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# Report On

DFS (Dynamic Frequency Selection) testing of the
Nextivity Inc.
Cel-Fi DUO Smart Cellular Signal Booster

FCC Part 15 Subpart E §15.407 (h)

Report No. SD72112724-0116G February 2016

| | |
|---|---|
| **REPORT ON** | DFS Testing of the<br>Nextivity Inc.<br>Smart Cellular Signal Booster |
| **TEST REPORT NUMBER** | SD72112724-0116G |
| **PREPARED FOR** | Nextivity Inc.<br>12230 World Trade Drive, Suite 250<br>San Diego, CA 92128 |
| **CONTACT PERSON** | CK Li<br>Sr. Principal Engineer, Regulatory<br>(858) 829-1692<br>CLi@NextivityInc.com |
| **PREPARED BY** | Ferdinand S. Custodio<br>Name<br>Authorized Signatory<br>Title: EMC/Senior Wireless Test Engineer |
| **APPROVED BY** | Chip R. Fleury<br>Name<br>Authorized Signatory<br>Title: West Coast EMC Manager |
| **DATED** | March 21, 2016 |



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**Revision History**

| SD72112724-0116G<br>Nextivity Inc.<br>Cel-Fi DUO<br>Smart Cellular Signal Booster | | | | | |
|---|---|---|---|---|---|
| DATE | OLD REVISION | NEW REVISION | REASON | PAGES AFFECTED | APPROVED BY |
| 03/21/16 | Initial Release | | | | Chip R. Fleury |
| | | | | | |
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**SECTION 1**

**REPORT SUMMARY**

DFS Testing of the
Nextivity Inc.
Smart Cellular Signal Booster



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## 1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Nextivity Inc. Smart Cellular Signal Booster to the requirements of FCC Part 15 Subpart E §15.407 (h).

| | |
|---|---|
| Objective | To perform DFS Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out. |
| Manufacturer | Nextivity Inc. |
| Model Number(s) | D32-2/13/66 |
| FCC ID Number | YETD32-21366NU (NU); YETD32-21366CU (CU) |
| Serial Number(s) | 296546000608 (NU)<br>297546000537 (CU) |
| Number of Samples Tested | 2 |
| Test Specification/Issue/Date | • FCC Part 15 Subpart E §15.407 (h) (October 1, 2015).<br>• KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02. Compliance Measurement Procedures For Unlicensed-National Information Infrastructure Devices Operating In The 5250-5350 Mhz And 5470-5725 Mhz Bands Incorporating Dynamic Frequency Selection (May 15, 2015). |
| Start of Test | January 26, 2016 |
| Finish of Test | February 23, 2016 |
| Name of Engineer(s) | Ferdinand Custodio<br>Xiaoying Zhang |
| Related Document(s) | Test Report No. SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report.docx.(issued by TÜV SÜD America, February 2016) |



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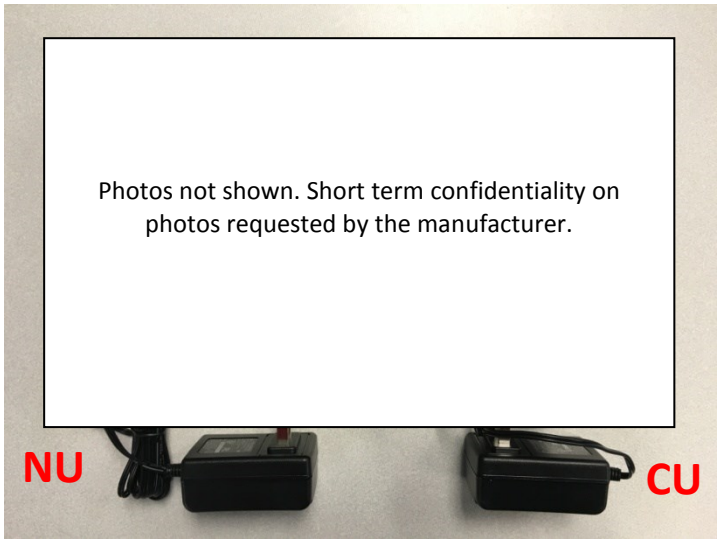
## 1.2 BRIEF SUMMARY OF RESULTS (MASTER DEVICE)

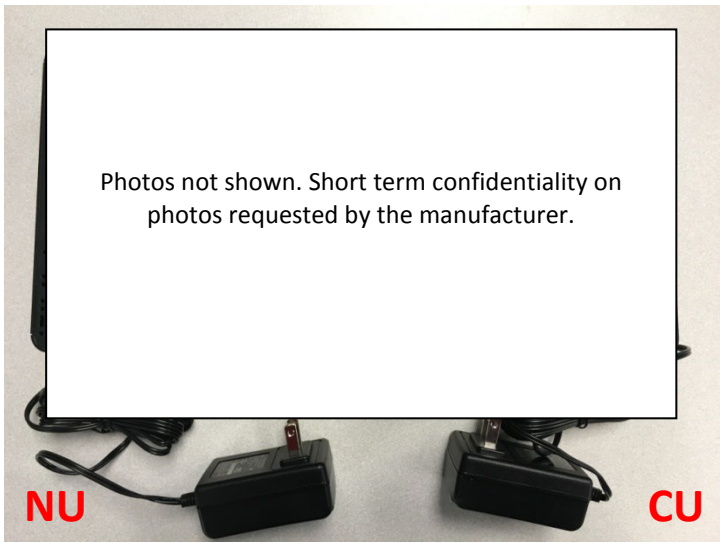
| DFS requirement prior to use of a channel | | | | | |
|---|---|---|---|---|---|
| ***Section*** | ***Test Description*** | ***Radar Type*** | ***EUT Frequency*** | ***Requirement*** | ***Compliance*** |
| 2.8 | Non-Occupancy Period | Type 0 | 5280MHz and 5630 MHz | >30 minutes | Complies |
| 2.9 | DFS Detection Threshold | Type 1,2,3,4,5 and 6 | 5280MHz | -60 dBm | Complies |
| 2.4, 2.5 and 2.6 | Channel Availability Check Time | Type 0 | 5280MHz and 5540MHz | 60 seconds | Complies |
| 2.3 | U-NII Detection Bandwidth | Type 0 | 5280MHz and 5630 MHz | Min. 100% of the U-NII 99% transmission power bandwidth | Complies |
| **DFS requirements during normal operation** | | | | | |
| ***Section*** | ***Test Description*** | ***Radar Type*** | ***EUT Frequency*** | ***Requirement*** | ***Compliance*** |
| 2.9 | DFS Detection Threshold | Type 1,2,3,4,5 and 6 | 5280MHz | -60 dBm | Complies |
| 2.7 | Channel Closing Transmission Time | Type 0 | 5280MHz and 5630 MHz | ≤ 260 ms | Complies |
| 2.7 | Channel Move Time | Type 0 | 5280MHz and 5630 MHz | 10 seconds | Complies |
| 2.3 | U-NII Detection Bandwidth | Type 0 | 5280MHz and 5630 MHz | Min. 100% of the U-NII 99% transmission power bandwidth | Complies |
| | | | | | |

## 1.3 PRODUCT INFORMATION

### 1.3.1 Technical Description

The Equipment Under Test (EUT) was a Nextivity Inc. Cel-Fi DUO Smart Cellular Signal Booster as shown in the photograph below. The EUT is a signal booster for indoor residential, small business and small enterprise use. It consists of two units: the Network Unit (NU), and the Coverage Unit (CU). NU and CU are shipped and sold as one unit. The NU transmits and receives Cellular signals from the base station and operates similar to a cellular handset. The CU transmits and receives signals with the cellular handset and operates on frequencies similar to the cellular base station. The NU and CU are connected wirelessly over a full-duplex wireless link in the UNII band using a mixed OFDM and muxed cellular signal over a 30 or 40 MHz channel in each direction. The CU also includes Bluetooth LE connectivity. With the use of smartphone application, it allows user to register the product, update software, capture/display details metrics of the system. The 5 GHz UNII band DFS functions of the EUT were verified in this test report.




**Equipment Under Test**

### 1.3.2 EUT General Description

| | |
|---|---|
| EUT Description | Smart Cellular Signal Booster |
| Model Name | Cel-Fi DUO |
| Model Number(s) | D32-2/13/66 |
| Rated Voltage | 12V DC ±20% via external AC/DC adapter. |
| Frequency Range | 5150 to 5350 MHz (NU)<br>5470 to 5725 MHz (CU) |
| Operating Mode | Network Unit (NU) as a Master<br>Coverage Unit (CU) as a Master |
| Bridge Mode Support | ☐ Yes ☒ No |
| MESH Mode Support | ☐ Yes ☒ No |

EUT EIRP (dBm)

| ***Lowest*** | ***Highest*** |
|---|---|
| See TPC below | 23.68 dBm |

Antenna

| | ***NU*** | ***CU*** |
|---|---|---|
| Type | PIFA | PIFA |
| Gain | 1 dBi | 0 dBi |

| | |
|---|---|
| Test Configuration | Conducted. Manufacturer provided samples with a temporary antenna test port (50Ω impedance). |
| Transmit Power Control (TPC) | The output power level on the uplink of the system is monitored and if it crosses the maximum specified output power, the system will automatically back off the transmit power levels to ensure that no noise is sent into the network. The system is also calibrated to ensure that this condition should never be met. |
| System Architecture | ☐ IP Based ☒ Frame Based |
| U-NII Channel Bandwidths | 30MHz and 40MHz |
| Modulation Used | Proprietary Digitally Modulated OFDM |



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### 1.3.3 Product Security (from the Manufacturer Operational Description)

The Cel-Fi system is built with a number of security features to make sure that it only operates as intended by the operator deploying it while maintaining complete integrity of all traffic going through it. Specifically:

1) The system can operate only on operator approved frequency channels – and these channels are factory loaded in an encrypted fashion and cannot be tampered with.
2) Even on these frequencies the Cel-Fi system checks to see if the over-the-air (OTA) public land mobile network identifier (PLMNID) matches the PLMNID of the carrier. If it does not the system does not operate and never transmits. The PLMNID are also encrypted and factory loaded and cannot be tampered with.
3) The Cel-Fi system does not demodulate and re-modulate user cell signals and, in fact, cannot do so. It only digitizes the cellular RF signal, transports is from the NU to the CU (and vice-versa) over the UNII link and converts the digital signal back to analog and subsequently RF signal and puts it back on air. As such it completely preserves all the WCDMA/LTE call security features exactly as done by the NodeB or the UE and only the intended recipient can demodulate the signal. In other words, a WCDMA/LTE signal going through Cel-Fi has the same level of security of a WCDMA/LTE call not going through Cel-Fi.
4) The UNII link is a proprietary waveform and it is not possible to demodulate the signal without being aware of the exact waveform details.
5) By design of the UNII link - one NU can only connect with one CU. It is strictly a point-to-point link and cannot operate in any other way and particularly one NU cannot connect with multiple CU's.
6) Furthermore, a given NU can in fact only connect to its factory-mated CU. The factory mating is done by generating a pair identifier using a hash function that uses a NU serial number and its mate CU's serial number. This pair identifier is used in all transmissions in a way that cannot be spoofed. Also, the unit serial numbers are protected through use of public and private keys while writing to flash in the factory.
7) The fact that the UNII link is proprietary (and details unknown to the public), that it is point-to-point by design and can mate with only one factory mated NU or CU implies that it is not possible for another device to spoof a CU (or NU) and carry the digitized cell data to an unintended location (and the cell signal is secure in any case as discussed above).
8) Also, it is not possible to build only a receiver (NU or CU) to snoop on the UNII data. To demodulate data on the UNII link would require frame and packet synchronization with the transmitter – which is an explicit hand shake that requires exchange of scrambling codes etc. and, therefore, is not possible for a snooping device.

What these features provide is complete security so that cellular calls through Cel-Fi reach only the intended parties both in the downlink and the uplink.

The subsequent section will also highlight the fact that the end user does not have any access or control over the system – and hence cannot change any parameters or settings or otherwise impact security.

## 1.4 EUT TEST CONFIGURATION

### 1.4.1 Test Configuration Description

| Test Configuration | Description |
|---|---|
| A | Fast and Freeze Up mode. Short CAC and then freezed to selected channel. Channel will not be changed when radar detected. Radar detection monitored through "Radar Events" window of the DFS Conformance Testing application. Radar injected to NU (Test Configuration Diagram A). |
| B | Fast and Freeze Up mode. Short CAC and then freezed to selected channel. Channel will not be changed when radar detected. Radar detection monitored through "Radar Events" window of the DFS Conformance Testing application. Radar injected to CU (Test Configuration Diagram B). |
| C | Fast UP mode. Short CAC and then lock to selected channel initially. Channel will be changed when radar detected. Radar injected to NU (Test Configuration Diagram A). |
| D | Fast UP mode. Short CAC and then lock to selected channel initially. Channel will be changed when radar detected. Radar injected to CU (Test Configuration Diagram B). |
| E | Auto Channel Select. Normal CAC, auto selects a free channel. Channel will be changed when Radar is detected. Output of CU (HB) monitored (Test Configuration Diagram A). |
| F | Auto Channel Select. Normal CAC, auto selects a free channel. Channel will be changed when Radar is detected. Output of NU (LB) monitored (Test Configuration Diagram B). |
| G | Auto Channel Select. Normal CAC, auto selects a free channel. Channel will be changed when Radar is detected. Radar injected to TX Output port of NU. NU is the Master for both LB and HB before CU comes on-line. NU will do HB ISM and detect all Radars. Output of CU (HB) monitored (Test Configuration Diagram C). |

### 1.4.2 EUT Exercise Software

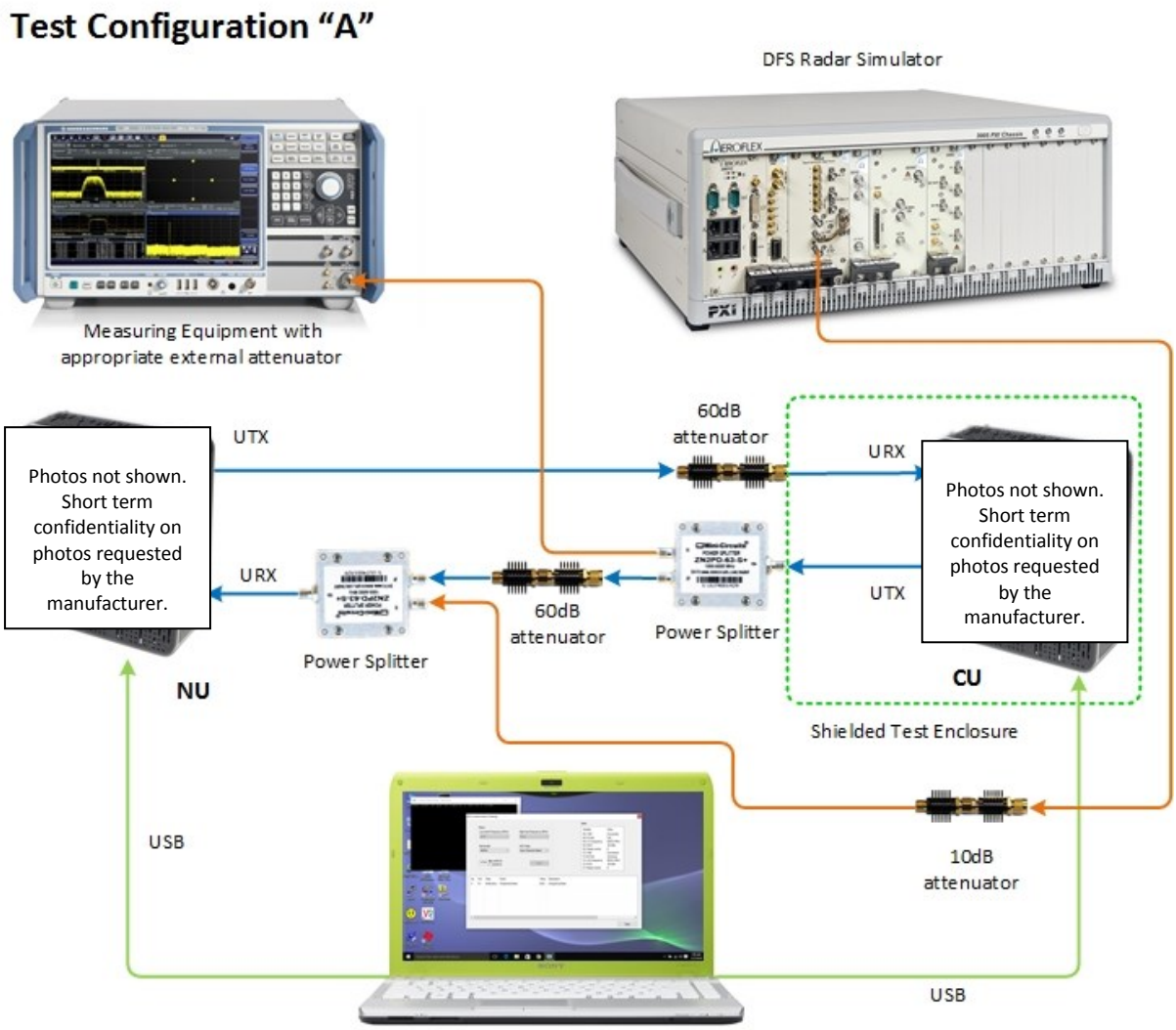
Manufacturer provided a configuration software (ConformanceTest.exe) running from a support laptop where both EUT are connected via USB.

### 1.4.1 Support Equipment and I/O cables

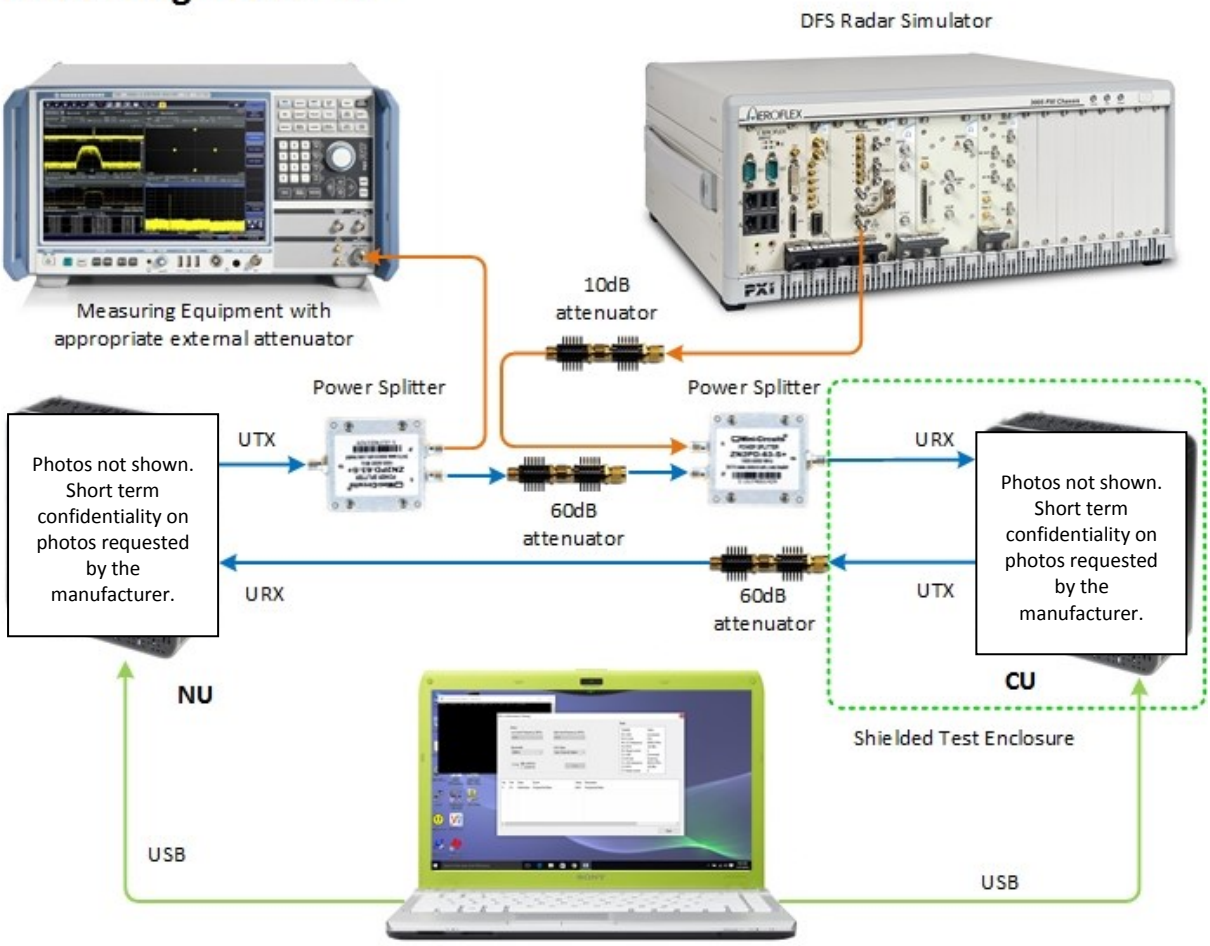
| Manufacturer | Equipment/Cable | Description |
|---|---|---|
| Lenovo | Support Laptop (T410S) | P/N 0A31972 S/N R9-92MH0 10/11 |

*Laptop used during programming is generic and can be different brand and model.*

### 1.4.2 Simplified Test Configuration Diagram

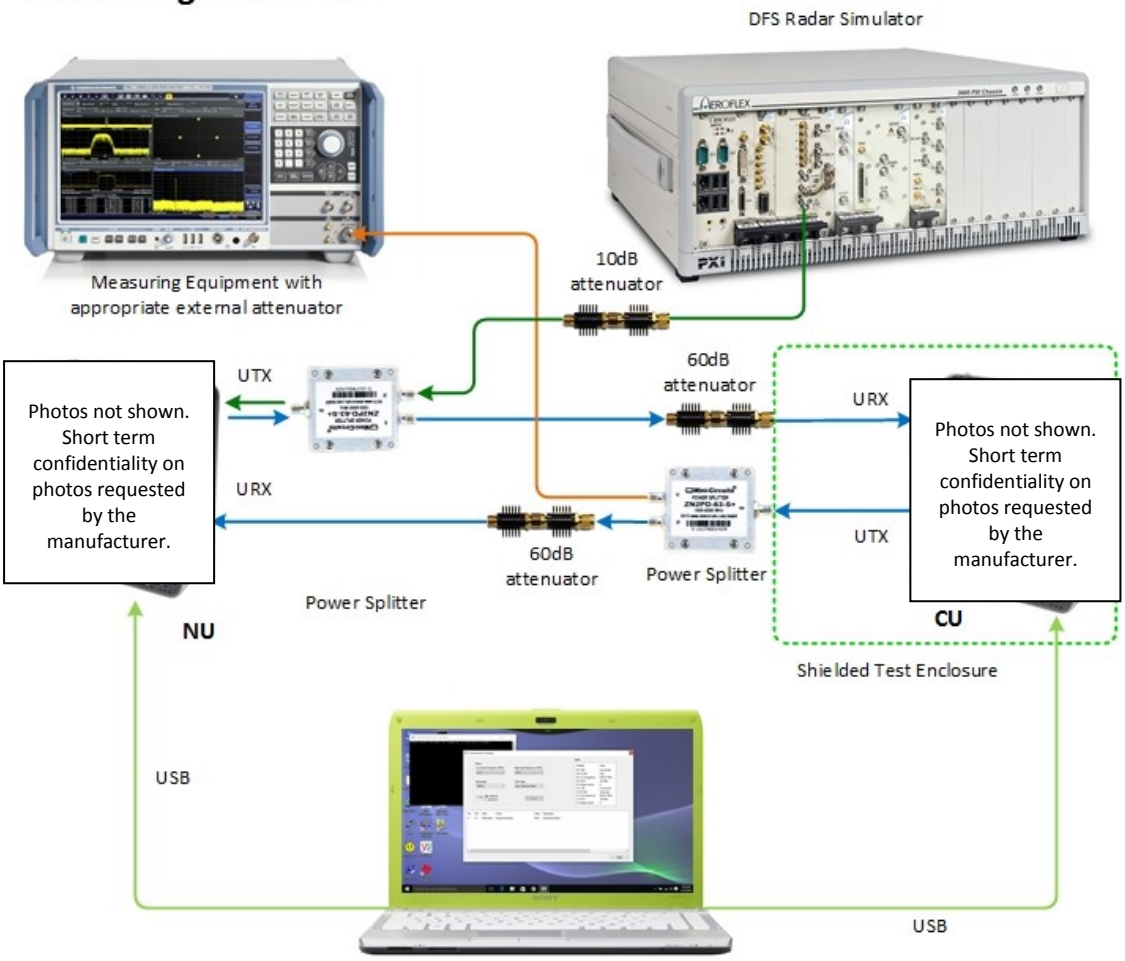


## Test Configuration "B"




Support Laptop connected to both EUT via USB and running Nextivity DFS Conformance Test

## Test Configuration "C"




Support Laptop connected to both EUT via USB and running Nextivity DFS Conformance Test

## 1.5 DEVIATIONS FROM THE STANDARD

At the time of verification, the DFS Radar Simulator and Analyzer does not have the latest updates according to "Bin 5 Radar Chirp – Proposed Solution' as discussed during the October 2015 TCB Workshop. The procedure was followed but instead of using single pulse width for each trial on the edges, random pulse widths were used as generated by the simulator. The test frequency was adjusted to cover the minimum chirp width (5MHz) up to the maximum chirp width (20MHz). For example with $F_L$ of 5261 MHz (Center frequency of 5280 MHz with Radar Detection BW of 38 MHz), the first test frequency will be $F_L$ + 0.4 (5MHz) while the last one for the Subset will be $F_L$ + 0.4 (20MHz). Since each trial has randomized chirp width from 5MHz up to 20MHz, the test frequency used during testing ensures that the Chirp will be inside the channel radar detection BW for each trial performed. See sample test frequencies below for $F_L$ of 5261 MHz:

| Test Frequencies for $F_L$ of 5261 MHz (Subset for Low Edge) | | | |
|---|---|---|---|
| Trial 1 | 5263 MHz | Trial 6 | 5266 MHz |
| Trial 2 | 5264 MHz | Trial 7 | 5267 MHz |
| Trial 3 | 5264 MHz | Trial 8 | 5268 MHz |
| Trial 4 | 5265 MHz | Trial 9 | 5268 MHz |
| Trial 5 | 5266 MHz | Trial 10 | 5269 MHz |

## 1.6 MODIFICATION RECORD

| Description of Modification | Modification Fitted By | Date Modification Fitted |
|---|---|---|
| 296546000608 (NU) and 297546000537 (CU) | | |
| N/A | | |

The table above details modifications made to the EUT during the test programme. The modifications incorporated during each test (if relevant) are recorded on the appropriate test pages.

## 1.7 TEST METHODOLOGY

All measurements contained in this report were conducted in accordance with KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02. Compliance Measurement Procedures For Unlicensed-National Information Infrastructure Devices Operating In The 5250-5350 Mhz And 5470-5725 Mhz Bands Incorporating Dynamic Frequency Selection (May 15, 2015).

## 1.8 TEST FACILITY LOCATION

### 1.8.1 TÜV SÜD America Inc. (Mira Mesa)

10040 Mesa Rim Road, San Diego, CA 92121-2912 (32.901268,-117.177681). Phone: 858 678 1400 FAX: 858-546 0364

### 1.8.2 TÜV SÜD America Inc. (Rancho Bernardo)

16530 Via Esprillo, San Diego, CA 92127-1708 (33.018644,-117.092409). Phone: 858 678 1466 FAX: 858-546 0364

## 1.9 TEST FACILITY REGISTRATION

### 1.9.1 FCC – Registration No.: US1146

TUV SUD America Inc. (San Diego), is an accredited test facility with the site description report on file and has met all the requirements specified in §2.948 of the FCC rules. The acceptance letter from the FCC is maintained in our files and the Registration is US1146.

### 1.9.2 Industry Canada (IC) Registration No.: 3067A

The 10m Semi-anechoic chamber of TUV SUD America Inc. (San Diego) has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No. 3067A.

## 1.10 DFS TEST SYSTEM

The DFS system consists of hardware and software. The Hardware uses a PXI chassis with PXI instruments populating the chassis. The instruments used are a Vector Signal Generator, a Digitiser, Frequency References and a Dual Core PC (Windows 7 Professional). The Measurement and Analysis software runs on the PC and controls the instruments within the mainframe via commands on the PXI bus. Various markers are contained within the generated waveforms. The markers are used to trigger the measurement system at the appropriate points. An external trigger is also provided at the SMB output on the Vector Signal Generator which is employed where a Spectrum Analyzer is used in place of the Aeroflex Digitiser. These are described within the test procedure for the applicable test.

The Aeroflex DFS software generates the pulses in accordance with KDB905462.

### 1.10.1 Short Pulse Radar Test Waveforms (Types 0-4)

The short pulse radar simulation is a conventional amplitude pulse with varying pulse widths, pulse rate intervals (PRI) and number of pulses. General characteristics for these types and number of repetitions required by the standard are as follows:

| Radar Type | Pulse Width (µsec) | PRI (µsec) | Number of Pulses |
|---|---|---|---|
| 0 | 1 | 1428 | 18 |
| 1 | 1 | **Test A**: 15 unique PRI values randomly selected | Roundup((1/360)x(19x$10^6$/ $PRI_{\mu sec}$) |
| | | **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 |
| 3 | 6-10 | 200-500 | 16-18 |
| 4 | 11-20 | 200-500 | 12-16 |

### 1.10.2 Long Pulse Radar Test Waveforms (Types 5)

The long pulse radar simulation is a 12 second concatenated series of chirps, chosen randomly. The general characteristics for Type 5 and number of repetitions required by the standard are as follows:

| Radar Type | Pulse Width (µsec) | Chirp Width (MHz) | PRI (µsec) | Number of Pulses/Burst | Number of Burst |
|---|---|---|---|---|---|
| 5 | 50-100 | 5-20 | 1000-2000 | 1-3 | 8-20 |



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The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, 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 frequency modulated 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 a 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 random time interval between the first and second pulses is chosen independently of the random time interval 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 / 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 / Burst_Count) – (Total Burst Length) + (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 randomly.

### 1.10.3 Frequency Hopping Radar Test Waveform (Types 6)

| Radar Type | Pulse Width (µsec) | PRI (µsec) | Pulse per Hop | Hopping Rate (kHz) | Hopping Sequence Length (msec) |
|---|---|---|---|---|---|
| 6 | 1 | 333 | 9 | 5-20 | 300 |

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 selected 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.

**SECTION 2**

**CALIBRATION AND TEST DETAILS**

DFS Testing of the
Nextivity Inc.
Smart Cellular Signal Booster

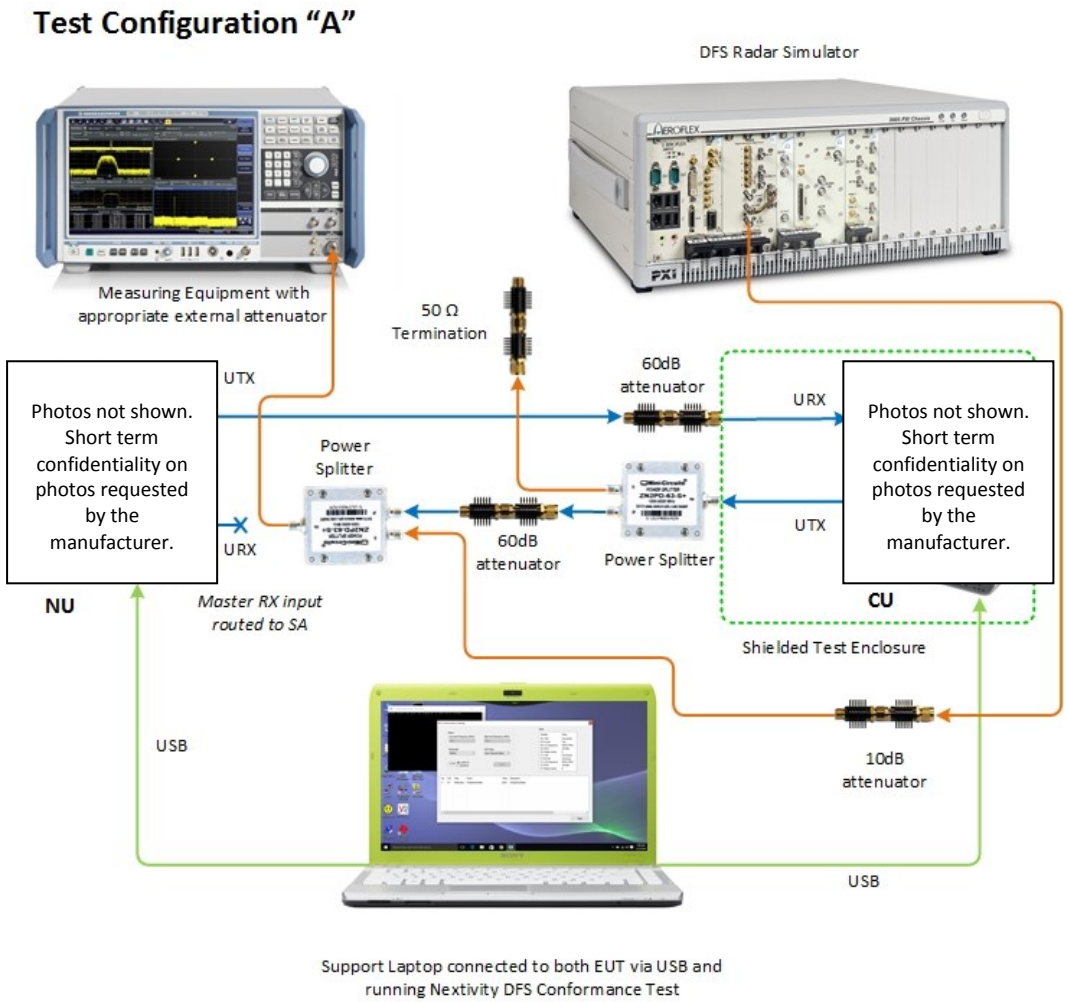
## 2.1 RADAR WAVEFORM CALIBRATION

### 2.1.1 Requirement

Clause 8.2 of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.1.2 Description of Calibration Setup

Conducted method was used. Test Configurations "A" and "B" (Section 1.4.2) were modified so that the Master RX input (NU for Test Configuration "A" and CU for Test Configuration "B") was replaced by a spectrum analyzer:




Calibration for CU RX input will be identical since the setup will be reversed when verifying CU as a Master (Test Configuration "B"). Both EUTs (NU and CU) were "off" during calibration.

### 2.1.3 DFS Detection Threshold

Reported EIRP using the highest antenna gain (1 dBi) is 22 dBm or 158.5 mW. Highest reported power spectral density is 9.62 dBm/MHz (from test report no. SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report.docx (issued by TÜV SÜD America, February 2016). Therefore the DFS Detection Threshold is -61 dBm (-62 dBm + 1 dB).

### 2.1.4 Date of Test/Initial of test personnel who performed the test

February 4 and 5, 2016/FSC

### 2.1.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.1.6 Environmental Conditions

Calibration performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 22.0°C |
| Relative Humidity | 18.0% |
| ATM Pressure | 100.1 kPa |

### 2.1.7 Additional Observations

- Two frequencies were verified: 5280 MHz for Low Band and 5630 MHz for High Band.
- RBW and VBW were set to 3MHz.
- Sweep time was adjusted to show one complete burst.
- Trigger offset was -3ms to show start of the burst.
- The -2dB offset accounts for the connectors and insertion loss of the SMA pigtail at 5GHz.

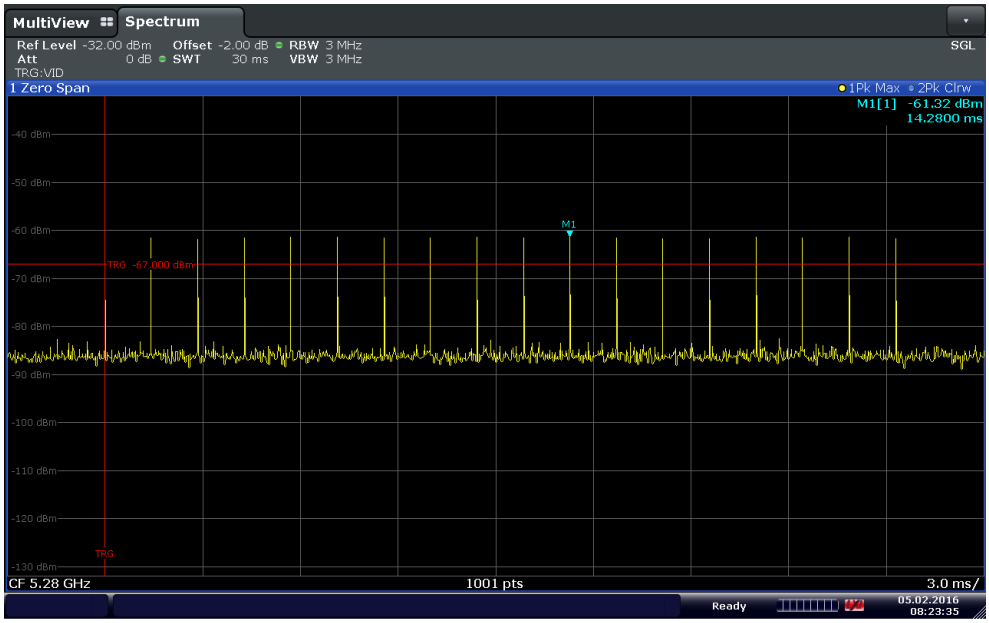
### 2.1.8 Calibration Level Results

These settings will be used during actual verification:

| Frequency | Radar Type | Radar Simulator Level Setting (dBm) | Radar Simulator Path Loss (dB) |
|---|---|---|---|
| 5280 MHz | 0 to 5 | -61.00 | 17 |
| 5630 MHz | 0 to 5 | -61.00 | 17 |
| 5280 MHz | 6 | -55.50* | 17 |
| 5630 MHz | 6 | -59.50* | 17 |

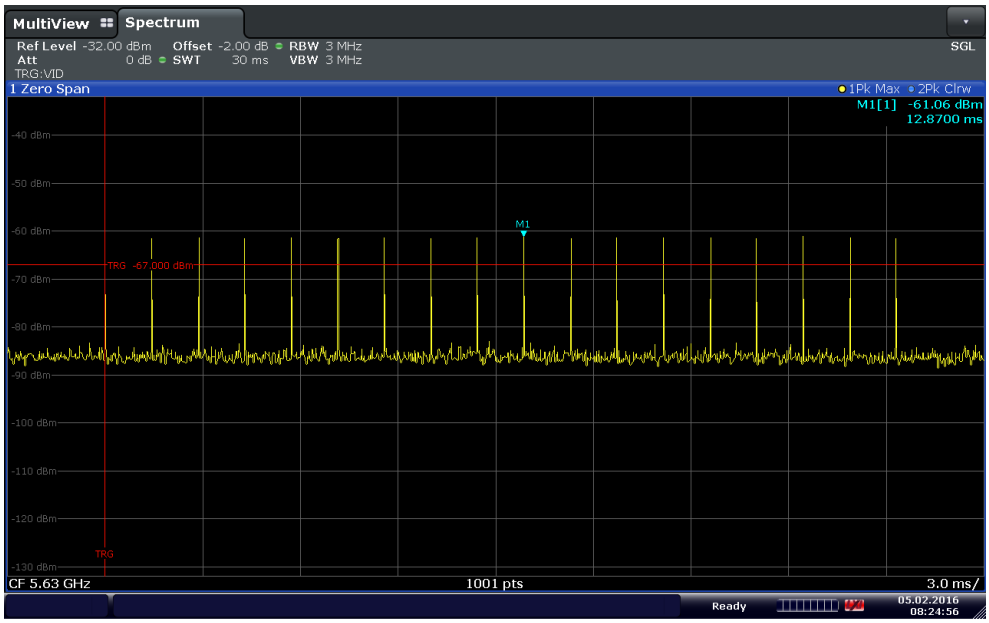
**This is the Radar generator level setting necessary to produce -61.0 dBm Radar at the RX input of both NU and CU when configured as a Master device when using radar Type 6.*

### 2.1.9 Calibration Plots



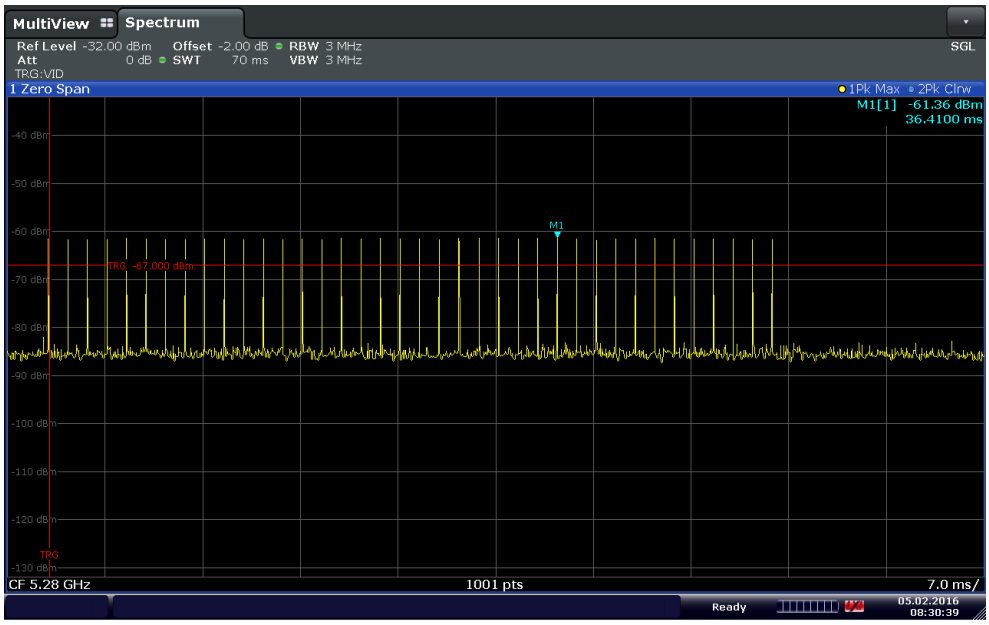

Date: 5.FEB.2016 08:23:35

**Radar Type 0 @ 5280 MHz**



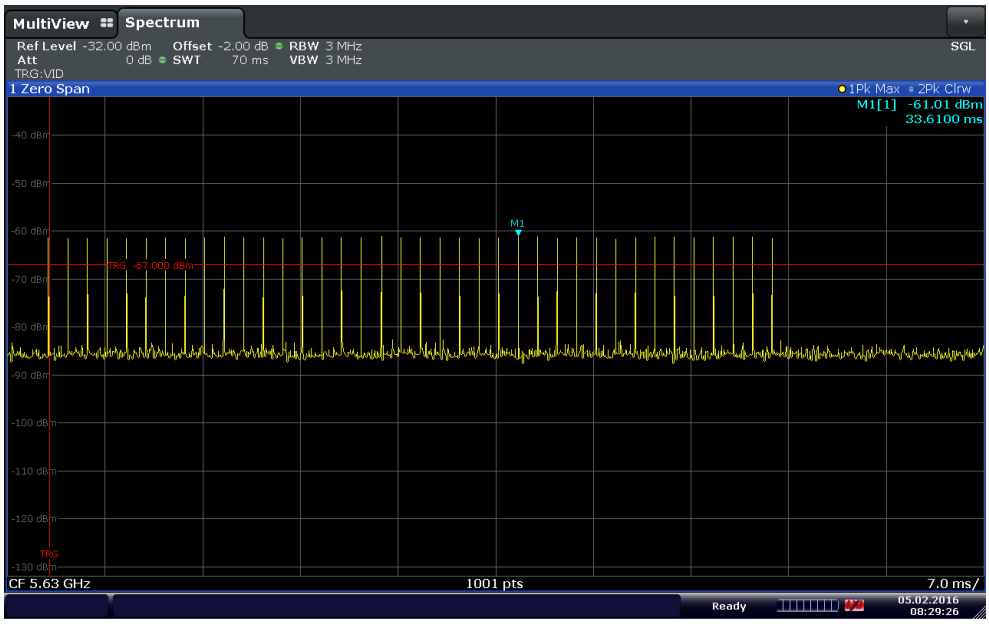

Date: 5.FEB.2016 08:24:56

**Radar Type 0 @ 5630 MHz**



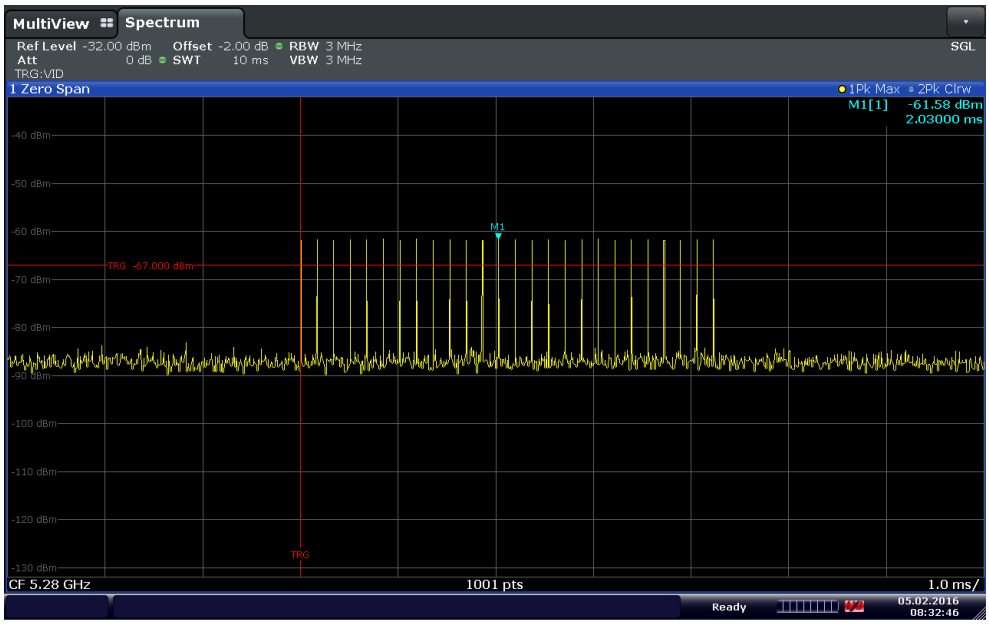

Date: 5.FEB.2016 08:30:39

**Radar Type 1 @ 5280 MHz**



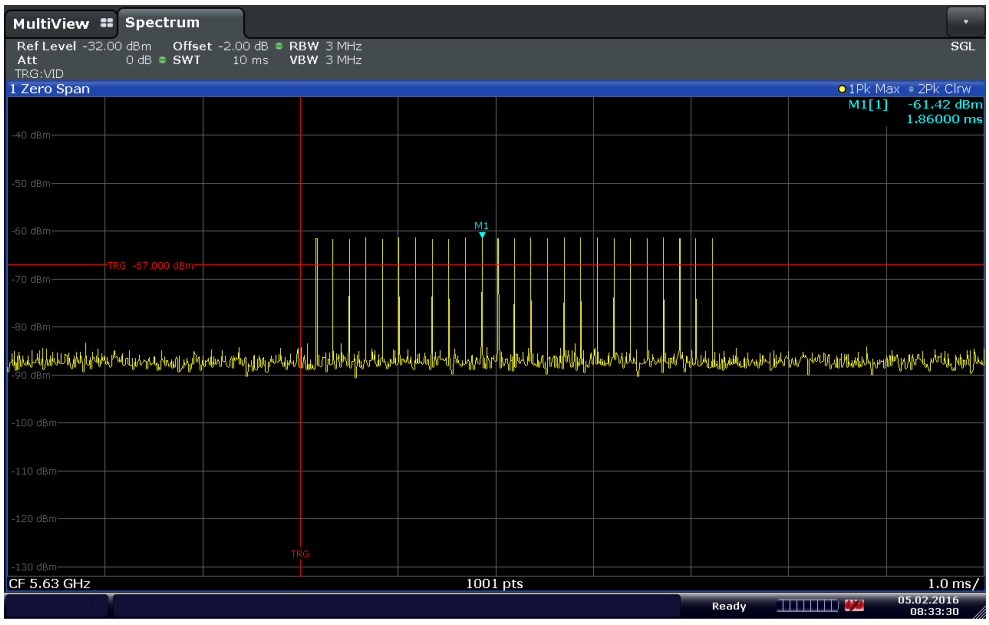

Date: 5.FEB.2016 08:29:26

**Radar Type 1 @ 5630 MHz**



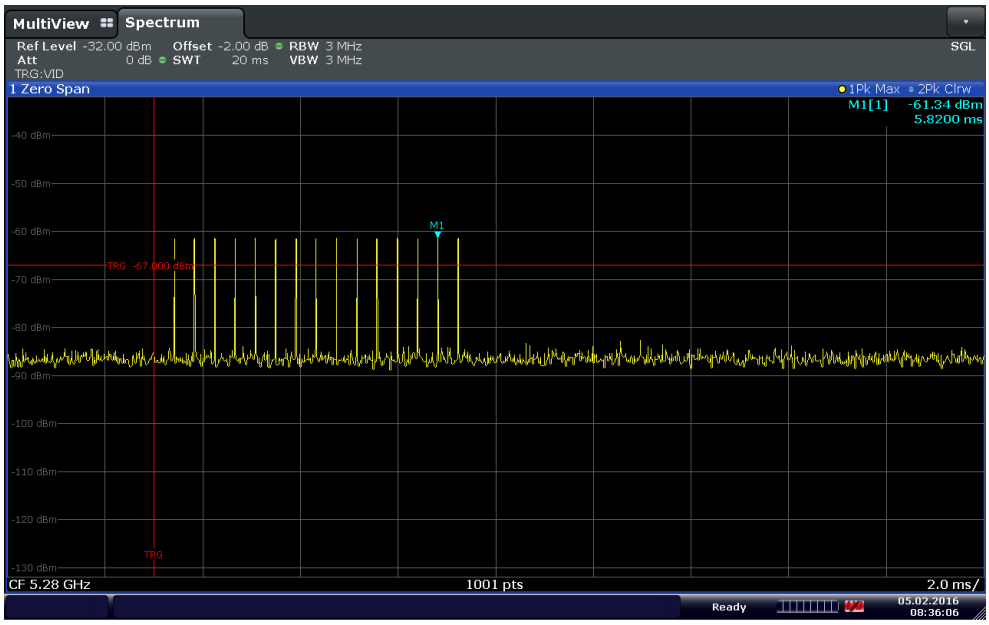

Date: 5.FEB.2016 08:32:46

**Radar Type 2 @ 5280 MHz**



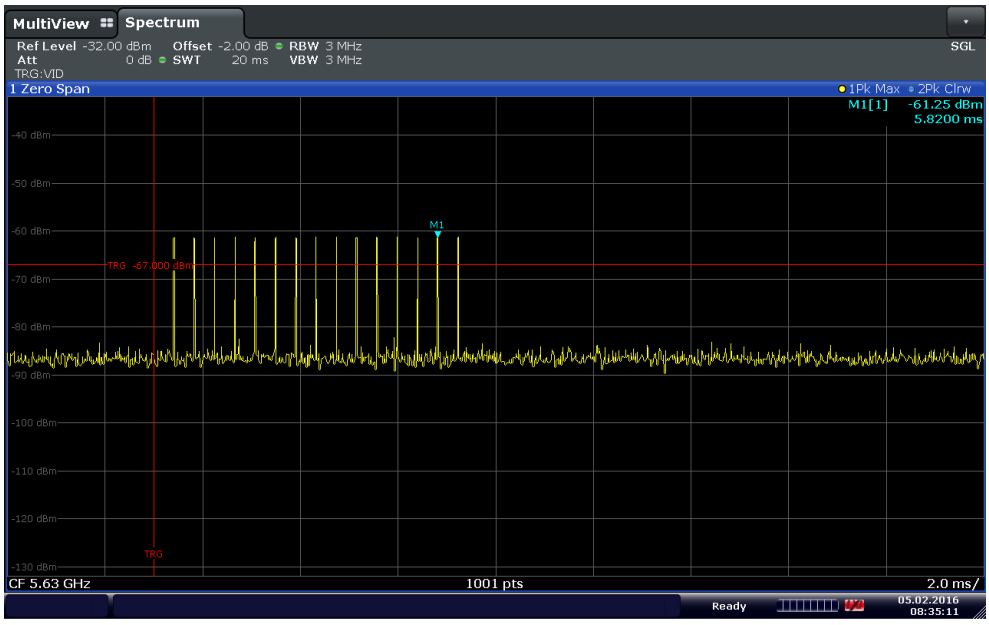

Date: 5.FEB.2016 08:33:30

**Radar Type 2 @ 5630 MHz**



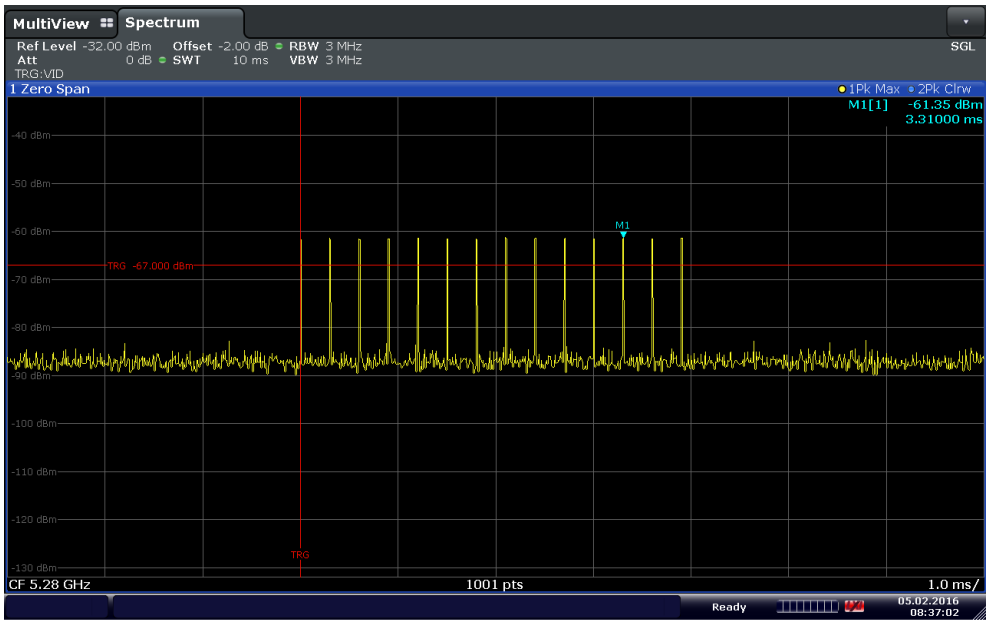

Date: 5.FEB.2016 08:36:06

**Radar Type 3 @ 5280 MHz**



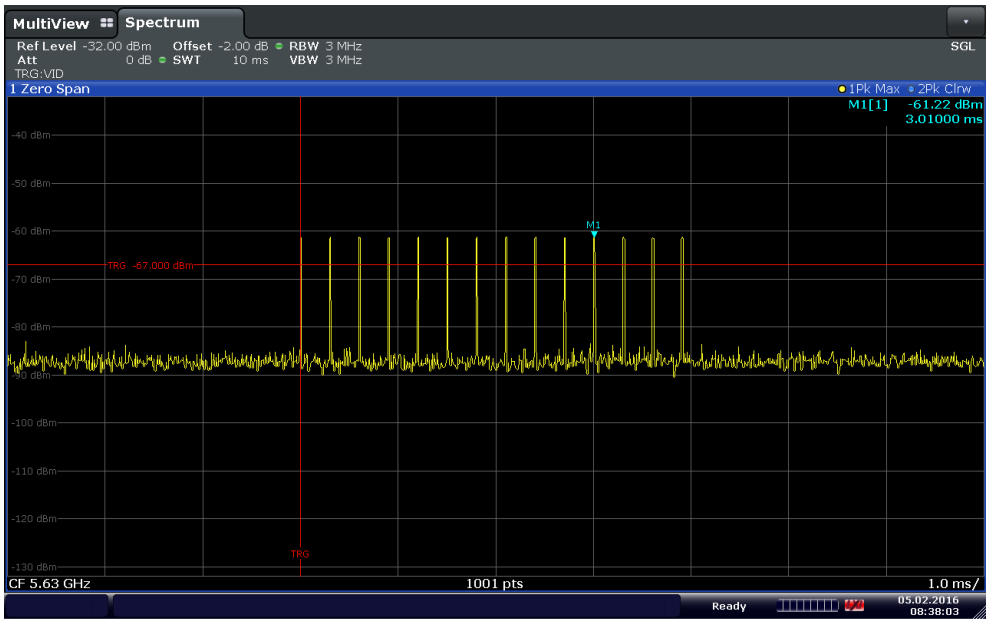

Date: 5.FEB.2016 08:35:11

**Radar Type 3 @ 5630 MHz**



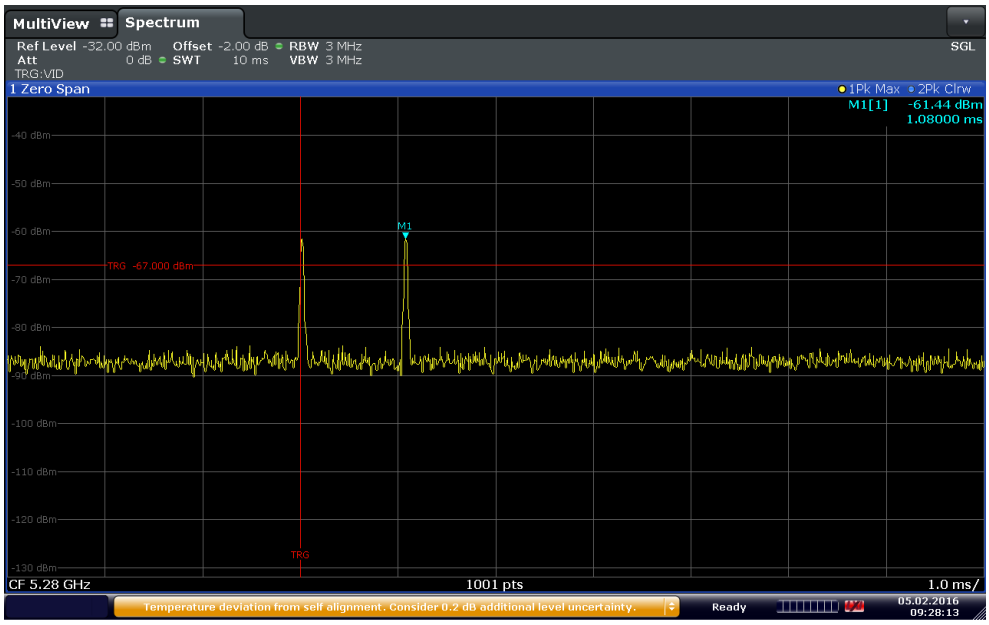

Date: 5.FEB.2016 08:37:02

**Radar Type 4 @ 5280 MHz**



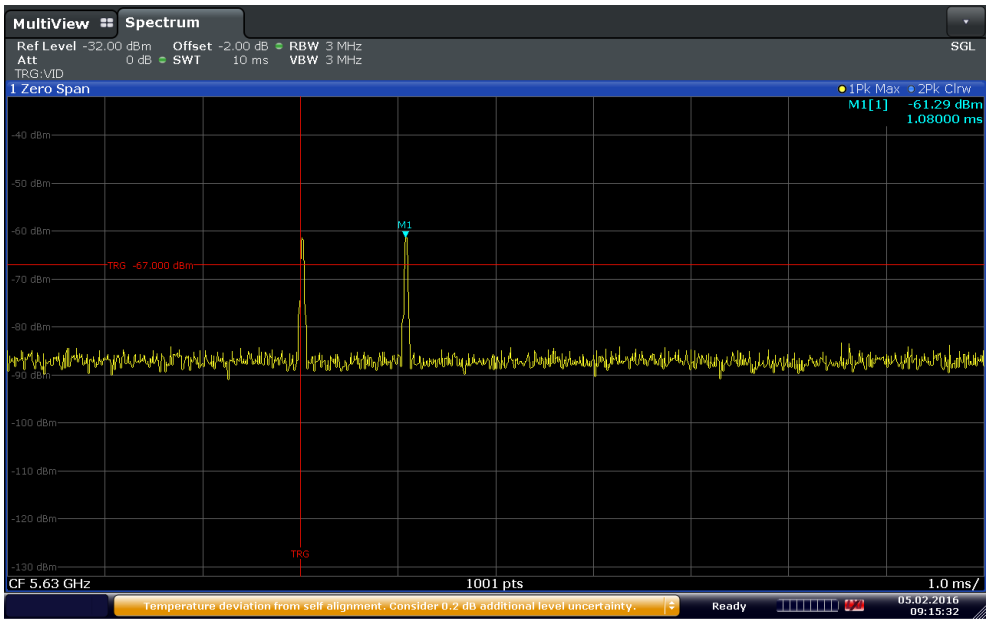

Date: 5.FEB.2016 08:38:04

**Radar Type 4 @ 5630 MHz**



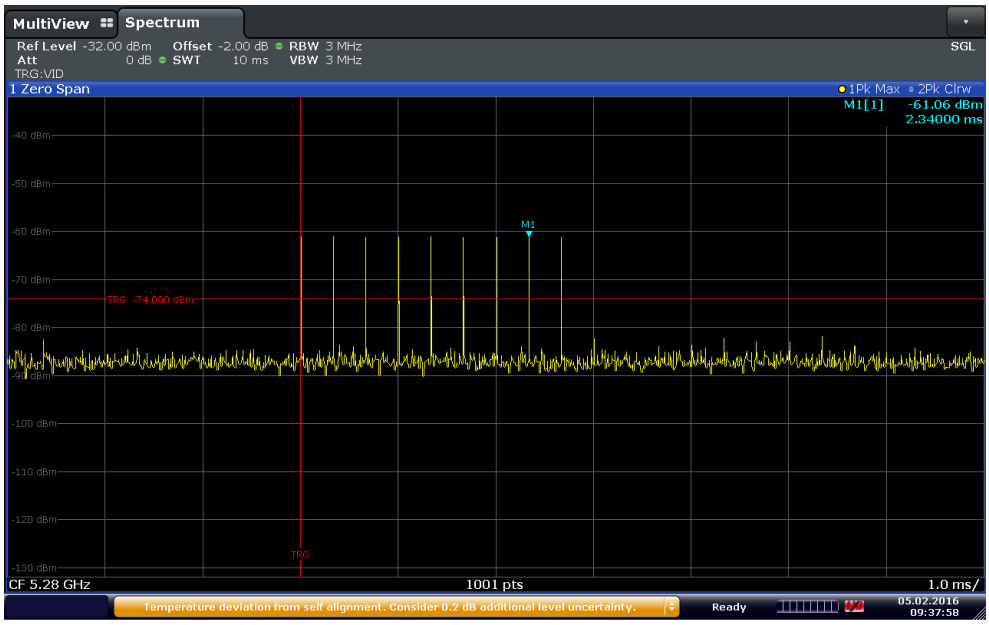

Date: 5.FEB.2016 09:28:12

**Radar Type 5 @ 5280 MHz (showing single burst with 1-3 pulses)**



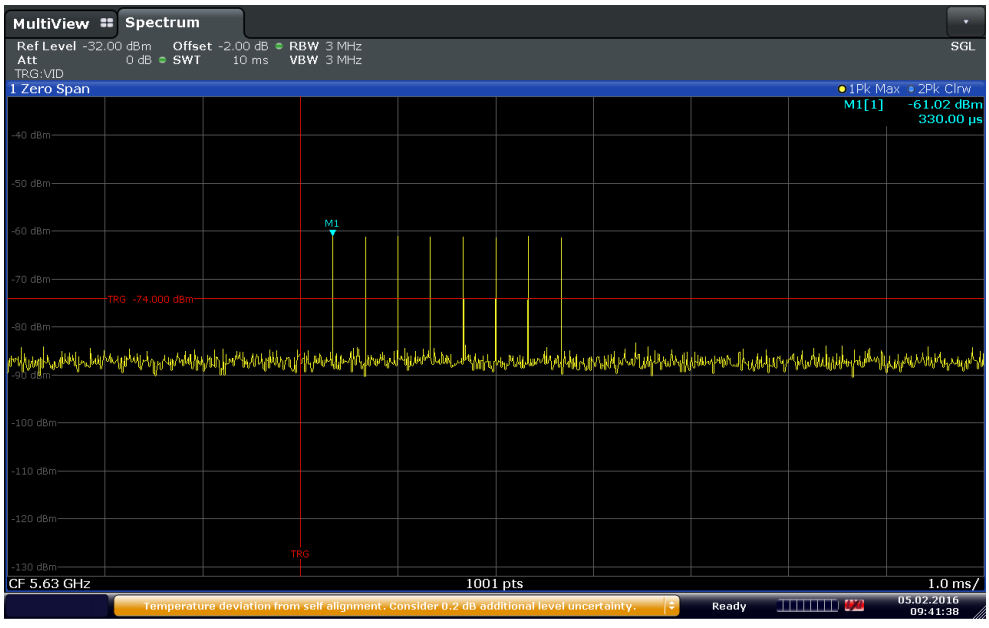

Date: 5.FEB.2016 09:15:33

**Radar Type 5 @ 5630 MHz (showing single burst with 1-3 pulses)**




Date: 5.FEB.2016 09:37:58

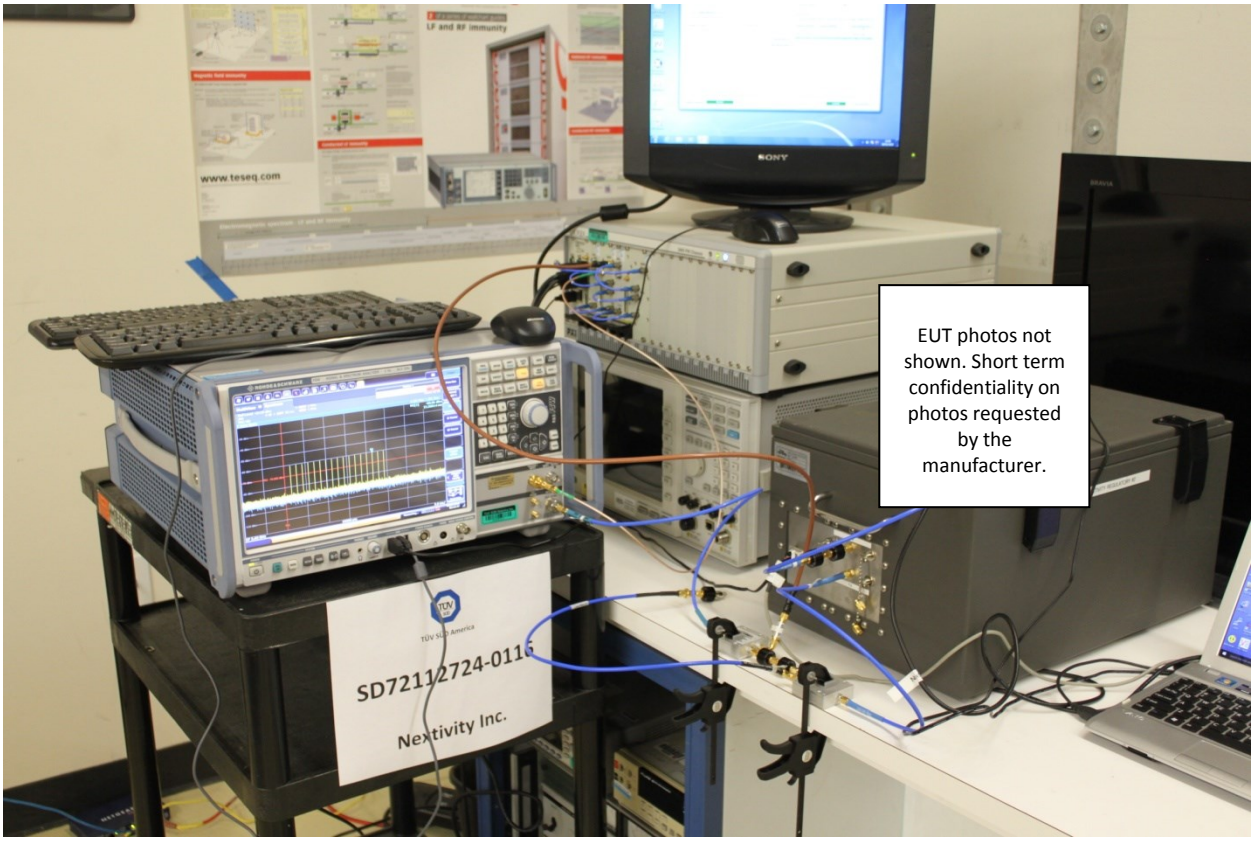
**Radar Type 6 @ 5280 MHz (showing 9 pulses within the U-NII Detection Bandwidth)**

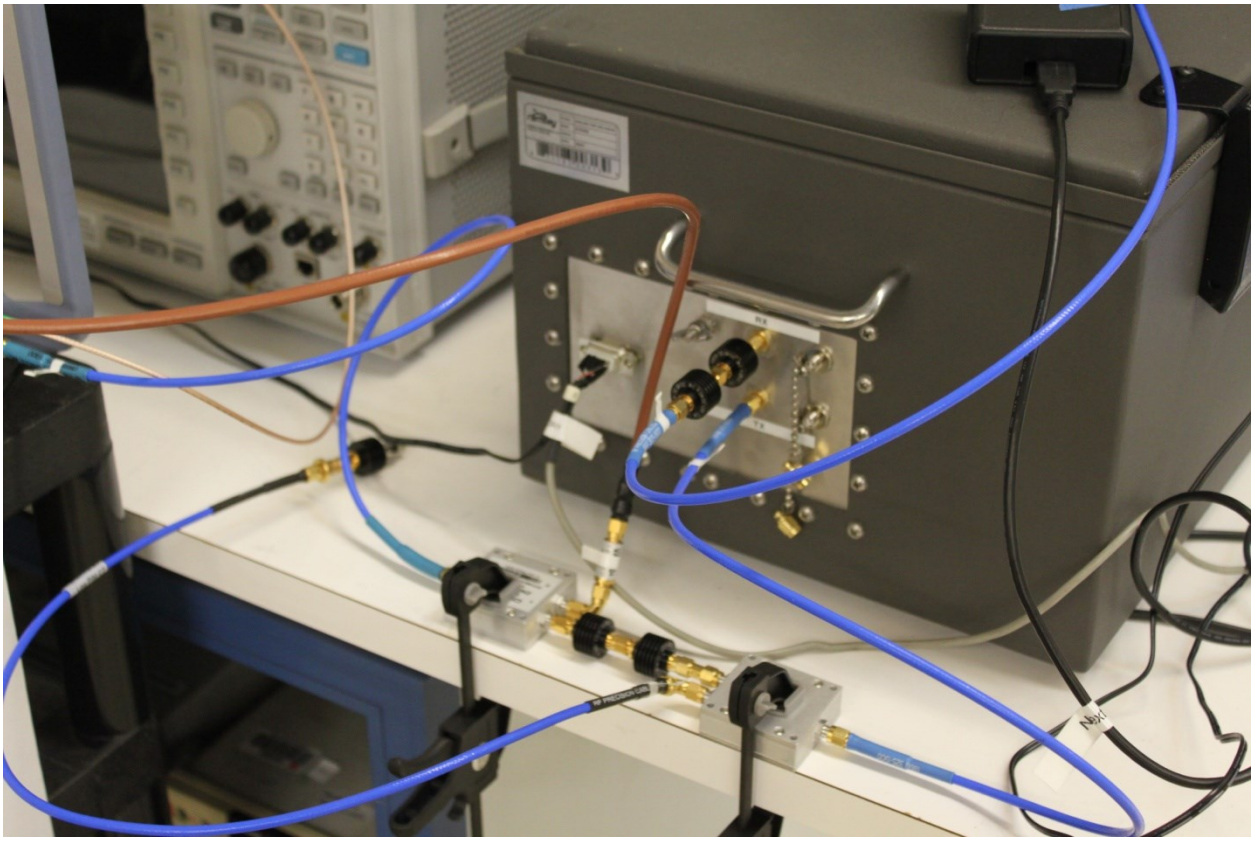



Date: 5.FEB.2016 09:41:38

**Radar Type 6 @ 5630 MHz (showing 9 pulses within the U-NII Detection Bandwidth)**

### 2.1.10 Calibration Setup Photo



## 2.2 CHANNEL LOADING

### 2.2.1 Requirement

Clause 8.3 (f) of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.2.2 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration A and B

### 2.2.3 Date of Test/Initial of test personnel who performed the test

February 05, 2016 / FSC

### 2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.2.5 Environmental Conditions

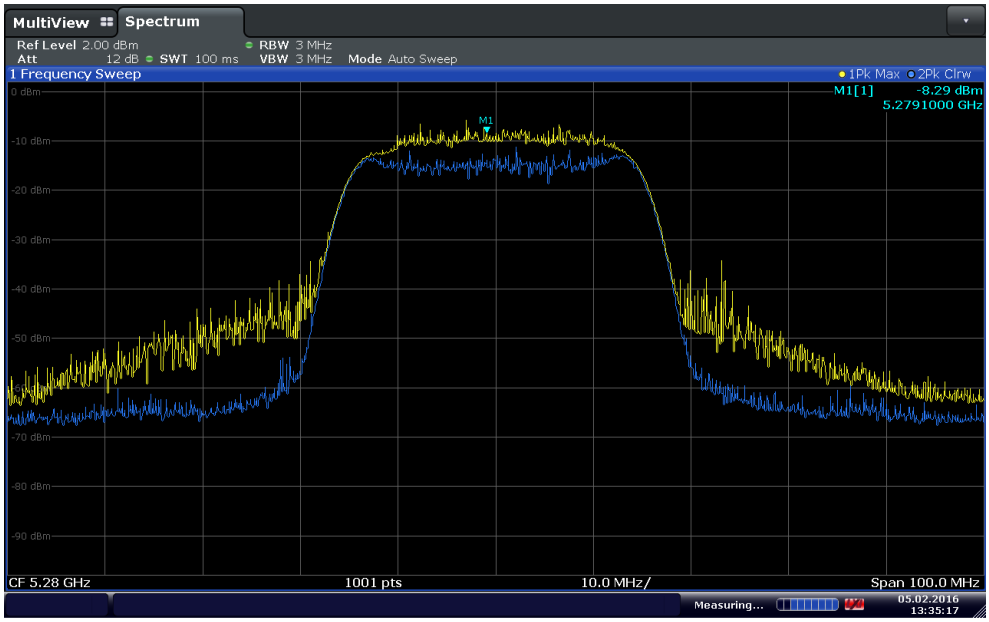
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 22.0 °C |
| Relative Humidity | 18.0 % |
| ATM Pressure | 100.1 kPa |

### 2.2.6 Channel Loading Verification

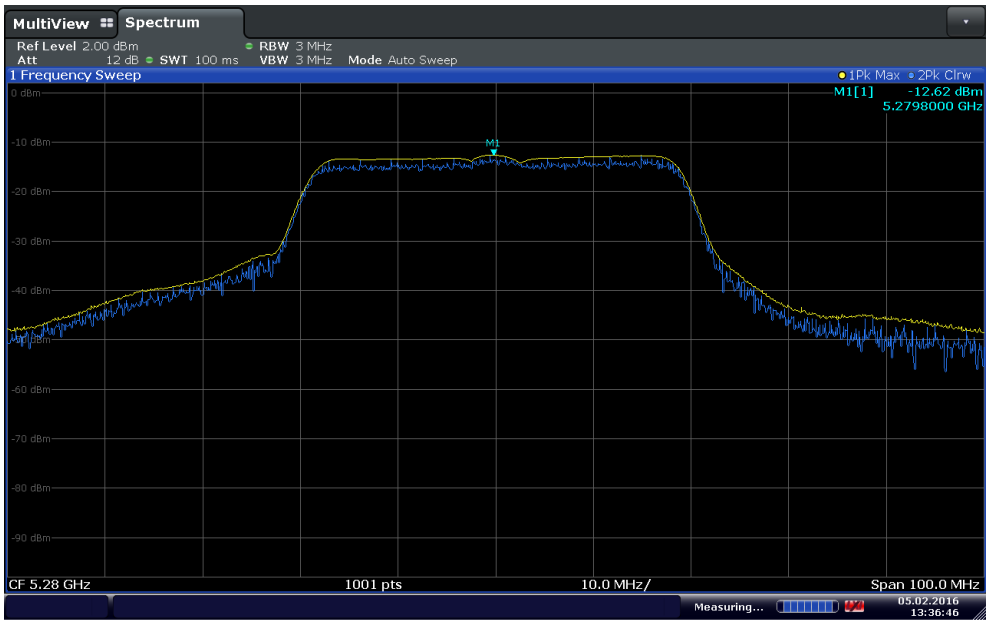
| | |
|---|---|
| Channel Loading Description | Test Mode. NU and CU are connected over a full-duplex link. The manufacturer provided a test mode wherein a 100% duty cycle signal are transmitted on both the Low Band (NU) and High Band (CU). |
| Data Type | Mixed OFDM and muxed cellular signal |
| Timing Plots | See attached Channel Loading plots |
| Channel Loading Percentage | 100% |
| Protocol | Proprietary communication protocol design |

### 2.2.7 Channel Loading Plots



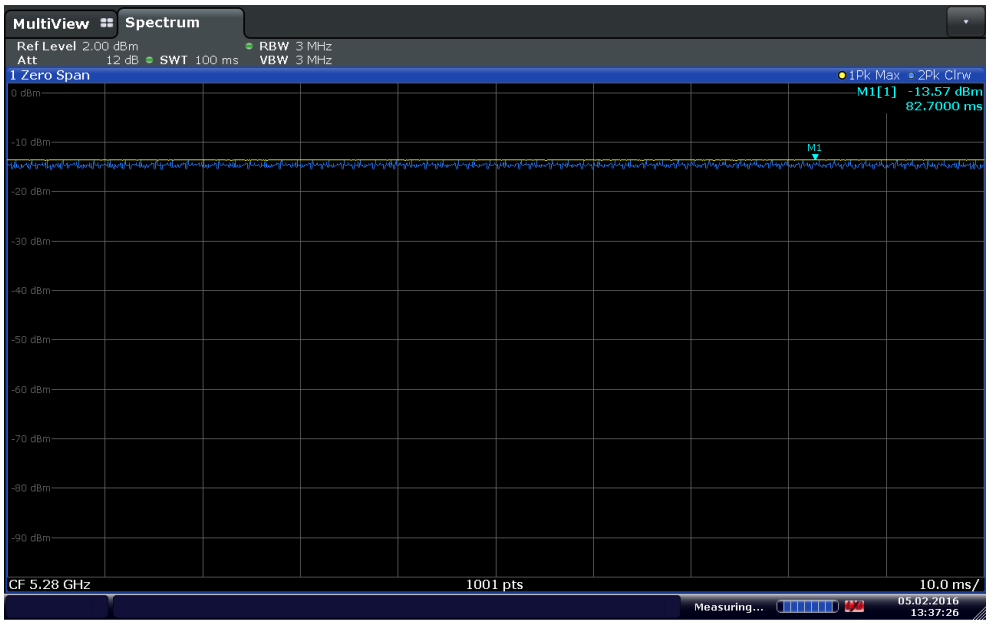

Date: 5.FEB.2016 13:35:17

**30 MHz BW 5280 MHz**



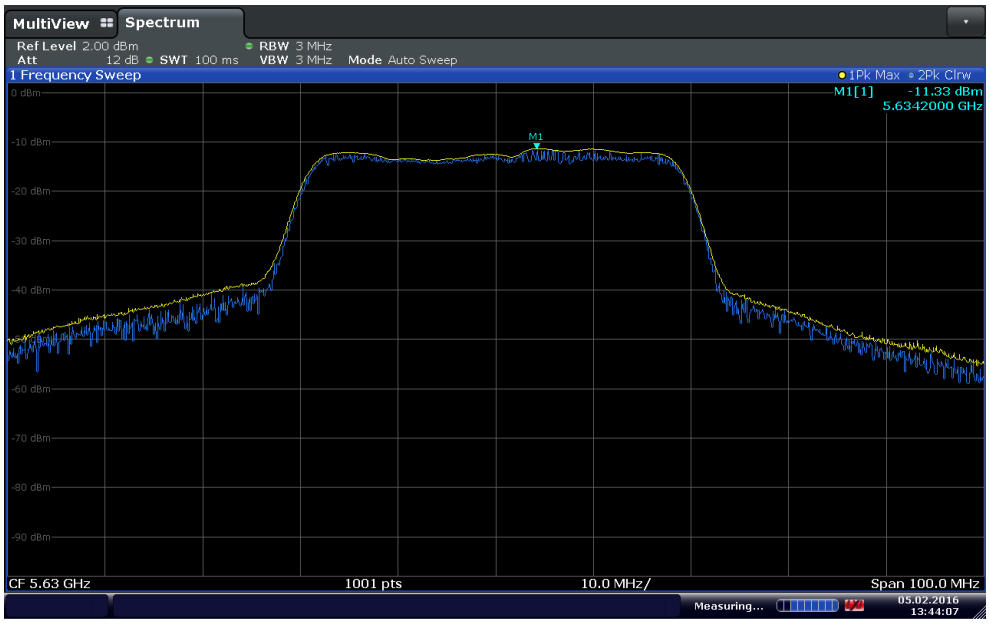

Date: 5.FEB.2016 13:36:46

**40 MHz BW 5280 MHz**



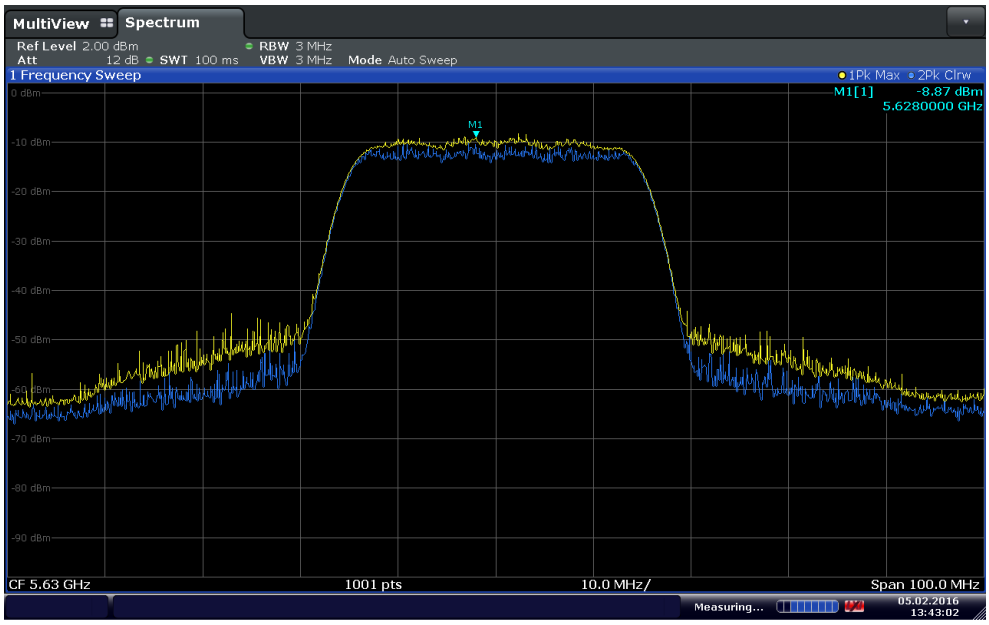

Date: 5.FEB.2016 13:37:27

**40 MHz BW 5280 MHz showing 100% loading (Channel loading is the same between 30 MHz and 40MHz BW)**



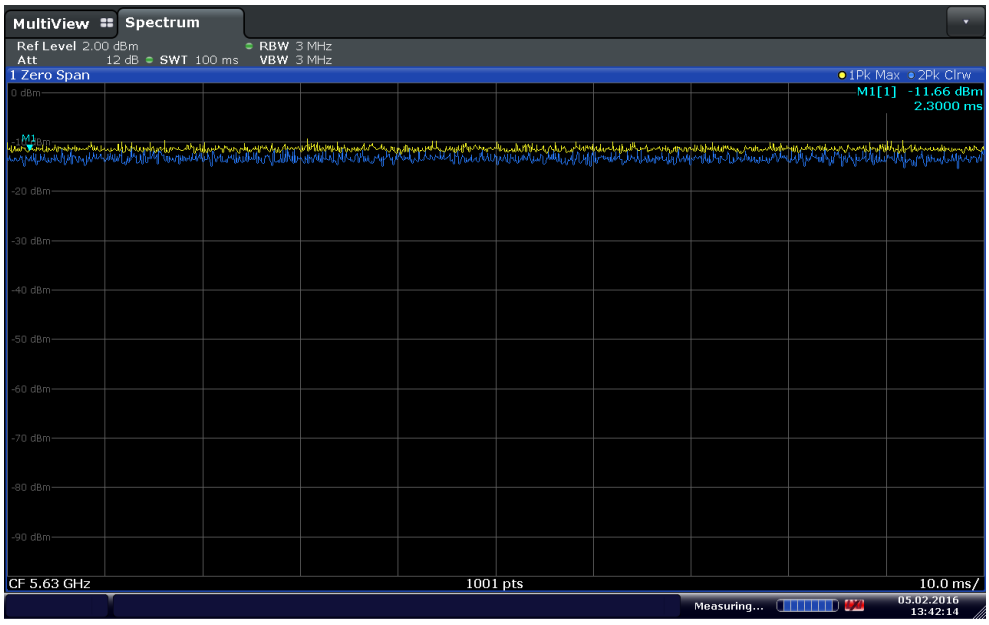

Date: 5.FEB.2016 13:44:07

**40 MHz BW 5630 MHz**




Date: 5.FEB.2016 13:43:02

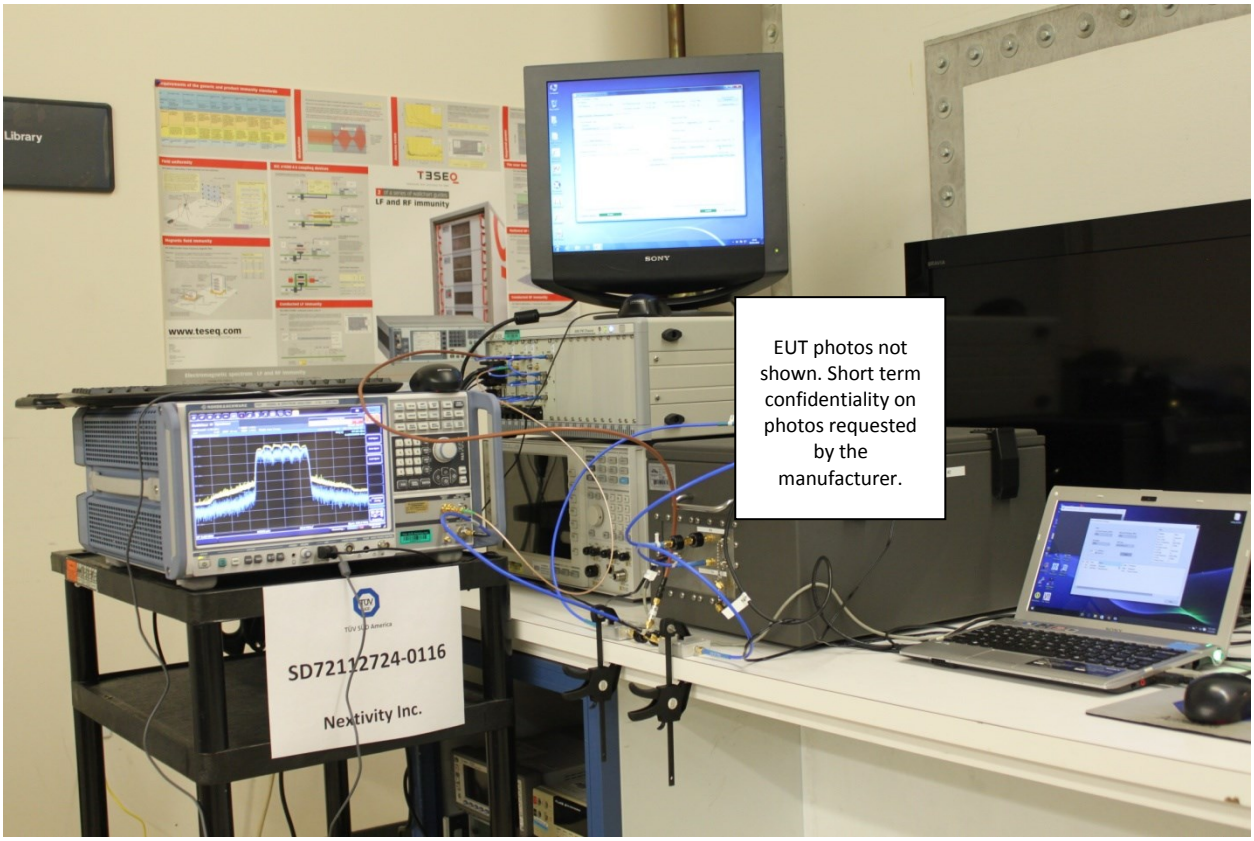
**30 MHz BW 5630 MHz**

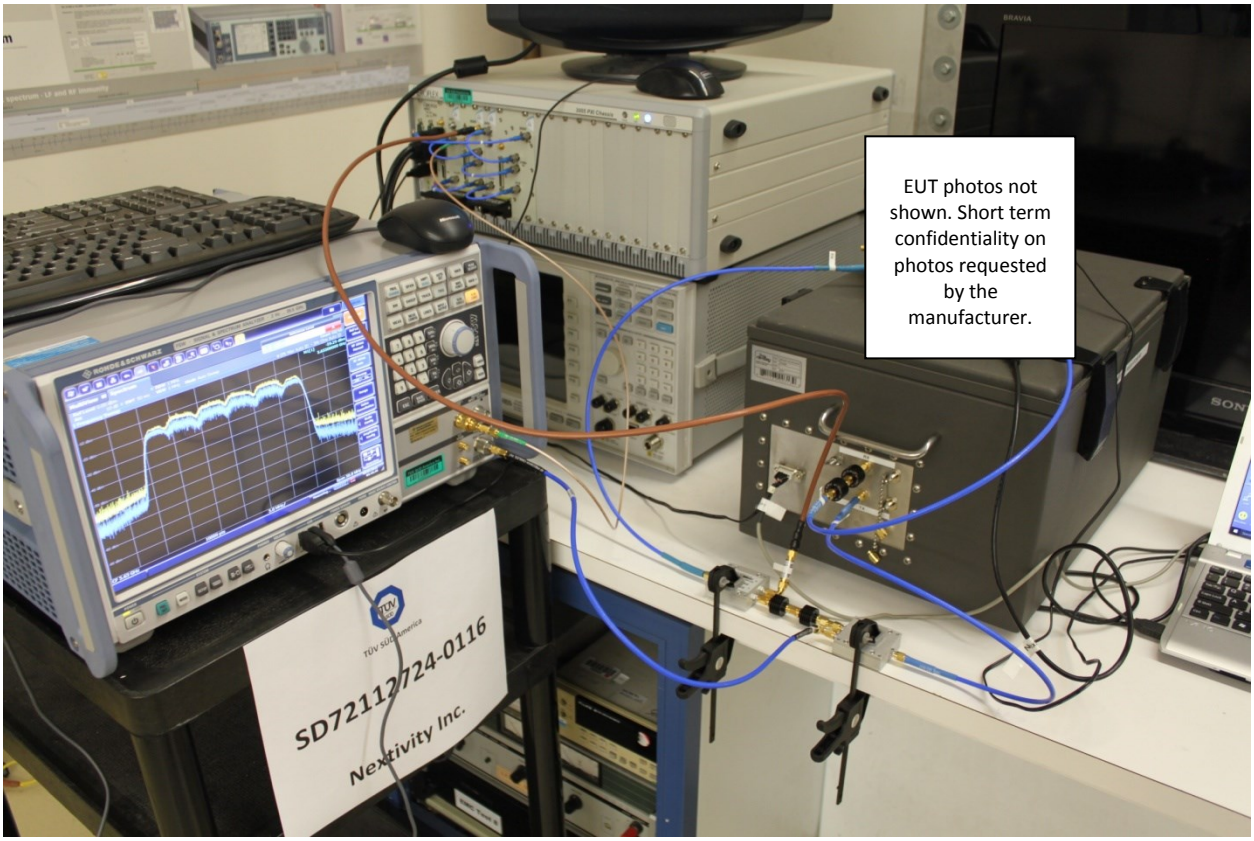



Date: 5.FEB.2016 13:42:14

**30 MHz BW 5630 MHz showing 100% loading (Channel loading is the same between 30 MHz and 40MHz BW)**

### 2.2.8 Test Setup Photo



## 2.3 U-NII DETECTION BANDWIDTH

### 2.3.1 Test Methodology

Clause 7.8.1 of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.3.2 Requirement

| | |
|---|---|
| U-NII Detection Bandwidth | Minimum 100% of the U-NII 99% transmission bandwidth |
| Minimum percentage of detection per trial | 90% |
| BW modes to be tested | All supported |

### 2.3.3 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration A and B

### 2.3.4 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 25.2 °C |
| Relative Humidity | 25.2 % |
| ATM Pressure | 99.8 kPa |

### 2.3.5 Additional Observations

- Once systems are synchronized, both NU and CU are Master Devices. Test Configuration A and B were used to verify U-NII detection bandwidth of both units.
- Frequencies verified were 5280 MHz for NU and 5630 MHz for CU.
- Both 30MHz and 40MHz BW modes were verified, however the detection bandwidth is identical for both modes.
- Fast and Freeze Up Mode was used for this test. This allows monitoring of Radar events while staying on the same channel. Radar events were observed using the DFS Conformance Testing application provided by the manufacturer.
- Radar Type 0 was used for this test with calibration level as per Section 2.1.8 of this test report.
- Test setup photos are identical with Section 2.2.8 of this test report.

### 2.3.6 Test Results

| CU 30MHz BW (5280 MHz RX 5630MHz TX) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radar Frequency (MHz) | DFS Detection Trials (1 = Detection, 0 = No Detection) | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Detection Rate in % (Limit is 90%) |
| 5261 ($F_L$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5265 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5270 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5275 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5280 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5285 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5290 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5295 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5299 ($F_H$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| U-NII Detection Bandwidth = FH – FL = 5299MHz – 5261MHz = 38 MHz | | | | | | | | | | | |
| EUT 30MHz 99% Bandwidth = 29.09MHz (worst case from SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report) | | | | | | | | | | | |
| U-NII Detection Bandwidth Min. Limit (MHz): Minimum 100% of the U-NII 99% transmission power bandwidth. Since 29.09 MHz < 38 MHz, EUT complies. | | | | | | | | | | | |

| **CU 40MHz BW (5280 MHz RX 5630MHz TX)** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Radar Frequency (MHz)** | **DFS Detection Trials (1 = Detection, 0 = No Detection)** | | | | | | | | | | |
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **Detection Rate in % (Limit is 90%)** |
| 5261 ($F_L$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5265 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5270 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5275 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5280 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5285 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5290 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5295 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5299 ($F_H$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| U-NII Detection Bandwidth = FH – FL = 5299MHz – 5261MHz = 38 MHz | | | | | | | | | | | |
| EUT 40MHz 99% Bandwidth = 36.47 MHz (worst case 99% EBW for U-NII-2A and 2C Band from SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report) | | | | | | | | | | | |
| U-NII Detection Bandwidth Min. Limit (MHz): Minimum 100% of the U-NII 99% transmission power bandwidth. Since 36.47 MHz < 38 MHz, EUT complies. | | | | | | | | | | | |

| NU 30MHz BW (5630 MHz RX 5280MHz TX) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radar Frequency (MHz) | DFS Detection Trials (1 = Detection, 0 = No Detection) | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Detection Rate in % (Limit is 90%) |
| 5611 ($F_L$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5610 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5615 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5620 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5625 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5630 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5635 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5640 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5645 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5650 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5649 ($F_H$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| U-NII Detection Bandwidth = FH – FL = 5649MHz – 5611MHz = 38 MHz | | | | | | | | | | | |
| EUT 30MHz 99% Bandwidth = 29.09 MHz (worst case from SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report) | | | | | | | | | | | |
| U-NII Detection Bandwidth Min. Limit (MHz): Minimum 100% of the U-NII 99% transmission power bandwidth. Since 29.09 MHz < 38 MHz, EUT complies. | | | | | | | | | | | |

| NU 40MHz BW (5630 MHz RX 5280MHz TX) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Radar Frequency (MHz) | DFS Detection Trials (1 = Detection, 0 = No Detection) | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Detection Rate in % (Limit is 90%) |
| 5611 ($F_L$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5610 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5615 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5620 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5625 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5630 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5635 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5640 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5645 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |



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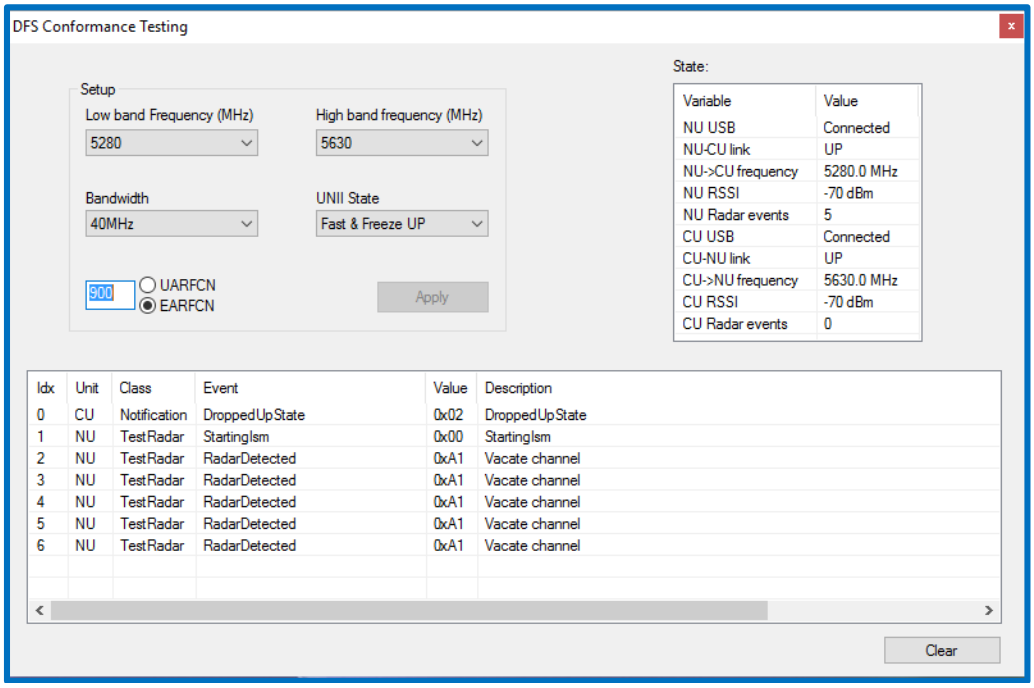
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5650 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5649 ($F_H$) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| U-NII Detection Bandwidth = FH – FL = 5649MHz – 5611MHz = 38 MHz | | | | | | | | | | | |
| EUT 40MHz 99% Bandwidth = 36.47 MHz (worst case 99% EBW for U-NII-2A and 2C Band from SD72112724-0116F FCC Part 15.407 Subpart E RSS247 Test Report) | | | | | | | | | | | |
| U-NII Detection Bandwidth Min. Limit (MHz): Minimum 100% of the U-NII 99% transmission power bandwidth. Since 36.47 MHz < 38 MHz, EUT complies. | | | | | | | | | | | |




**Sample window of DFS Conformance Testing application showing detected Radar events on NU (5280 MHz)**

## 2.4 INITIAL CHANNEL AVAILABILITY CHECK TIME

### 2.4.1 Specification Reference

Part 15 Subpart E §15.407(h)(2)(ii)

### 2.4.2 Standard Applicable

(ii) Channel Availability Check Time. 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.

### 2.4.3 Test Methodology

Clause 7.8.2.1 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.4.4 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration E and F

### 2.4.5 Date of Test/Initial of test personnel who performed the test

February 15, 2016 / FSC

### 2.4.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.4.7 Environmental Conditions

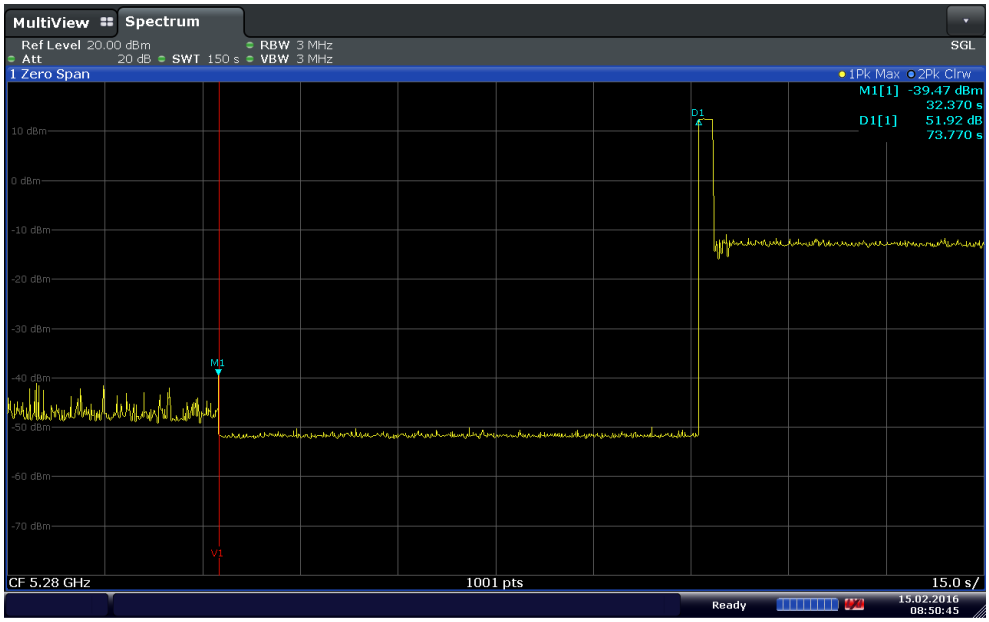
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 25.2 °C |
| Relative Humidity | 24.4 % |
| ATM Pressure | 99.1 kPa |

### 2.4.8 Additional Observations

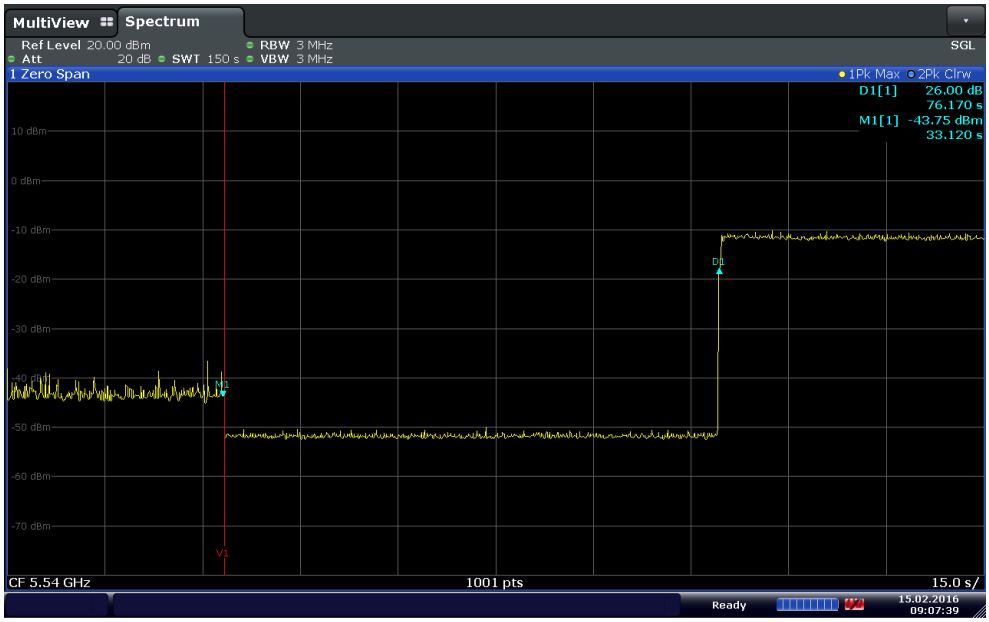
- 5280 MHz (NU) and 5540 MHz (CU) verified.
- EUT in Auto Channel Select Mode. This allows normal CAC and normal operation while using DFS test mode.
- RBW and VBW set to 3MHz while sweep time was set to 150 seconds.
- In DFS test mode, the EUT normally retains the last setting. In order to accurately measure the initial channel availability time, the EUT was initially set to Fast Up mode on a channel adjacent to 5280 MHz and 5540 MHz. Once Auto Channel Select mode is initiated on these wanted frequencies, normal CAC should commence with noticeable dip on the spectrum. This is the start of CAC and will be marked as M1.
- D1 on the test plots is the time the EUT started transmitting on the channel. The delta between M1 and D1 should be greater than 60 seconds.

### 2.4.9 Test Results Plots




Date: 15.FEB.2016 08:50:46

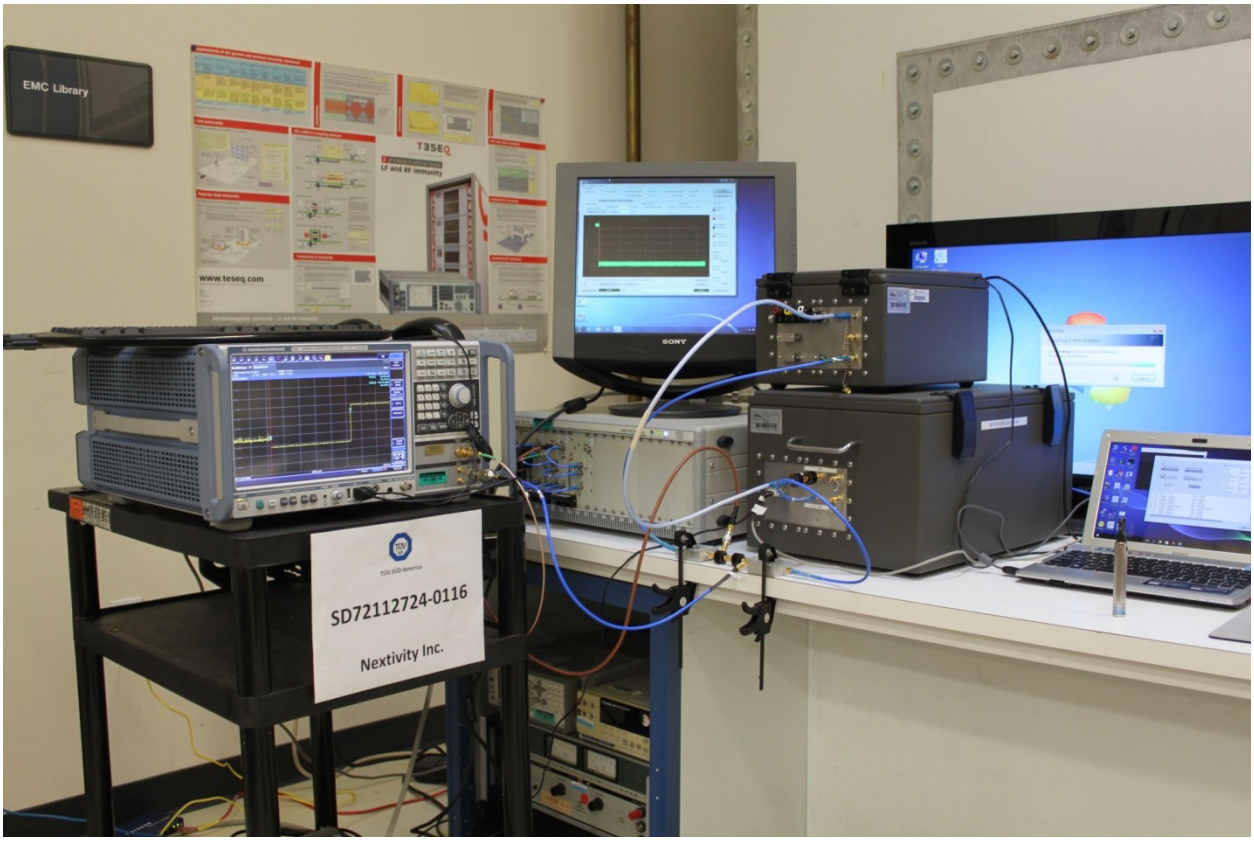
**Initial Channel Availability Check Time of 73.77 seconds for Low Band. EUT complies.**




Date: 15.FEB.2016 09:07:39

**Initial Channel Availability Check Time of 76.17 seconds for High Band. EUT complies.**

### 2.4.10 Test Setup Photo



## 2.5 RADAR BURST AT THE BEGINNING OF THE CHANNNEL AVAILABILITY CHECK TIME

### 2.5.1 Specification Reference

Part 15 Subpart E §15.407(h)(2)(ii)

### 2.5.2 Standard Applicable

(ii) Channel Availability Check Time. 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.

### 2.5.3 Test Methodology

Clause 7.8.2.2 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.5.4 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration G

### 2.5.5 Date of Test/Initial of test personnel who performed the test

February 15, 2016 / FSC

### 2.5.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.5.7 Environmental Conditions

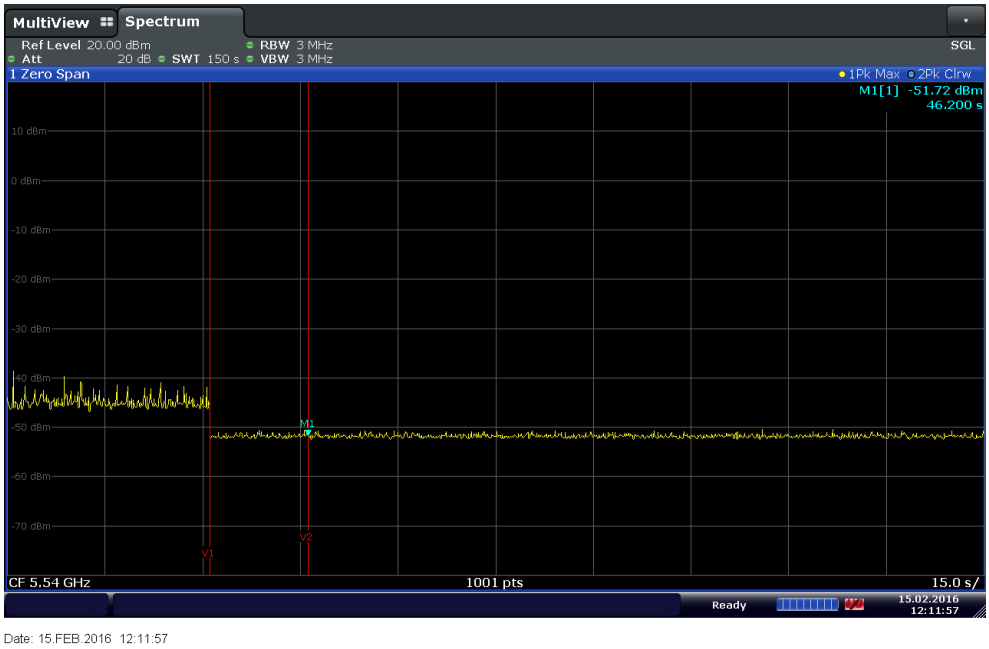
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 25.2 °C |
| Relative Humidity | 24.4 % |
| ATM Pressure | 99.1 kPa |

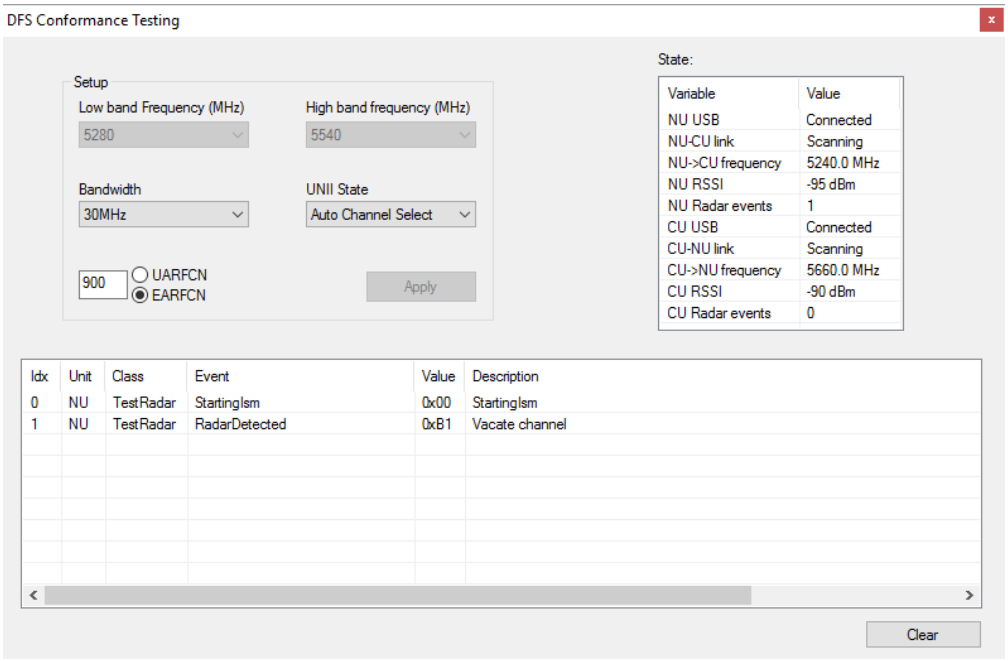
### 2.5.8 Additional Observations

- Test mode allows injection of Low Band (LB) Radar signal to the TX RF port of NU during normal CAC (Test Configuration Diagram C Section 1.4.2 of this test report).
- NU is the Master for both LB and HB before CU comes on-line. NU will do HB ISM and detect all Radars.
- A Type 0 Radar was injected in the TX port of NU at the beginning of CAC time (within a 6 seconds window).
- V1 on the test plots indicates when Auto Channel Select Mode was activated.
- V2 and M1 correspond to when CAC started and the Radar burst injected (“State” window on DFS Conformance Testing application started to populate with information, from blank screen).
- No activity was observed on the original channel. The EUT was still doing CAC on the new channel (where it moved) when the 2.5 minutes sweep time expired.

### 2.5.9 Test Results Plots

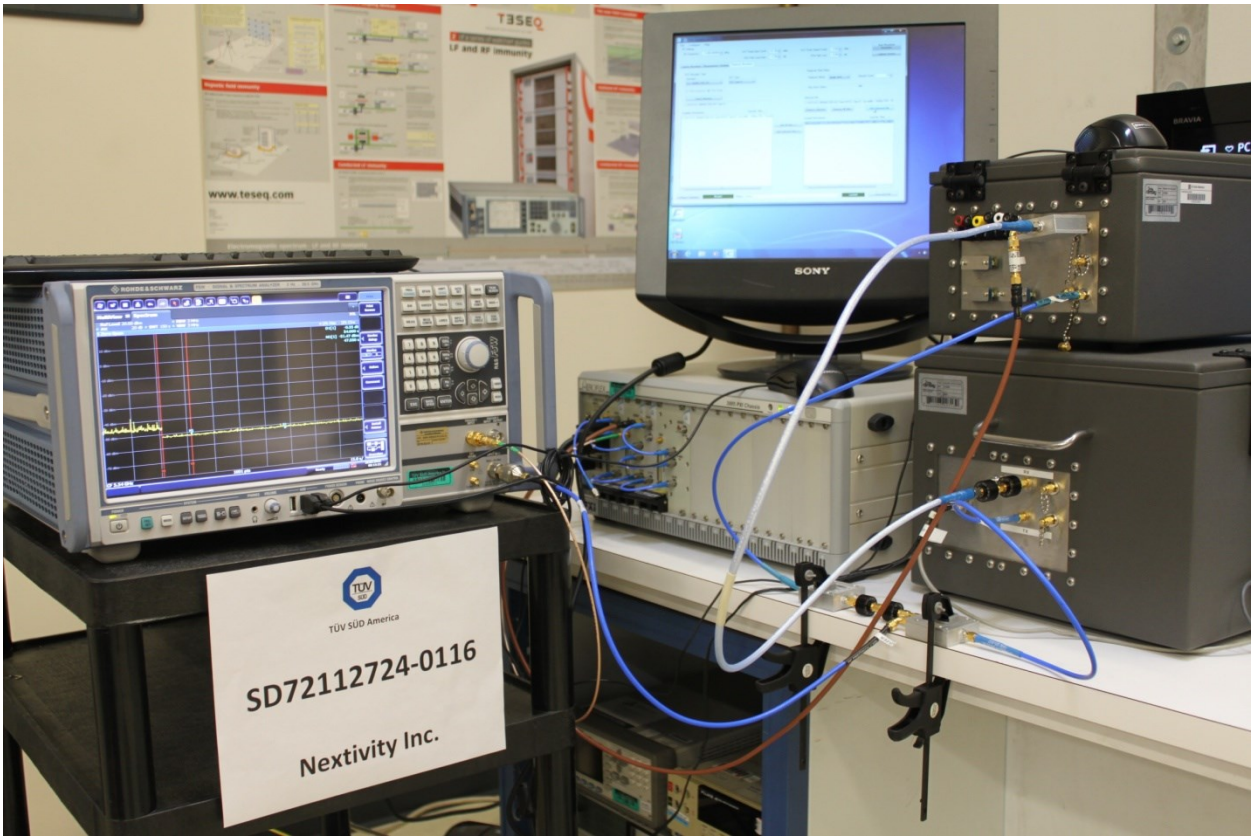



**Plot showing channel activity at CU TX port while a Low Band Radar burst was injected at NU TX port at the beginning of CAC time**




**Configuration window showing original channels and Radar detection during CAC time**

### 2.5.10 Test Setup Photo



## 2.6 RADAR BURST AT THE END OF THE CHANNNEL AVAILABILITY CHECK TIME

### 2.6.1 Specification Reference

Part 15 Subpart E §15.407(h)(2)(ii)

### 2.6.2 Standard Applicable

(ii) Channel Availability Check Time. 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.

### 2.6.3 Test Methodology

Clause 7.8.2.3 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.6.4 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration G

### 2.6.5 Date of Test/Initial of test personnel who performed the test

February 16, 2016 / FSC

### 2.6.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.6.7 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 26.0 °C |
| Relative Humidity | 25.6 % |
| ATM Pressure | 98.9 kPa |

### 2.6.8 Additional Observations

- Identical configuration as Section 2.5 of this test report. The difference is that a Type 0 Radar was injected at the end of CAC time (54 seconds after the start of CAC).
- V1 on the test plots indicates when Auto Channel Select Mode was activated.
- V2 and M1 correspond to when CAC started (“State” window on DFS Conformance Testing application started to populate with information, from blank screen).
- D1 corresponds to the time when Radar burst was injected (54 seconds after V2 and M1).
- No activity was recorded since the EUT was still performing CAC on the channel it moved to when the 2.5 minutes sweep time expired.
- Test setup photo is identical with Section 2.5.10 of this test report.



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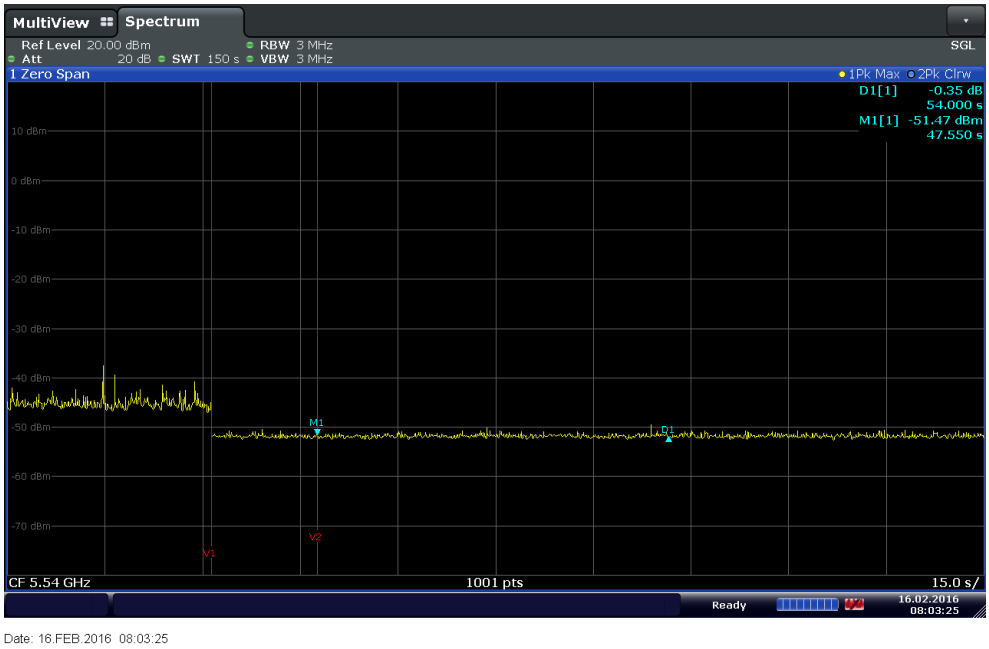
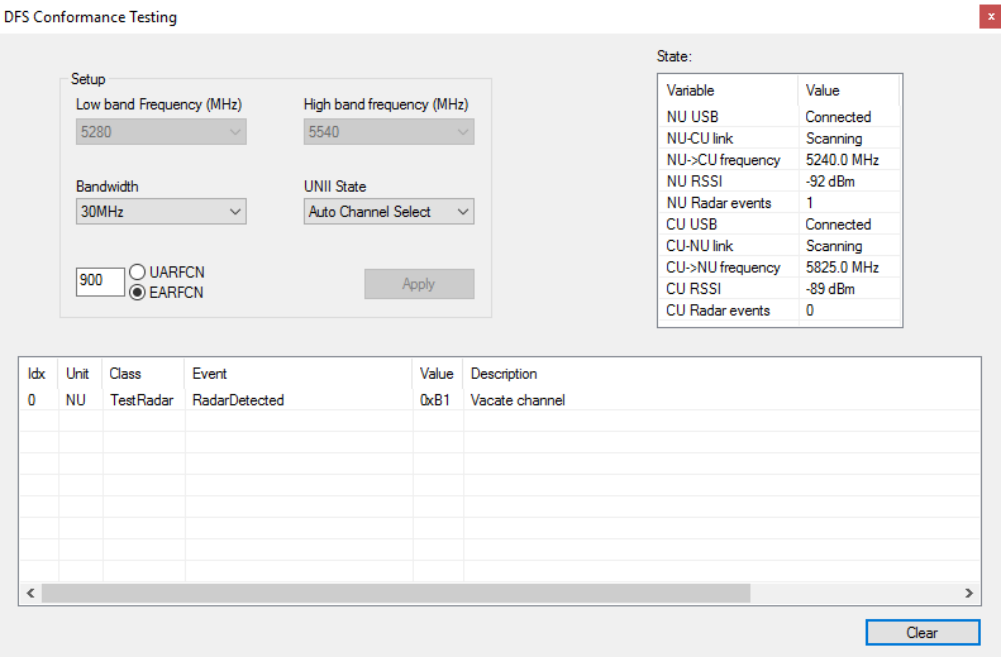
### 2.6.9 Test Results Plots




**Plot showing channel activity at CU TX port while a Low Band Radar burst was injected at NU TX port at the end of CAC time**




**Configuration window showing original channels and Radar detection during CAC time**

## 2.7 IN-SERVICE MONITORING FOR CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME

### 2.7.1 Specification Reference

Part 15 Subpart E §15.407(h)(2)(iii)

### 2.7.2 Standard Applicable

(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.

### 2.7.3 Limits

| | |
|---|---|
| Channel Closing Transmission Time | 200 ms |
| Channel Move Time | within 10 seconds |

### 2.7.4 Test Methodology

Clause 7.8.3 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.7.5 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration C and D

### 2.7.6 Date of Test/Initial of test personnel who performed the test

February 09, 2016 / FSC

### 2.7.7 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.7.8 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 27.9 °C |
| Relative Humidity | 21.4 % |
| ATM Pressure | 99.4 kPa |

### 2.7.9 Additional Observations

- Test procedure is per Section 7.8.3 of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02.
- All requirements from Section 2.1 (Radar Type 0 calibration) and Section 2.2 (Channel Loading) of this test report were met.

- Using Test Configuration C, the NU will be the Master and CU is the Slave device. Test Configuration D on the other hand will be the opposite wherein the CU is the Master while NU is the Slave.
- Using the Aeroflex DFS test system signal generator, a radar type 0 test signal was injected into the configured Master device antenna port on the operating channel. The Aeroflex DFS test system signal analyser measurement sweep was triggered upon the radar injection to the configured Master device and the resultant data from the Master device and Slave device was collected (response to radar burst injection).
- A level detection threshold was set on the Aeroflex DFS test system signal analyzer, such that all signals from the EUT were assessed using the Aeroflex DFS test system and both the channel closing transmission time and channel move time were measured and recorded.
- The markers on the captured trace data correspond to the following time periods:

| | | |
|---|---|---|
| **Red** | - | End of the injected radar burst: Time T1 |
| **Purple** | - | End of the Channel Closing Transmission Time: Time T1 + 200 ms |
| **Yellow** | - | End of the Channel Move Time: T1 + 10 seconds |

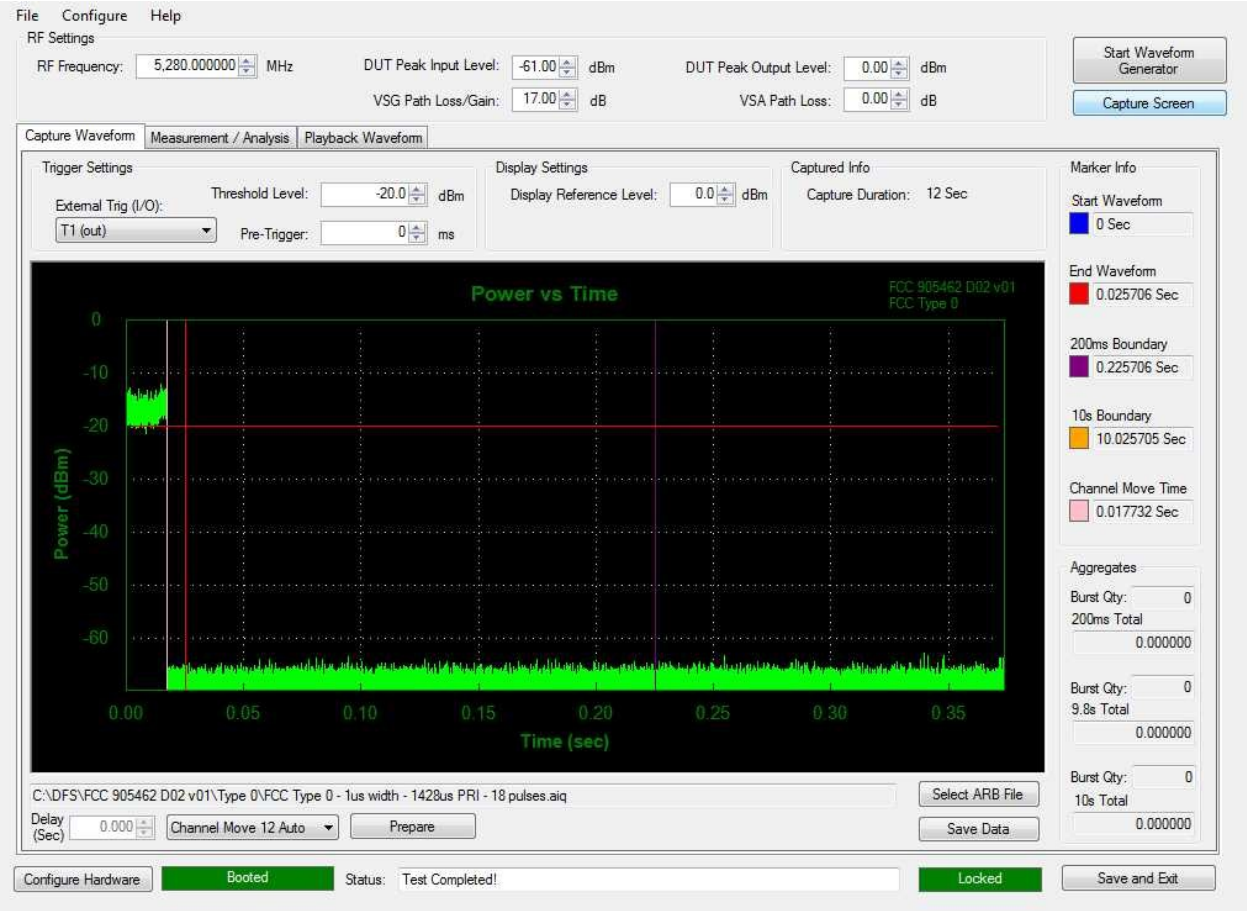
- Only the widest BW mode (40MHz) tested.
- Since >60dB of attenuation needs to be in between the two units, the injected Radar and the channel activity can't be shown on the same plot (separate injection and measurement points).

### 2.7.10 Test Results

| **NU as the Master (40MHz BW @ 5280MHz) Complies** | |
|---|---|
| Channel Move Time | 17.732 ms |
| Channel Closing Time (Aggregate Time During 200ms) | No activity from end of radar burst to 200ms |
| Channel Closing Time (Aggregate Time +200ms to 10s) | No activity from 200ms to 10s |
| Channel Closing Time (Aggregate Time During 10s) | Not applicable since no activity from end of radar burst to 10s |
| **CU as the Master (40MHz BW @ 5630 MHz) Complies** | |
| Channel Move Time | 180.736 ms |
| Channel Closing Time (Aggregate Time During 200ms) | 155.030 ms |
| Channel Closing Time (Aggregate Time +200ms to 10s) | No activity from 200ms to 10s |
| Channel Closing Time (Aggregate Time During 10s) | 155.030 ms |

### 2.7.11 Test Results Plots


**5280 MHz Overall Power vs Time Display, showing 10 seconds observation time**




**5280 MHz Zoomed In Overall Power vs Time Display, showing Channel Move Time (Pink), end of Radar Burst (Red) and the 200 ms boundary (Purple)**



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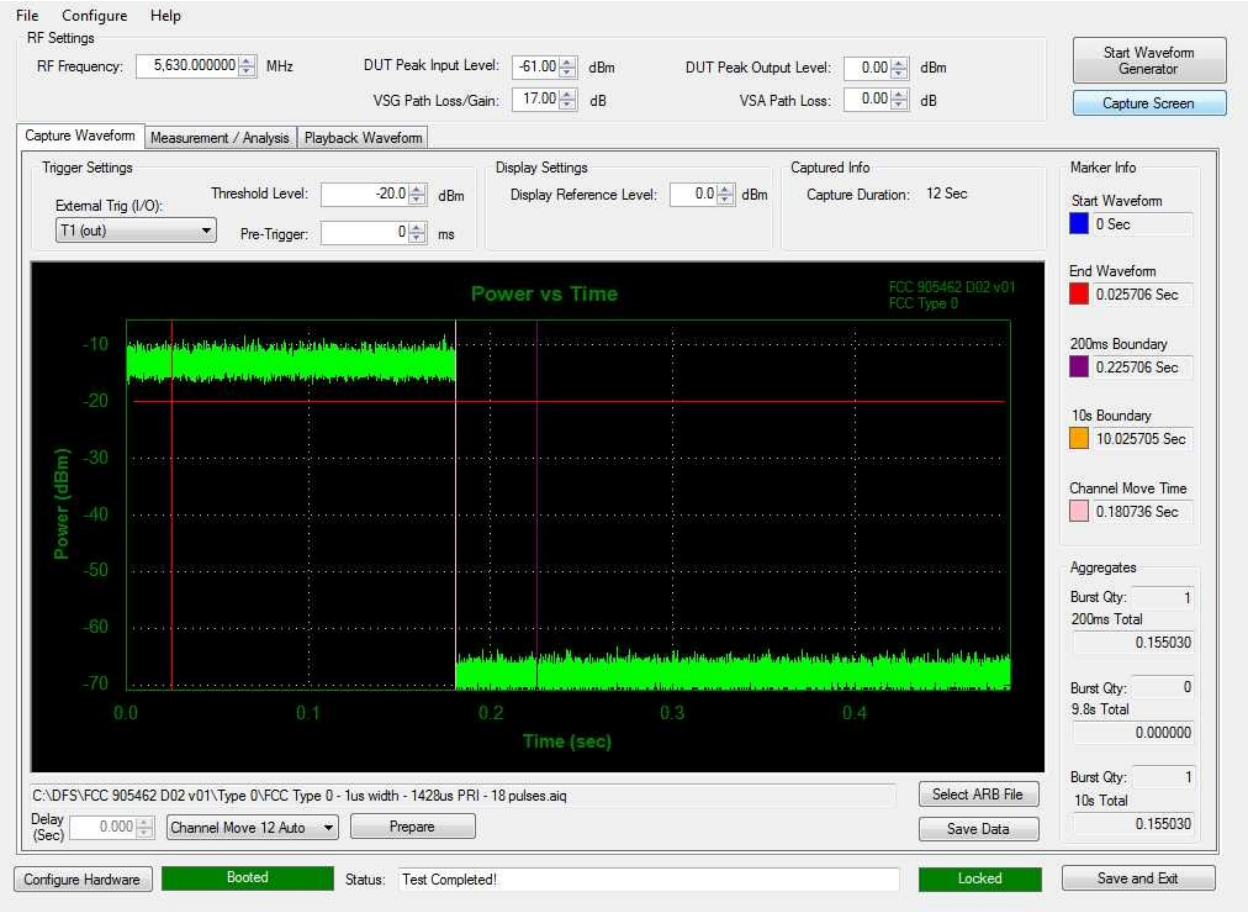
**5630 MHz Overall Power vs Time Display, showing 10 seconds observation time**




**5630 MHz Zoomed In Overall Power vs Time Display, showing Channel Move Time (Pink), end of Radar Burst (Red) and the 200 ms boundary (Purple)**

## 2.8 NON-OCCUPANCY PERIOD

### 2.8.1 Specification Reference

Part 15 Subpart E §15.407(h)(2)(iv)

### 2.8.2 Standard Applicable

(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.

### 2.8.3 Test Methodology

Clause 7.8.3 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.8.4 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration A and B

### 2.8.5 Date of Test/Initial of test personnel who performed the test

February 05 and 08, 2016 / FSC

### 2.8.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.8.7 Environmental Conditions

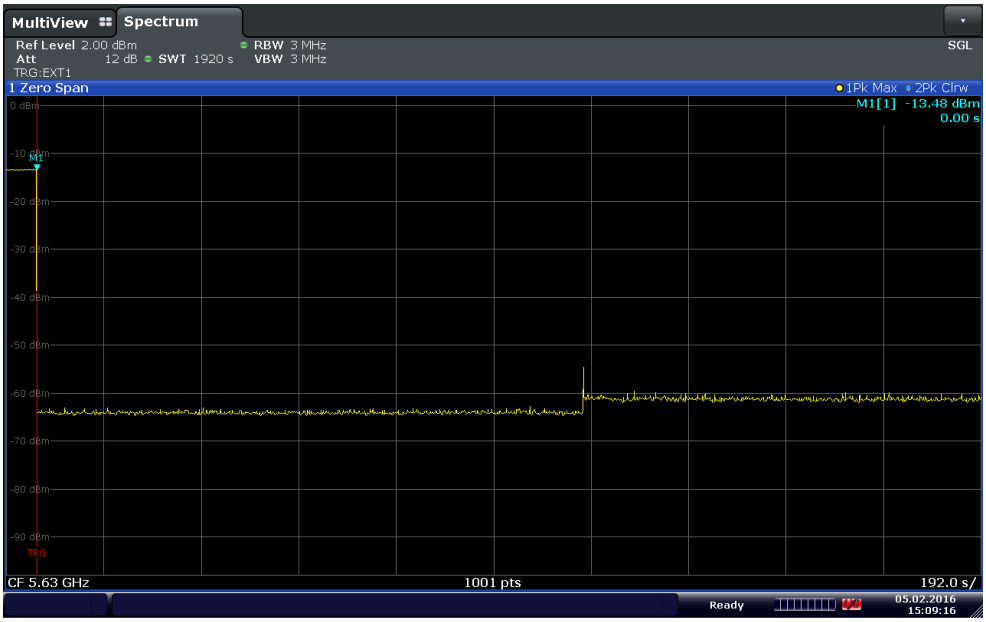
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 22.0 – 25.4 °C |
| Relative Humidity | 16.0 -18.0 % |
| ATM Pressure | 99.5 - 100.1 kPa |

### 2.8.8 Additional Observations

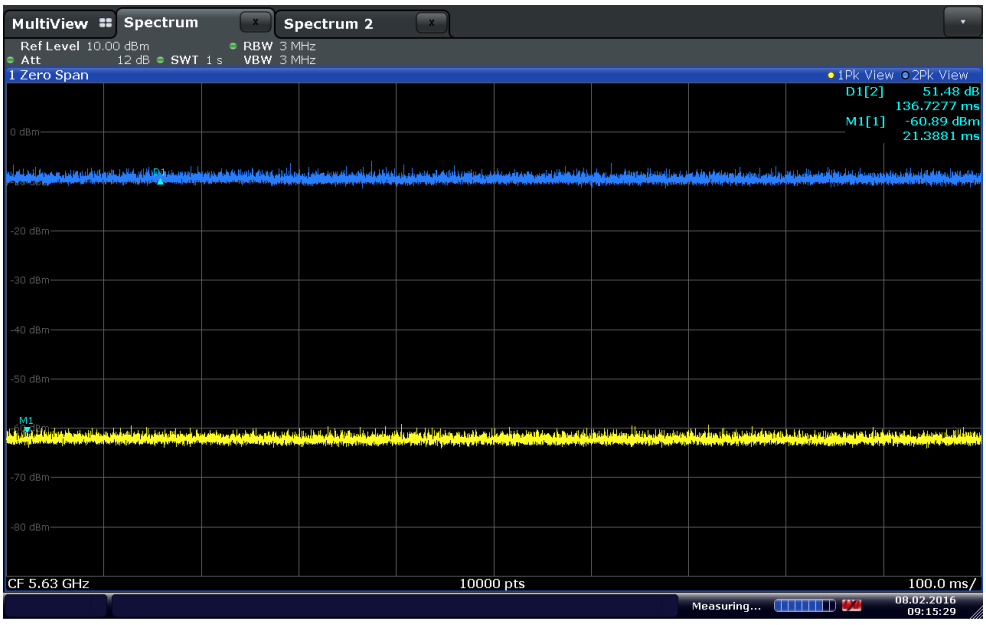
- Both High Band (CU @ 5630 MHz) and Low Band (NU @ 5280 MHz) frequencies verified.
- Only 40MHz BW verified.
- The spectrum analyzer was triggered at $T_1$ (end of injected radar burst) instead of $T_2$ (end of channel move time). Since channel move time is <10 seconds, the difference in results between the two trigger points is negligible with a sweep time of 32 minutes.
- Trigger offset was set to -60 seconds in order to show initial data traffic on the original channel.
- Noise floor to signal ratio plots were provided as per Clause 8.3 (4) (iii) of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02.
- There was no activity observed on the original channel during the 30 minutes observation period after the channel was vacated due to the injected radar burst (Type 0). EUT complies.
- Test setup photo is identical to Section 2.3.7 of this test report.

### 2.8.9 Test Results Plots



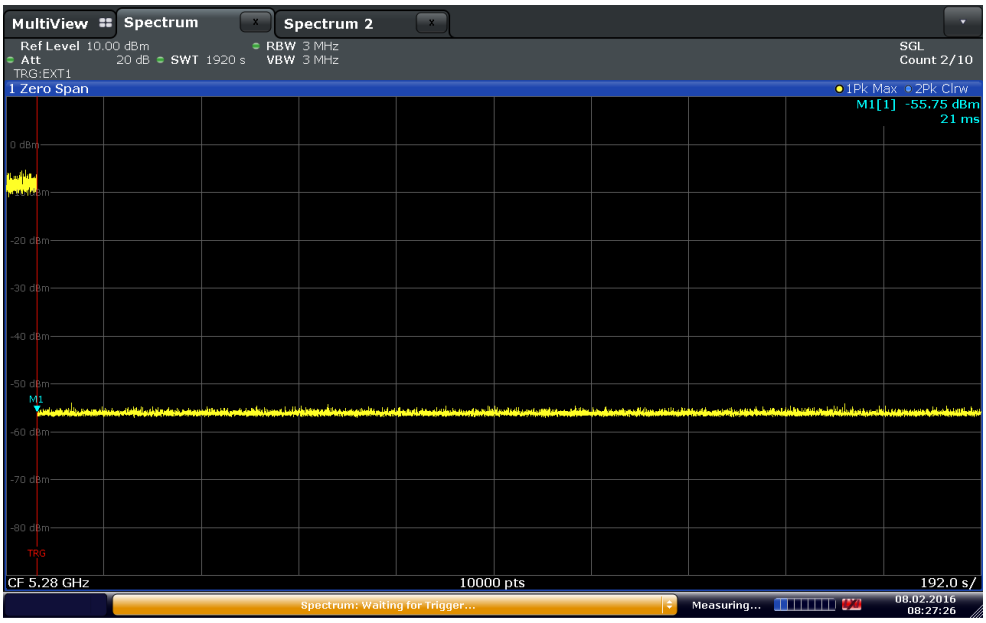

Date: 5.FEB.2016 15:09:17

**High Band (CU) 32 minutes sweep showing no activity on the original channel after it was vacated when Radar was detected**



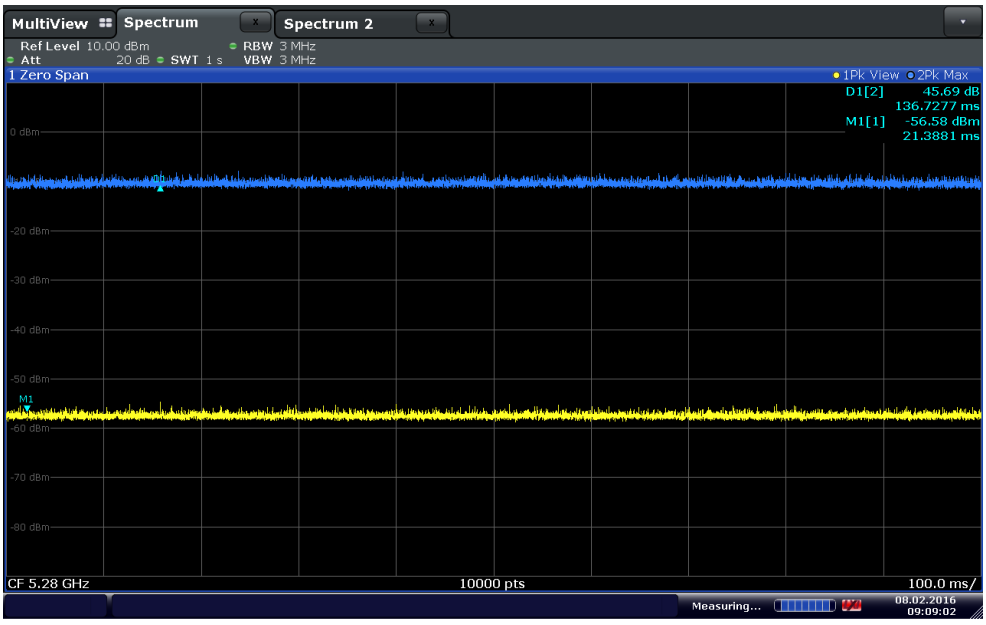

Date: 8.FEB.2016 09:15:29

**Noise Floor to Signal Ratio during verification (5630 MHz)**




Date: 8.FEB.2016 08:27:27

**Low Band (NU) 32 minutes sweep showing no activity on the original channel after it was vacated when Radar was detected**




Date: 8.FEB.2016 09:09:03

**Noise Floor to Signal Ratio during verification (5280 MHz)**

## 2.9 STATISTICAL PERFORMANCE CHECK

### 2.9.1 Standard Applicable

To determine the minimum percentage of successful detection requirements found in Tables 5-7 of KDB905462 D02 UNII DFS Compliance Procedures New Rules v01r02 when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

### 2.9.2 Test Methodology

Clause 7.8.4 of 905462 D02 UNII DFS Compliance Procedures New Rules v01r02

### 2.9.3 Limits

| Radar Type | Number of Trials | Number of Successful Detections | Minimum Percentage of Successful Detection |
|---|---|---|---|
| 1 | 35 | 29 | 82.9% |
| 2 | 30 | 18 | 60.0% |
| 3 | 30 | 27 | 90.0% |
| 4 | 50 | 44 | 88.0% |
| 5 | 30 | 24 | 80.0% |
| 6 | 30 | 21 | 70.0% |

### 2.9.4 Equipment Under Test and Modification State

Serial No: 296546000608 (NU) and 297546000537 (CU) **/** Test Configuration B

### 2.9.5 Date of Test/Initial of test personnel who performed the test

February 22, 2016 / FSC

### 2.9.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

### 2.9.7 Environmental Conditions

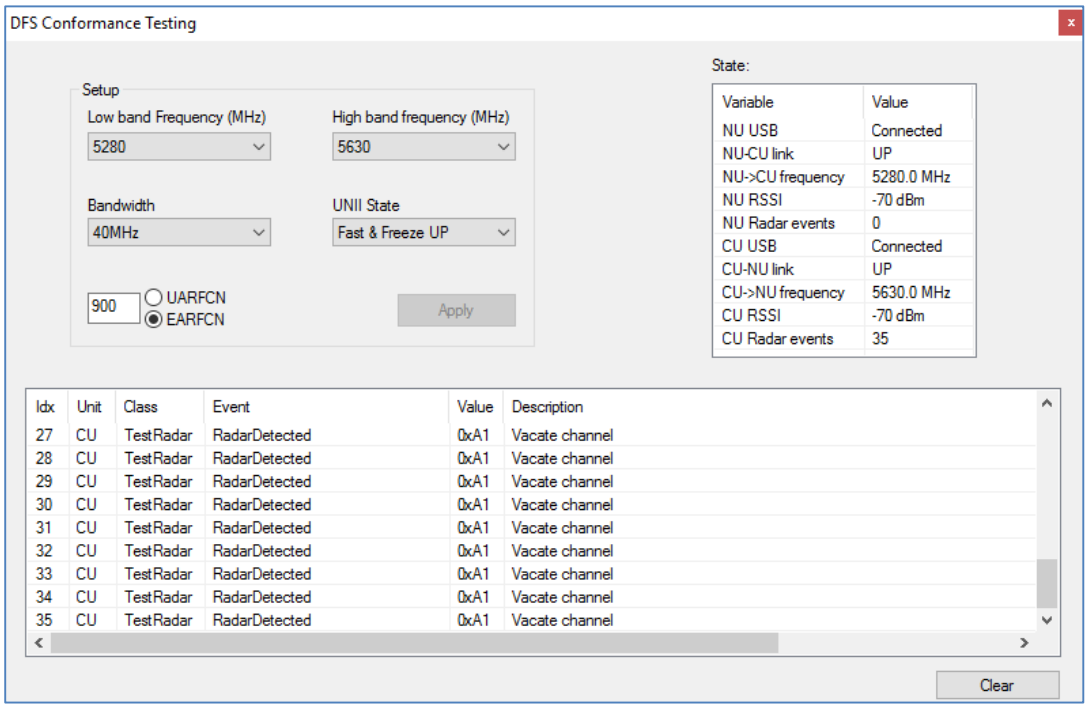
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

| | |
|---|---|
| Ambient Temperature | 23.1 °C |
| Relative Humidity | 38.8 % |
| ATM Pressure | 99.1 kPa |

### 2.9.8 Additional Observations

- Verification performed on 5280 MHz since the requirement is one frequency from the operating channels on either Low Band or High Band.

- Test Configuration B used. Radar was injected to the RX port of CU (5280 MHz) while in Fast and Freeze Up mode.
- Radar detection was monitored on the DFS Conformance Testing application window:




- Only 40MHz BW presented since Radar Detection Bandwidth of the EUT is identical for both 30MHz and 40MHz (Radar Detection Bandwidth is 38MHz for both 30MHz and 40MHz BW setting). Radar detection for 30MHz BW setting with detection BW of 38 MHz was 100%.
- See Section 1.5 of this test report for more details regarding Bin 5 Radar Chirp testing.
- Test setup photo is identical to Section 2.3.7 of this test report.

### 2.9.9 Summary of Test Results

| Radar Type | Number of Trials | Number of Succesful Detection | Percentage of Successful Detection |
|---|---|---|---|
| 1 | 35 | 35 | 100% |
| 2 | 30 | 30 | 100% |
| 3 | 30 | 29 | 96.7% |
| 4 | 50 | 50 | 100% |
| Limit for Aggregate = **80 %** | | | |
| Aggregate (100% + 100% + 96.7% + 100%) / 4 = **99.175% (EUT Complies)** | | | |

| Radar Type | Number of Trials | Number of Succesful Detection | Percentage of Successful Detection | Minimum Percentage of Successful Detection | Compliance |
|---|---|---|---|---|---|
| 5 | 30 | 24 | 80% | 80% | Complies |
| 6 | 30 | 30 | 100% | 70% | Complies |

### 2.9.10 Radar Parameters

| Radar Type 1 | | | |
|---|---|---|---|
| Trial# | Pulse Repetition Frequency Number (1 to 23 for Test A) | Pulse Repetition Frequency (Pulse per Second) | Pulse Repetition Interval (Microseconds) |
| 1 | 15 | 1253 | 798 |
| 2 | 17 | 1193 | 838 |
| 3 | 22 | 1066 | 938 |
| 4 | 3 | 1792 | 558 |
| 5 | 13 | 1319 | 758 |
| 6 | 8 | 1520 | 658 |
| 7 | 18 | 1166 | 858 |
| 8 | 5 | 1672 | 598 |
| 9 | 9 | 1475 | 678 |
| 10 | 20 | 1114 | 898 |
| 11 | 7 | 1567 | 638 |
| 12 | 10 | 1433 | 698 |
| 13 | 2 | 1859 | 538 |
| 14 | 11 | 1393 | 718 |
| 15 | 4 | 1730 | 578 |
| 16 | Test B | 366 | 2734 |
| 17 | | 432 | 2313 |
| 18 | | 1919 | 521 |
| 19 | | 608 | 1646 |
| 20 | | 616 | 1623 |
| 21 | | 337 | 2967 |
| 22 | | 1789 | 559 |
| 23 | | 342 | 2920 |
| 24 | | 338 | 2960 |
| 25 | | 485 | 2062 |
| 26 | | 1062 | 942 |
| 27 | | 714 | 1401 |
| 28 | | 642 | 1558 |

| | | | |
|---|---|---|---|
| 29 | | 384 | 2602 |
| 30 | | 353 | 2834 |
| 31 | | 1253 | 798 |
| 32 | | 1193 | 838 |
| 33 | | 1066 | 938 |
| 34 | | 1792 | 558 |
| 35 | | 1319 | 758 |

| Radar Type 2 | | | |
|---|---|---|---|
| **Trial#** | **Number of Pulses per Burst** | **Pulse Width (µs)** | **PRI (µs)** |
| 1 | 24 | 3.8 | 190 |
| 2 | 24 | 3.8 | 154 |
| 3 | 23 | 3.5 | 165 |
| 4 | 28 | 1.6 | 206 |
| 5 | 27 | 3.5 | 208 |
| 6 | 27 | 4.3 | 181 |
| 7 | 29 | 4.9 | 161 |
| 8 | 26 | 3.5 | 170 |
| 9 | 25 | 1.5 | 194 |
| 10 | 24 | 4.3 | 196 |
| 11 | 26 | 2.9 | 227 |
| 12 | 23 | 2.9 | 153 |
| 13 | 25 | 1.1 | 178 |
| 14 | 26 | 1 | 169 |
| 15 | 28 | 4.7 | 172 |
| 16 | 24 | 1.4 | 181 |
| 17 | 28 | 2.1 | 214 |
| 18 | 27 | 3.9 | 185 |
| 19 | 24 | 4.9 | 156 |
| 20 | 26 | 4.2 | 195 |
| 21 | 27 | 4 | 216 |
| 22 | 28 | 4.7 | 204 |
| 23 | 27 | 2.6 | 162 |
| 24 | 23 | 3.5 | 212 |
| 25 | 29 | 1.9 | 227 |
| 26 | 29 | 2.7 | 208 |
| 27 | 24 | 4.1 | 151 |
| 28 | 28 | 1.7 | 193 |
| 29 | 26 | 2.6 | 211 |
| 30 | 29 | 4.1 | 192 |

| Radar Type 3 | | | |
|---|---|---|---|
| **Trial#** | **Number of Pulses per Burst** | **Pulse Width (µs)** | **PRI (µs)** |
| 1 | 18 | 9.3 | 277 |
| 2 | 17 | 9.6 | 278 |
| 3 | 17 | 9.7 | 498 |
| 4 | 16 | 10 | 415 |
| 5 | 16 | 8.1 | 398 |
| 6 | 17 | 9 | 344 |
| 7 | 17 | 9.1 | 361 |
| 8 | 17 | 7 | 209 |
| 9 | 16 | 7.3 | 371 |
| 10 | 18 | 9.4 | 355 |
| 11 | 17 | 6.9 | 388 |
| 12 | 17 | 8.9 | 441 |
| 13 | 18 | 6.9 | 308 |
| 14 | 18 | 7.9 | 357 |
| 15 | 16 | 7.5 | 430 |
| 16 | 18 | 9.8 | 394 |
| 17 | 16 | 9 | 393 |
| 18 | 18 | 6 | 500 |
| 19 | 16 | 8.4 | 366 |
| 20 | 18 | 7 | 362 |
| 21 | 17 | 6.5 | 218 |
| 22 | 16 | 8.8 | 427 |
| 23 | 18 | 8.4 | 445 |
| 24 | 16 | 8.1 | 357 |
| 25 | 16 | 9.2 | 287 |
| 26 | 16 | 8.5 | 470 |
| 27 | 18 | 6.9 | 324 |
| 28 | 18 | 7.6 | 228 |
| 29 | 17 | 8.5 | 264 |
| 30 | 16 | 8.6 | 235 |

| Radar Type 4 | | | |
|---|---|---|---|
| **Trial#** | **Number of Pulses per Burst** | **Pulse Width (µs)** | **PRI (µs)** |
| 1 | 16 | 13.5 | 493 |
| 2 | 14 | 11 | 300 |
| 3 | 12 | 13.2 | 401 |
| 4 | 16 | 12.9 | 296 |
| 5 | 12 | 11.2 | 268 |
| 6 | 15 | 12.5 | 268 |

| | | | |
|---|---|---|---|
| 7 | 15 | 19.8 | 493 |
| 8 | 12 | 19.7 | 208 |
| 9 | 16 | 17.9 | 425 |
| 10 | 14 | 16.5 | 220 |
| 11 | 15 | 15.1 | 490 |
| 12 | 14 | 16.5 | 271 |
| 13 | 16 | 13.6 | 438 |
| 14 | 13 | 16 | 314 |
| 15 | 12 | 13.2 | 203 |
| 16 | 16 | 11.8 | 312 |
| 17 | 16 | 17.8 | 338 |
| 18 | 12 | 19.3 | 401 |
| 19 | 16 | 16.3 | 294 |
| 20 | 14 | 17.3 | 270 |
| 21 | 15 | 15.4 | 394 |
| 22 | 13 | 15.2 | 428 |
| 23 | 16 | 12.2 | 323 |
| 24 | 14 | 16.2 | 462 |
| 25 | 14 | 17.8 | 326 |
| 26 | 12 | 14.8 | 415 |
| 27 | 13 | 11.3 | 404 |
| 28 | 15 | 11.9 | 457 |
| 29 | 13 | 16 | 363 |
| 30 | 16 | 16 | 205 |
| 31 | 16 | 13.5 | 493 |
| 32 | 14 | 11 | 300 |
| 33 | 12 | 13.2 | 401 |
| 34 | 16 | 12.9 | 296 |
| 35 | 12 | 11.2 | 268 |
| 36 | 15 | 12.5 | 268 |
| 37 | 15 | 19.8 | 493 |
| 38 | 12 | 19.7 | 208 |
| 39 | 16 | 17.9 | 425 |
| 40 | 14 | 16.5 | 220 |
| 41 | 15 | 15.1 | 490 |
| 42 | 14 | 16.5 | 271 |
| 43 | 16 | 13.6 | 438 |
| 44 | 13 | 16 | 314 |
| 45 | 12 | 13.2 | 203 |
| 46 | 16 | 11.8 | 312 |
| 47 | 16 | 17.8 | 338 |
| 48 | 12 | 19.3 | 401 |
| 49 | 16 | 16.3 | 294 |
| 50 | 14 | 17.3 | 270 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 1 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 15** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 78 | 0.100 | 984.0 | 0.0 | 586060.0 |
| 2 | 2 | 89 | 0.111 | 1649.0 | 0.0 | 763310.0 |
| 3 | 3 | 94 | 0.143 | 1496.0 | 1457.0 | 132961.0 |
| 4 | 1 | 77 | 0.143 | 0.0 | 0.0 | 480837.0 |
| 5 | 3 | 83 | 0.077 | 1124.0 | 1304.0 | 630955.0 |
| 6 | 3 | 96 | 0.125 | 961.0 | 1484.0 | 314098.0 |
| 7 | 1 | 99 | 0.111 | 0.0 | 0.0 | 703207.0 |
| 8 | 2 | 68 | 0.056 | 1734.0 | 0.0 | 747473.0 |
| 9 | 3 | 65 | 0.063 | 1350.0 | 1163.0 | 540500.0 |
| 10 | 1 | 50 | 0.091 | 0.0 | 0.0 | 36571.0 |
| 11 | 1 | 93 | 0.100 | 0.0 | 0.0 | 535528.0 |
| 12 | 3 | 50 | 0.143 | 1625.0 | 1893.0 | 502286.0 |
| 13 | 3 | 51 | 0.067 | 1325.0 | 1517.0 | 646617.0 |
| 14 | 1 | 66 | 0.067 | 0.0 | 0.0 | 628379.0 |
| 15 | 3 | 85 | 0.100 | 1580.0 | 1083.0 | 291496.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 2 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 18** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 58 | 0.167 | 1920.0 | 1857.0 | 557951.0 |
| 2 | 1 | 79 | 0.077 | 0.0 | 0.0 | 495014.0 |
| 3 | 1 | 67 | 0.053 | 0.0 | 0.0 | 145453.0 |
| 4 | 3 | 96 | 0.143 | 980.0 | 1633.0 | 408900.0 |
| 5 | 2 | 93 | 0.091 | 1379.0 | 0.0 | 465786.0 |
| 6 | 1 | 80 | 0.143 | 0.0 | 0.0 | 211077.0 |
| 7 | 2 | 83 | 0.077 | 1488.0 | 0.0 | 111272.0 |
| 8 | 2 | 76 | 0.056 | 1578.0 | 0.0 | 628439.0 |
| 9 | 1 | 84 | 0.059 | 0.0 | 0.0 | 17236.0 |
| 10 | 1 | 96 | 0.050 | 0.0 | 0.0 | 528872.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 11 | 2 | 60 | 0.059 | 1133.0 | 0.0 | 391129.0 |
| 12 | 2 | 88 | 0.083 | 1857.0 | 0.0 | 493448.0 |
| 13 | 2 | 64 | 0.071 | 1188.0 | 0.0 | 572348.0 |
| 14 | 1 | 52 | 0.167 | 0.0 | 0.0 | 533579.0 |
| 15 | 3 | 86 | 0.056 | 1079.0 | 1003.0 | 343738.0 |
| 16 | 1 | 77 | 0.050 | 0.0 | 0.0 | 363494.0 |
| 17 | 3 | 67 | 0.071 | 1653.0 | 1472.0 | 14679.0 |
| 18 | 3 | 77 | 0.111 | 993.0 | 984.0 | 545633.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 3 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 16** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 89 | 0.125 | 1287.0 | 0.0 | 271342.0 |
| 2 | 3 | 91 | 0.077 | 1882.0 | 1894.0 | 77236.0 |
| 3 | 1 | 54 | 0.063 | 0.0 | 0.0 | 35648.0 |
| 4 | 3 | 84 | 0.083 | 1821.0 | 1719.0 | 703168.0 |
| 5 | 1 | 70 | 0.167 | 0.0 | 0.0 | 418138.0 |
| 6 | 1 | 61 | 0.053 | 0.0 | 0.0 | 534129.0 |
| 7 | 3 | 50 | 0.063 | 1895.0 | 981.0 | 314340.0 |
| 8 | 2 | 95 | 0.143 | 1674.0 | 0.0 | 444645.0 |
| 9 | 1 | 50 | 0.056 | 0.0 | 0.0 | 272782.0 |
| 10 | 2 | 75 | 0.083 | 1227.0 | 0.0 | 667245.0 |
| 11 | 3 | 81 | 0.071 | 1076.0 | 937.0 | 551370.0 |
| 12 | 1 | 69 | 0.167 | 0.0 | 0.0 | 614166.0 |
| 13 | 1 | 86 | 0.053 | 0.0 | 0.0 | 622453.0 |
| 14 | 1 | 99 | 0.100 | 0.0 | 0.0 | 203513.0 |
| 15 | 1 | 65 | 0.067 | 0.0 | 0.0 | 584437.0 |
| 16 | 1 | 77 | 0.050 | 0.0 | 0.0 | 363494.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 4 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 11** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 81 | 0.200 | 0.0 | 0.0 | 641482.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | 3 | 51 | 0.056 | 1088.0 | 1349.0 | 632803.0 |
| 3 | 3 | 64 | 0.167 | 947.0 | 1724.0 | 350274.0 |
| 4 | 2 | 95 | 0.111 | 1078.0 | 0.0 | 693368.0 |
| 5 | 2 | 55 | 0.125 | 1349.0 | 0.0 | 3117.0 |
| 6 | 1 | 54 | 0.167 | 0.0 | 0.0 | 1011290.0 |
| 7 | 3 | 68 | 0.059 | 963.0 | 1280.0 | 550735.0 |
| 8 | 3 | 87 | 0.059 | 1770.0 | 1897.0 | 80664.0 |
| 9 | 2 | 89 | 0.100 | 1669.0 | 0.0 | 198643.0 |
| 10 | 2 | 100 | 0.125 | 1136.0 | 0.0 | 464504.0 |
| 11 | 3 | 81 | 0.071 | 1076.0 | 937.0 | 551370.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 5 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 18** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 97 | 0.059 | 0.0 | 0.0 | 507286.0 |
| 2 | 1 | 74 | 0.063 | 0.0 | 0.0 | 379805.0 |
| 3 | 2 | 54 | 0.067 | 1227.0 | 0.0 | 370415.0 |
| 4 | 3 | 55 | 0.091 | 1135.0 | 1507.0 | 547715.0 |
| 5 | 1 | 95 | 0.067 | 0.0 | 0.0 | 546897.0 |
| 6 | 2 | 54 | 0.056 | 1637.0 | 0.0 | 279795.0 |
| 7 | 3 | 51 | 0.091 | 1661.0 | 1947.0 | 625673.0 |
| 8 | 2 | 93 | 0.200 | 1129.0 | 0.0 | 13020.0 |
| 9 | 1 | 52 | 0.059 | 0.0 | 0.0 | 174885.0 |
| 10 | 1 | 100 | 0.063 | 0.0 | 0.0 | 437335.0 |
| 11 | 2 | 66 | 0.200 | 1510.0 | 0.0 | 49372.0 |
| 12 | 3 | 59 | 0.053 | 1478.0 | 1046.0 | 135734.0 |
| 13 | 3 | 59 | 0.059 | 1254.0 | 1567.0 | 307773.0 |
| 14 | 3 | 98 | 0.111 | 1515.0 | 1075.0 | 162392.0 |
| 15 | 1 | 99 | 0.077 | 0.0 | 0.0 | 486144.0 |
| 16 | 1 | 55 | 0.091 | 0.0 | 0.0 | 482352.0 |
| 17 | 2 | 69 | 0.125 | 1105.0 | 0.0 | 63897.0 |
| 18 | 3 | 73 | 0.100 | 1827.0 | 1732.0 | 5846.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 6 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 8** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 93 | 0.077 | 1744.0 | 1220.0 | 1100871.0 |
| 2 | 1 | 90 | 0.091 | 0.0 | 0.0 | 43039.0 |
| 3 | 2 | 52 | 0.100 | 1028.0 | 0.0 | 1024182.0 |
| 4 | 2 | 77 | 0.167 | 1848.0 | 0.0 | 1235807.0 |
| 5 | 1 | 69 | 0.071 | 0.0 | 0.0 | 425976.0 |
| 6 | 3 | 81 | 0.125 | 1617.0 | 927.0 | 553763.0 |
| 7 | 1 | 74 | 0.071 | 0.0 | 0.0 | 246325.0 |
| 8 | 2 | 74 | 0.091 | 1632.0 | 0.0 | 623594.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 7 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 14** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 79 | 0.100 | 1502.0 | 1878.0 | 147225.0 |
| 2 | 3 | 50 | 0.125 | 1798.0 | 1739.0 | 697705.0 |
| 3 | 3 | 59 | 0.056 | 1312.0 | 1204.0 | 231448.0 |
| 4 | 3 | 85 | 0.077 | 1368.0 | 1706.0 | 31115.0 |
| 5 | 3 | 98 | 0.083 | 1080.0 | 1490.0 | 177332.0 |
| 6 | 1 | 92 | 0.067 | 0.0 | 0.0 | 336899.0 |
| 7 | 3 | 78 | 0.167 | 935.0 | 1249.0 | 679224.0 |
| 8 | 3 | 60 | 0.083 | 1101.0 | 1521.0 | 200448.0 |
| 9 | 2 | 71 | 0.111 | 1051.0 | 0.0 | 182129.0 |
| 10 | 1 | 92 | 0.063 | 0.0 | 0.0 | 11885.0 |
| 11 | 2 | 90 | 0.111 | 1515.0 | 0.0 | 7452.0 |
| 12 | 3 | 83 | 0.091 | 953.0 | 1569.0 | 822896.0 |
| 13 | 1 | 74 | 0.100 | 0.0 | 0.0 | 247051.0 |
| 14 | 1 | 62 | 0.050 | 0.0 | 0.0 | 64186.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 8 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 20** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 100 | 0.067 | 0.0 | 0.0 | 273314.0 |
| 2 | 3 | 67 | 0.200 | 1803.0 | 1398.0 | 593496.0 |
| 3 | 1 | 100 | 0.050 | 0.0 | 0.0 | 227497.0 |
| 4 | 2 | 89 | 0.059 | 1319.0 | 0.0 | 190844.0 |
| 5 | 1 | 56 | 0.059 | 0.0 | 0.0 | 250041.0 |
| 6 | 2 | 81 | 0.167 | 1031.0 | 0.0 | 61063.0 |
| 7 | 1 | 91 | 0.050 | 0.0 | 0.0 | 119325.0 |
| 8 | 3 | 89 | 0.063 | 1419.0 | 1076.0 | 492866.0 |
| 9 | 3 | 83 | 0.063 | 1701.0 | 1880.0 | 25041.0 |
| 10 | 2 | 99 | 0.125 | 1008.0 | 0.0 | 574469.0 |
| 11 | 2 | 76 | 0.056 | 1549.0 | 0.0 | 8134.0 |
| 12 | 3 | 77 | 0.071 | 1043.0 | 1761.0 | 393201.0 |
| 13 | 1 | 96 | 0.056 | 0.0 | 0.0 | 390000.0 |
| 14 | 1 | 93 | 0.125 | 0.0 | 0.0 | 104259.0 |
| 15 | 3 | 93 | 0.071 | 1865.0 | 1453.0 | 392967.0 |
| 16 | 2 | 67 | 0.059 | 1308.0 | 0.0 | 544941.0 |
| 17 | 2 | 95 | 0.200 | 1047.0 | 0.0 | 302018.0 |
| 18 | 1 | 56 | 0.071 | 0.0 | 0.0 | 448633.0 |
| 19 | 3 | 57 | 0.053 | 988.0 | 1931.0 | 121823.0 |
| 20 | 2 | 90 | 0.053 | 1223.0 | 0.0 | 6135.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 9 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 17** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 51 | 0.091 | 1057.0 | 1858.0 | 397414.0 |
| 2 | 1 | 99 | 0.067 | 0.0 | 0.0 | 332100.0 |
| 3 | 3 | 60 | 0.125 | 1133.0 | 1712.0 | 163382.0 |
| 4 | 3 | 67 | 0.100 | 1843.0 | 1212.0 | 337551.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 1 | 76 | 0.053 | 0.0 | 0.0 | 396246.0 |
| 6 | 3 | 67 | 0.125 | 1482.0 | 1337.0 | 349583.0 |
| 7 | 2 | 58 | 0.053 | 1807.0 | 0.0 | 407066.0 |
| 8 | 1 | 80 | 0.063 | 0.0 | 0.0 | 583245.0 |
| 9 | 2 | 54 | 0.077 | 1367.0 | 0.0 | 505524.0 |
| 10 | 3 | 90 | 0.091 | 1100.0 | 933.0 | 413715.0 |
| 11 | 3 | 55 | 0.083 | 1210.0 | 1767.0 | 631512.0 |
| 12 | 1 | 67 | 0.071 | 0.0 | 0.0 | 673205.0 |
| 13 | 3 | 55 | 0.167 | 1180.0 | 1788.0 | 30827.0 |
| 14 | 1 | 96 | 0.067 | 0.0 | 0.0 | 522123.0 |
| 15 | 3 | 82 | 0.167 | 1589.0 | 1317.0 | 490358.0 |
| 16 | 1 | 60 | 0.063 | 0.0 | 0.0 | 125007.0 |
| 17 | 2 | 95 | 0.200 | 1047.0 | 0.0 | 302018.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 10 Subset 1 (Center Frequency)** | | | | | | |
| **Number of Bursts in Trial: 17** | | | | | | |
| **Chirp Center Frequency: 5280 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 52 | 0.067 | 1801.0 | 0.0 | 175182.0 |
| 2 | 1 | 94 | 0.053 | 0.0 | 0.0 | 679953.0 |
| 3 | 2 | 59 | 0.056 | 1733.0 | 0.0 | 350936.0 |
| 4 | 2 | 77 | 0.111 | 1761.0 | 0.0 | 227413.0 |
| 5 | 1 | 90 | 0.056 | 0.0 | 0.0 | 87578.0 |
| 6 | 3 | 99 | 0.071 | 1319.0 | 945.0 | 481800.0 |
| 7 | 2 | 62 | 0.063 | 1517.0 | 0.0 | 241473.0 |
| 8 | 2 | 94 | 0.050 | 1794.0 | 0.0 | 352664.0 |
| 9 | 2 | 60 | 0.059 | 1376.0 | 0.0 | 184435.0 |
| 10 | 3 | 67 | 0.053 | 1612.0 | 1316.0 | 357181.0 |
| 11 | 1 | 99 | 0.125 | 0.0 | 0.0 | 174653.0 |
| 12 | 3 | 89 | 0.053 | 1798.0 | 1790.0 | 440373.0 |
| 13 | 3 | 92 | 0.125 | 1280.0 | 1093.0 | 346630.0 |
| 14 | 1 | 72 | 0.056 | 0.0 | 0.0 | 466955.0 |
| 15 | 2 | 70 | 0.100 | 1753.0 | 0.0 | 567226.0 |
| 16 | 1 | 71 | 0.056 | 0.0 | 0.0 | 615811.0 |
| 17 | 2 | 85 | 0.063 | 1576.0 | 0.0 | 124474.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 11 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 12** | | | | | | |
| **Chirp Center Frequency: 5263 MHz (Minimum with 5MHz Chirp width)** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 74 | 0.100 | 0.0 | 0.0 | 435965.0 |
| 2 | 3 | 98 | 0.167 | 910.0 | 1776.0 | 783712.0 |
| 3 | 2 | 80 | 0.167 | 996.0 | 0.0 | 426767.0 |
| 4 | 1 | 74 | 0.056 | 0.0 | 0.0 | 721875.0 |
| 5 | 3 | 93 | 0.067 | 1303.0 | 1349.0 | 901842.0 |
| 6 | 2 | 52 | 0.200 | 1187.0 | 0.0 | 938004.0 |
| 7 | 3 | 58 | 0.200 | 964.0 | 1854.0 | 19559.0 |
| 8 | 3 | 50 | 0.050 | 1666.0 | 1424.0 | 386764.0 |
| 9 | 2 | 51 | 0.091 | 1354.0 | 0.0 | 364659.0 |
| 10 | 3 | 72 | 0.071 | 1131.0 | 1826.0 | 936221.0 |
| 11 | 1 | 75 | 0.067 | 0.0 | 0.0 | 76714.0 |
| 12 | 3 | 89 | 0.053 | 1798.0 | 1790.0 | 440373.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 12 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 20** | | | | | | |
| **Chirp Center Frequency: 5264 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 61 | 0.071 | 980.0 | 1104.0 | 243663.0 |
| 2 | 1 | 74 | 0.053 | 0.0 | 0.0 | 3392.0 |
| 3 | 2 | 73 | 0.143 | 1286.0 | 0.0 | 11429.0 |
| 4 | 2 | 99 | 0.111 | 1470.0 | 0.0 | 381453.0 |
| 5 | 3 | 53 | 0.125 | 1734.0 | 1466.0 | 166165.0 |
| 6 | 3 | 53 | 0.083 | 1337.0 | 1775.0 | 239400.0 |
| 7 | 2 | 76 | 0.125 | 1130.0 | 0.0 | 493520.0 |
| 8 | 1 | 81 | 0.200 | 0.0 | 0.0 | 316756.0 |
| 9 | 3 | 50 | 0.053 | 1709.0 | 995.0 | 272270.0 |
| 10 | 3 | 94 | 0.200 | 1487.0 | 1524.0 | 300700.0 |
| 11 | 1 | 60 | 0.063 | 0.0 | 0.0 | 593172.0 |
| 12 | 3 | 76 | 0.053 | 1389.0 | 1923.0 | 590229.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | 2 | 59 | 0.167 | 1780.0 | 0.0 | 387648.0 |
| 14 | 1 | 91 | 0.067 | 0.0 | 0.0 | 390102.0 |
| 15 | 2 | 77 | 0.167 | 925.0 | 0.0 | 46034.0 |
| 16 | 1 | 51 | 0.083 | 0.0 | 0.0 | 493488.0 |
| 17 | 1 | 60 | 0.083 | 0.0 | 0.0 | 485470.0 |
| 18 | 1 | 95 | 0.083 | 0.0 | 0.0 | 197900.0 |
| 19 | 2 | 61 | 0.200 | 1740.0 | 0.0 | 438424.0 |
| 20 | 2 | 76 | 0.063 | 1417.0 | 0.0 | 452025.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 13 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 16** | | | | | | |
| **Chirp Center Frequency: 5264 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 91 | 0.071 | 0.0 | 0.0 | 43349.0 |
| 2 | 2 | 97 | 0.050 | 1876.0 | 0.0 | 16443.0 |
| 3 | 1 | 83 | 0.063 | 0.0 | 0.0 | 574107.0 |
| 4 | 1 | 53 | 0.125 | 0.0 | 0.0 | 596104.0 |
| 5 | 2 | 85 | 0.050 | 1088.0 | 0.0 | 263296.0 |
| 6 | 1 | 82 | 0.071 | 0.0 | 0.0 | 483602.0 |
| 7 | 3 | 96 | 0.050 | 1485.0 | 1164.0 | 436168.0 |
| 8 | 2 | 67 | 0.111 | 947.0 | 0.0 | 481099.0 |
| 9 | 1 | 54 | 0.053 | 0.0 | 0.0 | 182521.0 |
| 10 | 3 | 73 | 0.143 | 1762.0 | 1450.0 | 197877.0 |
| 11 | 3 | 84 | 0.100 | 1650.0 | 1119.0 | 593747.0 |
| 12 | 3 | 76 | 0.056 | 1414.0 | 1866.0 | 345366.0 |
| 13 | 3 | 54 | 0.200 | 959.0 | 1387.0 | 699717.0 |
| 14 | 1 | 57 | 0.091 | 0.0 | 0.0 | 585190.0 |
| 15 | 1 | 80 | 0.067 | 0.0 | 0.0 | 334447.0 |
| 16 | 3 | 86 | 0.125 | 1801.0 | 1098.0 | 602836.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 14 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 8** | | | | | | |
| **Chirp Center Frequency: 5265 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 54 | 0.125 | 1571.0 | 0.0 | 1268156.0 |
| 2 | 1 | 90 | 0.059 | 0.0 | 0.0 | 1238624.0 |
| 3 | 2 | 76 | 0.063 | 1608.0 | 0.0 | 572755.0 |
| 4 | 3 | 59 | 0.053 | 965.0 | 1138.0 | 1140508.0 |
| 5 | 2 | 92 | 0.050 | 1527.0 | 0.0 | 1104608.0 |
| 6 | 1 | 88 | 0.050 | 0.0 | 0.0 | 92860.0 |
| 7 | 1 | 99 | 0.111 | 0.0 | 0.0 | 201376.0 |
| 8 | 2 | 66 | 0.050 | 1733.0 | 0.0 | 581974.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 15 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 15** | | | | | | |
| **Chirp Center Frequency: 5266 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 64 | 0.091 | 1536.0 | 1302.0 | 418016.0 |
| 2 | 3 | 99 | 0.167 | 922.0 | 1431.0 | 268661.0 |
| 3 | 3 | 100 | 0.200 | 1605.0 | 1440.0 | 100148.0 |
| 4 | 2 | 95 | 0.059 | 1204.0 | 0.0 | 649681.0 |
| 5 | 3 | 78 | 0.083 | 1142.0 | 1489.0 | 233759.0 |
| 6 | 1 | 91 | 0.091 | 0.0 | 0.0 | 418411.0 |
| 7 | 2 | 66 | 0.083 | 1897.0 | 0.0 | 191663.0 |
| 8 | 2 | 54 | 0.056 | 1066.0 | 0.0 | 554122.0 |
| 9 | 3 | 77 | 0.053 | 1029.0 | 1241.0 | 70640.0 |
| 10 | 3 | 90 | 0.056 | 1077.0 | 1411.0 | 665140.0 |
| 11 | 2 | 74 | 0.063 | 965.0 | 0.0 | 735542.0 |
| 12 | 1 | 66 | 0.067 | 0.0 | 0.0 | 10369.0 |
| 13 | 1 | 56 | 0.056 | 0.0 | 0.0 | 346535.0 |
| 14 | 3 | 78 | 0.063 | 1222.0 | 1442.0 | 427467.0 |
| 15 | 1 | 80 | 0.067 | 0.0 | 0.0 | 334447.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 16 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 10** | | | | | | |
| **Chirp Center Frequency: 5266 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 67 | 0.053 | 1411.0 | 0.0 | 728775.0 |
| 2 | 1 | 98 | 0.125 | 0.0 | 0.0 | 26809.0 |
| 3 | 2 | 87 | 0.200 | 1161.0 | 0.0 | 240333.0 |
| 4 | 3 | 90 | 0.077 | 1359.0 | 1591.0 | 894254.0 |
| 5 | 2 | 55 | 0.067 | 1595.0 | 0.0 | 623252.0 |
| 6 | 3 | 75 | 0.100 | 1557.0 | 1380.0 | 232525.0 |
| 7 | 3 | 81 | 0.077 | 1328.0 | 1500.0 | 482345.0 |
| 8 | 3 | 53 | 0.059 | 1196.0 | 1851.0 | 947294.0 |
| 9 | 3 | 97 | 0.077 | 1397.0 | 1002.0 | 1000559.0 |
| 10 | 3 | 90 | 0.056 | 1077.0 | 1411.0 | 665140.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 17 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 14** | | | | | | |
| **Chirp Center Frequency: 5267 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 62 | 0.050 | 1604.0 | 1706.0 | 529138.0 |
| 2 | 2 | 78 | 0.091 | 1686.0 | 0.0 | 338034.0 |
| 3 | 3 | 90 | 0.167 | 1297.0 | 1572.0 | 329337.0 |
| 4 | 3 | 75 | 0.083 | 1248.0 | 1760.0 | 614636.0 |
| 5 | 3 | 72 | 0.091 | 1430.0 | 1814.0 | 786337.0 |
| 6 | 1 | 52 | 0.083 | 0.0 | 0.0 | 683972.0 |
| 7 | 3 | 96 | 0.143 | 1797.0 | 1302.0 | 841739.0 |
| 8 | 2 | 65 | 0.125 | 1373.0 | 0.0 | 142645.0 |
| 9 | 1 | 90 | 0.111 | 0.0 | 0.0 | 627351.0 |
| 10 | 2 | 94 | 0.059 | 1904.0 | 0.0 | 525666.0 |
| 11 | 1 | 59 | 0.056 | 0.0 | 0.0 | 455688.0 |
| 12 | 3 | 61 | 0.091 | 1057.0 | 1652.0 | 552387.0 |
| 13 | 2 | 86 | 0.053 | 1808.0 | 0.0 | 768350.0 |
| 14 | 3 | 78 | 0.063 | 1222.0 | 1442.0 | 427467.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 18 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 20** | | | | | | |
| **Chirp Center Frequency: 5268 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 59 | 0.167 | 1337.0 | 1494.0 | 472427.0 |
| 2 | 2 | 54 | 0.059 | 1472.0 | 0.0 | 29588.0 |
| 3 | 1 | 52 | 0.053 | 0.0 | 0.0 | 320616.0 |
| 4 | 3 | 54 | 0.071 | 1839.0 | 1127.0 | 364261.0 |
| 5 | 2 | 80 | 0.071 | 961.0 | 0.0 | 271177.0 |
| 6 | 1 | 96 | 0.091 | 0.0 | 0.0 | 325358.0 |
| 7 | 1 | 55 | 0.056 | 0.0 | 0.0 | 34056.0 |
| 8 | 3 | 53 | 0.167 | 1384.0 | 1926.0 | 124400.0 |
| 9 | 2 | 64 | 0.100 | 1122.0 | 0.0 | 357569.0 |
| 10 | 1 | 83 | 0.200 | 0.0 | 0.0 | 215509.0 |
| 11 | 1 | 55 | 0.071 | 0.0 | 0.0 | 525575.0 |
| 12 | 3 | 66 | 0.100 | 1528.0 | 1457.0 | 211770.0 |
| 13 | 1 | 76 | 0.063 | 0.0 | 0.0 | 404981.0 |
| 14 | 1 | 70 | 0.050 | 0.0 | 0.0 | 228329.0 |
| 15 | 3 | 56 | 0.083 | 1553.0 | 1589.0 | 382632.0 |
| 16 | 3 | 81 | 0.100 | 1081.0 | 1326.0 | 585378.0 |
| 17 | 3 | 90 | 0.111 | 1460.0 | 1122.0 | 259212.0 |
| 18 | 2 | 61 | 0.200 | 1665.0 | 0.0 | 233884.0 |
| 19 | 2 | 79 | 0.167 | 1800.0 | 0.0 | 411270.0 |
| 20 | 3 | 81 | 0.167 | 1704.0 | 1570.0 | 488027.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 19Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 16** | | | | | | |
| **Chirp Center Frequency: 5268 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 95 | 0.071 | 1368.0 | 1880.0 | 143046.0 |
| 2 | 1 | 50 | 0.125 | 0.0 | 0.0 | 140187.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | 2 | 76 | 0.111 | 1186.0 | 0.0 | 140046.0 |
| 4 | 2 | 90 | 0.053 | 1630.0 | 0.0 | 276672.0 |
| 5 | 1 | 88 | 0.050 | 0.0 | 0.0 | 29477.0 |
| 6 | 2 | 88 | 0.050 | 1687.0 | 0.0 | 525737.0 |
| 7 | 1 | 81 | 0.100 | 0.0 | 0.0 | 18221.0 |
| 8 | 1 | 69 | 0.067 | 0.0 | 0.0 | 467473.0 |
| 9 | 3 | 77 | 0.200 | 1737.0 | 1637.0 | 147544.0 |
| 10 | 1 | 51 | 0.071 | 0.0 | 0.0 | 426528.0 |
| 11 | 2 | 83 | 0.143 | 1245.0 | 0.0 | 667408.0 |
| 12 | 3 | 72 | 0.091 | 1057.0 | 1850.0 | 410210.0 |
| 13 | 3 | 60 | 0.125 | 1362.0 | 1249.0 | 113538.0 |
| 14 | 2 | 60 | 0.083 | 1126.0 | 0.0 | 658216.0 |
| 15 | 2 | 92 | 0.056 | 1267.0 | 0.0 | 512829.0 |
| 16 | 2 | 78 | 0.077 | 1607.0 | 0.0 | 9345.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 20 Subset 2 (90% of the Radar Type 5 frequency modulation is within the low edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 20** | | | | | | |
| **Chirp Center Frequency: 5269 MHz (Maximum with 20MHz Chirp width)** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 79 | 0.143 | 0.0 | 0.0 | 329738.0 |
| 2 | 3 | 87 | 0.091 | 1489.0 | 1639.0 | 151800.0 |
| 3 | 3 | 53 | 0.167 | 1270.0 | 1787.0 | 233278.0 |
| 4 | 2 | 52 | 0.063 | 1762.0 | 0.0 | 48662.0 |
| 5 | 2 | 77 | 0.167 | 1236.0 | 0.0 | 302756.0 |
| 6 | 2 | 62 | 0.053 | 1781.0 | 0.0 | 347196.0 |
| 7 | 1 | 77 | 0.053 | 0.0 | 0.0 | 10314.0 |
| 8 | 2 | 65 | 0.059 | 1374.0 | 0.0 | 498750.0 |
| 9 | 3 | 96 | 0.083 | 1529.0 | 1713.0 | 456707.0 |
| 10 | 3 | 51 | 0.056 | 1114.0 | 1099.0 | 300431.0 |
| 11 | 3 | 60 | 0.053 | 1752.0 | 965.0 | 10109.0 |
| 12 | 1 | 60 | 0.125 | 0.0 | 0.0 | 92380.0 |
| 13 | 3 | 95 | 0.067 | 1397.0 | 1442.0 | 97318.0 |
| 14 | 1 | 61 | 0.167 | 0.0 | 0.0 | 387261.0 |
| 15 | 2 | 95 | 0.050 | 1074.0 | 0.0 | 552264.0 |
| 16 | 3 | 65 | 0.077 | 1688.0 | 1431.0 | 238810.0 |
| 17 | 3 | 85 | 0.167 | 1196.0 | 1253.0 | 594185.0 |
| 18 | 1 | 80 | 0.111 | 0.0 | 0.0 | 313840.0 |
| 19 | 1 | 82 | 0.067 | 0.0 | 0.0 | 136951.0 |
| 20 | 2 | 98 | 0.100 | 1130.0 | 0.0 | 352919.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 21 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 17** | | | | | | |
| **Chirp Center Frequency: 5297 MHz (Minimum with 5MHz Chirp width)** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 53 | 0.077 | 1843.0 | 0.0 | 41821.0 |
| 2 | 1 | 87 | 0.053 | 0.0 | 0.0 | 73254.0 |
| 3 | 3 | 85 | 0.083 | 1618.0 | 1669.0 | 672339.0 |
| 4 | 1 | 80 | 0.125 | 0.0 | 0.0 | 140816.0 |
| 5 | 1 | 55 | 0.071 | 0.0 | 0.0 | 576808.0 |
| 6 | 1 | 69 | 0.111 | 0.0 | 0.0 | 239686.0 |
| 7 | 3 | 67 | 0.050 | 1919.0 | 1252.0 | 115015.0 |
| 8 | 3 | 89 | 0.067 | 1099.0 | 1093.0 | 155819.0 |
| 9 | 1 | 62 | 0.100 | 0.0 | 0.0 | 348921.0 |
| 10 | 2 | 92 | 0.059 | 1840.0 | 0.0 | 637883.0 |
| 11 | 1 | 69 | 0.100 | 0.0 | 0.0 | 74346.0 |
| 12 | 1 | 71 | 0.067 | 0.0 | 0.0 | 6930.0 |
| 13 | 1 | 69 | 0.077 | 0.0 | 0.0 | 563212.0 |
| 14 | 3 | 90 | 0.077 | 1043.0 | 1640.0 | 259691.0 |
| 15 | 1 | 97 | 0.050 | 0.0 | 0.0 | 212134.0 |
| 16 | 1 | 71 | 0.050 | 0.0 | 0.0 | 42994.0 |
| 17 | 3 | 89 | 0.167 | 1165.0 | 1199.0 | 420127.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 22 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 12** | | | | | | |
| **Chirp Center Frequency: 5296 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 84 | 0.050 | 1532.0 | 0.0 | 878237.0 |
| 2 | 1 | 87 | 0.143 | 0.0 | 0.0 | 762006.0 |
| 3 | 2 | 91 | 0.067 | 1332.0 | 0.0 | 278494.0 |
| 4 | 2 | 89 | 0.100 | 1744.0 | 0.0 | 464061.0 |
| 5 | 2 | 100 | 0.053 | 1871.0 | 0.0 | 386401.0 |
| 6 | 3 | 55 | 0.050 | 1450.0 | 1794.0 | 882625.0 |
| 7 | 3 | 54 | 0.053 | 1414.0 | 1372.0 | 131766.0 |
| 8 | 2 | 76 | 0.056 | 1003.0 | 0.0 | 547196.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 3 | 61 | 0.053 | 1133.0 | 1692.0 | 564451.0 |
| 10 | 3 | 73 | 0.200 | 1690.0 | 1348.0 | 820334.0 |
| 11 | 1 | 67 | 0.077 | 0.0 | 0.0 | 699439.0 |
| 12 | 2 | 84 | 0.059 | 1238.0 | 0.0 | 237349.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 23 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 11** | | | | | | |
| **Chirp Center Frequency: 5296 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 70 | 0.063 | 1668.0 | 1886.0 | 926854.0 |
| 2 | 1 | 59 | 0.056 | 0.0 | 0.0 | 1071552.0 |
| 3 | 2 | 97 | 0.125 | 1608.0 | 0.0 | 80516.0 |
| 4 | 1 | 59 | 0.077 | 0.0 | 0.0 | 202770.0 |
| 5 | 1 | 92 | 0.167 | 0.0 | 0.0 | 629624.0 |
| 6 | 1 | 91 | 0.143 | 0.0 | 0.0 | 1000757.0 |
| 7 | 2 | 50 | 0.056 | 1036.0 | 0.0 | 824207.0 |
| 8 | 1 | 76 | 0.100 | 0.0 | 0.0 | 535568.0 |
| 9 | 2 | 50 | 0.071 | 1880.0 | 0.0 | 162434.0 |
| 10 | 3 | 96 | 0.083 | 1341.0 | 1074.0 | 160928.0 |
| 11 | 3 | 81 | 0.091 | 1408.0 | 1133.0 | 148795.0 |

| **Radar Type 5** | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 24 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 10** | | | | | | |
| **Chirp Center Frequency: 5295 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 70 | 0.063 | 1668.0 | 1886.0 | 926854.0 |
| 2 | 1 | 59 | 0.056 | 0.0 | 0.0 | 1071552.0 |
| 3 | 2 | 97 | 0.125 | 1608.0 | 0.0 | 80516.0 |
| 4 | 1 | 59 | 0.077 | 0.0 | 0.0 | 202770.0 |
| 5 | 1 | 92 | 0.167 | 0.0 | 0.0 | 629624.0 |
| 6 | 1 | 91 | 0.143 | 0.0 | 0.0 | 1000757.0 |
| 7 | 2 | 50 | 0.056 | 1036.0 | 0.0 | 824207.0 |
| 8 | 1 | 76 | 0.100 | 0.0 | 0.0 | 535568.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 2 | 50 | 0.071 | 1880.0 | 0.0 | 162434.0 |
| 10 | 3 | 96 | 0.083 | 1341.0 | 1074.0 | 160928.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 25 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 12** | | | | | | |
| **Chirp Center Frequency: 5294 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 94 | 0.111 | 0.0 | 0.0 | 436867.0 |
| 2 | 2 | 85 | 0.071 | 1196.0 | 0.0 | 838684.0 |
| 3 | 3 | 53 | 0.077 | 1599.0 | 971.0 | 10115.0 |
| 4 | 2 | 80 | 0.059 | 1841.0 | 0.0 | 667275.0 |
| 5 | 1 | 57 | 0.111 | 0.0 | 0.0 | 624580.0 |
| 6 | 2 | 64 | 0.071 | 962.0 | 0.0 | 101729.0 |
| 7 | 2 | 84 | 0.059 | 1892.0 | 0.0 | 34876.0 |
| 8 | 2 | 87 | 0.059 | 1548.0 | 0.0 | 40746.0 |
| 9 | 3 | 72 | 0.059 | 1876.0 | 1100.0 | 185895.0 |
| 10 | 1 | 63 | 0.077 | 0.0 | 0.0 | 797095.0 |
| 11 | 1 | 94 | 0.067 | 0.0 | 0.0 | 122271.0 |
| 12 | 2 | 84 | 0.059 | 1238.0 | 0.0 | 237349.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 26 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 11** | | | | | | |
| **Chirp Center Frequency: 5294 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 79 | 0.143 | 0.0 | 0.0 | 365403.0 |
| 2 | 1 | 65 | 0.077 | 0.0 | 0.0 | 672702.0 |
| 3 | 2 | 63 | 0.063 | 1899.0 | 0.0 | 795596.0 |
| 4 | 3 | 61 | 0.111 | 1143.0 | 1028.0 | 476924.0 |
| 5 | 1 | 51 | 0.167 | 0.0 | 0.0 | 250606.0 |
| 6 | 1 | 81 | 0.050 | 0.0 | 0.0 | 700564.0 |
| 7 | 3 | 90 | 0.083 | 1031.0 | 1023.0 | 595851.0 |
| 8 | 3 | 94 | 0.056 | 1537.0 | 1518.0 | 22158.0 |
| 9 | 3 | 80 | 0.067 | 1010.0 | 1446.0 | 329826.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | 3 | 97 | 0.143 | 1667.0 | 1870.0 | 1000007.0 |
| 11 | 2 | 62 | 0.053 | 1169.0 | 0.0 | 20639.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 27 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 12** | | | | | | |
| **Chirp Center Frequency: 5293 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 1 | 86 | 0.143 | 0.0 | 0.0 | 670981.0 |
| 2 | 2 | 91 | 0.050 | 1058.0 | 0.0 | 604702.0 |
| 3 | 2 | 98 | 0.167 | 1281.0 | 0.0 | 638714.0 |
| 4 | 2 | 53 | 0.071 | 1565.0 | 0.0 | 380572.0 |
| 5 | 3 | 85 | 0.059 | 1618.0 | 972.0 | 466434.0 |
| 6 | 1 | 92 | 0.077 | 0.0 | 0.0 | 592642.0 |
| 7 | 3 | 84 | 0.077 | 1775.0 | 1420.0 | 528899.0 |
| 8 | 3 | 94 | 0.125 | 929.0 | 1734.0 | 133626.0 |
| 9 | 2 | 85 | 0.077 | 1908.0 | 0.0 | 103890.0 |
| 10 | 2 | 66 | 0.100 | 1393.0 | 0.0 | 682053.0 |
| 11 | 1 | 93 | 0.200 | 0.0 | 0.0 | 646740.0 |
| 12 | 1 | 50 | 0.167 | 0.0 | 0.0 | 203265.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 28 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 12** | | | | | | |
| **Chirp Center Frequency: 5292 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 3 | 70 | 0.077 | 1670.0 | 1675.0 | 396578.0 |
| 2 | 1 | 94 | 0.167 | 0.0 | 0.0 | 691924.0 |
| 3 | 1 | 68 | 0.071 | 0.0 | 0.0 | 553686.0 |
| 4 | 3 | 66 | 0.167 | 1131.0 | 999.0 | 362812.0 |
| 5 | 3 | 75 | 0.125 | 1058.0 | 1107.0 | 410027.0 |
| 6 | 3 | 92 | 0.056 | 1115.0 | 1799.0 | 768387.0 |
| 7 | 3 | 84 | 0.056 | 1645.0 | 1736.0 | 954357.0 |
| 8 | 3 | 80 | 0.053 | 1429.0 | 1138.0 | 634021.0 |
| 9 | 1 | 66 | 0.067 | 0.0 | 0.0 | 296470.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | 1 | 66 | 0.125 | 0.0 | 0.0 | 812245.0 |
| 11 | 1 | 92 | 0.077 | 0.0 | 0.0 | 483065.0 |
| 12 | 1 | 71 | 0.077 | 0.0 | 0.0 | 333483.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 29 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 17** | | | | | | |
| **Chirp Center Frequency: 5292 MHz** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 50 | 0.053 | 1752.0 | 0.0 | 303939.0 |
| 2 | 2 | 97 | 0.063 | 1025.0 | 0.0 | 357703.0 |
| 3 | 1 | 72 | 0.083 | 0.0 | 0.0 | 332720.0 |
| 4 | 1 | 64 | 0.071 | 0.0 | 0.0 | 619237.0 |
| 5 | 3 | 88 | 0.091 | 1555.0 | 1450.0 | 676688.0 |
| 6 | 1 | 87 | 0.143 | 0.0 | 0.0 | 101027.0 |
| 7 | 2 | 77 | 0.091 | 1323.0 | 0.0 | 301157.0 |
| 8 | 3 | 75 | 0.083 | 1241.0 | 1760.0 | 579475.0 |
| 9 | 3 | 87 | 0.071 | 972.0 | 1725.0 | 86651.0 |
| 10 | 2 | 78 | 0.100 | 1127.0 | 0.0 | 138798.0 |
| 11 | 2 | 77 | 0.063 | 1510.0 | 0.0 | 206804.0 |
| 12 | 3 | 74 | 0.050 | 1649.0 | 1618.0 | 143659.0 |
| 13 | 3 | 68 | 0.071 | 1043.0 | 1653.0 | 6032.0 |
| 14 | 2 | 99 | 0.056 | 1871.0 | 0.0 | 530388.0 |
| 15 | 1 | 96 | 0.200 | 0.0 | 0.0 | 579468.0 |
| 16 | 2 | 87 | 0.056 | 1615.0 | 0.0 | 126665.0 |
| 17 | 3 | 97 | 0.143 | 1858.0 | 1753.0 | 495275.0 |

| Radar Type 5 | | | | | | |
|---|---|---|---|---|---|---|
| **Trial Number: 30 Subset 3 (90% of the Radar Type 5 frequency modulation is within the high edge of the UUT Occupied BW** | | | | | | |
| **Number of Bursts in Trial: 18** | | | | | | |
| **Chirp Center Frequency: 5291 MHz (Maximum with 20MHz Chirp width)** | | | | | | |
| **Burst** | **Number of Pulses** | **Pulse Width (µs)** | **Chirp Width (µsec)** | **Pulse 1 to 2 Spacing (µsec)** | **Pulse 2 to 3 Spacing (µsec)** | **Starting Location Within Interval (µsec)** |
| 1 | 2 | 88 | 0.200 | 1290.0 | 0.0 | 74193.0 |
| 2 | 1 | 88 | 0.050 | 0.0 | 0.0 | 150862.0 |
| 3 | 2 | 85 | 0.091 | 1282.0 | 0.0 | 655931.0 |
| 4 | 2 | 69 | 0.125 | 1771.0 | 0.0 | 327987.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 3 | 79 | 0.083 | 1082.0 | 1676.0 | 65401.0 |
| 6 | 1 | 76 | 0.091 | 0.0 | 0.0 | 563462.0 |
| 7 | 1 | 81 | 0.111 | 0.0 | 0.0 | 9964.0 |
| 8 | 1 | 99 | 0.125 | 0.0 | 0.0 | 544744.0 |
| 9 | 2 | 82 | 0.053 | 1071.0 | 0.0 | 37503.0 |
| 10 | 2 | 54 | 0.200 | 1383.0 | 0.0 | 222553.0 |
| 11 | 1 | 69 | 0.077 | 0.0 | 0.0 | 621612.0 |
| 12 | 1 | 68 | 0.053 | 0.0 | 0.0 | 176373.0 |
| 13 | 1 | 80 | 0.111 | 0.0 | 0.0 | 186469.0 |
| 14 | 1 | 81 | 0.100 | 0.0 | 0.0 | 72165.0 |
| 15 | 1 | 94 | 0.083 | 0.0 | 0.0 | 258522.0 |
| 16 | 1 | 50 | 0.125 | 0.0 | 0.0 | 372463.0 |
| 17 | 2 | 60 | 0.071 | 1576.0 | 0.0 | 345893.0 |
| 18 | 3 | 53 | 0.063 | 1609.0 | 1633.0 | 210912.0 |

### 2.9.11 Test Results (40 MHz BW)

| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 1 | 1 | ✓ | | 19 | ✓ | |
| | 2 | ✓ | | 20 | ✓ | |
| | 3 | ✓ | | 21 | ✓ | |
| | 4 | ✓ | | 22 | ✓ | |
| | 5 | ✓ | | 23 | ✓ | |
| | 6 | ✓ | | 24 | ✓ | |
| | 7 | ✓ | | 25 | ✓ | |
| | 8 | ✓ | | 26 | ✓ | |
| | 9 | ✓ | | 27 | ✓ | |
| | 10 | ✓ | | 28 | ✓ | |
| | 11 | ✓ | | 29 | ✓ | |
| | 12 | ✓ | | 30 | ✓ | |
| | 13 | ✓ | | 31 | ✓ | |
| | 14 | ✓ | | 32 | ✓ | |
| | 15 | ✓ | | 33 | ✓ | |
| | 16 | ✓ | | 34 | ✓ | |
| | 17 | ✓ | | 35 | ✓ | |
| | 18 | ✓ | | | | |
| Percentage of Successful detection = **100%** | | | | | | |



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| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 2 | 1 | ✓ | | 19 | ✓ | |
| | 2 | ✓ | | 20 | ✓ | |
| | 3 | ✓ | | 21 | ✓ | |
| | 4 | ✓ | | 22 | ✓ | |
| | 5 | ✓ | | 23 | ✓ | |
| | 6 | ✓ | | 24 | ✓ | |
| | 7 | ✓ | | 25 | ✓ | |
| | 8 | ✓ | | 26 | ✓ | |
| | 9 | ✓ | | 27 | ✓ | |
| | 10 | ✓ | | 28 | ✓ | |
| | 11 | ✓ | | 29 | ✓ | |
| | 12 | ✓ | | 30 | ✓ | |
| | 13 | ✓ | | | | |
| | 14 | ✓ | | | | |
| | 15 | ✓ | | | | |
| | 16 | ✓ | | | | |
| | 17 | ✓ | | | | |
| | 18 | ✓ | | | | |
| Percentage of Successful detection = **100%** | | | | | | |

| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 3 | 1 | | ✓ | 19 | ✓ | |
| | 2 | ✓ | | 20 | ✓ | |
| | 3 | ✓ | | 21 | ✓ | |
| | 4 | ✓ | | 22 | ✓ | |
| | 5 | ✓ | | 23 | ✓ | |
| | 6 | ✓ | | 24 | ✓ | |
| | 7 | ✓ | | 25 | ✓ | |
| | 8 | ✓ | | 26 | ✓ | |
| | 9 | ✓ | | 27 | ✓ | |
| | 10 | ✓ | | 28 | ✓ | |
| | 11 | ✓ | | 29 | ✓ | |
| | 12 | ✓ | | 30 | ✓ | |
| | 13 | ✓ | | | | |
| | 14 | ✓ | | | | |
| | 15 | ✓ | | | | |
| | 16 | ✓ | | | | |
| | 17 | ✓ | | | | |
| | 18 | ✓ | | | | |
| Percentage of Successful detection = (Total Waveform Detections/Total Waveform Trials) x 100<br>= (29/30) x 100<br>= **96.7%** (Radar injected at 5280MHz only) | | | | | | |



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| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 4 | 1 | ✓ | | 26 | ✓ | |
| | 2 | ✓ | | 27 | ✓ | |
| | 3 | ✓ | | 28 | ✓ | |
| | 4 | ✓ | | 29 | ✓ | |
| | 5 | ✓ | | 30 | ✓ | |
| | 6 | ✓ | | 31 | ✓ | |
| | 7 | ✓ | | 32 | ✓ | |
| | 8 | ✓ | | 33 | ✓ | |
| | 9 | ✓ | | 34 | ✓ | |
| | 10 | ✓ | | 35 | ✓ | |
| | 11 | ✓ | | 36 | ✓ | |
| | 12 | ✓ | | 37 | ✓ | |
| | 13 | ✓ | | 38 | ✓ | |
| | 14 | ✓ | | 39 | ✓ | |
| | 15 | ✓ | | 40 | ✓ | |
| | 16 | ✓ | | 41 | ✓ | |
| | 17 | ✓ | | 42 | ✓ | |
| | 18 | ✓ | | 43 | ✓ | |
| | 19 | ✓ | | 44 | ✓ | |
| | 20 | ✓ | | 45 | ✓ | |
| | 21 | ✓ | | 46 | ✓ | |
| | 22 | ✓ | | 47 | ✓ | |
| | 23 | ✓ | | 48 | ✓ | |
| | 24 | ✓ | | 49 | ✓ | |
| | 25 | ✓ | | 50 | ✓ | |
| Percentage of Successful detection = **100%** (Radar injected on 5280 MHz and 5281 MHz. When Radar was not detected on the center frequency, the Radar frequency was increased by 1MHz which always results on Radar detection. This is due to Zero IF (ZIF) receiver architecture of the EUT. In a randomly placed system, the radar signal has equal probability to appear anywhere within the detection bandwidth. The probability that the radar signal lands on or near (e.g. within the DC cancelation bandwidth) the carrier frequency is almost negligible). | | | | | | |

| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 5 | 1 | ✓ | | 19 | ✓ | |
| | 2 | ✓ | | 20 | ✓ | |
| | 3 | ✓ | | 21 | ✓ | |
| | 4 | ✓ | | 22 | | ✓ |
| | 5 | ✓ | | 23 | | ✓ |
| | 6 | ✓ | | 24 | | ✓ |
| | 7 | ✓ | | 25 | ✓ | |
| | 8 | ✓ | | 26 | ✓ | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 9 | ✓ | | 27 | ✓ | |
| | 10 | ✓ | | 28 | ✓ | |
| | 11 | | ✓ | 29 | ✓ | |
| | 12 | ✓ | | 30 | ✓ | |
| | 13 | ✓ | | | | |
| | 14 | | ✓ | | | |
| | 15 | ✓ | | | | |
| | 16 | | ✓ | | | |
| | 17 | ✓ | | | | |
| | 18 | ✓ | | | | |

Trial 1-10 (Center Frequency Subset 1)
Trial 11-20 (FL + 0.4*Chirp Width (MHz)) Subset 2
Trial 21-30 (FL + 0.4*Chirp Width (MHz)) Subset 3
Percentage of Successful detection = (Total Waveform Detections/Total Waveform Trials) x 100
= (24/30) x 100
= **80.0%**

| Radar Type | Trial # | Detection | | Trial # | Detection | |
|---|---|---|---|---|---|---|
| | | Yes | No | | Yes | No |
| 6 | 1 | ✓ | | 19 | ✓ | |
| | 2 | ✓ | | 20 | ✓ | |
| | 3 | ✓ | | 21 | ✓ | |
| | 4 | ✓ | | 22 | ✓ | |
| | 5 | ✓ | | 23 | ✓ | |
| | 6 | ✓ | | 24 | ✓ | |
| | 7 | ✓ | | 25 | ✓ | |
| | 8 | ✓ | | 26 | ✓ | |
| | 9 | ✓ | | 27 | ✓ | |
| | 10 | ✓ | | 28 | ✓ | |
| | 11 | ✓ | | 29 | ✓ | |
| | 12 | ✓ | | 30 | ✓ | |
| | 13 | ✓ | | | | |
| | 14 | ✓ | | | | |
| | 15 | ✓ | | | | |
| | 16 | ✓ | | | | |
| | 17 | ✓ | | | | |
| | 18 | ✓ | | | | |

Percentage of Successful detection = **100%** (Radar injected at 5280MHz only)



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**SECTION 3**

**TEST EQUIPMENT USED**

## 3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

| ID Number (SDGE/SDRB) | Test Equipment | Type | Serial Number | Manufacturer | Cal Date | Cal Due Date |
|---|---|---|---|---|---|---|
| Radiated Test Setup | | | | | | |
| - | Coaxial SMA Fixed Attenuator (x2) | VAT-30W2 | N/A | MCL | Verified by 7608 and 7582 | |
| - | Coaxial SMA Fixed Attenuator | VAT-10W2 | N/A | MCL | Verified by 7608 and 7582 | |
| - | Coaxial SMA Fixed Attenuator | VAT-10+ | N/A | Mini-Circuits | Verified by 7608 and 7582 | |
| - | Power Splitter (2x) | ZN2PD-63-S+ | N/A | Mini-Circuits | Verified by 7608 and 7582 | |
| - | Low loss RF cable (x2) | JX50172-24 | N/A | RF Precision Cables, Inc. | Verified by 7608 and 7582 | |
| | Low loss RF cable (x2) | 70032199 | N/A | Allied Electronics | Verified by 7608 and 7582 | |
| 7610 | DFS Radar Simulator and Analyzer | Aeroflex 3005 | 30050A/09L | Aeroflex international LTD. UK | 03/04/15 | 03/04/16 |
| 7608 | Vector Signal Generator | SMBV100A | 259021 | Rhode & Schwarz | 07/29/15 | 07/29/16 |
| 7582 | Signal/Spectrum Analyzer | FSW26 | 101614 | Rhode & Schwarz | 10/05/15 | 10/05/16 |
| 7620 | EMI Test Receiver | ESU40 | 100399 | Rhode & Schwarz | 09/03/15 | 09/03/16 |
| Miscellaneous | | | | | | |
| 6792 | Multimeter | 3478A | 2911A70964 | Hewlett Packard | 08/14/15 | 08/14/16 |
| 7560 | Barometer/Temperature/Humidity Transmitter | iBTHX-W | 1240476 | Omega | 10/19/15 | 10/19/16 |
| | Test Software | DFS Radar Simulator and Analyzer | V2.6.0 | Cobham | N/A | |

## 3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

### 3.2.1 DFS

| | Contribution | Probability Distribution Type | Probability Distribution $x_i$ | Standard Uncertainty $u(x_i)$ | $[u(x_i)]^2$ |
|---|---|---|---|---|---|
| 1 | Receiver/Spectrum Analyzer | Rectangular | 0.08 | 0.05 | 0.00 |
| 2 | Cables | Rectangular | 0.30 | 0.17 | 0.03 |
| 3 | Combiners | Rectangular | 1.20 | 0.69 | 0.48 |
| 4 | Attenuators | Rectangular | 0.80 | 0.46 | 0.21 |
| 5 | EUT Setup | Rectangular | 0.50 | 0.29 | 0.08 |
| | | | | Combined Uncertainty ($u_c$): | 0.90 |
| | | | | Coverage Factor (k): | 1.96 |
| | | | | Expanded Uncertainty: | 1.76 |



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**SECTION 4**

**ACCREDITATION, DISCLAIMERS AND COPYRIGHT**



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