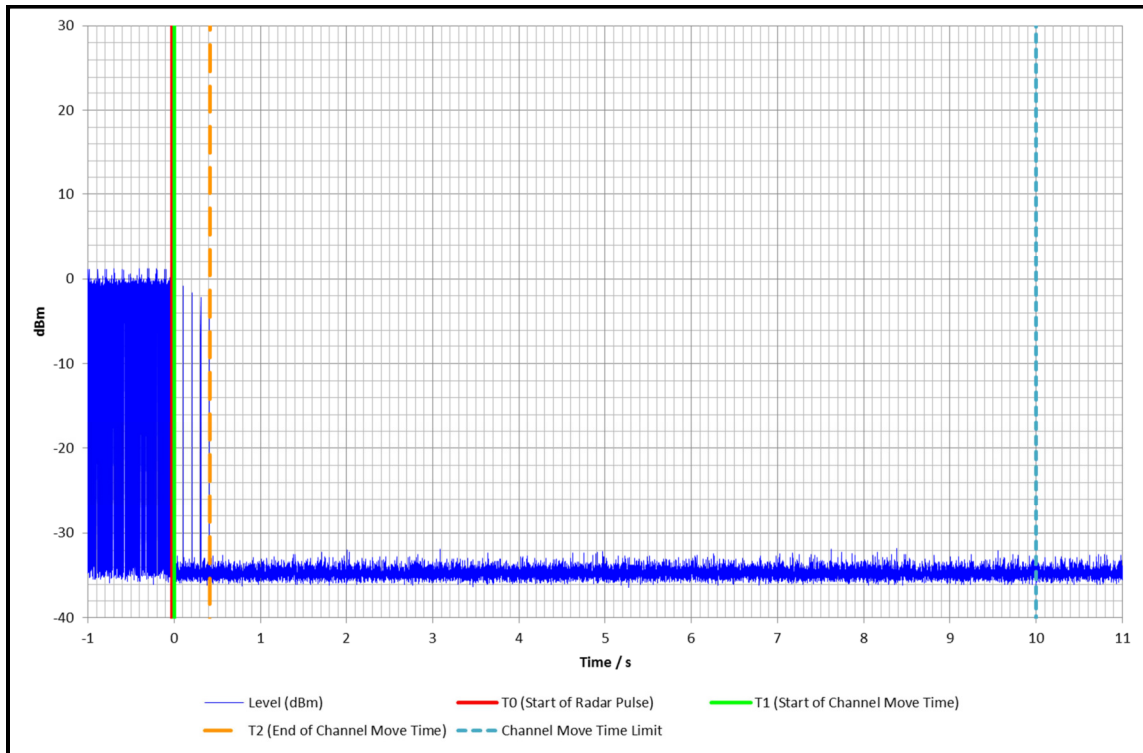
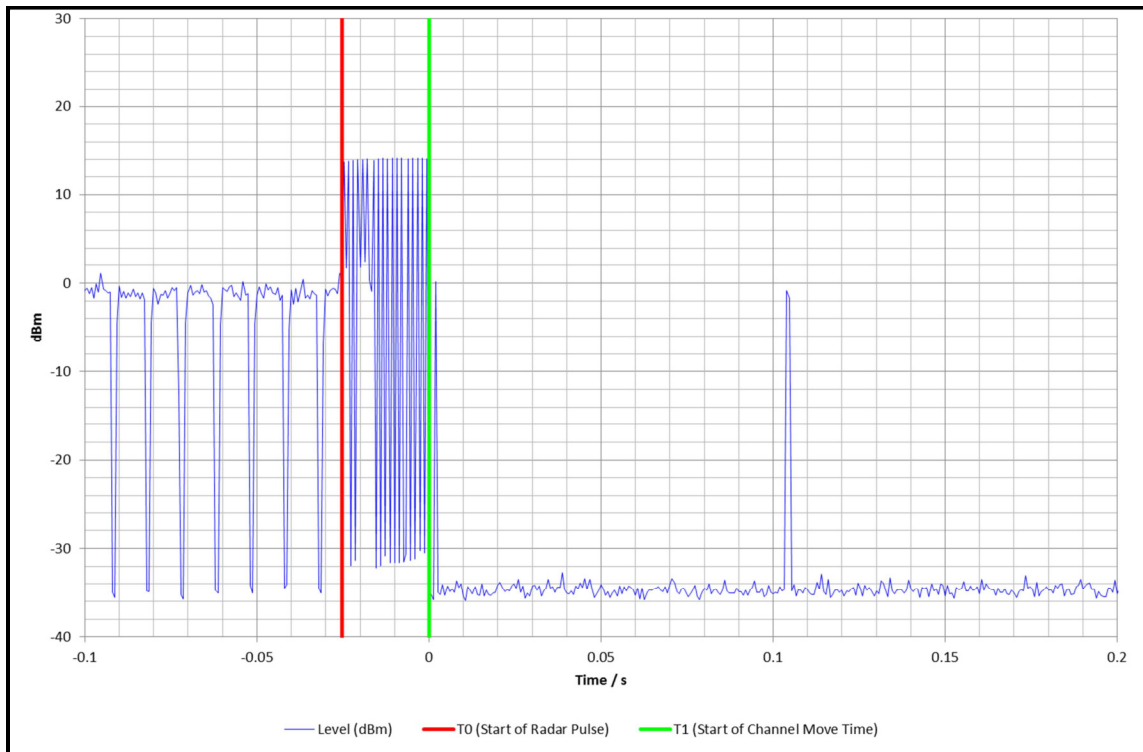


Channel Closing Transmission Time and Channel Move Time (continued)**Results: 40 MHz Master**

Plot showing the full 10 second shutdown limit



Zoomed plot showing the first 200 ms after the end of the type 0 radar burst

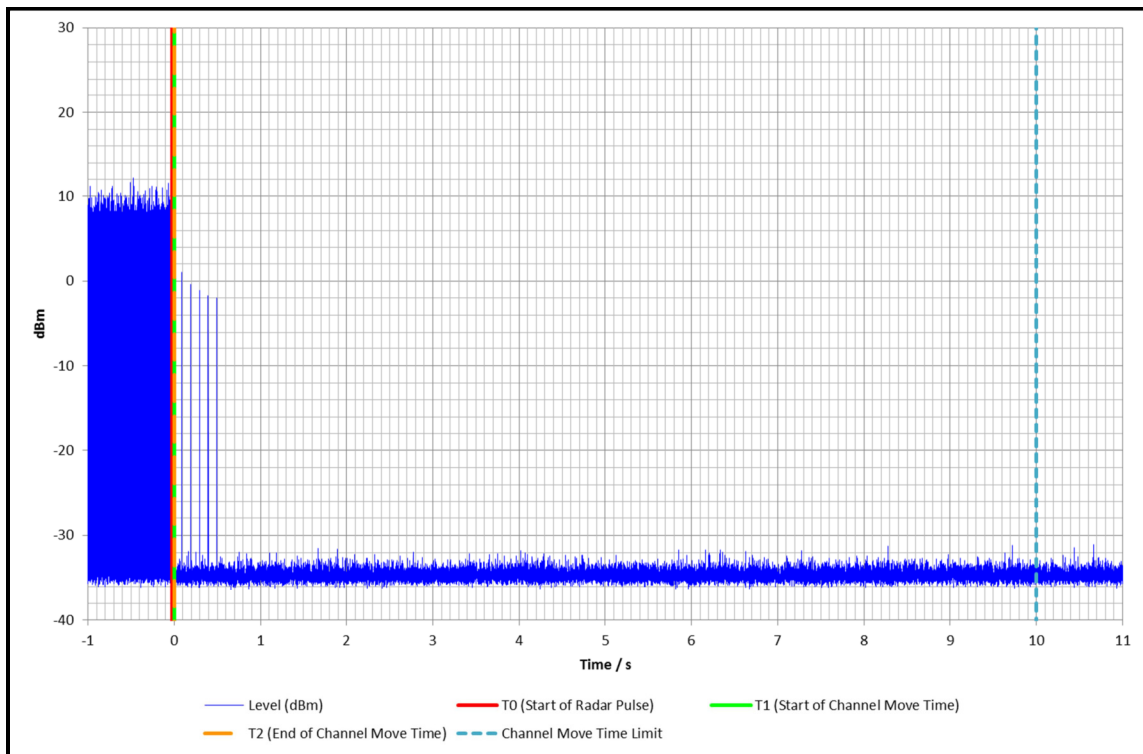
Channel Closing Transmission Time and Channel Move Time (continued)**Results: 40 MHz Client, Radar at Master – Channel Move Time**

Channel (MHz)	Move Time (ms)	Limit (ms)	Margin (ms)	Detected
5510	0	10000	10000	Yes

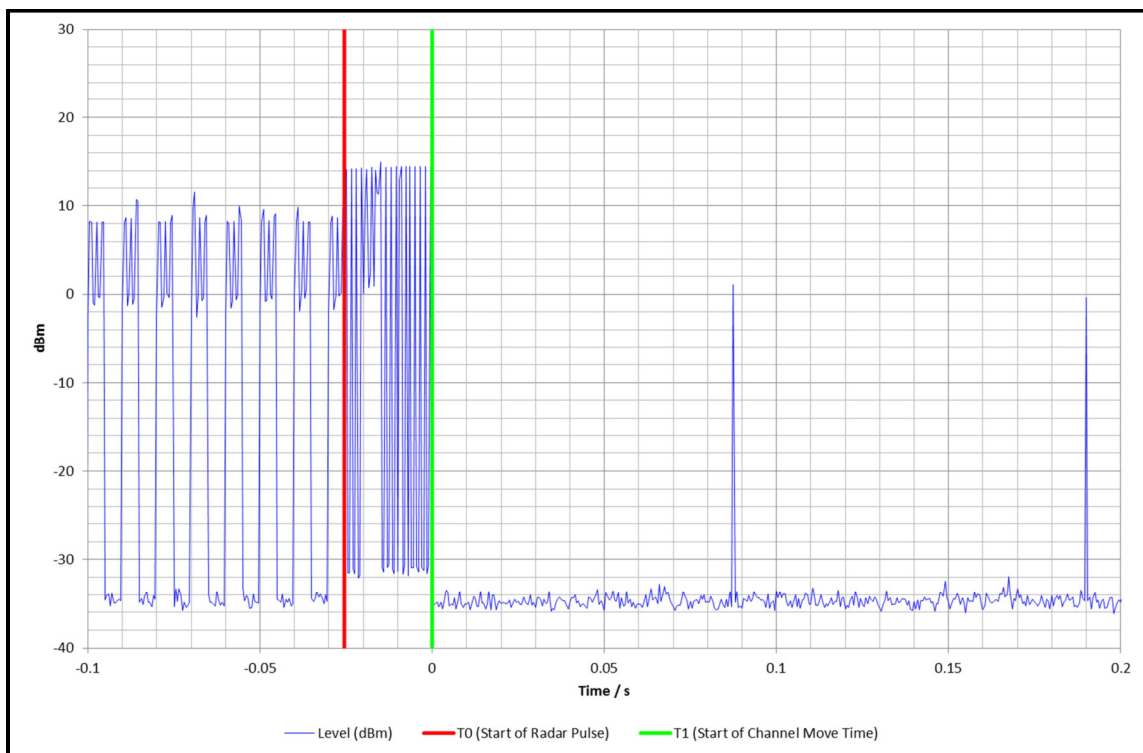
Results: 40 MHz Client, Radar at Master – Channel Closing Transmission Time

Channel (MHz)	Total Aggregate Tx Time (ms)	Limit (ms)	Margin (ms)	Tx Time >200 ms after end of radar (ms)	Limit (ms)	Margin (ms)
5510	0	260	260	0	60	60

NOTE: A channel move or closing transmission time of zero occurs when the EUT shuts down before the end of the radar burst.

Channel Closing Transmission Time and Channel Move Time (continued)**Results: 40 MHz Client, Radar at Master**

Plot showing the full 10 second shutdown limit



Zoomed plot showing the first 200 ms after the end of the type 0 radar burst

Channel Closing Transmission Time and Channel Move Time (continued)**Limits:****Part 15.407(h)(2)(iii)**

After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel.

KDB 905462 D02 Table 4: DFS Response Requirement Values

Parameter	Value
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
Note 1: <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.	
Note 2: The <i>Channel Closing Transmission Time</i> is comprised of 200 milliseconds starting at the beginning of the <i>Channel Move Time</i> plus any additional intermittent control signals required to facilitate a <i>Channel</i> 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:	Georgios Vrezas	Test Date:	07 December 2015
Test Sample Serial Number:	VPF7165808		

FCC Reference:	Part 15.407(h)(iv)
Test Method Used:	KDB 905462 D02 Section 7.8.3

Environmental Conditions:

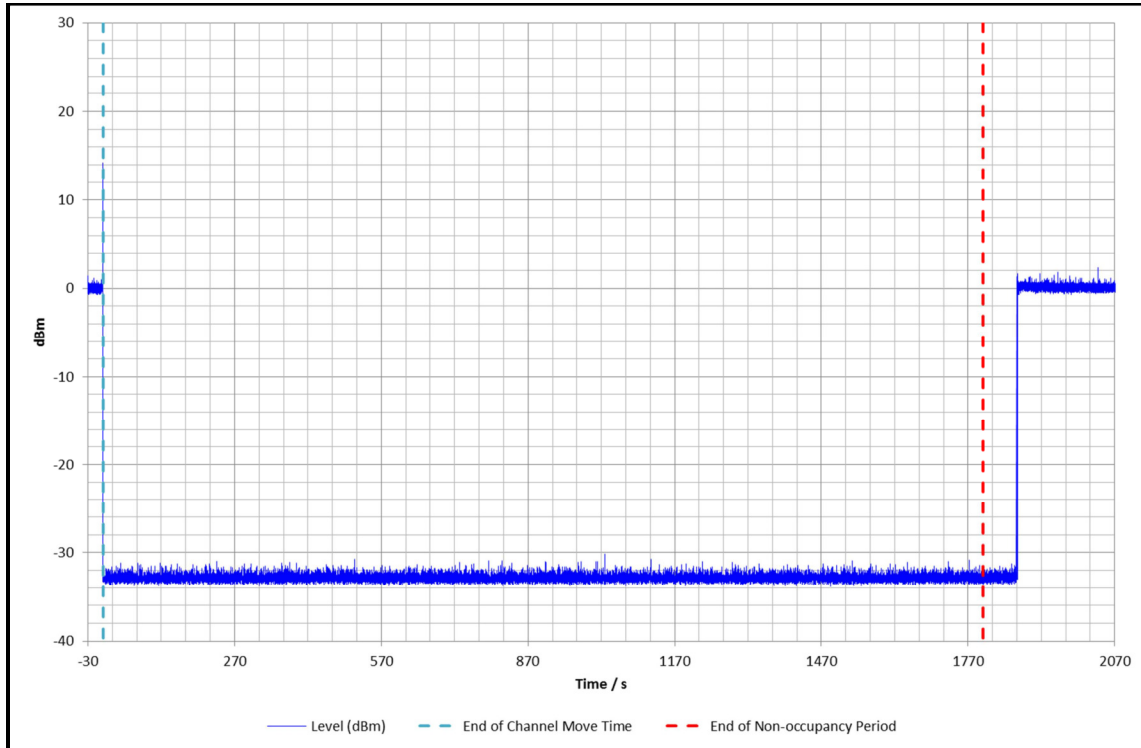
Temperature (°C):	24
Relative Humidity (%):	45

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Initial Channel Availability Check test was performed on any single bandwidth. It was therefore tested only on a 40 MHz channel bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf3 bandwidth testing tool. The channel loading was 25.2% with a 30 Mbit/s data rate. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using a type 0 radar and the radar detection threshold calculated in Section 4.2 of this test report.
4. Radar burst type 0 was detected and the channel was vacated for >1800 seconds, meeting the 30 minute (1800 second) non-occupancy period. During this period all emissions remained below the -27 dBm/MHz spurious limit. Channel move occurred within the channel move and channel closing time limits. Therefore the EUT complied.

Non-occupancy Period (continued)**Results: 40 MHz Master**

Channel (MHz)	Trial	Non-Occ (min)	Limit (min)	Margin (min)	Result
5510	1	31.2	30	1.2	Complied

**Limits:****Part 15.407(h)(2)(iv)**

A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.

KDB 905462 D02 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:	Georgios Vrezas	Test Date:	01 December 2015
Test Sample Serial Number:	VPF7165808		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.1 and Notes below

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	45

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf3 bandwidth testing tool. This was set to 15 Mbit/s and 30 Mbit/s throughput rate for the 20 MHz and 40 MHz channels respectively. The channel loading was measured as 26% for 20 MHz operation and 25.2% for 40 MHz. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this report.
4. Parameters used for the short radar types 1, 2, 3, and 4 may be found in this test report Appendices 5, 6, 7, and 8 respectively.
5. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Short Pulse Radar Types 1 – 4* test.

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 1**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
1	1	5491.045	Yes
	2	5491.642	Yes
	3	5492.239	Yes
	4	5492.836	Yes
	5	5493.433	Yes
	6	5494.030	Yes
	7	5494.627	Yes
	8	5495.224	Yes
	9	5495.821	Yes
	10	5496.418	Yes
	11	5497.015	Yes
	12	5497.612	Yes
	13	5498.209	Yes
	14	5498.806	Yes
	15	5499.403	Yes
	16	5500.000	Yes
	17	5500.597	Yes
	18	5501.194	Yes
	19	5501.791	Yes
	20	5502.388	Yes
	21	5502.985	Yes
	22	5503.582	Yes
	23	5504.179	Yes
	24	5504.776	Yes
	25	5505.373	Yes
	26	5505.970	Yes
	27	5506.567	Yes
	28	5507.164	Yes
	29	5507.761	Yes
	30	5508.358	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		100%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 2**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
2	1	5491.045	Yes
	2	5491.642	No
	3	5492.239	Yes
	4	5492.836	Yes
	5	5493.433	Yes
	6	5494.030	Yes
	7	5494.627	Yes
	8	5495.224	Yes
	9	5495.821	Yes
	10	5496.418	Yes
	11	5497.015	Yes
	12	5497.612	Yes
	13	5498.209	Yes
	14	5498.806	Yes
	15	5499.403	No
	16	5500.000	No
	17	5500.597	Yes
	18	5501.194	Yes
	19	5501.791	Yes
	20	5502.388	Yes
	21	5502.985	Yes
	22	5503.582	Yes
	23	5504.179	No
	24	5504.776	Yes
	25	5505.373	Yes
	26	5505.970	No
	27	5506.567	No
	28	5507.164	Yes
	29	5507.761	Yes
	30	5508.358	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		80%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 3**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
3	1	5491.045	Yes
	2	5491.642	Yes
	3	5492.239	Yes
	4	5492.836	Yes
	5	5493.433	No
	6	5494.030	Yes
	7	5494.627	Yes
	8	5495.224	Yes
	9	5495.821	Yes
	10	5496.418	Yes
	11	5497.015	Yes
	12	5497.612	Yes
	13	5498.209	Yes
	14	5498.806	No
	15	5499.403	No
	16	5500.000	Yes
	17	5500.597	No
	18	5501.194	Yes
	19	5501.791	Yes
	20	5502.388	Yes
	21	5502.985	No
	22	5503.582	Yes
	23	5504.179	Yes
	24	5504.776	No
	25	5505.373	Yes
	26	5505.970	No
	27	5506.567	Yes
	28	5507.164	Yes
	29	5507.761	Yes
	30	5508.358	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		76.7%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 20 MHz Master - Radar Type 4**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
4	1	5491.045	Yes
	2	5491.642	Yes
	3	5492.239	Yes
	4	5492.836	Yes
	5	5493.433	No
	6	5494.030	Yes
	7	5494.627	Yes
	8	5495.224	No
	9	5495.821	Yes
	10	5496.418	No
	11	5497.015	Yes
	12	5497.612	No
	13	5498.209	Yes
	14	5498.806	Yes
	15	5499.403	Yes
	16	5500.000	Yes
	17	5500.597	No
	18	5501.194	Yes
	19	5501.791	Yes
	20	5502.388	No
	21	5502.985	Yes
	22	5503.582	Yes
	23	5504.179	Yes
	24	5504.776	Yes
	25	5505.373	No
	26	5505.970	Yes
	27	5506.567	Yes
	28	5507.164	Yes
	29	5507.761	Yes
	30	5508.358	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		76.7%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 1**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
1	1	5491.310	Yes
	2	5492.556	Yes
	3	5493.802	Yes
	4	5495.048	Yes
	5	5496.294	Yes
	6	5497.540	Yes
	7	5498.786	Yes
	8	5500.032	Yes
	9	5501.278	Yes
	10	5502.524	Yes
	11	5503.770	Yes
	12	5505.016	Yes
	13	5506.262	Yes
	14	5507.508	Yes
	15	5508.754	Yes
	16	5510.000	Yes
	17	5511.246	Yes
	18	5512.492	Yes
	19	5513.738	Yes
	20	5514.984	Yes
	21	5516.230	Yes
	22	5517.476	No
	23	5518.722	Yes
	24	5519.968	Yes
	25	5521.214	No
	26	5522.460	Yes
	27	5523.706	Yes
	28	5524.952	Yes
	29	5526.198	Yes
	30	5527.444	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		93.3%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 2**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
2	1	5491.310	No
	2	5492.556	Yes
	3	5493.802	Yes
	4	5495.048	Yes
	5	5496.294	No
	6	5497.540	Yes
	7	5498.786	Yes
	8	5500.032	Yes
	9	5501.278	Yes
	10	5502.524	Yes
	11	5503.770	No
	12	5505.016	No
	13	5506.262	Yes
	14	5507.508	Yes
	15	5508.754	Yes
	16	5510.000	No
	17	5511.246	Yes
	18	5512.492	Yes
	19	5513.738	Yes
	20	5514.984	Yes
	21	5516.230	Yes
	22	5517.476	Yes
	23	5518.722	No
	24	5519.968	No
	25	5521.214	Yes
	26	5522.460	Yes
	27	5523.706	Yes
	28	5524.952	Yes
	29	5526.198	Yes
	30	5527.444	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		76.7%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 3**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
3	1	5491.310	Yes
	2	5492.556	Yes
	3	5493.802	Yes
	4	5495.048	Yes
	5	5496.294	Yes
	6	5497.540	Yes
	7	5498.786	Yes
	8	5500.032	Yes
	9	5501.278	Yes
	10	5502.524	Yes
	11	5503.770	No
	12	5505.016	No
	13	5506.262	Yes
	14	5507.508	No
	15	5508.754	Yes
	16	5510.000	Yes
	17	5511.246	Yes
	18	5512.492	Yes
	19	5513.738	Yes
	20	5514.984	Yes
	21	5516.230	Yes
	22	5517.476	Yes
	23	5518.722	Yes
	24	5519.968	Yes
	25	5521.214	No
	26	5522.460	Yes
	27	5523.706	No
	28	5524.952	Yes
	29	5526.198	Yes
	30	5527.444	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		83.3%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: 40 MHz Master - Radar Type 4**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
4	1	5491.310	Yes
	2	5492.556	Yes
	3	5493.802	No
	4	5495.048	No
	5	5496.294	Yes
	6	5497.540	Yes
	7	5498.786	No
	8	5500.032	Yes
	9	5501.278	Yes
	10	5502.524	Yes
	11	5503.770	Yes
	12	5505.016	No
	13	5506.262	Yes
	14	5507.508	Yes
	15	5508.754	Yes
	16	5510.000	No
	17	5511.246	Yes
	18	5512.492	Yes
	19	5513.738	No
	20	5514.984	Yes
	21	5516.230	Yes
	22	5517.476	Yes
	23	5518.722	Yes
	24	5519.968	No
	25	5521.214	Yes
	26	5522.460	Yes
	27	5523.706	No
	28	5524.952	Yes
	29	5526.198	Yes
	30	5527.444	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		73.3%	

Statistical Performance Check – Short Pulse Radar Types 1 - 4 (continued)**Results: Aggregate Percentage of Successful Detection**

Radar Type	Channel Bandwidth	
	20 MHz	40 MHz
Type 1	100.0 %	93.3 %
Type 2	80.0 %	76.7 %
Type 3	76.7 %	83.3 %
Type 4	76.7 %	73.3 %
Aggregate	83.4 %	81.7 %

Limits:**KDB 905462 D02 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	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a.	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \times \left(\frac{19 \times 10^6}{PRI_{\mu sec}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A.			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

5.2.8. Statistical Performance Check – Long Pulse Radar Type 5**Test Summary:**

Test Engineer:	Georgios Vrezas	Test Date:	01 December 2015
Test Sample Serial Number:	VPF7165808		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.2 and Notes below

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	45

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf3 bandwidth testing tool. This was set to 15 Mbit/s and 30 Mbit/s throughput rate for the 20 MHz and 40 MHz channels respectively. The channel loading was measured as 26% for 20 MHz operation and 25.2% for 40 MHz. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this test report.
4. Parameters used for the long radar type 5 can be found in Appendix 9 of this test report.
5. The centre frequency for each of the 30 trials of the Bin 5 radar, was randomly selected within 80% of the Occupied Bandwidth. See section 5.2.1 for occupied bandwidth measurements.
6. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Long Pulse Radar Type 5* test.

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Results: 20 MHz Master - Radar Type 5**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
5	1	5500.542	Yes
	2	5499.768	Yes
	3	5498.982	Yes
	4	5502.133	Yes
	5	5503.837	Yes
	6	5493.916	Yes
	7	5495.635	Yes
	8	5506.564	Yes
	9	5493.604	Yes
	10	5501.572	Yes
	11	5495.438	Yes
	12	5499.046	Yes
	13	5503.751	Yes
	14	5496.419	Yes
	15	5504.070	Yes
	16	5503.542	Yes
	17	5495.610	Yes
	18	5501.336	Yes
	19	5502.535	Yes
	20	5500.134	Yes
	21	5504.087	Yes
	22	5500.377	Yes
	23	5493.749	Yes
	24	5502.065	Yes
	25	5496.504	Yes
	26	5498.643	Yes
	27	5494.250	Yes
	28	5502.387	Yes
	29	5506.108	Yes
	30	5503.126	Yes
EUT Test Frequency:		5500 MHz	
Detection Probability:		100%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Results: 40 MHz Master - Radar Type 5**

Radar Type	Trial #	Radar frequency (MHz)	Detection
			Yes / No
5	1	5502.795	Yes
	2	5501.678	Yes
	3	5505.063	Yes
	4	5506.549	Yes
	5	5500.357	Yes
	6	5500.077	Yes
	7	5496.949	Yes
	8	5518.162	Yes
	9	5520.395	Yes
	10	5508.498	Yes
	11	5505.684	Yes
	12	5523.936	Yes
	13	5513.024	Yes
	14	5504.989	Yes
	15	5498.150	Yes
	16	5519.857	Yes
	17	5521.549	Yes
	18	5511.631	Yes
	19	5511.905	Yes
	20	5511.962	Yes
	21	5523.064	Yes
	22	5504.418	Yes
	23	5503.484	Yes
	24	5517.530	Yes
	25	5501.046	Yes
	26	5495.348	Yes
	27	5518.808	Yes
	28	5522.530	Yes
	29	5500.698	Yes
	30	5514.949	Yes
EUT Test Frequency:		5510 MHz	
Detection Probability:		100%	

Statistical Performance Check – Long Pulse Radar Type 5 (continued)**Limits:****KDB 905462 D02 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:	Georgios Vrezas	Test Date:	01 December 2015
Test Sample Serial Number:	VPF7165808		

FCC Reference:	Part 15.407(h)(2)
Test Method Used:	KDB 905462 D02 Section 7.8.4.3 and Notes below

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	45

Notes:

1. In accordance with KDB 905462 D02 Table 2, the Statistical Performance Check test was performed on all supported channel bandwidths and frequencies selected within the radar detection bandwidth.
2. UDP test data was streamed from the Master to the Client device using iPerf3 bandwidth testing tool. This was set to 15 Mbit/s and 30 Mbit/s throughput rate for the 20 MHz and 40 MHz channels respectively. The channel loading was measured as 26% for 20 MHz operation and 25.2% for 40 MHz. This therefore met the channel loading requirement of >17% in KDB 905462 D02 Section 7.7(c).
3. Tests were performed using the radar detection threshold calculated in Section 4.2 of this test report.
4. Some of the randomly generated hopping radars included no hops within the detection bandwidth of the EUT. In this case additional radars, which would produce at least one hop within the operating bandwidth of the EUT, were generated and used instead.
5. The EUT met the required detection probability, and therefore complied with the *Statistical Performance Check – Frequency Hopping Radar Type 6* test.

Statistical Performance Check – Frequency Hopping Radar Type 6 (continued)**Results: 20 MHz Master - Radar Type 6**

Radar Type	Trial #	Detection	Trial #	Detection
		Yes / No		Yes / No
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
EUT Test Frequency:		5500 MHz		
Radar Frequency:		Hopping		
Detection Probability:		100%		

Results: 40 MHz Master - Radar Type 6

Radar Type	Trial #	Detection	Trial #	Detection
		Yes / No		Yes / No
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
EUT Test Frequency:		5510 MHz		
Radar Frequency:		Hopping		
Detection Probability:		100%		

Statistical Performance Check – Frequency Hopping Radar Type 6 (continued)**Limits:****KDB 905462 D02 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	Confidence Level (%)	Calculated Uncertainty
DFS CAC Plot Timing	95%	± 918 ms
DFS Channel Shutdown Timing	95%	± 450 μ s
DFS Non-Occupancy Timing	95%	± 79.25 ms
DFS Radar Amplitude	95%	± 2.17 dB

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.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Model Name updated Section 3.2 added
3.0	-	-	Model number updated, Sections 3.1, 3.2, 3.3, 3.6 & 3.7 updated
4.0	-	-	Model number on front page amended

Appendix 1. Test Equipment Used

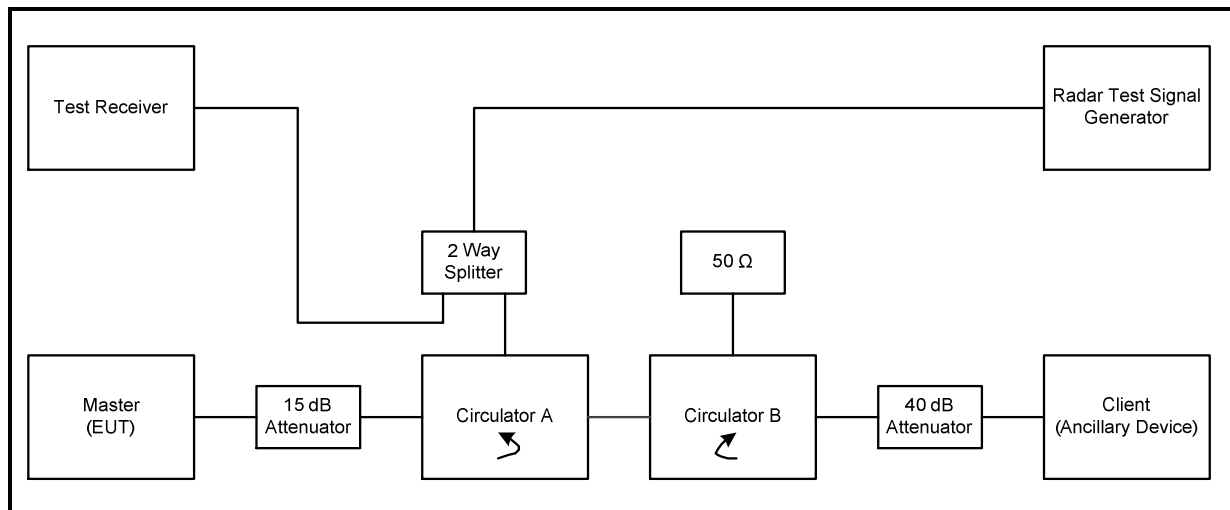
Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1659	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	23 Apr 2016	12
M1631	DFS Test System	Aeroflex	PXI 3000	300110/291	09 Jul 2017	24
M1886	Test Receiver	Rohde & Schwarz	ESU26	100554	21 May 2016	12
M1585	Network Analyser	Agilent	E5071C	MY46110256	30 Jul 2016	24
A030	Step Attenuator	Narda	445-69	01544	Calibrated before use	-
A090	Step Attenuator	Narda	743-60	01057	Calibrated before use	-
A2119	Power Splitter	Mini-Circuits	ZN2PD-63-S+	SUU12701203	Calibrated before use	-
A2182	Coaxial Circulator	AtlanTecRF	ACC-20130-SF-SF-SF	120409231	Calibrated before use	-
A2183	Coaxial Circulator	AtlanTecRF	ACC-20130-SF-SF-SF	120409232	Calibrated before use	-
A1317	50Ω Termination	Narda	376BNM	0103	Calibrated before use	-
A2494	50Ω Termination	Narda	TA06W5-F	082013#2	Calibrated before use	-
M122	Multimeter	Fluke	77	64910017	22 Apr 2016	12
S021	DC Power Supply	Thurlby Thandar Instruments	CPX200	061034	Calibrated before use	-

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

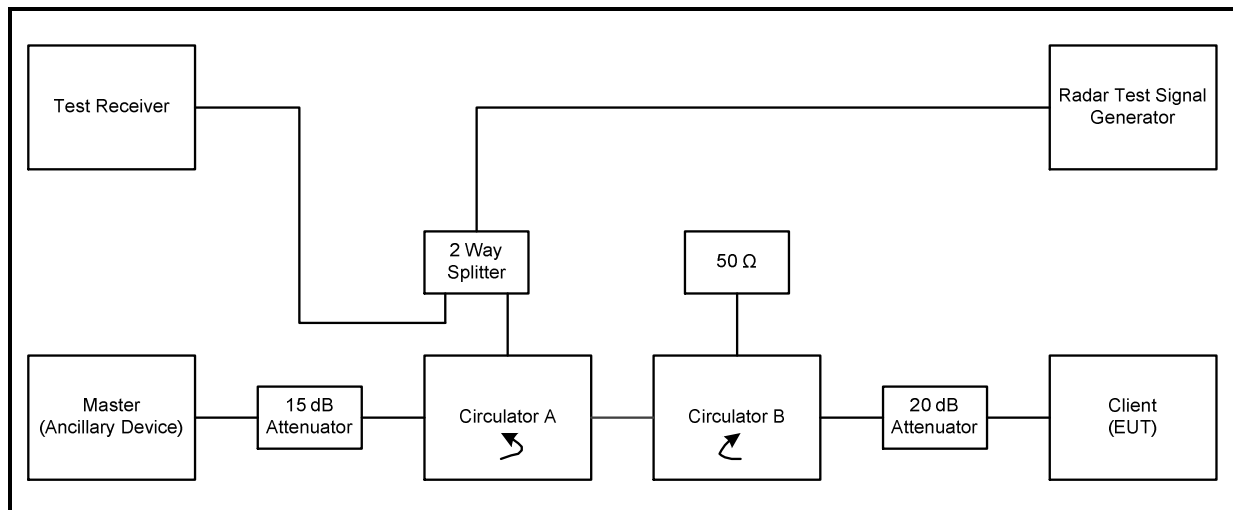
Appendix 2. Monitoring Methods Diagrams

All tests were performed as conducted measurements using the setups as shown below. The detecting device always receives the radar via a direct (non-isolated) port of any circulator or splitter to ensure impedance variations do not affect the radar amplitude in accordance with KDB 905462 D02 Section 7.2, point (2).

Setup Diagram – EUT as Master with Radar Injection at Master



Note: Circulator A directs the radar pulse towards the EUT (Master). Circulator B provides the same transmit path loss in both directions between the Master and Client devices. The EUT will appear larger than the ancillary device, and smaller than the radar at the Spectrum Analyser. The radar will be larger at the EUT than at the ancillary device. For some tests an additional 10 dB attenuator was added between the 2-way splitter and circulator A, and the calibration adjusted, to change the relative radar level on the analyser.

Setup Diagram – EUT as Client, Radar Injection at Master

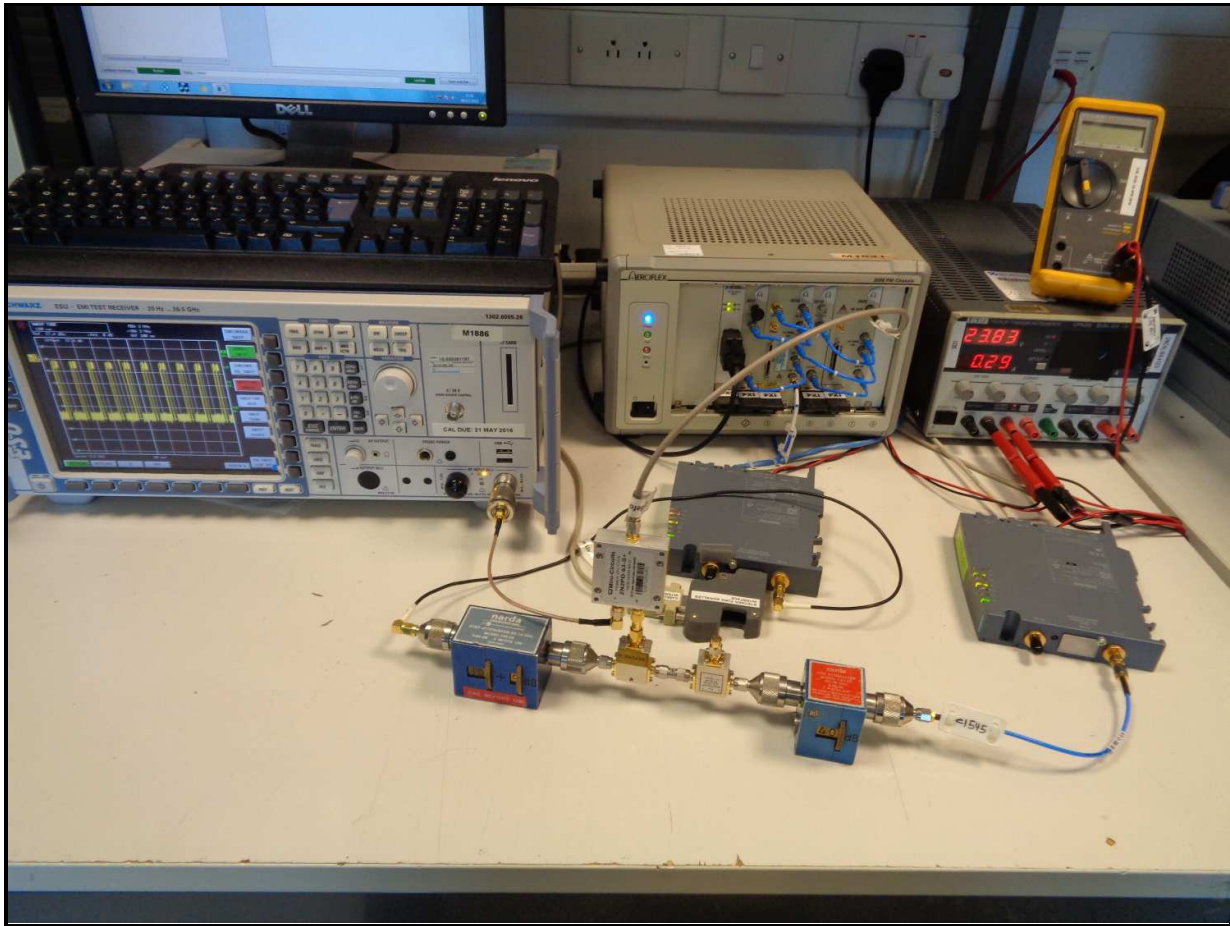
Note: Similarly to the set-up above, circulator A again directs the radar towards the radar detecting device. Circulator B provides the same transmit path loss in both directions between the Master and Client devices whilst also attenuating any radar heading in the direction of the EUT. Due to the different attenuation settings the EUT (Client) will appear larger than the Master device, and smaller than the radar at the Spectrum Analyser. The radar level is recalibrated to account for the different attenuation settings in the radar path.

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

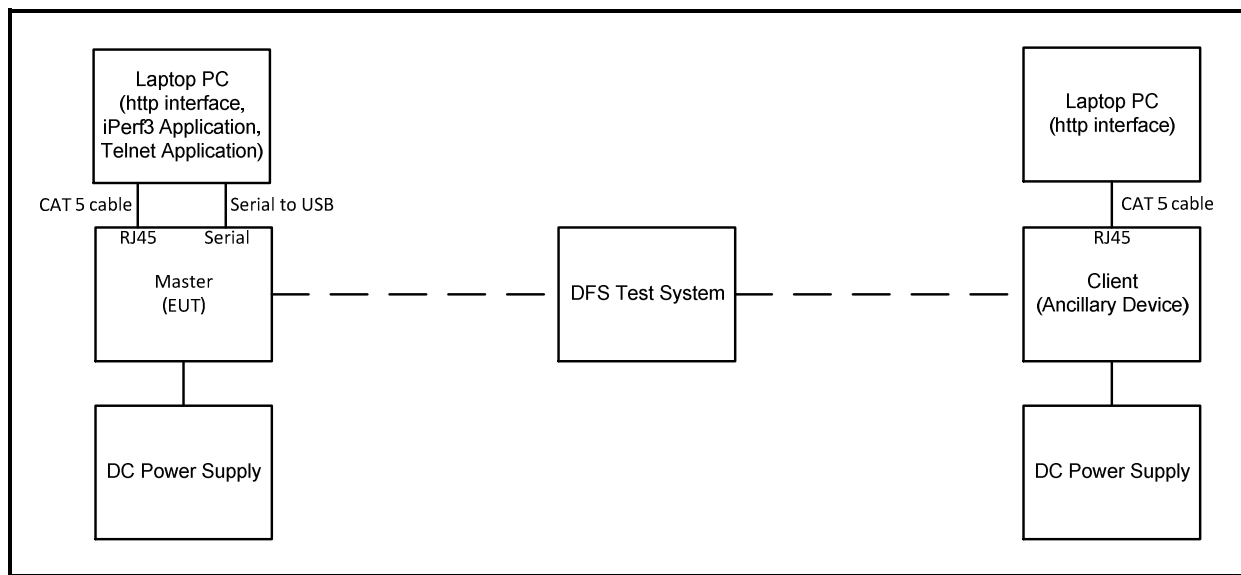
All radar types were generated and produced by an Aeroflex DFS test system. The radar pulse generation of this system has previously been verified by the FCC (see Appendix 4 of this test report).

The radar amplitude was calibrated using the setup diagram shown below. The spectrum analyser was replaced by a 50Ω load. The EUT was replaced by a spectrum analyser. The Aeroflex DFS test system was then set to transmit a CW signal used to calibrate the radar level. The output level was adjusted to give the correct level into the EUT, as calculated in Section 4.2 of this report, before the tests were performed.

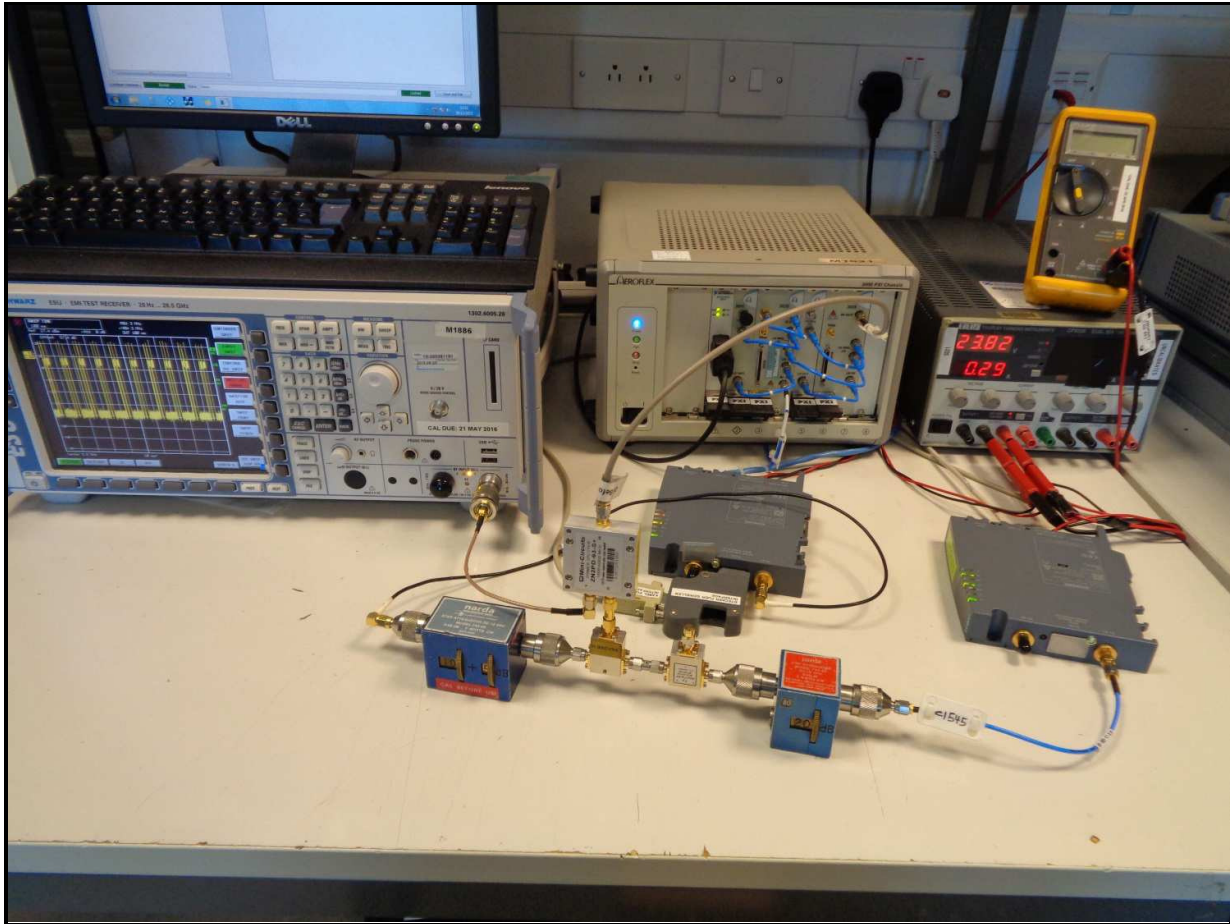
An additional check was then made using the above calibrated level and a 1 μsec pulse of a type 0 radar. Maximum spectrum analyser RBW/VBW setting was used for this to avoid pulse desensitisation effects of the very short burst time. This level was then used for all radar types during testing.

Equipment Setup Photograph – Conducted Method

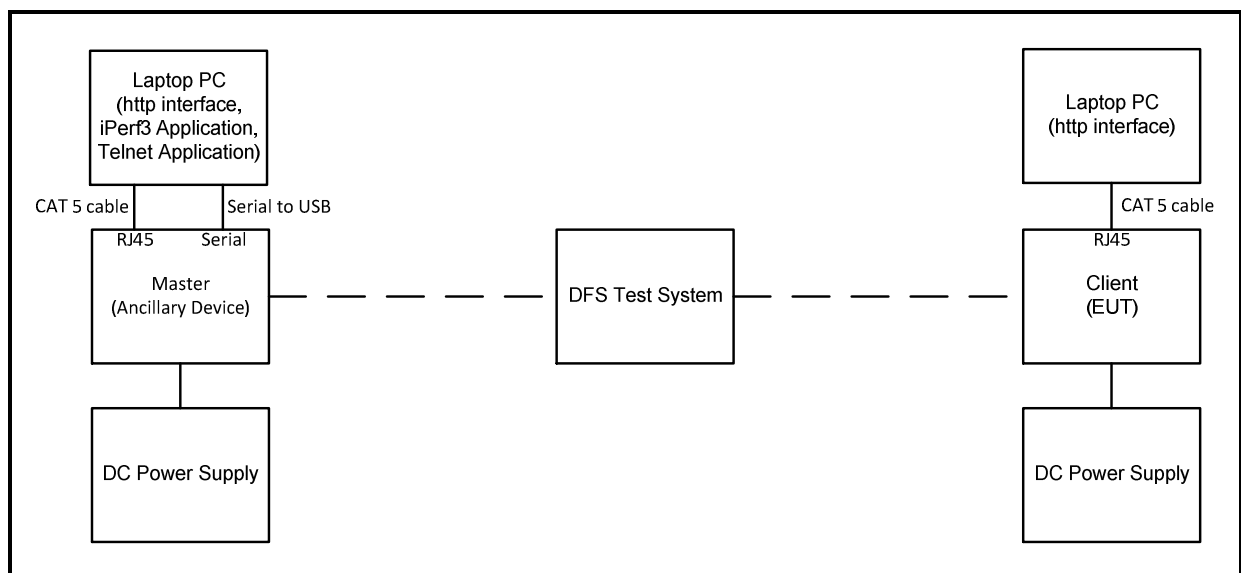
Test set-up photo showing EUT as Master with Radar Injection at Master



Test set-up block diagram showing EUT as Master with Radar Injection at Master

Equipment Setup Photograph – Conducted Method (continued)

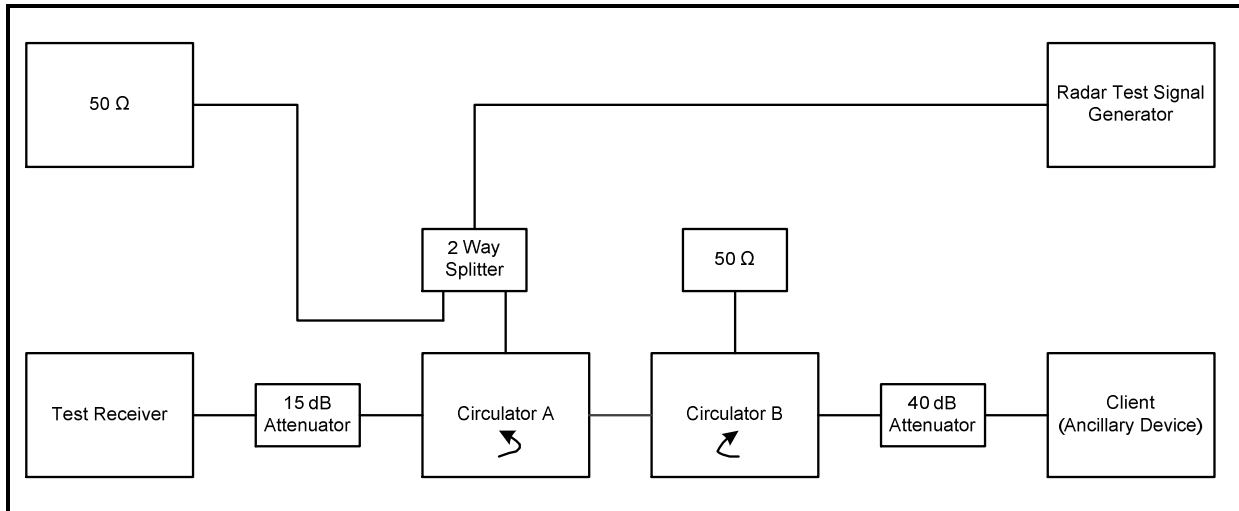
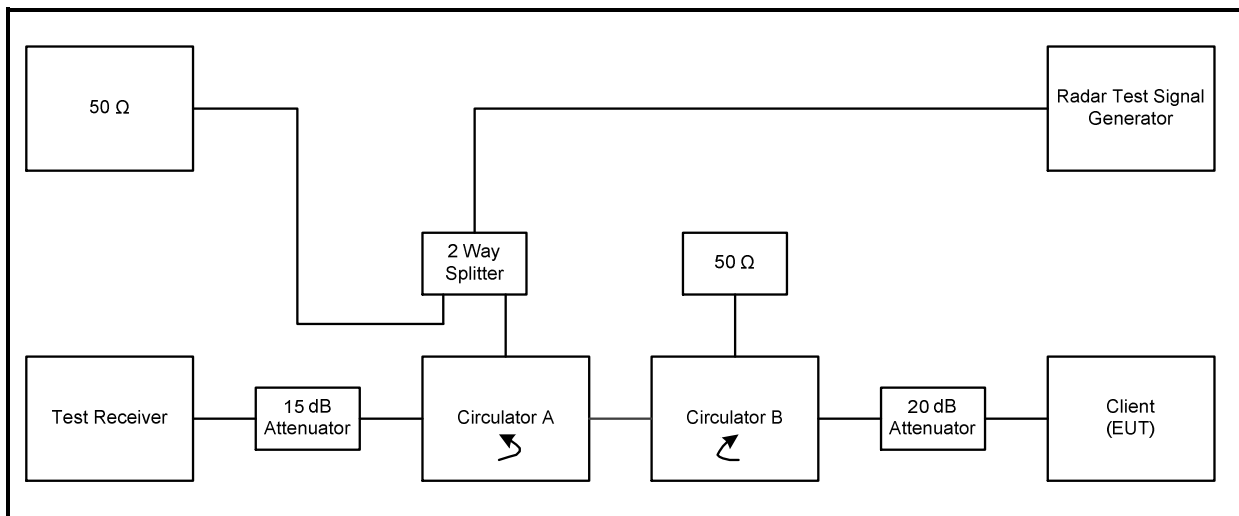
Test set-up photo showing EUT as Client with Radar Injection at Master



Test set-up block diagram showing EUT as Client with Radar Injection at Master

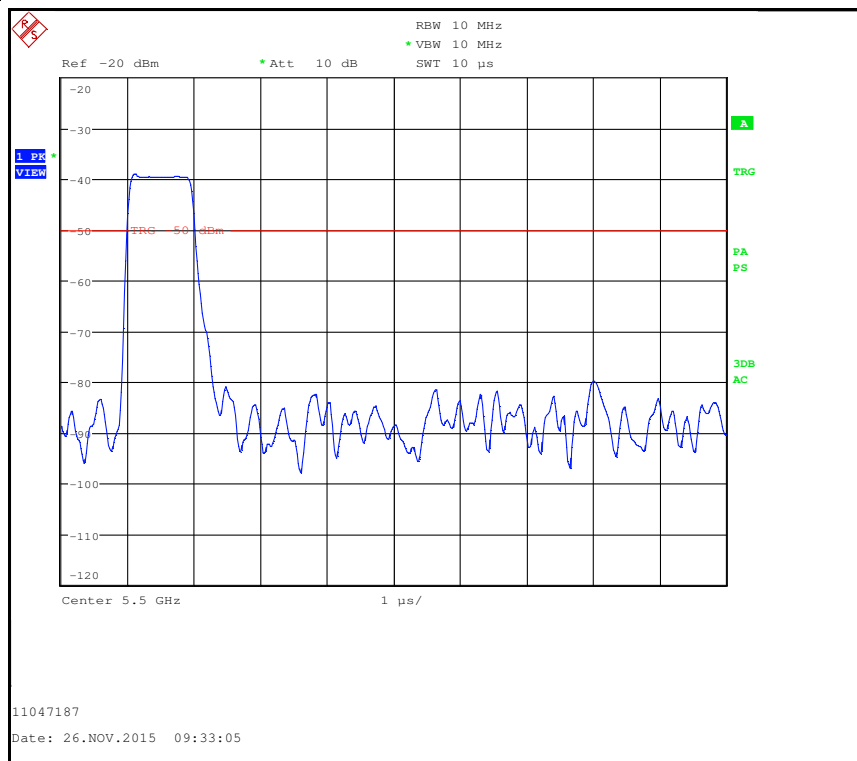
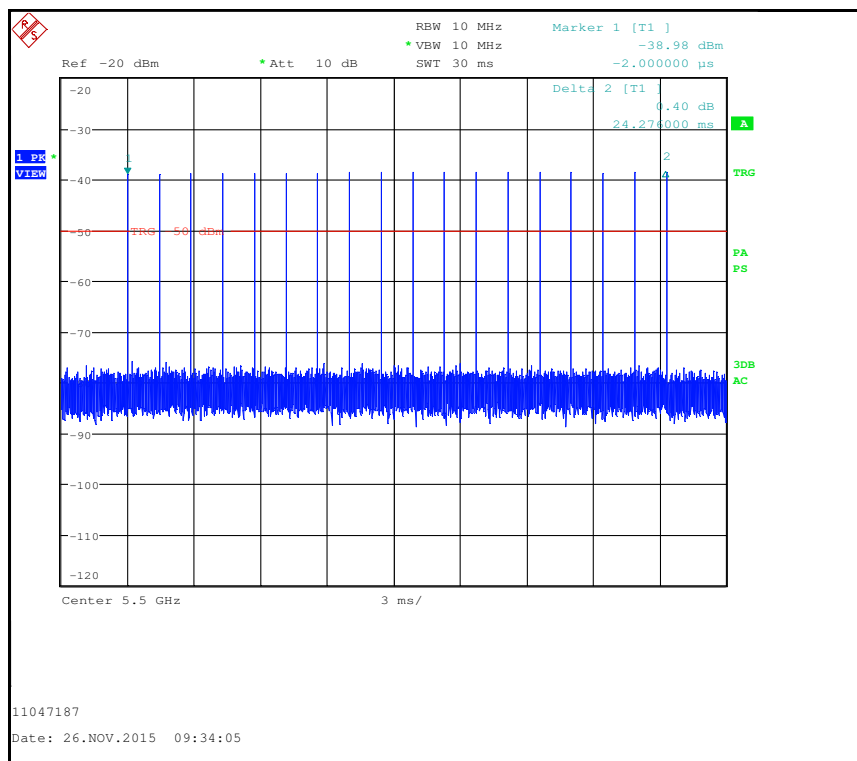
Equipment Setup for Calibration Block Diagram – Conducted Method

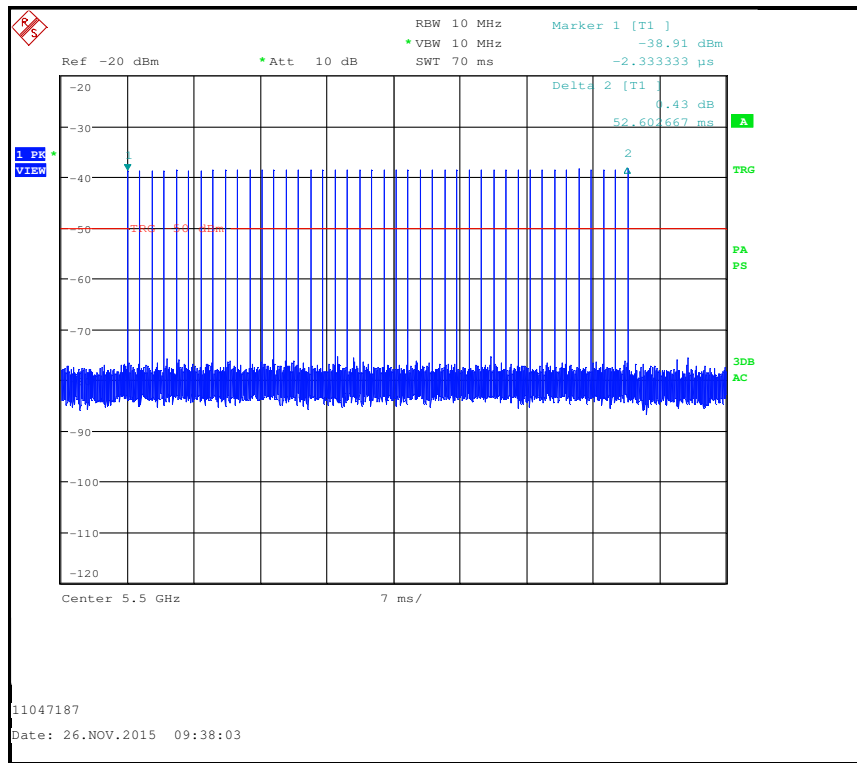
Calibration was performed using the setups as shown below.

EUT as Master with Radar Injection at Master**EUT as Client with Radar Injection at Master**

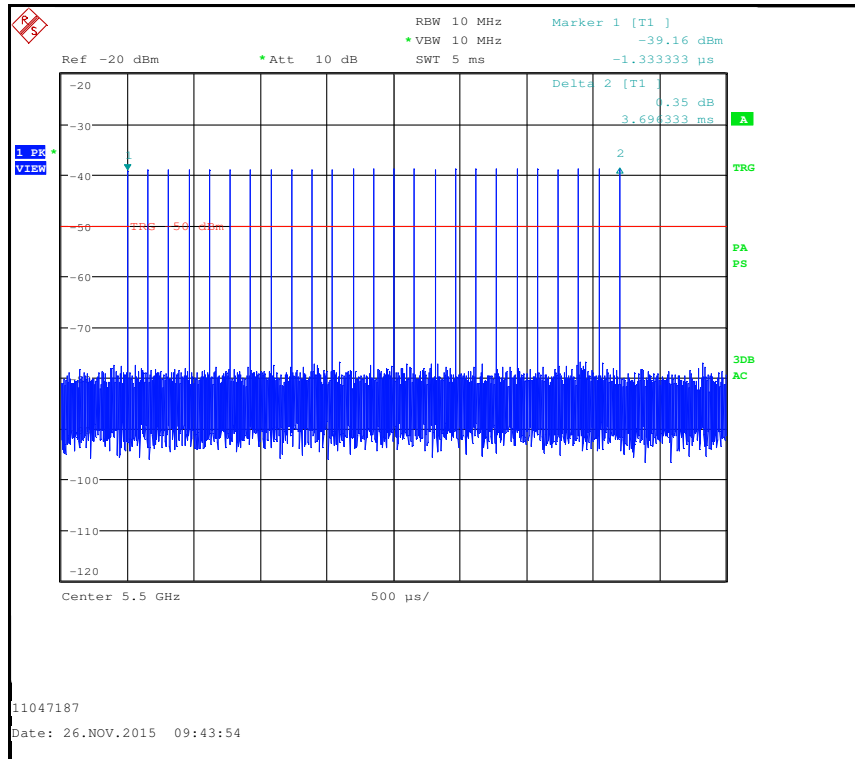
Radar Verification

The test system and its waveform generation has been validated by the FCC as an 'approved' device (see Appendix 4 of this test report), therefore full analysis of each radar is not necessary. However, below are sample plots for each of the radar types. Note the full timing plots of all the pulses in the waveform may give slightly inaccurate amplitudes. They are therefore accurate only as timing plots for an example radar overview.

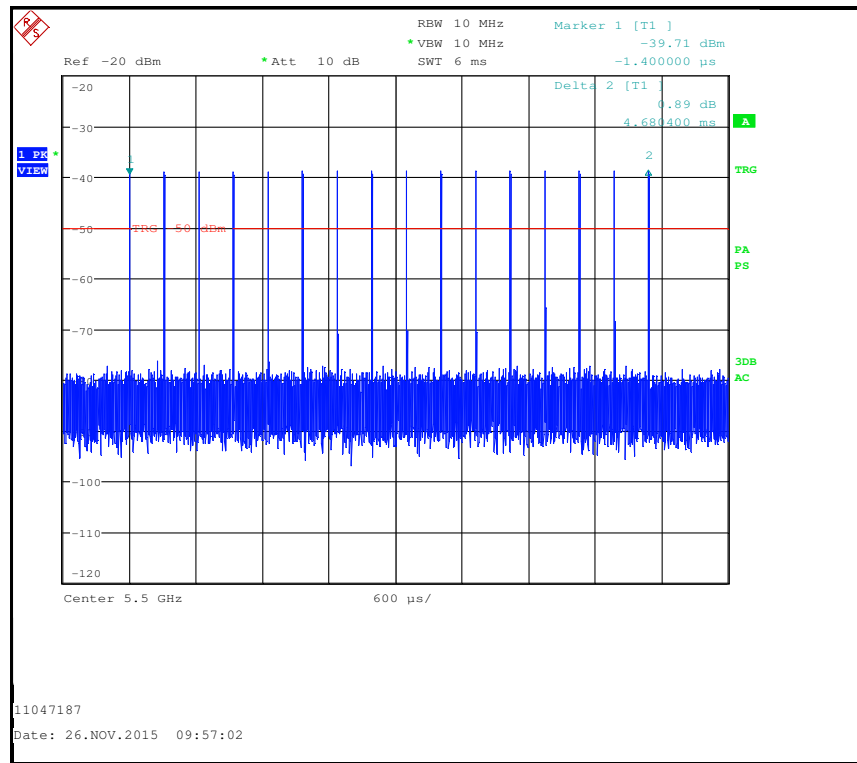
Radar Type 0**Radar Type 0 – single 1 μ sec pulse****Radar Type 0 – full 18 pulse waveform**

Radar Type 1

Radar Type 1 – 1 μ sec pulse width, 1283 μ sec PRI, 42 pulses

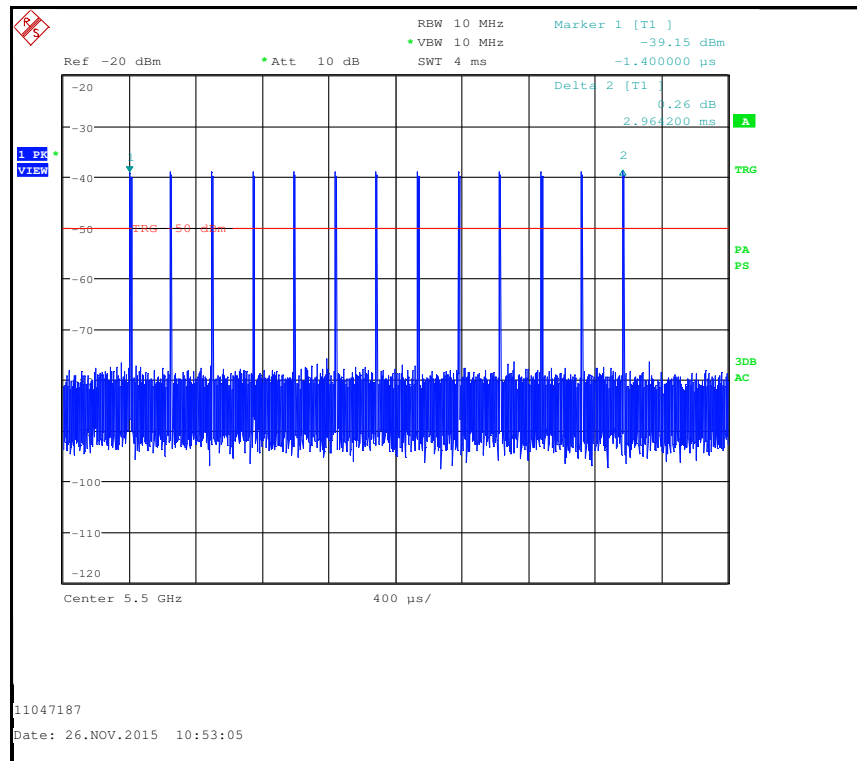
Radar Type 2

Radar Type 2 – 1 μ sec pulse width, 154 μ sec PRI, 25 pulses

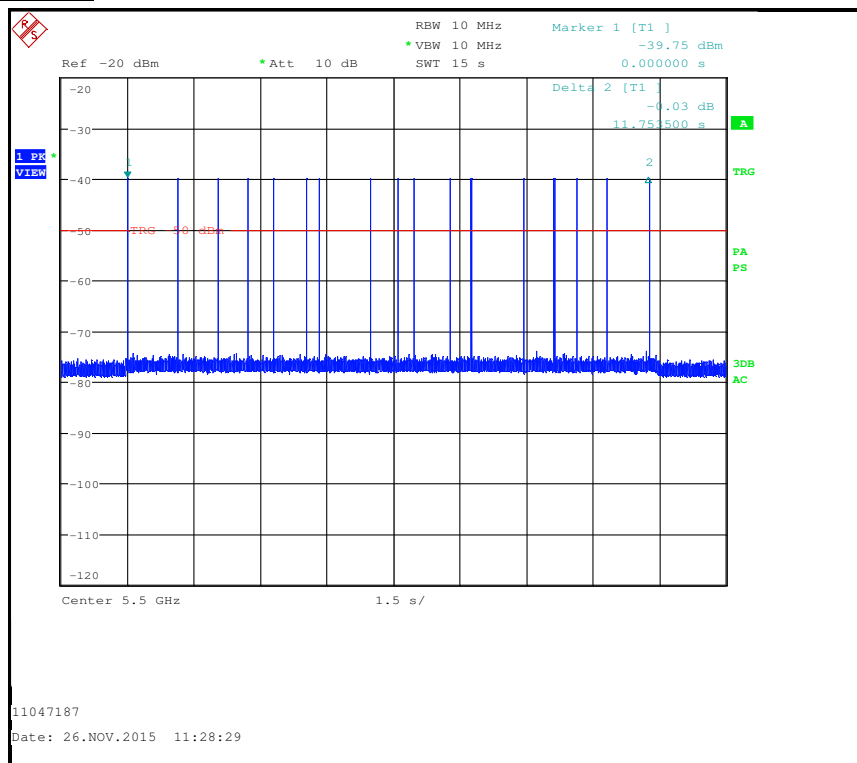
Radar Type 3

Radar Type 3 – 6 μsec pulse width, 312 μsec PRI, 16 pulses

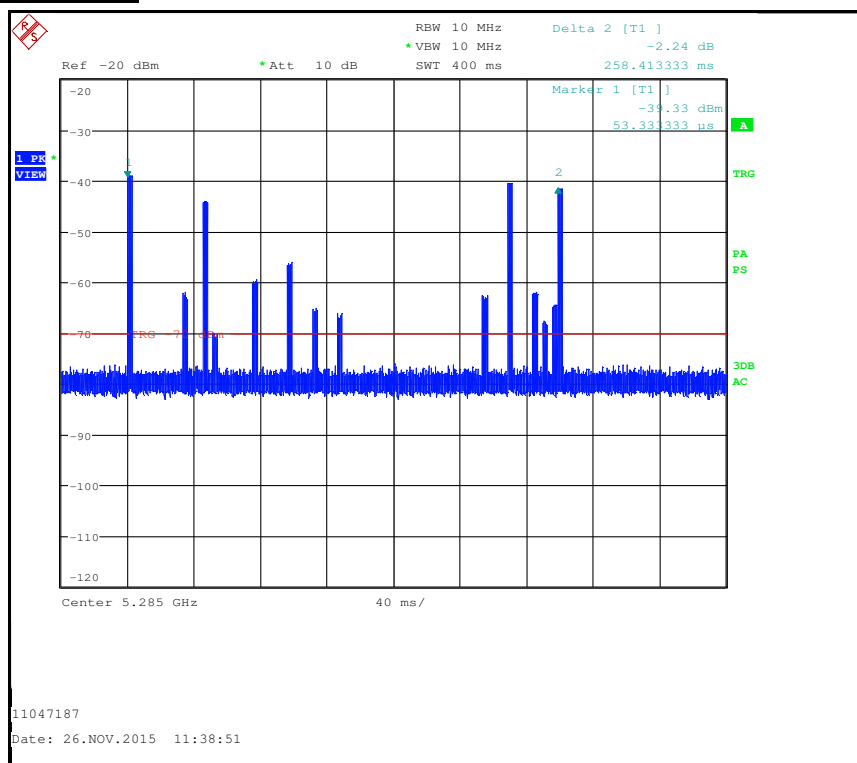
Radar Type 4



Radar Type 4 – 11.6 μ sec pulse width, 247 μ sec PRI, 13 pulses

Radar Type 5 (Long)**Long Radar Type 5**

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 Spacing (μsec)	Pulse 2-to-3 Spacing (μsec)	Starting Location Within Interval (μsec)
1	3	65	16	1476	1932	50325
2	2	58	11	1400	-	481399
3	3	55	9	1994	1926	682588
4	1	58	7	-	-	655458
5	2	66	20	1027	-	510550
6	2	75	10	1042	-	545434
7	2	73	11	1440	-	125876
8	2	63	15	1479	-	579159
9	3	64	20	1521	1451	498543
10	2	52	20	1845	-	143729
11	1	87	18	-	-	256829
12	3	87	12	1207	1457	23605
13	3	67	15	1091	1413	497642
14	3	91	14	1710	1472	484799
15	2	60	9	1369	-	305488
16	2	50	8	1446	-	253219
17	1	79	10	-	-	508736

Radar Type 6 (Hopping)**Hopping Radar Pulse 6 (Centre Frequency adjusted to first hop frequency)****Hopping sequence (MHz):**

5285, 5397, 5400, 5596, 5322, 5659, 5614, 5722, 5644, 5565, 5505, 5305, 5537, 5490, 5613, 5279, 5419, 5316, 5478, 5345, 5405, 5667, 5512, 5383, 5331, 5270, 5464, 5627, 5674, 5389, 5696, 5444, 5295, 5510, 5599, 5520, 5541, 5258, 5670, 5326, 5463, 5521, 5313, 5551, 5481, 5713, 5533, 5511, 5366, 5375, 5626, 5665, 5716, 5647, 5653, 5534, 5526, 5532, 5702, 5430, 5662, 5555, 5640, 5567, 5467, 5399, 5410, 5623, 5499, 5470, 5329, 5264, 5395, 5448, 5557, 5575, 5281, 5656, 5558, 5319, 5504, 5304, 5582, 5314, 5718, 5259, 5280, 5388, 5632, 5606, 5472, 5638, 5496, 5384, 5350, 5600, 5406, 5515, 5636, 5507

Appendix 4. Test platform confirmation email

From: Andrew Leimer [<mailto:Andrew.Leimer@fcc.gov>]
Sent: Friday, September 23, 2011 4:24 PM
To: Chisham, Steve
Cc: Carey, Tim; Hack, Barry; Rashmi Doshi; Joe Dichoso
Subject: RE: Certification for Aeroflex DFS solution

Hello Steve,
The Aeroflex "DXI based DFS test solution" system used for DFS alternative radar signal generation has been approved by the FCC and NTIA.
This approval permits the system to be used by labs in the testing of DFS devices for equipment authorization Certification. It is recommended that applicants that use your system for testing include a statement in the Test Report or a Letter Exhibit stating that the system has FCC and NTIA approval. This E-mail is your record of this approval.
Note that the appropriate term for your system is Approved as the term Certification is reserved for devices gaining equipment authorization through the FCC or a TCB.

Regards,
Andy Leimer

FCC/OET/EACB

Appendix 5. Statistical Performance Check– Radar Type 1 Trial Records

20 MHz Master

Radar Type 1			
Trial #	'Test A' Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses/s)	Pulse Repetition Interval (µsec)
1	N/A - 'Test B' Radar	951.5	1051
2	N/A - 'Test B' Radar	878.0	1139
3	N/A - 'Test B' Radar	781.3	1280
4	N/A - 'Test B' Radar	466.2	2145
5	N/A - 'Test B' Radar	458.7	2180
6	N/A - 'Test B' Radar	419.5	2384
7	N/A - 'Test B' Radar	411.2	2432
8	N/A - 'Test B' Radar	393.4	2542
9	N/A - 'Test B' Radar	391.1	2557
10	N/A - 'Test B' Radar	346.0	2890
11	N/A - 'Test B' Radar	329.2	3038
12	23	326.2	3066
13	1	1930.5	518
14	4	1730.1	578
15	5	1672.2	598
16	6	1618.1	618
17	8	1519.8	658
18	N/A - 'Test B' Radar	1477.1	677
19	9	1474.9	678
20	10	1432.7	698
21	N/A - 'Test B' Radar	1426.5	701
22	11	1392.8	718
23	12	1355.0	738
24	13	1319.3	758
25	14	1285.3	778
26	17	1193.3	838
27	N/A - 'Test B' Radar	1179.2	848
28	18	1165.5	858
29	N/A - 'Test B' Radar	1118.6	894
30	22	1066.1	938

40 MHz Master

Radar Type 1			
Trial #	'Test A' Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses/s)	Pulse Repetition Interval (µsec)
1	N/A - 'Test B' Radar	806.5	1240
2	N/A - 'Test B' Radar	605.0	1653
3	N/A - 'Test B' Radar	532.2	1879
4	N/A - 'Test B' Radar	522.5	1914
5	N/A - 'Test B' Radar	495.0	2020
6	N/A - 'Test B' Radar	472.1	2118
7	N/A - 'Test B' Radar	467.1	2141
8	N/A - 'Test B' Radar	444.0	2252
9	N/A - 'Test B' Radar	381.1	2624
10	N/A - 'Test B' Radar	357.3	2799
11	N/A - 'Test B' Radar	326.5	3063
12	23	326.2	3066
13	2	1858.7	538
14	4	1730.1	578
15	N/A - 'Test B' Radar	1636.7	611
16	6	1618.1	618
17	7	1567.4	638
18	8	1519.8	658
19	N/A - 'Test B' Radar	1508.3	663
20	9	1474.9	678
21	10	1432.7	698
22	11	1392.8	718
23	N/A - 'Test B' Radar	1358.7	736
24	12	1355.0	738
25	13	1319.3	758
26	14	1285.3	778
27	18	1165.5	858
28	19	1139.0	878
29	22	1066.1	938
30	N/A - 'Test B' Radar	1061.6	942

Appendix 6. Statistical Performance Check– Radar Type 2 Trial Records

20 MHz Master

Radar Type 2			
Trial #	Number Pulses per Burst	Pulse Width (μsec)	PRI (μsec)
1	25	1.0	172
2	29	1.1	189
3	28	1.3	217
4	29	1.7	207
5	25	1.7	224
6	24	1.8	150
7	24	1.9	200
8	26	2.0	182
9	29	2.1	189
10	23	2.2	197
11	24	2.3	163
12	27	2.3	185
13	29	2.4	165
14	26	2.5	198
15	25	2.5	225
16	24	2.9	184
17	27	2.9	202
18	29	3.0	192
19	27	3.2	165
20	25	3.3	211
21	26	3.4	161
22	27	3.5	205
23	29	3.6	154
24	29	3.8	223
25	29	3.9	197
26	28	4.1	194
27	24	4.2	187
28	27	4.3	171
29	27	4.6	189
30	28	4.7	173

40 MHz Master

Radar Type 2			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	24	1.1	174
2	27	1.1	202
3	29	1.2	203
4	23	1.2	205
5	28	1.6	179
6	27	1.8	213
7	29	2.1	155
8	25	2.1	178
9	25	2.2	209
10	26	2.3	153
11	28	2.3	202
12	29	2.7	155
13	26	2.8	191
14	23	2.9	151
15	29	3.1	154
16	23	3.2	156
17	29	3.4	188
18	29	3.7	159
19	24	3.7	176
20	24	3.7	227
21	27	4.0	160
22	29	4.0	225
23	27	4.2	228
24	23	4.3	165
25	29	4.4	209
26	27	4.5	160
27	23	4.5	161
28	25	4.6	196
29	29	4.8	189
30	23	4.8	215

Appendix 7. Statistical Performance Check– Radar Type 3 Trial Records

20 MHz Master

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (μsec)	PRI (μsec)
1	16	10.0	273
2	17	10.0	321
3	17	6.0	408
4	17	6.4	318
5	16	6.5	477
6	18	6.9	212
7	16	6.9	353
8	16	7.0	247
9	16	7.0	275
10	18	7.0	356
11	18	7.0	487
12	17	8.0	426
13	16	8.3	251
14	16	8.4	442
15	16	8.5	311
16	17	8.6	367
17	18	8.7	330
18	17	8.7	386
19	16	8.8	239
20	17	9.2	318
21	16	9.2	356
22	18	9.2	365
23	16	9.3	371
24	16	9.3	385
25	16	9.3	432
26	18	9.4	278
27	18	9.6	328
28	17	9.7	222
29	16	9.9	406
30	17	9.9	463

40 MHz Master

Radar Type 3			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	18	6.0	321
2	17	6.0	420
3	18	6.1	235
4	16	6.1	422
5	18	6.5	332
6	17	6.6	284
7	18	6.7	209
8	18	7.1	397
9	17	7.1	474
10	17	7.2	209
11	18	7.4	223
12	18	7.6	257
13	17	7.8	278
14	18	7.8	309
15	18	7.8	455
16	18	7.9	322
17	17	7.9	498
18	16	8.0	269
19	16	8.0	346
20	18	8.6	441
21	17	9.0	440
22	17	9.1	286
23	16	9.1	342
24	18	9.4	296
25	17	9.4	360
26	17	9.4	414
27	17	9.5	440
28	16	9.8	320
29	17	9.8	356
30	18	9.8	440

Appendix 8. Statistical Performance Check– Radar Type 4 Trial Records

20 MHz Master

Radar Type 4			
Trial #	Number Pulses per Burst	Pulse Width (μsec)	PRI (μsec)
1	13	11.0	382
2	15	11.1	457
3	15	11.3	230
4	13	11.3	368
5	15	11.8	339
6	16	11.9	261
7	15	12.7	206
8	12	12.7	272
9	15	12.7	435
10	15	13.0	217
11	15	13.3	489
12	12	13.7	341
13	14	13.7	364
14	16	14.0	236
15	12	14.1	273
16	13	14.7	387
17	13	14.9	463
18	14	15.1	411
19	14	16.0	251
20	13	16.5	315
21	14	16.9	477
22	13	17.0	475
23	14	17.1	489
24	12	18.6	378
25	12	18.9	447
26	14	19.1	207
27	14	19.1	421
28	16	19.2	401
29	12	19.6	359
30	14	19.6	437

40 MHz Master

Radar Type 4			
Trial #	Number Pulses per Burst	Pulse Width (µsec)	PRI (µsec)
1	15	11.6	239
2	14	11.7	247
3	14	11.7	295
4	16	12.5	362
5	12	13.3	487
6	16	13.8	435
7	13	13.9	323
8	13	14.0	216
9	15	14.0	253
10	16	14.1	477
11	16	14.4	490
12	14	14.7	353
13	15	14.9	282
14	16	15.1	227
15	15	15.2	368
16	12	15.4	311
17	14	15.5	257
18	13	15.5	488
19	12	16.0	406
20	16	16.1	246
21	12	16.7	304
22	15	16.8	499
23	13	16.9	432
24	15	17.6	229
25	12	18.1	230
26	13	18.7	352
27	14	19.3	448
28	16	19.6	283
29	15	19.7	215
30	16	19.7	383

Appendix 9. Statistical Performance Check– Radar Type 5 Trial Records**20 MHz Master - Trial 1**

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	91	5	1039	1118	577016
2	1	53	9	-	-	202822
3	1	51	20	-	-	206933
4	1	71	7	-	-	897702
5	3	96	6	1153	1760	839668
6	1	88	11	-	-	494144
7	3	88	11	1601	1717	860718
8	1	64	14	-	-	317398
9	1	84	12	-	-	450840
10	3	100	14	1623	1969	334782
11	1	59	7	-	-	61323
12	1	93	9	-	-	719388
13	1	54	17	-	-	340625

20 MHz Master - Trial 2

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	58	13	1805	-	717186
2	1	50	19	-	-	902317
3	3	92	17	1102	1432	686026
4	1	89	9	-	-	696745
5	3	50	8	1717	1563	378982
6	1	93	15	-	-	581323
7	1	76	14	-	-	922401
8	2	99	10	1310	-	195480
9	3	65	20	1452	1481	396503
10	2	65	8	1428	-	725297
11	2	64	17	1139	-	641090

20 MHz Master - Trial 3

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	72	20	-	-	497829
2	2	73	11	1379	-	664498
3	1	63	19	-	-	730000
4	2	65	5	1596	-	403134
5	1	92	14	-	-	814698
6	2	60	5	1067	-	467932
7	3	53	19	1735	1426	279841
8	1	83	18	-	-	379695
9	3	78	18	1577	1073	947520
10	1	54	11	-	-	595939
11	3	68	12	1689	1408	883487

20 MHz Master - Trial 4

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	78	6	1751	1416	216326
2	1	70	9	-	-	477825
3	2	92	15	1468	-	566831
4	2	83	18	1804	-	330668
5	1	74	19	-	-	212989
6	1	82	13	-	-	333092
7	2	81	8	1327	-	432587
8	2	77	6	1771	-	420509
9	1	63	18	-	-	123284
10	3	59	12	1247	1741	55244
11	1	96	17	-	-	575998
12	2	67	13	1178	-	474616
13	3	81	17	1787	1553	550653
14	3	72	9	1225	1158	657480
15	3	84	5	1566	1545	447489
16	1	86	15	-	-	585266
17	3	96	12	1319	1703	578068

20 MHz Master - Trial 5

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	63	20	1354	1442	896893
2	3	77	12	1280	1391	69133
3	3	61	5	1583	1144	426648
4	1	87	9	-	-	55019
5	3	72	12	1992	1968	687840
6	3	67	8	1080	1868	4171
7	2	98	7	1580	-	227475
8	3	54	5	1072	1357	631186
9	2	96	14	1856	-	294875
10	1	93	12	-	-	83272
11	1	83	14	-	-	511736
12	3	73	5	1223	1665	117888
13	1	65	8	-	-	698271

20 MHz Master - Trial 6

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	71	14	-	-	152966
2	2	82	8	1987	-	245663
3	3	91	6	1359	1894	386057
4	1	69	14	-	-	548961
5	3	94	11	1617	1681	559101
6	3	94	10	1945	1310	263985
7	2	58	19	1787	-	639441
8	3	82	19	1449	1960	474970
9	1	91	6	-	-	269014
10	2	66	6	1083	-	471475
11	3	71	19	1827	1681	558644
12	3	71	18	1774	1852	29477
13	1	68	10	-	-	638778
14	2	55	15	1310	-	520492
15	3	66	18	1189	1171	569349
16	2	71	5	1538	-	177639
17	3	82	16	1012	1235	62323

20 MHz Master - Trial 7

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	93	8	-	-	56300
2	3	55	15	1177	1435	971963
3	2	60	8	1474	-	1029438
4	3	99	6	1062	1637	678807
5	3	65	5	1825	1235	796813
6	1	70	15	-	-	468255
7	3	68	5	1528	1458	692647
8	3	83	17	1555	1994	497153
9	3	97	18	1315	1779	118163

20 MHz Master - Trial 8

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	96	7	1451	1595	89049
2	2	60	8	1440	-	358698
3	2	89	17	1379	-	567747
4	3	61	20	1315	1409	205833
5	2	65	6	1517	-	431175
6	2	53	20	1920	-	577567
7	1	85	20	-	-	309894
8	2	96	11	1402	-	635382
9	1	73	8	-	-	176163
10	1	60	14	-	-	336534
11	1	100	6	-	-	588084
12	3	65	11	1465	1868	259455
13	1	76	6	-	-	101994
14	1	76	16	-	-	256014
15	1	90	20	-	-	217278
16	3	91	13	1413	1100	587215
17	1	52	20	-	-	213925

20 MHz Master - Trial 9

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	97	5	1827	1988	189388
2	2	77	20	1630	-	319909
3	1	95	17	-	-	98483
4	1	85	13	-	-	443042
5	1	92	13	-	-	494786
6	1	64	9	-	-	216249
7	1	80	8	-	-	488049
8	2	89	13	1151	-	125514
9	1	85	16	-	-	27001
10	3	63	20	1678	1410	291852
11	2	81	19	1606	-	323150
12	2	62	7	1164	-	255705
13	1	99	13	-	-	418464
14	3	59	20	1742	1817	87136
15	2	68	15	1955	-	2107
16	1	93	16	-	-	250082
17	2	79	7	1632	-	471260
18	2	87	9	1988	-	413724
19	1	57	14	-	-	214835
20	3	55	9	1142	1003	52453

20 MHz Master - Trial 10

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	61	18	-	-	226184
2	3	64	20	1983	1602	460849
3	2	77	17	1598	-	733026
4	3	66	17	1064	1223	788736
5	3	52	12	2000	1958	5551
6	3	93	16	1858	1856	516913
7	3	62	10	1286	1368	726896
8	2	87	9	1386	-	130042
9	3	80	18	1760	1868	116473
10	3	69	20	1865	1596	317933
11	1	68	9	-	-	839271
12	1	54	7	-	-	739981
13	3	89	20	1867	1355	436746
14	3	99	19	1723	1480	547620

20 MHz Master - Trial 11

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	91	11	1127	1246	34408
2	3	90	12	1916	1741	240164
3	3	58	19	1103	1872	45102
4	2	57	13	1469	-	724331
5	2	99	11	1356	-	366913
6	3	73	8	1384	1955	643546
7	1	78	18	-	-	681340
8	1	51	11	-	-	47961
9	1	94	8	-	-	451630
10	2	67	17	1858	-	32281
11	2	91	12	1042	-	342158
12	3	88	7	1842	1687	206330
13	3	50	16	1357	1347	50333
14	3	68	8	1019	1018	499049
15	3	73	9	1044	1453	318508

20 MHz Master - Trial 12

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	85	6	-	-	270035
2	2	78	12	1766	-	534675
3	2	55	16	1196	-	220716
4	1	61	8	-	-	103939
5	3	61	11	1448	1387	387324
6	1	83	8	-	-	468240
7	2	58	18	1294	-	481514
8	3	84	13	1713	1582	92105
9	3	94	9	1043	1719	79926
10	1	91	9	-	-	376468
11	1	53	19	-	-	383893
12	1	75	14	-	-	200253
13	2	70	19	1375	-	457662
14	1	84	17	-	-	517766
15	3	64	15	1595	1517	385885
16	1	52	10	-	-	77831
17	2	84	12	1689	-	520383
18	3	57	10	1095	1980	431588
19	2	71	6	1238	-	134319

20 MHz Master - Trial 13

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	71	7	-	-	133785
2	2	97	9	1407	-	653401
3	2	50	16	1454	-	1032743
4	2	92	11	1162	-	777566
5	1	86	6	-	-	549487
6	2	92	14	1811	-	159530
7	2	93	14	1357	-	364554
8	2	89	15	1186	-	14083
9	1	87	7	-	-	338453
10	1	66	7	-	-	759756

20 MHz Master - Trial 14

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	56	16	-	-	32121
2	3	80	8	1457	1164	715411
3	2	63	17	1118	-	130343
4	1	85	5	-	-	483569
5	2	50	6	1914	-	490931
6	2	55	19	1830	-	325892
7	3	57	11	1205	1949	516865
8	3	80	18	1629	1768	76301
9	3	81	15	1615	1739	206356
10	2	50	8	1592	-	220410
11	2	61	15	1031	-	165227
12	1	84	18	-	-	510317
13	2	51	10	1819	-	100569
14	1	91	11	-	-	131048
15	2	94	11	1878	-	230607
16	1	74	8	-	-	31254

20 MHz Master - Trial 15

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	64	18	1219	1204	630846
2	3	100	10	1660	1779	386836
3	1	90	6	-	-	547182
4	3	62	18	1480	1670	340269
5	1	92	17	-	-	537100
6	3	81	19	1593	1556	739138
7	1	52	20	-	-	295185
8	2	90	7	1975	-	146651
9	1	75	17	-	-	297016
10	3	87	14	1790	1579	54030
11	1	68	13	-	-	717788
12	2	54	20	1466	-	365629
13	3	66	6	1730	1104	589396
14	2	54	18	1694	-	133822
15	1	54	19	-	-	213073
16	2	98	11	1437	-	604589

20 MHz Master - Trial 16

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	92	10	-	-	312259
2	1	81	12	-	-	55844
3	2	65	13	1337	-	403955
4	1	94	5	-	-	461002
5	2	80	12	1654	-	466921
6	1	70	19	-	-	92256
7	2	64	10	1427	-	395819
8	2	83	13	1642	-	290280
9	3	60	17	1166	1996	592388
10	1	69	14	-	-	492791
11	2	93	11	1566	-	113099
12	3	92	10	1322	1523	438744
13	3	80	7	1143	1203	430142
14	1	82	5	-	-	407104
15	1	69	11	-	-	171622
16	2	94	12	1473	-	395844
17	2	85	17	1092	-	448723
18	2	94	17	1238	-	534783
19	3	66	8	1119	1751	475355
20	2	81	5	1793	-	163187

20 MHz Master - Trial 17

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	80	7	1241	1472	15806
2	1	82	19	-	-	583553
3	3	83	20	1029	1153	768896
4	2	76	10	1913	-	1405473
5	3	64	10	1973	1268	963612
6	2	98	9	1418	-	1019767
7	2	77	20	1176	-	1423886
8	2	57	18	1528	-	911143

20 MHz Master - Trial 18

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	73	13	-	-	247381
2	3	82	6	1191	1499	692077
3	2	54	5	1319	-	1174304
4	1	60	10	-	-	1184460
5	3	81	20	1185	1272	629210
6	1	99	14	-	-	1368547
7	2	73	11	1330	-	1111367
8	3	96	12	1103	1923	1267551

20 MHz Master - Trial 19

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	96	8	-	-	17683
2	2	98	18	1166	-	150518
3	3	75	16	1935	1388	227330
4	1	63	16	-	-	408875
5	2	76	9	1122	-	626495
6	3	89	9	1364	1879	518285
7	1	72	20	-	-	509483
8	2	52	20	1244	-	619831
9	1	56	11	-	-	425410
10	2	99	15	1395	-	222466
11	2	82	7	1359	-	173455
12	1	67	17	-	-	502989
13	1	52	15	-	-	437480
14	2	64	11	1844	-	32318
15	3	56	18	1309	1302	7979
16	3	76	13	1129	1605	433906
17	1	66	10	-	-	573129
18	3	62	15	1742	1168	479248
19	2	87	9	1742	-	121316

20 MHz Master - Trial 20

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	81	6	1260	-	587818
2	3	93	9	1504	1283	333116
3	1	80	16	-	-	633504
4	1	59	6	-	-	203671
5	3	65	17	1722	1046	773661
6	1	95	5	-	-	661414
7	1	52	13	-	-	820003
8	2	55	19	1020	-	345202
9	1	55	12	-	-	103608
10	2	74	19	1464	-	144038
11	2	56	9	1547	-	149189
12	2	74	5	1643	-	902355

20 MHz Master - Trial 21

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	74	5	1818	-	908240
2	2	61	17	1354	-	224120
3	2	86	8	1848	-	7362
4	1	62	8	-	-	572632
5	1	57	9	-	-	1436835
6	2	96	11	1562	-	1354990
7	1	67	11	-	-	685748
8	1	98	18	-	-	922533

20 MHz Master - Trial 22

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	75	5	1258	-	200563
2	1	100	17	-	-	624199
3	1	85	7	-	-	650759
4	1	91	9	-	-	1004439
5	3	58	13	1577	1913	299460
6	3	66	17	1006	1717	286505
7	3	61	20	1390	1044	864667
8	3	69	20	1004	1203	1442639

20 MHz Master - Trial 23

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	67	18	1760	-	439727
2	1	81	8	-	-	260447
3	1	85	6	-	-	361939
4	3	65	7	1934	1381	77190
5	1	79	16	-	-	624906
6	3	88	11	1654	1122	662345
7	3	96	20	1565	1888	317168
8	3	99	14	1164	1889	77851
9	3	67	8	1296	1303	420107
10	3	70	8	1042	1623	74303
11	3	55	17	1508	1150	3850
12	1	73	12	-	-	232519
13	2	55	16	1521	-	445507
14	1	72	8	-	-	275788
15	1	60	7	-	-	439419
16	2	82	11	1451	-	618940

20 MHz Master - Trial 24

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	84	15	1296	1870	583763
2	3	83	10	1821	1560	640645
3	2	81	15	1695	-	54164
4	2	89	20	1502	-	639878
5	3	84	11	1885	1512	346965
6	2	94	16	1554	-	247192
7	2	89	14	1002	-	545667
8	3	82	18	1668	1086	252911
9	3	62	17	1559	1902	449025
10	2	92	15	1860	-	215715
11	3	85	20	1890	1985	244032
12	1	63	12	-	-	57471
13	1	80	17	-	-	564301
14	1	85	9	-	-	482682
15	1	57	18	-	-	583426
16	2	94	7	1096	-	633737
17	2	86	10	1895	-	587844
18	2	65	5	1938	-	17509

20 MHz Master - Trial 25

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	63	13	1406	1607	175958
2	3	83	20	1713	1841	587206
3	1	55	13	-	-	426069
4	2	95	6	1108	-	439366
5	3	71	15	1543	1163	114396
6	1	54	12	-	-	503378
7	1	83	10	-	-	514174
8	3	79	11	1268	1323	39686
9	2	54	8	1782	-	438968
10	1	89	10	-	-	480808
11	3	56	18	1918	1196	584346
12	3	97	18	1444	1103	405576
13	2	76	18	1717	-	190538
14	3	63	15	1122	1062	368772
15	3	52	8	1791	1176	508510
16	3	57	11	1767	1281	391318
17	3	63	16	1134	1878	6157
18	2	78	18	1219	-	231990
19	3	79	10	1064	1415	36889
20	2	85	15	1759	-	302439

20 MHz Master - Trial 26

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	99	8	1681	1077	71729
2	1	85	19	-	-	390308
3	3	58	12	1570	1828	506580
4	2	73	12	1793	-	701408
5	2	65	8	1811	-	1048817
6	2	53	19	1072	-	801881
7	3	60	7	1873	1172	917421
8	1	79	13	-	-	691453
9	2	74	15	1709	-	277434

20 MHz Master - Trial 27

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	61	7	1043	1216	208048
2	3	80	8	1653	1973	692722
3	1	83	8	-	-	637744
4	3	85	20	1947	1327	555419
5	2	85	10	1881	-	788032
6	1	100	7	-	-	541672
7	2	80	7	1549	-	673234
8	3	51	11	1636	1498	430571
9	2	76	16	1460	-	233831
10	3	64	16	1635	1942	588324
11	1	64	7	-	-	463105
12	2	86	10	1273	-	349702
13	2	52	20	1466	-	213584
14	1	55	11	-	-	34405
15	3	65	10	1448	1787	35950

20 MHz Master - Trial 28

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	93	14	1136	1984	352961
2	2	87	17	1340	-	1210748
3	2	63	9	1306	-	67210
4	2	53	20	1611	-	725165
5	1	59	8	-	-	985806
6	3	85	18	1637	1405	1082674
7	2	55	12	1473	-	1145940
8	3	56	12	1331	1496	318897
9	3	97	8	1711	1120	979646

20 MHz Master - Trial 29

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	99	11	-	-	722362
2	2	80	16	1670	-	341711
3	2	53	14	1723	-	84826
4	2	76	11	1298	-	702393
5	3	72	9	1226	1606	522747
6	1	65	13	-	-	227303
7	3	51	17	1953	1317	325996
8	2	71	15	1669	-	729437
9	3	59	10	1739	1377	644956
10	3	57	10	1400	1776	352607
11	1	96	5	-	-	815380
12	3	89	8	1319	1286	144262
13	2	70	10	1291	-	533630
14	2	86	19	1100	-	661266

20 MHz Master - Trial 30

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	54	9	1956	1487	171180
2	3	67	7	1220	1865	162443
3	2	74	5	1257	-	322246
4	3	82	11	1350	1567	434494
5	3	98	10	1086	1131	274762
6	2	70	9	1003	-	587167
7	1	91	17	-	-	746795
8	1	78	10	-	-	732631
9	1	98	13	-	-	141438
10	3	90	14	1148	1287	181358
11	2	68	9	1401	-	375142
12	2	50	6	1143	-	542893
13	3	87	18	1565	1214	621464
14	1	61	12	-	-	325908
15	2	54	5	1373	-	333248
16	2	62	17	1618	-	211316

40 MHz Master - Trial 1

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	87	6	1908	1900	1216729
2	2	79	11	1854	-	627266
3	1	95	14	-	-	1091487
4	2	94	6	1232	-	764734
5	1	80	10	-	-	252951
6	1	99	14	-	-	1188539
7	1	92	5	-	-	638404
8	1	72	12	-	-	589629

40 MHz Master - Trial 2

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	89	19	-	-	879689
2	1	53	6	-	-	1427070
3	1	82	9	-	-	1237379
4	1	59	13	-	-	172172
5	2	97	9	1376	-	1357423
6	2	97	8	1719	-	525995
7	2	92	20	1924	-	674175
8	1	67	14	-	-	957546

40 MHz Master - Trial 3

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	97	19	-	-	577396
2	1	61	8	-	-	353732
3	1	99	6	-	-	706792
4	2	65	13	1510	-	221006
5	1	54	14	-	-	931441
6	3	94	18	1473	1275	1042722
7	1	59	7	-	-	534915
8	2	78	9	1800	-	807450
9	1	88	6	-	-	751149
10	2	80	19	1752	-	256707
11	3	68	15	1389	1940	979837

40 MHz Master - Trial 4

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	2	53	11	1627	-	56129
2	1	52	20	-	-	258892
3	1	56	7	-	-	477056
4	2	54	8	1511	-	791072
5	2	72	19	1407	-	107311
6	1	89	6	-	-	599033
7	2	96	9	1733	-	255164
8	1	58	6	-	-	483108
9	3	58	15	1923	1703	148295
10	2	69	12	1754	-	273907
11	3	93	7	1171	1597	438802
12	2	71	6	1966	-	184299

40 MHz Master - Trial 5

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	74	13	1068	1983	218628
2	3	95	9	1486	1608	222600
3	2	55	14	1742	-	468300
4	3	87	17	1024	1842	583619
5	3	87	6	1135	1816	505477
6	3	50	13	1654	1324	468309
7	2	59	6	1447	-	18482
8	2	93	20	1184	-	152322
9	3	92	12	1863	1716	427806
10	1	62	11	-	-	520374
11	1	78	18	-	-	212132
12	3	60	5	1091	1556	296483
13	1	85	5	-	-	228622
14	1	78	15	-	-	335278
15	3	58	7	1872	1744	276309
16	3	63	15	1953	1088	41976
17	3	64	8	1500	1647	548161
18	2	87	14	1817	-	343619
19	3	71	16	1150	1120	515481

40 MHz Master - Trial 6

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	57	5	1555	1535	327244
2	2	61	18	1403	-	564534
3	2	78	6	1002	-	651690
4	2	91	12	1513	-	952806
5	1	61	19	-	-	1282528
6	3	81	11	1457	1030	385202
7	3	73	13	1233	1936	64853
8	2	88	20	1843	-	558379
9	1	97	10	-	-	1283924

40 MHz Master - Trial 7

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	89	19	1170	-	371680
2	2	65	11	1448	-	1007264
3	1	80	15	-	-	680840
4	1	89	17	-	-	123611
5	2	57	5	1872	-	72325
6	2	58	6	1466	-	730936
7	1	61	9	-	-	652748
8	3	82	7	1634	1532	936313
9	3	56	7	1104	1786	12431
10	3	89	6	1370	1583	706176
11	1	91	16	-	-	883296

40 MHz Master - Trial 8

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	85	12	1000	-	333859
2	1	82	6	-	-	277805
3	2	75	14	1015	-	530865
4	2	62	19	1165	-	599851
5	1	98	6	-	-	65982
6	2	69	20	1095	-	105167
7	2	98	12	1910	-	226627
8	2	81	19	1046	-	1031588
9	3	97	13	1988	1554	457222
10	2	59	6	1928	-	1147235

40 MHz Master - Trial 9

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	83	8	1804	-	232137
2	2	82	20	1611	-	287681
3	1	77	12	-	-	262970
4	1	80	11	-	-	533861
5	3	85	8	1064	1495	518341
6	2	98	13	1673	-	38587
7	1	95	7	-	-	120090
8	1	80	18	-	-	666231
9	2	59	7	1291	-	48687
10	1	68	18	-	-	890718
11	2	63	8	1858	-	718605
12	2	54	9	1219	-	257794
13	1	81	9	-	-	270749

40 MHz Master - Trial 10

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	98	11	1427	1931	248750
2	1	84	10	-	-	521341
3	1	70	16	-	-	239535
4	1	91	7	-	-	434754
5	2	72	9	1444	-	110017
6	2	69	6	1863	-	10450
7	1	83	6	-	-	45916
8	3	59	10	1100	1844	555523
9	3	77	9	1587	1898	589898
10	3	55	11	1868	1080	277567
11	1	95	17	-	-	511571
12	3	76	17	1982	1044	512949
13	2	61	10	1669	-	461957
14	3	75	13	1078	1038	580372
15	1	91	20	-	-	93461
16	3	77	8	1664	1273	402797
17	3	97	18	1641	1196	177049
18	1	74	17	-	-	199362
19	3	95	5	1995	1069	135396
20	1	61	18	-	-	364260

40 MHz Master - Trial 11

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	52	12	1815	1083	502171
2	3	50	20	1574	1318	485088
3	1	78	9	-	-	317216
4	1	79	15	-	-	292561
5	1	64	16	-	-	68602
6	1	89	20	-	-	54819
7	2	66	20	1847	-	419347
8	3	60	19	1363	1826	71093
9	2	67	12	1813	-	477789
10	2	55	18	1436	-	498162
11	3	60	15	1171	1144	528103
12	2	67	11	1494	-	198640
13	3	81	14	1665	1596	296352
14	1	69	10	-	-	241685
15	1	60	12	-	-	93951
16	1	78	12	-	-	598123
17	2	60	19	1551	-	186587
18	3	55	10	1675	1522	604243
19	3	78	20	1332	1798	430973

40 MHz Master - Trial 12

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	57	7	1072	1008	338001
2	1	70	14	-	-	271
3	1	51	5	-	-	196664
4	1	69	18	-	-	202363
5	2	63	10	1843	-	387336
6	1	90	14	-	-	297831
7	2	91	7	1870	-	467778
8	2	69	15	1325	-	552339
9	2	60	11	1468	-	625658
10	1	55	7	-	-	460707
11	2	84	15	1171	-	110602
12	1	69	11	-	-	294801
13	1	80	19	-	-	194746
14	2	52	11	1585	-	299404
15	1	76	13	-	-	446463
16	2	85	14	1329	-	62043
17	3	90	11	1705	1436	71315

40 MHz Master - Trial 13

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	87	20	-	-	869235
2	1	92	9	-	-	50166
3	3	80	16	1880	1216	1029256
4	2	51	9	1713	-	1308957
5	2	54	18	1057	-	1288249
6	2	92	20	1400	-	842059
7	3	68	7	1803	1132	453635
8	1	73	19	-	-	561918
9	1	62	13	-	-	880483

40 MHz Master - Trial 14

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	86	6	1314	1622	1137594
2	1	100	12	-	-	687462
3	1	61	15	-	-	15367
4	1	58	18	-	-	1316948
5	2	99	8	1567	-	116056
6	1	72	5	-	-	863823
7	2	64	15	1406	-	856355
8	1	51	20	-	-	1262263

40 MHz Master - Trial 15

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	89	18	1870	-	258972
2	3	67	6	1124	1638	314231
3	3	62	12	1359	1116	478420
4	3	70	15	1029	1882	404276
5	1	88	16	-	-	548767
6	1	74	5	-	-	465871
7	1	62	12	-	-	157345
8	1	77	6	-	-	607597
9	3	87	5	1308	1408	90668
10	2	52	8	1047	-	320694
11	2	60	14	1194	-	482281
12	3	60	16	1117	1667	654308
13	1	80	6	-	-	690371
14	2	80	17	1218	-	182492
15	2	79	20	1551	-	643700
16	1	79	7	-	-	38862
17	1	83	13	-	-	2944

40 MHz Master - Trial 16

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	72	12	1049	-	1165433
2	2	95	18	1994	-	290100
3	3	72	11	1194	1430	1051016
4	3	63	5	1789	1872	1431829
5	1	51	9	-	-	985948
6	1	51	15	-	-	1332815
7	1	69	9	-	-	866943
8	2	77	20	1553	-	8787

40 MHz Master - Trial 17

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	87	14	1754	-	438094
2	2	81	11	1737	-	248620
3	1	70	13	-	-	152068
4	1	76	7	-	-	288577
5	3	56	9	1861	1211	73405
6	1	77	7	-	-	580440
7	2	95	16	1367	-	180791
8	1	71	7	-	-	268444
9	2	70	17	1030	-	570827
10	1	64	14	-	-	437689
11	3	53	11	1104	1351	407275
12	3	95	12	1502	1527	331802
13	2	54	10	1805	-	574163
14	3	82	20	1135	1269	555095
15	1	57	15	-	-	601
16	3	54	12	1562	1932	368677
17	2	84	6	1397	-	323190

40 MHz Master - Trial 18

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	1	79	10	-	-	618792
2	3	80	19	1941	1327	387913
3	1	100	12	-	-	512779
4	2	74	14	1283	-	324183
5	3	84	14	1821	1796	17730
6	3	80	20	1010	1400	191493
7	2	68	9	1504	-	286768
8	3	75	18	1414	1238	579496
9	3	74	18	1468	1101	231484
10	3	53	6	1797	1991	398490
11	3	78	17	1575	1752	783795
12	1	99	19	-	-	741581
13	1	91	15	-	-	135852
14	1	64	16	-	-	75329
15	2	100	16	1957	-	721423

40 MHz Master - Trial 19

Burst Segment	Number of Pulses	Pulse Width (µsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (µsec)	Pulse 2-to-3 PRI (µsec)	Starting Location Within Interval (µsec)
1	3	78	18	1305	1059	931957
2	1	72	11	-	-	856153
3	2	98	14	1189	-	743608
4	3	70	9	1797	1747	227909
5	1	92	19	-	-	153302
6	2	68	20	1378	-	997352
7	3	96	15	1416	1643	196560
8	1	85	19	-	-	995588
9	2	90	11	1782	-	742515
10	1	84	13	-	-	349573
11	2	80	12	1159	-	156922
12	1	95	16	-	-	908086

40 MHz Master - Trial 20

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	79	9	1065	-	556399
2	1	76	9	-	-	240676
3	2	77	16	1699	-	499954
4	3	56	11	1643	1049	249216
5	3	97	18	1648	1840	545522
6	2	88	12	1300	-	1005216
7	2	62	13	1452	-	557019
8	1	87	20	-	-	940469
9	1	95	13	-	-	1310732

40 MHz Master - Trial 21

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	95	6	1358	1029	459202
2	1	84	16	-	-	125734
3	2	88	15	1225	-	4933
4	3	89	17	1881	1793	48947
5	2	57	19	1383	-	545457
6	3	83	10	1961	1068	284215
7	3	93	5	1521	1269	259582
8	2	81	13	1799	-	342703
9	2	97	15	1645	-	340612
10	3	99	12	1096	1620	126586
11	3	65	16	1144	1976	138732
12	1	79	10	-	-	506616
13	1	54	19	-	-	544983
14	1	74	12	-	-	251490
15	1	63	9	-	-	183236
16	3	89	20	1716	1175	116423
17	3	69	13	1972	1809	432654
18	1	87	17	-	-	83120

40 MHz Master - Trial 22

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	80	19	-	-	431971
2	3	62	18	1760	1828	299167
3	2	75	6	1764	-	319977
4	3	73	10	1960	1151	238593
5	1	92	19	-	-	880013
6	1	57	9	-	-	235087
7	3	72	16	1346	1962	68810
8	3	68	17	1229	1539	142619
9	3	67	18	1190	1882	388160
10	1	73	16	-	-	612547
11	2	91	20	1156	-	205842
12	3	50	13	1498	1094	509892
13	2	56	19	1782	-	138259

40 MHz Master - Trial 23

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	84	13	1647	1088	559487
2	3	65	15	1979	1717	95333
3	3	97	18	1510	1036	39676
4	3	68	17	1852	1892	460092
5	1	87	12	-	-	801296
6	2	61	20	1408	-	974476
7	1	76	17	-	-	264839
8	1	66	11	-	-	1303035
9	3	77	17	1298	1443	882038

40 MHz Master - Trial 24

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	100	6	1846	1892	1034235
2	1	92	17	-	-	267215
3	2	68	20	1395	-	1136205
4	2	50	9	1340	-	709847
5	2	52	9	1019	-	929896
6	2	70	20	1315	-	123999
7	1	93	6	-	-	387821
8	3	73	7	1128	1517	1269071
9	3	84	20	1999	1663	1295543

40 MHz Master - Trial 25

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	100	6	1795	-	911779
2	1	56	16	-	-	636957
3	3	53	7	1398	1383	334437
4	2	85	7	1505	-	266919
5	3	76	11	1336	1876	728060
6	2	77	16	1047	-	288308
7	2	86	6	1813	-	876599
8	1	65	5	-	-	689136
9	3	78	7	1770	1059	902580
10	1	79	14	-	-	145477
11	1	93	7	-	-	631998
12	3	52	14	1734	1920	182258
13	3	79	20	1642	1372	656480

40 MHz Master - Trial 26

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	79	11	-	-	256586
2	2	54	17	1352	-	115325
3	2	82	9	1895	-	619503
4	3	97	14	1750	1467	183251
5	1	67	17	-	-	322935
6	2	69	18	1030	-	325779
7	2	77	11	1346	-	513069
8	3	50	8	1880	1902	690098
9	2	66	14	1711	-	897049
10	2	51	13	1901	-	610579
11	2	95	19	1514	-	355085
12	3	91	5	1767	1017	216343
13	3	100	13	1808	1230	856773

40 MHz Master - Trial 27

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	3	91	16	1705	1849	713874
2	3	86	16	1044	1376	54497
3	2	67	7	1691	-	166570
4	2	75	18	1171	-	799816
5	1	57	6	-	-	884194
6	2	84	10	1057	-	901975
7	3	76	15	1646	1085	950762
8	3	52	8	1715	1680	267538
9	3	84	16	1663	1901	596826
10	1	69	7	-	-	736516
11	1	58	6	-	-	629429
12	2	80	20	1201	-	128175

40 MHz Master - Trial 28

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	57	15	1529	-	666069
2	3	52	16	1468	1602	304077
3	1	75	13	-	-	416242
4	2	70	8	1615	-	72225
5	1	84	16	-	-	7200
6	2	76	14	1456	-	393620
7	1	54	20	-	-	586274
8	1	80	15	-	-	53319
9	1	100	8	-	-	555370
10	2	96	13	1431	-	981622
11	3	77	8	1094	1191	741008
12	2	52	10	1996	-	400664

40 MHz Master - Trial 29

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	1	57	6	-	-	440566
2	2	68	13	1317	-	397126
3	1	97	17	-	-	308314
4	1	61	11	-	-	387660
5	2	88	7	1576	-	330905
6	3	50	8	1299	1916	251015
7	2	77	20	1607	-	169316
8	2	54	18	1090	-	724863
9	1	78	5	-	-	85460
10	2	74	14	1425	-	511688
11	3	76	7	1539	1890	182721
12	1	52	15	-	-	224236
13	1	67	5	-	-	334051
14	1	96	5	-	-	166426
15	1	78	20	-	-	104427
16	2	65	13	1227	-	143770

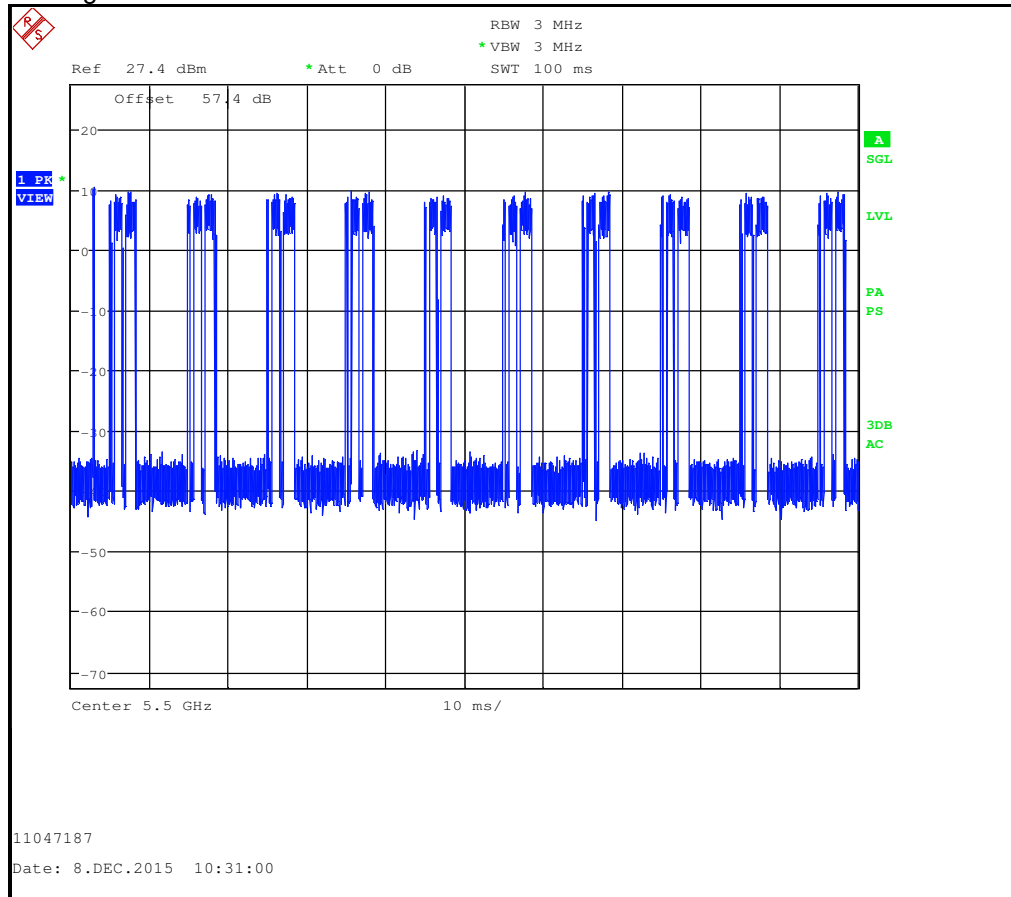
40 MHz Master - Trial 30

Burst Segment	Number of Pulses	Pulse Width (μsec)	Chirp Width (MHz)	Pulse 1-to-2 PRI (μsec)	Pulse 2-to-3 PRI (μsec)	Starting Location Within Interval (μsec)
1	2	100	10	1402	-	1089787
2	2	98	18	1216	-	1320352
3	1	68	5	-	-	504685
4	2	78	20	1624	-	246104
5	1	93	8	-	-	603257
6	1	65	18	-	-	934054
7	3	57	18	1991	1663	70135
8	1	79	15	-	-	1255970
9	3	76	11	1504	1367	931079

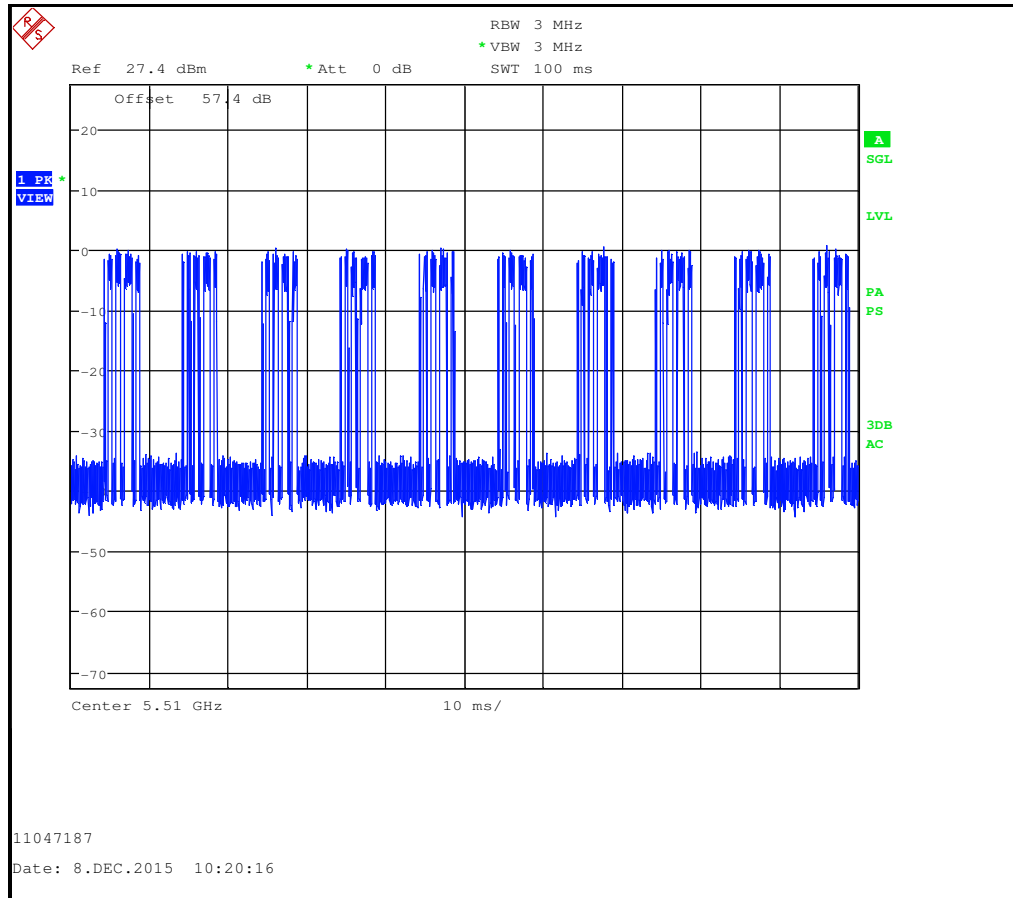
Appendix 10. Channel Loading

UDP data was transmitted from the EUT to the companion device. 100 ms of transmissions showing both the EUT and companion device were then captured on a spectrum analyser in the time domain. The spectrum analyser was set to 30,001 sweep points giving a sample size accuracy of 3.333 μ s. The data points were then exported as an ASCII file and each sample determined to be either transmissions from the EUT or companion device (channel loading) or idle. The duty cycle was then calculated from this ratio.

Included below are spectrum analyser plots from which the raw data was extracted to calculate the channel loading.



26% Channel Loading at 20 MHz Bandwidth



25.2% Channel Loading at 40 MHz Bandwidth

--- END OF REPORT ---