

February 22, 2024

Intellian Technologies USA Inc
Christopher Goodman
2600 Tower Oaks Boulevard, Suite 400
Rockville, MD 20852

Dear Christopher Goodman,

Enclosed is the EMC Wireless test report for compliance testing of the Intellian Technologies USA Inc, CNX-WiFi with 450 Watt AC Adapter as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Title 47 of the CFR, Part 15.407, Subpart E (UNII 2).

Thank you for using the services of Eurofins Electrical and Electronic Testing NA, Inc. If you have any questions regarding these results or if Eurofins Electrical and Electronic Testing NA, Inc. can be of further service to you, please feel free to contact me.

Sincerely yours,
EUROFINS ELECTRICAL AND ELECTRONIC TESTING NA, INC.



Michelle Tawmging
Documentation Department

Reference: (\\Intellian Technologies USA Inc\\WIR128375-FCC407 DFS Rev. 1)



Certificates and reports shall not be reproduced except in full, without the written permission of Eurofins Electrical and Electronic Testing NA, Inc. While use of the A2LA logo in this report reflects Eurofins Electrical and Electronic Testing NA, Inc. accreditation under these programs, the report must not be used by the client to claim product certification, approval, or endorsement by A2LA, or any agency of the Federal Government. This letter of transmittal is not a part of the attached report.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

Electromagnetic Compatibility Criteria Test Report

for the

**Intellian Technologies USA Inc
Model CNX-WiFi with 450 Watt AC Adapter**

Tested under
The FCC Certification Rules
contained in
Title 47 of the CFR
15.407 Subpart E

Report: WIR128375-FCC407 DFS Rev. 1

February 22, 2024

Prepared For:

**Intellian Technologies USA Inc
2600 Tower Oaks Boulevard, Suite 400
Rockville, MD 20852**

Prepared By:
Eurofins Electrical and Electronic Testing NA, Inc.
914 W. Patapsco Avenue
Baltimore, MD 21230

**Electromagnetic Compatibility Criteria
Test Report**

for the

**Intellian Technologies USA Inc
Model CNX-WiFi with 450 Watt AC Adapter**

Tested under

The FCC Certification Rules
contained in
Title 47 of the CFR
15.407 Subpart E



Donald Salguero
Wireless Laboratory Engineer

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of 15.407 of the FCC Rules under normal use and maintenance.



Michael Griffiths
Manager, Wireless Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	January 23, 2024	Initial Issue
1	February 22, 2024	Updated EUT name throughout; Updated Section A; Updated Section E.

Table of Contents

I.	Executive Summary	1
	A. Purpose of Test.....	1
	B. Executive Summary	1
II.	Equipment Configuration.....	2
	A. Overview.....	2
	B. References.....	3
	C. Test Site.....	3
	D. Equipment Overview and Test Configuration.....	4
	E. Measurement Uncertainty	12
	F. Modifications	12
	a) Modifications to EUT	12
	b) Modifications to Test Standard.....	12
	G. Disposition of EUT	12
III.	DFS Requirements and Radar Waveform Description & Calibration.....	13
	A. DFS Requirements	13
	B. Radar Test Waveforms.....	16
	C. Radar Waveform Calibration	20
IV.	DFS Test Procedure and Test Results	49
	A. DFS Test Setup	49
	B. UNII Detection Bandwidth	50
	C. Channel Availability Check Time.....	53
	D. In-Service Monitoring for Channel Move Time, Channel Closing Time, and Non-Occupancy.....	57
	E. Statistical Performance Check	61
V.	Test Equipment	88

List of Tables

Table 1. Executive Summary of EMC Wireless Part 15.407 Compliance Testing.....	1
Table 2. EUT Summary.....	2
Table 3. References	3
Table 4. Equipment Details	6
Table 5. EUT List	6
Table 6. Ports and Cabling.....	6
Table 7. Support Equipment	6
Table 8. Uncertainty Calculations Summary	12
Table 9. Applicability of DFS Requirements Prior to Use of a Channel	13
Table 10. Applicability of DFS Requirements During Normal Operation	14
Table 11. DFS Detection Thresholds for Master or Client Devices Incorporating DFS	15
Table 12. DFS Response Requirement Values	15
Table 13. Pulse Repetition Intervals Values for Test A.....	17
Table 14. DFS Bandwidth, 160MHz Channel Data	51
Table 15. DFS Bandwidth, 20MHz Channel Data	51
Table 16. DFS Bandwidth, 40MHz Channel Data	52
Table 17. DFS Bandwidth, 80MHz Channel Data	52
Table 18. Equipment List	88

List of Figures

Figure 1. Long Pulse Radar Test Signal Waveform	19
Figure 2. Radiated DFS Calibration Block Diagram	20
Figure 3. Calibration_Type0_5500MHz.....	21
Figure 4. Calibration_Type0_5510MHz.....	22
Figure 5. Calibration_Type0_5530MHz.....	23
Figure 6. Calibration_Type0_5570MHz.....	24
Figure 7. Calibration_Type1_5500MHz.....	25
Figure 8. Calibration_Type1_5510MHz.....	26
Figure 9. Calibration_Type1_5530MHz.....	27
Figure 10. Calibration_Type1_5570MHz.....	28
Figure 11. Calibration_Type2_5500MHz.....	29
Figure 12. Calibration_Type2_5510MHz.....	30
Figure 13. Calibration_Type2_5530MHz.....	31
Figure 14. Calibration_Type2_5570MHz.....	32
Figure 15. Calibration_Type3_5500MHz.....	33
Figure 16. Calibration_Type3_5510MHz.....	34
Figure 17. Calibration_Type3_5530MHz.....	35
Figure 18. Calibration_Type3_5570MHz.....	36
Figure 19. Calibration_Type4_5500MHz.....	37
Figure 20. Calibration_Type4_5510MHz.....	38
Figure 21. Calibration_Type4_5530MHz.....	39
Figure 22. Calibration_Type4_5570MHz.....	40
Figure 23. Calibration_Type5_5500MHz.....	41
Figure 24. Calibration_Type5_5510MHz.....	42
Figure 25. Calibration_Type5_5530MHz.....	43
Figure 26. Calibration_Type5_5570MHz.....	44
Figure 27. Calibration_Type6_5500MHz.....	45
Figure 28. Calibration_Type6_5510MHz.....	46
Figure 29. Calibration_Type6_5530MHz.....	47

Figure 30. Calibration_Type6_5570MHz.....48
 Figure 31. Test Setup Diagram.....49
 Figure 32. pulse @ CACT end.54
 Figure 33. pulse @ CACT start.55
 Figure 34. 60s-CAC Time.56
 Figure 35. Close time.....58
 Figure 36. Move Time.59
 Figure 37. Non-occupancy period.60
 Figure 38. Channel Loading62

List of Photographs

Photograph 1. CNX-WiFi, Front Side7
 Photograph 2. CNX-WiFi, Right Side7
 Photograph 3. CNX-WiFi, Left Side8
 Photograph 4. CNX-WiFi, Rear Side8
 Photograph 5. CNX-WiFi, Top Side9
 Photograph 6. CNX-WiFi, Bottom Side.....9
 Photograph 7. CNX-WiFi, Internal Board, Side 110
 Photograph 8. CNX-WiFi, Internal Board, Side 2.....10
 Photograph 9. CNX-WiFi, Internal 2.4 GHz Antenna Position.....11
 Photograph 10. CNX-WiFi, Internal 5 GHz Antenna Position.....11
 Photograph 11. 450 Watt AC Adapter.....11
 Photograph 12. DFS Radar Test Signal Generator20
 Photograph 13. DFS Test Setup.....87

Executive Summary

A. Purpose of Test

An EMC Wireless evaluation was performed to determine compliance of the Intellian Technologies USA Inc CNX-WiFi with 450 Watt AC Adapter, with the requirements of Part 15, §15.407. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with §2.1033, the following data is presented in support of the Certification of the CNX-WiFi with 450 Watt AC Adapter. Intellian Technologies USA Inc should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the CNX-WiFi with 450 Watt AC Adapter, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.407, in accordance with Intellian Technologies USA Inc, purchase order number 4200001300. All tests were conducted using measurement procedure ANSI C63.4-2014.

FCC Reference	Description	Results
15.40 (h)(2)	U-NII Detection Bandwidth	Compliant
15.407(h)(2)(ii)	Channel Availability Check Time	Compliant
15.407(h)(2)(ii-iii)	In-Service Monitoring	Compliant
15.407(h)(2)	Statistical Performance Check	Compliant

Table 1. Executive Summary of EMC Wireless Part 15.407 Compliance Testing

Equipment Configuration

A. Overview

Eurofins Electrical and Electronic Testing NA, Inc. was contracted by Intellian Technologies USA Inc to perform testing on the CNX-WiFi with 450 Watt AC Adapter, under Intellian Technologies USA Inc’s purchase order number 4200001300.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Intellian Technologies USA Inc CNX-WiFi with 450 Watt AC Adapter.

The results obtained relate only to the item(s) tested.

Model(s) Tested:	CNX-WiFi with 450 Watt AC Adapter	
Model(s) Covered:	CNX-WiFi with 450 Watt AC Adapter	
EUT Specifications:	Primary Power: 100-240 VAC	
	Type of Modulations:	BPSK,QPSK,DBPSK,DQPS
	Equipment Code:	NII
	Peak RF Output Power:	22.10 dBm; 0.162 W
	EUT Frequency Ranges:	5260 – 5320 MHz; 5270 – 5310 MHz; 5290 MHz; 5250 MHz straddle channel; 5500 – 5720 MHz; 5510 – 5710 MHz; 5530 – 5690 MHz; 5570MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Type of Filing:	Original	
Evaluated by:	Donald Salguero	
Report Date(s):	February 22, 2024	

Table 2. EUT Summary

B. References

CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
ANSI C63.4:2014	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2017	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
905462 DO2 UNII DFS Compliance Procedures New Rules v02	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection

Table 3. References

C. Test Site

All testing was performed at Eurofins Electrical and Electronic Testing NA, Inc., 914 W. Patapsco Avenue, Baltimore, MD 21230. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Radiated Emissions measurements were performed in a 3 meter semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at Eurofins Electrical and Electronic Testing NA, Inc.

D. Equipment Overview and Test Configuration

Name of EUT/Model:	CNX-WiFi with 450 Watt AC Adapter
Description of EUT and Intended Use:	CNX (Customer Network Exchange) is an integral component of a OneWeb User Terminal (UT) that provides the network interface, WiFi and Ethernet, for connecting User Devices to the OneWeb Network. CNX also provides power to the OneWeb UT using a coax cable that multiplexes power and data.
Selected Operation Mode(s):	<p>CNX Bridged Mode</p> <ul style="list-style-type: none"> • CNX operates as a Layer-2 device • SSID: APN1 and SSID: APN_2 are disabled • Devices connected to LAN port MGNT obtain IP addresses via DHCP from the SSM • Devices connected to SSID: Intellian obtain IP addresses via DHCP from the SSM
Rational for the selection of the Operation Mode(s):	Intellian SSID/MGMT port for Management - data load testing between client and server
Susceptibility Criteria:	<p>iPerf traffic loss for data load</p> <p>CNX-Wifi reboot due to excessive current draw by electronic load</p>
Monitoring Method(s):	<p>Performing as intended:</p> <ul style="list-style-type: none"> • The CNX-WiFi functioning with an electronic load of 56VDC at 7.5A <p>Failure conditions:</p> <ul style="list-style-type: none"> • CNX reboot due to excessive current draw by electronic load
Emissions Class Declaration:	Class B
Configurations:	Please refer to Testing document.
Rated Power Input	
Input Voltage Range:	100-240 VAC
AC or DC:	AC
Voltage Frequency:	50-60 HZ
Number of Phases:	1
Current:	5.3 A Max
Uses an external AC/DC Adapter:	True
Manufacturer:	Adapter Technology Co Ltd

Model #:	ATM450A2-P560
Part #:	Not Applicable
Serial #:	Not Applicable
The EUT can be battery powered:	False
Power Input Under Test	
Input Voltage:	230 VAC
Frequency:	50 Hz
Physical Description	
EUT Arrangement:	Table Top
System with Multiple Chassis?	False
Size (HxWxD) inches:	8.3x6.8x3.1
Weight (lbs.):	1.5
Highest Internal Frequency (MHz):	5.95
Other Info	
EUT Software (Internal to EUT):	MoCA version 2.20.5
Support Software (used by support PC to exercise EUT):	iPerf Version 2.0.9, QDART, Windows 11
Firmware:	Version 13
Transmitter Parameters	
Description of your unit:	OFDM, OFDMA
Modulation Type:	BPSK,QPSK,DBPSK,DQPS
Number of Channels:	20
Frequency Range (MHz):	2412-2482 5150-559
Antenna Type:	MU-MIMO
Antenna Gain (dB):	2
PMN:	CNX-WiFi
HVIN:	V 04
FVIN:	420.204.1-009
HMN:	CNX-WiFi
Data Rates:	20 MHz -1xSS: MCS0 - MCS11 2xSS: MCS0 - MCS11 40MHZ -1xSS: MCS0 - MCS11 2xSS: MCS0 - MCS11
Expected Power Level:	23 dBm
Number of Antenna:	4

Number of Intentional Transmitters:	4
Number of Certified Intentional Transmitter Modules:	0
FCC ID:	XXZ-BL5008
IC ID:	26236-BL5008

Table 4. Equipment Details

Name/Description	Model Number	Part Number	Serial Number	Rev. #
CNX Wi-Fi	BL5008	N/A	5008232900005	V 0.4
450 Watt AC Adapter	ATM450A2-P560	N/A	N/A	N/A

Table 5. EUT List

Port Name on EUT	Cable Desc. or reason for none	3 Meters or Longer	Length as tested (m)	Max Length (m)	Shielded?	Termination Box ID & Port Name
MGMT	Ethernet Cable	Yes	3.048	100	No	Laptop
COAX	For Power and Ethernet	Yes	3.048	80	Yes	SSM
Power	Integrated Power Cable	No	1	1	No	450W PSU
LAN 3	Disabled	No	N/A	N/A	No	N/A
LAN 2	Not needed for testing	No	N/A	N/A	No	N/A
LAN 1	Not needed for testing	No	N/A	N/A	No	N/A

Table 6. Ports and Cabling

Name/Description	Manufacturer	Model Number	Serial Number	*Customer Supplied Calibration Data
Laptop	Dell	N/A	N/A	N/A
DC Load	BK Precision	8510B	N/A	N/A
Test Jig	Intellian	N.A.	N/A	N/A

Table 7. Support Equipment



Photograph 1. CNX-WiFi, Front Side



Photograph 2. CNX-WiFi, Right Side



Photograph 3. CNX-WiFi, Left Side



Photograph 4. CNX-WiFi, Rear Side



Photograph 5. CNX-WiFi, Top Side



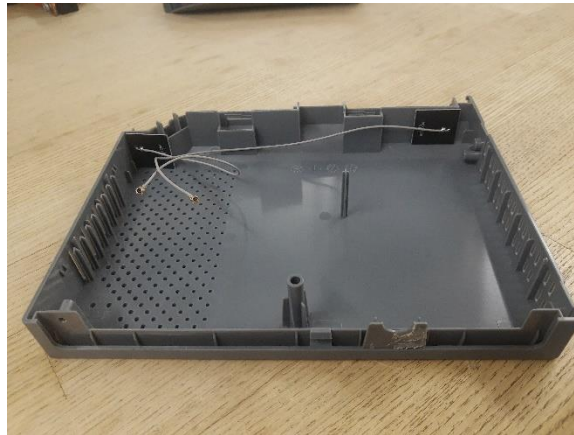
Photograph 6. CNX-WiFi, Bottom Side



Photograph 7. CNX-WiFi, Internal Board, Side 1



Photograph 8. CNX-WiFi, Internal Board, Side 2



Photograph 9. CNX-WiFi, Internal 2.4 GHz Antenna Position



Photograph 10. CNX-WiFi, Internal 5 GHz Antenna Position



Photograph 11. 450 Watt AC Adapter

E. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
Radiated Emissions, (30 MHz – 1 GHz)	±3.20	2	95%
Radiated Emissions, (1 GHz – 6 GHz)	±2.52	2	95%
Conducted Emission Voltage	±2.03	2	95%
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Table 8. Uncertainty Calculations Summary

F. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

G. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Intellian Technologies USA Inc upon completion of testing.

DFS Requirements and Radar Waveform Description & Calibration

A. DFS Requirements

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Table 9. Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required
Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>U-NII Detection Bandwidth and Statistical Performance Check</i>	All BW modes must be tested	Not required
<i>Channel Move Time and Channel Closing Transmission Time</i>	Test using widest BW mode available	Test using the widest BW mode available for the link
<i>All other tests</i>	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

Table 10. Applicability of DFS Requirements During Normal Operation

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP \geq 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
<p>Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.</p> <p>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.</p> <p>Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</p>	

Table 11. DFS Detection Thresholds for Master or Client Devices Incorporating DFS

Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<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.
<i>U-NII Detection Bandwidth</i>	Minimum 100% of the U- NII 99% transmission power bandwidth. See Note 3.
<p>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.</p> <p>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 move</i> (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.</p> <p>Note 3: During the <i>U-NII Detection Bandwidth</i> detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p>	

Table 12. DFS Response Requirement Values

B. Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{ \begin{array}{l} \left(\frac{1}{360} \right) \\ \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \end{array} \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the short pulse radar types 2 through 4. If more than 30 waveforms are used for short pulse radar types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 13. Pulse Repetition Intervals Values for Test A

Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Bursts	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse radar test signal. If more than 30 waveforms are used for the Long Pulse radar test signal, then each additional waveform must also be unique and not repeated from the previous waveforms.

Each waveform is defined as follows:

- 1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- 2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst_Count.
- 3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- 4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- 5) Each pulse has a linear FM chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a Burst will have the same chirp width. Pulses in different Bursts may have different chirp widths. The chirp is centered on the pulse. For example, with radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and ends at 5310 MHz.
- 6) If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.
- 7) The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst_Count. Each interval is of length $(12,000,000 / \text{Burst_Count})$ microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and $[(12,000,000 / \text{Burst_Count}) - (\text{Total Burst Length}) + (\text{One Random PRI Interval})]$ microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

A representative example of a Long Pulse radar test waveform:

- 1) The total test signal length is 12 seconds.
- 2) 8 Bursts are randomly generated for the Burst_Count.
- 3) Burst 1 has 2 randomly generated pulses.
- 4) The pulse width (for both pulses) is randomly selected to be 75 microseconds.
- 5) The PRI is randomly selected to be at 1213 microseconds.
- 6) Bursts 2 through 8 are generated using steps 3 – 5.
- 7) Each Burst is contained in even intervals of 1,500,000 microseconds. The starting location for Pulse 1, Burst 1 is randomly generated (1 to 1,500,000 minus the total Burst 1 length + 1 random PRI interval) at the 325,001 microsecond step. Bursts 2 through 8 randomly fall in successive 1,500,000 microsecond intervals (i.e. Burst 2 falls in the 1,500,001 – 3,000,000 microsecond range).

Long Pulse Radar Test Signal Waveform 12 Second Transmission

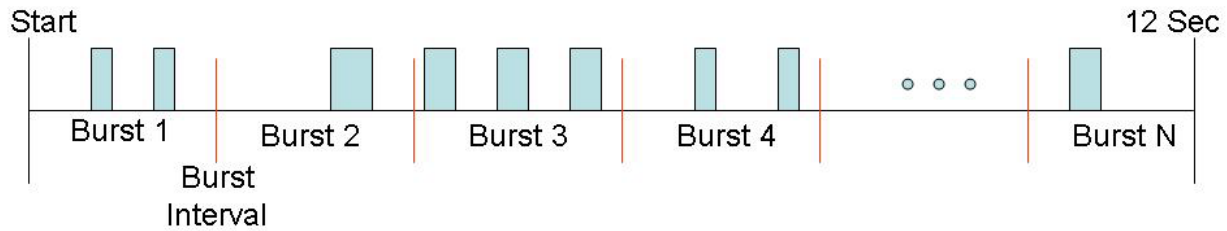


Figure 1. Long Pulse Radar Test Signal Waveform

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 Trials
6	1	333	9	.333	300	70%	30

For the Frequency Hopping Radar Type, the same *Burst* parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected¹ from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

C. Radar Waveform Calibration

Calibration of the DFS test was done using a radiated method. A signal generator capable of producing all radar pulse types (0-6) was connected to a transmitting antenna. A receive antenna, through an external pre-amp was connected to a spectrum analyzer. The spectrum analyzer was set to a zero span with a peak detector and an RBW and VBW of 3 MHz. The transmit and receive antennas were vertically polarized during this calibration.

With the signal generator and spectrum analyzer tuned to the test frequency, each radar pulse was triggered and observed on the spectrum analyzer. The DFS Detection Threshold was verified for each radar pulse type (0-6).

During this process there were no transmissions by either the Master or Client Device.

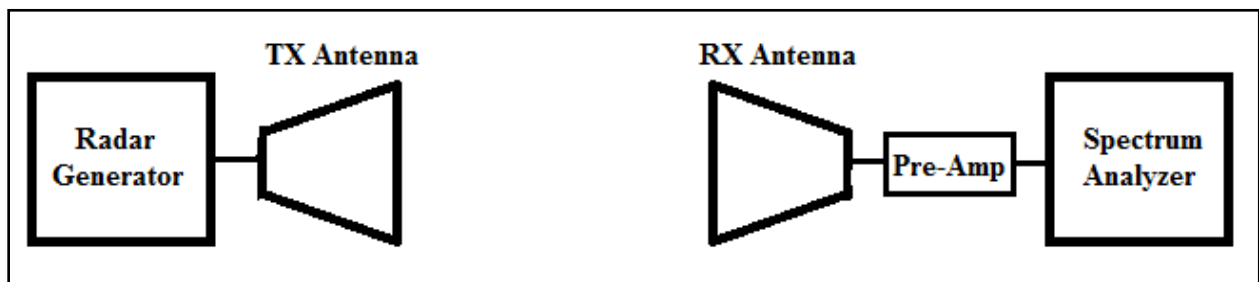
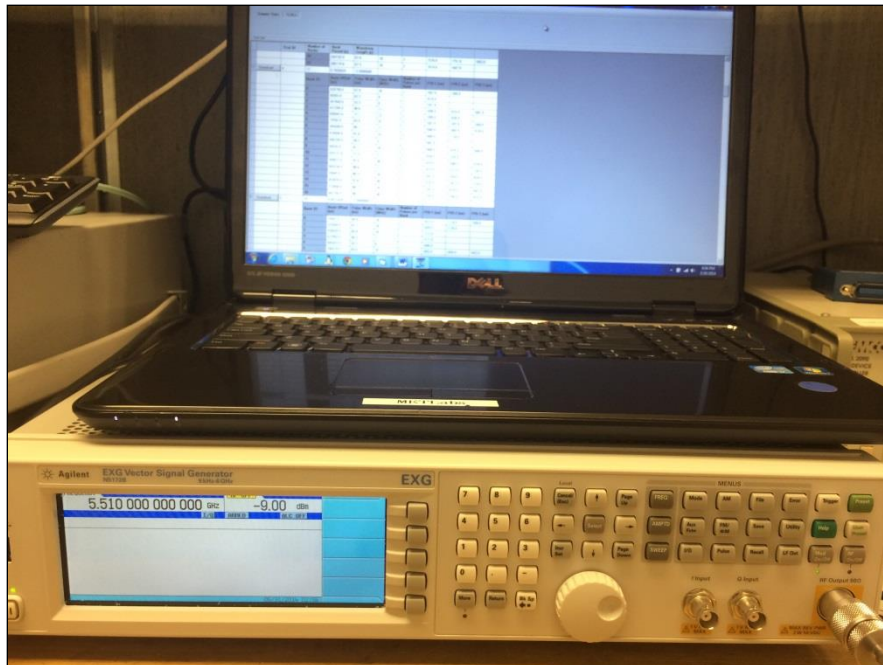


Figure 2. Radiated DFS Calibration Block Diagram



Photograph 12. DFS Radar Test Signal Generator

Radar Waveform Calibration

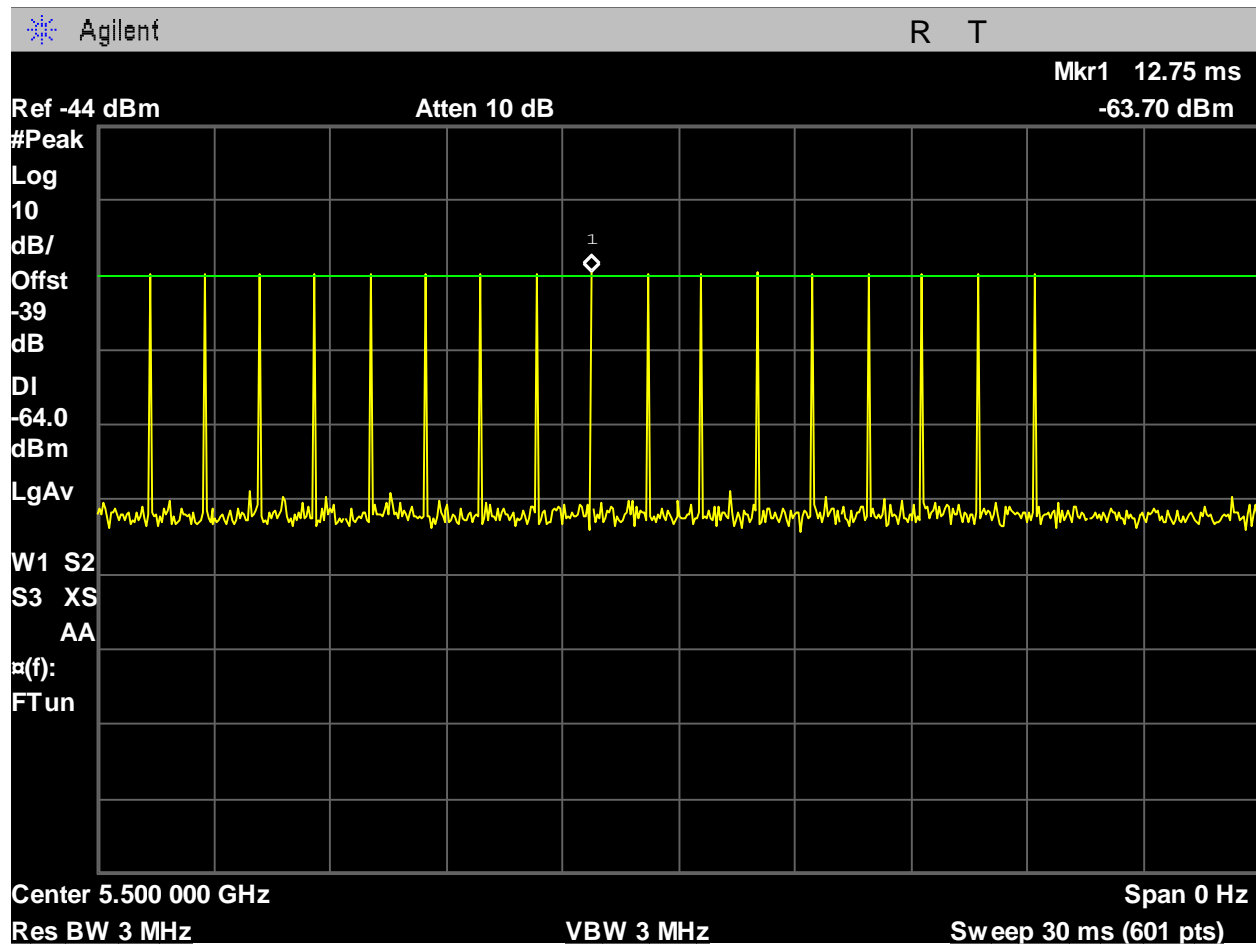


Figure 3. Calibration_Type0_5500MHz.

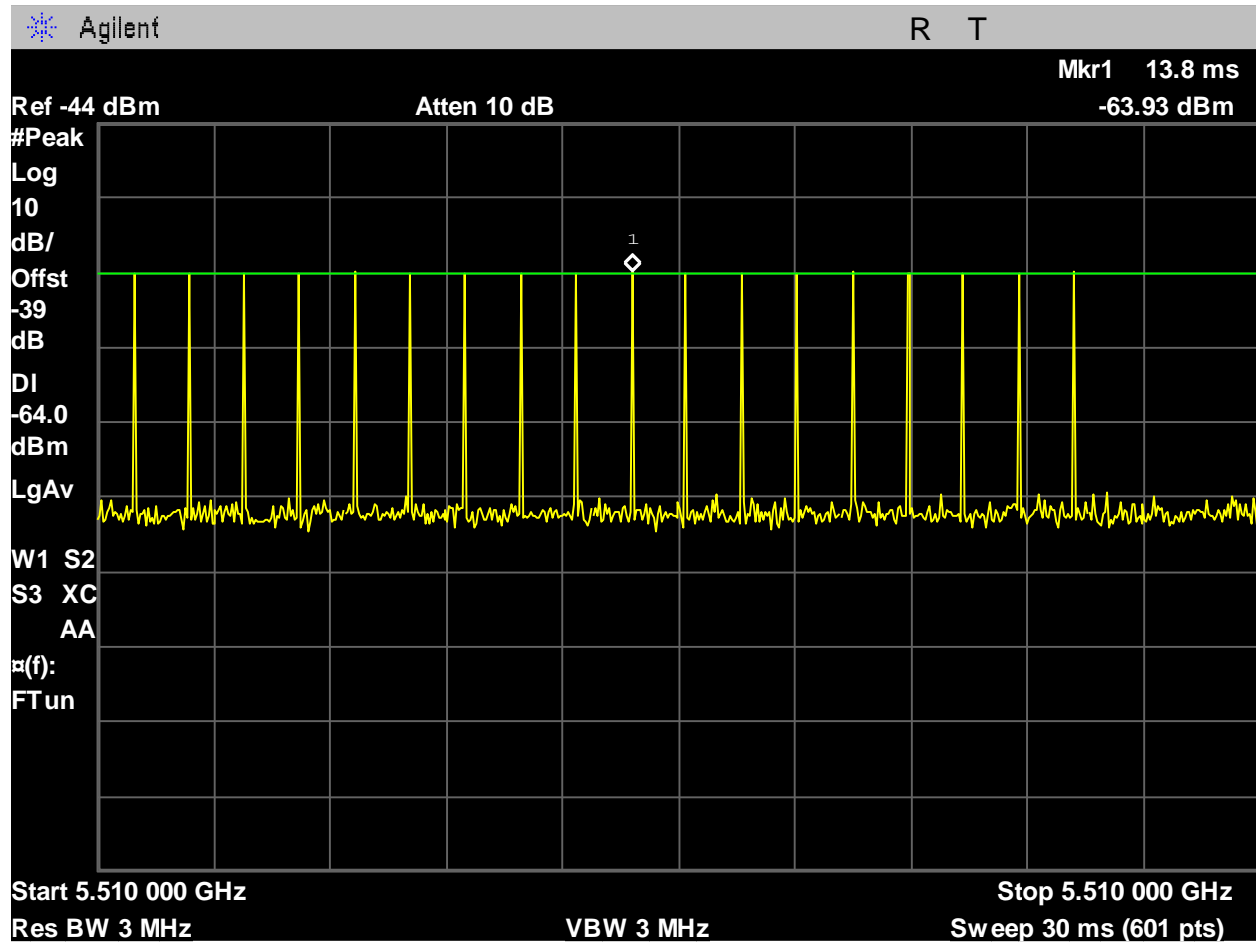


Figure 4. Calibration_Type0_5510MHz.

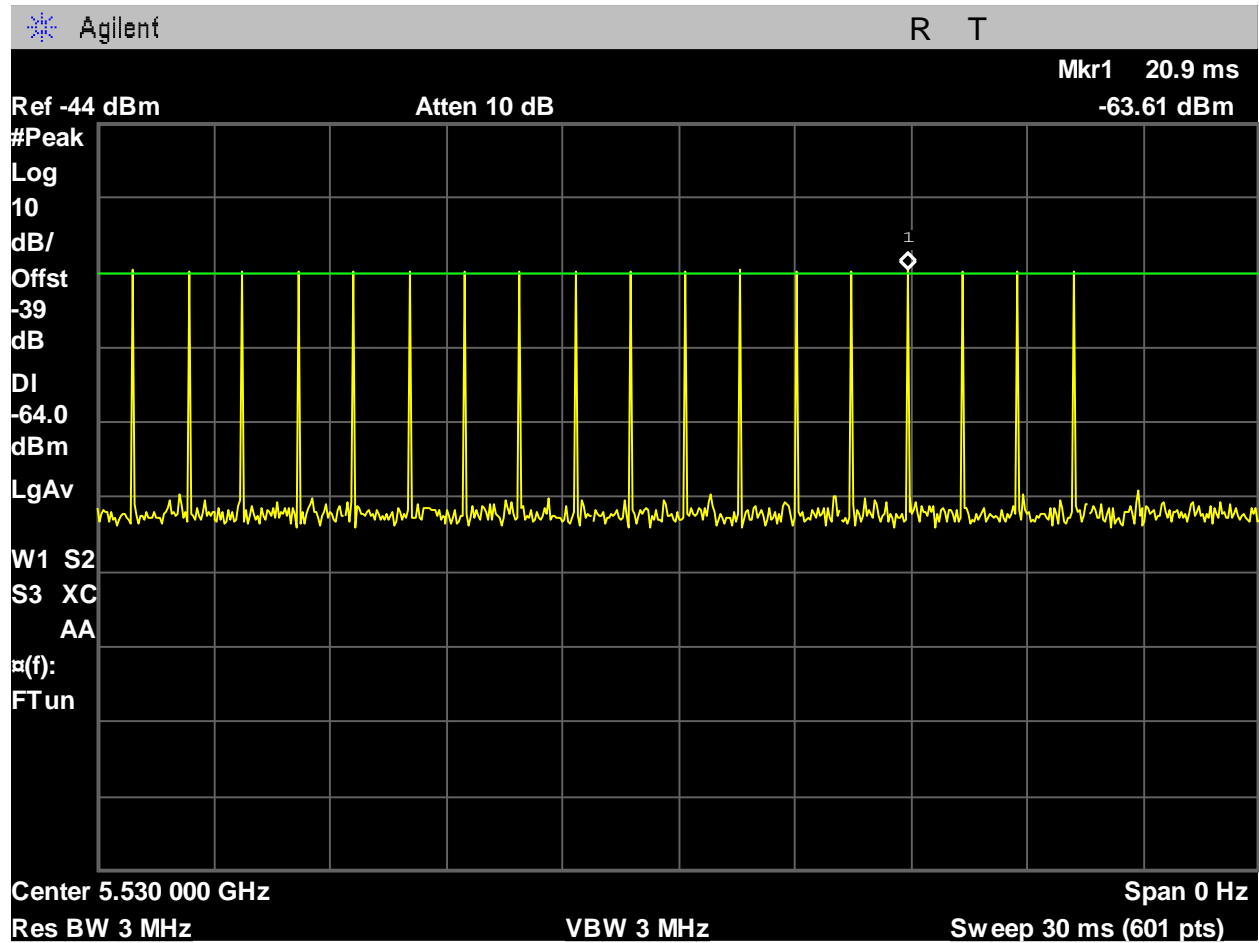


Figure 5. Calibration_Type0_5530MHz.

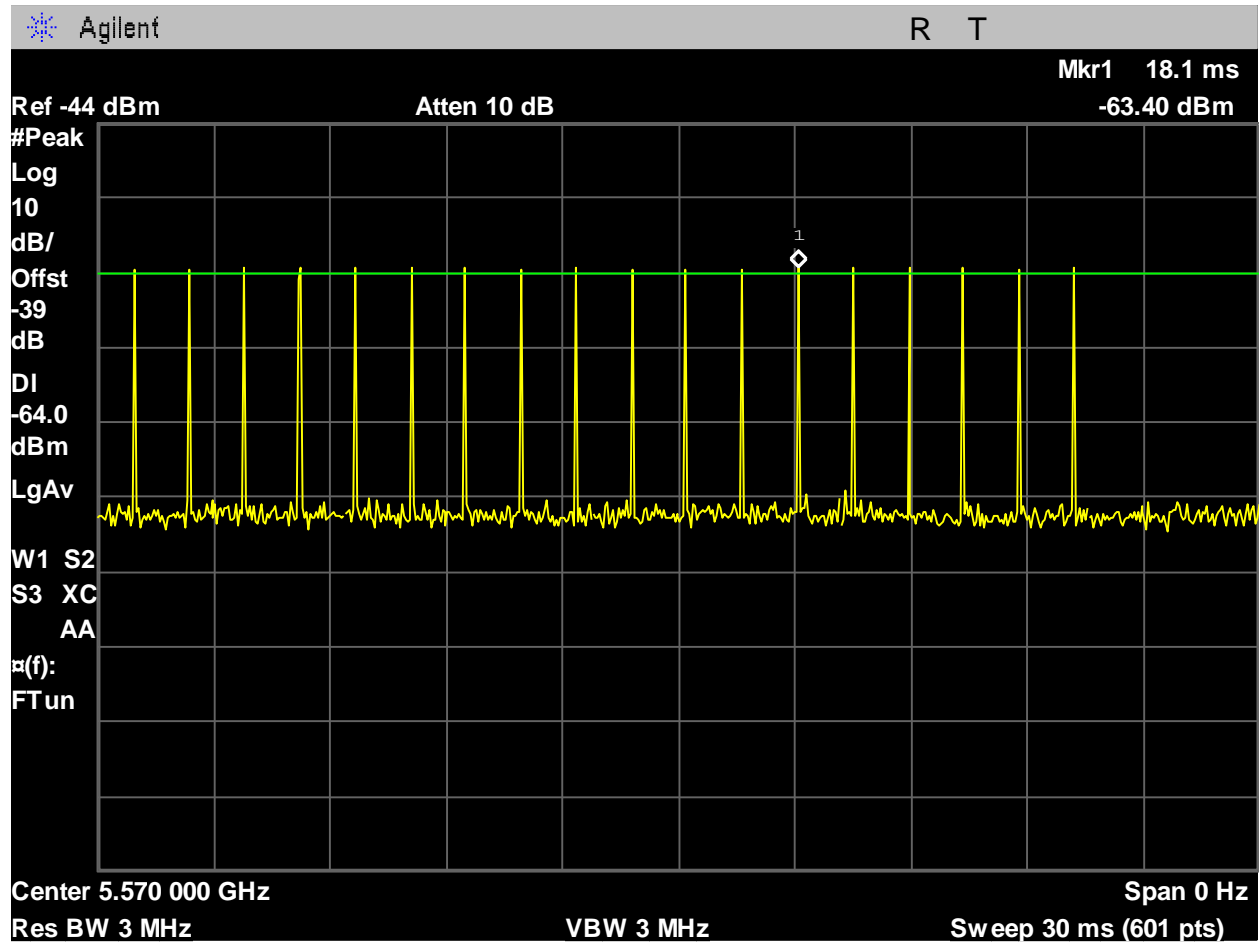


Figure 6. Calibration_Type0_5570MHz.

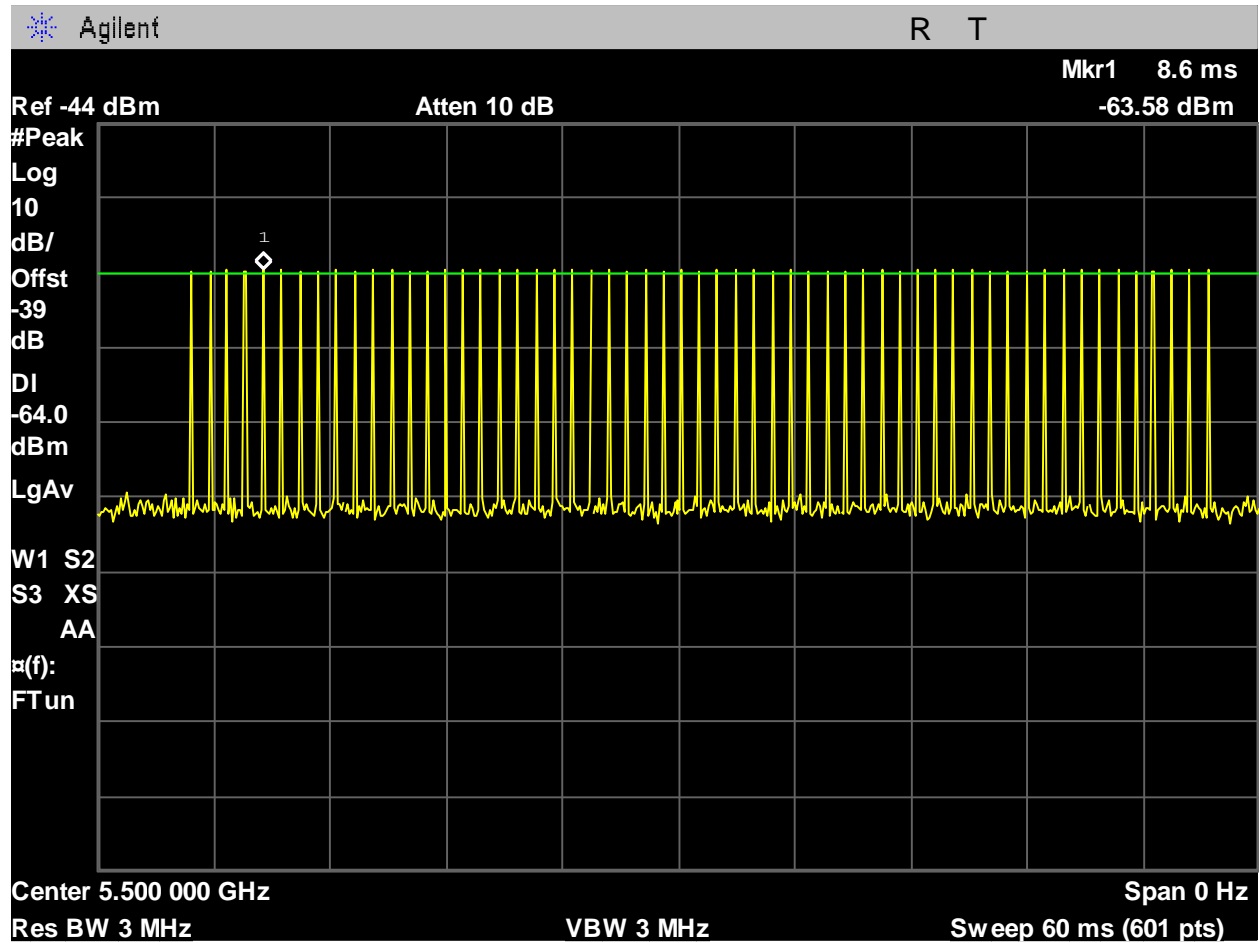


Figure 7. Calibration_Type1_5500MHz.

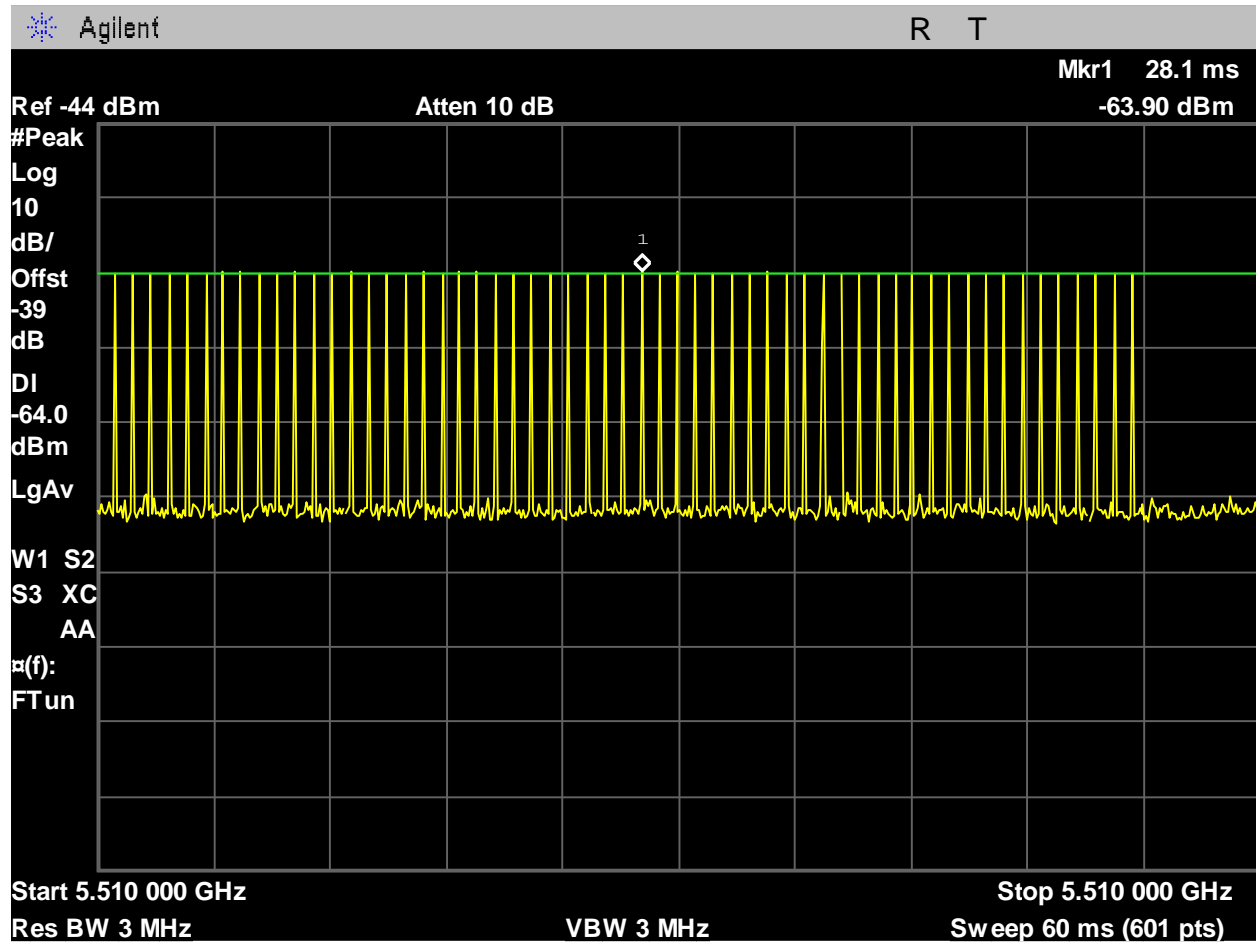


Figure 8. Calibration_Type1_5510MHz.

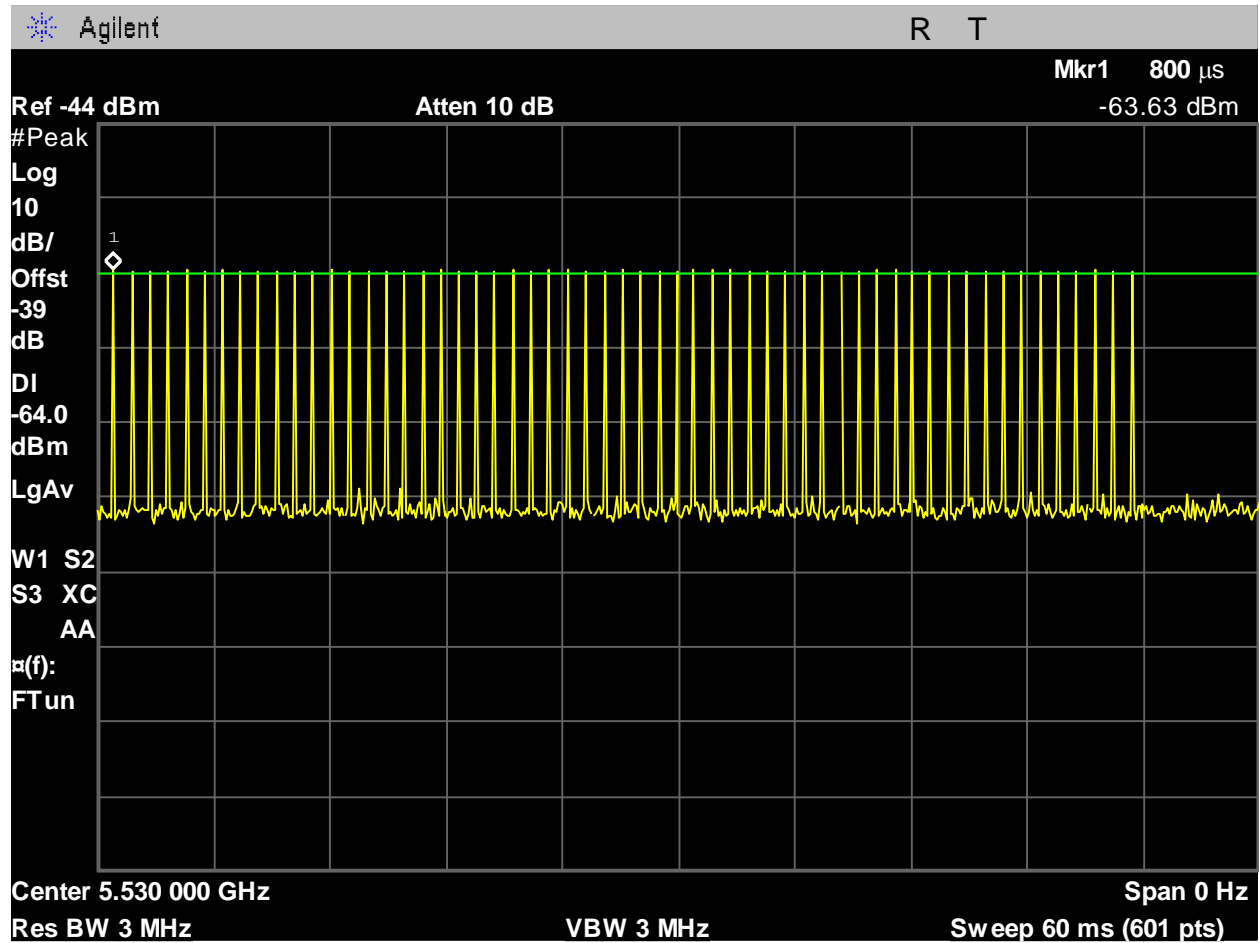


Figure 9. Calibration_Type1_5530MHz.

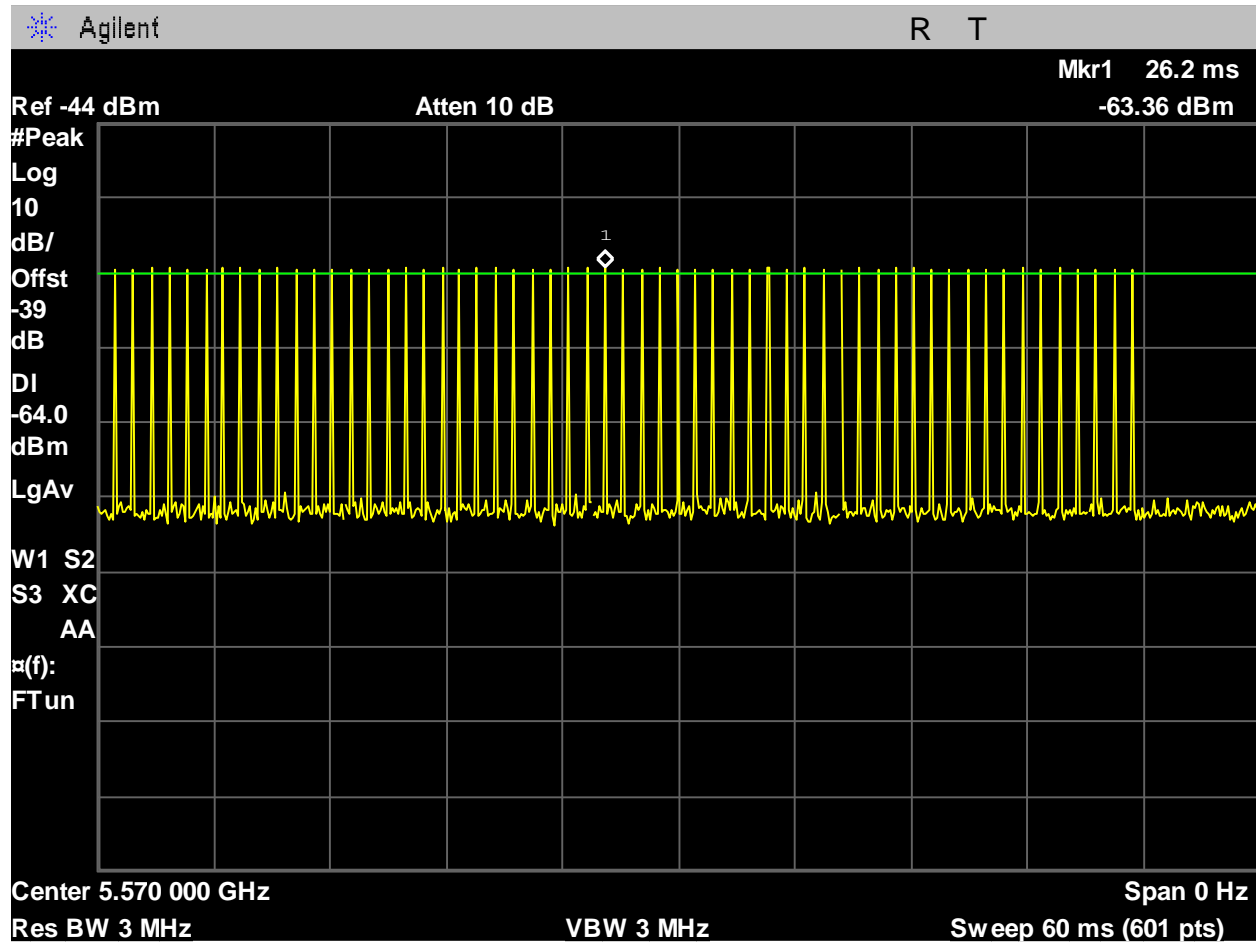


Figure 10. Calibration_Type1_5570MHz.

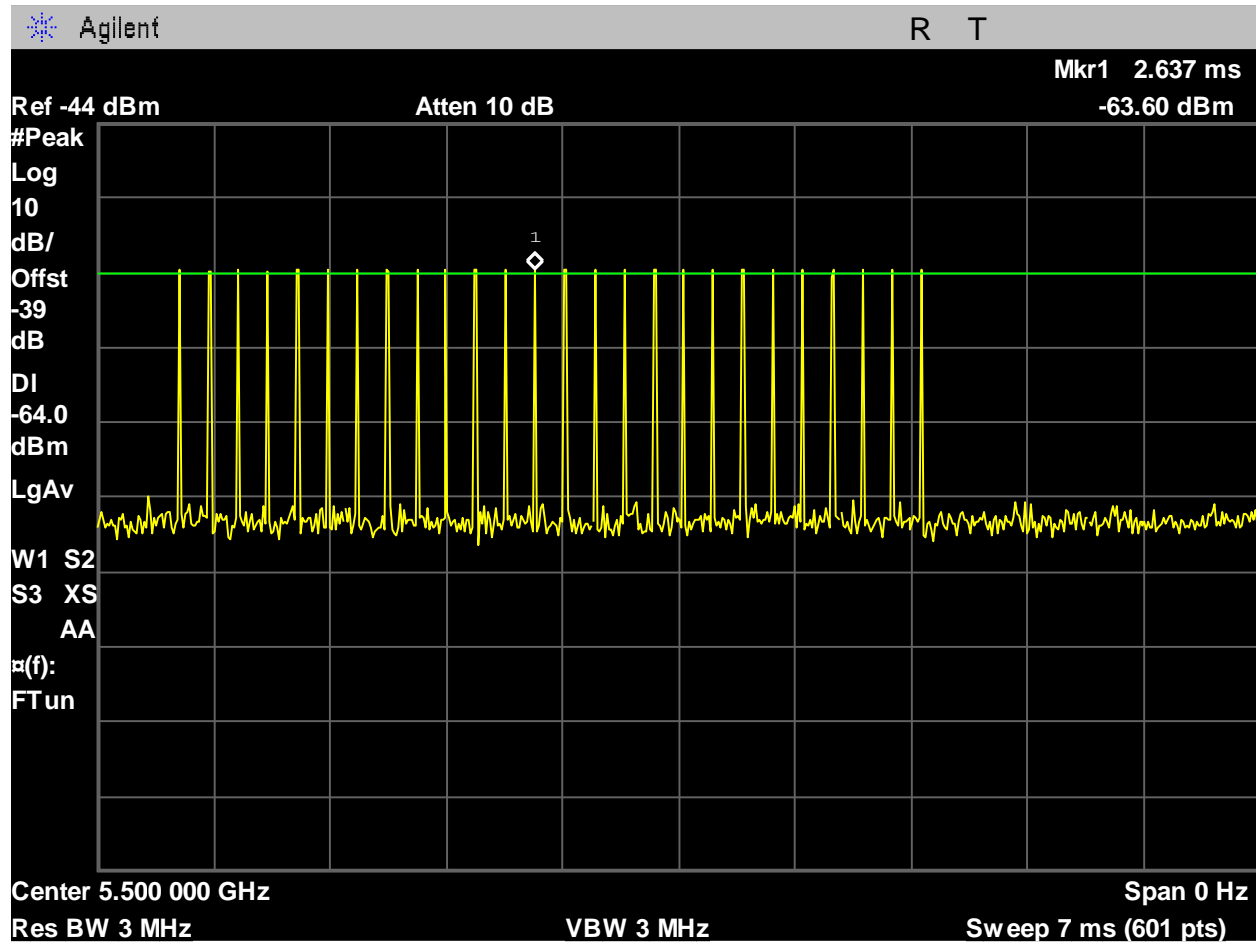


Figure 11. Calibration_Type2_5500MHz.

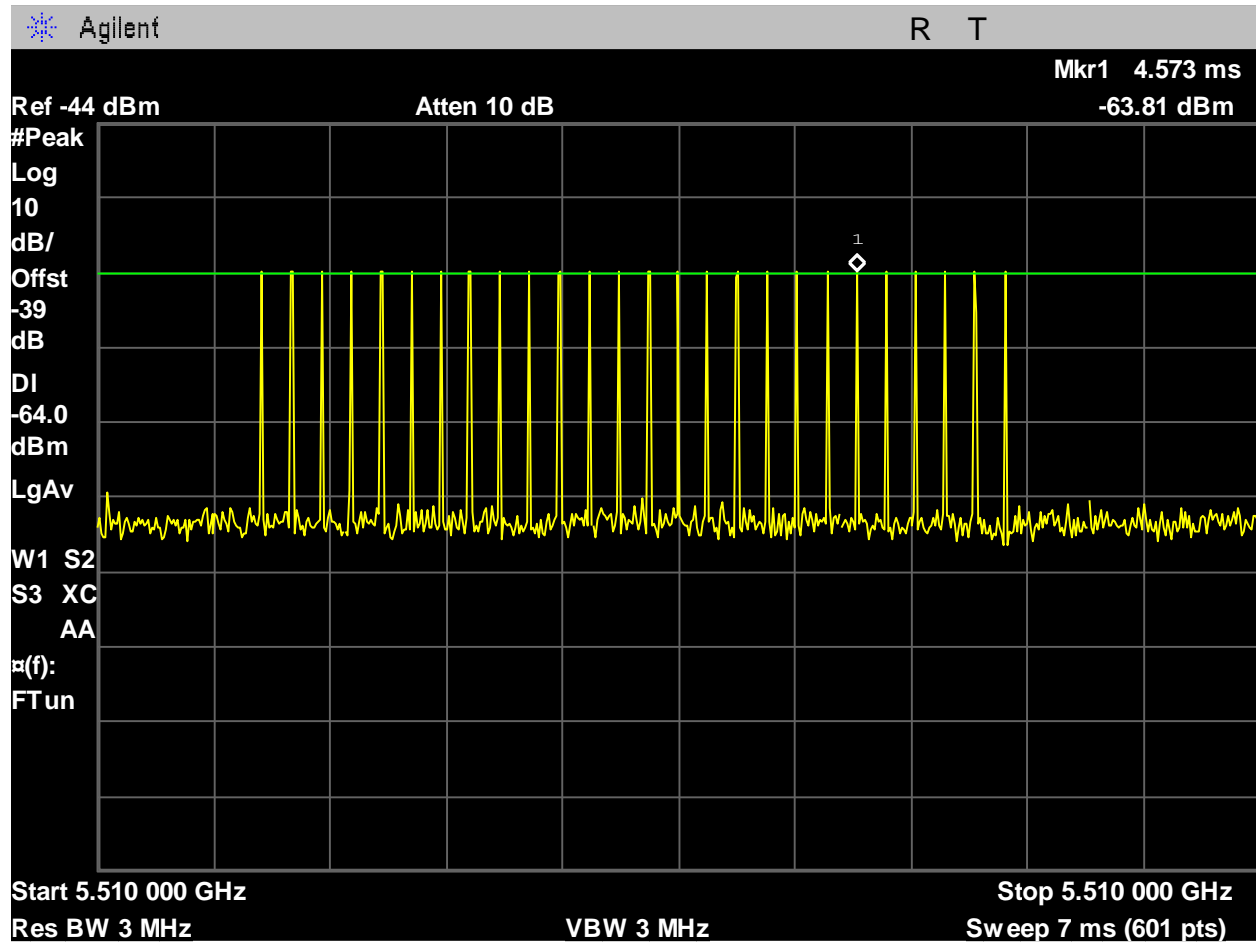


Figure 12. Calibration_Type2_5510MHz.

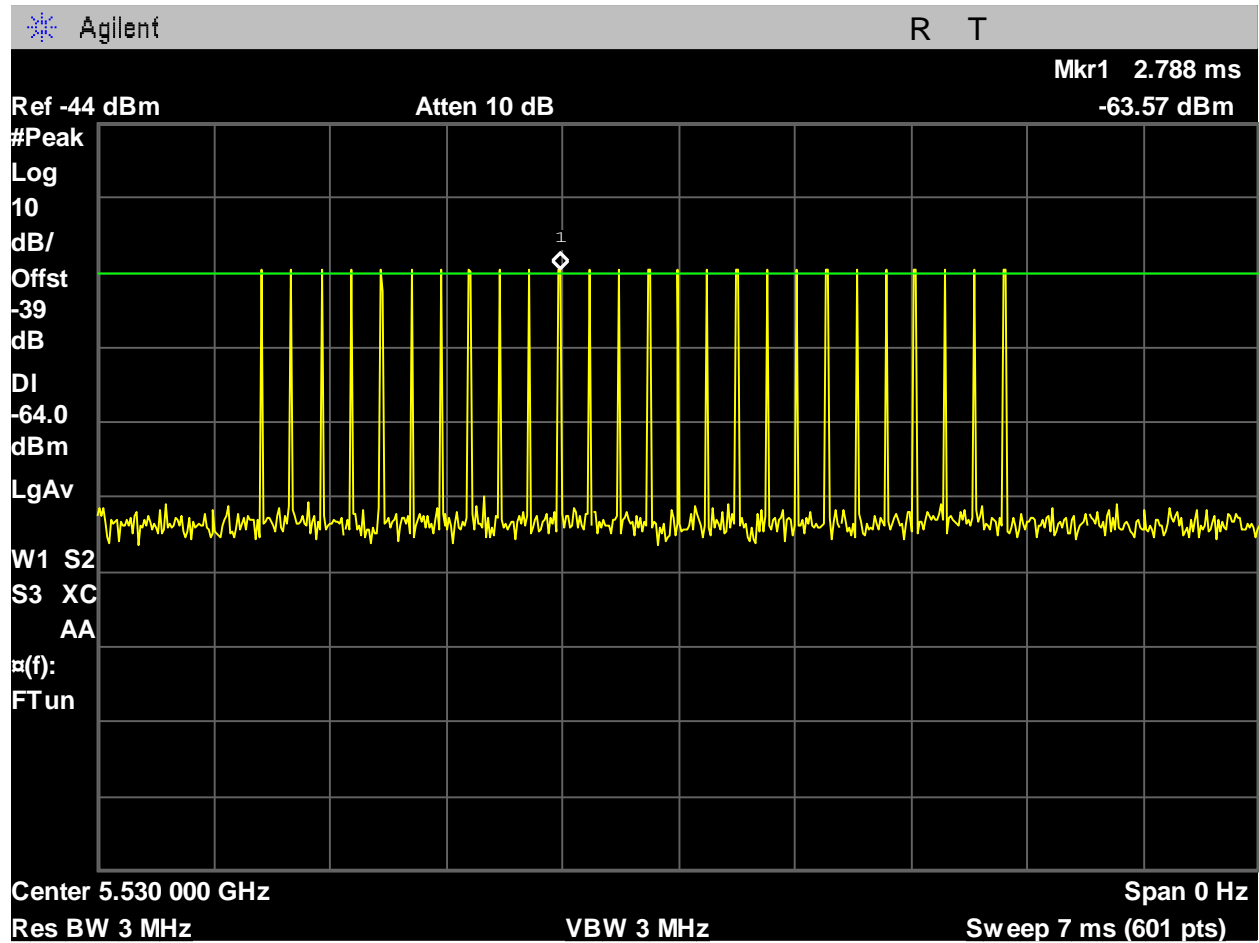


Figure 13. Calibration_Type2_5530MHz.

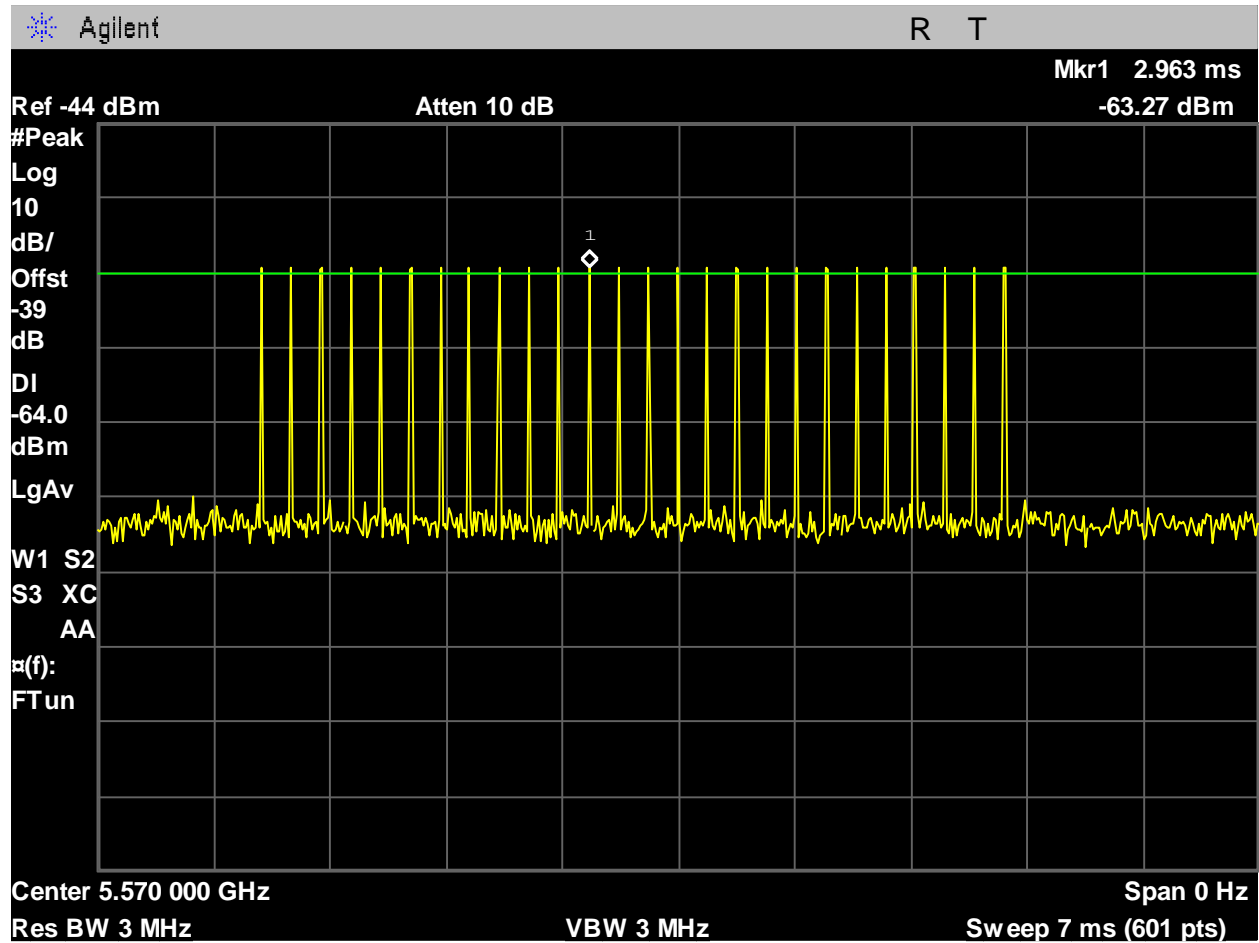


Figure 14. Calibration_Type2_5570MHz.

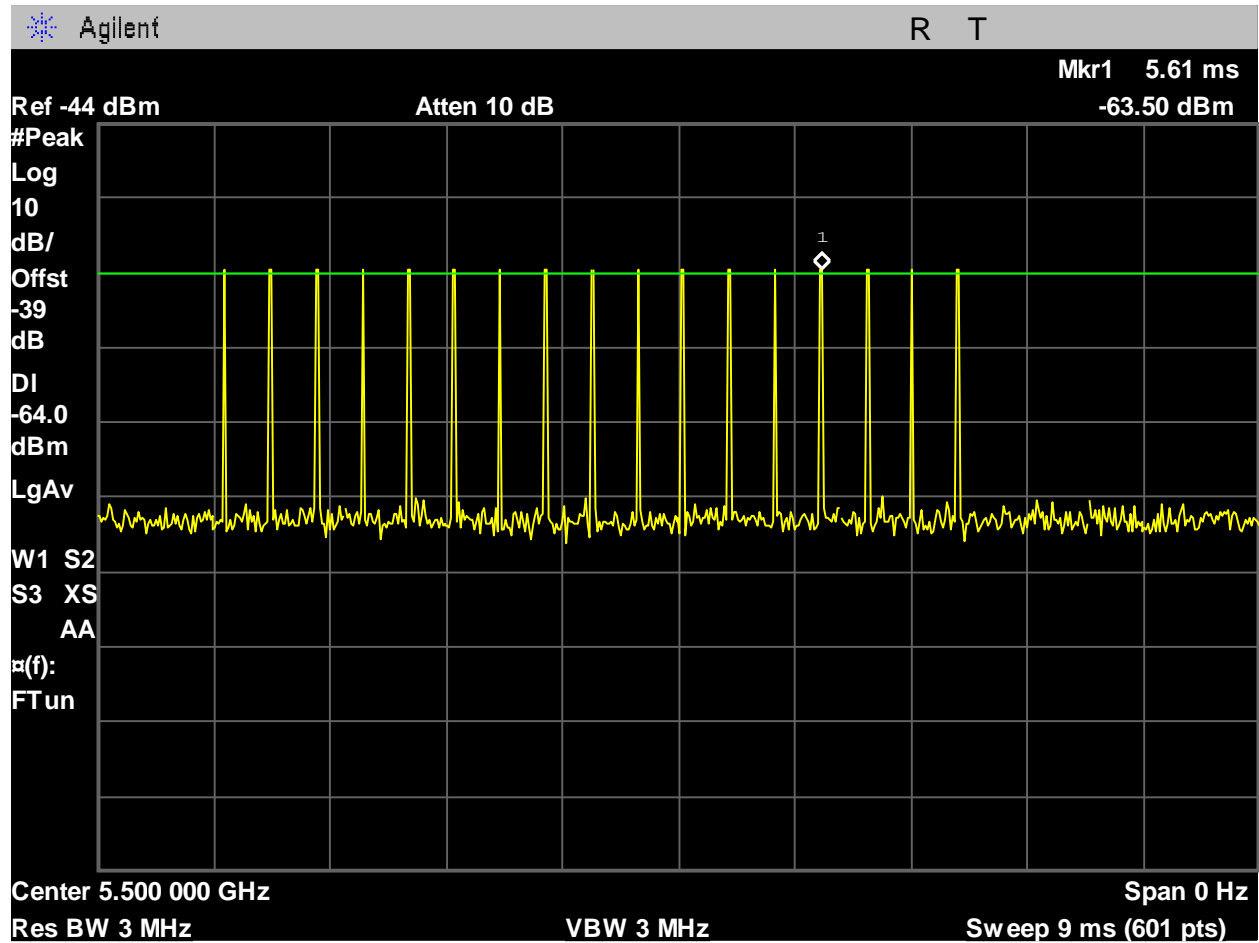


Figure 15. Calibration_Type3_5500MHz.

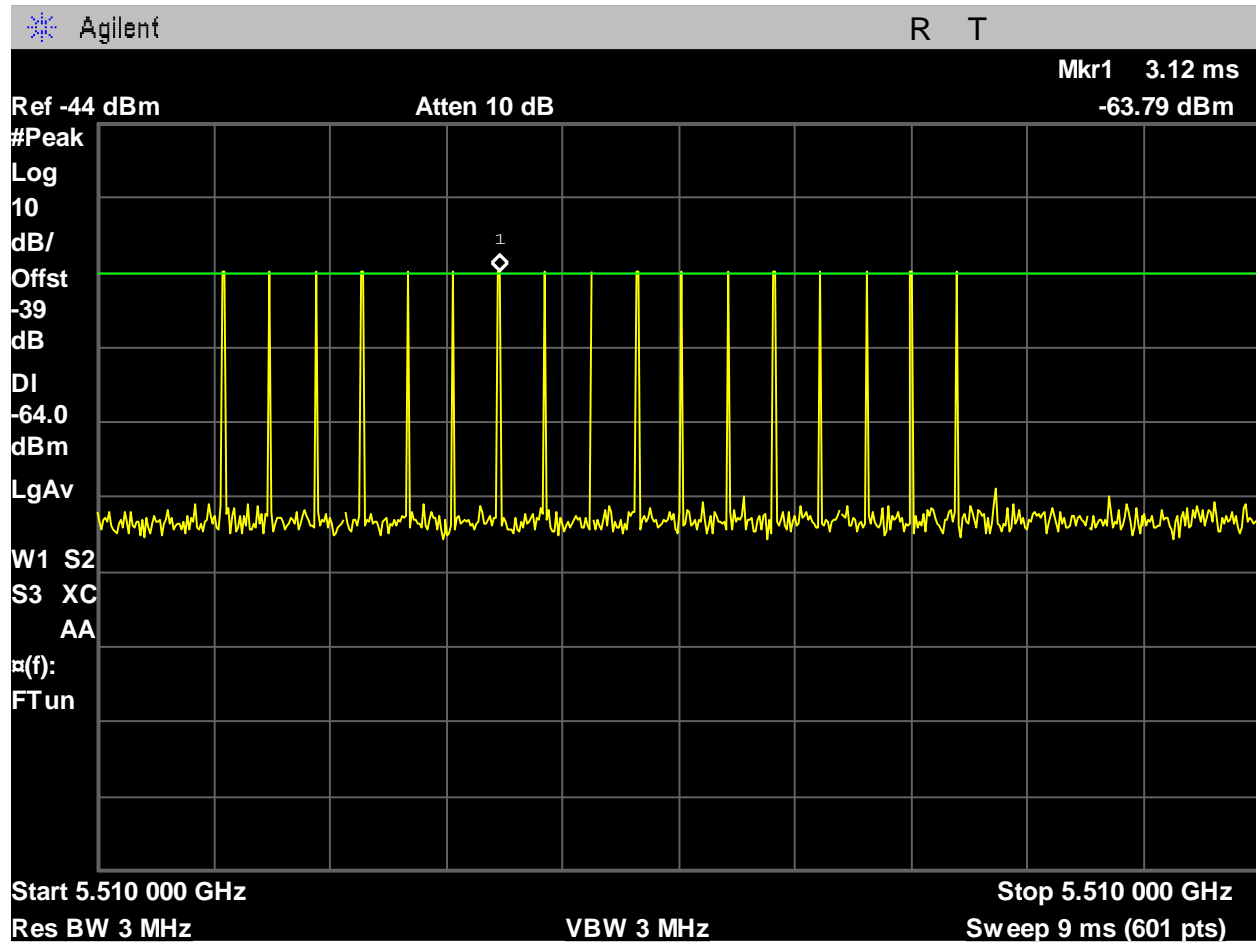


Figure 16. Calibration_Type3_5510MHz.

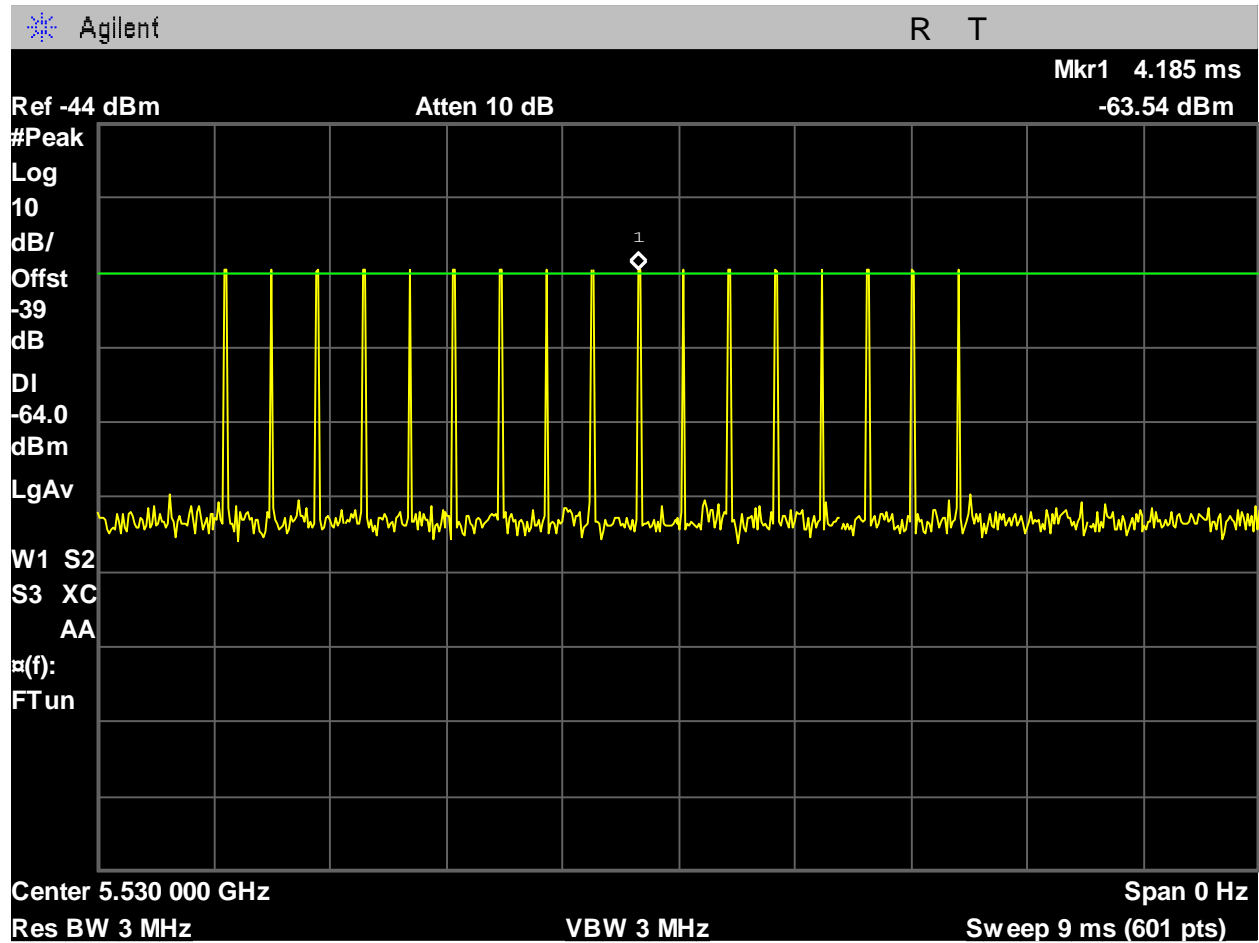


Figure 17. Calibration_Type3_5530MHz.

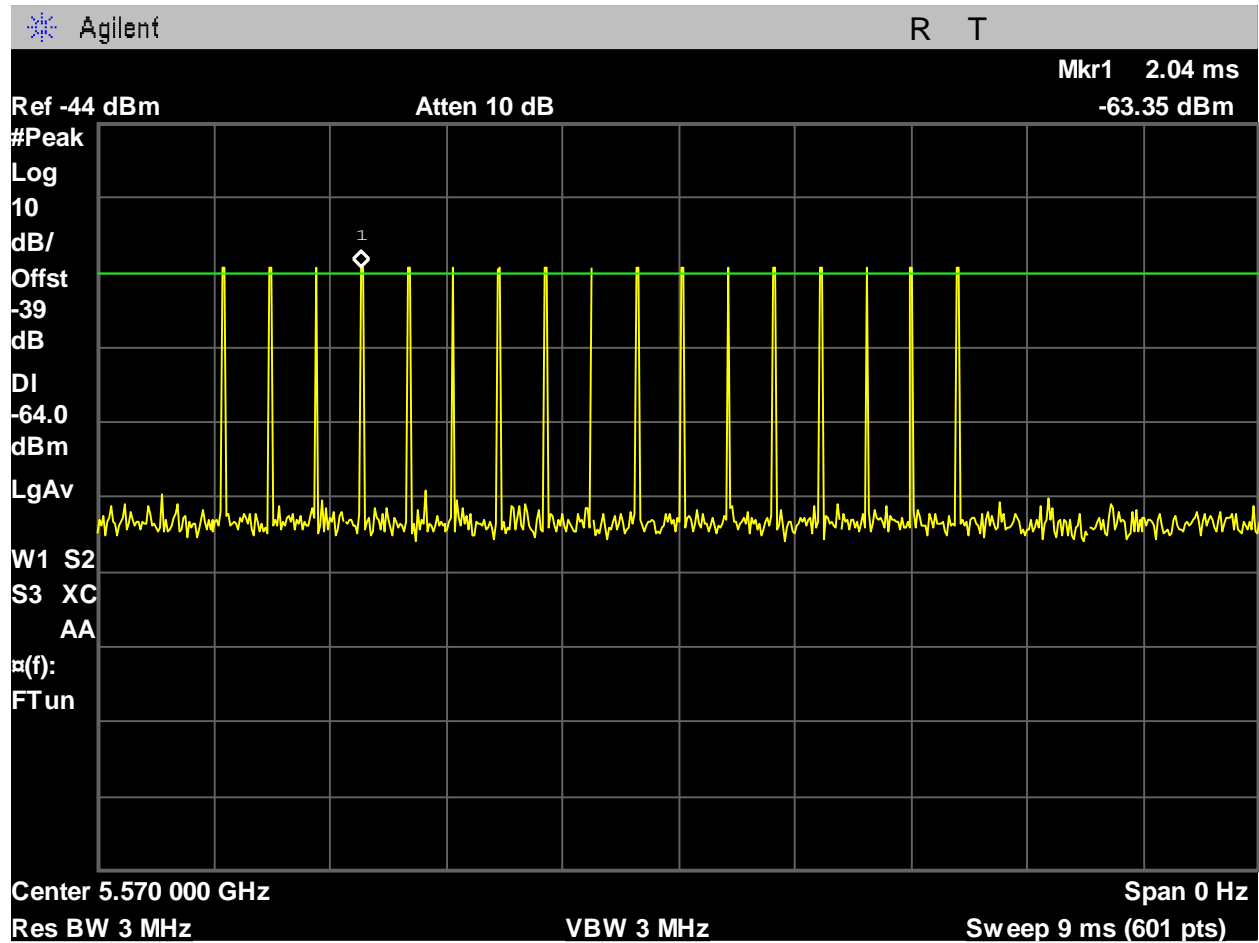


Figure 18. Calibration_Type3_5570MHz.

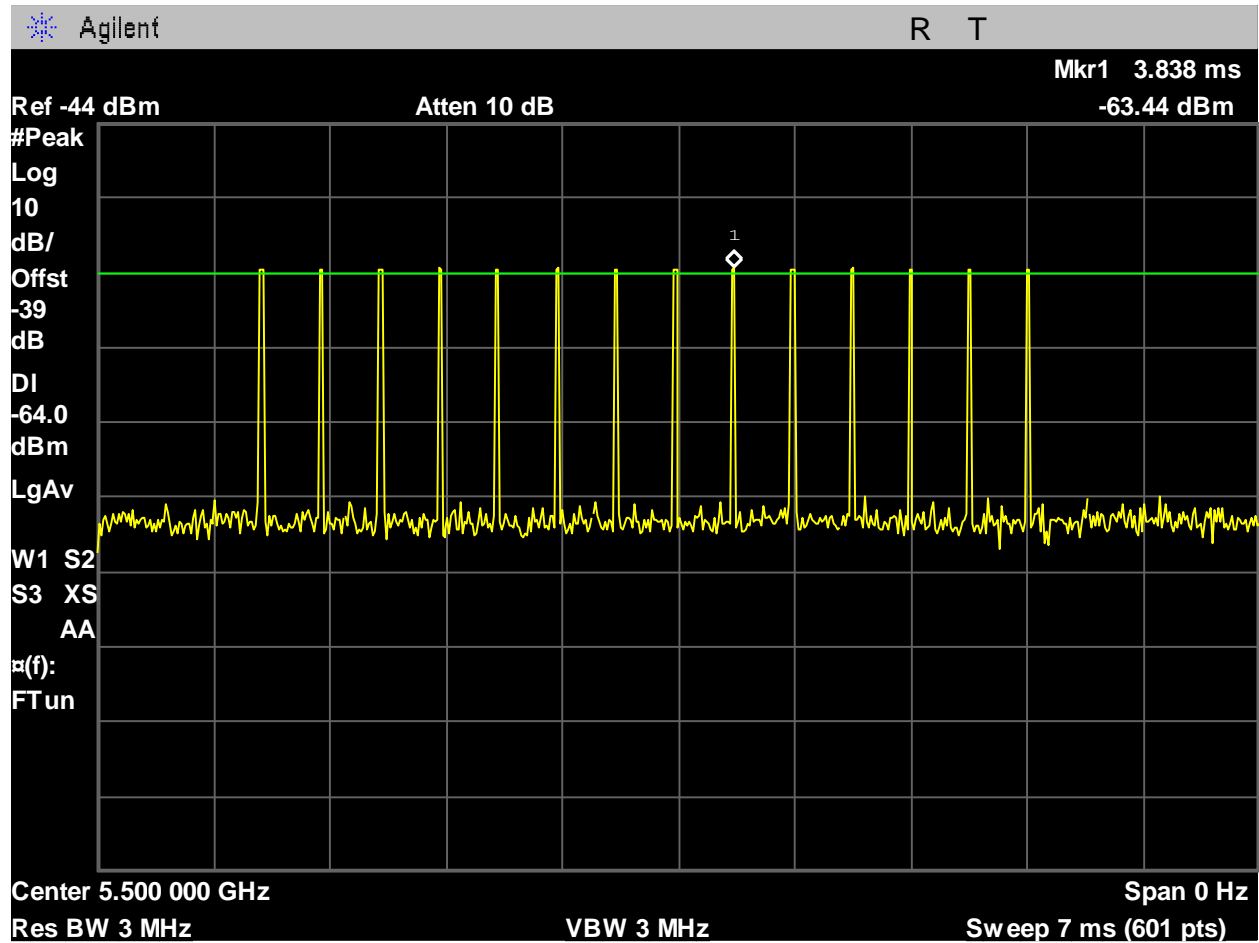


Figure 19. Calibration_Type4_5500MHz.

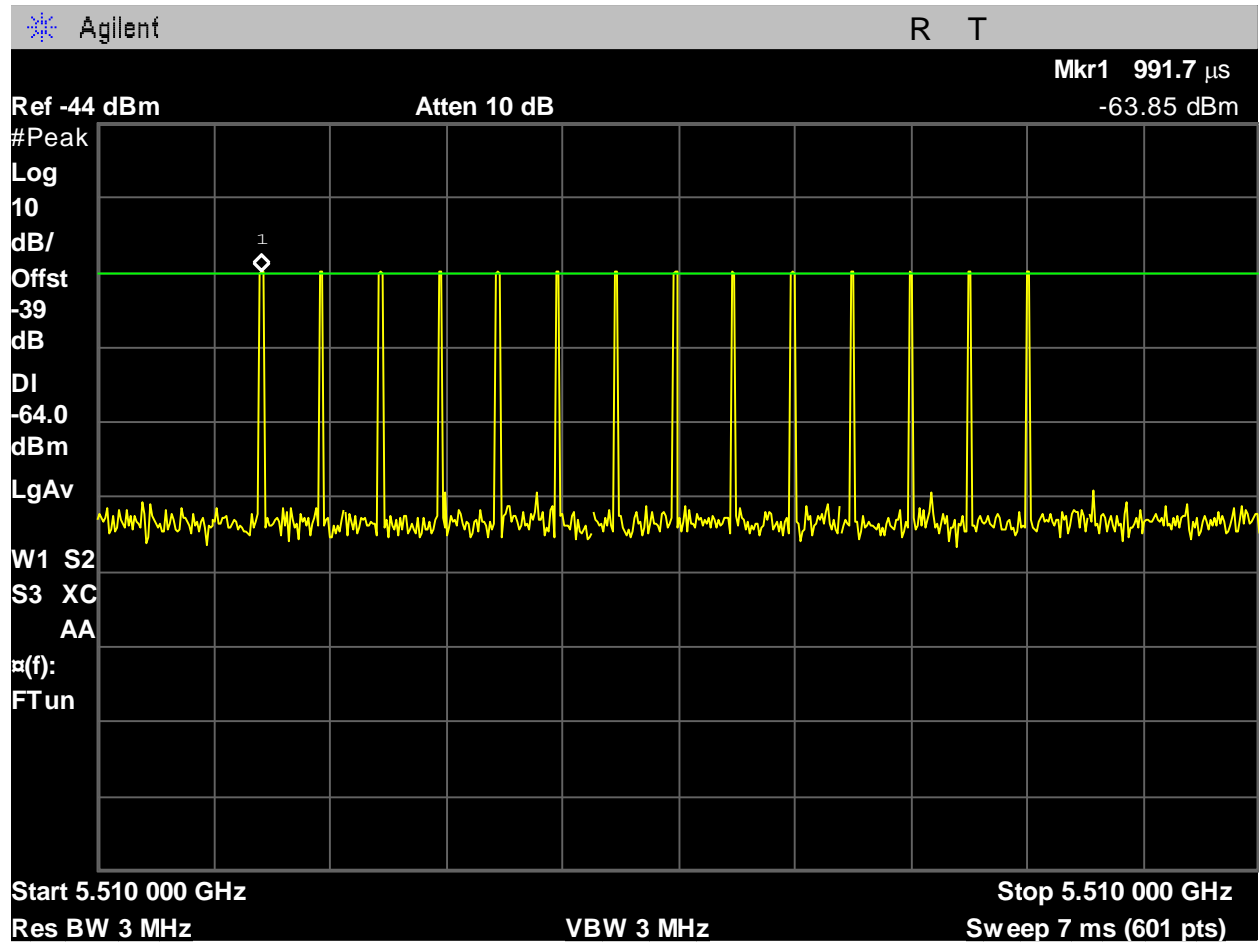


Figure 20. Calibration_Type4_5510MHz.

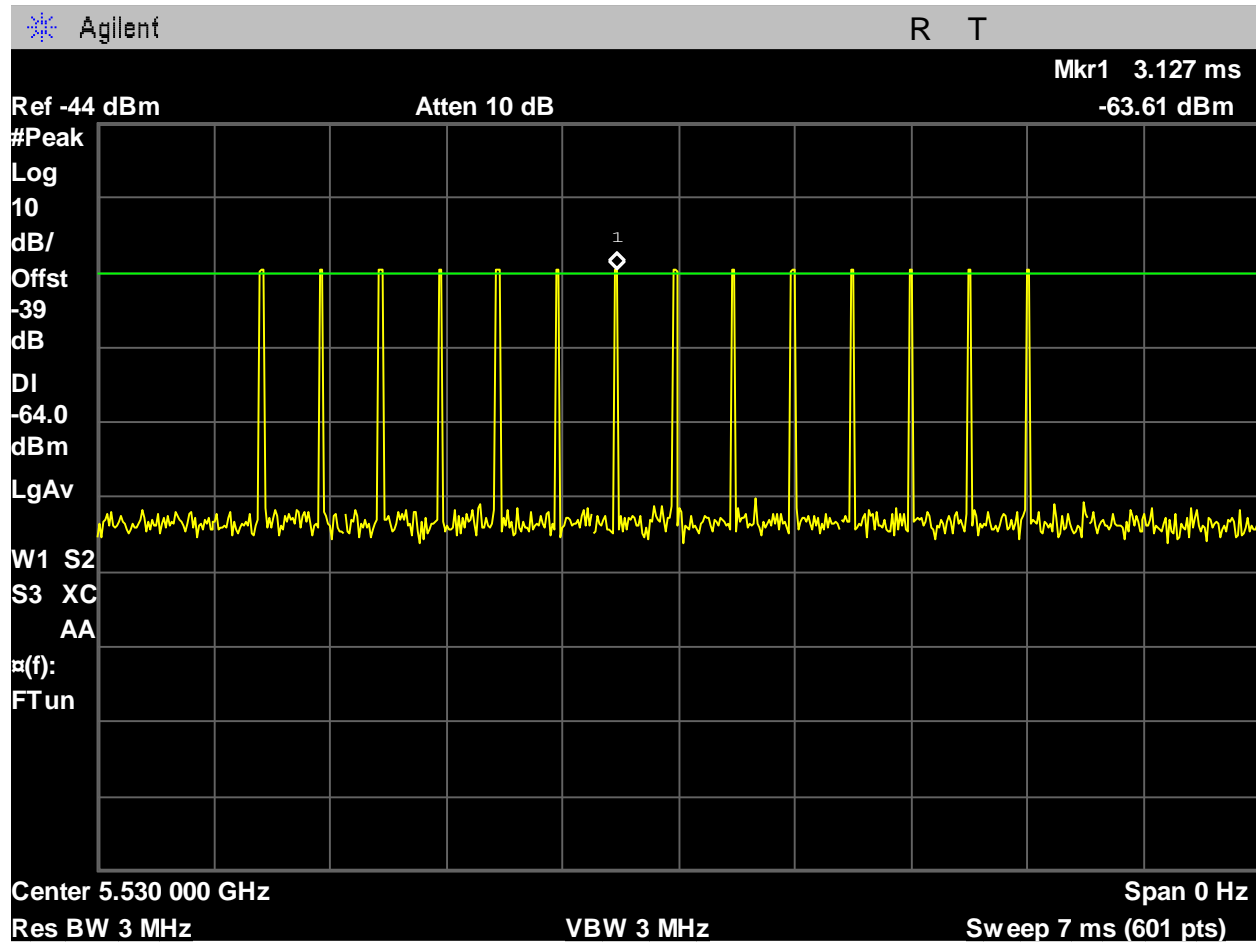


Figure 21. Calibration_Type4_5530MHz.

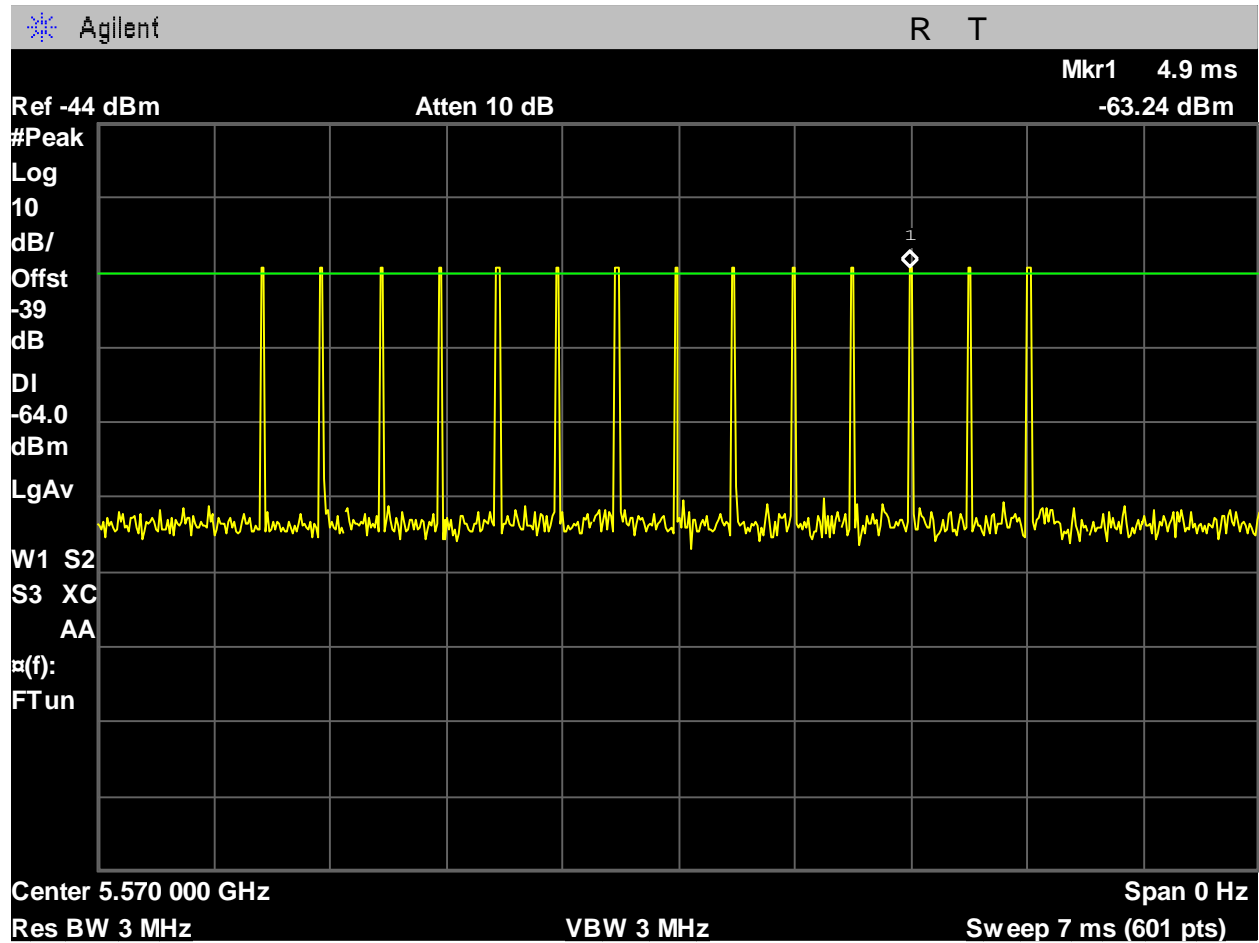


Figure 22. Calibration_Type4_5570MHz.

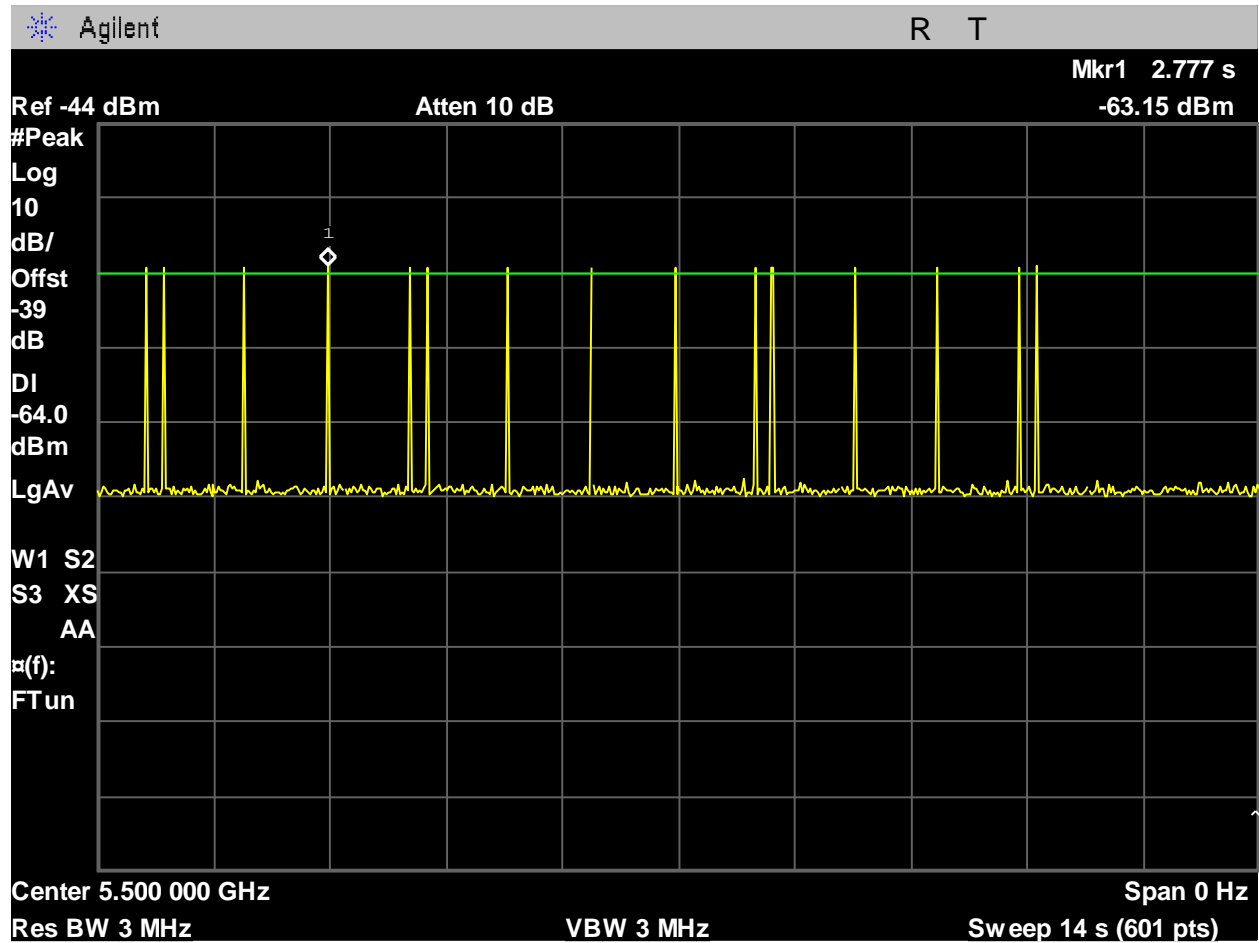


Figure 23. Calibration_Type5_5500MHz.

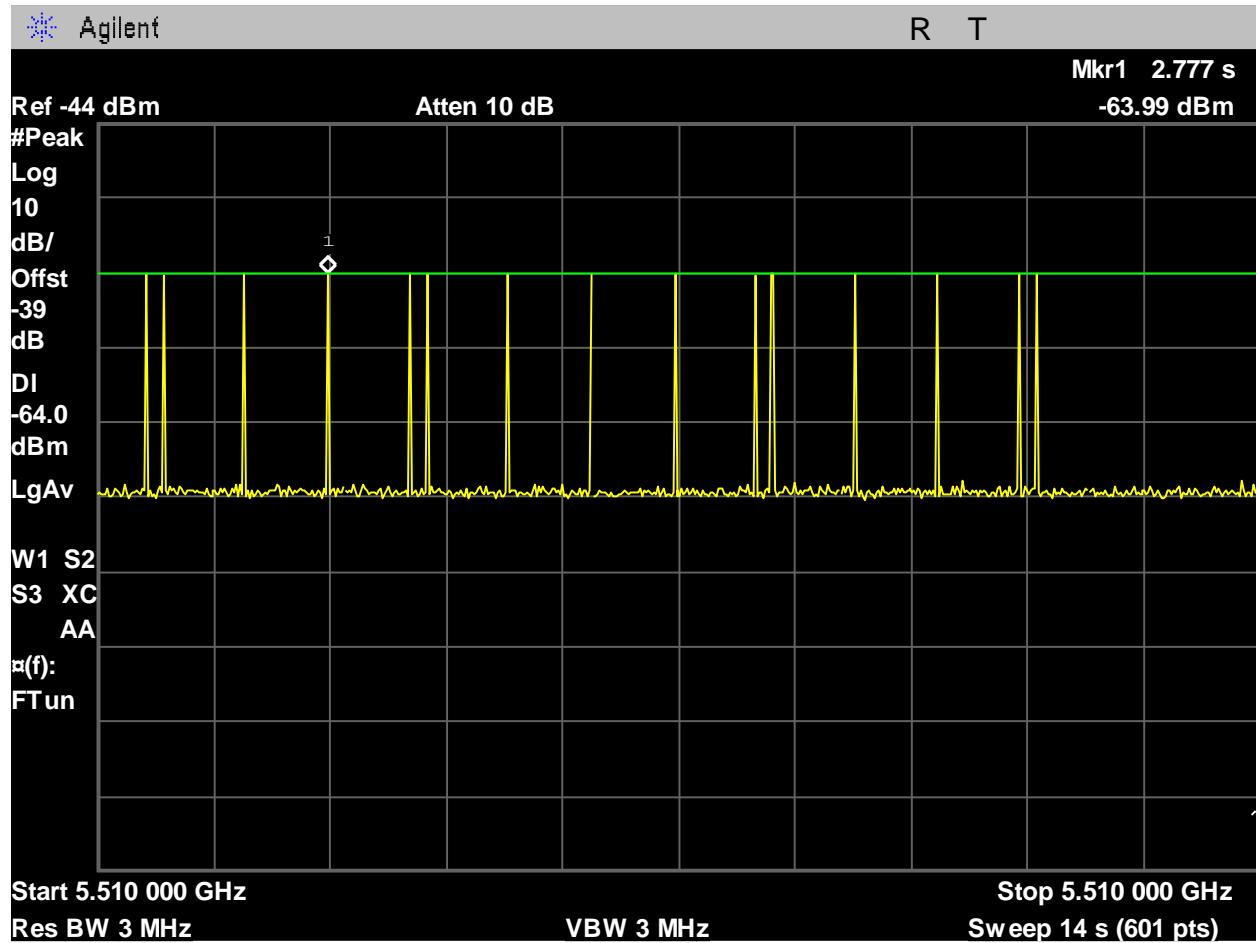


Figure 24. Calibration_Type5_5510MHz.

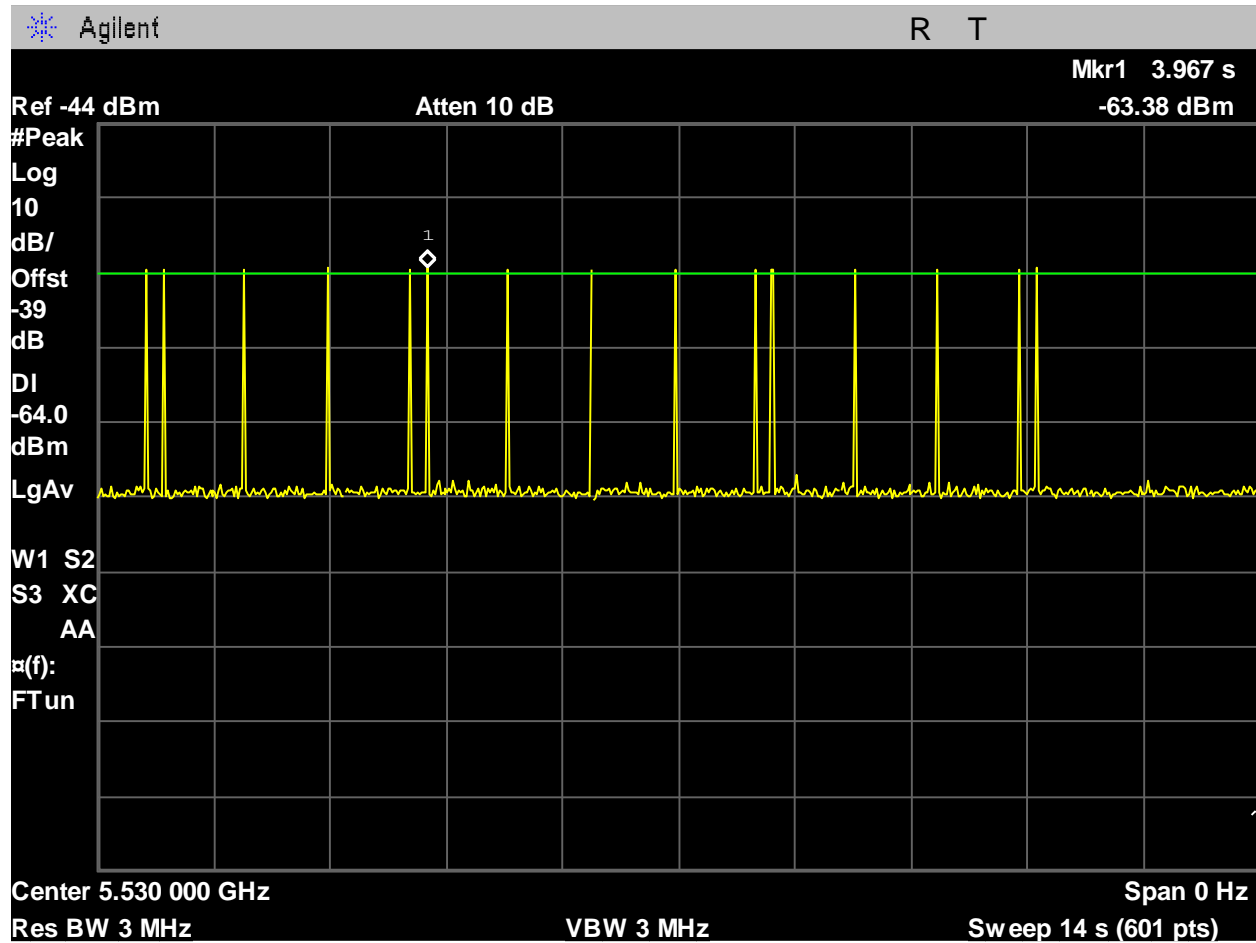


Figure 25. Calibration_Type5_5530MHz.

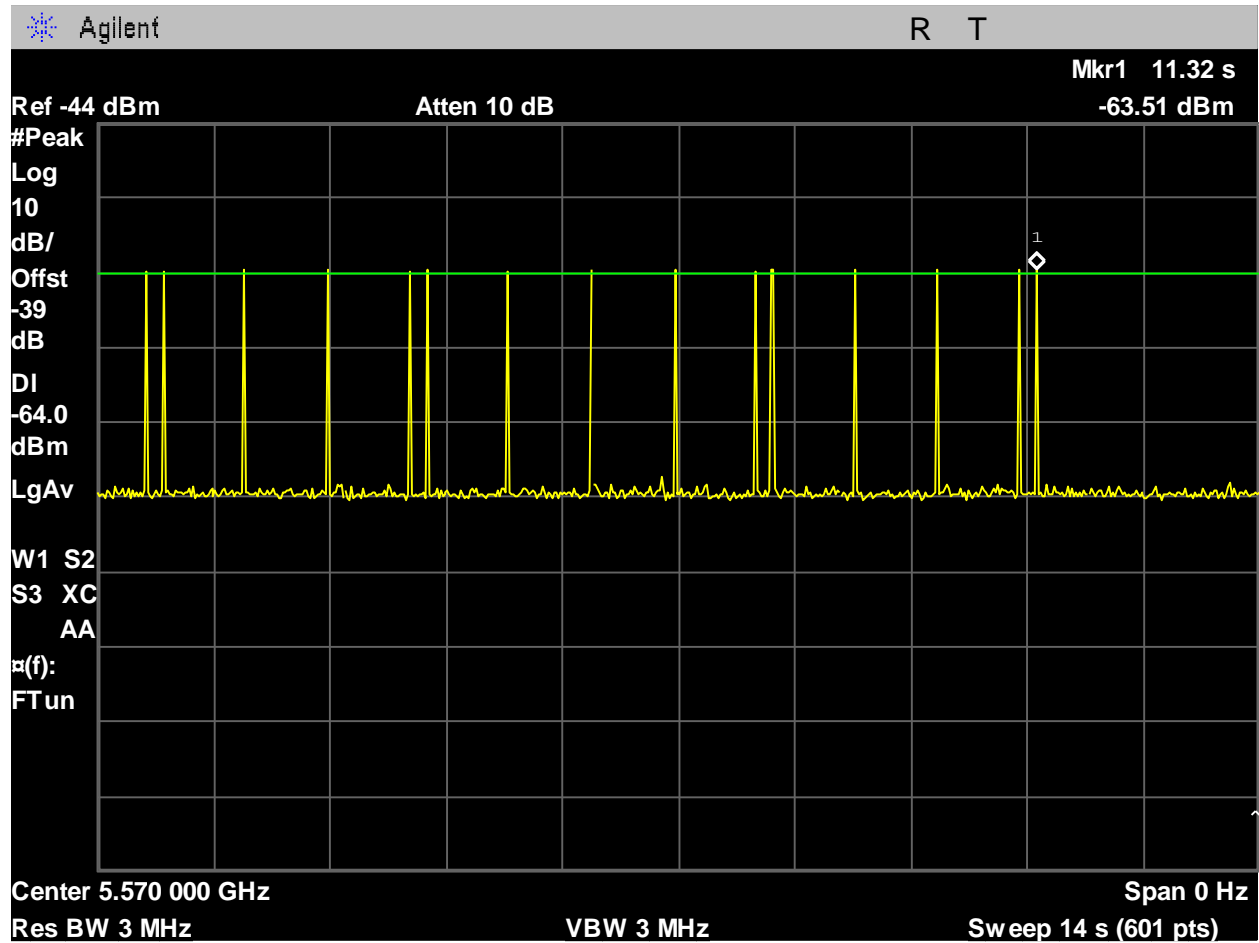


Figure 26. Calibration_Type5_5570MHz.

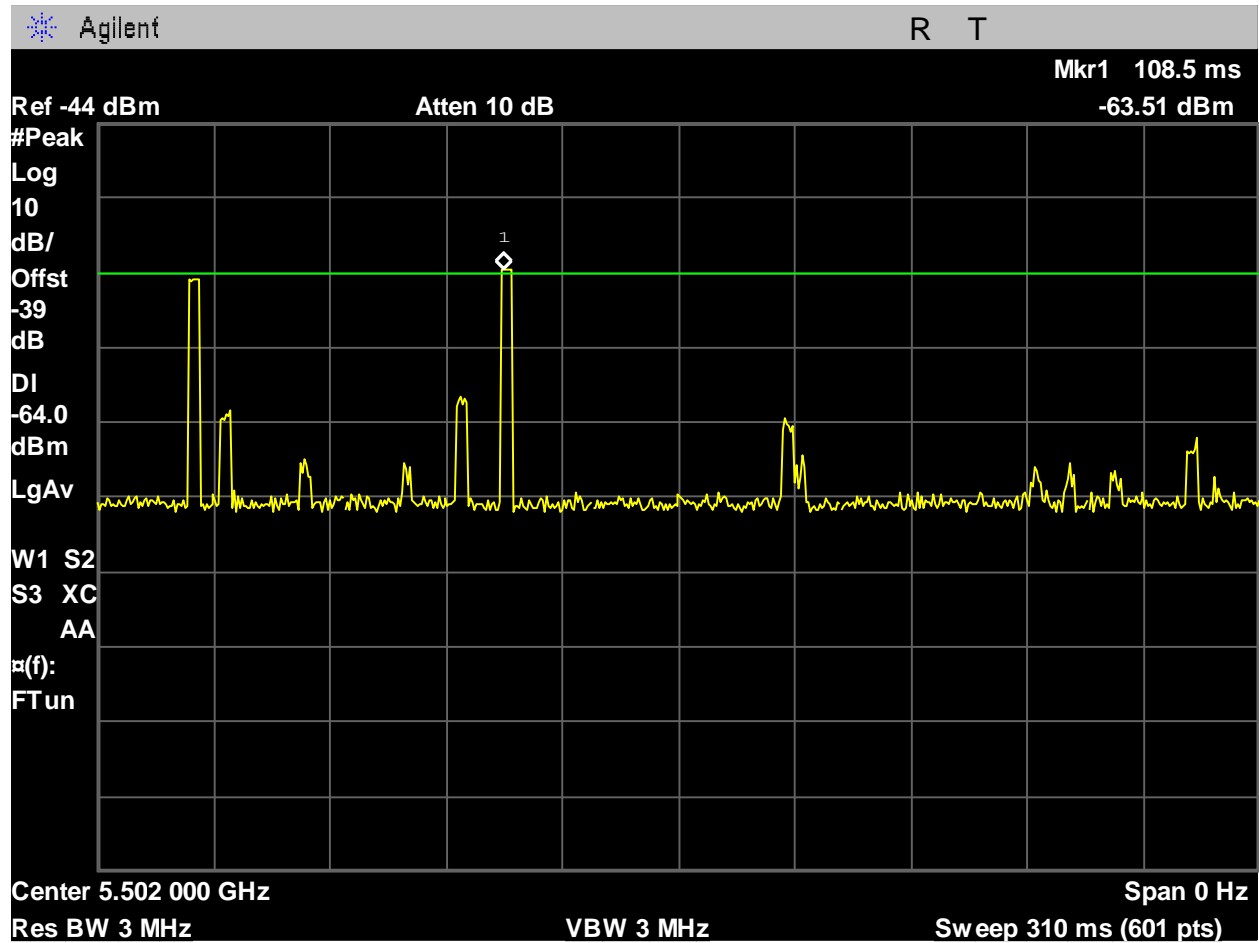


Figure 27. Calibration_Type6_5500MHz.

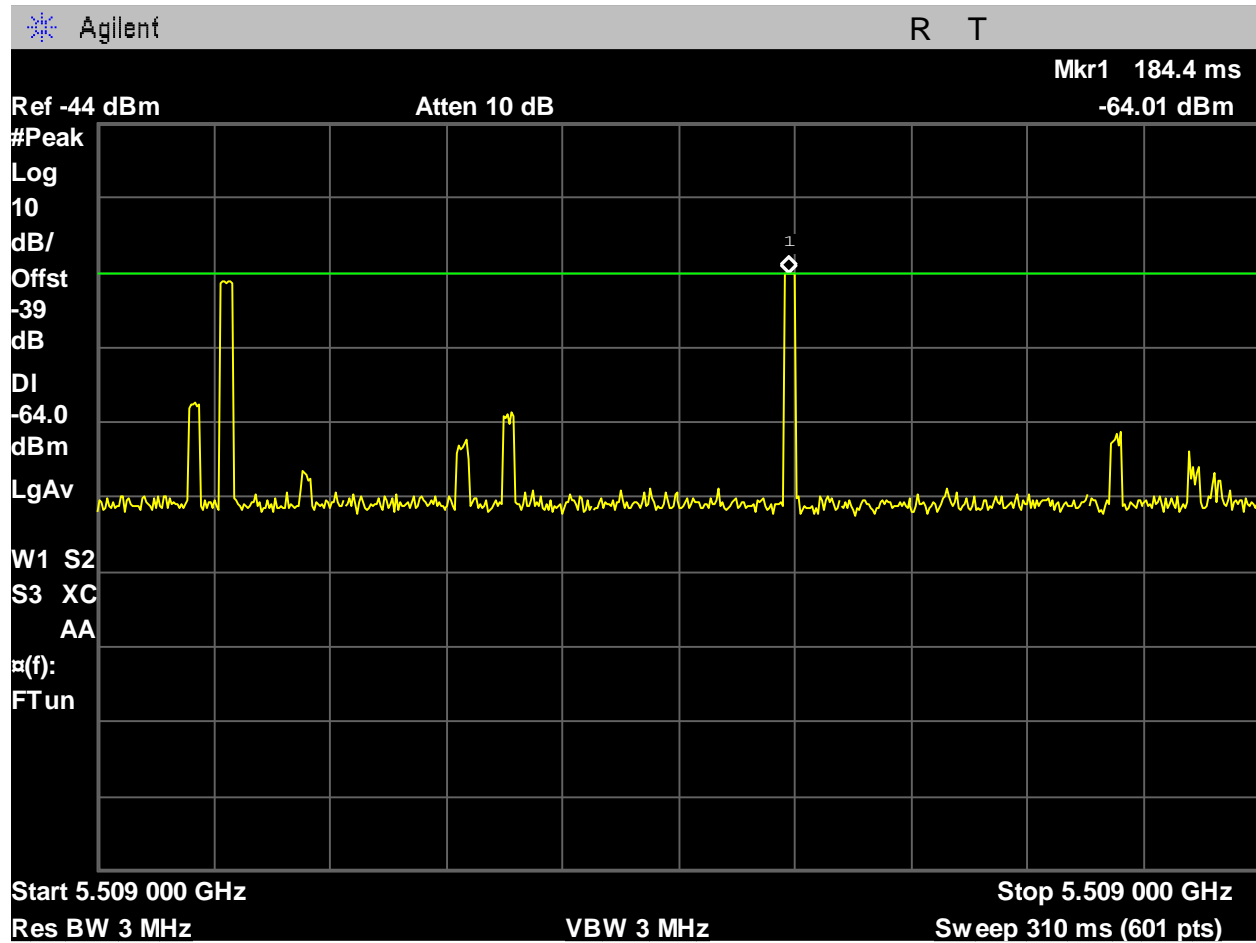


Figure 28. Calibration_Type6_5510MHz.

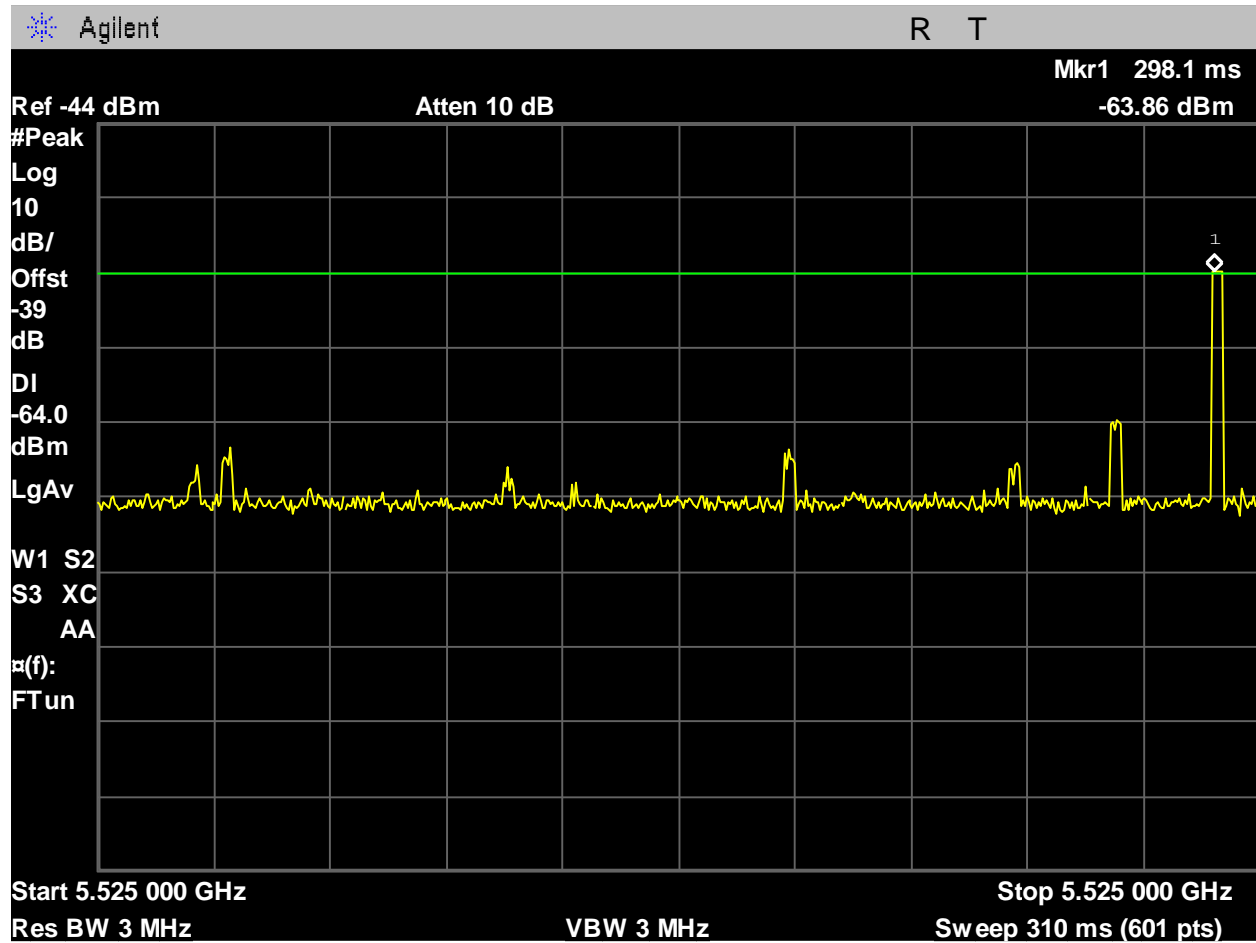


Figure 29. Calibration_Type6_5530MHz.

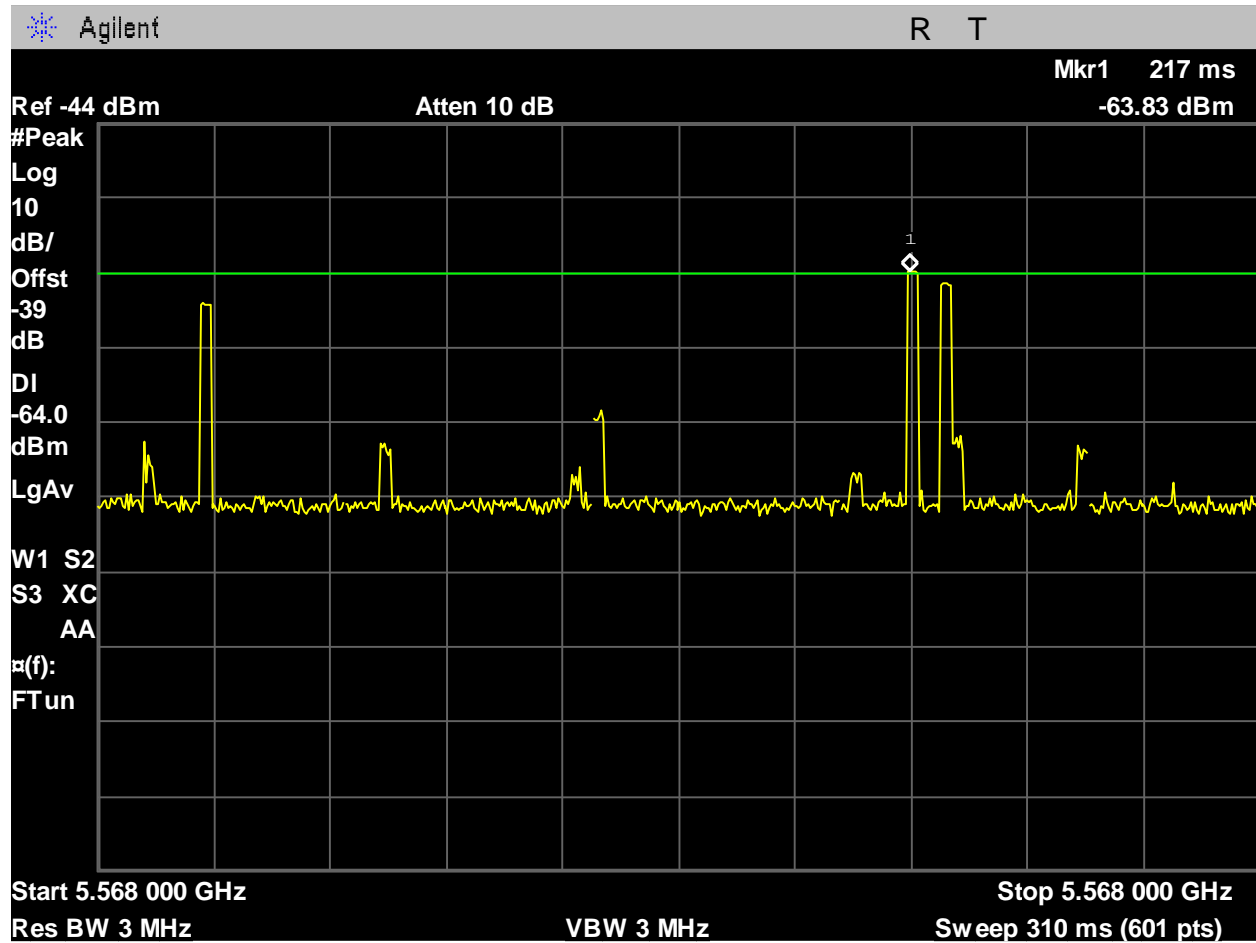


Figure 30. Calibration_Type6_5570MHz.

DFS Test Procedure and Test Results

A. DFS Test Setup

1. A spectrum analyzer is used as a monitor to verify that the Unit Under Test (EUT) has vacated the Channel within the Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and subsequent Channel move. It is also used to monitor EUT transmissions during the Channel Availability Check Time.
2. The test setup, which consists of test equipment and equipment under test (EUT), is diagrammed in Figure 31.

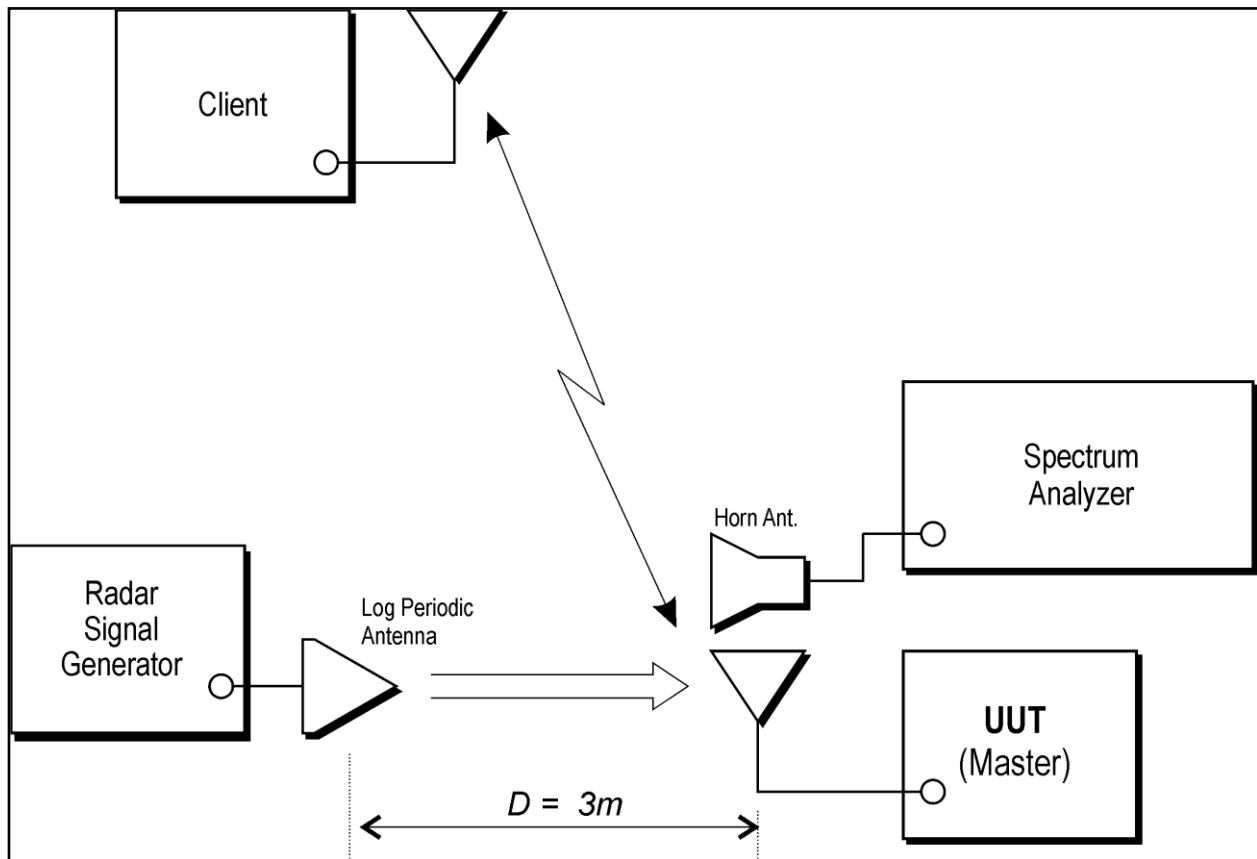


Figure 31. Test Setup Diagram

B. UNII Detection Bandwidth

Test Requirement(s): **KDB 905462 §5.1** All BW modes must be tested.

§5.3 A minimum 100% detection rate is required across a EUT's 99% bandwidth.

Test Procedure: The EUT was set up as a standalone device (no associated Client or Master, as appropriate) and no traffic.

A single radar burst of type 0 and the center frequency was generated and the response of the EUT was noted. This was repeated for a minimum of 10 trials. The minimum percentage of detection was 90%, as per the KDB 905462.

Starting at the center frequency of the EUT operating Channel, the radar frequency was increased in 5 MHz steps, repeating the minimum of 10 trials, until the detection rate fell below the U-NII Detection Bandwidth criterion (90%). The measurement was repeated in 1MHz steps at frequencies 5 MHz below where the detection rate began to fall. The highest frequency (denoted as F_H) at which detection was greater or equal than the U-NII Detection Bandwidth criterion (90%) was recorded.

Starting at the center frequency of the EUT operating Channel, the radar frequency was decreased in 5 MHz steps, repeating the minimum of 10 trials, until the detection rate fell below the U-NII Detection Bandwidth criterion (90%). The measurement was repeated in 1MHz steps at frequencies 5 MHz below where the detection rate began to fall. The lowest frequency (denoted as F_L) at which detection was greater or equal than the U-NII Detection Bandwidth criterion (90%) was recorded.

The U-NII Detection Bandwidth was calculated as follow:

U-NII Detection Bandwidth = FH – FL

Test Results: The EUT was **compliant** with the requirements of this section.

Test Engineer(s): Donald Salguero

Test Date: December 21, 2023

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection (%)	Limit (%)	
	1	2	3	4	5	6	7	8	9	10			
5489	0	0	0	0	0	0	0	0	0	0	0	0	90
5490	1	1	1	1	1	1	1	1	1	1	1	100	90
5495	1	1	1	1	1	1	1	1	1	1	1	100	90
5500	1	1	1	1	1	1	1	1	1	1	1	100	90
5505	1	1	1	1	1	1	1	1	1	1	1	100	90
5510	1	1	1	1	1	1	1	1	1	1	1	100	90
5515	1	1	1	1	1	1	1	1	1	1	1	100	90
5520	1	1	1	1	1	1	1	1	1	1	1	100	90
5525	1	1	1	1	1	1	1	1	1	1	1	100	90
5530	1	1	1	1	1	1	1	1	1	1	1	100	90
5535	1	1	1	1	1	1	1	1	1	1	1	100	90
5540	1	1	1	1	1	1	1	1	1	1	1	100	90
5545	1	1	1	1	1	1	1	1	1	1	1	100	90
5550	1	1	1	1	1	1	1	1	1	1	1	100	90
5555	1	1	1	1	1	1	1	1	1	1	1	100	90
5560	1	1	1	1	1	1	1	1	1	1	1	100	90
5565	1	1	1	1	1	1	1	1	1	1	1	100	90
5570	1	1	1	1	1	1	1	1	1	1	1	100	90
5575	1	1	1	1	1	1	1	1	1	1	1	100	90
5580	1	1	1	1	1	1	1	1	1	1	1	100	90
5585	1	1	1	1	1	1	1	1	1	1	1	100	90
5590	1	1	1	1	1	1	1	1	1	1	1	100	90
5595	1	1	1	1	1	1	1	1	1	1	1	100	90
5600	1	1	1	1	1	1	1	1	1	1	1	100	90
5605	1	1	1	1	1	1	1	1	1	1	1	100	90
5610	1	1	1	1	1	1	1	1	1	1	1	100	90
5615	1	1	1	1	1	1	1	1	1	1	1	100	90
5620	1	1	1	1	1	1	1	1	1	1	1	100	90
5625	1	1	1	1	1	1	1	1	1	1	1	100	90
5630	1	1	1	1	1	1	1	1	1	1	1	100	90
5635	1	1	1	1	1	1	1	1	1	1	1	100	90
5640	1	1	1	1	1	1	1	1	1	1	1	100	90
5645	1	1	1	1	1	1	1	1	1	1	1	100	90
5650	1	1	1	1	1	1	1	1	1	1	1	100	90
5651	0	0	0	0	0	0	0	0	0	0	0	0	90
Detection Bandwidth = Fh - Fl = 5650 - 5490 = 160 MHz													
EUT 99% BW = 155.2309 MHz													
FCC Radar Type 0 Used													

Table 14. DFS Bandwidth, 160MHz Channel Data

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection (%)	Limit (%)	
	1	2	3	4	5	6	7	8	9	10			
5489	0	0	0	0	0	0	0	0	0	0	0	0	90
5490	1	1	1	1	1	1	1	1	1	1	1	100	90
5495	1	1	1	1	1	1	1	1	1	1	1	100	90
5500	1	1	1	1	1	1	1	1	1	1	1	100	90
5505	1	1	1	1	1	1	1	1	1	1	1	100	90
5510	1	1	1	1	1	1	1	1	1	1	1	100	90
5511	0	0	0	0	0	0	0	0	0	0	0	0	90
Detection Bandwidth = Fh - Fl = 5510 - 5490 = 20 MHz													
EUT 99% BW = 16.5835 MHz													
FCC Radar Type 0 Used													

Table 15. DFS Bandwidth, 20MHz Channel Data

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection (%)	Limit (%)
	1	2	3	4	5	6	7	8	9	10		
5489	0	0	0	0	0	0	0	0	0	0	0	90
5490	1	1	1	1	1	1	1	1	1	1	1	90
5495	1	1	1	1	1	1	1	1	1	1	1	90
5500	1	1	1	1	1	1	1	1	1	1	1	90
5505	1	1	1	1	1	1	1	1	1	1	1	90
5510	1	1	1	1	1	1	1	1	1	1	1	90
5515	1	1	1	1	1	1	1	1	1	1	1	90
5520	1	1	1	1	1	1	1	1	1	1	1	90
5525	1	1	1	1	1	1	1	1	1	1	1	90
5530	1	1	1	1	1	1	1	1	1	1	1	90
5531	0	0	0	0	0	0	0	0	0	0	0	90
Detection Bandwidth = Fh - Fl = 5530 - 5490 = 40 MHz												
EUT 99% BW = 37.9411 MHz												
FCC Radar Type 0 Used												

Table 16. DFS Bandwidth, 40MHz Channel Data

Radar Frequency (MHz)	DFS Detection Trials (1=Detection, 0= No Detection)										Detection (%)	Limit (%)
	1	2	3	4	5	6	7	8	9	10		
5489	0	0	0	0	0	0	0	0	0	0	0	90
5490	1	1	1	1	1	1	1	1	1	1	1	90
5495	1	1	1	1	1	1	1	1	1	1	1	90
5500	1	1	1	1	1	1	1	1	1	1	1	90
5505	1	1	1	1	1	1	1	1	1	1	1	90
5510	1	1	1	1	1	1	1	1	1	1	1	90
5515	1	1	1	1	1	1	1	1	1	1	1	90
5520	1	1	1	1	1	1	1	1	1	1	1	90
5525	1	1	1	1	1	1	1	1	1	1	1	90
5530	1	1	1	1	1	1	1	1	1	1	1	90
5535	1	1	1	1	1	1	1	1	1	1	1	90
5540	1	1	1	1	1	1	1	1	1	1	1	90
5545	1	1	1	1	1	1	1	1	1	1	1	90
5550	1	1	1	1	1	1	1	1	1	1	1	90
5555	1	1	1	1	1	1	1	1	1	1	1	90
5560	1	1	1	1	1	1	1	1	1	1	1	90
5565	1	1	1	1	1	1	1	1	1	1	1	90
5570	1	1	1	1	1	1	1	1	1	1	1	90
5571	0	0	0	0	0	0	0	0	0	0	0	90
Detection Bandwidth = Fh - Fl = 5570 - 5490 = 80 MHz												
EUT 99% BW = 76.8562 MHz												
FCC Radar Type 0 Used												

Table 17. DFS Bandwidth, 80MHz Channel Data

C. Channel Availability Check Time

Test Requirements: §15.407(h)(2)(ii) A U-NII device shall check if there is a radar system already operating on the channel before it can initiate a transmission on a channel and when it has to move to a new channel. The U-NII device may start using the channel if no radar signal with a power level greater than the interference threshold values listed in paragraph (h)(2) of this section, is detected within 60 seconds.

Test Procedure: The spectrum analyzer was set to a zero span mode with a 3 MHz RBW and 3 MHz VBW on the test channel with a 2.5 minute sweep time. The spectrum analyzer's sweep was started at the same time power was applied to the U-NII device.

For the initial Channel Availability Check Time no radar burst was generated and the EUT was monitored for how long after startup transmission started.

For radar burst at the beginning of the Channel Availability Check Time a short pulse radar type (0-4) with a level equal to the DFS Detection Threshold + 1 dB was generated within the first 6 seconds of the EUT's channel availability check. The EUT was monitored to ensure that it did not start transmitting on the channel.

For radar burst at the end of the Channel Availability Check Time a short pulse radar type (0-4) with a level equal to the DFS Detection Threshold + 1 dB was generated within the last 6 seconds of the EUT's channel availability check. The EUT was monitored to ensure that it did not start transmitting on the channel.

Test Results: The EUT was **compliant** with the requirements of this section.

Test Engineer(s): Donald Salguero

Test Date: December 11, 2023

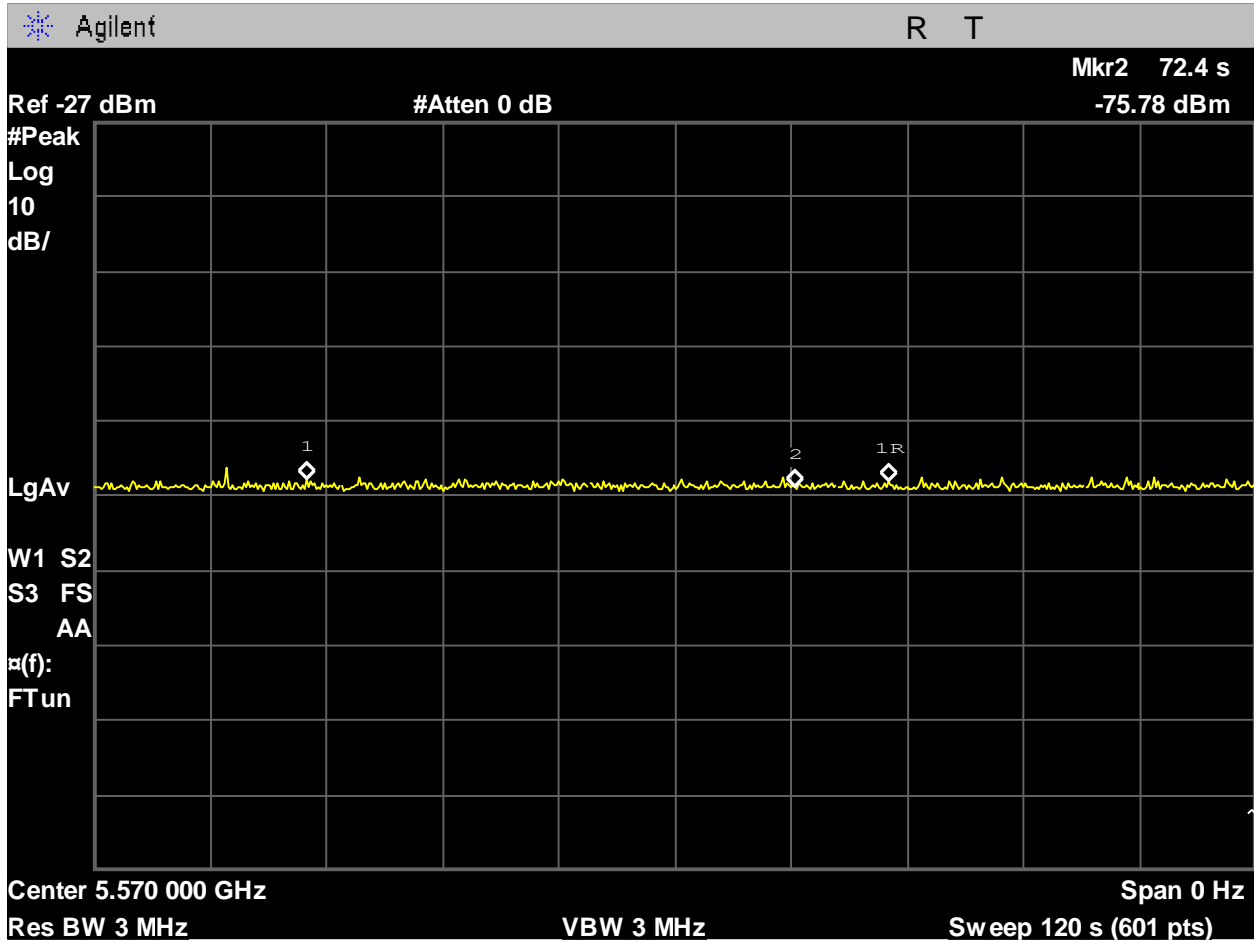


Figure 32. pulse @ CACT end.

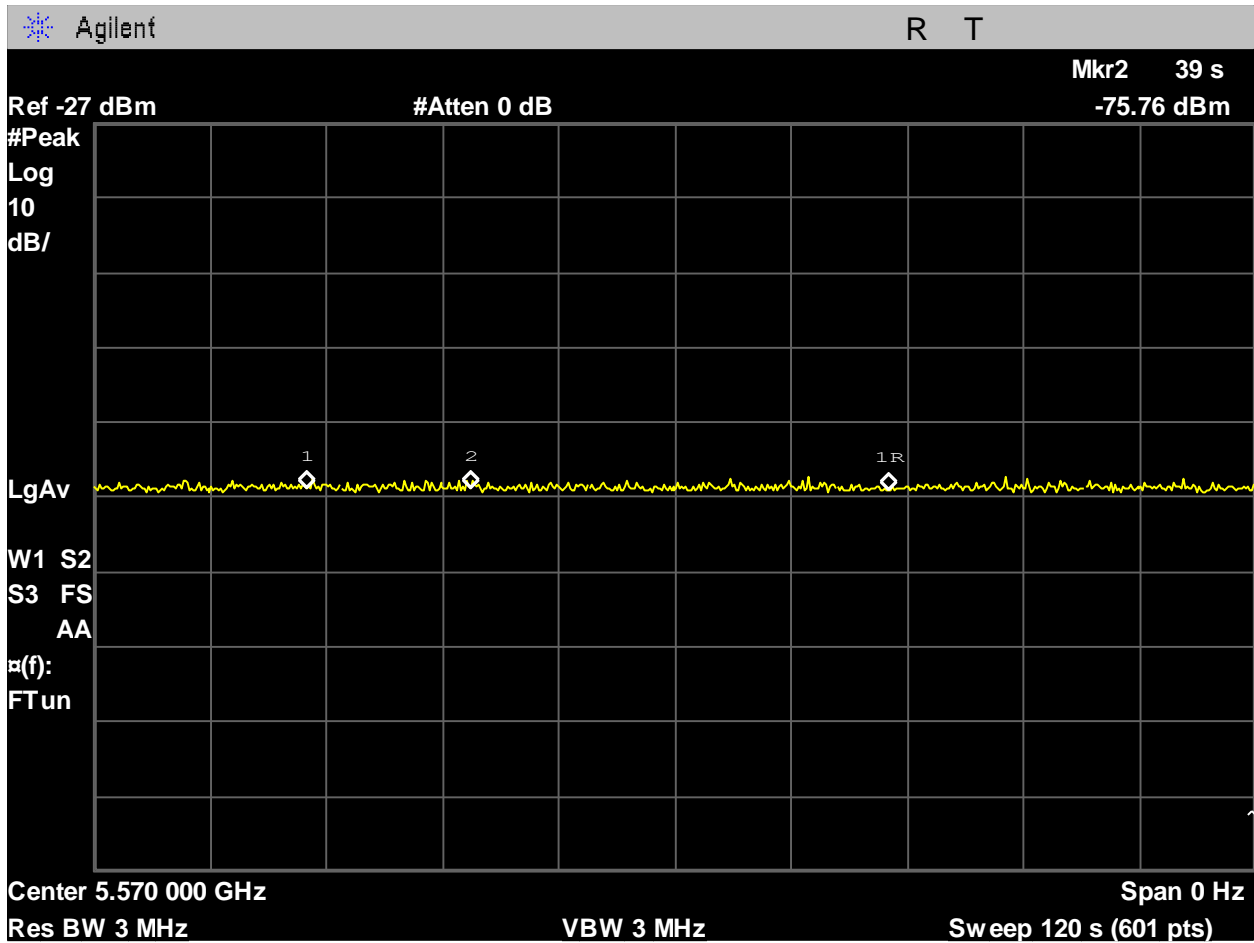


Figure 33. pulse @ CACT start.

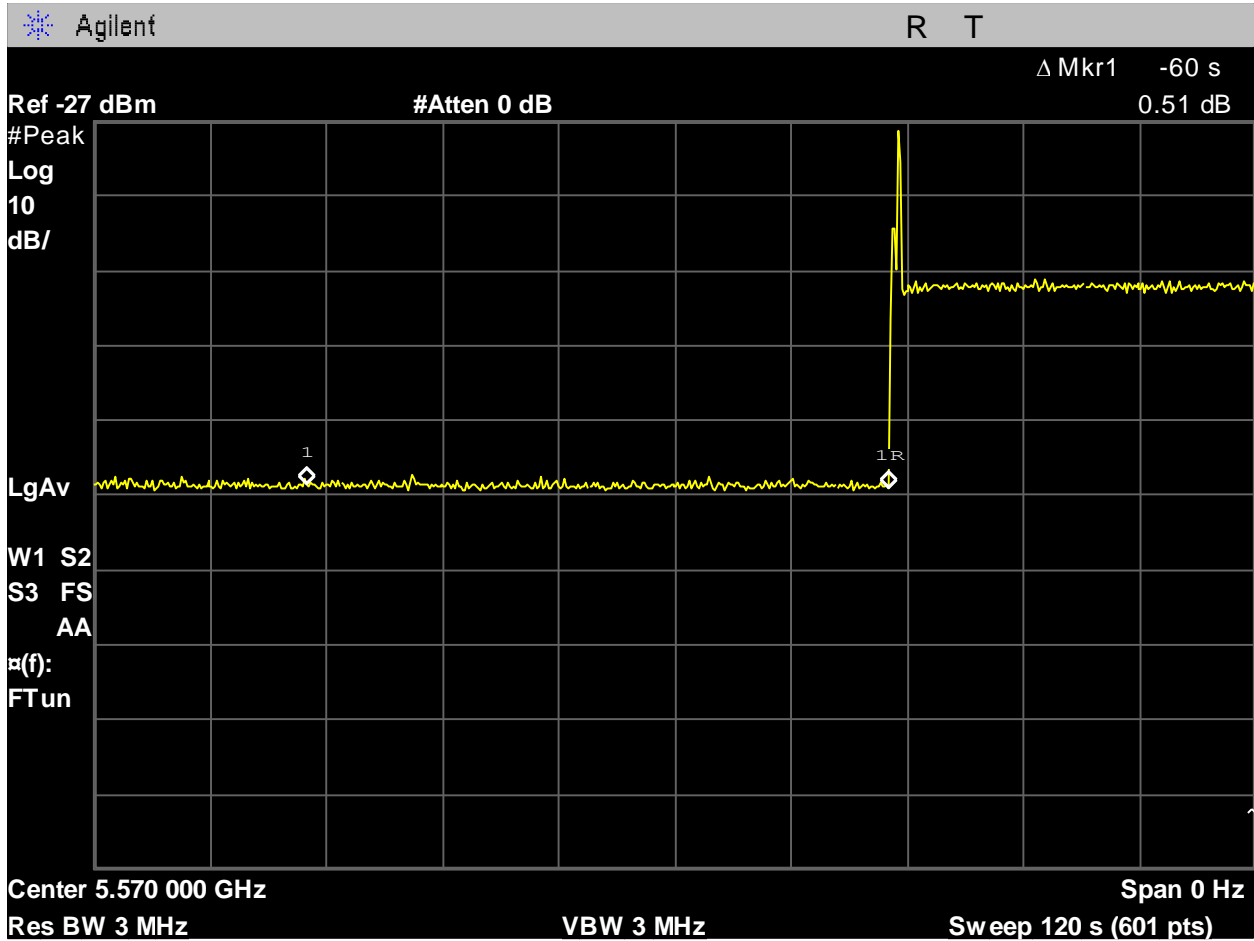


Figure 34. 60s-CAC Time.

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

Test Requirements: §15.407(h)(2)(iii) Channel Move Time. 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.

§15.407(h)(2)(iv) Non-occupancy Period. 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 §5.1 Test using widest BW mode available.

Test Procedure: The EUT was setup as a client device and associated with a master device. A test file was streamed from the Master device to the Client device for the entire period of the test. A Radar Burst of type 0 with a level equal to the DFS Detection Threshold + 1 dB was used.

A radar pulse was generated while the EUT was transmitting. A spectrum analyzer set to a zero span was used to observe the transmission of the EUT at the end of the burst.

Test Results: The EUT was **compliant** with the requirements of this section.

Test Engineer(s): Donald Salguero

Test Date: December 11, 2023

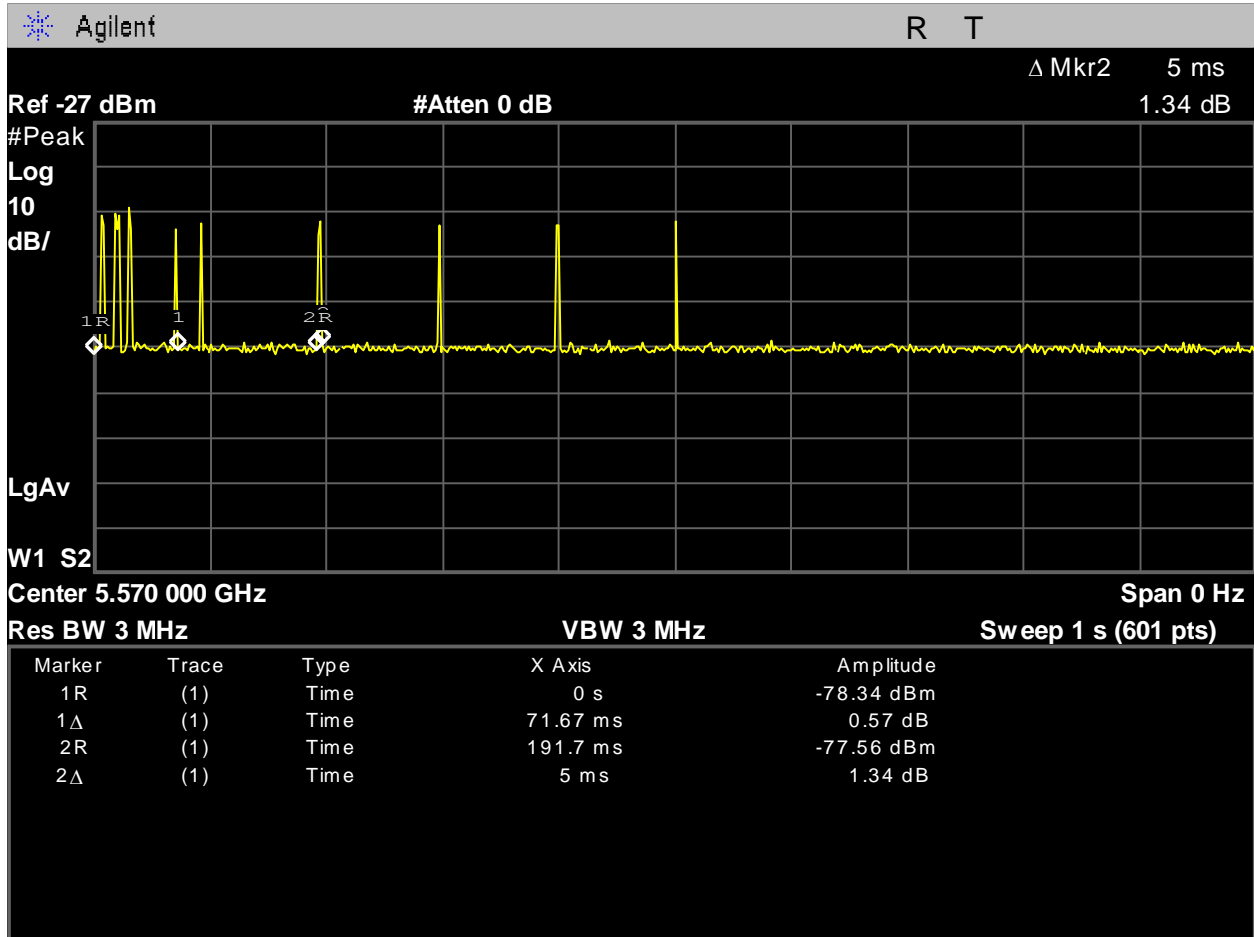


Figure 35. Close time.

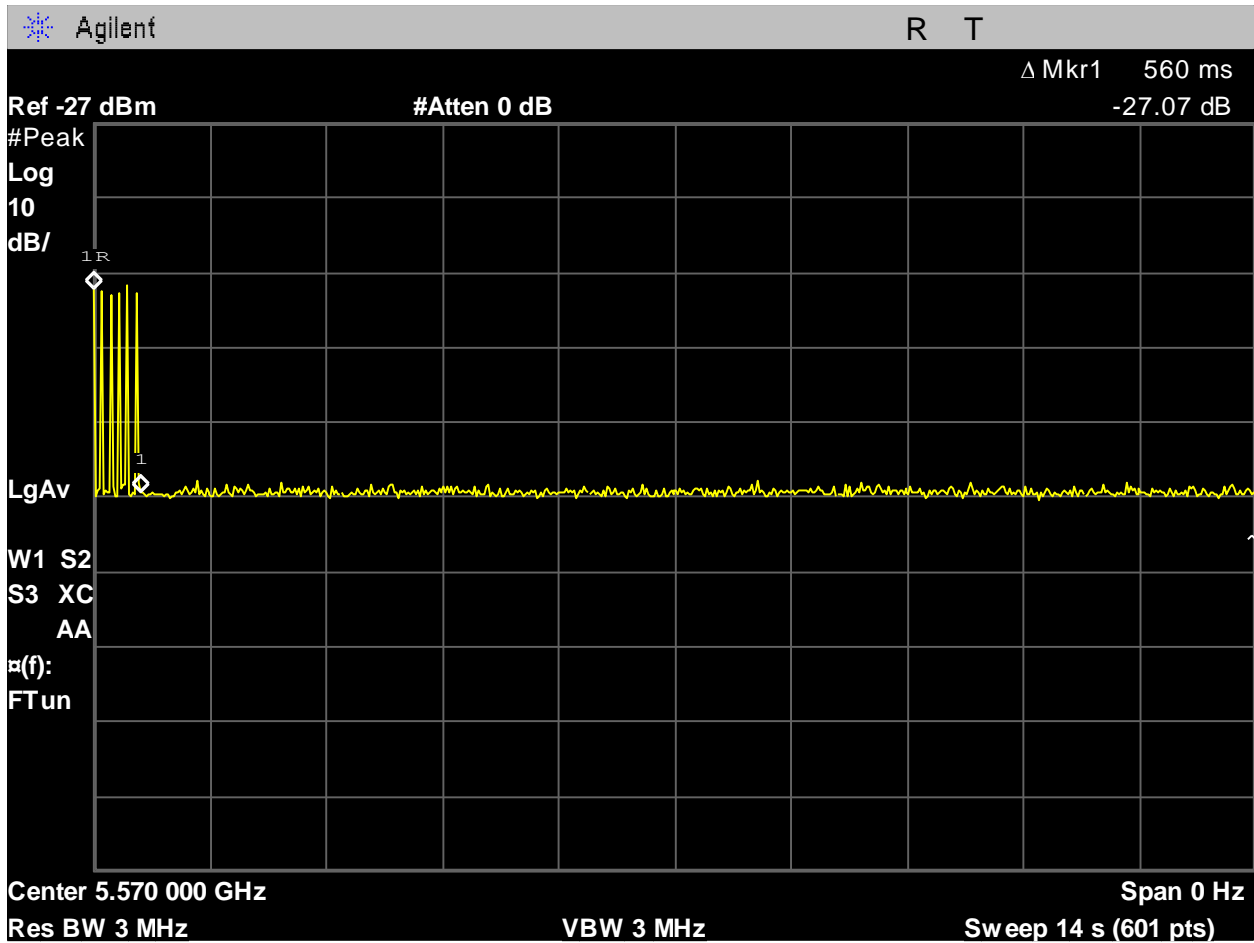


Figure 36. Move Time.

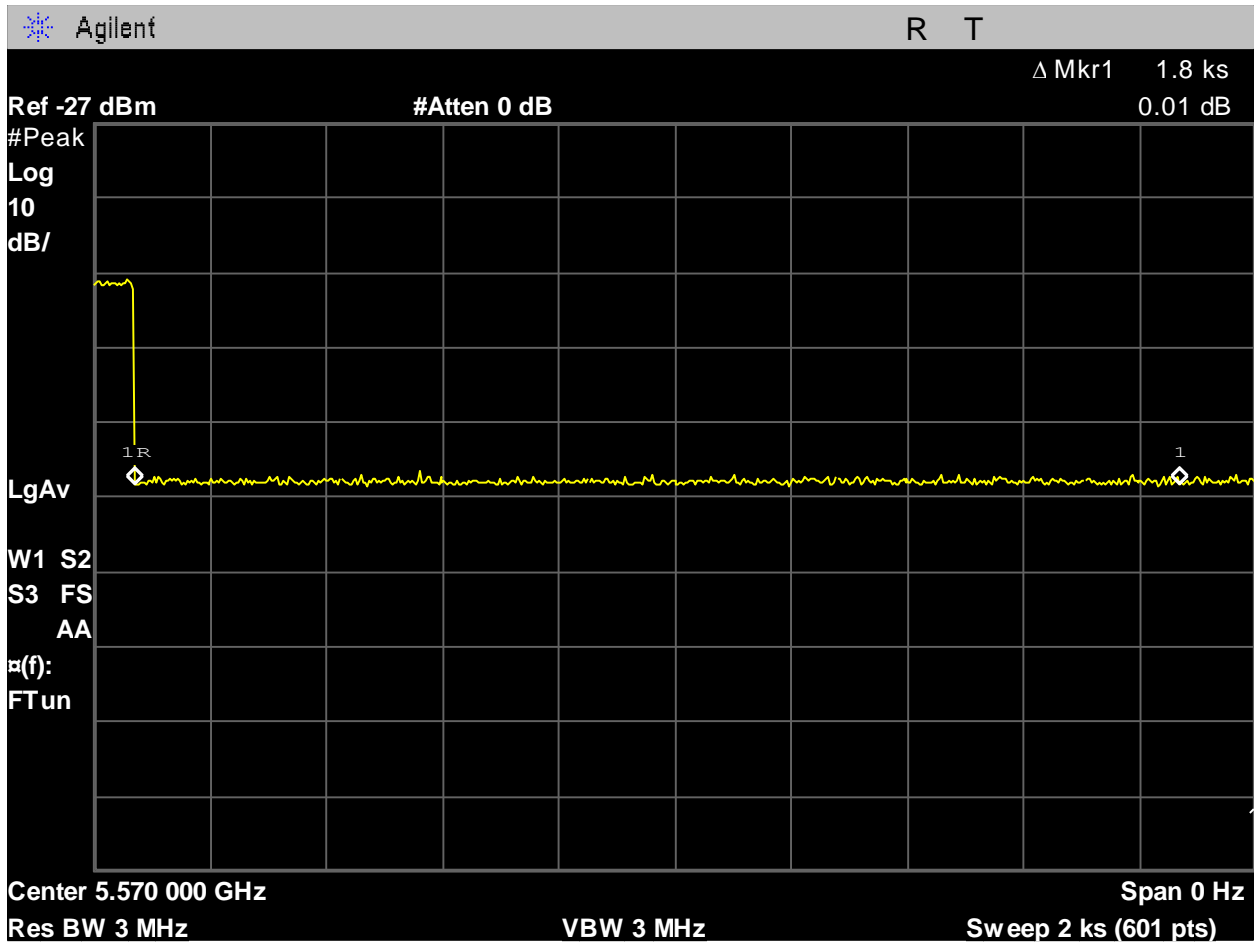


Figure 37. Non-occupancy period.

E. Statistical Performance Check

Test Requirements: **KDB 905462 §5.1** All BW modes must be tested.

KDB 905462: Each of the Radar Pulse types requires a minimum percentage of detections while the EUT is transmitting and listening for potential radar systems operating within the DFS Detection Bandwidth.

For Short Pulse Radar types the aggregate minimum percentage of detections is 80 percent.

For the Long Pulse Radar types the minimum percentage of detections is 80 percent.

For the Frequency Hopping Radar type the minimum percentage of detections is 70 percent.

Test Procedure:

The EUT was setup as a Master device and associated with a Client device. A test file was streamed from the Master device to the Client device for the entire period of the test. The EUT was also set to a test mode as to demonstrate when the detection occurred without resetting the device between trials.

A Radar Burst of each type (1-6) with a level equal to the DFS Detection Threshold + 1 dB was used. The frequencies selected for the radar burst included several frequencies within the DFS Detection Bandwidth and frequencies near the edge of the bandwidth.

For Short Pulse Radar types, an observation of the EUT's transmission was made for duration greater than 10 seconds after the burst to ensure detection occurred.

For Long Pulse Radar types, an observation of the EUT's transmission was made for duration greater than 10 seconds after the burst to ensure detection occurred. Also, center frequencies for the 30 trials were randomly selected within 80% of the Occupied Bandwidth.

Once the performance check was completed, statistical data was gathered as to determine the ability of the EUT to detect radar waveforms. An aggregate total for the Short Pulse Radar detections was calculated.

Test Results: The EUT was **compliant** with the requirements of this section.

Test Engineer(s): Donald Salguero

Test Date: December 21, 2023

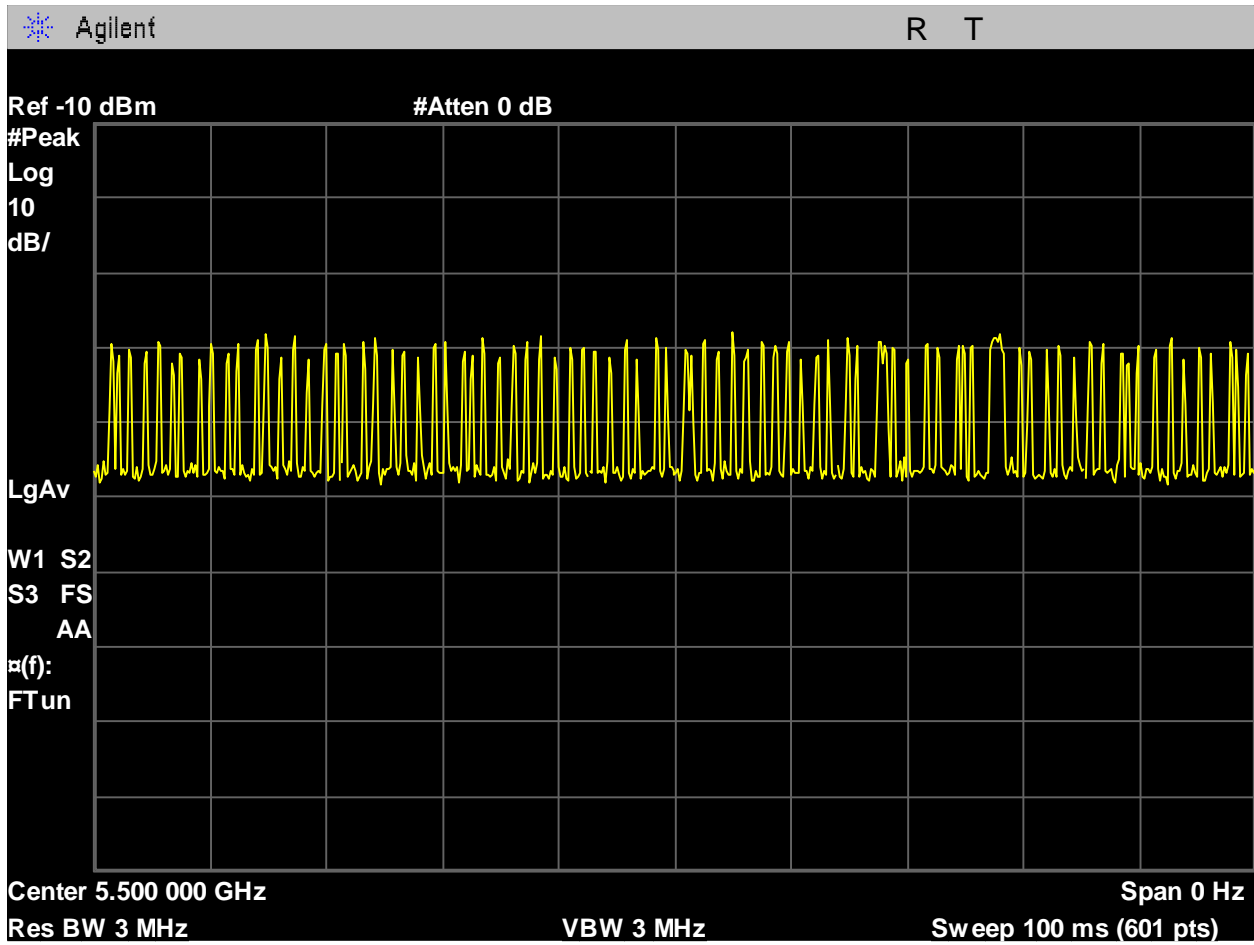


Figure 38. Channel Loading

Radar Type		Pulses Repetition Frequency Number (1-23)	Pulse Repetition Interval (µsec)	Number of Pulses	Detection
					1 = Yes, 0 = No
1	1	22	938.0	57	1
	2	10	698.0	76	1
	3	6	618.0	86	1
	4	2	538.0	99	1
	5	19	878.0	61	1
	6	23	3066.0	18	1
	7	7	638.0	83	1
	8	21	918.0	58	1
	9	17	838.0	63	1
	10	18	858.0	62	1
	11	15	798.0	67	1
	12	11	718.0	74	0
	13	4	578.0	92	1
	14	5	598.0	89	1
	15	3	558.0	95	1
	16	n/a	2536.0	21	1
	17	n/a	966.0	55	1
	18	n/a	827.0	64	1
	19	n/a	2501.0	22	1
	20	n/a	2595.0	21	1
	21	n/a	1114.0	48	1
	22	n/a	1302.0	41	1
	23	n/a	3045.0	18	1
	24	n/a	1624.0	33	1
	25	n/a	2878.0	19	1
	26	n/a	1027.0	52	1
	27	n/a	2485.0	22	1
	28	n/a	1600.0	33	1
	29	n/a	1172.0	46	1
	30	n/a	1177.0	45	1
Detection Percentage					96.67%
Test Limit Percentage					60%
EUT Frequency					5500 MHz

Radar Type	Trial #	Pulse Width 1- 5 μ sec	PRI 150-230 μ sec	Number of Pulses 23-29	Detection
					1 = Yes, 0 = No
2	1	3.2	179.0	26	1
	2	1.1	207.0	23	1
	3	2.1	230.0	24	1
	4	4.8	200.0	29	1
	5	3.9	214.0	28	1
	6	2.9	222.0	26	1
	7	3.2	204.0	26	1
	8	2.5	192.0	25	1
	9	3.1	164.0	26	1
	10	1.2	156.0	23	1
	11	3.9	210.0	27	1
	12	4.6	201.0	29	1
	13	3.2	162.0	26	1
	14	2.2	197.0	25	1
	15	4.5	163.0	29	1
	16	3.0	203.0	26	1
	17	5.0	168.0	29	1
	18	2.4	217.0	25	1
	19	2.9	191.0	26	1
	20	2.3	166.0	25	1
	21	3.7	150.0	27	1
	22	2.2	176.0	25	1
	23	4.9	195.0	29	1
	24	2.9	202.0	26	1
	25	2.5	178.0	25	1
	26	1.1	206.0	23	1
	27	3.8	155.0	27	1
	28	4.7	157.0	29	1
	29	2.4	224.0	25	1
	30	4.2	159.0	28	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5500 MHz

Radar Type	Trial #	Pulse Width 6-10 μ sec	PRI 200-500 μ sec	Number of Pulses 16-18	Detection
					1 = Yes, 0 = No
3	1	8.2	355.0	17	1
	2	6.1	487.0	16	1
	3	7.1	344.0	16	1
	4	9.8	288.0	18	1
	5	8.9	230.0	18	1
	6	7.9	432.0	17	1
	7	8.2	207.0	17	1
	8	7.5	443.0	17	1
	9	8.1	439.0	17	1
	10	6.2	223.0	16	1
	11	8.9	208.0	18	1
	12	9.6	463.0	18	1
	13	8.2	441.0	17	1
	14	7.2	323.0	16	1
	15	9.5	297.0	18	1
	16	8.0	412.0	17	1
	17	10.0	324.0	18	1
	18	7.4	271.0	17	1
	19	7.9	349.0	17	1
	20	7.3	409.0	16	1
	21	8.7	373.0	18	1
	22	7.2	254.0	16	1
	23	9.9	274.0	18	1
	24	7.9	278.0	17	1
	25	7.5	317.0	17	1
	26	6.1	260.0	16	1
	27	8.8	211.0	18	1
	28	9.7	272.0	18	1
	29	7.4	264.0	17	1
	30	9.2	284.0	18	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5500 MHz

Radar Type	Trial #	Pulse Width 11-20 µsec	PRI 200-500 µsec	Number of Pulses 12-16	Detection
					1 = Yes, 0 = No
4	1	16.0	355.0	14	1
	2	11.3	487.0	12	1
	3	13.5	344.0	13	1
	4	19.4	288.0	16	1
	5	17.5	230.0	15	1
	6	15.3	432.0	14	1
	7	15.9	207.0	14	1
	8	14.3	443.0	13	1
	9	15.8	439.0	14	1
	10	11.5	223.0	12	1
	11	17.4	208.0	15	1
	12	19.0	463.0	16	1
	13	16.0	441.0	14	1
	14	13.8	323.0	13	1
	15	18.9	297.0	16	1
	16	15.5	412.0	14	1
	17	19.9	324.0	16	1
	18	14.1	271.0	13	1
	19	15.2	349.0	14	1
	20	13.8	409.0	13	1
	21	17.1	373.0	15	1
	22	13.8	254.0	13	1
	23	19.8	274.0	16	1
	24	15.3	278.0	14	1
	25	14.5	317.0	13	1
	26	11.3	260.0	12	1
	27	17.3	211.0	15	1
	28	19.2	272.0	16	1
	29	14.2	264.0	13	1
	30	18.2	284.0	15	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5500 MHz

Aggregate:

Radar Type	Number of Trials	Number of Successful Detections	Detection Percentage %
1	30	30	96.67
2	30	30	100
3	30	30	100
4	30	30	100
Aggregate Percentage			99.17%
Test Percentage Limit			80%

Radar Type	Trial #	Number of Bursts 8-20	Burst Period (s)	Chirp Width (MHz) 5 -20	Radar Center Frequency (MHz)	Detection
						1 = Yes, 0 = No
5	1	15	0.8000000	13	5.500000000	1
	2	8	1.5000000	5	5.500000000	1
	3	11	1.0909091	9	5.500000000	1
	4	20	0.6000000	19	5.500000000	1
	5	17	0.7058824	16	5.500000000	1
	6	14	0.8571429	12	5.500000000	1
	7	15	0.8000000	13	5.500000000	1
	8	12	1.0000000	10	5.500000000	1
	9	14	0.8571429	13	5.500000000	1
	10	8	1.5000000	6	5.500000000	1
	11	17	0.7058824	16	5.496400000	1
	12	19	0.6315789	19	5.497600000	1
	13	15	0.8000000	13	5.495200000	1
	14	12	1.0000000	10	5.494000000	1
	15	19	0.6315789	18	5.497200000	1
	16	14	0.8571429	12	5.494800000	1
	17	20	0.6000000	20	5.498000000	1
	18	12	1.0000000	10	5.494000000	1
	19	14	0.8571429	12	5.494800000	1
	20	12	1.0000000	10	5.494000000	1
	21	16	0.7500000	15	5.504000000	1
	22	12	1.0000000	9	5.506400000	1
	23	20	0.6000000	20	5.502000000	1
	24	14	0.8571429	12	5.505200000	1
	25	13	0.9230769	11	5.505600000	1
	26	8	1.5000000	5	5.508000000	1
	27	17	0.7058824	16	5.503600000	1
	28	19	0.6315789	19	5.502400000	1
	29	12	1.0000000	10	5.506000000	1
	30	18	0.6666667	17	5.503200000	1
Detection Percentage						100%
Test Limit Percentage						80%
Radar Frequency						5490 – 5510 MHz

Radar Type	Trial #	Visible Frequency Number	Pulses per Hop	Pulse Width (µsec)	PRI (µsec)	Detection
						1 = Yes, 0 = No
6	1	5	9	1	333.3	1
	2	1	9	1	333.3	1
	3	4	9	1	333.3	1
	4	6	9	1	333.3	1
	5	2	9	1	333.3	1
	6	1	9	1	333.3	1
	7	4	9	1	333.3	1
	8	6	9	1	333.3	1
	9	5	9	1	333.3	1
	10	1	9	1	333.3	1
	11	4	9	1	333.3	1
	12	8	9	1	333.3	1
	13	5	9	1	333.3	1
	14	5	9	1	333.3	1
	15	4	9	1	333.3	1
	16	6	9	1	333.3	1
	17	2	9	1	333.3	1
	18	5	9	1	333.3	1
	19	4	9	1	333.3	1
	20	5	9	1	333.3	1
	21	5	9	1	333.3	1
	22	8	9	1	333.3	1
	23	5	9	1	333.3	1
	24	2	9	1	333.3	1
	25	3	9	1	333.3	1
	26	3	9	1	333.3	1
	27	4	9	1	333.3	1
	28	5	9	1	333.3	1
	29	7	9	1	333.3	1
	30	3	9	1	333.3	1
Detection Percentage						100%
Test Limit Percentage						70%
EUT Frequency						5500 MHz

Radar Type		Pulses Repetition Frequency Number (1-23)	Pulse Repetition Interval (µsec)	Number of Pulses	Detection
					1 = Yes, 0 = No
1	1	22	938.0	57	1
	2	10	698.0	76	1
	3	6	618.0	86	1
	4	2	538.0	99	1
	5	19	878.0	61	1
	6	23	3066.0	18	1
	7	7	638.0	83	1
	8	21	918.0	58	1
	9	17	838.0	63	1
	10	18	858.0	62	1
	11	15	798.0	67	1
	12	11	718.0	74	0
	13	4	578.0	92	1
	14	5	598.0	89	1
	15	3	558.0	95	1
	16	n/a	2536.0	21	1
	17	n/a	966.0	55	1
	18	n/a	827.0	64	1
	19	n/a	2501.0	22	1
	20	n/a	2595.0	21	1
	21	n/a	1114.0	48	1
	22	n/a	1302.0	41	1
	23	n/a	3045.0	18	1
	24	n/a	1624.0	33	1
	25	n/a	2878.0	19	1
	26	n/a	1027.0	52	1
	27	n/a	2485.0	22	1
	28	n/a	1600.0	33	1
	29	n/a	1172.0	46	1
	30	n/a	1177.0	45	1
Detection Percentage					96.67%
Test Limit Percentage					60%
EUT Frequency					5510 MHz

Radar Type	Trial #	Pulse Width 1- 5 µsec	PRI 150-230 µsec	Number of Pulses 23-29	Detection
					1 = Yes, 0 = No
2	1	3.2	179.0	26	1
	2	1.1	207.0	23	1
	3	2.1	230.0	24	1
	4	4.8	200.0	29	1
	5	3.9	214.0	28	1
	6	2.9	222.0	26	1
	7	3.2	204.0	26	1
	8	2.5	192.0	25	1
	9	3.1	164.0	26	1
	10	1.2	156.0	23	1
	11	3.9	210.0	27	1
	12	4.6	201.0	29	1
	13	3.2	162.0	26	1
	14	2.2	197.0	25	1
	15	4.5	163.0	29	1
	16	3.0	203.0	26	1
	17	5.0	168.0	29	1
	18	2.4	217.0	25	1
	19	2.9	191.0	26	1
	20	2.3	166.0	25	1
	21	3.7	150.0	27	1
	22	2.2	176.0	25	1
	23	4.9	195.0	29	1
	24	2.9	202.0	26	1
	25	2.5	178.0	25	1
	26	1.1	206.0	23	1
	27	3.8	155.0	27	1
	28	4.7	157.0	29	1
	29	2.4	224.0	25	1
	30	4.2	159.0	28	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5510 MHz

Radar Type	Trial #	Pulse Width 6-10 μ sec	PRI 200-500 μ sec	Number of Pulses 16-18	Detection
					1 = Yes, 0 = No
3	1	8.2	355.0	17	1
	2	6.1	487.0	16	1
	3	7.1	344.0	16	1
	4	9.8	288.0	18	1
	5	8.9	230.0	18	1
	6	7.9	432.0	17	1
	7	8.2	207.0	17	1
	8	7.5	443.0	17	1
	9	8.1	439.0	17	1
	10	6.2	223.0	16	1
	11	8.9	208.0	18	1
	12	9.6	463.0	18	1
	13	8.2	441.0	17	1
	14	7.2	323.0	16	1
	15	9.5	297.0	18	1
	16	8.0	412.0	17	1
	17	10.0	324.0	18	1
	18	7.4	271.0	17	1
	19	7.9	349.0	17	1
	20	7.3	409.0	16	1
	21	8.7	373.0	18	1
	22	7.2	254.0	16	1
	23	9.9	274.0	18	1
	24	7.9	278.0	17	1
	25	7.5	317.0	17	1
	26	6.1	260.0	16	1
	27	8.8	211.0	18	1
	28	9.7	272.0	18	1
	29	7.4	264.0	17	1
	30	9.2	284.0	18	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5510 MHz

Radar Type	Trial #	Pulse Width 11-20 μ sec	PRI 200-500 μ sec	Number of Pulses 12-16	Detection
					1 = Yes, 0 = No
4	1	16.0	355.0	14	1
	2	11.3	487.0	12	1
	3	13.5	344.0	13	1
	4	19.4	288.0	16	1
	5	17.5	230.0	15	1
	6	15.3	432.0	14	1
	7	15.9	207.0	14	1
	8	14.3	443.0	13	1
	9	15.8	439.0	14	1
	10	11.5	223.0	12	1
	11	17.4	208.0	15	1
	12	19.0	463.0	16	1
	13	16.0	441.0	14	1
	14	13.8	323.0	13	1
	15	18.9	297.0	16	1
	16	15.5	412.0	14	1
	17	19.9	324.0	16	1
	18	14.1	271.0	13	1
	19	15.2	349.0	14	1
	20	13.8	409.0	13	1
	21	17.1	373.0	15	1
	22	13.8	254.0	13	1
	23	19.8	274.0	16	1
	24	15.3	278.0	14	1
	25	14.5	317.0	13	1
	26	11.3	260.0	12	1
	27	17.3	211.0	15	1
	28	19.2	272.0	16	1
	29	14.2	264.0	13	1
	30	18.2	284.0	15	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5510 MHz

Aggregate:

Radar Type	Number of Trials	Number of Successful Detections	Detection Percentage %
1	30	30	96.67
2	30	30	100
3	30	30	100
4	30	30	100
Aggregate Percentage			99.17%
Test Percentage Limit			80%

Radar Type	Trial #	Number of Bursts 8-20	Burst Period (s)	Chirp Width (MHz) 5 -20	Radar Center Frequency (MHz)	Detection
						1 = Yes, 0 = No
5	1	15	0.8000000	13	5.510000000	1
	2	8	1.5000000	5	5.510000000	1
	3	11	1.0909091	9	5.510000000	1
	4	20	0.6000000	19	5.510000000	1
	5	17	0.7058824	16	5.510000000	1
	6	14	0.8571429	12	5.510000000	1
	7	15	0.8000000	13	5.510000000	1
	8	12	1.0000000	10	5.510000000	1
	9	14	0.8571429	13	5.510000000	1
	10	8	1.5000000	6	5.510000000	1
	11	17	0.7058824	16	5.496400000	1
	12	19	0.6315789	19	5.497600000	1
	13	15	0.8000000	13	5.495200000	1
	14	12	1.0000000	10	5.494000000	1
	15	19	0.6315789	18	5.497200000	1
	16	14	0.8571429	12	5.494800000	1
	17	20	0.6000000	20	5.498000000	1
	18	12	1.0000000	10	5.494000000	1
	19	14	0.8571429	12	5.494800000	1
	20	12	1.0000000	10	5.494000000	1
	21	16	0.7500000	15	5.524000000	1
	22	12	1.0000000	9	5.526400000	1
	23	20	0.6000000	20	5.522000000	1
	24	14	0.8571429	12	5.525200000	1
	25	13	0.9230769	11	5.525600000	1
	26	8	1.5000000	5	5.528000000	1
	27	17	0.7058824	16	5.523600000	1
	28	19	0.6315789	19	5.522400000	1
	29	12	1.0000000	10	5.526000000	1
	30	18	0.6666667	17	5.523200000	1
Detection Percentage						100%
Test Limit Percentage						80%
Radar Frequency						5490 – 5530 MHz

Radar Type	Trial #	Visible Frequency Number	Pulses per Hop	Pulse Width (µsec)	PRI (µsec)	Detection
						1 = Yes, 0 = No
6	1	7	9	1	333.3	1
	2	3	9	1	333.3	1
	3	9	9	1	333.3	1
	4	11	9	1	333.3	1
	5	5	9	1	333.3	1
	6	7	9	1	333.3	1
	7	7	9	1	333.3	1
	8	10	9	1	333.3	1
	9	9	9	1	333.3	1
	10	5	9	1	333.3	1
	11	8	9	1	333.3	1
	12	15	9	1	333.3	1
	13	9	9	1	333.3	1
	14	10	9	1	333.3	1
	15	7	9	1	333.3	1
	16	10	9	1	333.3	1
	17	6	9	1	333.3	1
	18	10	9	1	333.3	1
	19	8	9	1	333.3	1
	20	12	9	1	333.3	1
	21	13	9	1	333.3	1
	22	10	9	1	333.3	1
	23	13	9	1	333.3	1
	24	7	9	1	333.3	1
	25	7	9	1	333.3	1
	26	7	9	1	333.3	1
	27	7	9	1	333.3	1
	28	11	9	1	333.3	1
	29	9	9	1	333.3	1
	30	9	9	1	333.3	1
Detection Percentage						100%
Test Limit Percentage						70%
EUT Test Frequency						5510 MHz

Radar Type		Pulses Repetition Frequency Number (1-23)	Pulse Repetition Interval (µsec)	Number of Pulses	Detection
					1 = Yes, 0 = No
1	1	22	938.0	57	1
	2	10	698.0	76	1
	3	6	618.0	86	1
	4	2	538.0	99	1
	5	19	878.0	61	1
	6	23	3066.0	18	1
	7	7	638.0	83	1
	8	21	918.0	58	1
	9	17	838.0	63	1
	10	18	858.0	62	1
	11	15	798.0	67	1
	12	11	718.0	74	0
	13	4	578.0	92	1
	14	5	598.0	89	1
	15	3	558.0	95	1
	16	n/a	2536.0	21	1
	17	n/a	966.0	55	1
	18	n/a	827.0	64	1
	19	n/a	2501.0	22	1
	20	n/a	2595.0	21	1
	21	n/a	1114.0	48	1
	22	n/a	1302.0	41	1
	23	n/a	3045.0	18	1
	24	n/a	1624.0	33	1
	25	n/a	2878.0	19	1
	26	n/a	1027.0	52	1
	27	n/a	2485.0	22	1
	28	n/a	1600.0	33	1
	29	n/a	1172.0	46	1
	30	n/a	1177.0	45	1
Detection Percentage					96.67%
Test Limit Percentage					60%
EUT Frequency					5530 MHz

Radar Type	Trial #	Pulse Width 1- 5 μ sec	PRI 150-230 μ sec	Number of Pulses 23-29	Detection
					1 = Yes, 0 = No
2	1	3.2	179.0	26	1
	2	1.1	207.0	23	1
	3	2.1	230.0	24	1
	4	4.8	200.0	29	1
	5	3.9	214.0	28	1
	6	2.9	222.0	26	1
	7	3.2	204.0	26	1
	8	2.5	192.0	25	1
	9	3.1	164.0	26	1
	10	1.2	156.0	23	1
	11	3.9	210.0	27	1
	12	4.6	201.0	29	1
	13	3.2	162.0	26	1
	14	2.2	197.0	25	1
	15	4.5	163.0	29	1
	16	3.0	203.0	26	1
	17	5.0	168.0	29	1
	18	2.4	217.0	25	1
	19	2.9	191.0	26	1
	20	2.3	166.0	25	1
	21	3.7	150.0	27	1
	22	2.2	176.0	25	1
	23	4.9	195.0	29	1
	24	2.9	202.0	26	1
	25	2.5	178.0	25	1
	26	1.1	206.0	23	1
	27	3.8	155.0	27	1
	28	4.7	157.0	29	1
	29	2.4	224.0	25	1
	30	4.2	159.0	28	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5530 MHz

Radar Type	Trial #	Pulse Width 6-10 μ sec	PRI 200-500 μ sec	Number of Pulses 16-18	Detection
					1 = Yes, 0 = No
3	1	8.2	355.0	17	1
	2	6.1	487.0	16	1
	3	7.1	344.0	16	1
	4	9.8	288.0	18	1
	5	8.9	230.0	18	1
	6	7.9	432.0	17	1
	7	8.2	207.0	17	1
	8	7.5	443.0	17	1
	9	8.1	439.0	17	1
	10	6.2	223.0	16	1
	11	8.9	208.0	18	1
	12	9.6	463.0	18	1
	13	8.2	441.0	17	1
	14	7.2	323.0	16	1
	15	9.5	297.0	18	1
	16	8.0	412.0	17	1
	17	10.0	324.0	18	1
	18	7.4	271.0	17	1
	19	7.9	349.0	17	1
	20	7.3	409.0	16	1
	21	8.7	373.0	18	1
	22	7.2	254.0	16	1
	23	9.9	274.0	18	1
	24	7.9	278.0	17	1
	25	7.5	317.0	17	1
	26	6.1	260.0	16	1
	27	8.8	211.0	18	1
	28	9.7	272.0	18	1
	29	7.4	264.0	17	1
	30	9.2	284.0	18	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5530 MHz

Radar Type	Trial #	Pulse Width 11-20 μ sec	PRI 200-500 μ sec	Number of Pulses 12-16	Detection
					1 = Yes, 0 = No
4	1	16.0	355.0	14	1
	2	11.3	487.0	12	1
	3	13.5	344.0	13	1
	4	19.4	288.0	16	1
	5	17.5	230.0	15	1
	6	15.3	432.0	14	1
	7	15.9	207.0	14	1
	8	14.3	443.0	13	1
	9	15.8	439.0	14	1
	10	11.5	223.0	12	1
	11	17.4	208.0	15	1
	12	19.0	463.0	16	1
	13	16.0	441.0	14	1
	14	13.8	323.0	13	1
	15	18.9	297.0	16	1
	16	15.5	412.0	14	1
	17	19.9	324.0	16	1
	18	14.1	271.0	13	1
	19	15.2	349.0	14	1
	20	13.8	409.0	13	1
	21	17.1	373.0	15	1
	22	13.8	254.0	13	1
	23	19.8	274.0	16	1
	24	15.3	278.0	14	1
	25	14.5	317.0	13	1
	26	11.3	260.0	12	1
	27	17.3	211.0	15	1
	28	19.2	272.0	16	1
	29	14.2	264.0	13	1
	30	18.2	284.0	15	1
Detection Percentage					100%
Test Limit Percentage					60%
EUT Frequency					5530 MHz

Aggregate:

Radar Type	Number of Trials	Number of Successful Detections	Detection Percentage %
1	30	30	96.67
2	30	30	100
3	30	30	100
4	30	30	100
Aggregate Percentage			99.17%
Test Percentage Limit			80%

Radar Type	Trial #	Number of Bursts 8-20	Burst Period (s)	Chirp Width (MHz) 5 -20	Radar Center Frequency (MHz)	Detection
						1 = Yes, 0 = No
5	1	15	0.8000000	13	5.530000000	1
	2	8	1.5000000	5	5.530000000	1
	3	11	1.0909091	9	5.530000000	1
	4	20	0.6000000	19	5.530000000	1
	5	17	0.7058824	16	5.530000000	1
	6	14	0.8571429	12	5.530000000	1
	7	15	0.8000000	13	5.530000000	1
	8	12	1.0000000	10	5.530000000	1
	9	14	0.8571429	13	5.530000000	1
	10	8	1.5000000	6	5.530000000	1
	11	17	0.7058824	16	5.496400000	1
	12	19	0.6315789	19	5.497600000	1
	13	15	0.8000000	13	5.495200000	0
	14	12	1.0000000	10	5.494000000	1
	15	19	0.6315789	18	5.497200000	0
	16	14	0.8571429	12	5.494800000	1
	17	20	0.6000000	20	5.498000000	1
	18	12	1.0000000	10	5.494000000	0
	19	14	0.8571429	12	5.494800000	0
	20	12	1.0000000	10	5.494000000	1
	21	16	0.7500000	15	5.564000000	1
	22	12	1.0000000	9	5.566400000	1
	23	20	0.6000000	20	5.562000000	1
	24	14	0.8571429	12	5.565200000	1
	25	13	0.9230769	11	5.565600000	1
	26	8	1.5000000	5	5.568000000	1
	27	17	0.7058824	16	5.563600000	1
	28	19	0.6315789	19	5.562400000	1
	29	12	1.0000000	10	5.566000000	1
	30	18	0.6666667	17	5.563200000	1
Detection Percentage						86.67%
Test Limit Percentage						80%
Radar Frequency						5490 – 5570 MHz

Radar Type	Trial #	Visible Frequency Number	Pulses/Hop	Pulse Width (μsec)	PRI (μsec)	Detection
						1 = Yes, 0 = No
6	1	17	9	1	333.3	1
	2	14	9	1	333.3	1
	3	16	9	1	333.3	1
	4	19	9	1	333.3	1
	5	11	9	1	333.3	1
	6	13	9	1	333.3	1
	7	15	9	1	333.3	1
	8	17	9	1	333.3	1
	9	15	9	1	333.3	1
	10	17	9	1	333.3	1
	11	16	9	1	333.3	1
	12	23	9	1	333.3	1
	13	22	9	1	333.3	1
	14	17	9	1	333.3	1
	15	15	9	1	333.3	1
	16	22	9	1	333.3	1
	17	14	9	1	333.3	1
	18	22	9	1	333.3	1
	19	13	9	1	333.3	1
	20	17	9	1	333.3	1
	21	21	9	1	333.3	1
	22	18	9	1	333.3	1
	23	24	9	1	333.3	1
	24	14	9	1	333.3	1
	25	13	9	1	333.3	1
	26	16	9	1	333.3	1
	27	15	9	1	333.3	1
	28	20	9	1	333.3	1
	29	19	9	1	333.3	1
	30	16	9	1	333.3	1
Detection Percentage						100%
Test Limit Percentage						70%
EUT Test Frequency						5530 MHz

Radar Type		Pulses Repetition Frequency Number (1-23)	Pulse Repetition Interval (µsec)	Number of Pulses	Detection
					1 = Yes, 0 = No
1	1	22	938.0	57	1
	2	10	698.0	76	1
	3	6	618.0	86	1
	4	2	538.0	99	1
	5	19	878.0	61	1
	6	23	3066.0	18	1
	7	7	638.0	83	1
	8	21	918.0	58	1
	9	17	838.0	63	1
	10	18	858.0	62	1
	11	15	798.0	67	1
	12	11	718.0	74	1
	13	4	578.0	92	1
	14	5	598.0	89	1
	15	3	558.0	95	1
	16	n/a	2536.0	21	1
	17	n/a	966.0	55	1
	18	n/a	827.0	64	1
	19	n/a	2501.0	22	1
	20	n/a	2595.0	21	1
	21	n/a	1114.0	48	1
	22	n/a	1302.0	41	1
	23	n/a	3045.0	18	1
	24	n/a	1624.0	33	1
	25	n/a	2878.0	19	1
	26	n/a	1027.0	52	1
	27	n/a	2485.0	22	1
	28	n/a	1600.0	33	0
	29	n/a	1172.0	46	1
	30	n/a	1177.0	45	1
Detection Percentage					96.67%
Test Limit Percentage					60%
EUT Frequency					5570 MHz

Radar Type	Trial #	Pulse Width 1- 5 μ sec	PRI 150-230 μ sec	Number of Pulses 23-29	Detection
					1 = Yes, 0 = No
2	1	3.2	179.0	26	1
	2	1.1	207.0	23	1
	3	2.1	230.0	24	1
	4	4.8	200.0	29	1
	5	3.9	214.0	28	1
	6	2.9	222.0	26	1
	7	3.2	204.0	26	1
	8	2.5	192.0	25	0
	9	3.1	164.0	26	1
	10	1.2	156.0	23	1
	11	3.9	210.0	27	0
	12	4.6	201.0	29	1
	13	3.2	162.0	26	1
	14	2.2	197.0	25	1
	15	4.5	163.0	29	1
	16	3.0	203.0	26	0
	17	5.0	168.0	29	1
	18	2.4	217.0	25	1
	19	2.9	191.0	26	1
	20	2.3	166.0	25	1
	21	3.7	150.0	27	1
	22	2.2	176.0	25	1
	23	4.9	195.0	29	1
	24	2.9	202.0	26	1
	25	2.5	178.0	25	0
	26	1.1	206.0	23	0
	27	3.8	155.0	27	1
	28	4.7	157.0	29	0
	29	2.4	224.0	25	0
	30	4.2	159.0	28	0
Detection Percentage					73.33%
Test Limit Percentage					60%
EUT Frequency					5570 MHz

Radar Type	Trial #	Pulse Width 6-10 μ sec	PRI 200-500 μ sec	Number of Pulses 16-18	Detection
					1 = Yes, 0 = No
3	1	8.2	355.0	17	1
	2	6.1	487.0	16	1
	3	7.1	344.0	16	1
	4	9.8	288.0	18	0
	5	8.9	230.0	18	1
	6	7.9	432.0	17	1
	7	8.2	207.0	17	1
	8	7.5	443.0	17	1
	9	8.1	439.0	17	1
	10	6.2	223.0	16	1
	11	8.9	208.0	18	0
	12	9.6	463.0	18	1
	13	8.2	441.0	17	1
	14	7.2	323.0	16	0
	15	9.5	297.0	18	1
	16	8.0	412.0	17	1
	17	10.0	324.0	18	1
	18	7.4	271.0	17	1
	19	7.9	349.0	17	0
	20	7.3	409.0	16	0
	21	8.7	373.0	18	0
	22	7.2	254.0	16	0
	23	9.9	274.0	18	1
	24	7.9	278.0	17	1
	25	7.5	317.0	17	1
	26	6.1	260.0	16	1
	27	8.8	211.0	18	1
	28	9.7	272.0	18	1
	29	7.4	264.0	17	1
	30	9.2	284.0	18	0
Detection Percentage					73.33%
Test Limit Percentage					60%
EUT Frequency					5570 MHz

Radar Type	Trial #	Pulse Width 11-20 µsec	PRI 200-500 µsec	Number of Pulses 12-16	Detection
					1 = Yes, 0 = No
4	1	16.0	355.0	14	1
	2	11.3	487.0	12	1
	3	13.5	344.0	13	0
	4	19.4	288.0	16	1
	5	17.5	230.0	15	1
	6	15.3	432.0	14	1
	7	15.9	207.0	14	1
	8	14.3	443.0	13	0
	9	15.8	439.0	14	1
	10	11.5	223.0	12	1
	11	17.4	208.0	15	1
	12	19.0	463.0	16	1
	13	16.0	441.0	14	1
	14	13.8	323.0	13	0
	15	18.9	297.0	16	1
	16	15.5	412.0	14	1
	17	19.9	324.0	16	1
	18	14.1	271.0	13	1
	19	15.2	349.0	14	1
	20	13.8	409.0	13	1
	21	17.1	373.0	15	1
	22	13.8	254.0	13	1
	23	19.8	274.0	16	1
	24	15.3	278.0	14	1
	25	14.5	317.0	13	1
	26	11.3	260.0	12	0
	27	17.3	211.0	15	1
	28	19.2	272.0	16	1
	29	14.2	264.0	13	1
	30	18.2	284.0	15	1
Detection Percentage					86.67%
Test Limit Percentage					60%
EUT Frequency					5570 MHz

Aggregate:

Radar Type	Number of Trials	Number of Successful Detections	Detection Percentage %
1	30	30	96.67
2	30	30	73.33
3	30	30	73.33
4	30	30	86.67
Aggregate Percentage			82.5%
Test Percentage Limit			80%

Radar Type	Trial #	Number of Bursts 8-20	Burst Period (s)	Chirp Width (MHz) 5 -20	Radar Center Frequency (MHz)	Detection
						1 = Yes, 0 = No
5	1	15	0.8000000	13	5.570000000	1
	2	8	1.5000000	5	5.570000000	1
	3	11	1.0909091	9	5.570000000	1
	4	20	0.6000000	19	5.570000000	1
	5	17	0.7058824	16	5.570000000	1
	6	14	0.8571429	12	5.570000000	0
	7	15	0.8000000	13	5.570000000	1
	8	12	1.0000000	10	5.570000000	1
	9	14	0.8571429	13	5.570000000	1
	10	8	1.5000000	6	5.570000000	1
	11	17	0.7058824	16	5.496400000	1
	12	19	0.6315789	19	5.497600000	1
	13	15	0.8000000	13	5.495200000	1
	14	12	1.0000000	10	5.494000000	1
	15	19	0.6315789	18	5.497200000	1
	16	14	0.8571429	12	5.494800000	1
	17	20	0.6000000	20	5.498000000	1
	18	12	1.0000000	10	5.494000000	1
	19	14	0.8571429	12	5.494800000	1
	20	12	1.0000000	10	5.494000000	1
	21	16	0.7500000	15	5.644000000	1
	22	12	1.0000000	9	5.646400000	1
	23	20	0.6000000	20	5.642000000	1
	24	14	0.8571429	12	5.645200000	1
	25	13	0.9230769	11	5.645600000	1
	26	8	1.5000000	5	5.648000000	1
	27	17	0.7058824	16	5.643600000	1
	28	19	0.6315789	19	5.642400000	1
	29	12	1.0000000	10	5.646000000	1
	30	18	0.6666667	17	5.643200000	1
Detection Percentage						96.67%
Test Limit Percentage						80%
Radar Frequency						5490 – 5650 MHz

Radar Type	Trial #	Visible Frequency Number	Pulses per Hop	Pulse Width (µsec)	PRI (µsec)	Detection
						1 = Yes, 0 = No
6	1	12	9	1	333.3	1
	2	15	9	1	333.3	1
	3	11	9	1	333.3	1
	4	11	9	1	333.3	1
	5	14	9	1	333.3	1
	6	14	9	1	333.3	1
	7	14	9	1	333.3	1
	8	13	9	1	333.3	1
	9	7	9	1	333.3	1
	10	15	9	1	333.3	1
	11	14	9	1	333.3	1
	12	13	9	1	333.3	1
	13	17	9	1	333.3	1
	14	9	9	1	333.3	1
	15	14	9	1	333.3	1
	16	14	9	1	333.3	1
	17	14	9	1	333.3	1
	18	12	9	1	333.3	1
	19	12	9	1	333.3	1
	20	12	9	1	333.3	1
	21	13	9	1	333.3	1
	22	12	9	1	333.3	1
	23	17	9	1	333.3	1
	24	12	9	1	333.3	1
	25	11	9	1	333.3	1
	26	17	9	1	333.3	1
	27	16	9	1	333.3	1
	28	15	9	1	333.3	1
	29	13	9	1	333.3	1
	30	11	9	1	333.3	1
Detection Percentage						100%
Test Limit Percentage						70%
EUT Frequency						5570 MHz



Photograph 13. DFS Test Setup

Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset Number	Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
1T4871	Vector Signal Generator	Agilent Technologies	N5172B	MY53050638	DFS Func Verify	DFS Func Verify
1T4905	Horn Antenna	Com-Power	AH-118	71300	DFS Func Verify	DFS Func Verify
1T4757	Antenna; Horn	ETS-Lindgren	3117	123516	7/24/2023	1/31/2025
1T8743	Preamplifier	A.H. Systems, Inc.	PAM-0118P	419	Func Verify	Func Verify
1T4771	PSA Spectrum Analyzer	Agilent Technologies	E4446A	MY51100015	11/2/2023	5/31/2025

Table 18. Equipment List

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

End of Report