TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: PTP250

FCC ID: QWP5X250

IC Certification Number: 109AO5X250

To: FCC Part 15.407: 2010 Subpart E, RSS-210 Issue 8
December 2010

Test Report Serial No:
RFI-RPT-RP82386JD05A V2.0

Version 2.0 Supersedes All Previous Versions

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals: 	
Checked By:	Ian Watch
Signature:	
Date of Issue:	07 October 2011

RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

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1. Customer Information

Company Name:	Motorola
Address:	Unit B2/3 Linhay Business Park Eastern Road Ashburton Devon TQ13 7UP United Kingdom

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.407
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart E (Unlicensed National Information Infrastructure Devices) - Section 15.407
Specification Reference:	Industry Canada RSS-210 Issue 8 December 2010
Specification Title:	Low-power Licence-exempt Radio communication Devices (All Frequency Bands): Category I Equipment.
Site Registration:	FCC: 209735; Industry Canada: 3245B-2
Test Dates:	30 August 2011 to 29 September 2011

2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.407(h)(2)	RSS-210 A9.3(a)	U-NII Detection Bandwidth	✓
Part 15.407(h)(2)(ii)	RSS-210 A9.3(b)(ii)	Initial Channel Availability Check Time	✓
Part 15.407(h)(2)(ii)	RSS-210 A9.3(b)(ii)	Radar Burst at the Beginning of the Channel Availability Check Time	✓
Part 15.407(h)(2)(ii)	RSS-210 A9.3(b)(ii)	Radar Burst at the End of the Channel Availability Check Time	✓
Part 15.407(h)(2)(iii)	RSS-210 A9.3(b)(iii)(iv)	Channel Closing Transmission Time and Channel Move Time	✓
Part 15.407(h)(2)(iv)	RSS-210 A9.3(b)(v)	Non-occupancy Period	✓
Part 15.407(h)(2)	RSS-210 A9.3(a)	Statistical Performance Check – Short Pulse Radar Types 1-4	✓
Part 15.407(h)(2)	RSS-210 A9.3(a)	Statistical Performance Check – Long Pulse Radar Type 5	✓
Part 15.407(h)(2)	RSS-210 A9.3(a)	Statistical Performance Check – Frequency Hopping Radar Type 6	✓

Key to Results

✓ = Complied ✗ = Did not comply

Note(s):

1. The results of the testing of the non-DFS requirements of Part 15.407 are included in a separate report RFI-RPT-RP82386JD01A V2.0.
2. Tests were performed in accordance with Motorola Regulatory Test Plan, phn-2360 000v003.
3. The requirements of DFS apply for the 5250-5350 MHz and 5470-5725 MHz bands. The EUT was only capable of transmitting in the 5470-5725 MHz band and therefore this was the band tested.
4. The Manufacturer confirms that information regarding the parameters of the radar waveforms is not available to the end user.

2.3. Methods and Procedures

Reference:	FCC 06-96
Title:	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	Motorola
Model Name or Number:	PTP250
Serial Number:	00:04:56:41:92:20
Hardware Version Number:	01
Software Version Number:	B269_ACTON & B263_ACTON
FCC ID:	QWP5X250
IC Certification Number:	109AO5X250

3.2. Description of EUT

The equipment under test was a microwave fixed link system operating in the 5.47 GHz to 5.725 GHz & 5.725 to 5.825 GHz bands.

3.3. Modifications Incorporated in the EUT

During testing it was observed that Radar Type #5 detections were unreliable for the 40 MHz setting on the H port when using the B263_ACTON software. All other bandwidth and antenna port settings detected with no problems.

A software fix was identified and tested as version B269_ACTON. The software fix had the effect of improving the detection threshold of the H port and had no effect on any timers. The Statistical Performance was therefore retested for the 40 MHz channel H port. All other bandwidths and antenna port settings were also rechecked with a minimum of 10 radar occurrences on each and no change in performance was seen.

3.4. Additional Information Related to Testing

Technology Tested:	Unlicensed National Information Infrastructure Devices (U-NII) / License-exempt local area network (LE-LAN)	
Type of Unit:	Transceiver	
Modulation:	OFDM	
Data Rate:	IEEE 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps (20 MHz Bandwidth) IEEE 802.11n: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135 Mbps (40 MHz Bandwidth)	
Power Supply Requirement(s):	120 VAC 60 Hz	
Transmit / Receive Frequency Range:	5470 to 5725 MHz (excluding 5600 – 5650 MHz)	
Transmit / Receive Channels Tested at 20 MHz Bandwidth setting:	**Channel ID**	**Channel Frequency (MHz)**
	Bottom	5485
	Middle	5580
	Top	5710
Transmit / Receive Channels Tested at 40 MHz Bandwidth setting:	**Channel ID**	**Channel Frequency (MHz)**
	Bottom	5500
	Middle	5550
	Top	5695

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Client ODU Point To Point Microwave Link
Brand Name:	Motorola
Model Name or Number:	PTP250
Serial Number:	00 04 56 41 94 A0

Description:	Support Laptop (changes made via internet browser)
Brand Name:	HP
Model Name or Number:	Elite Book 8530W
Serial Number:	Not recorded

Description:	Power Supply Unit
Brand Name:	PowerDsine
Model Name or Number:	9001GR/AC
Serial Number:	11016561000000480

Description:	Power Supply Unit
Brand Name:	Motorola
Model Name or Number:	Hi Power POE Injector
Serial Number:	D09526441000665A01

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating modes, unless otherwise stated:

- As a Master or Client device.
- The Master uses DFS, the Client is without DFS.
- Operating on the middle channel.
- Measurements were taken from a mixture of the vertical and horizontal antenna ports to ensure performance against the requirements of this standard were verified from each. Only one set of results is presented from this mixture to show compliance, although both ports were spot checked against each other to ensure both ports complied in the same manner. Where possible the tests were set so that each radar type was tested for each antenna port during the testing.
- The device was tested with a power level of `7dBm`. This was designed to simulate the use of an antenna with the minimum specified gain of 23 dBi.
- The DFS detection threshold of -64 dBm was used throughout as the maximum transmit power >200 mW.
    - The product is intended to be used with a 23 dBi gain antenna
    - The radar level to be presented at the antenna ports was calculated as:
      -64 dBm +23 dBi antenna gain +1 dB to account for variations = -40 dBm radar level at antenna ports.

FCC 06-96 Table 3: 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
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.	

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- All measurements were made using a conducted link. The antenna ports gave independent access to horizontal and vertical antenna connections.
- A laptop PC was used to configure the EUT parameters during the testing using a standard web browser. The laptop was connected to the EUT via Ethernet to set EUT parameters.
- The EUT internal serial port was used to report radar detection events using a debug option of its' internal software.
- When the system required channel loading, a MPEG video file that streamed full motion video at 30 frames per second was downloaded from http://ntiacsd.ntia.doc.gov/dfs/ and played between 2 laptops. The file was transferred from the master device to the client device during this testing.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

5.2. Test Results

5.2.1. U-NII Detection Bandwidth

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	01 September 2011
Test Sample Serial No:	00:04:56:41:92:20		

FCC Part:	Part 15.407(h)(2) & Industry Canada RSS-210 A9.3(a)
Test Method Used:	FCC 06-96 Section 7.8.1

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	30

Results: 20 MHz

From previous testing under report RFI-RPT-RP82386JD01A V2.0:

Bandwidth setting (MHz)	Measured 99% Bandwidth (MHz)
20	21.403

Test at 1 MHz steps out from centre frequency until entire 99% bandwidth is covered:

Maximum Offsets from centre frequency as tested (MHz)	Detection attempts successful from 10 attempts at each frequency	Detection Rate (%)
±11	10	100

Results: 40 MHz

From previous testing under report RFI-RPT-RP82386JD01A V2.0:

Bandwidth setting (MHz)	Measured 99% Bandwidth (MHz)
40	43.467

Test at 1 MHz steps out from centre frequency until entire 99% bandwidth is covered:

Maximum Offsets from centre frequency as tested (MHz)	Detection attempts successful from 10 attempts at each frequency	Detection Rate (%)
±22	10	100

Limits:

Table 4: DFS Response Requirement Values

Parameter	Value
U-NII Detection Bandwidth	Minimum 80% of the U-NII 99% transmission power bandwidth. See Note 3.
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.	

5.2.2. Initial Channel Availability Check Time

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	29 September 2011
Test Sample Serial No:	00:04:56:41:92:20		

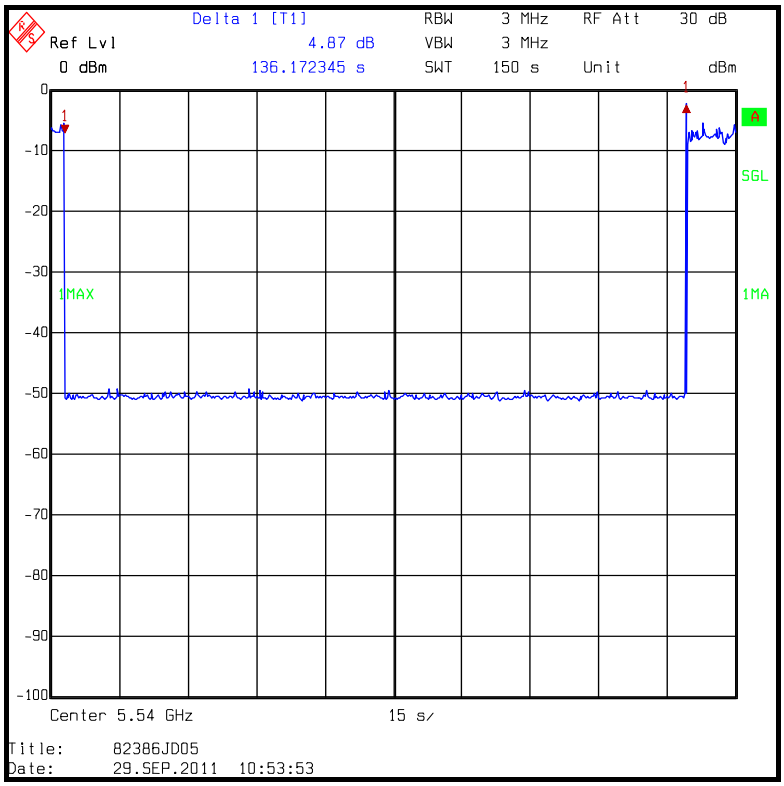
FCC Part:	Part 15.407(h)(2)(ii) & Industry Canada RSS-210 A9.3(b)(ii)
Test Method Used:	FCC 06-96 Section 7.8.2.1

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz

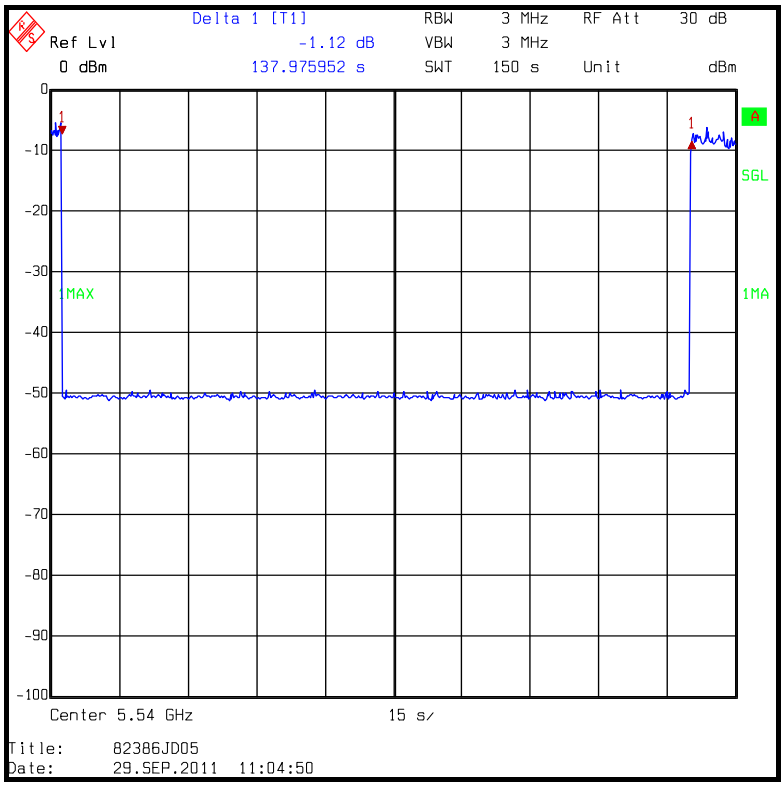
No beacon or data transmission seen during channel availability check time.



Initial Channel Availability Check Time (continued)

Results: 40 MHz

No beacon or data transmission seen during channel availability check time.



Note:

1. The EUT was powered down and instantly powered back up at the start of the plots, as can be seen by the initial transmission ceasing. The EUT did not transmit any further data or beacons until approximately130 seconds after this power up procedure.

Limits:

Parameter	Value
Channel Availability Check Time	60 seconds

5.2.3. Radar Burst at the Beginning of the Channel Availability Check Time

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	30 August 2011
Test Sample Serial No:	00:04:56:41:92:20		

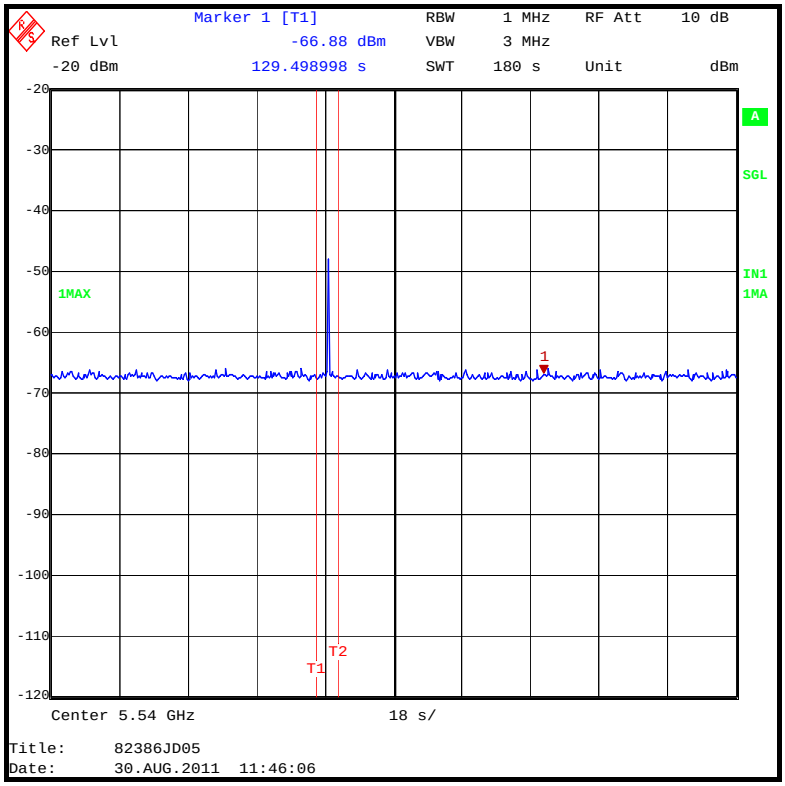
FCC Part:	Part 15.407(h)(2)(ii) & Industry Canada RSS-210 A9.3(b)(ii)
Test Method Used:	FCC 06-96 Section 7.8.2.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz

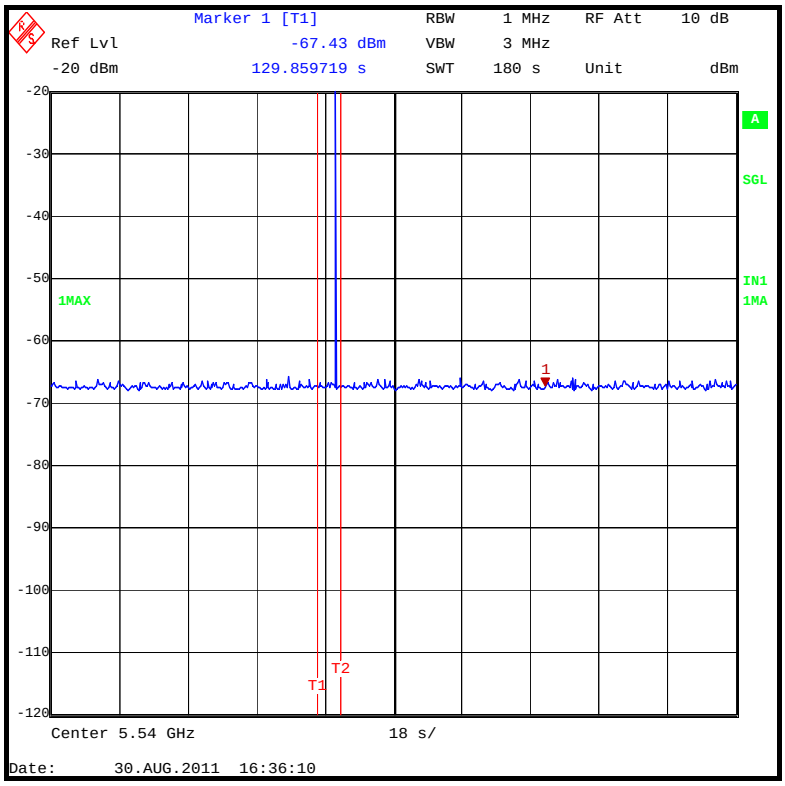
Radar burst type 1 was detected and no beacon or data transmission seen.



Radar Burst at the Beginning of the Channel Availability Check Time (continued)

Results: 40 MHz

Radar burst type 2 was detected and no beacon or data transmission seen.



Notes:

1. Instant T_1 is shown on the plot as timeline T1.
2. Instant T_1 + 6 seconds is shown on the plot at timeline T2.
3. Marker 1 on the plots indicates the time the EUT was seen to begin transmission when no radar pulse was detected.
4. Observation of Ch_r continued for 2.5 minutes after the radar burst was generated. No transmissions occurred.

Limits:

Parameter	Value
Channel Availability Check Time	60 seconds

5.2.4. Radar Burst at the End of the Channel Availability Check Time

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	30 August 2011
Test Sample Serial No:	00:04:56:41:92:20		

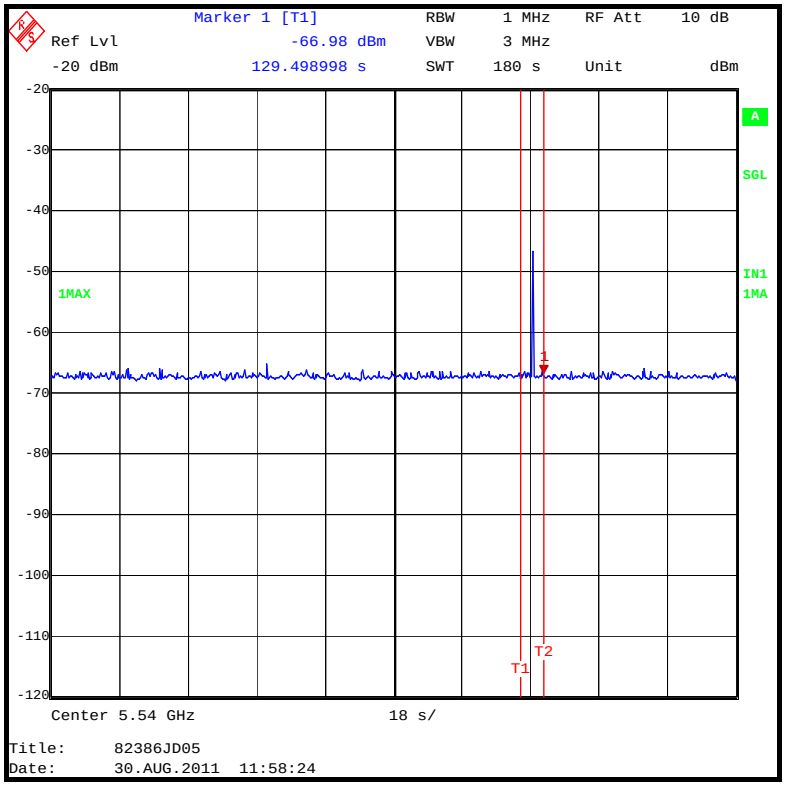
FCC Part:	Part 15.407(h)(2)(ii) & Industry Canada RSS-210 A9.3(b)(ii)
Test Method Used:	FCC 06-96 Section 7.8.2.3

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz

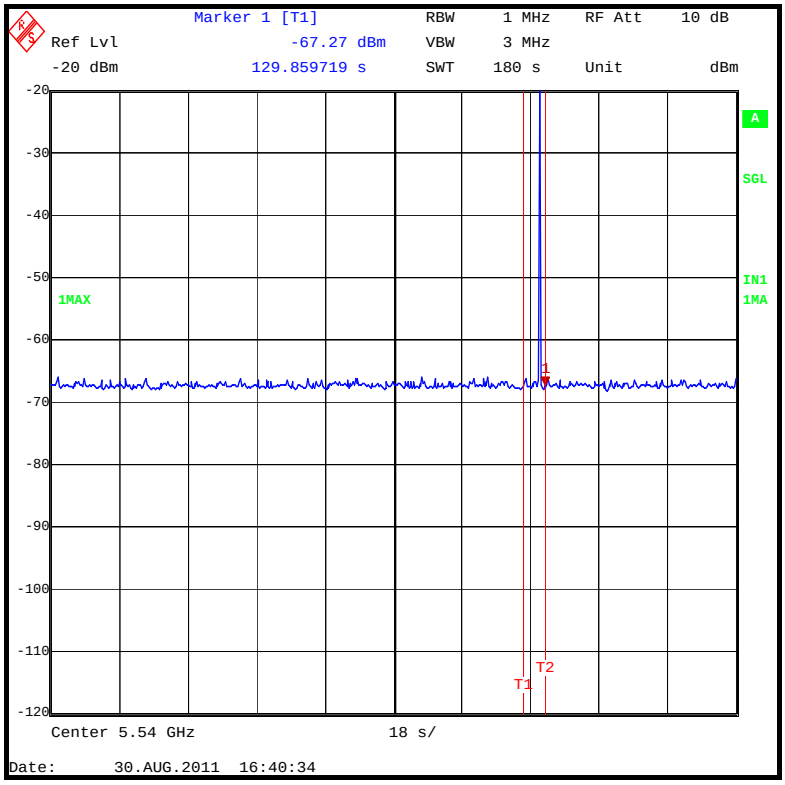
Radar burst type 3 was detected and no beacon or data transmission seen.



Radar Burst at the End of the Channel Availability Check Time (continued)

Results: 40 MHz

Radar burst type 4 was detected and no beacon or data transmission seen.



Notes:

1. T_1 + 54 seconds is shown on the plot as timeline T1.
2. T_1 + 60 seconds is shown on the plot at timeline T2.
3. Observation of Ch_r continued for 2.5 minutes after the radar burst was generated. No transmissions occurred.

Limits:

Parameter	Value
Channel Availability Check Time	60 seconds

5.2.5. Channel Closing Transmission Time and Channel Move Time

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	01 September 2011 & 02 September 2011
Test Sample Serial No:	00:04:56:41:92:20 (Master) & 00:04:56:41:94:A0 (Client)		

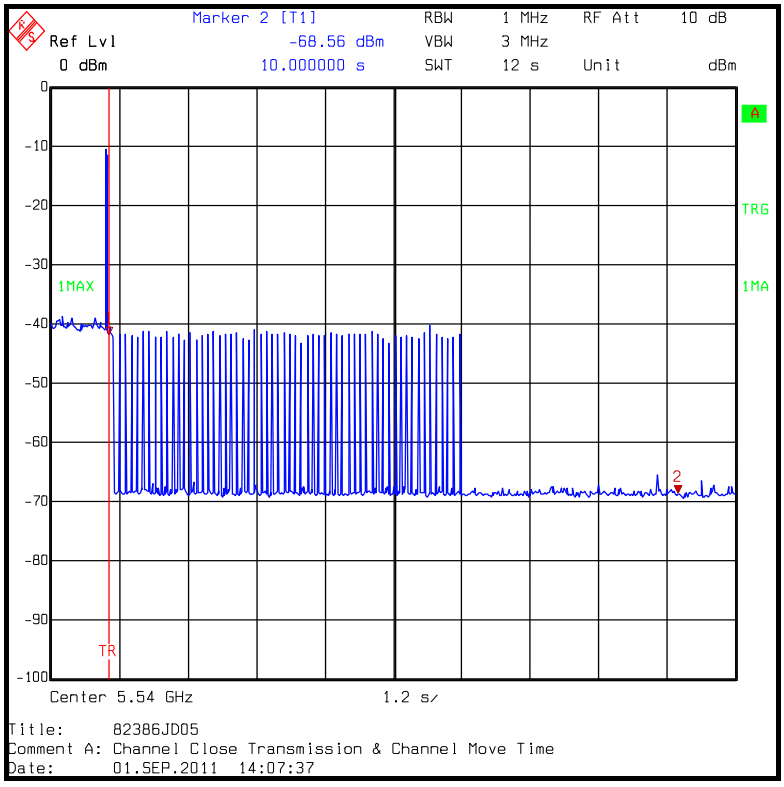
FCC Part:	Part 15.407(h)(2)(iii) & Industry Canada RSS-210 A9.3(b)(iii)(iv)
Test Method Used:	FCC 06-96 Section 7.8.3

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	30

Results: 20 MHz Master

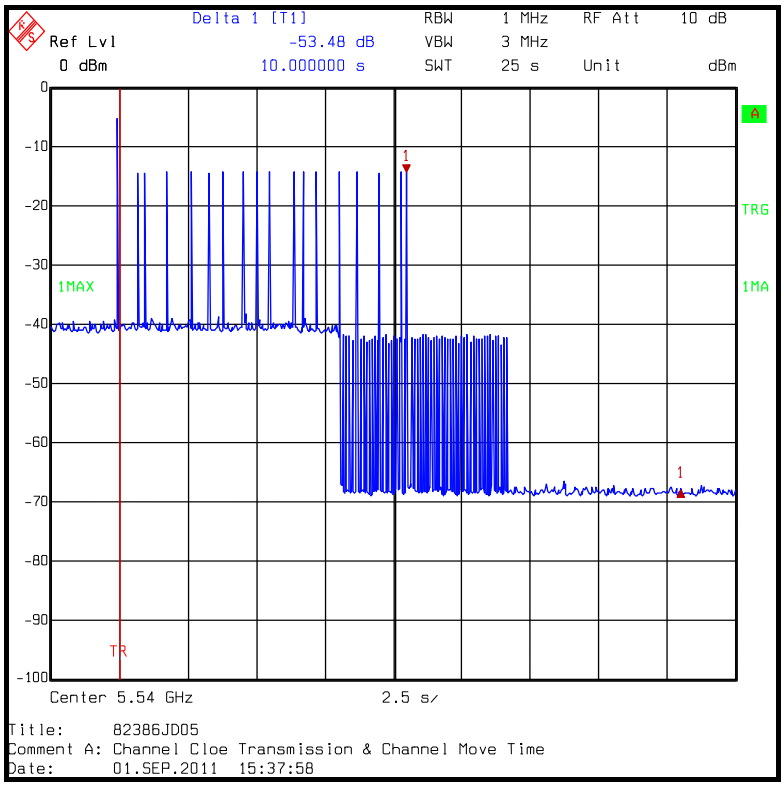
Radar burst type 1 was detected and channel move occurred.



Channel Closing Transmission Time and Channel Move Time (continued)

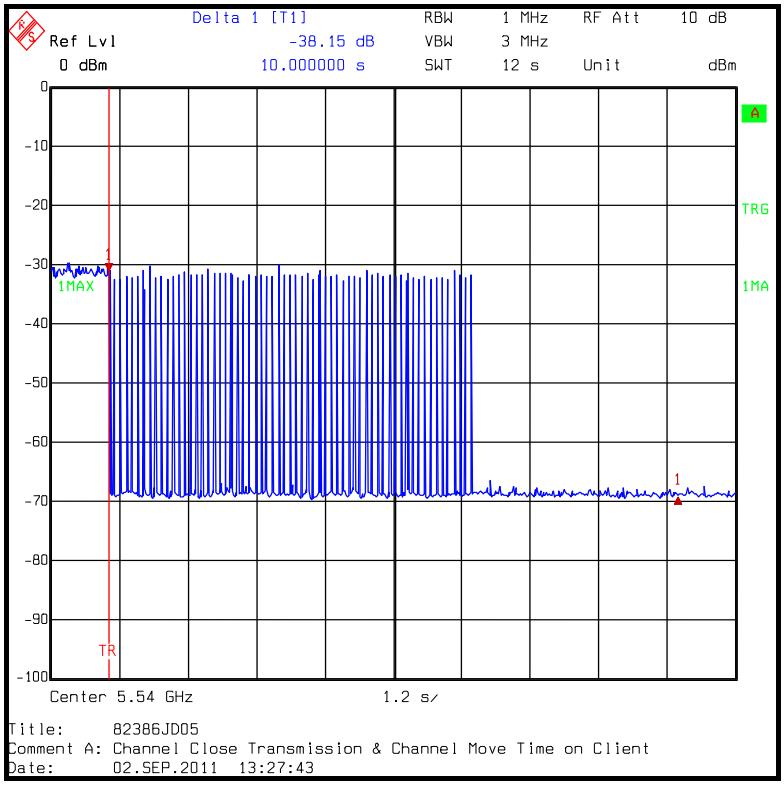
Results: 20 MHz Master

Radar burst type 5 was detected and channel move occurred.



Results: 20 MHz Client

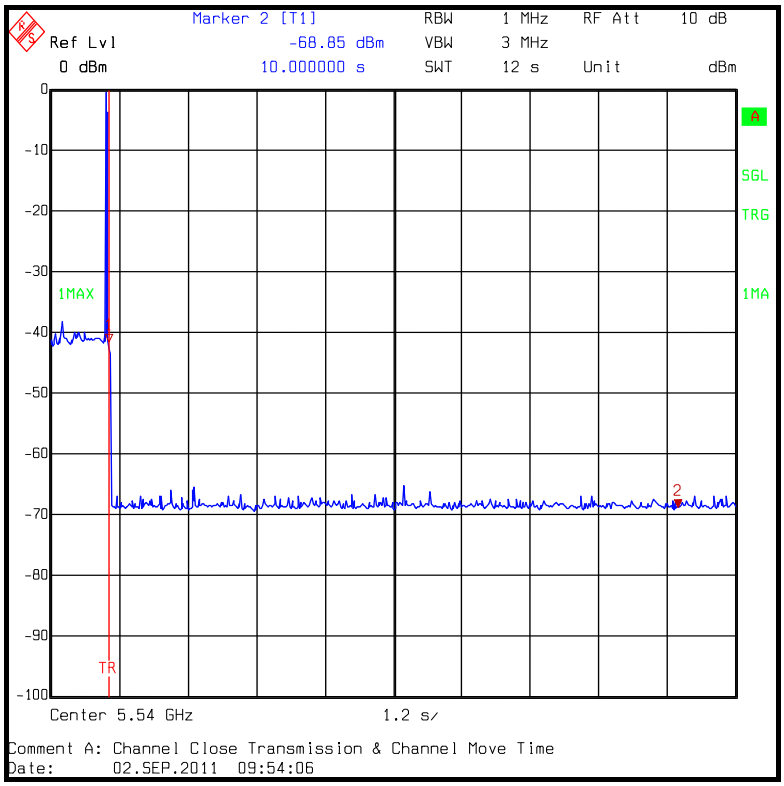
Radar burst type 4 was detected and channel move occurred on Client.



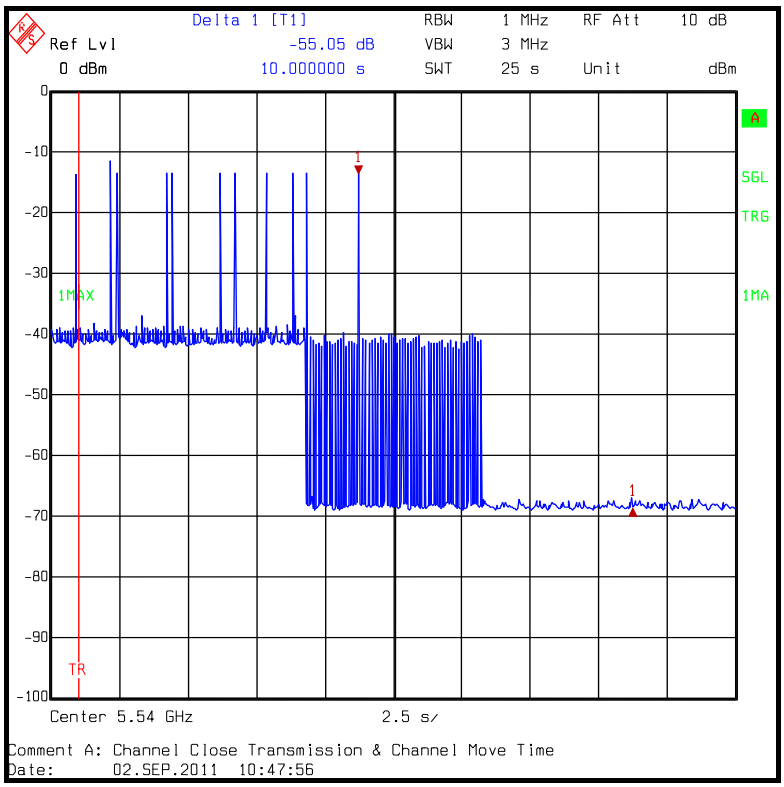
Channel Closing Transmission Time and Channel Move Time (continued)

Results: 40 MHz Master

Radar burst type 1 detected and channel move occurred.



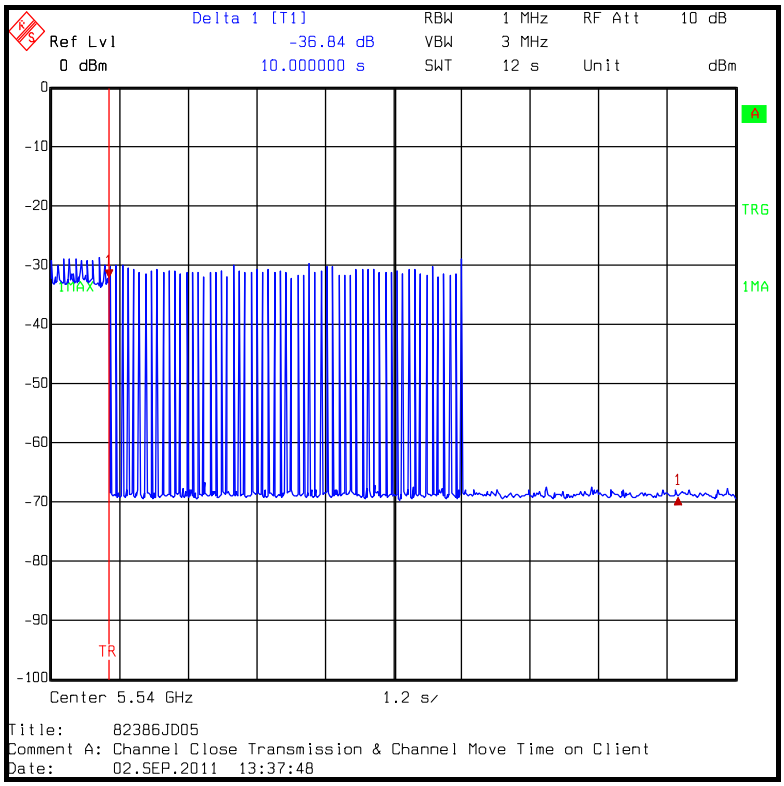
Radar burst type 5 detected and channel move occurred.



Channel Closing Transmission Time and Channel Move Time (continued)

Results: 40 MHz Client

Radar burst type 1 detected and channel move occurred.

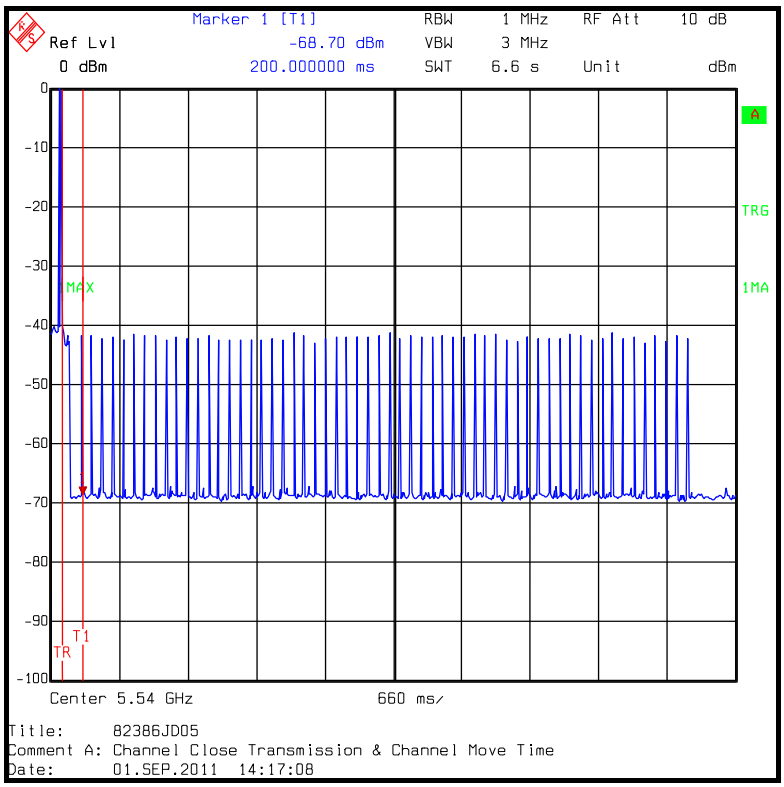


Channel Closing Transmission Time and Channel Move Time (continued)

Results: Beacon Analysis

It was seen that the beacons produced by the EUT were of the same number and length irrespective of radar type used to trigger them, or bandwidth setting of the EUT.

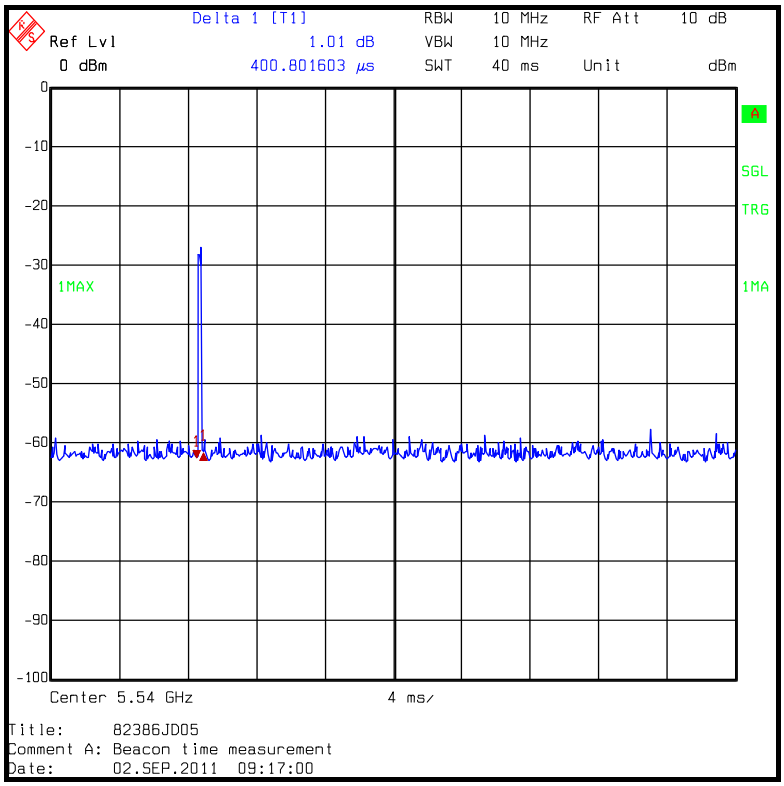
The following example shows a Radar burst type 2 detected and channel move occurred with close up on beacons produced. As can be seen, the EUT has supplied 58 beacons during this process.



Channel Closing Transmission Time and Channel Move Time (continued)

Results: Beacon Analysis

A single beacon is shown below.



This shows the single beacon length at <1 ms. This demonstrates that the length of all beacons must be <58 ms in length, less that the maximum beacon length of 60 ms.

Note:

1. The plots show the radar occurring at the trigger point marked with the timeline TR. The time T_2 is marked on the plots with either Marker 2 or Delta Marker 1.
2. For the type 5 radar the signal is not considered to have occurred until 12 seconds after it has been initiated. The radar 5 plot therefore carries marker 1 set to this 12 second point and marker 2 to signify the end of T_2.

Channel Closing Transmission Time and Channel Move Time (continued)

Limits:

Table 4: DFS Response Requirement Values

Parameter	Value
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.

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.

5.2.6. Non-occupancy Period

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	02 September 2011
Test Sample Serial No:	00:04:56:41:92:20		

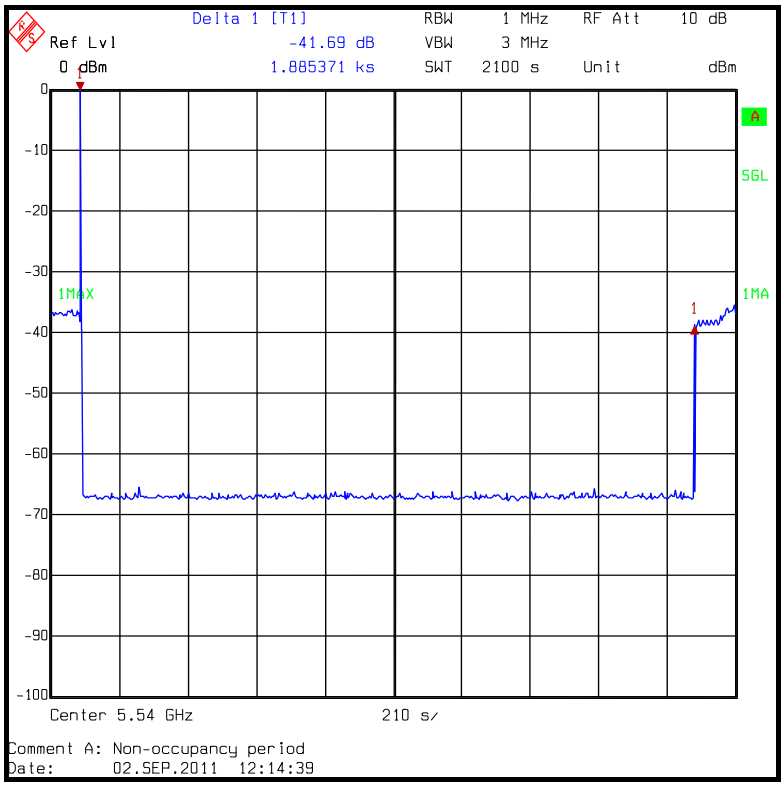
FCC Part:	Part 15.407(h)(iv) & Industry Canada RSS-210 A9.3(b)(v)
Test Method Used:	FCC 06-96 Section 7.8.3

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	32

Results: 20 MHz

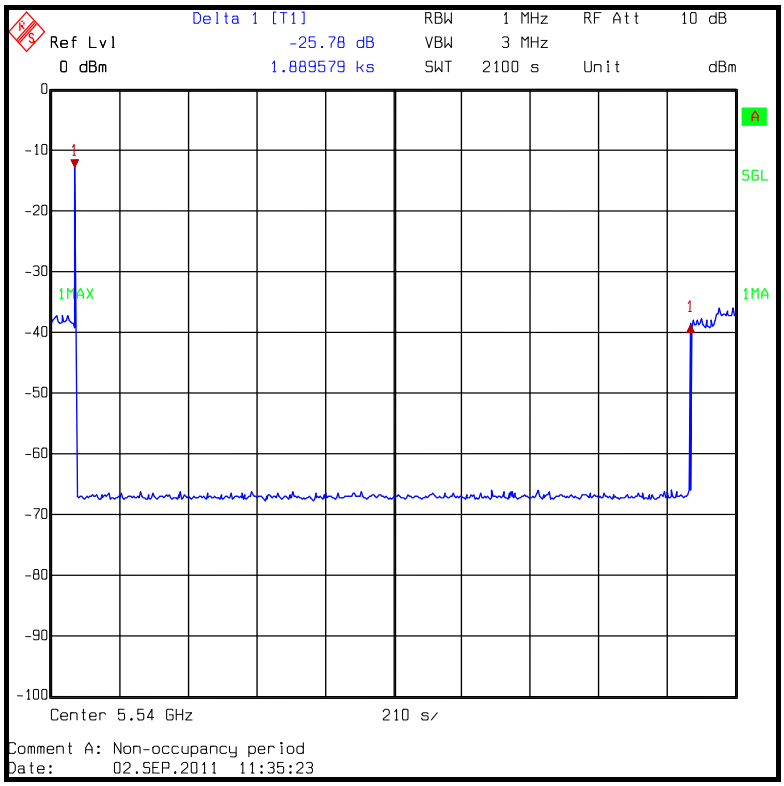
Radar burst type 3 detected and channel was vacated for >30 minutes.



Non-occupancy Period (continued)

Results: 40 MHz

Radar burst type 4 detected and channel was vacated for >30 minutes.



Limits:

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes

5.2.7. Statistical Performance Check – Short Pulse Radar Types 1 - 4

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	30 August 2011 & 31 August 2011
Test Sample Serial No:	00:04:56:41:92:20		

FCC Part:	Part 15.407(h)(2) & RSS-210 A9.3(a)
Test Method Used:	FCC 06-96 Section 7.8.4.1

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz Radar Type 1

Radar Type	Trial Number	Detected?	Trial Number	Detected?
1	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 20 MHz Radar Type 2

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
2	1	4	173	24	Yes
	2	4	184	27	Yes
	3	4	151	27	Yes
	4	2	201	24	Yes
	5	3	178	29	Yes
	6	5	208	27	Yes
	7	2	158	27	Yes
	8	3	228	28	Yes
	9	1	227	28	Yes
	10	2	164	24	Yes
	11	4	211	25	Yes
	12	5	185	29	Yes
	13	1	194	25	Yes
	14	2	185	24	Yes
	15	2	178	27	Yes
	16	2	192	28	Yes
	17	4	226	25	Yes
	18	1	153	29	Yes
	19	4	209	24	Yes
	20	4	228	25	Yes
	21	5	180	29	Yes
	22	3	160	27	Yes
	23	1	178	27	Yes
	24	1	191	27	Yes
	25	3	178	23	Yes
	26	1	156	25	Yes
	27	2	172	23	Yes
	28	3	195	24	Yes
	29	4	222	27	Yes
	30	2	162	23	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 20 MHz Radar Type 3

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
3	1	9	469	18	Yes
	2	6	343	17	Yes
	3	8	433	17	Yes
	4	9	418	16	Yes
	5	8	497	18	Yes
	6	8	326	16	Yes
	7	8	399	18	Yes
	8	10	287	18	Yes
	9	7	482	18	Yes
	10	6	242	17	Yes
	11	9	345	18	Yes
	12	9	294	18	Yes
	13	10	419	17	Yes
	14	9	457	17	Yes
	15	7	466	16	Yes
	16	10	344	17	Yes
	17	7	407	17	Yes
	18	7	347	16	Yes
	19	8	478	17	Yes
	20	10	226	16	Yes
	21	8	261	16	Yes
	22	7	216	18	Yes
	23	9	326	17	Yes
	24	10	273	17	Yes
	25	7	336	18	Yes
	26	7	353	17	Yes
	27	7	221	17	Yes
	28	8	236	17	Yes
	29	9	324	18	Yes
	30	9	235	18	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 20 MHz Radar Type 4

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
4	1	17	308	13	Yes
	2	20	428	15	Yes
	3	15	339	16	Yes
	4	20	426	12	Yes
	5	17	445	13	Yes
	6	19	313	14	Yes
	7	14	210	14	Yes
	8	12	366	14	Yes
	9	14	476	12	Yes
	10	13	325	14	Yes
	11	12	251	14	Yes
	12	14	420	12	Yes
	13	15	255	14	Yes
	14	18	326	16	Yes
	15	19	494	14	Yes
	16	20	282	16	Yes
	17	11	346	16	Yes
	18	15	412	14	Yes
	19	16	372	14	Yes
	20	14	481	13	Yes
	21	14	229	14	Yes
	22	16	455	14	Yes
	23	15	402	14	Yes
	24	18	297	16	Yes
	25	13	303	12	Yes
	26	17	314	13	Yes
	27	15	345	13	Yes
	28	13	312	13	Yes
	29	19	394	14	Yes
	30	16	214	16	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 40 MHz Radar Type 1

Radar Type	Trial Number	Detected?	Trial Number	Detected?
1	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 40 MHz Radar Type 2

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
2	1	3	221	24	Yes
	2	3	198	27	Yes
	3	4	178	27	Yes
	4	2	197	23	Yes
	5	4	207	25	Yes
	6	2	156	23	Yes
	7	2	229	26	Yes
	8	2	208	28	Yes
	9	3	198	26	Yes
	10	4	201	26	Yes
	11	5	172	23	Yes
	12	3	202	24	Yes
	13	1	151	25	Yes
	14	2	227	28	Yes
	15	2	197	25	Yes
	16	5	177	23	Yes
	17	4	229	24	Yes
	18	3	187	26	Yes
	19	2	228	26	Yes
	20	4	170	23	Yes
	21	5	192	27	Yes
	22	2	159	24	Yes
	23	4	193	28	Yes
	24	4	206	27	Yes
	25	4	177	28	Yes
	26	4	186	24	Yes
	27	3	185	25	Yes
	28	2	208	29	Yes
	29	4	202	26	Yes
	30	4	152	26	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 40 MHz Radar Type 3

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
3	1	6	292	17	Yes
	2	9	335	17	Yes
	3	8	468	17	Yes
	4	10	366	16	Yes
	5	8	202	16	Yes
	6	7	311	18	Yes
	7	10	227	18	Yes
	8	8	415	18	Yes
	9	8	381	18	Yes
	10	6	430	16	Yes
	11	10	456	18	Yes
	12	8	492	16	Yes
	13	7	430	17	Yes
	14	7	332	17	Yes
	15	9	236	17	Yes
	16	7	414	18	Yes
	17	9	386	18	Yes
	18	7	251	18	Yes
	19	7	499	17	Yes
	20	7	227	18	Yes
	21	9	449	17	Yes
	22	8	492	17	Yes
	23	9	212	17	Yes
	24	9	200	17	Yes
	25	8	426	17	Yes
	26	10	438	17	Yes
	27	10	257	16	Yes
	28	9	383	17	Yes
	29	9	225	17	Yes
	30	6	483	17	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Results: 40 MHz Radar Type 4

Radar Type	Trial Number	Number Pulses per Burst	Pulse Width (µs)	PRI (µs)	Detected?
4	1	20	373	15	Yes
	2	18	314	16	Yes
	3	19	366	14	Yes
	4	15	286	14	Yes
	5	14	229	14	Yes
	6	16	434	13	Yes
	7	19	334	16	Yes
	8	18	381	15	Yes
	9	20	365	15	Yes
	10	12	249	13	Yes
	11	16	366	13	Yes
	12	17	497	15	Yes
	13	11	259	14	Yes
	14	14	411	13	Yes
	15	20	232	16	Yes
	16	11	228	14	Yes
	17	12	289	16	Yes
	18	16	307	16	Yes
	19	20	264	15	Yes
	20	19	303	12	Yes
	21	17	437	16	Yes
	22	18	438	14	Yes
	23	12	278	12	Yes
	24	16	269	14	Yes
	25	15	220	15	Yes
	26	12	284	13	Yes
	27	12	362	15	Yes
	28	13	276	12	Yes
	29	16	467	12	Yes
	30	14	291	14	Yes
	Detection Level			100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)

Limits:

Table 5 – 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

5.2.8. Statistical Performance Check – Long Pulse Radar Type 5

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	30 August 2011, 31 August 2011 & 14 September 2011
Test Sample Serial No:	00:04:56:41:92:20		

FCC Part:	Part 15.407(h)(2) & RSS-210 A9.3(a)
Test Method Used:	FCC 06-96 Section 7.8.4.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz Radar Type 5

Radar Type	Trial Number	Detected?	Trial Number	Detected?
5	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)

Results: 40 MHz Radar Type 5

Radar Type	Trial Number	Detected?	Trial Number	Detected?
5	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Notes:

Further details of all parameters on which the trials using Radar Type 5 were created and can be found in Appendix 4: Statistical Performance Check– Radar Type 5 Trial Records.

Limits:

Table 6 – 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

5.2.9. Statistical Performance Check – Frequency Hopping Radar Type 6

Test Summary:

Test Engineer:	Crawford Lindsay	**Test Date:**	30 August 2011 & 31 August 2011
Test Sample Serial No:	00:04:56:41:92:20		

FCC Part:	Part 15.407(h)(2) & RSS-210 A9.3(a)
Test Method Used:	FCC 06-96 Section 7.8.4.3

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	31

Results: 20 MHz Radar Type 6

Radar Type	Trial Number	Detected?	Trial Number	Detected?
6	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Statistical Performance Check – Frequency Hopping Radar Type 6 (continued)

Results: 40 MHz Radar Type 6

Radar Type	Trial Number	Detected?	Trial Number	Detected?
6	1	Yes	16	Yes
	2	Yes	17	Yes
	3	Yes	18	Yes
	4	Yes	19	Yes
	5	Yes	20	Yes
	6	Yes	21	Yes
	7	Yes	22	Yes
	8	Yes	23	Yes
	9	Yes	24	Yes
	10	Yes	25	Yes
	11	Yes	26	Yes
	12	Yes	27	Yes
	13	Yes	28	Yes
	14	Yes	29	Yes
	15	Yes	30	Yes
	Detection level		100%	

Limits:

Table 7 – 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

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
Dynamic Frequency Selection (DFS) - Amplitude	5470 MHz to 5725 MHz	95%	0.3 dB
Dynamic Frequency Selection (DFS) - Time	5470 MHz to 5725 MHz	95%	4%

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

Appendix 1. Test Equipment Used

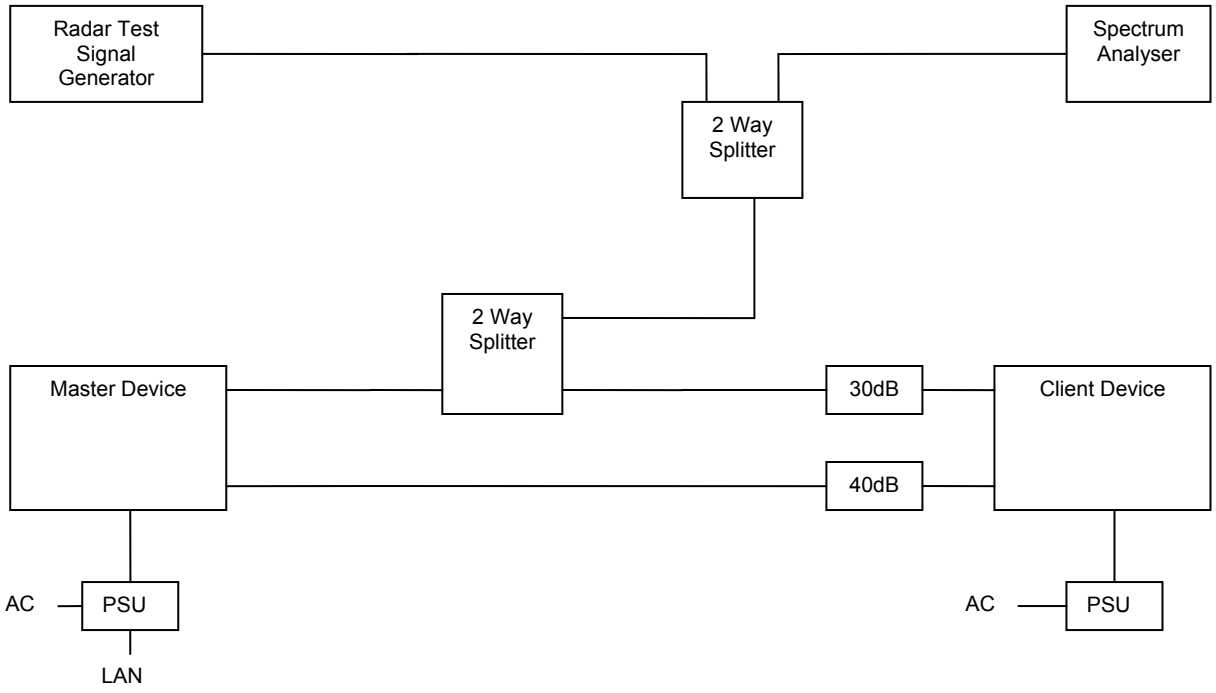
RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
G0547	Function/Arbitrary Waveform Generator	Agilent	33220A	MY44003336	Calibrated before use	-
G0588	Function/Arbitrary Waveform Generator	Agilent	33220A	MY44022096	Calibrated before use	-
M093	Oscilloscope	Hewlett Packard	54520A	US34360744	Calibrated before use	-
M1242	Spectrum Analyser	Rohde & Schwarz	FSEM30	845986/022	03 Dec 2011	12
M1252	Signal Generator	Hewlett Packard	83640A	3119A00489	Calibrated before use	-

NB In accordance with UKAS requirements all the measurement equipment is on a calibration schedule.

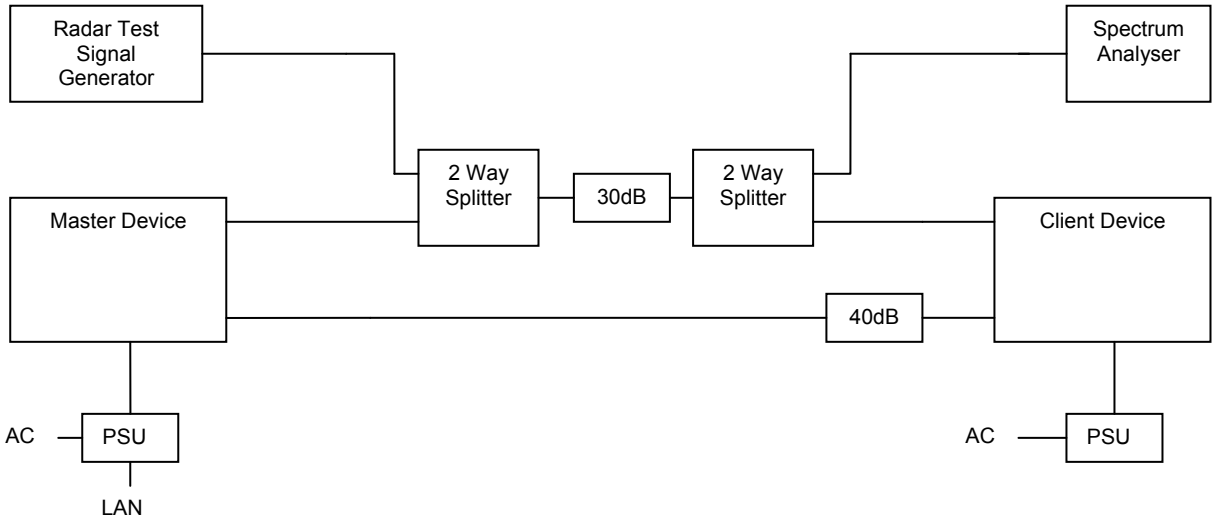
Appendix 2. Monitoring Methods Diagrams

All tests were performed as conducted measurements using the setups as shown below

Setup Diagram – EUT – Master, Radar Injection at Master



Setup Diagram – EUT – Client, Radar Injection at Master



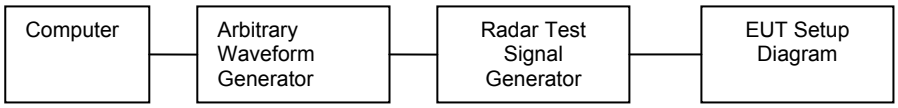
Appendix 3. Radar Type 1-6 Calibration and Verification Data

Radar calibration procedure.

The system was configured as shown in the diagrams in Appendix 2, with all ports terminated into their respective loads. The EUT was substituted with a power meter and the radar test signal generator adjusted so that the required DFS threshold was observed on the power meter. The EUT was then re-connected.

Each radar waveform used was fired multiple times and monitored in the time domain on a spectrum analyser. The maximum worse case calculated uncertainty of the pulses was 4%.

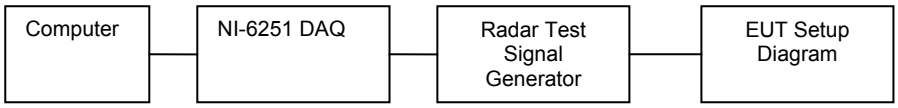
Radar 1 to 4 Setup Block Diagram



The radar patterns 1 through 4 are generated using National Instruments Labview. The test patterns are downloaded to the arbitrary waveform memory via GPIB where they are played back as required using manual trigger. The arbitrary waveform generator is connected to the pulse modulation input of the radar test signal generator. The radar test signal generator is set for pulse modulation, the nominal frequency is set and the level set to the required DFS threshold plus any offsets for system losses.

Radar 1 to 4 Setup Photograph

Radar 5 Long Pulse Radar Setup Block Diagram



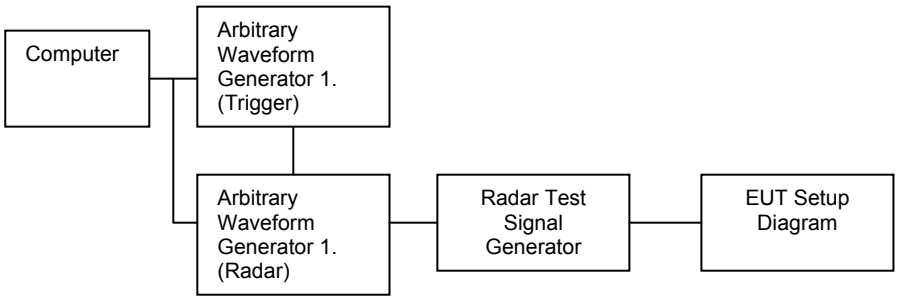
The long pulse radar pattern 5 was generated using National Instruments Labview.

The program randomly chooses a burst count, number of pulses, chirp width and PRI. The program constructs the waveform in accordance with FCC 06-96 Clause 6.2.

The waveform is played back through a National Instrument DAQ card. The DAQ card is connected to the pulse modulation input of the radar test signal generator via a BNC breakout box. The radar test signal generator is set for pulse modulation, the nominal frequency is set and the level set to the required DFS threshold plus any offsets for system losses.

Radar 5 Long Pulse Radar Setup Photograph

Radar 6 Setup Frequency Hopping Waveform Diagram



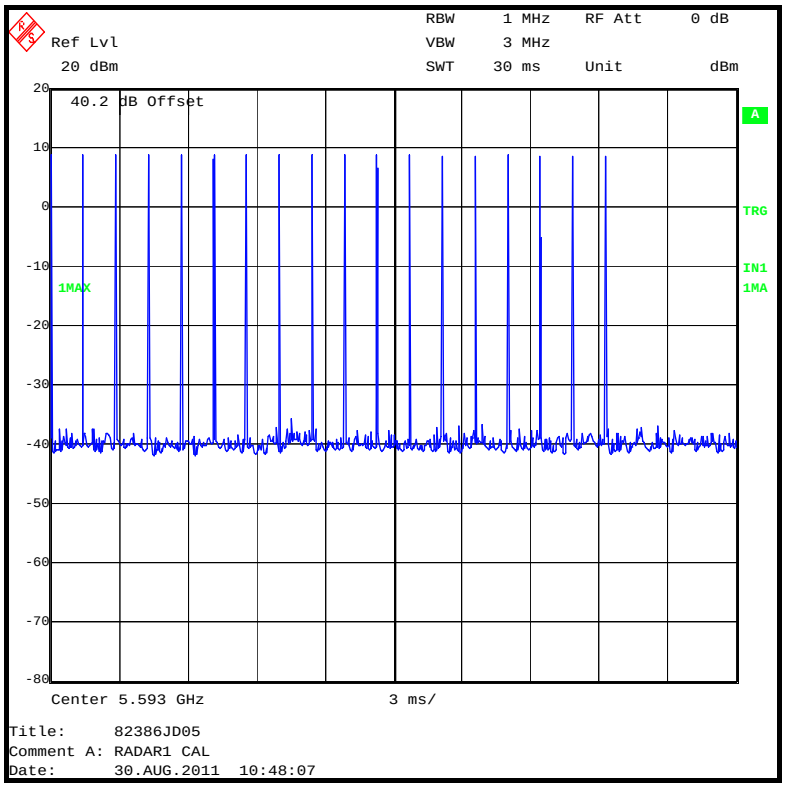
The frequency hopping radar pattern 6 was generated using National Instruments Labview. The application generated a random without replacement frequency list between 5470 – 5727 MHz. The first 100 frequencies were then selected as the test sequence. The sequence was then searched for a hit within the stated detection bandwidth, if detection is not observed then a new random sequence is created until at least one detection occurs. All hits within the detection bandwidth are then flattened to the same frequency but left at the unique time intervals at which the hit occurred according to FCC 06-967.4.1.3 Fig 12.

This 100 frequency segment is played out of the first arbitrary waveform generator to the trigger of the second arbitrary waveform generator. The second arbitrary waveform generator is setup with a 1 µS pulse and 333 µS PRI cycling a 9 pulses per hop according to FCC 06-96 Table 7. The second arbitrary waveform generator is then used to pulse modulate the radar test signal generator.

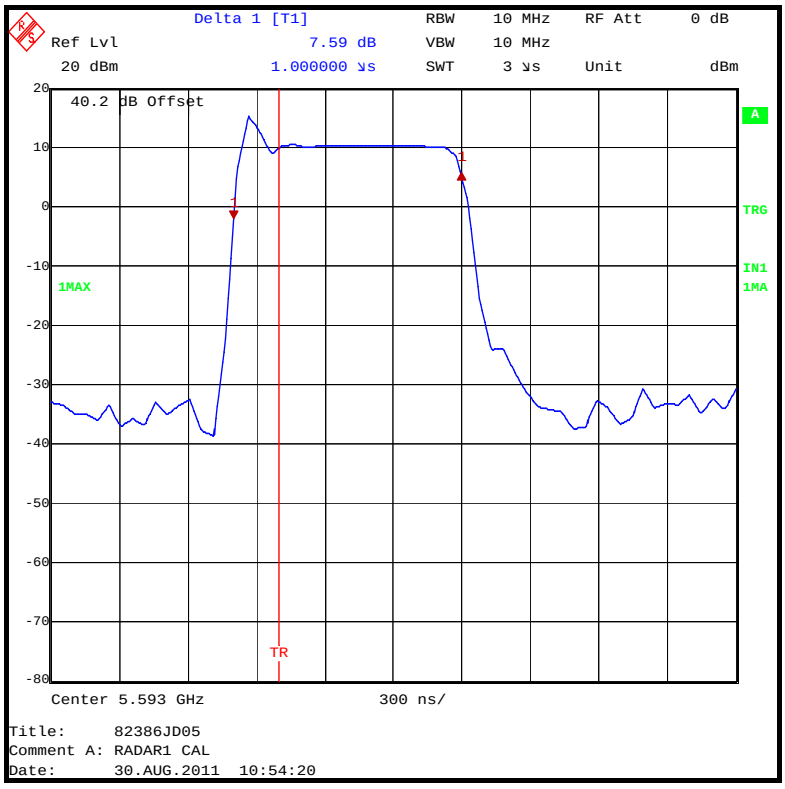
Radar 6 Setup Frequency Hopping Photograph

The waveforms for all radars can be observed on the following pages.

Radar Type 1 Verification

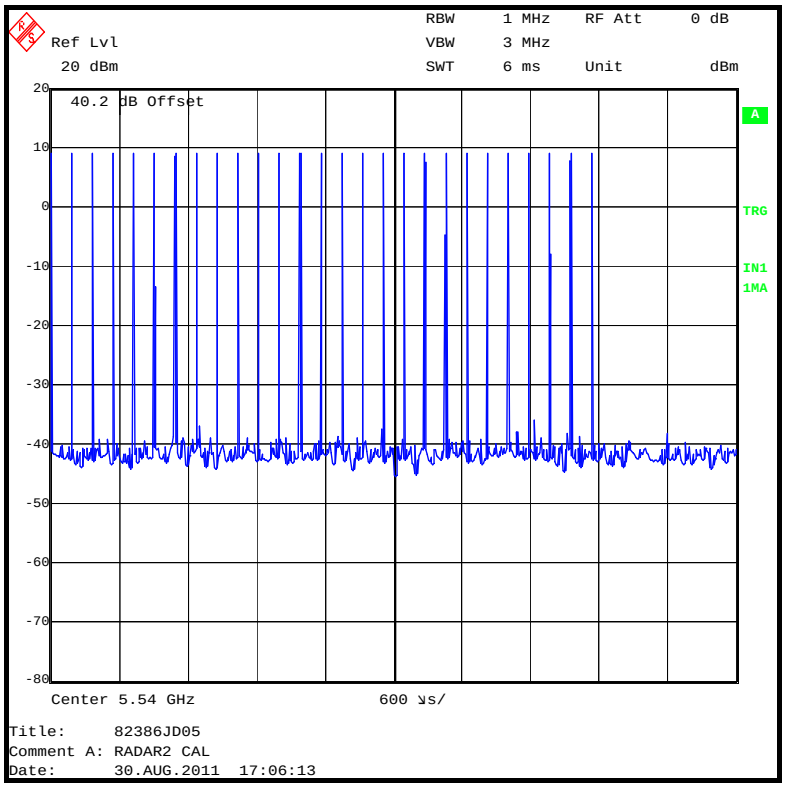


Verification plot showing 18 pulses

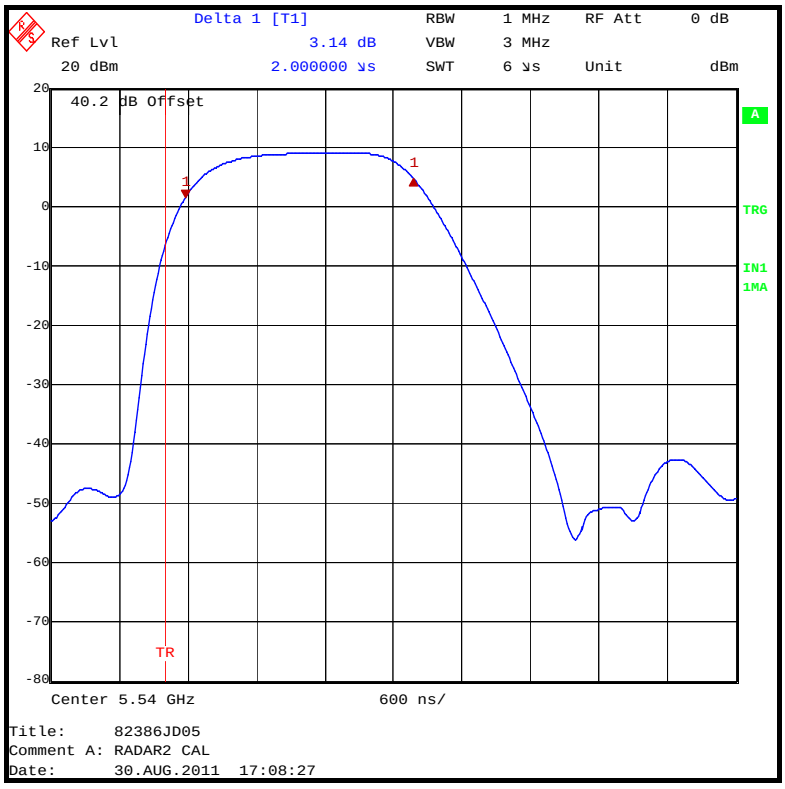


Verification plot showing pulses length of each pulse

Radar Type 2 Verification

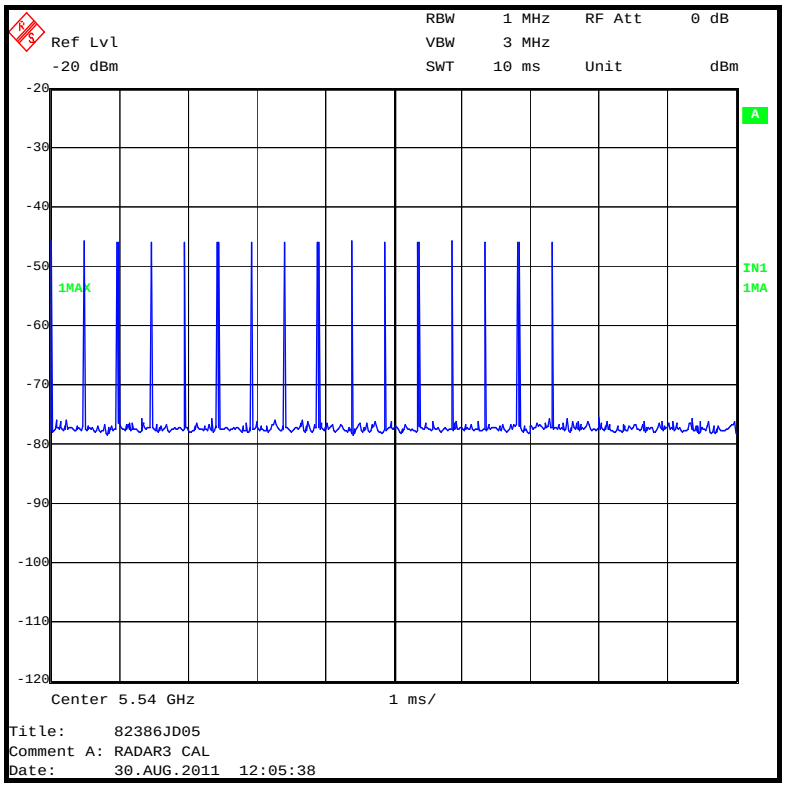


Verification plot showing example pulses

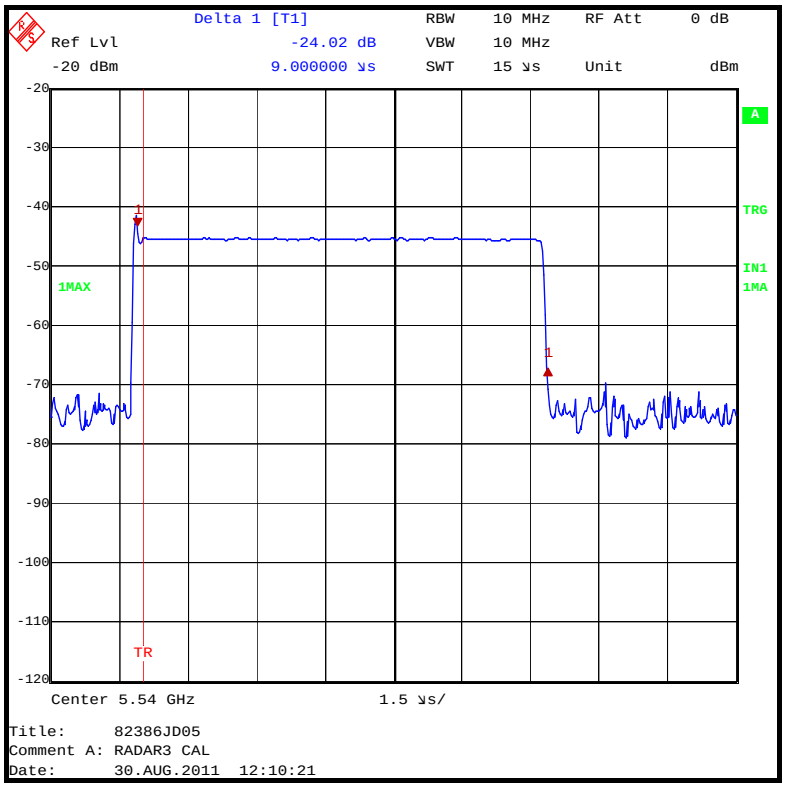


Verification plot showing example pulse length

Radar Type 3 Verification

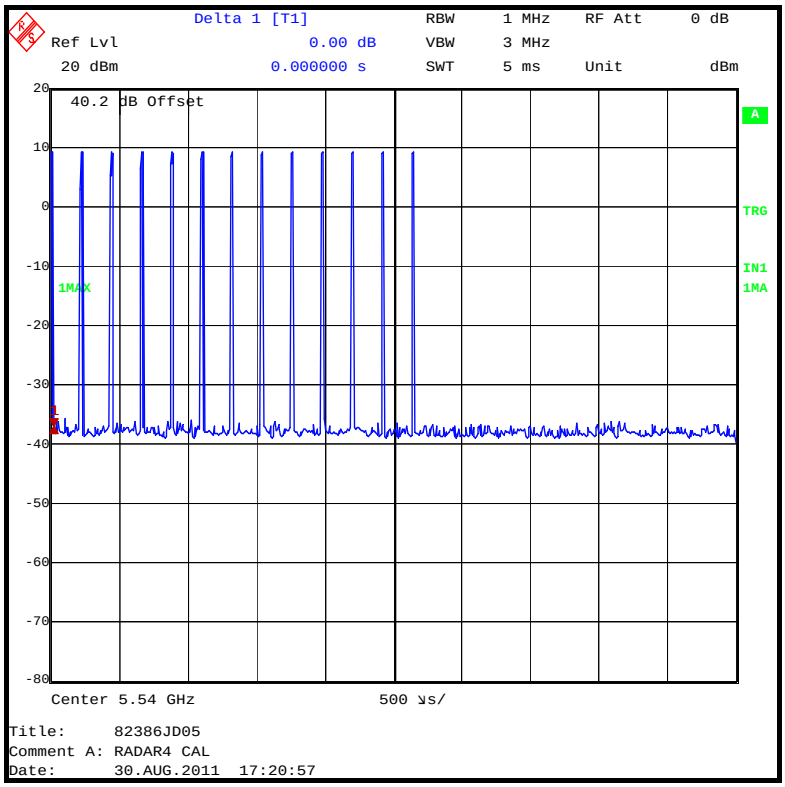


Verification plot showing example pulses

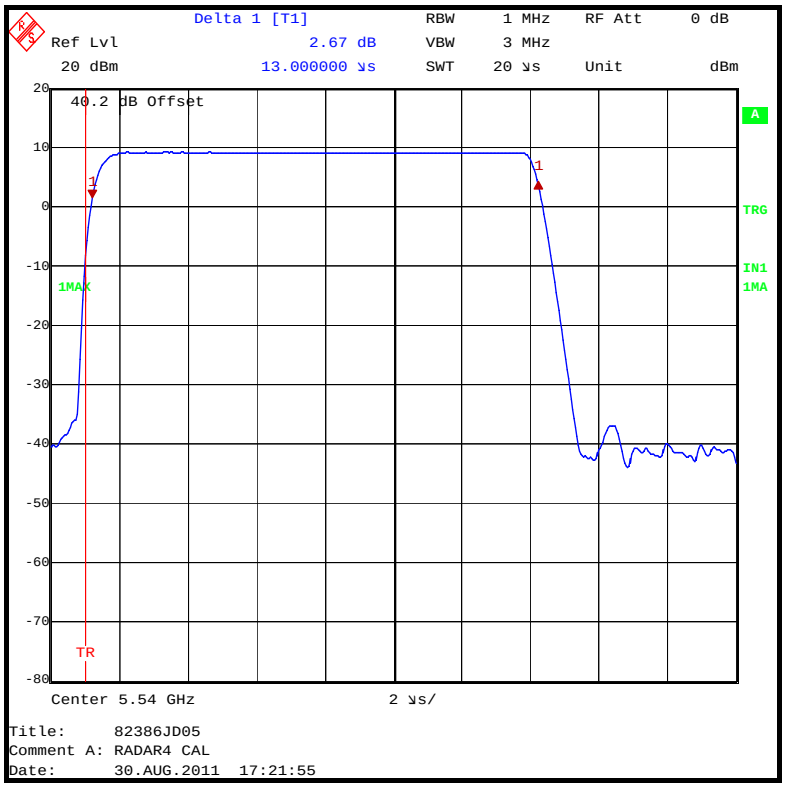


Verification plot showing example pulse length

Radar Type 4 Verification

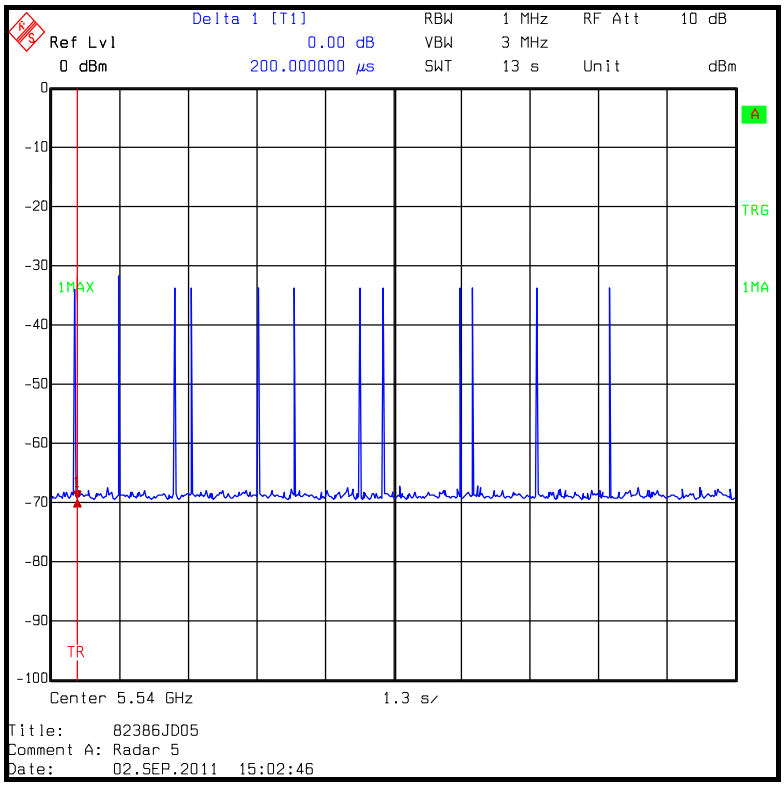


Verification plot showing example pulses

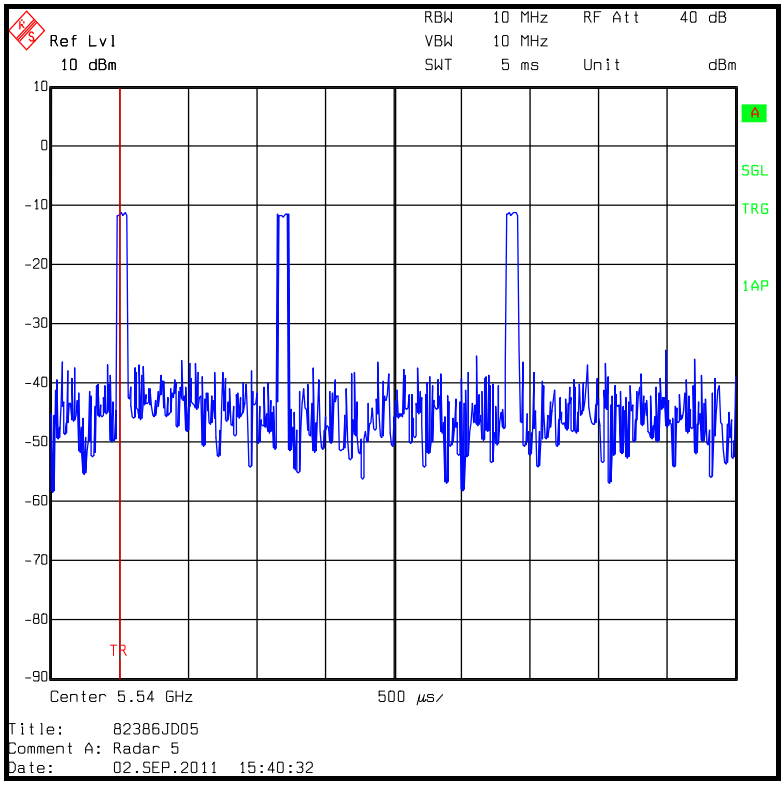


Verification plot showing example pulse length

Radar Type 5 Verification

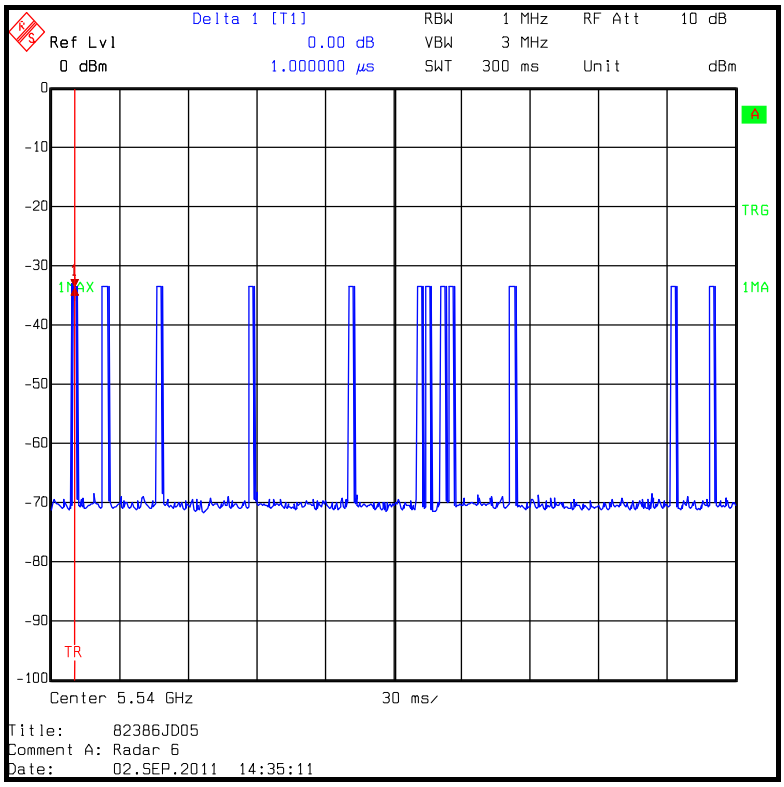


Verification plot showing example pulses

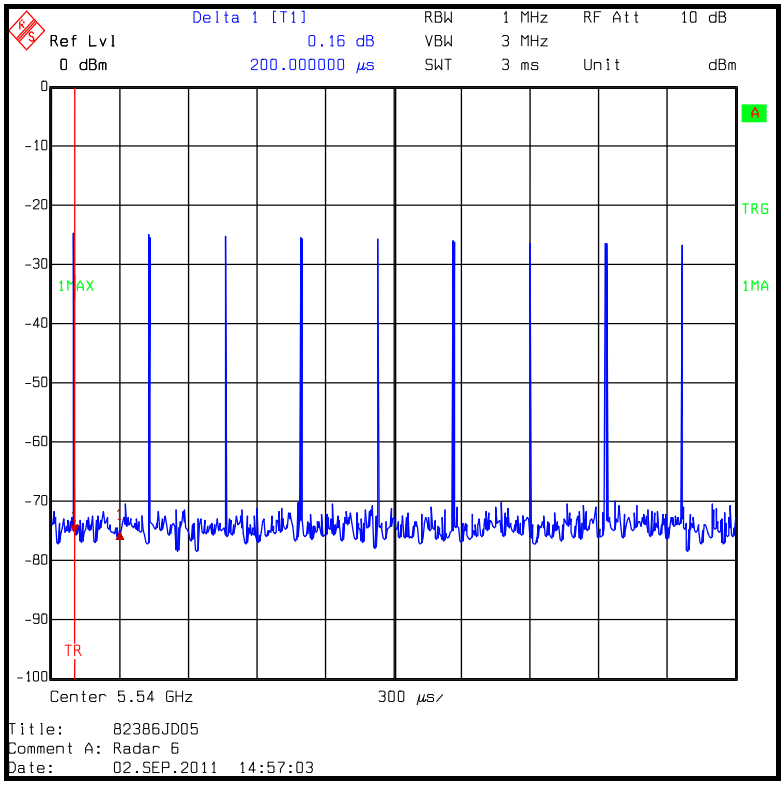


Verification plot showing example pulse length

Radar Type 6 Verification



Verification plot showing example pulses



Verification plot showing 9 pulses on one frequency
within the U-NII detection bandwidth

Appendix 4. Statistical Performance Check– Radar Type 5 Trial Records

20 MHz – Trial 1

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	1106725	2	72	1298	0
2	789200	2	76	1349	0
3	1200332	3	72	1210	1578
4	126306	2	94	1924	0
5	1284710	2	96	1154	0
6	1134420	2	98	1368	0
7	1306202	1	90	0	0
8	142900	2	100	1657	0
9	870339	2	60	1054	0

Chirp Width: 9.441139 MHz

20 MHz – Trial 2

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	218377	3	73	1022	1662
2	858936	2	52	1692	0
3	208773	2	95	1580	0
4	154461	3	83	1214	1566
5	445935	1	71	0	0
6	784521	2	68	1030	0
7	578223	2	65	1598	0
8	655611	3	66	1883	1416
9	26130	3	83	1600	1369
10	152961	1	87	0	0
11	773667	2	62	1590	0

Chirp Width: 18.311422 MHz

20 MHz – Trial 3

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	251092	3	96	1442	1205
2	751553	2	66	1938	0
3	796638	1	93	0	0
4	910543	1	58	0	0
5	201240	2	56	1257	0
6	272944	2	84	1124	0
7	647993	2	54	1516	0
8	659843	1	80	0	0
9	643630	3	64	1772	1968
10	966165	2	52	1679	0
11	585418	3	69	1832	1367
12	22605	2	100	1141	0

Chirp Width: 14.515443 MHz

20 MHz – Trial 4

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	201885	3	71	1386	1296
2	631107	2	100	1805	0
3	334285	2	62	1297	0
4	105759	1	82	0	0
5	531474	2	65	1649	0
6	688291	1	56	0	0
7	83467	2	88	1723	0
8	265176	1	80	0	0
9	640193	2	83	1665	0
10	283305	2	85	1980	0
11	200675	1	78	0	0
12	302807	3	62	1814	1739
13	91296	2	82	1579	0
14	423847	2	75	1684	0
15	16767	1	98	0	0
16	594637	1	66	0	0
17	97532	3	84	1098	1913

Chirp Width: 13.647952 MHz

20 MHz – Trial 5

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	617437	3	100	1665	1614
2	471898	3	69	1938	1387
3	47178 3	82	1536	1082	
4	424921	2	81	1615	0
5	427403	3	77	1210	1072
6	239917	2	55	1834	0
7	420510	1	87	0	0
8	560519	2	95	1616	0
9	323162	1	90	0	0
10	470491	1	74	0	0
11	72668	1	82	0	0
12	372027	2	96	1019	0
13	123207	2	79	1806	0
14	519133	2	88	1769	0
15	648551	1	53	0	0
16	54259	3	82	1588	1276
17	312654	2	79	1065	0
18	482382	3	65	1311	1429

Chirp Width: 9.739776 MHz

20 MHz – Trial 6

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	531817	1	79	0	0
2	166859	2	56	1416	0
3	476753	3	51	1701	1516
4	220211	3	83	1478	1419
5	14799	2	52	1895	0
6	382547	1	53	0	0
7	522712	3	67	1035	1257
8	548165	2	67	1277	0
9	451314	2	91	1713	0
10	66615	2	56	1089	0
11	262299	3	53	1683	1738
12	48247	2	75	1065	0
13	212451	2	59	1782	0
14	320985	2	80	1975	0
15	251546	1	64	0	0
16	151343	1	53	0	0
17	346167	3	71	1440	1133
18	274503	1	61	0	0
19	363648	1	84	0	0
20	504865	2	72	1708	0

Chirp Width: 13.298469 MHz

20 MHz – Trial 7

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	159025	1	66	0	0
2	718008	3	54	1148	1488
3	843034	2	96	1930	0
4	241557	1	78	0	0
5	398094	1	92	0	0
6	564456	2	95	1069	0
7	619731	2	82	1890	0
8	137107	2	100	1586	0
9	714328	2	64	1225	0
10	71575	3	77	1184	1199
11	362343	1	51	0	0
12	777503	1	90	0	0
13	27678	2	75	1651	0

Chirp Width: 5.766925 MHz

20 MHz – Trial 8

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	224344	3	89	1701	1208
2	444302	2	93	1834	0
3	626879	1	81	0	0
4	386756	2	80	1978	0
5	86020	3	58	1128	1308
6	635287	2	75	1477	0
7	1067773	3	71	1370	1996
8	344524	2	89	1821	0
9	724003	3	93	1689	1423
10	698102	2	82	1879	0
11	793832	1	81	0	0

Chirp Width: 16.905539 MHz

20 MHz – Trial 9

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	529073	3	65	1137	1981
2	359412	2	81	1158	0
3	516119	2	82	1693	0
4	657672	2	90	1871	0
5	40508	1	99	0	0
6	564650	1	98	0	0
7	298078	1	97	0	0
8	184761	3	95	1676	1800
9	511265	2	61	1406	0
10	174452	1	75	0	0
11	247711	2	80	1466	0
12	408191	3	50	1439	1234
13	298390	2	86	1035	0
14	429794	3	62	1242	1617
15	506927	1	63	0	0
16	333219	3	52	1396	1052
17	541685	3	88	1699	1056
18	554185	2	82	1491	0

Chirp Width: 18.098347 MHz

20 MHz – Trial 10

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	491315	1	60	0	0
2	508253	2	91	1333	0
3	358355	2	50	1830	0
4	891723	3	94	1926	1672
5	348711	2	59	1031	0
6	207416	1	64	0	0
7	298217	2	65	1024	0
8	530519	3	74	1728	1464
9	632827	1	65	0	0
10	360569	1	74	0	0
11	508922	2	69	1518	0
12	794816	2	81	1098	0
13	634249	1	83	0	0

Chirp Width: 5.509615 MHz

20 MHz – Trial 11

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	635999	3	64	1987	1652
2	344508	2	96	1519	0
3	156032	1	68	0	0
4	502568	2	69	1393	0
5	642576	2	53	1489	0
6	640243	2	63	1937	0
7	713225	2	79	1814	0
8	293837	2	59	1808	0
9	91512	2	83	1551	0
10	629955	2	69	1371	0
11	610417	3	73	1848	1805
12	22820	2	85	1835	0
13	225674	3	97	1082	1645
14	325397	2	84	1848	0

Chirp Width: 19.610641 MHz

20 MHz – Trial 12

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	440034	2	83	1515	0
2	66060	2	99	1895	0
3	528453	2	55	1496	0
4	88890	1	61	0	0
5	1075424	1	70	0	0
6	483727	2	70	1613	0
7	140686	3	87	1146	1139
8	259796	2	61	1225	0
9	233699	1	60	0	0

Chirp Width: 12.306003 MHz

20 MHz – Trial 13

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	415548	3	75	1093	1772
2	1463252	1	92	0	0
3	1367791	2	69	1026	0
4	13364	1	64	0	0
5	188437	2	66	1244	0
6	421566	1	72	0	0
7	45793	1	71	0	0
8	1182682	2	75	1664	0

Chirp Width: 17.526245 MHz

20 MHz – Trial 14

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	536131	2	93	1766	0
2	613754	2	88	1478	0
3	550719	2	77	1972	0
4	238946	2	79	1981	0
5	179794	2	50	1671	0
6	258116	2	54	1325	0
7	75080	2	61	1135	0
8	411787	2	52	1352	0
9	54283	2	58	1354	0
10	213636	2	82	1408	0
11	197239	3	52	1038	1256
12	624791	1	93	0	0
13	366374	2	57	1273	0
14	427956	2	71	1065	0
15	54132	1	55	0	0
16	587149	1	72	0	0
17	384581	2	59	1125	0
18	380899	3	99	1788	1051
19	602692	2	95	1552	0

Chirp Width: 10.116779 MHz

20 MHz – Trial 15

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	588089	1	57	0	0
2	521941	3	55	1852	1231
3	218709	2	97	1409	0
4	505865	3	76	1412	1333
5	233088	1	51	0	0
6	25878	3	53	1515	1512
7	615689	3	97	1059	1544
8	178136	2	56	1527	0
9	303824	1	91	0	0
10	632176	2	66	1571	0
11	400571	3	67	1834	1939
12	383291	3	98	1980	1605
13	88457	2	95	1326	0
14	449531	2	94	1503	0
15	138158	1	80	0	0
16	614868	1	87	0	0
17	35562	1	95	0	0
18	131393	3	69	1491	1382

Chirp Width: 13.406696 MHz

20 MHz – Trial 16

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	680158	2	87	1859	0
2	546084	1	81	0	0
3	44759	2	89	1372	0
4	410556	3	79	1365	1332
5	636815	2	76	1824	0
6	204667	3	61	1522	1457
7	397469	2	55	1150	0
8	467910	2	94	1282	0
9	518515	3	77	1589	1299
10	700588	3	85	1954	1205
11	910938	1	88	0	0

Chirp Width: 19.133333 MHz

20 MHz – Trial 17

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	356939	1	56	0	0
2	369892	2	53	1787	0
3	348927	3	87	1787	1884
4	97986	3	55	1588	1812
5	173666	2	97	1826	0
6	557571	3	83	1598	1066
7	22698	2	87	1709	0
8	561917	2	80	1472	0
9	590817	2	76	1941	0
10	311589	1	58	0	0
11	158057	1	92	0	0
12	249617	2	75	1170	0
13	152823	2	99	1980	0
14	118122	2	57	1621	0
15	111002	3	84	1361	1466
16	290304	2	58	1425	0
17	550706	2	59	1780	0
18	579897	2	68	1515	0
19	50094	2	74	1324	0
20	193315	2	51	1904	0

Chirp Width: 19.869357 MHz

20 MHz – Trial 18

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	223165	2	97	1185	0
2	790729	2	67	1026	0
3	1033963	2	85	1583	0
4	385165	2	74	1736	0
5	109094	2	54	1773	0
6	812522	2	65	1772	0
7	79146	3	66	1473	1482
8	1082010	2	54	1683	0
9	826589	1	95	0	0
10	1011073	2	52	1434	0
11	738673	3	51	1691	1049

Chirp Width: 6.644641 MHz

20 MHz – Trial 19

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	515409	3	58	1603	1417
2	407768	1	72	0	0
3	231866	3	93	1202	1016
4	244695	1	87	0	0
5	580367	2	76	1744	0
6	429581	1	97	0	0
7	405831	1	62	0	0
8	298558	2	78	1482	0
9	314207	2	55	1043	0
10	124378	3	75	1652	1142
11	130784	3	90	1882	1823
12	140187	1	72	0	0
13	173748	1	97	0	0
14	472749	2	55	1320	0
15	167897	2	55	1313	0
16	507996	2	53	1368	0
17	549785	2	79	1216	0
18	319486	1	60	0	0
19	206098	2	83	1617	0
20	562093	2	75	1683	0

Chirp Width: 15.018809 MHz

20 MHz – Trial 20

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	85316	1	68	0	0
2	466902	2	73	1723	0
3	40718	2	67	1378	0
4	731816	2	85	1719	0
5	580327	3	95	1007	1771
6	301150	1	88	0	0
7	227664	3	50	1800	1515
8	725236	2	85	1358	0
9	664621	1	67	0	0
10	16440	3	54	1706	1964
11	784566	2	90	1723	0
12	636866	3	88	1650	1278
13	11251	3	91	1204	1939
14	54306	1	90	0	0
15	282576	3	74	1734	1674

Chirp Width: 11.453138 MHz

20 MHz – Trial 21

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	55843	2	56	1508	0
2	41722	1	82	0	0
3	118003	3	69	1543	1185
4	107396	2	62	1207	0
5	301938	2	58	1187	0
6	220269	1	97	0	0
7	340457	2	88	1909	0
8	507194	3	82	1877	1361
9	624889	2	55	1729	0
10	609	2	99	1146	0
11	177716	2	72	1232	0
12	686190	3	67	1910	1737
13	145027	2	51	1375	0
14	74596	1	92	0	0
15	610108	3	52	1708	1350
16	81399	1	98	0	0
17	556678	3	67	1375	1640

Chirp Width: 6.417493 MHz

20 MHz – Trial 22

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	247465	1	95	0	0
2	380446	1	70	0	0
3	955335	2	76	1884	0
4	384245	1	85	0	0
5	486670	1	79	0	0
6	333476	1	62	0	0
7	307727	2	67	1819	0
8	594962	2	86	1520	0
9	287339	3	59	1012	1665
10	17972	2	75	1812	0
11	857135	1	83	0	0

Chirp Width: 8.119252 MHz

20 MHz – Trial 23

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	687181	2	88	1071	0
2	596157	2	76	1239	0
3	484208	3	53	1421	1783
4	562836	2	89	1331	0
5	63734 3	70	1185	1139	
6	323928	2	92	1331	0
7	619491	3	59	1040	1554
8	76704 1	84	0	0	
9	76366 2	66	1020	0	
10	254628	1	71	0	0
11	52134 1	76	0	0	
12	689575	2	67	1115	0
13	618263	2	71	1861	0
14	671422	2	55	1091	0
15	348294	3	74	1254	1816
16	75834 2	64	1399	0	

Chirp Width: 11.272900 MHz

20 MHz – Trial 24

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	729131	2	67	1776	0
2	48812	1	53	0	0
3	110947	2	58	1714	0
4	361752	2	90	1942	0
5	255637	2	72	1265	0
6	288596	1	87	0	0
7	650091	3	54	1663	1371
8	177161	3	87	1067	1078
9	692520	2	61	1128	0
10	453192	3	99	1407	1211
11	401996	3	80	1114	1887
12	797707	2	87	1311	0
13	850284	2	93	1837	0
14	210594	2	57	1582	0

Chirp Width: 14.119630 MHz

20 MHz – Trial 25

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	641144	2	61	1462	0
2	707437	2	73	1478	0
3	390530	2	55	1011	0
4	717676	2	100	1081	0
5	627786	3	51	1984	1418
6	42614	2	51	1724	0
7	431560	3	83	1609	1751
8	572537	3	69	1115	1861
9	289361	2	83	1333	0
10	547632	3	82	1616	1651
11	363540	3	60	1930	1192
12	474026	1	54	0	0
13	746446	2	82	1036	0
14	347841	1	60	0	0
15	437232	1	98	0	0
16	238143	3	96	1333	1156

Chirp Width: 8.789812 MHz

20 MHz – Trial 26

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	149773	2	80	1358	0
2	1424039	1	64	0	0
3	823565	3	83	1675	1933
4	1013782	2	68	1321	0
5	416663	3	94	1110	1028
6	206831	1	88	0	0
7	1360744	2	64	1180	0
8	24769	3	83	1385	1413

Chirp Width: 8.148883 MHz

20 MHz – Trial 27

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	773591	1	52	0	0
2	1224702	2	65	1500	0
3	106711	3	52	1692	1072
4	35549	3	52	1971	1710
5	289226	1	84	0	0
6	1042166	1	89	0	0
7	236007	3	68	1541	1115
8	308141	2	74	1280	0
9	722959	1	53	0	0

Chirp Width: 13.515433 MHz

20 MHz – Trial 28

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	399559	2	93	1255	0
2	441977	3	61	1366	2000
3	836074	2	52	1573	0
4	771992	3	96	1432	1456
5	672741	1	64	0	0
6	907974	1	64	0	0
7	555665	1	90	0	0
8	778207	2	73	1496	0
9	466709	1	87	0	0
10	553482	3	93	1196	1034
11	757490	3	96	1685	1498
12	624232	2	76	1950	0

Chirp Width: 11.462238 MHz

20 MHz – Trial 29

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	671527	2	90	1157	0
2	946945	2	66	1187	0
3	179308	2	82	1630	0
4	81862	2	55	1965	0
5	460994	1	98	0	0
6	270327	1	66	0	0
7	1001877	2	59	1752	0
8	1011046	3	65	1153	1433
9	29607	3	94	1339	1025
10	670685	3	68	1192	1458
11	591831	3	51	1645	1666

Chirp Width: 7.095638 MHz

20 MHz – Trial 30

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	304026	2	68	1430	0
2	470179	3	76	1173	1058
3	504891	3	63	1914	1302
4	654943	3	79	1521	1339
5	365231	1	59	0	0
6	645877	3	62	1891	1328
7	477722	2	98	1751	0
8	180227	3	71	1391	1984
9	365576	2	91	1033	0
10	531287	2	90	1148	0
11	156754	3	50	1880	1273
12	544701	2	57	1737	0
13	282255	1	77	0	0
14	286045	2	87	1403	0
15	574015	2	84	1911	0
16	572108	2	64	1292	0
17	510813	3	71	1378	1154
18	168686	2	80	1558	0

Chirp Width: 8.086384 MHz

40 MHz – Trial 1

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	430750	3	96	1116	1644
2	751640	1	74	0	0
3	313538	2	95	1417	0
4	844284	2	80	1570	0
5	724109	3	96	1298	1976
6	779991	3	87	1310	1663
7	708949	2	81	1211	0
8	444386	2	95	1690	0
9	325025	2	75	1849	0
10	80695	3	67	1185	1839
11	504180	2	74	1314	0
12	483681	2	74	1825	0
13	804987	2	91	1820	0

Chirp Width: 11.168081 MHz

40 MHz – Trial 2

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	595075	3	82	1959	1901
2	593904	2	86	1250	0
3	436186	3	55	1187	1961
4	183491	2	63	1419	0
5	687552	2	96	1981	0
6	48983	1	87	0	0
7	529522	2	67	1705	0
8	238830	3	81	1262	1431
9	581108	1	86	0	0
10	495473	3	69	1292	1972
11	542352	3	83	1199	1072
12	32816	1	95	0	0
13	35179	3	80	1753	1569
14	151928	1	66	0	0
15	173690	1	54	0	0

Chirp Width: 13.277829 MHz

40 MHz – Trial 3

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	484906	3	66	1247	1973
2	236896	2	58	1395	0
3	262631	1	66	0	0
4	314656	2	52	1671	0
5	606793	2	86	1131	0
6	173288	1	56	0	0
7	332203	2	62	1289	0
8	408806	3	90	1038	1272
9	633306	1	82	0	0
10	733857	2	63	1823	0

Chirp Width: 11.291722 MHz

40 MHz – Trial 4

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	963904	2	72	1277	0
2	616830	3	98	1388	1254
3	1166803	2	50	1687	0
4	818020	2	93	1981	0
5	366134	2	66	1011	0
6	510702	2	83	1356	0
7	1121966	3	57	1643	1780
8	1055090	2	85	1525	0
9	970580	3	58	1226	1412

Chirp Width: 8.996991 MHz

40 MHz – Trial 5

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	101395	1	81	0	0
2	620699	1	79	0	0
3	206245	2	88	1219	0
4	111819	2	98	1342	0
5	245795	2	77	1580	0
6	206491	3	89	1405	1406
7	45969	1	73	0	0
8	227999	2	90	1177	0
9	420060	1	85	0	0
10	645230	2	78	1984	0
11	635972	2	61	1054	0
12	578407	2	73	1575	0
13	94572	2	89	1228	0
14	129424	2	97	1746	0
15	259722	2	56	1414	0
16	591166	3	83	1176	1455
17	363530	1	64	0	0
18	649485	1	94	0	0

Chirp Width: 16.333362 MHz

40 MHz – Trial 6

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	201243	2	75	1515	0
2	1124335	2	64	1756	0
3	1036657	2	88	1511	0
4	633869	2	60	1707	0
5	980682	1	92	0	0
6	39449	1	90	0	0
7	27875	2	74	1714	0
8	19076	1	84	0	0
9	1049544	3	93	1392	1846

Chirp Width: 13.680406 MHz

40 MHz – Trial 7

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	705365	3	56	1628	1103
2	450813	2	92	1176	0
3	357928	1	60	0	0
4	827385	3	73	1116	1645
5	402839	2	85	1213	0
6	375592	1	72	0	0
7	755106	2	50	1970	0
8	75771	3	67	1138	1891
9	373394	2	73	1298	0
10	16288	3	62	1259	1920
11	501261	3	83	1829	1764
12	382635	2	82	1233	0
13	480875	2	59	1103	0
14	439611	2	52	1642	0

Chirp Width: 16.438310 MHz

40 MHz – Trial 8

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	616972	2	94	1736	0
2	482296	3	52	1281	1497
3	372491	2	53	1879	0
4	96144	1	83	0	0
5	676422	3	73	1181	1959
6	790454	2	59	1315	0
7	18107	2	79	1561	0
8	436959	2	96	1027	0
9	170109	2	64	1537	0
10	590556	3	62	1691	1668
11	215118	2	71	1878	0
12	123275	2	92	1073	0
13	626618	2	89	1022	0
14	510862	2	68	1945	0
15	725717	3	81	1292	1484

Chirp Width: 6.641706 MHz

40 MHz – Trial 9

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	68130	3	64	1762	1864
2	130340	2	91	1113	0
3	511109	2	94	1225	0
4	10062	2	96	1265	0
5	80308	2	74	1485	0
6	146047	2	67	1566	0
7	259319	2	66	1219	0
8	442060	2	72	1690	0
9	13849	3	100	1287	1101
10	536630	1	89	0	0
11	287402	1	89	0	0
12	115331	2	84	1773	0
13	490421	2	52	1603	0
14	222069	2	92	1173	0
15	420386	3	87	1628	1967
16	398035	1	66	0	0
17	623911	1	82	0	0
18	177661	3	64	1810	1402
19	387694	3	84	1967	1718

Chirp Width: 10.009072 MHz

40 MHz – Trial 10

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	669300	3	90	1796	1036
2	159150	2	63	1405	0
3	182436	3	79	1838	1940
4	142474	3	68	1642	1936
5	214536	2	71	1373	0
6	614160	3	65	1898	1356
7	147821	2	76	1998	0
8	461316	2	62	1403	0
9	933544	3	54	1977	1267
10	90068	2	99	1161	0
11	151061	1	83	0	0
12	465743	2	88	1305	0

Chirp Width: 19.543000 MHz

40 MHz – Trial 11

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	361240	3	78	1365	1307
2	239628	1	65	0	0
3	244090	3	60	1207	1393
4	510293	2	86	1063	0
5	344648	3	63	1393	1810
6	175466	2	83	1037	0
7	384401	3	93	1397	1672
8	103513	2	96	1238	0
9	382204	3	82	1469	1476
10	577910	2	57	1582	0
11	31375	3	73	1821	1515
12	548583	2	76	1380	0
13	165795	1	69	0	0
14	199693	1	53	0	0
15	29247	3	98	1137	1273
16	506030	2	84	1637	0
17	403817	1	72	0	0
18	440313	2	61	1960	0
19	401638	3	100	1091	1942
20	203047	3	94	1552	1358

Chirp Width: 7.530247 MHz

40 MHz – Trial 12

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	286271	2	87	1575	0
2	15227	2	73	1678	0
3	299043	2	88	1809	0
4	478232	3	79	1827	1347
5	308245	1	65	0	0
6	252937	3	93	1652	1331
7	100500	3	57	1546	1645
8	410906	2	95	1225	0
9	416120	2	69	1037	0
10	547007	1	92	0	0
11	60470	1	62	0	0
12	463091	3	85	1288	1208
13	560696	2	63	1654	0
14	503877	2	85	1010	0
15	267476	2	73	1003	0
16	168934	1	80	0	0
17	61692	1	89	0	0
18	82382	1	77	0	0
19	218673	2	99	1595	0

Chirp Width: 19.413039 MHz

40 MHz – Trial 13

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	272135	2	53	1621	0
2	689821	2	57	1084	0
3	612432	1	59	0	0
4	356788	1	85	0	0
5	654719	2	56	1031	0
6	647727	2	89	1705	0
7	337506	3	86	1984	1225
8	87238	2	69	1156	0
9	631126	2	96	1708	0
10	454819	3	71	1055	1671
11	50410	2	84	1946	0
12	685858	2	67	1449	0
13	79796	2	71	1928	0
14	165853	1	84	0	0
15	615767	1	52	0	0
16	643493	2	85	1353	0
17	452011	3	68	1957	1008

Chirp Width: 16.164601 MHz

40 MHz – Trial 14

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	547425	2	68	1384	0
2	1086095	2	61	1937	0
3	604725	3	61	1384	1289
4	636552	2	82	1418	0
5	447317	2	59	1194	0
6	116898	1	97	0	0
7	685522	2	81	1885	0
8	150791	1	90	0	0
9	1021414	2	99	1518	0
10	782480	2	75	1527	0

Chirp Width: 18.548177 MHz

40 MHz – Trial 15

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	654764	3	67	1830	1453
2	178751	3	61	1498	1385
3	414608	3	76	1358	1254
4	513481	2	88	1428	0
5	512042	2	99	1434	0
6	58250	2	69	1282	0
7	438518	2	77	1489	0
8	410902	2	60	1200	0
9	590044	2	75	1675	0
10	337500	3	68	1339	1780
11	355130	2	98	1919	0
12	574248	3	77	1681	1236
13	173495	3	60	1208	1876
14	149870	1	95	0	0
15	235942	2	98	1404	0
16	310973	3	80	1052	1652
17	509227	1	86	0	0
18	377737	2	72	1845	0

Chirp Width: 13.421512 MHz

40 MHz – Trial 16

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	305848	3	99	1164	1394
2	601964	2	55	1967	0
3	610932	1	100	0	0
4	699793	3	83	1470	1902
5	519151	3	76	1446	1087
6	35808	2	96	1877	0
7	606755	3	83	1694	1223
8	460619	2	51	1821	0
9	382940	1	64	0	0
10	244643	1	66	0	0
11	616047	2	77	1507	0
12	43641	1	89	0	0
13	136183	3	88	1616	1143
14	90639	3	95	1464	1621
15	745241	1	56	0	0

Chirp Width: 15.165786 MHz

40 MHz – Trial 17

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	349807	2	82	1221	0
2	13455	1	51	0	0
3	299848	2	63	1557	0
4	117080	3	78	1044	1266
5	513143	2	81	1814	0
6	628409	3	56	1472	1439
7	169417	2	53	1047	0
8	178273	3	56	1309	1178
9	72170	3	58	1244	1799
10	441615	2	57	1147	0
11	101649	3	72	1326	1761
12	326613	1	67	0	0
13	658012	2	70	1890	0
14	23924	2	79	1017	0
15	464574	3	86	1231	1327
16	7301	2	56	1597	0

Chirp Width: 7.861004 MHz

40 MHz – Trial 18

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	170389	2	93	1253	0
2	253798	1	92	0	0
3	207789	2	70	1263	0
4	90509	3	78	1981	1283
5	256356	1	53	0	0
6	409424	2	77	1049	0
7	457080	3	82	1828	1343
8	424902	2	68	1729	0
9	458711	1	89	0	0
10	575646	1	79	0	0
11	434435	2	75	1255	0
12	53977	1	80	0	0
13	388101	2	66	1955	0
14	346378	3	56	1957	1127
15	467321	3	93	1772	1907
16	571426	2	57	1047	0
17	268374	2	51	1409	0
18	104268	3	77	1842	1157

Chirp Width: 13.434101 MHz

40 MHz – Trial 19

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	105433	2	97	1756	0
2	376304	2	77	1937	0
3	57287	3	92	1992	1371
4	123618	2	64	1516	0
5	542502	2	53	1850	0
6	56619	2	78	1438	0
7	99021	1	89	0	0
8	353686	2	51	1672	0
9	11370	2	63	1916	0
10	597027	1	60	0	0
11	166303	2	94	1223	0
12	189194	1	51	0	0
13	516394	2	99	1581	0
14	376291	1	82	0	0
15	51477	1	88	0	0
16	532592	2	87	1386	0
17	481348	2	57	1699	0
18	565477	3	88	1746	1714
19	58936	1	64	0	0

Chirp Width: 7.530792 MHz

40 MHz – Trial 20

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	238791	1	53	0	0
2	301313	1	78	0	0
3	151545	1	97	0	0
4	484403	2	97	1983	0
5	393358	2	62	1003	0
6	592381	2	67	1504	0
7	116294	2	64	1198	0
8	524820	2	73	1715	0
9	318803	2	52	1894	0
10	621377	2	73	1995	0
11	517163	3	60	1383	1218
12	429019	2	71	1885	0
13	750772	1	72	0	0
14	638760	1	92	0	0
15	119721	3	84	1710	1104

Chirp Width: 10.084588 MHz

40 MHz – Trial 21

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	18537	2	55	1157	0
2	394312	2	84	1707	0
3	275063	2	57	1631	0
4	198100	2	94	1234	0
5	489997	3	92	1974	1537
6	163102	2	56	1256	0
7	298252	1	78	0	0
8	103026	3	99	1913	1693
9	485250	1	79	0	0
10	433919	2	81	1290	0
11	104843	1	90	0	0
12	141837	3	71	1367	1794
13	234228	1	96	0	0
14	531325	2	93	1402	0
15	20178	2	75	1147	0
16	527101	3	90	1755	1796
17	425133	2	99	1255	0
18	393625	2	54	1332	0
19	11548	3	62	1980	1929

Chirp Width: 10.085694 MHz

40 MHz – Trial 22

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	235726	2	81	1151	0
2	573662	3	98	1995	1988
3	323299	3	74	1067	1674
4	71857	1	85	0	0
5	88346	3	91	1916	1655
6	414659	2	86	1866	0
7	552743	1	87	0	0
8	19673	1	65	0	0
9	396350	2	66	1156	0
10	56500	2	60	1256	0
11	241355	2	78	1549	0
12	273677	2	61	1191	0
13	589397	2	94	1129	0
14	9413	1	82	0	0
15	197501	2	91	1412	0
16	274533	3	85	1566	1450
17	474622	3	93	1393	1873
18	80885	2	97	1422	0
19	521467	3	75	1573	1899
20	346545	2	88	1941	0

Chirp Width: 10.085958 MHz

40 MHz – Trial 23

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	965943	1	64	0	0
2	275372	3	60	1070	1623
3	1191275	2	75	1143	0
4	25928 3	86	1725	1587	
5	614996	1	63	0	0
6	791693	1	87	0	0
7	222373	2	88	1749	0
8	329584	1	85	0	0
9	122740	3	97	1751	1875

Chirp Width: 10.944296 MHz

40 MHz – Trial 24

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	603995	2	97	1843	0
2	694623	2	83	1816	0
3	474832	1	87	0	0
4	7058	1	84	0	0
5	339643	3	54	1681	1120
6	252820	1	69	0	0
7	1049480	2	67	1858	0
8	85936	2	59	1236	0
9	1078213	2	59	1496	0
10	754673	2	75	1047	0
11	667142	2	52	1146	0

Chirp Width: 10.125194 MHz

40 MHz – Trial 25

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	467810	2	65	1208	0
2	197781	2	52	1968	0
3	404408	1	89	0	0
4	545371	3	52	1154	1685
5	161234	2	68	1427	0
6	125818	3	80	1831	1240
7	407090	1	74	0	0
8	94358	3	73	1741	1138
9	67002	1	74	0	0
10	260378	1	90	0	0
11	367275	2	54	1671	0
12	143608	2	74	1120	0
13	499522	3	50	1878	1179
14	131712	3	54	1498	1860
15	221960	2	91	1212	0
16	368619	2	76	1939	0
17	53521	2	68	1531	0
18	377046	2	54	1207	0
19	530848	2	80	1059	0

Chirp Width: 7.575976 MHz

40 MHz – Trial 26

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	207464	2	64	1079	0
2	529905	3	85	1214	1828
3	216430	2	54	1066	0
4	712473	2	59	1740	0
5	582155	2	100	1798	0
6	442861	1	92	0	0
7	183829	2	65	1461	0
8	596417	1	60	0	0
9	34906	3	66	1958	1615
10	294891	3	63	1321	1444
11	307093	2	75	1674	0
12	53542	2	63	1242	0
13	614679	1	57	0	0
14	658240	2	73	1934	0

Chirp Width: 7.300016 MHz

40 MHz – Trial 27

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	567659	3	51	1544	1817
2	114917	3	75	1403	1573
3	216162	2	59	1163	0
4	749447	2	63	1339	0
5	737955	3	96	1302	1982
6	1004576	2	77	1373	0
7	134817	1	65	0	0
8	258882	1	70	0	0
9	899208	1	77	0	0
10	213717	1	86	0	0

Chirp Width: 10.361064 MHz

40 MHz – Trial 28

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	158596	1	64	0	0
2	1122543	2	51	1358	0
3	436532	2	88	1385	0
4	1012591	3	64	1820	1504
5	890925	3	97	1985	1774
6	231830	1	94	0	0
7	973308	2	71	1728	0
8	958735	2	83	1698	0
9	161350	2	51	1781	0
10	1140600	2	82	1511	0

Chirp Width: 12.205316 MHz

40 MHz – Trial 29

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	239249	3	87	1595	1183
2	653692	3	62	1860	1709
3	17262	1	92	0	0
4	836783	2	81	1029	0
5	248490	2	83	1246	0
6	770303	3	50	1187	1952
7	190231	2	52	1696	0
8	676079	2	87	1809	0
9	61245	1	84	0	0
10	746534	1	76	0	0
11	329290	2	96	1434	0
12	89104	2	78	1555	0
13	129225	3	84	1558	1918

Chirp Width: 17.282608 MHz

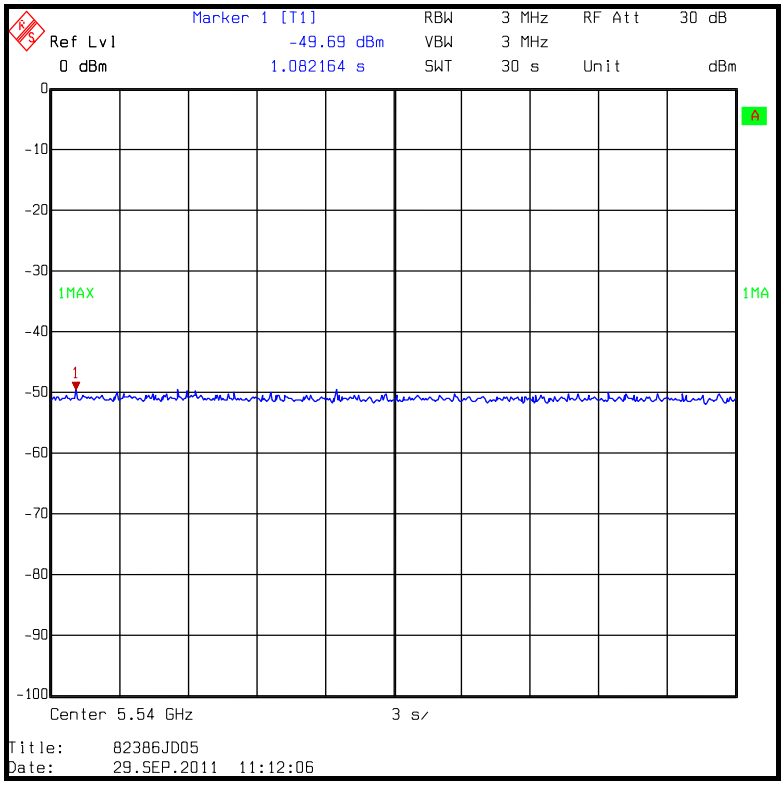
40 MHz – Trial 30

Burst	Start	Pulses	Width	PRI 1	PRI 2
1	97751	3	81	1526	1767
2	257013	2	59	1369	0
3	477643	2	51	1583	0
4	149191	2	82	1512	0
5	533898	2	97	1558	0
6	607217	1	92	0	0
7	386438	2	95	1197	0
8	60093	3	85	1454	1112
9	563317	2	51	1942	0
10	496463	3	65	1900	1580
11	554575	1	100	0	0
12	417018	2	72	1742	0
13	48291	3	90	1977	1815
14	378689	2	87	1122	0
15	211045	2	67	1831	0
16	178595	2	71	1399	0
17	16805	2	64	1636	0
18	636219	3	92	1373	1726

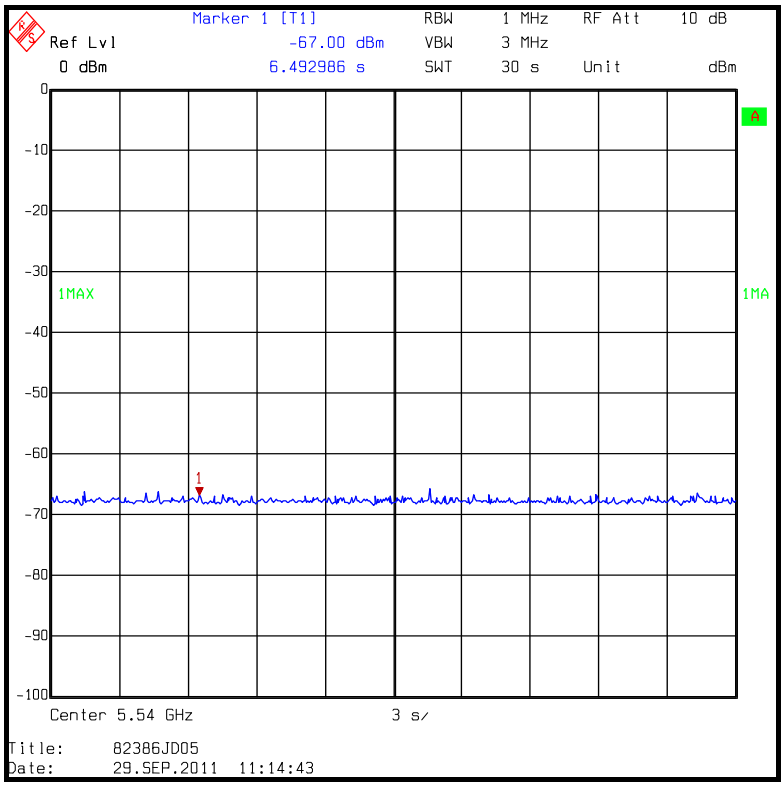
Chirp Width: 16.946097 MHz

Appendix 5. System Noise floor Reference Plots

As required by section 8.3.18(iii) of FCC 06-96, the following plots show the reference noise floor of the system used during measurement.



Noise floor of test system during Channel Availability Check



Noise floor of test system during all other tests.