7	18	1.0u	1.428m	Yes
8	18	1.0u	1.428m	Yes
9	18	1.0u	1.428m	Yes
10	18	1.0u	1.428m	Yes
11	18	1.0u	1.428m	No
12	18	1.0u	1.428m	Yes
13	18	1.0u	1.428m	Yes
14	18	1.0u	1.428m	Yes
15	18	1.0u	1.428m	Yes
16	18	1.0u	1.428m	Yes
17	18	1.0u	1.428m	Yes
18	18	1.0u	1.428m	Yes
19	18	1.0u	1.428m	Yes
20	18	1.0u	1.428m	Yes
21	18	1.0u	1.428m	Yes
22	18	1.0u	1.428m	Yes
23	18	1.0u	1.428m	Yes
24	18	1.0u	1.428m	Yes
25	18	1.0u	1.428m	Yes
26	18	1.0u	1.428m	Yes
27	18	1.0u	1.428m	Yes
28	18	1.0u	1.428m	Yes
29	18	1.0u	1.428m	Yes
30	18	1.0u	1.428m	Yes
				Detection Rate: 96.7 %

Type 2 Radar Statistical Performances				
Trial #	Pulses per Burst	Pulse Width (s)	PRI (s)	Detection
1	26	3.2u	195.0u	Yes
2	25	1.2u	203.0u	Yes
3	25	1.6u	207.0u	Yes
4	24	4.9u	224.0u	Yes
5	28	1.6u	216.0u	Yes
6	23	4.4u	151.0u	Yes
7	25	4.3u	187.0u	Yes
8	25	1.5u	225.0u	Yes
9	28	3.5u	175.0u	Yes
10	28	3.6u	189.0u	Yes
11	25	2.4u	223.0u	Yes
12	28	1.9u	185.0u	Yes
13	26	4.4u	224.0u	Yes
14	26	2.7u	202.0u	Yes
15	24	2.0u	174.0u	Yes
16	27	4.4u	185.0u	Yes
17	24	3.7u	176.0u	Yes
18	29	4.4u	164.0u	Yes
19	29	4.9u	156.0u	Yes
20	23	1.6u	221.0u	Yes
21	25	2.9u	180.0u	Yes
22	24	2.7u	216.0u	Yes
23	23	2.2u	205.0u	Yes
24	24	3.9u	218.0u	Yes
25	28	3.3u	175.0u	Yes
26	25	4.9u	203.0u	Yes
27	26	3.1u	217.0u	Yes
28	26	3.5u	200.0u	Yes
29	28	3.3u	172.0u	Yes
30	29	1.6u	190.0u	Yes
Detection Rate: 100.0 %				

Type 3 Radar Statistical Performances				
Trial #	Pulses per Burst	Pulse Width (s)	PRI (s)	Detection
1	17	9.8u	332.0u	Yes
2	16	7.8u	241.0u	Yes
3	17	6.8u	444.0u	No
4	17	7.1u	348.0u	Yes
5	18	8.6u	391.0u	Yes
6	17	8.8u	497.0u	Yes
7	17	7.9u	429.0u	Yes
8	16	7.1u	374.0u	Yes
9	17	7.0u	416.0u	Yes
10	18	7.2u	347.0u	Yes
11	17	8.9u	487.0u	Yes
12	17	9.3u	308.0u	Yes
13	16	8.0u	266.0u	Yes
14	18	9.9u	406.0u	Yes
15	17	9.4u	476.0u	Yes
16	18	7.1u	248.0u	Yes
17	17	6.2u	434.0u	Yes
18	17	8.8u	297.0u	Yes
19	18	8.8u	431.0u	Yes
20	17	8.2u	499.0u	Yes
21	17	7.5u	247.0u	Yes
22	17	8.8u	476.0u	Yes
23	17	8.3u	392.0u	Yes
24	18	6.2u	424.0u	Yes
25	17	8.1u	220.0u	Yes
26	17	7.1u	327.0u	Yes
27	18	8.5u	433.0u	Yes
28	17	6.8u	449.0u	Yes
29	17	7.2u	430.0u	Yes
30	18	6.3u	261.0u	Yes
				Detection Rate: 96.7 %

Type 4 Radar Statistical Performances				
Trial #	Pulses per Burst	Pulse Width (s)	PRI (s)	Detection
1	16	15.4u	320.0u	Yes
2	13	16.5u	234.0u	Yes
3	16	15.3u	431.0u	Yes
4	13	12.5u	210.0u	Yes
5	13	13.2u	390.0u	No
6	13	11.9u	334.0u	Yes
7	13	18.4u	369.0u	Yes
8	15	13.6u	457.0u	Yes
9	14	16.9u	309.0u	Yes
10	12	12.0u	215.0u	Yes
11	16	19.0u	317.0u	Yes
12	13	13.6u	321.0u	No
13	13	11.1u	327.0u	No
14	15	13.6u	354.0u	No
15	15	18.9u	287.0u	Yes
16	16	15.5u	271.0u	No
17	13	13.5u	207.0u	Yes
18	15	19.8u	242.0u	Yes
19	16	13.6u	470.0u	Yes
20	12	18.5u	320.0u	Yes
21	13	17.9u	231.0u	No
22	15	19.9u	357.0u	Yes
23	13	12.5u	413.0u	Yes
24	13	20.0u	221.0u	No
25	13	15.0u	281.0u	Yes
26	15	11.1u	471.0u	Yes
27	15	15.3u	406.0u	Yes
28	13	19.4u	236.0u	No
29	14	14.3u	462.0u	Yes
30	15	17.2u	323.0u	No
				Detection Rate: 70.0 %

Type 5 Radar Statistical Performances		
Trial #	Test Signal Name	Detection
1	LP_Signal_01	Yes
2	LP_Signal_02	Yes
3	LP_Signal_03	Yes
4	LP_Signal_04	Yes
5	LP_Signal_05	Yes
6	LP_Signal_06	Yes
7	LP_Signal_07	Yes
8	LP_Signal_08	No
9	LP_Signal_09	Yes
10	LP_Signal_10	Yes
11	LP_Signal_11	Yes
12	LP_Signal_12	Yes
13	LP_Signal_13	Yes
14	LP_Signal_14	Yes
15	LP_Signal_15	Yes
16	LP_Signal_16	Yes
17	LP_Signal_17	Yes
18	LP_Signal_18	Yes
19	LP_Signal_19	Yes
20	LP_Signal_20	Yes
21	LP_Signal_21	Yes
22	LP_Signal_22	Yes
23	LP_Signal_23	Yes
24	LP_Signal_24	Yes
25	LP_Signal_25	Yes
26	LP_Signal_26	Yes
27	LP_Signal_27	Yes
28	LP_Signal_28	No
29	LP_Signal_29	Yes
30	LP_Signal_30	Yes
		Detection Rate: 93.3 %

NOTE: The Long Pulse Radar pattern shown in Annex A.1

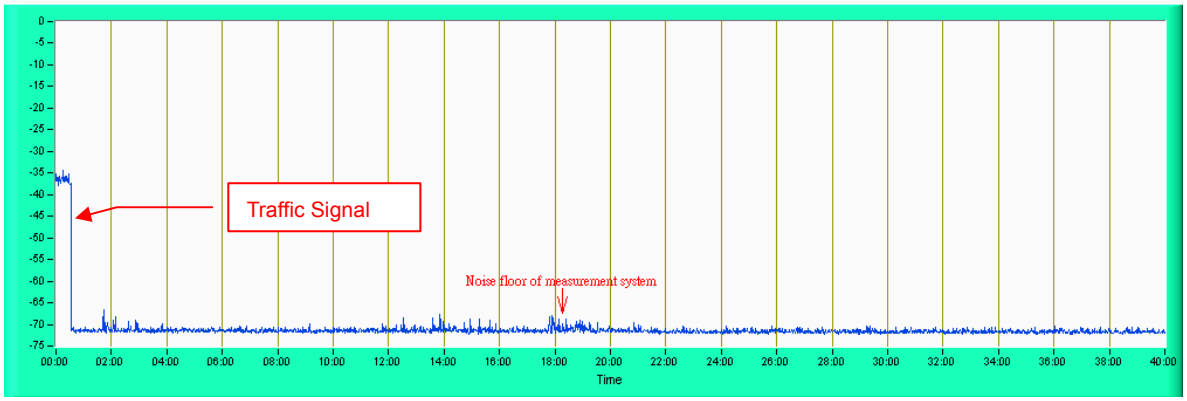
Type 6 Radar Statistical Performances		
Trial #	Hopping Frequency Sequence Name	Detection
1	HOP_FREQ_SEQ_01	Yes
2	HOP_FREQ_SEQ_02	Yes
3	HOP_FREQ_SEQ_03	Yes
4	HOP_FREQ_SEQ_04	Yes
5	HOP_FREQ_SEQ_05	Yes
6	HOP_FREQ_SEQ_06	Yes
7	HOP_FREQ_SEQ_07	Yes
8	HOP_FREQ_SEQ_08	No
9	HOP_FREQ_SEQ_09	Yes
10	HOP_FREQ_SEQ_10	Yes
11	HOP_FREQ_SEQ_11	Yes
12	HOP_FREQ_SEQ_12	Yes
13	HOP_FREQ_SEQ_13	Yes
14	HOP_FREQ_SEQ_14	Yes
15	HOP_FREQ_SEQ_15	Yes
16	HOP_FREQ_SEQ_16	Yes
17	HOP_FREQ_SEQ_17	Yes
18	HOP_FREQ_SEQ_18	Yes
19	HOP_FREQ_SEQ_19	Yes
20	HOP_FREQ_SEQ_20	No
21	HOP_FREQ_SEQ_21	Yes
22	HOP_FREQ_SEQ_22	Yes
23	HOP_FREQ_SEQ_23	Yes
24	HOP_FREQ_SEQ_24	Yes
25	HOP_FREQ_SEQ_25	Yes
26	HOP_FREQ_SEQ_26	Yes
27	HOP_FREQ_SEQ_27	Yes
28	HOP_FREQ_SEQ_28	Yes
29	HOP_FREQ_SEQ_29	Yes
30	HOP_FREQ_SEQ_30	Yes
		Detection Rate: 93.3 %

NOTE: The Frequency Hopping Radar pattern shown in Annex A.2

6.2.1.4 NON- OCCUPANCY PERIOD

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.

TX (40MHz)



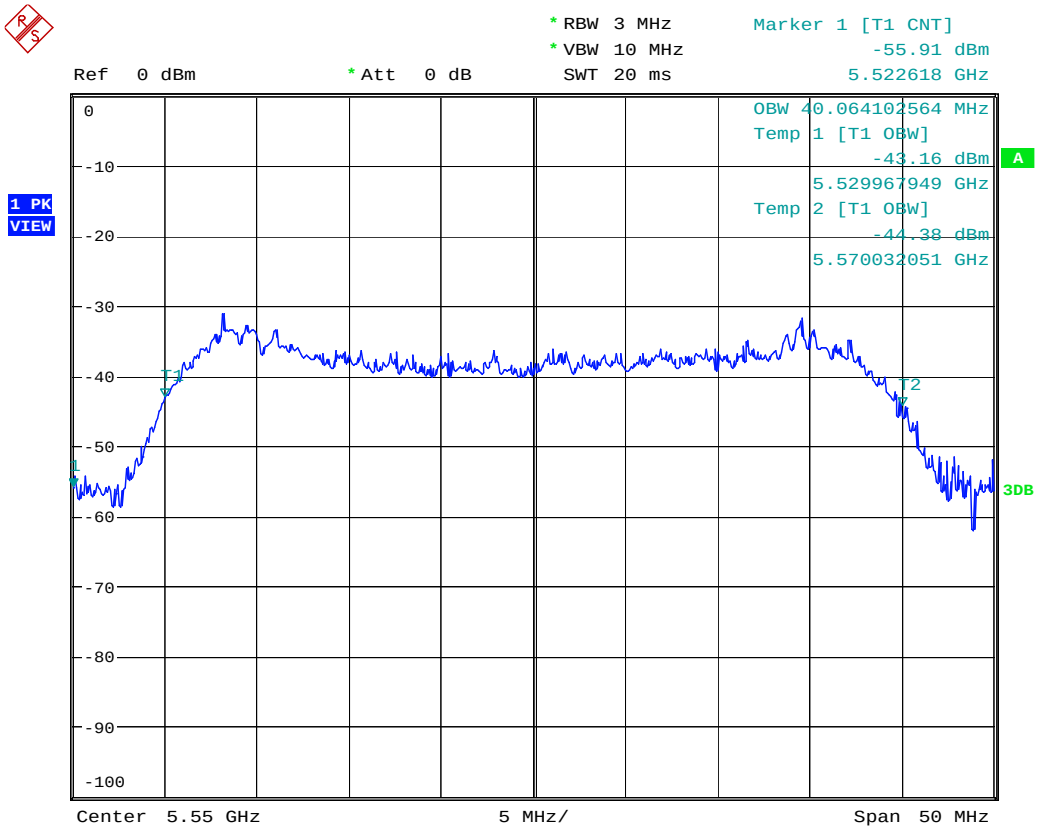
6.2.1.5 UNIFORM SPREADING

The intention of the uniform spreading is to provide, on aggregate, a uniform loading of the spectrum. The UUT using the bands 5250 to 5350MHz and 5470 to 5600 MHz channels so that the probability of selecting a given channel shall be the same for channels.

The UUT will select channel by random mode and remember this channel when detect radar signal, so that will select unused channel by random mode.

6.2.1.6 U-NII DETECTION BANDWIDTH

TX (40MHz)



U-NII 99% Channel bandwidth

Detection Bandwidth Test – Transmission 40MHz											
EUT Frequency: 5550MHz EUT 99% Power bandwidth: 40.06MHz Detection bandwidth limit (80% of EUT 99% Power bandwidth): 32.04MHz Detection bandwidth (5569(FH) – 5530(FL)) : 39MHz Test Result : PASS											
Radar Frequency (MHz)	Trial Number / Detection										Detection Rate (%)
	1	2	3	4	5	6	7	8	9	10	
5529	Y	N	Y	N	N	Y	Y	N	Y	N	50
5530(FL)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5531	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5532	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5533	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5534	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5535	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5536	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5537	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5538	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5539	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5540	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5541	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5542	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5543	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5544	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5545	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5546	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5547	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5548	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5549	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5550	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5551	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5552	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5553	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5554	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5555	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5556	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5557	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5558	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5559	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5560	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5561	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5562	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5563	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5564	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5565	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5566	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5567	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5568	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5569(FH)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
5570	N	Y	Y	N	Y	Y	N	Y	N	Y	60

6.2.1.7 TRANSMIT POWER CONTROL (TPC)

According to FCC 15.407(h)(1) the TPC mechanism is not required for system with an e.i.r.p. of less 500mW.

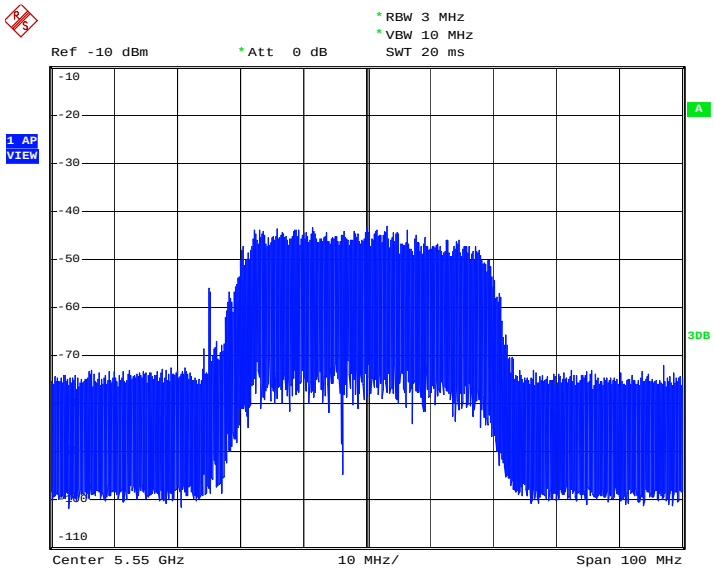
6.2.1.8 NON- OCCUPANCY PERIOD

Associate test:

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.

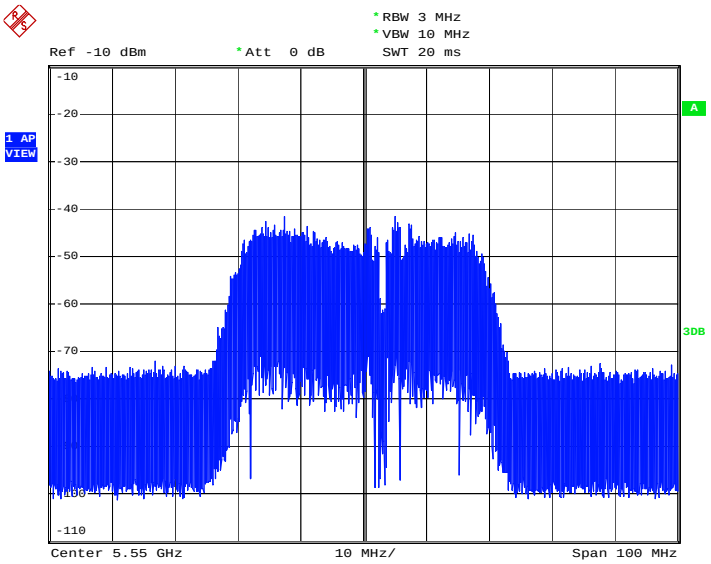
1) EUT links up with Master at 5500MHz.

Waveform of EUT links up with Master



2) EUT plays test movie from Master.

Waveform of transmission



3) BV ADT DFS Measurement System

NOTE: Test setup are shown on Test Setup Photo.pdf

7. TESTING LABORATORIES INFORMATION

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
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Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

8. APPENDIX-A

RADAR TEST SIGNAL

A.1 The Long Pulse Radar Pattern

TX (40MHz)

Long Pulse Radar Test Signal
Test Signal Name: LP_Signal_01
Number of Bursts in Trial: 14

Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	8M	69.9u	-	-	608.7m
2	2	17M	93.7u	1.179m	-	241.5m
3	2	19M	55.3u	1.222m	-	842.1m
4	2	16M	66.0u	1.030m	-	412.3m
5	3	5M	74.1u	1.673m	1.187m	190.9m
6	3	16M	85.4u	1.786m	928.6u	101.8m
7	2	12M	99.4u	1.382m	-	794.5m
8	3	5M	92.2u	1.343m	1.045m	271.6m
9	3	12M	64.1u	1.549m	1.588m	246.3m
10	1	15M	74.5u	-	-	351.8m
11	3	17M	53.4u	1.250m	1.198m	306.8m
12	2	18M	84.6u	998.4u	-	488.2m
13	2	6M	69.8u	1.009m	-	44.74m
14	2	10M	85.2u	1.864m	-	564.8m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_02 Number of Bursts in Trial: 19						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	7M	76.0u	1.039m	1.556m	6.658m
2	2	7M	89.4u	1.149m	-	168.6m
3	2	20M	51.7u	1.853m	-	333.3m
4	1	14M	64.6u	-	-	406.3m
5	3	19M	66.8u	1.854m	1.247m	481.8m
6	1	16M	54.2u	-	-	1.615m
7	3	12M	60.3u	1.140m	1.632m	570.9m
8	2	9M	81.0u	1.066m	-	310.4m
9	3	16M	55.9u	1.943m	1.870m	567.0m
10	2	6M	92.3u	1.419m	-	216.6m
11	3	14M	57.8u	1.786m	1.023m	509.0m
12	2	7M	64.1u	972.9u	-	409.8m
13	1	7M	89.2u	-	-	245.0m
14	3	15M	55.4u	1.167m	1.746m	380.0m
15	1	15M	81.2u	-	-	174.7m
16	2	13M	98.5u	1.154m	-	64.79m
17	1	6M	88.9u	-	-	466.6m
18	1	7M	77.0u	-	-	283.9m
19	2	11M	61.8u	1.603m	-	311.0m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_03 Number of Bursts in Trial: 14						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	13M	94.5u	1.685m	1.411m	693.2m
2	2	9M	77.0u	963.0u	-	463.1m
3	1	17M	89.7u	-	-	334.9m
4	2	14M	67.4u	973.6u	-	15.28m
5	2	16M	76.9u	1.507m	-	401.1m
6	1	8M	65.6u	-	-	656.3m
7	2	10M	66.0u	966.0u	-	314.6m
8	1	19M	52.3u	-	-	719.2m
9	2	12M	90.8u	1.624m	-	328.1m
10	2	16M	75.1u	1.889m	-	423.7m
11	1	10M	96.4u	-	-	466.3m
12	2	15M	93.2u	1.456m	-	198.5m
13	1	16M	66.9u	-	-	742.8m
14	2	9M	98.9u	926.1u	-	46.57m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_04 Number of Bursts in Trial: 14						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	7M	97.8u	-	-	427.3m
2	3	19M	85.0u	1.501m	1.823m	110.2m
3	3	19M	74.3u	1.242m	1.705m	547.4m
4	1	7M	56.5u	-	-	656.8m
5	3	16M	71.0u	1.166m	1.830m	548.5m
6	2	7M	58.5u	1.616m	-	574.1m
7	2	18M	88.1u	1.357m	-	438.9m
8	3	11M	75.9u	1.012m	1.912m	649.5m
9	2	5M	57.7u	1.503m	-	466.1m
10	1	8M	73.7u	-	-	266.0m
11	2	14M	62.4u	1.267m	-	562.3m
12	2	6M	83.1u	1.065m	-	54.10m
13	1	12M	93.5u	-	-	260.4m
14	3	14M	96.1u	1.015m	1.826m	212.3m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_05 Number of Bursts in Trial: 14						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	11M	59.2u	1.664m	-	778.3m
2	2	10M	69.6u	1.373m	-	740.0m
3	3	7M	73.2u	1.304m	1.279m	653.3m
4	1	15M	88.1u	-	-	511.0m
5	3	8M	90.7u	1.128m	1.877m	764.6m
6	1	7M	77.5u	-	-	480.2m
7	3	7M	56.5u	1.319m	1.644m	534.1m
8	2	7M	74.7u	1.205m	-	246.6m
9	1	14M	70.1u	-	-	798.4m
10	2	12M	53.0u	1.050m	-	106.8m
11	2	9M	87.7u	1.595m	-	235.6m
12	1	13M	50.5u	-	-	86.58m
13	3	11M	51.0u	1.801m	1.412m	211.7m
14	2	14M	51.3u	948.7u	-	749.9m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_06 Number of Bursts in Trial: 15						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	20M	95.5u	-	-	410.8m
2	2	19M	68.9u	1.118m	-	60.74m
3	3	15M	52.5u	1.803m	1.459m	594.3m
4	2	14M	82.9u	1.598m	-	658.2m
5	1	16M	90.2u	-	-	203.2m
6	2	16M	91.4u	1.772m	-	683.7m
7	1	9M	54.2u	-	-	199.0m
8	1	16M	88.4u	-	-	420.5m
9	2	7M	58.8u	1.598m	-	506.3m
10	3	14M	65.1u	1.851m	1.119m	483.4m
11	3	8M	84.6u	1.449m	1.654m	526.1m
12	3	15M	82.7u	1.602m	919.3u	480.8m
13	3	11M	91.7u	1.600m	1.898m	487.9m
14	3	11M	73.6u	1.448m	1.560m	430.0m
15	3	6M	66.8u	988.2u	1.852m	611.0m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_07 Number of Bursts in Trial: 11						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	6M	96.4u	1.635m	-	189.5m
2	3	16M	97.0u	1.179m	1.813m	534.5m
3	3	17M	70.4u	1.191m	1.920m	388.4m
4	2	8M	50.7u	1.596m	-	825.9m
5	2	5M	69.1u	1.144m	-	983.8m
6	1	12M	51.1u	-	-	689.6m
7	2	7M	69.3u	1.424m	-	383.6m
8	2	14M	64.2u	1.442m	-	559.8m
9	3	5M	57.4u	951.6u	1.388m	785.0m
10	3	15M	84.5u	1.832m	1.168m	527.8m
11	2	9M	56.2u	1.208m	-	344.4m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_08 Number of Bursts in Trial: 12						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	17M	53.7u	1.924m	1.035m	663.9m
2	3	14M	63.1u	1.355m	1.813m	414.4m
3	1	11M	61.3u	-	-	305.0m
4	2	9M	69.7u	1.010m	-	406.1m
5	2	12M	50.2u	1.275m	-	420.2m
6	2	9M	67.2u	1.257m	-	623.1m
7	1	9M	55.8u	-	-	445.2m
8	2	13M	79.4u	1.431m	-	494.1m
9	2	9M	74.9u	987.1u	-	478.0m
10	2	18M	95.6u	1.395m	-	531.4m
11	2	15M	81.4u	1.328m	-	805.6m
12	2	10M	65.5u	1.720m	-	981.2m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_09 Number of Bursts in Trial: 17						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	11M	92.8u	1.280m	950.2u	133.7m
2	2	18M	89.8u	1.381m	-	696.3m
3	3	6M	64.8u	1.190m	1.322m	556.5m
4	1	8M	53.5u	-	-	180.5m
5	2	18M	77.6u	1.419m	-	113.3m
6	3	20M	66.2u	1.144m	1.658m	295.3m
7	2	18M	98.9u	1.021m	-	293.3m
8	1	18M	74.7u	-	-	66.97m
9	2	10M	58.1u	1.678m	-	418.3m
10	1	7M	64.8u	-	-	313.5m
11	2	10M	52.2u	1.536m	-	487.4m
12	3	10M	69.2u	1.768m	1.807m	380.0m
13	1	14M	61.6u	-	-	599.6m
14	1	12M	91.4u	-	-	43.71m
15	2	12M	70.8u	964.2u	-	189.4m
16	2	12M	63.7u	1.253m	-	357.2m
17	1	15M	58.5u	-	-	42.75m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_10 Number of Bursts in Trial: 10						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	18M	57.0u	1.584m	-	550.3m
2	2	9M	95.8u	1.092m	-	722.0m
3	3	14M	88.7u	1.188m	990.3u	100.8m
4	1	19M	55.7u	-	-	991.2m
5	2	18M	73.2u	1.267m	-	26.85m
6	1	8M	95.3u	-	-	813.5m
7	1	13M	79.7u	-	-	61.77m
8	3	6M	90.2u	1.401m	1.311m	976.9m
9	2	14M	51.1u	1.822m	-	898.4m
10	2	8M	62.0u	1.685m	-	609.8m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_11 Number of Bursts in Trial: 12						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	15M	62.4u	1.644m	-	134.1m
2	1	6M	80.6u	-	-	497.1m
3	2	14M	68.5u	1.020m	-	743.9m
4	2	15M	50.1u	1.141m	-	949.0m
5	3	14M	59.0u	1.280m	1.685m	533.0m
6	2	17M	78.9u	1.346m	-	676.1m
7	2	10M	52.5u	1.654m	-	448.5m
8	2	12M	80.2u	1.178m	-	667.8m
9	3	20M	77.7u	999.3u	1.159m	509.0m
10	2	7M	85.5u	1.736m	-	430.0m
11	2	5M	52.0u	1.713m	-	775.7m
12	1	14M	73.7u	-	-	82.96m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_12 Number of Bursts in Trial: 16						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	15M	75.7u	1.522m	-	10.74m
2	2	16M	66.8u	1.610m	-	437.4m
3	1	8M	61.9u	-	-	268.5m
4	1	10M	61.7u	-	-	248.9m
5	2	19M	93.5u	1.819m	-	406.6m
6	3	14M	96.8u	927.2u	1.841m	43.91m
7	3	18M	78.4u	1.627m	1.828m	281.1m
8	2	7M	87.6u	1.823m	-	662.5m
9	2	13M	50.9u	1.633m	-	338.9m
10	1	16M	89.4u	-	-	149.6m
11	2	11M	89.7u	1.771m	-	724.1m
12	3	15M	97.1u	1.434m	1.309m	267.2m
13	1	18M	59.4u	-	-	574.7m
14	3	17M	75.9u	1.369m	1.356m	496.1m
15	3	8M	66.2u	1.424m	1.867m	681.7m
16	2	5M	99.4u	1.473m	-	569.4m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_13 Number of Bursts in Trial: 11						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	19M	87.6u	1.250m	1.207m	300.8m
2	3	18M	66.0u	1.458m	1.043m	934.1m
3	2	11M	91.1u	1.207m	-	632.8m
4	3	9M	79.0u	1.322m	1.815m	745.8m
5	3	6M	97.5u	1.711m	1.041m	987.5m
6	1	10M	74.2u	-	-	59.35m
7	2	11M	54.2u	1.746m	-	837.6m
8	2	5M	73.7u	1.656m	-	102.4m
9	3	13M	96.8u	1.008m	1.620m	312.1m
10	1	14M	79.2u	-	-	265.6m
11	1	11M	61.1u	-	-	959.4m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_14 Number of Bursts in Trial: 10						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	12M	59.6u	1.451m	1.100m	1.081
2	2	19M	64.2u	1.475m	-	1.024
3	3	7M	56.7u	1.015m	1.360m	454.5m
4	3	8M	54.0u	1.479m	1.482m	1.132
5	2	7M	71.5u	1.509m	-	1.124
6	2	20M	81.5u	1.377m	-	1.184
7	1	12M	58.0u	-	-	485.4m
8	2	20M	50.7u	1.839m	-	17.03m
9	2	14M	75.7u	1.393m	-	231.5m
10	2	8M	52.8u	1.834m	-	770.7m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_15 Number of Bursts in Trial: 17						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	11M	71.4u	1.378m	-	382.6m
2	2	17M	50.5u	1.651m	-	559.0m
3	3	10M	55.9u	1.521m	1.652m	188.7m
4	2	7M	78.8u	1.559m	-	130.7m
5	2	10M	66.1u	1.562m	-	406.3m
6	2	13M	65.4u	1.310m	-	346.8m
7	1	8M	64.3u	-	-	41.20m
8	2	11M	55.6u	1.849m	-	378.9m
9	2	13M	91.9u	1.409m	-	382.7m
10	1	15M	51.1u	-	-	207.5m
11	2	9M	72.3u	1.880m	-	204.3m
12	1	12M	56.2u	-	-	312.8m
13	3	8M	54.0u	1.801m	1.332m	571.9m
14	1	16M	65.6u	-	-	456.8m
15	1	20M	60.0u	-	-	59.41m
16	3	6M	53.0u	1.941m	1.799m	568.6m
17	2	15M	60.6u	995.4u	-	701.3m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_16 Number of Bursts in Trial: 9						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	5M	60.0u	-	-	559.3m
2	2	11M	70.9u	1.038m	-	619.8m
3	2	16M	60.7u	1.522m	-	915.8m
4	2	5M	61.7u	1.015m	-	188.9m
5	2	10M	93.5u	1.417m	-	979.1m
6	2	8M	81.7u	1.491m	-	654.6m
7	2	20M	71.0u	1.513m	-	695.9m
8	2	15M	77.8u	1.481m	-	393.2m
9	2	20M	55.3u	1.477m	-	824.6m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_17 Number of Bursts in Trial: 18						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	9M	85.5u	1.307m	976.5u	286.7m
2	1	6M	84.1u	-	-	412.6m
3	3	18M	93.6u	1.469m	1.196m	130.0m
4	1	11M	84.1u	-	-	100.8m
5	1	8M	69.5u	-	-	129.2m
6	2	8M	78.0u	1.829m	-	268.1m
7	3	16M	76.8u	1.339m	1.010m	28.73m
8	2	17M	53.5u	1.478m	-	229.9m
9	2	20M	99.1u	1.721m	-	255.5m
10	3	18M	77.1u	1.209m	1.229m	369.1m
11	3	15M	53.3u	1.071m	1.945m	405.4m
12	1	13M	80.8u	-	-	193.0m
13	2	19M	91.3u	1.185m	-	250.0m
14	2	12M	92.0u	1.385m	-	458.2m
15	2	14M	64.4u	965.6u	-	244.9m
16	3	8M	75.6u	1.138m	1.646m	326.5m
17	2	18M	85.9u	1.376m	-	29.51m
18	2	13M	91.7u	1.790m	-	113.4m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_18 Number of Bursts in Trial: 14						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	15M	77.9u	1.039m	-	629.9m
2	1	11M	89.0u	-	-	239.8m
3	3	10M	78.5u	1.122m	1.097m	825.5m
4	2	5M	92.0u	1.568m	-	253.4m
5	2	10M	83.8u	1.892m	-	193.0m
6	1	11M	68.2u	-	-	713.8m
7	3	8M	90.3u	1.615m	1.129m	370.8m
8	2	12M	95.3u	931.7u	-	68.79m
9	2	15M	53.9u	1.895m	-	530.0m
10	3	7M	63.4u	1.403m	1.337m	316.1m
11	2	17M	73.9u	1.863m	-	612.9m
12	2	10M	62.2u	1.206m	-	824.0m
13	2	17M	60.8u	1.138m	-	624.4m
14	2	10M	99.5u	1.765m	-	135.8m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_19 Number of Bursts in Trial: 15						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	10M	88.2u	1.173m	-	46.14m
2	3	16M	50.6u	1.483m	1.004m	410.4m
3	2	10M	75.5u	1.589m	-	456.6m
4	2	16M	77.2u	1.158m	-	665.5m
5	1	13M	60.5u	-	-	287.3m
6	1	7M	65.0u	-	-	571.9m
7	2	18M	57.2u	1.091m	-	723.2m
8	2	13M	71.5u	1.013m	-	526.8m
9	2	12M	81.7u	1.646m	-	297.5m
10	3	18M	71.3u	1.929m	1.626m	556.8m
11	3	20M	55.4u	1.872m	1.075m	780.5m
12	2	11M	79.0u	1.547m	-	306.0m
13	2	16M	71.4u	1.355m	-	574.0u
14	1	15M	71.8u	-	-	658.2m
15	3	11M	96.7u	1.092m	1.551m	270.1m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_20 Number of Bursts in Trial: 13						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	15M	64.2u	978.8u	1.775m	329.6m
2	2	8M	83.9u	1.394m	-	801.5m
3	1	20M	55.1u	-	-	387.9m
4	1	11M	79.1u	-	-	138.7m
5	2	16M	72.8u	1.575m	-	477.2m
6	2	17M	61.0u	1.844m	-	829.5m
7	2	5M	80.3u	953.7u	-	450.1m
8	3	7M	92.4u	953.6u	1.175m	712.6m
9	1	6M	90.5u	-	-	597.8m
10	2	7M	59.8u	1.616m	-	128.9m
11	2	18M	62.6u	1.168m	-	585.3m
12	2	10M	87.8u	1.433m	-	843.5m
13	1	9M	81.5u	-	-	66.46m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_21 Number of Bursts in Trial: 19						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	10M	65.2u	1.391m	-	569.6m
2	1	10M	56.4u	-	-	565.6m
3	2	6M	79.3u	1.569m	-	614.5m
4	2	19M	76.3u	1.548m	-	604.9m
5	2	16M	59.3u	1.099m	-	193.4m
6	1	9M	74.9u	-	-	181.0m
7	2	15M	76.7u	1.466m	-	611.1m
8	1	13M	98.1u	-	-	162.1m
9	2	15M	69.1u	1.642m	-	79.91m
10	1	12M	68.1u	-	-	428.7m
11	2	12M	89.0u	1.553m	-	560.2m
12	2	9M	52.6u	1.586m	-	604.6m
13	2	19M	96.3u	1.834m	-	464.6m
14	1	14M	63.3u	-	-	167.0m
15	2	10M	75.5u	1.391m	-	27.20m
16	2	16M	64.7u	1.277m	-	307.2m
17	3	15M	76.0u	1.206m	1.465m	525.1m
18	3	14M	57.3u	1.772m	1.042m	560.0m
19	2	12M	95.4u	1.465m	-	454.1m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_22 Number of Bursts in Trial: 16						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	11M	71.6u	-	-	191.7m
2	1	6M	85.5u	-	-	673.3m
3	3	9M	83.1u	1.329m	1.407m	186.4m
4	3	9M	53.2u	1.179m	1.166m	577.5m
5	3	17M	51.6u	1.279m	1.770m	414.9m
6	2	16M	83.9u	1.240m	-	523.1m
7	1	9M	65.7u	-	-	593.7m
8	2	12M	75.7u	1.810m	-	210.2m
9	1	14M	77.0u	-	-	369.2m
10	3	10M	73.8u	1.858m	1.290m	4.698m
11	2	5M	62.8u	1.727m	-	557.7m
12	3	9M	54.9u	1.618m	1.290m	415.9m
13	1	17M	83.9u	-	-	538.1m
14	2	16M	51.4u	1.598m	-	76.76m
15	2	17M	80.9u	1.420m	-	653.0m
16	1	7M	72.0u	-	-	89.01m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_23 Number of Bursts in Trial: 11						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	20M	61.7u	-	-	129.7m
2	1	5M	56.4u	-	-	148.6m
3	2	12M	55.2u	1.452m	-	940.1m
4	2	12M	61.9u	1.356m	-	275.8m
5	3	15M	65.4u	1.405m	1.006m	222.3m
6	2	17M	72.5u	1.830m	-	1.064
7	3	8M	81.9u	1.644m	1.324m	169.3m
8	2	6M	91.1u	979.9u	-	867.9m
9	3	5M	87.9u	1.344m	1.838m	392.1m
10	3	13M	83.1u	986.9u	1.207m	422.2m
11	2	10M	99.2u	925.8u	-	903.2m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_24 Number of Bursts in Trial: 17						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	12M	55.8u	1.757m	-	23.68m
2	3	8M	77.3u	1.814m	1.806m	62.33m
3	2	8M	77.2u	1.613m	-	363.9m
4	3	19M	67.1u	1.576m	1.421m	472.6m
5	3	12M	98.7u	1.326m	1.344m	637.5m
6	1	15M	58.8u	-	-	365.5m
7	3	10M	79.3u	1.379m	1.224m	468.8m
8	2	11M	71.5u	1.210m	-	585.4m
9	2	11M	97.9u	982.1u	-	590.2m
10	2	13M	72.3u	1.782m	-	497.4m
11	2	18M	94.1u	1.290m	-	308.0m
12	1	17M	62.2u	-	-	503.7m
13	2	10M	90.4u	1.363m	-	343.5m
14	2	11M	81.1u	984.9u	-	377.1m
15	3	9M	81.2u	1.763m	1.577m	90.01m
16	3	16M	81.8u	1.804m	1.093m	17.78m
17	2	9M	77.4u	1.869m	-	437.6m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_25 Number of Bursts in Trial: 13						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	7M	85.3u	1.166m	1.512m	76.68m
2	1	6M	80.3u	-	-	563.9m
3	2	6M	55.7u	1.271m	-	886.7m
4	1	6M	70.1u	-	-	615.9m
5	3	19M	63.7u	1.563m	1.254m	627.7m
6	2	16M	89.4u	1.275m	-	87.45m
7	1	7M	70.2u	-	-	578.9m
8	3	11M	58.0u	992.0u	1.055m	904.6m
9	3	13M	56.7u	1.910m	1.269m	161.0m
10	1	13M	55.0u	-	-	185.5m
11	2	12M	75.2u	1.460m	-	914.5m
12	2	6M	86.1u	998.9u	-	120.3m
13	1	11M	51.0u	-	-	735.5m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_26 Number of Bursts in Trial: 18						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	6M	54.8u	1.349m	-	330.1m
2	3	9M	79.8u	1.016m	1.757m	129.3m
3	2	16M	63.0u	1.404m	-	78.91m
4	2	10M	74.4u	1.470m	-	381.3m
5	2	13M	92.1u	1.675m	-	521.2m
6	2	10M	78.2u	1.104m	-	581.8m
7	1	16M	91.0u	-	-	212.2m
8	2	16M	64.4u	1.505m	-	118.9m
9	1	6M	98.0u	-	-	308.0m
10	1	11M	78.4u	-	-	353.0m
11	3	6M	86.5u	1.058m	1.262m	426.5m
12	2	19M	78.6u	1.386m	-	512.2m
13	2	12M	89.4u	931.6u	-	353.8m
14	3	6M	59.8u	1.000m	1.724m	126.5m
15	1	19M	61.4u	-	-	434.5m
16	3	14M	86.3u	1.286m	1.603m	295.7m
17	1	6M	78.2u	-	-	7.012m
18	2	14M	75.2u	1.226m	-	314.8m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_27 Number of Bursts in Trial: 20						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	3	17M	97.5u	1.236m	1.639m	181.9m
2	1	6M	98.3u	-	-	495.3m
3	3	19M	97.5u	969.5u	1.009m	431.1m
4	2	13M	97.0u	1.033m	-	216.4m
5	2	17M	94.1u	1.826m	-	85.40m
6	2	17M	55.0u	987.0u	-	186.1m
7	1	18M	77.1u	-	-	316.4m
8	3	19M	60.0u	1.437m	1.801m	461.6m
9	2	8M	55.3u	1.442m	-	183.8m
10	1	9M	58.5u	-	-	2.234m
11	1	14M	65.3u	-	-	479.1m
12	3	15M	62.6u	971.4u	1.762m	390.3m
13	1	20M	60.8u	-	-	471.8m
14	3	14M	70.5u	1.669m	962.5u	528.8m
15	3	6M	64.3u	937.7u	1.375m	492.9m
16	1	12M	70.2u	-	-	535.2m
17	3	10M	89.2u	1.583m	1.740m	10.15m
18	2	13M	64.6u	1.416m	-	131.9m
19	3	8M	70.8u	1.829m	1.007m	553.2m
20	2	13M	70.5u	1.394m	-	256.0m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_28 Number of Bursts in Trial: 13						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	2	11M	51.9u	1.552m	-	297.3m
2	2	18M	85.2u	960.8u	-	291.8m
3	1	10M	90.4u	-	-	559.5m
4	1	9M	88.8u	-	-	560.0m
5	1	17M	94.4u	-	-	546.8m
6	3	13M	76.2u	1.683m	1.468m	653.5m
7	1	10M	86.5u	-	-	687.3m
8	2	10M	60.9u	1.014m	-	574.7m
9	1	16M	77.0u	-	-	346.6m
10	3	14M	67.7u	1.820m	1.453m	807.6m
11	2	14M	80.1u	1.680m	-	826.8m
12	2	11M	78.0u	1.642m	-	461.5m
13	1	5M	87.5u	-	-	805.2m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_29 Number of Bursts in Trial: 16						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	14M	81.4u	-	-	462.2m
2	1	18M	55.3u	-	-	545.8m
3	2	10M	67.6u	1.650m	-	321.8m
4	1	18M	96.4u	-	-	658.1m
5	2	14M	95.8u	1.300m	-	592.0m
6	2	13M	85.1u	1.530m	-	711.6m
7	2	8M	58.7u	1.841m	-	219.2m
8	2	17M	75.0u	1.279m	-	723.5m
9	2	11M	71.2u	1.787m	-	326.7m
10	1	12M	89.7u	-	-	193.9m
11	2	20M	80.8u	1.161m	-	90.74m
12	1	7M	89.2u	-	-	562.2m
13	3	9M	62.5u	977.5u	1.592m	576.8m
14	1	5M	89.2u	-	-	460.3m
15	1	8M	62.5u	-	-	86.86m
16	3	16M	84.4u	966.6u	1.450m	228.4m

Long Pulse Radar Test Signal Test Signal Name: LP_Signal_30 Number of Bursts in Trial: 16						
Burst	Pulses per Burst	Chrip (Hz)	Pulse Width (s)	Pulse 1 to 2 Spacing (s)	Pulse 2 to 3 Spacing (s)	Start Location (s)
1	1	6M	81.6u	-	-	212.7m
2	1	18M	59.3u	-	-	550.3m
3	3	18M	82.9u	1.790m	1.680m	36.25m
4	3	7M	52.2u	1.415m	1.779m	570.2m
5	1	8M	89.6u	-	-	446.5m
6	2	16M	57.1u	1.305m	-	672.4m
7	3	15M	60.4u	1.769m	1.586m	599.0m
8	2	14M	79.0u	1.550m	-	623.2m
9	3	14M	74.3u	1.398m	1.813m	131.4m
10	1	14M	92.2u	-	-	605.4m
11	1	12M	86.7u	-	-	27.59m
12	1	9M	52.7u	-	-	391.5m
13	2	15M	96.3u	1.139m	-	694.9m
14	1	9M	68.7u	-	-	592.8m
15	1	9M	71.5u	-	-	500.9m
16	3	16M	52.5u	1.576m	1.334m	66.39m

A.2 The Frequency Hopping Radar Pattern

TX (40MHz)

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_01							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.687G	2	5.293G	3	5.368G	4	5.381G
5	5.709G	6	5.704G	7	5.590G	8	5.400G
9	5.628G	10	5.295G	11	5.446G	12	5.401G
13	5.389G	14	5.476G	15	5.567G	16	5.358G
17	5.437G	18	5.558G	19	5.391G	20	5.523G
21	5.549G	22	5.373G	23	5.349G	24	5.413G
25	5.601G	26	5.312G	27	5.664G	28	5.427G
29	5.255G	30	5.338G	31	5.569G	32	5.257G
33	5.582G	34	5.410G	35	5.291G	36	5.693G
37	5.642G	38	5.653G	39	5.562G	40	5.610G
41	5.511G	42	5.716G	43	5.524G	44	5.656G
45	5.483G	46	5.684G	47	5.280G	48	5.333G
49	5.376G	50	5.492G	51	5.714G	52	5.384G
53	5.364G	54	5.363G	55	5.482G	56	5.408G
57	5.553G	58	5.329G	59	5.615G	60	5.422G
61	5.671G	62	5.457G	63	5.334G	64	5.496G
65	5.262G	66	5.456G	67	5.643G	68	5.272G
69	5.649G	70	5.620G	71	5.680G	72	5.563G
73	5.297G	74	5.537G	75	5.605G	76	5.520G
77	5.530G	78	5.710G	79	5.468G	80	5.502G
81	5.570G	82	5.419G	83	5.696G	84	5.470G
85	5.288G	86	5.679G	87	5.367G	88	5.600G
89	5.724G	90	5.499G	91	5.332G	92	5.421G
93	5.616G	94	5.541G	95	5.546G	96	5.572G
97	5.448G	98	5.554G	99	5.663G	100	5.608G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_02							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.330G	2	5.460G	3	5.403G	4	5.682G
5	5.564G	6	5.533G	7	5.676G	8	5.678G
9	5.570G	10	5.548G	11	5.685G	12	5.372G
13	5.386G	14	5.358G	15	5.483G	16	5.595G
17	5.384G	18	5.376G	19	5.274G	20	5.626G
21	5.466G	22	5.301G	23	5.459G	24	5.361G
25	5.442G	26	5.560G	27	5.417G	28	5.344G
29	5.513G	30	5.550G	31	5.280G	32	5.415G
33	5.653G	34	5.546G	35	5.511G	36	5.359G
37	5.494G	38	5.664G	39	5.462G	40	5.594G
41	5.446G	42	5.394G	43	5.551G	44	5.544G
45	5.631G	46	5.539G	47	5.545G	48	5.527G
49	5.620G	50	5.714G	51	5.639G	52	5.691G
53	5.439G	54	5.340G	55	5.365G	56	5.668G
57	5.408G	58	5.382G	59	5.498G	60	5.395G
61	5.684G	62	5.723G	63	5.704G	64	5.304G
65	5.529G	66	5.608G	67	5.436G	68	5.371G
69	5.295G	70	5.258G	71	5.298G	72	5.658G
73	5.370G	74	5.607G	75	5.502G	76	5.254G
77	5.700G	78	5.345G	79	5.497G	80	5.353G
81	5.421G	82	5.467G	83	5.509G	84	5.261G
85	5.450G	86	5.286G	87	5.584G	88	5.402G
89	5.391G	90	5.342G	91	5.312G	92	5.292G
93	5.555G	94	5.300G	95	5.348G	96	5.445G
97	5.253G	98	5.438G	99	5.453G	100	5.369G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_03							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.620G	2	5.279G	3	5.606G	4	5.293G
5	5.271G	6	5.608G	7	5.352G	8	5.672G
9	5.708G	10	5.710G	11	5.716G	12	5.694G
13	5.409G	14	5.625G	15	5.437G	16	5.469G
17	5.290G	18	5.661G	19	5.354G	20	5.531G
21	5.263G	22	5.630G	23	5.499G	24	5.634G
25	5.328G	26	5.572G	27	5.505G	28	5.644G
29	5.468G	30	5.557G	31	5.486G	32	5.553G
33	5.357G	34	5.680G	35	5.629G	36	5.589G
37	5.292G	38	5.253G	39	5.668G	40	5.444G
41	5.312G	42	5.441G	43	5.574G	44	5.385G
45	5.447G	46	5.327G	47	5.299G	48	5.663G
49	5.510G	50	5.274G	51	5.297G	52	5.636G
53	5.305G	54	5.533G	55	5.262G	56	5.568G
57	5.317G	58	5.501G	59	5.349G	60	5.698G
61	5.622G	62	5.559G	63	5.455G	64	5.662G
65	5.536G	66	5.325G	67	5.623G	68	5.632G
69	5.445G	70	5.598G	71	5.697G	72	5.472G
73	5.539G	74	5.270G	75	5.255G	76	5.538G
77	5.682G	78	5.387G	79	5.532G	80	5.718G
81	5.273G	82	5.291G	83	5.452G	84	5.252G
85	5.517G	86	5.591G	87	5.339G	88	5.421G
89	5.506G	90	5.371G	91	5.621G	92	5.417G
93	5.521G	94	5.288G	95	5.712G	96	5.498G
97	5.659G	98	5.647G	99	5.400G	100	5.579G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_04							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.551G	2	5.350G	3	5.390G	4	5.511G
5	5.573G	6	5.473G	7	5.543G	8	5.664G
9	5.568G	10	5.500G	11	5.431G	12	5.298G
13	5.354G	14	5.492G	15	5.376G	16	5.464G
17	5.672G	18	5.371G	19	5.553G	20	5.378G
21	5.597G	22	5.679G	23	5.495G	24	5.494G
25	5.575G	26	5.705G	27	5.418G	28	5.380G
29	5.713G	30	5.503G	31	5.472G	32	5.657G
33	5.697G	34	5.640G	35	5.299G	36	5.291G
37	5.253G	38	5.447G	39	5.632G	40	5.310G
41	5.717G	42	5.522G	43	5.567G	44	5.533G
45	5.665G	46	5.502G	47	5.264G	48	5.425G
49	5.383G	50	5.453G	51	5.277G	52	5.450G
53	5.562G	54	5.466G	55	5.663G	56	5.483G
57	5.667G	58	5.563G	59	5.259G	60	5.572G
61	5.690G	62	5.592G	63	5.361G	64	5.633G
65	5.691G	66	5.678G	67	5.710G	68	5.265G
69	5.532G	70	5.491G	71	5.252G	72	5.333G
73	5.434G	74	5.387G	75	5.490G	76	5.707G
77	5.613G	78	5.308G	79	5.404G	80	5.439G
81	5.580G	82	5.642G	83	5.339G	84	5.603G
85	5.279G	86	5.519G	87	5.326G	88	5.448G
89	5.403G	90	5.611G	91	5.676G	92	5.576G
93	5.397G	94	5.523G	95	5.258G	96	5.655G
97	5.408G	98	5.687G	99	5.351G	100	5.515G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_05							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.631G	2	5.663G	3	5.540G	4	5.682G
5	5.491G	6	5.423G	7	5.654G	8	5.395G
9	5.414G	10	5.283G	11	5.599G	12	5.378G
13	5.506G	14	5.690G	15	5.479G	16	5.695G
17	5.495G	18	5.277G	19	5.718G	20	5.715G
21	5.298G	22	5.548G	23	5.671G	24	5.272G
25	5.471G	26	5.675G	27	5.635G	28	5.271G
29	5.451G	30	5.520G	31	5.450G	32	5.286G
33	5.425G	34	5.677G	35	5.399G	36	5.499G
37	5.572G	38	5.435G	39	5.683G	40	5.461G
41	5.694G	42	5.475G	43	5.685G	44	5.640G
45	5.455G	46	5.547G	47	5.543G	48	5.401G
49	5.352G	50	5.280G	51	5.361G	52	5.570G
53	5.383G	54	5.569G	55	5.691G	56	5.342G
57	5.315G	58	5.532G	59	5.557G	60	5.724G
61	5.593G	62	5.345G	63	5.611G	64	5.546G
65	5.426G	66	5.686G	67	5.632G	68	5.578G
69	5.384G	70	5.712G	71	5.713G	72	5.403G
73	5.300G	74	5.297G	75	5.430G	76	5.400G
77	5.332G	78	5.560G	79	5.482G	80	5.653G
81	5.555G	82	5.473G	83	5.626G	84	5.623G
85	5.392G	86	5.498G	87	5.329G	88	5.513G
89	5.374G	90	5.707G	91	5.325G	92	5.382G
93	5.515G	94	5.722G	95	5.464G	96	5.567G
97	5.590G	98	5.421G	99	5.522G	100	5.343G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_06							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.472G	2	5.557G	3	5.431G	4	5.657G
5	5.580G	6	5.661G	7	5.465G	8	5.441G
9	5.315G	10	5.532G	11	5.619G	12	5.261G
13	5.523G	14	5.582G	15	5.454G	16	5.457G
17	5.283G	18	5.375G	19	5.625G	20	5.554G
21	5.453G	22	5.414G	23	5.679G	24	5.437G
25	5.396G	26	5.390G	27	5.456G	28	5.688G
29	5.546G	30	5.358G	31	5.277G	32	5.526G
33	5.521G	34	5.305G	35	5.477G	36	5.323G
37	5.576G	38	5.543G	39	5.282G	40	5.266G
41	5.644G	42	5.263G	43	5.664G	44	5.541G
45	5.651G	46	5.648G	47	5.471G	48	5.586G
49	5.556G	50	5.707G	51	5.268G	52	5.466G
53	5.702G	54	5.618G	55	5.506G	56	5.424G
57	5.643G	58	5.499G	59	5.696G	60	5.501G
61	5.480G	62	5.421G	63	5.590G	64	5.486G
65	5.575G	66	5.447G	67	5.503G	68	5.359G
69	5.668G	70	5.360G	71	5.665G	72	5.547G
73	5.451G	74	5.697G	75	5.320G	76	5.467G
77	5.490G	78	5.253G	79	5.574G	80	5.481G
81	5.723G	82	5.578G	83	5.278G	84	5.717G
85	5.597G	86	5.620G	87	5.258G	88	5.627G
89	5.470G	90	5.382G	91	5.423G	92	5.624G
93	5.602G	94	5.514G	95	5.570G	96	5.614G
97	5.391G	98	5.710G	99	5.373G	100	5.298G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_07							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.307G	2	5.461G	3	5.670G	4	5.348G
5	5.452G	6	5.576G	7	5.564G	8	5.388G
9	5.506G	10	5.513G	11	5.395G	12	5.322G
13	5.722G	14	5.543G	15	5.413G	16	5.531G
17	5.365G	18	5.408G	19	5.416G	20	5.321G
21	5.358G	22	5.280G	23	5.345G	24	5.311G
25	5.442G	26	5.712G	27	5.497G	28	5.593G
29	5.293G	30	5.393G	31	5.532G	32	5.316G
33	5.618G	34	5.271G	35	5.692G	36	5.652G
37	5.467G	38	5.431G	39	5.606G	40	5.353G
41	5.398G	42	5.553G	43	5.283G	44	5.661G
45	5.465G	46	5.333G	47	5.401G	48	5.425G
49	5.458G	50	5.527G	51	5.479G	52	5.318G
53	5.521G	54	5.284G	55	5.419G	56	5.409G
57	5.677G	58	5.495G	59	5.665G	60	5.718G
61	5.568G	62	5.269G	63	5.496G	64	5.602G
65	5.629G	66	5.341G	67	5.480G	68	5.689G
69	5.268G	70	5.586G	71	5.291G	72	5.255G
73	5.415G	74	5.424G	75	5.364G	76	5.359G
77	5.502G	78	5.560G	79	5.612G	80	5.710G
81	5.554G	82	5.626G	83	5.392G	84	5.681G
85	5.443G	86	5.662G	87	5.691G	88	5.547G
89	5.680G	90	5.709G	91	5.643G	92	5.371G
93	5.648G	94	5.686G	95	5.556G	96	5.647G
97	5.690G	98	5.641G	99	5.633G	100	5.426G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_08							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.399G	2	5.431G	3	5.323G	4	5.657G
5	5.530G	6	5.428G	7	5.411G	8	5.516G
9	5.430G	10	5.509G	11	5.619G	12	5.320G
13	5.605G	14	5.589G	15	5.418G	16	5.315G
17	5.579G	18	5.267G	19	5.266G	20	5.404G
21	5.700G	22	5.397G	23	5.610G	24	5.433G
25	5.648G	26	5.602G	27	5.289G	28	5.405G
29	5.724G	30	5.311G	31	5.699G	32	5.626G
33	5.270G	34	5.559G	35	5.429G	36	5.637G
37	5.568G	38	5.587G	39	5.319G	40	5.562G
41	5.555G	42	5.385G	43	5.351G	44	5.336G
45	5.394G	46	5.348G	47	5.512G	48	5.308G
49	5.526G	50	5.341G	51	5.707G	52	5.575G
53	5.676G	54	5.295G	55	5.472G	56	5.377G
57	5.570G	58	5.653G	59	5.624G	60	5.401G
61	5.444G	62	5.528G	63	5.504G	64	5.684G
65	5.376G	66	5.392G	67	5.475G	68	5.443G
69	5.448G	70	5.675G	71	5.607G	72	5.358G
73	5.251G	74	5.272G	75	5.252G	76	5.703G
77	5.474G	78	5.297G	79	5.419G	80	5.291G
81	5.478G	82	5.445G	83	5.481G	84	5.305G
85	5.480G	86	5.435G	87	5.616G	88	5.532G
89	5.523G	90	5.453G	91	5.441G	92	5.606G
93	5.567G	94	5.563G	95	5.500G	96	5.369G
97	5.533G	98	5.413G	99	5.625G	100	5.263G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_09							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.413G	2	5.322G	3	5.397G	4	5.474G
5	5.522G	6	5.649G	7	5.543G	8	5.528G
9	5.709G	10	5.252G	11	5.418G	12	5.359G
13	5.524G	14	5.443G	15	5.677G	16	5.402G
17	5.416G	18	5.506G	19	5.650G	20	5.439G
21	5.488G	22	5.680G	23	5.469G	24	5.393G
25	5.635G	26	5.307G	27	5.612G	28	5.449G
29	5.545G	30	5.267G	31	5.499G	32	5.321G
33	5.698G	34	5.723G	35	5.574G	36	5.265G
37	5.626G	38	5.409G	39	5.347G	40	5.597G
41	5.508G	42	5.640G	43	5.627G	44	5.631G
45	5.605G	46	5.480G	47	5.360G	48	5.351G
49	5.372G	50	5.530G	51	5.595G	52	5.486G
53	5.458G	54	5.621G	55	5.288G	56	5.647G
57	5.478G	58	5.663G	59	5.492G	60	5.287G
61	5.256G	62	5.669G	63	5.295G	64	5.403G
65	5.305G	66	5.312G	67	5.358G	68	5.512G
69	5.617G	70	5.452G	71	5.577G	72	5.588G
73	5.503G	74	5.451G	75	5.661G	76	5.517G
77	5.284G	78	5.489G	79	5.345G	80	5.633G
81	5.694G	82	5.688G	83	5.406G	84	5.702G
85	5.318G	86	5.562G	87	5.426G	88	5.671G
89	5.664G	90	5.398G	91	5.540G	92	5.684G
93	5.361G	94	5.606G	95	5.483G	96	5.693G
97	5.264G	98	5.404G	99	5.432G	100	5.643G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_10							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.444G	2	5.291G	3	5.479G	4	5.462G
5	5.533G	6	5.692G	7	5.253G	8	5.521G
9	5.543G	10	5.410G	11	5.538G	12	5.426G
13	5.573G	14	5.597G	15	5.662G	16	5.356G
17	5.452G	18	5.580G	19	5.707G	20	5.292G
21	5.560G	22	5.570G	23	5.363G	24	5.686G
25	5.414G	26	5.336G	27	5.388G	28	5.502G
29	5.367G	30	5.709G	31	5.263G	32	5.316G
33	5.368G	34	5.500G	35	5.453G	36	5.480G
37	5.324G	38	5.637G	39	5.376G	40	5.714G
41	5.496G	42	5.323G	43	5.623G	44	5.273G
45	5.537G	46	5.585G	47	5.669G	48	5.680G
49	5.705G	50	5.441G	51	5.672G	52	5.481G
53	5.719G	54	5.385G	55	5.528G	56	5.445G
57	5.454G	58	5.456G	59	5.700G	60	5.397G
61	5.463G	62	5.347G	63	5.608G	64	5.332G
65	5.279G	66	5.387G	67	5.592G	68	5.386G
69	5.562G	70	5.520G	71	5.293G	72	5.326G
73	5.644G	74	5.331G	75	5.391G	76	5.603G
77	5.503G	78	5.510G	79	5.495G	80	5.319G
81	5.303G	82	5.429G	83	5.318G	84	5.653G
85	5.266G	86	5.274G	87	5.658G	88	5.421G
89	5.366G	90	5.556G	91	5.411G	92	5.718G
93	5.302G	94	5.440G	95	5.307G	96	5.567G
97	5.586G	98	5.344G	99	5.345G	100	5.713G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_11							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.415G	2	5.426G	3	5.332G	4	5.360G
5	5.290G	6	5.395G	7	5.511G	8	5.701G
9	5.336G	10	5.708G	11	5.429G	12	5.723G
13	5.687G	14	5.371G	15	5.702G	16	5.502G
17	5.520G	18	5.255G	19	5.692G	20	5.558G
21	5.478G	22	5.570G	23	5.319G	24	5.273G
25	5.492G	26	5.320G	27	5.710G	28	5.629G
29	5.532G	30	5.602G	31	5.495G	32	5.545G
33	5.388G	34	5.617G	35	5.473G	36	5.270G
37	5.431G	38	5.399G	39	5.293G	40	5.375G
41	5.351G	42	5.636G	43	5.460G	44	5.303G
45	5.287G	46	5.525G	47	5.358G	48	5.671G
49	5.717G	50	5.666G	51	5.724G	52	5.505G
53	5.335G	54	5.462G	55	5.278G	56	5.389G
57	5.626G	58	5.508G	59	5.560G	60	5.677G
61	5.596G	62	5.347G	63	5.500G	64	5.480G
65	5.575G	66	5.263G	67	5.652G	68	5.488G
69	5.718G	70	5.664G	71	5.458G	72	5.518G
73	5.682G	74	5.591G	75	5.268G	76	5.491G
77	5.349G	78	5.404G	79	5.519G	80	5.608G
81	5.639G	82	5.259G	83	5.611G	84	5.443G
85	5.483G	86	5.643G	87	5.435G	88	5.680G
89	5.533G	90	5.258G	91	5.527G	92	5.546G
93	5.421G	94	5.257G	95	5.468G	96	5.445G
97	5.667G	98	5.653G	99	5.515G	100	5.275G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_12							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.650G	2	5.482G	3	5.352G	4	5.263G
5	5.517G	6	5.576G	7	5.664G	8	5.487G
9	5.355G	10	5.589G	11	5.700G	12	5.271G
13	5.333G	14	5.314G	15	5.483G	16	5.628G
17	5.643G	18	5.580G	19	5.688G	20	5.563G
21	5.568G	22	5.385G	23	5.266G	24	5.427G
25	5.430G	26	5.640G	27	5.473G	28	5.607G
29	5.320G	30	5.307G	31	5.573G	32	5.411G
33	5.337G	34	5.674G	35	5.388G	36	5.671G
37	5.713G	38	5.373G	39	5.286G	40	5.300G
41	5.403G	42	5.446G	43	5.313G	44	5.547G
45	5.444G	46	5.705G	47	5.638G	48	5.296G
49	5.335G	50	5.318G	51	5.354G	52	5.557G
53	5.661G	54	5.387G	55	5.505G	56	5.439G
57	5.471G	58	5.652G	59	5.641G	60	5.257G
61	5.509G	62	5.494G	63	5.254G	64	5.667G
65	5.577G	66	5.273G	67	5.326G	68	5.419G
69	5.377G	70	5.660G	71	5.310G	72	5.451G
73	5.274G	74	5.520G	75	5.252G	76	5.401G
77	5.386G	78	5.546G	79	5.304G	80	5.682G
81	5.421G	82	5.291G	83	5.267G	84	5.342G
85	5.513G	86	5.432G	87	5.367G	88	5.416G
89	5.441G	90	5.424G	91	5.625G	92	5.609G
93	5.347G	94	5.595G	95	5.275G	96	5.551G
97	5.371G	98	5.374G	99	5.408G	100	5.469G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_13							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.475G	2	5.309G	3	5.355G	4	5.514G
5	5.379G	6	5.282G	7	5.435G	8	5.285G
9	5.554G	10	5.718G	11	5.487G	12	5.270G
13	5.505G	14	5.429G	15	5.585G	16	5.641G
17	5.405G	18	5.588G	19	5.510G	20	5.624G
21	5.634G	22	5.538G	23	5.359G	24	5.623G
25	5.668G	26	5.562G	27	5.467G	28	5.544G
29	5.701G	30	5.298G	31	5.586G	32	5.283G
33	5.478G	34	5.374G	35	5.531G	36	5.691G
37	5.577G	38	5.644G	39	5.501G	40	5.656G
41	5.440G	42	5.462G	43	5.619G	44	5.286G
45	5.448G	46	5.712G	47	5.497G	48	5.326G
49	5.560G	50	5.366G	51	5.468G	52	5.362G
53	5.523G	54	5.396G	55	5.669G	56	5.419G
57	5.493G	58	5.417G	59	5.323G	60	5.530G
61	5.603G	62	5.576G	63	5.275G	64	5.291G
65	5.434G	66	5.443G	67	5.259G	68	5.380G
69	5.279G	70	5.357G	71	5.525G	72	5.450G
73	5.353G	74	5.626G	75	5.258G	76	5.449G
77	5.268G	78	5.441G	79	5.611G	80	5.640G
81	5.363G	82	5.465G	83	5.716G	84	5.720G
85	5.524G	86	5.341G	87	5.327G	88	5.578G
89	5.618G	90	5.556G	91	5.485G	92	5.418G
93	5.647G	94	5.411G	95	5.710G	96	5.407G
97	5.406G	98	5.675G	99	5.658G	100	5.347G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_14							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.304G	2	5.492G	3	5.348G	4	5.412G
5	5.471G	6	5.272G	7	5.513G	8	5.502G
9	5.707G	10	5.660G	11	5.477G	12	5.667G
13	5.521G	14	5.700G	15	5.466G	16	5.465G
17	5.487G	18	5.284G	19	5.714G	20	5.278G
21	5.430G	22	5.686G	23	5.542G	24	5.353G
25	5.638G	26	5.319G	27	5.276G	28	5.574G
29	5.378G	30	5.716G	31	5.528G	32	5.380G
33	5.582G	34	5.410G	35	5.464G	36	5.544G
37	5.462G	38	5.648G	39	5.402G	40	5.563G
41	5.540G	42	5.630G	43	5.251G	44	5.557G
45	5.558G	46	5.524G	47	5.547G	48	5.620G
49	5.310G	50	5.442G	51	5.376G	52	5.269G
53	5.360G	54	5.346G	55	5.612G	56	5.405G
57	5.506G	58	5.400G	59	5.441G	60	5.299G
61	5.519G	62	5.587G	63	5.350G	64	5.509G
65	5.318G	66	5.374G	67	5.628G	68	5.375G
69	5.280G	70	5.580G	71	5.389G	72	5.656G
73	5.390G	74	5.450G	75	5.281G	76	5.341G
77	5.692G	78	5.388G	79	5.397G	80	5.392G
81	5.652G	82	5.429G	83	5.481G	84	5.428G
85	5.305G	86	5.633G	87	5.551G	88	5.437G
89	5.415G	90	5.267G	91	5.401G	92	5.598G
93	5.296G	94	5.681G	95	5.501G	96	5.522G
97	5.363G	98	5.455G	99	5.424G	100	5.309G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_15							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.426G	2	5.595G	3	5.510G	4	5.665G
5	5.478G	6	5.270G	7	5.464G	8	5.341G
9	5.346G	10	5.398G	11	5.427G	12	5.317G
13	5.410G	14	5.546G	15	5.702G	16	5.460G
17	5.423G	18	5.711G	19	5.500G	20	5.382G
21	5.541G	22	5.607G	23	5.584G	24	5.650G
25	5.609G	26	5.525G	27	5.357G	28	5.577G
29	5.392G	30	5.490G	31	5.481G	32	5.449G
33	5.606G	34	5.521G	35	5.327G	36	5.289G
37	5.315G	38	5.601G	39	5.587G	40	5.325G
41	5.660G	42	5.359G	43	5.483G	44	5.520G
45	5.491G	46	5.703G	47	5.550G	48	5.698G
49	5.311G	50	5.400G	51	5.574G	52	5.274G
53	5.614G	54	5.571G	55	5.511G	56	5.596G
57	5.310G	58	5.668G	59	5.556G	60	5.363G
61	5.705G	62	5.266G	63	5.502G	64	5.441G
65	5.446G	66	5.273G	67	5.680G	68	5.583G
69	5.271G	70	5.582G	71	5.314G	72	5.629G
73	5.418G	74	5.292G	75	5.557G	76	5.662G
77	5.405G	78	5.472G	79	5.395G	80	5.669G
81	5.316G	82	5.256G	83	5.282G	84	5.699G
85	5.570G	86	5.637G	87	5.687G	88	5.335G
89	5.691G	90	5.560G	91	5.409G	92	5.251G
93	5.451G	94	5.373G	95	5.367G	96	5.417G
97	5.658G	98	5.672G	99	5.440G	100	5.719G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_16							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.340G	2	5.548G	3	5.397G	4	5.446G
5	5.641G	6	5.270G	7	5.522G	8	5.406G
9	5.348G	10	5.496G	11	5.349G	12	5.689G
13	5.540G	14	5.595G	15	5.539G	16	5.346G
17	5.688G	18	5.387G	19	5.456G	20	5.703G
21	5.523G	22	5.520G	23	5.673G	24	5.665G
25	5.314G	26	5.326G	27	5.284G	28	5.587G
29	5.580G	30	5.645G	31	5.259G	32	5.607G
33	5.570G	34	5.420G	35	5.441G	36	5.672G
37	5.459G	38	5.471G	39	5.354G	40	5.266G
41	5.363G	42	5.680G	43	5.530G	44	5.355G
45	5.323G	46	5.373G	47	5.720G	48	5.526G
49	5.395G	50	5.351G	51	5.296G	52	5.442G
53	5.650G	54	5.263G	55	5.396G	56	5.572G
57	5.425G	58	5.421G	59	5.630G	60	5.390G
61	5.511G	62	5.510G	63	5.508G	64	5.288G
65	5.480G	66	5.675G	67	5.409G	68	5.481G
69	5.436G	70	5.519G	71	5.426G	72	5.362G
73	5.706G	74	5.424G	75	5.593G	76	5.669G
77	5.596G	78	5.613G	79	5.311G	80	5.313G
81	5.380G	82	5.600G	83	5.467G	84	5.648G
85	5.709G	86	5.631G	87	5.564G	88	5.293G
89	5.341G	90	5.433G	91	5.265G	92	5.698G
93	5.504G	94	5.606G	95	5.690G	96	5.251G
97	5.301G	98	5.567G	99	5.705G	100	5.694G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_17							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.645G	2	5.351G	3	5.258G	4	5.302G
5	5.468G	6	5.265G	7	5.448G	8	5.712G
9	5.601G	10	5.445G	11	5.388G	12	5.272G
13	5.522G	14	5.489G	15	5.362G	16	5.625G
17	5.308G	18	5.707G	19	5.635G	20	5.520G
21	5.639G	22	5.417G	23	5.436G	24	5.319G
25	5.330G	26	5.341G	27	5.655G	28	5.256G
29	5.257G	30	5.558G	31	5.638G	32	5.283G
33	5.711G	34	5.271G	35	5.382G	36	5.279G
37	5.332G	38	5.481G	39	5.298G	40	5.277G
41	5.266G	42	5.324G	43	5.523G	44	5.480G
45	5.363G	46	5.454G	47	5.394G	48	5.314G
49	5.614G	50	5.582G	51	5.560G	52	5.676G
53	5.553G	54	5.385G	55	5.273G	56	5.641G
57	5.331G	58	5.651G	59	5.453G	60	5.580G
61	5.356G	62	5.268G	63	5.441G	64	5.705G
65	5.325G	66	5.674G	67	5.422G	68	5.281G
69	5.717G	70	5.288G	71	5.252G	72	5.551G
73	5.653G	74	5.506G	75	5.508G	76	5.519G
77	5.680G	78	5.617G	79	5.613G	80	5.294G
81	5.709G	82	5.310G	83	5.295G	84	5.691G
85	5.442G	86	5.561G	87	5.467G	88	5.570G
89	5.688G	90	5.289G	91	5.622G	92	5.259G
93	5.531G	94	5.554G	95	5.574G	96	5.592G
97	5.654G	98	5.482G	99	5.552G	100	5.282G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_18							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.371G	2	5.472G	3	5.357G	4	5.284G
5	5.530G	6	5.257G	7	5.614G	8	5.604G
9	5.253G	10	5.267G	11	5.410G	12	5.483G
13	5.404G	14	5.519G	15	5.363G	16	5.667G
17	5.653G	18	5.287G	19	5.298G	20	5.555G
21	5.374G	22	5.386G	23	5.288G	24	5.465G
25	5.310G	26	5.513G	27	5.543G	28	5.261G
29	5.589G	30	5.537G	31	5.624G	32	5.492G
33	5.480G	34	5.664G	35	5.424G	36	5.527G
37	5.320G	38	5.512G	39	5.558G	40	5.308G
41	5.600G	42	5.262G	43	5.707G	44	5.393G
45	5.661G	46	5.355G	47	5.292G	48	5.563G
49	5.620G	50	5.586G	51	5.556G	52	5.272G
53	5.712G	54	5.564G	55	5.332G	56	5.356G
57	5.432G	58	5.602G	59	5.252G	60	5.450G
61	5.554G	62	5.418G	63	5.560G	64	5.381G
65	5.434G	66	5.349G	67	5.550G	68	5.377G
69	5.502G	70	5.639G	71	5.306G	72	5.636G
73	5.260G	74	5.479G	75	5.346G	76	5.678G
77	5.364G	78	5.274G	79	5.590G	80	5.452G
81	5.704G	82	5.514G	83	5.520G	84	5.474G
85	5.631G	86	5.685G	87	5.271G	88	5.278G
89	5.626G	90	5.340G	91	5.716G	92	5.324G
93	5.683G	94	5.675G	95	5.528G	96	5.286G
97	5.632G	98	5.618G	99	5.545G	100	5.396G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_19							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.653G	2	5.385G	3	5.550G	4	5.393G
5	5.545G	6	5.522G	7	5.390G	8	5.569G
9	5.461G	10	5.483G	11	5.272G	12	5.295G
13	5.713G	14	5.600G	15	5.627G	16	5.333G
17	5.358G	18	5.689G	19	5.462G	20	5.650G
21	5.666G	22	5.692G	23	5.318G	24	5.722G
25	5.420G	26	5.458G	27	5.316G	28	5.315G
29	5.543G	30	5.704G	31	5.368G	32	5.716G
33	5.480G	34	5.270G	35	5.699G	36	5.266G
37	5.281G	38	5.691G	39	5.613G	40	5.508G
41	5.468G	42	5.619G	43	5.258G	44	5.529G
45	5.652G	46	5.465G	47	5.589G	48	5.324G
49	5.275G	50	5.286G	51	5.441G	52	5.505G
53	5.384G	54	5.697G	55	5.491G	56	5.423G
57	5.533G	58	5.460G	59	5.282G	60	5.501G
61	5.452G	62	5.581G	63	5.456G	64	5.526G
65	5.498G	66	5.361G	67	5.639G	68	5.606G
69	5.273G	70	5.388G	71	5.696G	72	5.313G
73	5.659G	74	5.553G	75	5.672G	76	5.322G
77	5.370G	78	5.612G	79	5.354G	80	5.450G
81	5.649G	82	5.587G	83	5.280G	84	5.487G
85	5.580G	86	5.447G	87	5.630G	88	5.657G
89	5.337G	90	5.572G	91	5.348G	92	5.342G
93	5.288G	94	5.350G	95	5.330G	96	5.528G
97	5.482G	98	5.375G	99	5.307G	100	5.538G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_20							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.454G	2	5.536G	3	5.331G	4	5.600G
5	5.544G	6	5.692G	7	5.476G	8	5.640G
9	5.719G	10	5.521G	11	5.702G	12	5.485G
13	5.399G	14	5.608G	15	5.707G	16	5.385G
17	5.592G	18	5.275G	19	5.474G	20	5.673G
21	5.679G	22	5.680G	23	5.404G	24	5.318G
25	5.515G	26	5.462G	27	5.379G	28	5.675G
29	5.316G	30	5.449G	31	5.587G	32	5.643G
33	5.532G	34	5.512G	35	5.646G	36	5.433G
37	5.300G	38	5.274G	39	5.484G	40	5.681G
41	5.550G	42	5.635G	43	5.382G	44	5.290G
45	5.333G	46	5.576G	47	5.413G	48	5.531G
49	5.258G	50	5.575G	51	5.501G	52	5.546G
53	5.689G	54	5.431G	55	5.710G	56	5.256G
57	5.638G	58	5.594G	59	5.519G	60	5.250G
61	5.507G	62	5.277G	63	5.420G	64	5.577G
65	5.723G	66	5.548G	67	5.555G	68	5.648G
69	5.252G	70	5.483G	71	5.528G	72	5.693G
73	5.516G	74	5.520G	75	5.427G	76	5.384G
77	5.564G	78	5.490G	79	5.556G	80	5.671G
81	5.392G	82	5.279G	83	5.402G	84	5.649G
85	5.529G	86	5.493G	87	5.597G	88	5.567G
89	5.313G	90	5.543G	91	5.372G	92	5.662G
93	5.511G	94	5.368G	95	5.442G	96	5.682G
97	5.590G	98	5.703G	99	5.523G	100	5.623G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_21							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.327G	2	5.513G	3	5.644G	4	5.624G
5	5.395G	6	5.638G	7	5.548G	8	5.531G
9	5.444G	10	5.297G	11	5.610G	12	5.342G
13	5.530G	14	5.714G	15	5.505G	16	5.375G
17	5.552G	18	5.267G	19	5.550G	20	5.301G
21	5.674G	22	5.619G	23	5.306G	24	5.279G
25	5.691G	26	5.702G	27	5.350G	28	5.437G
29	5.458G	30	5.283G	31	5.253G	32	5.596G
33	5.524G	34	5.651G	35	5.292G	36	5.265G
37	5.544G	38	5.422G	39	5.606G	40	5.588G
41	5.323G	42	5.304G	43	5.592G	44	5.631G
45	5.441G	46	5.650G	47	5.621G	48	5.628G
49	5.361G	50	5.356G	51	5.348G	52	5.486G
53	5.590G	54	5.434G	55	5.322G	56	5.553G
57	5.339G	58	5.300G	59	5.577G	60	5.508G
61	5.388G	62	5.489G	63	5.607G	64	5.463G
65	5.453G	66	5.690G	67	5.317G	68	5.720G
69	5.527G	70	5.427G	71	5.641G	72	5.694G
73	5.511G	74	5.355G	75	5.390G	76	5.394G
77	5.561G	78	5.637G	79	5.435G	80	5.643G
81	5.311G	82	5.272G	83	5.516G	84	5.449G
85	5.448G	86	5.571G	87	5.254G	88	5.320G
89	5.294G	90	5.506G	91	5.522G	92	5.264G
93	5.412G	94	5.409G	95	5.560G	96	5.276G
97	5.380G	98	5.364G	99	5.488G	100	5.363G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_22							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.540G	2	5.458G	3	5.316G	4	5.285G
5	5.613G	6	5.568G	7	5.684G	8	5.555G
9	5.580G	10	5.582G	11	5.349G	12	5.587G
13	5.713G	14	5.685G	15	5.463G	16	5.465G
17	5.361G	18	5.578G	19	5.622G	20	5.378G
21	5.490G	22	5.619G	23	5.413G	24	5.621G
25	5.369G	26	5.680G	27	5.667G	28	5.563G
29	5.371G	30	5.276G	31	5.430G	32	5.452G
33	5.280G	34	5.420G	35	5.434G	36	5.590G
37	5.388G	38	5.595G	39	5.328G	40	5.719G
41	5.330G	42	5.615G	43	5.457G	44	5.583G
45	5.599G	46	5.686G	47	5.416G	48	5.681G
49	5.391G	50	5.297G	51	5.383G	52	5.511G
53	5.325G	54	5.531G	55	5.417G	56	5.315G
57	5.556G	58	5.286G	59	5.602G	60	5.309G
61	5.558G	62	5.475G	63	5.257G	64	5.499G
65	5.721G	66	5.402G	67	5.617G	68	5.266G
69	5.423G	70	5.278G	71	5.374G	72	5.362G
73	5.462G	74	5.507G	75	5.611G	76	5.429G
77	5.698G	78	5.703G	79	5.301G	80	5.547G
81	5.720G	82	5.524G	83	5.451G	84	5.639G
85	5.459G	86	5.352G	87	5.491G	88	5.299G
89	5.296G	90	5.647G	91	5.638G	92	5.488G
93	5.542G	94	5.478G	95	5.552G	96	5.636G
97	5.332G	98	5.329G	99	5.635G	100	5.674G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_23							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.688G	2	5.610G	3	5.608G	4	5.672G
5	5.311G	6	5.699G	7	5.687G	8	5.485G
9	5.411G	10	5.379G	11	5.460G	12	5.435G
13	5.400G	14	5.596G	15	5.415G	16	5.319G
17	5.584G	18	5.709G	19	5.264G	20	5.619G
21	5.328G	22	5.601G	23	5.593G	24	5.353G
25	5.575G	26	5.718G	27	5.305G	28	5.590G
29	5.462G	30	5.667G	31	5.321G	32	5.449G
33	5.653G	34	5.334G	35	5.514G	36	5.659G
37	5.324G	38	5.296G	39	5.378G	40	5.512G
41	5.386G	42	5.423G	43	5.453G	44	5.450G
45	5.448G	46	5.665G	47	5.256G	48	5.702G
49	5.520G	50	5.712G	51	5.671G	52	5.724G
53	5.481G	54	5.299G	55	5.632G	56	5.387G
57	5.494G	58	5.612G	59	5.527G	60	5.486G
61	5.537G	62	5.463G	63	5.541G	64	5.419G
65	5.398G	66	5.569G	67	5.459G	68	5.325G
69	5.577G	70	5.482G	71	5.683G	72	5.710G
73	5.396G	74	5.304G	75	5.472G	76	5.261G
77	5.493G	78	5.719G	79	5.295G	80	5.503G
81	5.606G	82	5.365G	83	5.548G	84	5.497G
85	5.597G	86	5.624G	87	5.454G	88	5.498G
89	5.714G	90	5.422G	91	5.369G	92	5.694G
93	5.681G	94	5.410G	95	5.515G	96	5.599G
97	5.605G	98	5.556G	99	5.623G	100	5.297G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_24							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.612G	2	5.658G	3	5.405G	4	5.339G
5	5.436G	6	5.675G	7	5.340G	8	5.723G
9	5.437G	10	5.518G	11	5.604G	12	5.550G
13	5.434G	14	5.459G	15	5.689G	16	5.262G
17	5.564G	18	5.522G	19	5.655G	20	5.489G
21	5.643G	22	5.552G	23	5.401G	24	5.413G
25	5.307G	26	5.385G	27	5.450G	28	5.641G
29	5.258G	30	5.679G	31	5.471G	32	5.348G
33	5.524G	34	5.497G	35	5.383G	36	5.693G
37	5.251G	38	5.601G	39	5.632G	40	5.709G
41	5.627G	42	5.684G	43	5.352G	44	5.443G
45	5.498G	46	5.582G	47	5.384G	48	5.272G
49	5.589G	50	5.487G	51	5.421G	52	5.292G
53	5.606G	54	5.435G	55	5.257G	56	5.645G
57	5.263G	58	5.441G	59	5.695G	60	5.668G
61	5.485G	62	5.721G	63	5.379G	64	5.574G
65	5.708G	66	5.293G	67	5.299G	68	5.520G
69	5.638G	70	5.511G	71	5.482G	72	5.305G
73	5.647G	74	5.415G	75	5.639G	76	5.334G
77	5.503G	78	5.452G	79	5.468G	80	5.508G
81	5.351G	82	5.572G	83	5.537G	84	5.481G
85	5.625G	86	5.370G	87	5.588G	88	5.698G
89	5.444G	90	5.707G	91	5.554G	92	5.686G
93	5.391G	94	5.429G	95	5.563G	96	5.341G
97	5.462G	98	5.495G	99	5.546G	100	5.659G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_25							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.684G	2	5.515G	3	5.273G	4	5.544G
5	5.525G	6	5.362G	7	5.413G	8	5.284G
9	5.685G	10	5.468G	11	5.472G	12	5.505G
13	5.463G	14	5.350G	15	5.702G	16	5.315G
17	5.256G	18	5.401G	19	5.386G	20	5.606G
21	5.494G	22	5.251G	23	5.298G	24	5.531G
25	5.339G	26	5.680G	27	5.594G	28	5.642G
29	5.651G	30	5.373G	31	5.699G	32	5.282G
33	5.697G	34	5.272G	35	5.559G	36	5.312G
37	5.623G	38	5.258G	39	5.434G	40	5.280G
41	5.288G	42	5.316G	43	5.648G	44	5.674G
45	5.509G	46	5.306G	47	5.441G	48	5.439G
49	5.592G	50	5.644G	51	5.319G	52	5.310G
53	5.591G	54	5.279G	55	5.489G	56	5.683G
57	5.352G	58	5.569G	59	5.296G	60	5.442G
61	5.622G	62	5.486G	63	5.304G	64	5.338G
65	5.603G	66	5.317G	67	5.341G	68	5.294G
69	5.652G	70	5.299G	71	5.627G	72	5.701G
73	5.645G	74	5.397G	75	5.690G	76	5.588G
77	5.570G	78	5.669G	79	5.614G	80	5.518G
81	5.488G	82	5.311G	83	5.640G	84	5.658G
85	5.253G	86	5.447G	87	5.390G	88	5.378G
89	5.682G	90	5.389G	91	5.522G	92	5.291G
93	5.454G	94	5.602G	95	5.546G	96	5.477G
97	5.691G	98	5.530G	99	5.410G	100	5.633G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_26							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.292G	2	5.504G	3	5.265G	4	5.456G
5	5.492G	6	5.620G	7	5.560G	8	5.666G
9	5.703G	10	5.523G	11	5.502G	12	5.687G
13	5.649G	14	5.584G	15	5.698G	16	5.406G
17	5.606G	18	5.682G	19	5.342G	20	5.626G
21	5.393G	22	5.327G	23	5.592G	24	5.411G
25	5.483G	26	5.396G	27	5.381G	28	5.329G
29	5.450G	30	5.656G	31	5.364G	32	5.556G
33	5.459G	34	5.319G	35	5.424G	36	5.345G
37	5.365G	38	5.368G	39	5.674G	40	5.302G
41	5.646G	42	5.348G	43	5.704G	44	5.482G
45	5.358G	46	5.599G	47	5.702G	48	5.516G
49	5.273G	50	5.697G	51	5.432G	52	5.495G
53	5.717G	54	5.657G	55	5.615G	56	5.409G
57	5.508G	58	5.262G	59	5.664G	60	5.452G
61	5.551G	62	5.499G	63	5.607G	64	5.579G
65	5.712G	66	5.338G	67	5.416G	68	5.264G
69	5.301G	70	5.449G	71	5.433G	72	5.289G
73	5.611G	74	5.258G	75	5.259G	76	5.578G
77	5.361G	78	5.271G	79	5.613G	80	5.713G
81	5.288G	82	5.444G	83	5.356G	84	5.624G
85	5.479G	86	5.359G	87	5.403G	88	5.593G
89	5.255G	90	5.309G	91	5.428G	92	5.688G
93	5.608G	94	5.427G	95	5.590G	96	5.438G
97	5.577G	98	5.630G	99	5.296G	100	5.658G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_27							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.428G	2	5.282G	3	5.642G	4	5.477G
5	5.265G	6	5.628G	7	5.598G	8	5.511G
9	5.524G	10	5.692G	11	5.446G	12	5.396G
13	5.404G	14	5.669G	15	5.292G	16	5.381G
17	5.724G	18	5.291G	19	5.715G	20	5.421G
21	5.252G	22	5.425G	23	5.596G	24	5.369G
25	5.513G	26	5.569G	27	5.475G	28	5.671G
29	5.690G	30	5.363G	31	5.448G	32	5.546G
33	5.414G	34	5.368G	35	5.435G	36	5.311G
37	5.467G	38	5.655G	39	5.466G	40	5.589G
41	5.367G	42	5.630G	43	5.315G	44	5.514G
45	5.376G	46	5.512G	47	5.287G	48	5.264G
49	5.662G	50	5.335G	51	5.570G	52	5.465G
53	5.705G	54	5.559G	55	5.427G	56	5.694G
57	5.253G	58	5.618G	59	5.554G	60	5.411G
61	5.617G	62	5.493G	63	5.309G	64	5.660G
65	5.256G	66	5.482G	67	5.285G	68	5.339G
69	5.532G	70	5.387G	71	5.689G	72	5.597G
73	5.708G	74	5.272G	75	5.370G	76	5.424G
77	5.284G	78	5.337G	79	5.631G	80	5.486G
81	5.489G	82	5.388G	83	5.613G	84	5.623G
85	5.577G	86	5.399G	87	5.616G	88	5.269G
89	5.449G	90	5.334G	91	5.303G	92	5.338G
93	5.487G	94	5.604G	95	5.558G	96	5.661G
97	5.640G	98	5.550G	99	5.606G	100	5.360G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_28							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.480G	2	5.318G	3	5.642G	4	5.631G
5	5.569G	6	5.339G	7	5.317G	8	5.320G
9	5.523G	10	5.666G	11	5.626G	12	5.674G
13	5.623G	14	5.385G	15	5.578G	16	5.555G
17	5.383G	18	5.687G	19	5.350G	20	5.622G
21	5.528G	22	5.567G	23	5.574G	24	5.644G
25	5.486G	26	5.643G	27	5.621G	28	5.723G
29	5.669G	30	5.587G	31	5.319G	32	5.680G
33	5.466G	34	5.573G	35	5.681G	36	5.438G
37	5.487G	38	5.255G	39	5.720G	40	5.554G
41	5.341G	42	5.256G	43	5.406G	44	5.595G
45	5.570G	46	5.473G	47	5.384G	48	5.260G
49	5.625G	50	5.690G	51	5.563G	52	5.688G
53	5.328G	54	5.390G	55	5.667G	56	5.483G
57	5.366G	58	5.627G	59	5.489G	60	5.367G
61	5.460G	62	5.479G	63	5.298G	64	5.499G
65	5.388G	66	5.389G	67	5.378G	68	5.423G
69	5.316G	70	5.292G	71	5.324G	72	5.604G
73	5.614G	74	5.636G	75	5.561G	76	5.617G
77	5.251G	78	5.602G	79	5.344G	80	5.583G
81	5.261G	82	5.513G	83	5.656G	84	5.272G
85	5.710G	86	5.288G	87	5.393G	88	5.557G
89	5.266G	90	5.458G	91	5.691G	92	5.533G
93	5.425G	94	5.271G	95	5.338G	96	5.323G
97	5.605G	98	5.417G	99	5.586G	100	5.562G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_29							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.297G	2	5.501G	3	5.664G	4	5.321G
5	5.449G	6	5.685G	7	5.463G	8	5.415G
9	5.467G	10	5.704G	11	5.324G	12	5.292G
13	5.648G	14	5.385G	15	5.275G	16	5.329G
17	5.665G	18	5.549G	19	5.646G	20	5.597G
21	5.684G	22	5.456G	23	5.277G	24	5.435G
25	5.258G	26	5.417G	27	5.296G	28	5.439G
29	5.306G	30	5.690G	31	5.511G	32	5.343G
33	5.447G	34	5.260G	35	5.702G	36	5.708G
37	5.471G	38	5.521G	39	5.356G	40	5.557G
41	5.390G	42	5.604G	43	5.363G	44	5.598G
45	5.483G	46	5.433G	47	5.379G	48	5.289G
49	5.406G	50	5.484G	51	5.266G	52	5.626G
53	5.311G	54	5.416G	55	5.477G	56	5.450G
57	5.619G	58	5.465G	59	5.658G	60	5.670G
61	5.573G	62	5.537G	63	5.253G	64	5.610G
65	5.524G	66	5.715G	67	5.354G	68	5.284G
69	5.347G	70	5.539G	71	5.305G	72	5.444G
73	5.661G	74	5.518G	75	5.623G	76	5.663G
77	5.441G	78	5.592G	79	5.268G	80	5.409G
81	5.606G	82	5.288G	83	5.570G	84	5.393G
85	5.621G	86	5.357G	87	5.652G	88	5.533G
89	5.719G	90	5.593G	91	5.399G	92	5.517G
93	5.713G	94	5.600G	95	5.694G	96	5.622G
97	5.414G	98	5.407G	99	5.428G	100	5.494G

Hopping Frequency Sequence Name: HOP_FREQ_SEQ_30							
SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)	SEQ#	Frequency (Hz)
1	5.452G	2	5.521G	3	5.583G	4	5.605G
5	5.420G	6	5.537G	7	5.404G	8	5.263G
9	5.322G	10	5.478G	11	5.668G	12	5.493G
13	5.366G	14	5.681G	15	5.271G	16	5.670G
17	5.326G	18	5.680G	19	5.616G	20	5.715G
21	5.673G	22	5.430G	23	5.502G	24	5.437G
25	5.495G	26	5.698G	27	5.300G	28	5.279G
29	5.651G	30	5.510G	31	5.384G	32	5.323G
33	5.683G	34	5.449G	35	5.470G	36	5.658G
37	5.664G	38	5.615G	39	5.477G	40	5.320G
41	5.288G	42	5.484G	43	5.549G	44	5.711G
45	5.476G	46	5.491G	47	5.620G	48	5.532G
49	5.291G	50	5.553G	51	5.277G	52	5.617G
53	5.412G	54	5.507G	55	5.253G	56	5.686G
57	5.290G	58	5.311G	59	5.672G	60	5.296G
61	5.473G	62	5.327G	63	5.723G	64	5.269G
65	5.718G	66	5.623G	67	5.595G	68	5.434G
69	5.644G	70	5.627G	71	5.591G	72	5.313G
73	5.487G	74	5.712G	75	5.442G	76	5.421G
77	5.312G	78	5.580G	79	5.349G	80	5.308G
81	5.630G	82	5.659G	83	5.257G	84	5.525G
85	5.450G	86	5.301G	87	5.392G	88	5.691G
89	5.362G	90	5.652G	91	5.287G	92	5.603G
93	5.363G	94	5.330G	95	5.341G	96	5.608G
97	5.482G	98	5.572G	99	5.719G	100	5.436G