



# **RADIO TEST REPORT**

**Test Report No. : 11783009S-A-R1**

**Applicant** : Wistron NeWeb Corporation  
**Type of Equipment** : WLAN/BT Module  
**Model No.** : DHSR-SY30  
**FCC ID** : NKR-SY30  
**Test regulation** : **FCC Part 15 Subpart E: 2017**  
(DFS test only, Master 20 MHz mode only,  
Client 20 MHz, 40 MHz and 80 MHz mode  
(refer to test report, Report No. FZ5D0701-02))

**Test Result** : **Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
6. This test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
7. This report is a revised version of 11783009S-A.

**Date of test:** May 30 to June 1, 2017

**Representative  
test engineer:**

*K. Adachi*

Kenichi Adachi  
Engineer  
Consumer Technology Division

**Approved by :**

*T. Imamura*

Toyokazu Imamura  
Leader  
Consumer Technology Division



- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.  
☒ There is no testing item of "Non-accreditation".

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13-EM-F0429



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## **SECTION 1: Customer information**

Company Name : Wistron NeWeb Corporation  
Address : 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.  
Contact Person : Edward Yeh

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of Equipment : WLAN/BT Module  
Model No. : DHSR-SY30  
Serial No. : Refer to Clause 4.2  
Rating : DC 4 V  
Receipt Date of Sample : May 30, 2017  
Country of Mass-production : China  
Condition of EUT : Production prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)  
Modification of EUT : No Modification by the test lab

### **2.2 Product Description**

Model No: DHSR-SY30 (referred to as the EUT in this report) is the WLAN/BT Module.

#### **General Specification**

Clock frequency(ies) in the system : 26 MHz

#### **Radio Specification**

Radio Type : Transceiver  
Method of Frequency Generation : X'tal  
Power Supply (inner) : DC 4.0 V

|                        | Bluetooth                                                                                                                          | IEEE802.11b                    | IEEE802.11g/n<br>(20 MHz band)        | IEEE802.11a/n<br>(20 MHz band (master), *4)<br>20 MHz, 40 MHz, 80 MHz band (client) |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------|-------------------------------------------------------------------------------------|
| Frequency of operation | 2402-2480 MHz                                                                                                                      | 2412-2462 MHz                  | 2412-2462 MHz                         | 5180-5240 MHz<br>5260-5320 MHz *1)<br>5500-5700 MHz *1)<br>5745-5825 MHz            |
| Type of modulation     | BDR: GFSK,<br>EDR: $\pi/4$ DQPSK,<br>8DPSK,<br>BLE: GFSK                                                                           | DSSS<br>(CCK, DQPSK,<br>DBPSK) | OFDM<br>(64QAM, 16QAM,<br>QPSK, BPSK) | OFDM<br>(64QAM, 16QAM, QPSK, BPSK)                                                  |
| Channel spacing        | BDR/EDR: 1 MHz<br>BLE: 2 MHz                                                                                                       | 5 MHz                          |                                       | 20 MHz (master) *4)<br>20 MHz, 40 MHz, 80 MHz (client)                              |
| Antenna type           | (Antenna1) Green PCB antenna + antenna cable<br>(Antenna2) Blue PCB antenna + antenna cable *2),                                   |                                |                                       |                                                                                     |
| Antenna Gain           | (Antenna1) maximum: +0.70 dBi (peak), minimum: -3.73 dBi (peak)<br>(Antenna2) maximum: +3.14 dBi (peak), minimum: -4.17 dBi (peak) |                                |                                       |                                                                                     |
| Antenna Connector type | MHF4L                                                                                                                              |                                |                                       |                                                                                     |

\*1) 5260-5320 MHz, 5500-5700 MHz are applied for this test report.

\*2) Antenna is an exclusive choice between antenna 1 and antenna 2, and antenna cable length is exclusive choice between from 50 mm to 900 mm.

\*3) This test report is master mode test only, client mode tests are another test report.

\*4) This EUT bandwidth mode is that the master mode is 20 MHz only, and the client mode is 20 MHz, 40 MHz, 80 MHz mode.

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### **SECTION 3: Scope of Report**

This report only covers DFS requirement, as specified by the following referenced procedures.

### **SECTION 4: Test specification, procedures & results**

#### **4.1 Test Specification**

|                    |   |                                                                                                                                                                                                       |
|--------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Specification | : | FCC Part 15 Subpart E: 2017,<br>FCC Part 15 final revised on June 14, 2017 and effective July 14, 2017                                                                                                |
| Title              | : | FCC 47CFR Part15 Radio Frequency Device<br>Subpart E Unlicensed National Information Infrastructure Devices<br>Section 15.407 General technical requirements                                          |
| Test Specification | : | KDB905462 D02 UNII DFS Compliance Procedures New Rules v02                                                                                                                                            |
| Title              | : | COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-<br>NATIONAL INFORMATION INFRASTRUCTURE DEVICES<br>OPERATING IN THE 5250-5350MHz AND 5470-5725MHz BANDS<br>INCORPORATING DYNAMIC FREQUENCY SELECTION |
| Test Specification | : | KDB905462 D04 Operational Modes for DFS Testing New Rules v01                                                                                                                                         |
| Title              | : | OPERATIONAL MODES SUGGESTED FOR DFS TESTING                                                                                                                                                           |

#### **FCC Part 15.31 (e) / 212 (Supplied voltage requirement)**

The RF Module has own regulator.

The RF Module is constantly provided voltage through own regulator regardless of input voltage (DC 4.0 V).

Therefore, this EUT complies with the requirement.

#### **FCC Part 15.203 / 212 (Antenna requirement)**

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the final equipment.

And the EUT has a unique antenna connector (MHF4 on the Module). Therefore, the equipment complies with the antenna requirement of Section 15.203/212.

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## 4.2 Procedures and results

**Table 1: Applicability of DFS Requirements**

**<Master mode>**

| Requirement                                                                    | Operating Mode | Test Procedures               | Limits                                     | Deviation | Results  |
|--------------------------------------------------------------------------------|----------------|-------------------------------|--------------------------------------------|-----------|----------|
|                                                                                | Master         |                               |                                            |           |          |
| U-NII Detection Bandwidth                                                      | Yes            | FCC/IC: KDB905462 D02 7.8.1   | FCC/IC:KDB905462 D02 5.3                   | N/A       | Complied |
| Initial Channel Availability Check Time                                        | Yes            | FCC/IC: KDB905462 D02 7.8.2.1 | FCC:FCC15.407(h)(2)(ii)<br>IC:RSS-247 6.3  | N/A       | Complied |
| Radar Burst at the Beginning of the Channel Availability Check Time            | Yes            | FCC/IC: KDB905462 D02 7.8.2.2 | FCC:FCC15.407(h)(2)(ii)<br>IC:RSS-247 6.3  | N/A       | Complied |
| Radar Burst at the End of the Channel Availability Check Time                  | Yes            | FCC/IC: KDB905462 D02 7.8.2.3 | FCC:FCC15.407(h)(2)(ii)<br>IC:RSS-247 6.3  | N/A       | Complied |
| In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time | Yes            | FCC/IC: KDB905462 D02 7.8.3   | FCC:FCC15.407(h)(2)(iii)<br>IC:RSS-247 6.3 | N/A       | Complied |
| In-Service Monitoring for Non-Occupancy period                                 | Yes            | FCC/IC: KDB905462 D02 7.8.3   | FCC: FCC15.407(h)(2)(iv)<br>IC:RSS-247 6.3 | N/A       | Complied |
| Statistical Performance Check                                                  | Yes            | FCC/IC: KDB905462 D02 7.8.4   | FCC/IC:KDB905462 D02 6.1,6.2,6.3           | N/A       | Complied |

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0422.

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**Table 2 DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection**

| Maximum Transmit Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Value (See Notes 1,2, and 3) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| ≥ 200 milliwatt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -64 dBm                      |
| < 200 milliwatt and power spectral density < 10dBm/MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -62 dBm                      |
| < 200 milliwatt that do not meet the power spectral density requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                 | -64 dBm                      |
| <p>Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.</p> <p>Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.</p> <p>Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</p> |                              |

**Table 3 DFS Response Requirement Values**

| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Value                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Non-occupancy period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Minimum 30 minutes                                                                                       |
| Channel Availability Check Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60 seconds                                                                                               |
| Channel Move Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10 seconds<br>See Note 1                                                                                 |
| Channel Closing Transmission Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.<br>See Notes 1 and 2 |
| U-NII Detection Bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Minimum 100% of the U-NII 99% transmission power bandwidth<br>See Note 3                                 |
| <p><b>Note 1:</b> Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p><b>Note 2:</b> The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signal will not count quiet periods in between transmissions.</p> <p><b>Note 3:</b> During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p> |                                                                                                          |

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**Table 4 Short Pulse Radar Test Waveform**

| Radar Type                                                                                                                           | Pulse Width (μsec) | PRI (μsec)                                                                                                                                                                                                                                                 | Number of Pulses                                               | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------|--------------------------|
| 0                                                                                                                                    | 1                  | 1428                                                                                                                                                                                                                                                       | 18                                                             | See Note 1                                 | See Note 1               |
| 1                                                                                                                                    | 1                  | Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a<br>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 | Roundup $\{(1/360) * (19 * 10^6 / \text{PRI}_{\text{μsec}})\}$ | 60%                                        | 30                       |
| 2                                                                                                                                    | 1-5                | 150-230                                                                                                                                                                                                                                                    | 23-29                                                          | 60%                                        | 30                       |
| 3                                                                                                                                    | 6-10               | 200-500                                                                                                                                                                                                                                                    | 16-18                                                          | 60%                                        | 30                       |
| 4                                                                                                                                    | 11-20              | 200-500                                                                                                                                                                                                                                                    | 12-16                                                          | 60%                                        | 30                       |
| Aggregate (Rader Types 1-4)                                                                                                          |                    |                                                                                                                                                                                                                                                            |                                                                | 80%                                        | 120                      |
| Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. |                    |                                                                                                                                                                                                                                                            |                                                                |                                            |                          |

**Table 5 Long Pulse Radar Test Waveform**

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

**Table 6 Frequency Hopping Radar Test Waveform**

| Radar Type | Pulse Width (μsec) | PRI (μsec) | Pulse per Hop (kHz) | Hopping Rate (kHz) | Hopping Sequence Length (msec) | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|------------|---------------------|--------------------|--------------------------------|--------------------------------------------|--------------------------|
| 6          | 1                  | 333        | 9                   | 0.333              | 300                            | 70%                                        | 30                       |

#### 4.3 Test Location

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JAB Accreditation No. : RTL02610

|                                                        | IC<br>Registration<br>No. | Width x Depth x<br>Height (m) | Size of reference<br>ground plane (m)<br>/ horizontal<br>conducting plane | Maximum<br>measurement<br>distance |
|--------------------------------------------------------|---------------------------|-------------------------------|---------------------------------------------------------------------------|------------------------------------|
| <input type="checkbox"/> No.1 Semi-anechoic chamber    | 2973D-1                   | 20.6 x 11.3 x 7.65            | 20.6 x 11.3                                                               | 10 m                               |
| <input type="checkbox"/> No.2 Semi-anechoic chamber    | 2973D-2                   | 20.6 x 11.3 x 7.65            | 20.6 x 11.3                                                               | 10 m                               |
| <input type="checkbox"/> No.3 Semi-anechoic chamber    | 2973D-3                   | 12.7 x 7.7 x 5.35             | 12.7 x 7.7                                                                | 5 m                                |
| <input type="checkbox"/> No.4 Semi-anechoic chamber    | -                         | 8.1 x 5.1 x 3.55              | 8.1 x 5.1                                                                 | -                                  |
| <input type="checkbox"/> No.1 Shielded room            | -                         | 6.8 x 4.1 x 2.7               | 6.8 x 4.1                                                                 | -                                  |
| <input type="checkbox"/> No.2 Shielded room            | -                         | 6.8 x 4.1 x 2.7               | 6.8 x 4.1                                                                 | -                                  |
| <input type="checkbox"/> No.3 Shielded room            | -                         | 6.3 x 4.7 x 2.7               | 6.3 x 4.7                                                                 | -                                  |
| <input type="checkbox"/> No.4 Shielded room            | -                         | 4.4 x 4.7 x 2.7               | 4.4 x 4.7                                                                 | -                                  |
| <input checked="" type="checkbox"/> No.5 Shielded room | -                         | 7.8 x 6.4 x 2.7               | 7.8 x 6.4                                                                 | -                                  |
| <input type="checkbox"/> No.6 Shielded room            | -                         | 7.8 x 6.4 x 2.7               | 7.8 x 6.4                                                                 | -                                  |
| <input type="checkbox"/> No.8 shielded room            | -                         | 3.45 x 5.5 x 2.4              | 3.45 x 5.5                                                                | -                                  |
| <input type="checkbox"/> No.1 Measurement room         | -                         | 2.55 x 4.1 x 2.5              | -                                                                         | -                                  |

#### 4.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor  $k=2$ .  
Time Measurement uncertainty for this test was: ( $\pm$ ) 0.012%

#### 4.5 Data of DFS test, Test instruments of DFS, Test set up

Refer to APPENDIX.

## **SECTION 5: Operation of E.U.T. during testing**

### **5.1 Operating Modes**

For FCC the EUT operates over the 5250-5350MHz and 5470-5725MHz ranges.

For ISSED the EUT operates over the 5250-5350MHz and 5470-5725MHz ranges, excluding the 5600-5650MHz range.

The EUT has the Master mode and the Client mode without Radar Detection.

The highest power level was 13.85 dBm on conducted power. (\*except antenna gain)

The highest power level was 16.99 dBm (E.I.R.P.). (\*maximum value (maximum antenna gain is 3.14 dBi))

(\* Refer to test report FR5D0701-02AN (International Certification Corporation))

The channel-loading of approximately 30 % or greater was used for testing, and its test data was transferred from the Master Device to the Client Device for all test configurations.

The EUT utilizes the IEEE 802.11a (11a), IEEE 802.11n HT20 (11n HT20) architecture, with a 20MHz channel bandwidth. (master mode)

Wireless LAN traffic is generated by sending the same test data by iperf.exe from the Master Device to the Client Device on the test Channel for the entire period of the test.

(In case of Master mode)

The rated output power of the Master Device is <200mW(23dBm) and power spectral density of the Master Device is <10dBm/MHz. However, worst condition was selected for interference threshold level and antenna gain according to the customer's request. Therefore the required interference threshold level is -64 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is  $-64 + 1 + (-4.17) = -67.17$  dBm (threshold level + additional 1dB + minimum peak antenna gain).

The EUT was set by the software as follows:

Software name & version: "dfs3\_0530.sh (version 1.0)" and "iperf (version 2.0.5)". (for EUT)  
MT6625 AP.Test.exe, v0.4(for DFS) (for AE)

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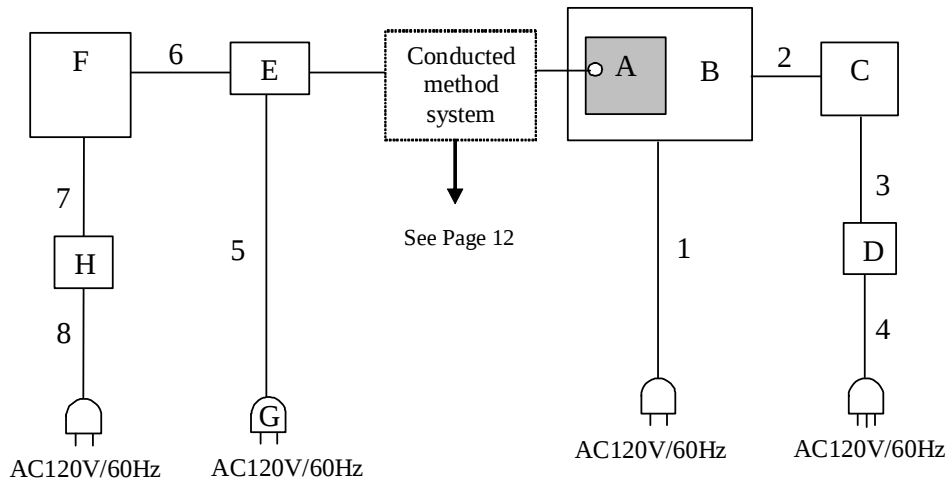
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## 5.2 Configuration and peripherals

<Master mode>



\* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

\* The test was performed using a typical evaluation board (Jig board).

### Description of EUT

| No. | Item                        | Model number | Serial number         | Manufacturer  | Remarks |
|-----|-----------------------------|--------------|-----------------------|---------------|---------|
| A   | WLAN/BT Module              | DHSR-SY30    | 10091A30095705        | Wistron NeWeb | EUT     |
| B   | Jig board                   | -            | -                     | Sony          | -       |
| C   | Laptop PC                   | PC-LL550MG   | -                     | NEC           | -       |
| D   | AC Adapter                  | ADP-75RB     | 8225010DC             | NEC           | -       |
| E   | Wireless Transceiver Module | BNSY25       | BNSY25-001            | Sony          | -       |
| F   | Laptop PC                   | 7666-77J     | LV-B8RDC 08/05        | Lenovo        | -       |
| G   | AC Adapter                  | AC-M12080C   | M1370000027           | Sony          | -       |
| H   | AC Adapter                  | 92P1214      | 11S92P1213Z1ZDDZ92CB0 | Lenovo        | -       |

### List of cables used

| No. | Name      | Length (m) | Shield     |            | Remarks |
|-----|-----------|------------|------------|------------|---------|
|     |           |            | Cable      | Connector  |         |
| 1   | AC Cable  | 1.7        | Unshielded | Unshielded | -       |
| 2   | USB Cable | 1.4 + 0.5  | Shielded   | Shielded   | -       |
| 3   | DC Cable  | 1.6        | Unshielded | Unshielded | -       |
| 4   | AC Cable  | 0.7        | Unshielded | Unshielded | -       |
| 5   | DC Cable  | 1.5        | Unshielded | Unshielded | -       |
| 6   | USB Cable | 1.7        | Shielded   | Shielded   | -       |
| 7   | DC Cable  | 1.8        | Unshielded | Unshielded | -       |
| 8   | AC Cable  | 1.0        | Unshielded | Unshielded | -       |

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### 5.3 Test and Measurement System

#### SYSTEM OVERVIEW

The measurement system is based on a conducted test method.

The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution. The short pulse types 1, 2, 3, and 4, the long pulse type 5, and the frequency hopping type 6 parameters are randomized at run-time.

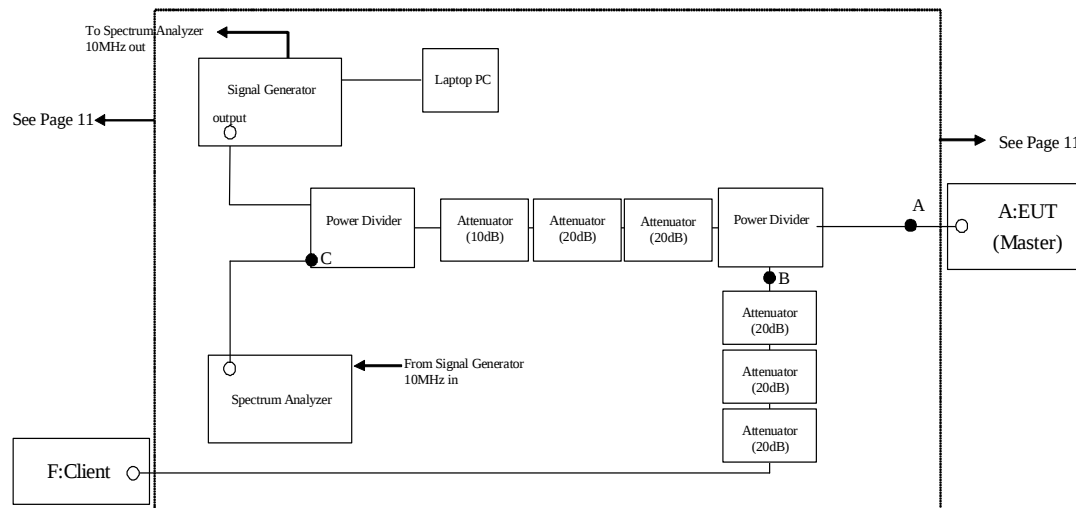
The signal monitoring equipment consists of a spectrum analyzer with the capacity to display 8001 bins on the horizontal axis. A time-domain resolution of 1.625 ms/bin is achievable with a 13 second sweep time, meeting the 10 seconds short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection.

#### FREQUENCY HOPPING RADAR WAVEFORM GENERATING SUBSYSTEM

The first 100 frequencies are selected out of the hopping sequence of the randomized 475 hop frequencies. Only a *Burst* that has the frequency falling within the receiver bandwidth of the tested U-NII device is selected among those frequencies. (Frequency-domain simulation). The radar waveform generated at the start time of the selected *Burst* (Time-domain simulation) is download to the Signal Generator. If all of the randomly selected 100 frequencies do not fall within the receiver bandwidth of the U-NII device, the radar waveform is not used for the test.

#### CONDUCTED METHODS SYSTEM BLOCK DIAGRAM

<Master mode>



#### MEASUREMENT SYSTEM FREQUENCY REFERENCE

Lock the signal generator and the spectrum analyzer to the same reference sources as follows: Connect the 10 MHz OUT on the signal generator to the 10 MHz IN on the spectrum analyzer and set the spectrum analyzer 10 MHz In to On.

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## SYSTEM CALIBRATION

<Master mode>

**Step 1:** Set the system as shown in Figure 2 of KDB905462 D02 7.2.1.

**Step 2:** Adjust each attenuator to fulfill the following three conditions:

- WLAN can be communicated, and
- Radar detection threshold level is bigger than Master Device traffic level on the spectrum analyzer, and
- Client Device traffic level is not displayed on the spectrum analyzer.

**Step 3:** Terminate 50 ohm at B and C points, and connect the spectrum analyzer to the point A. (See the figure on page 12)

At the point A, adjust the signal generator and spectrum analyzer to the center frequency of the channel to be measured.

Download the applicable radar waveforms to the signal generator. Select the radar waveform, trigger a burst manually and measure the amplitude on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold.

Separate signal generator amplitude settings are determined as required for each radar type.

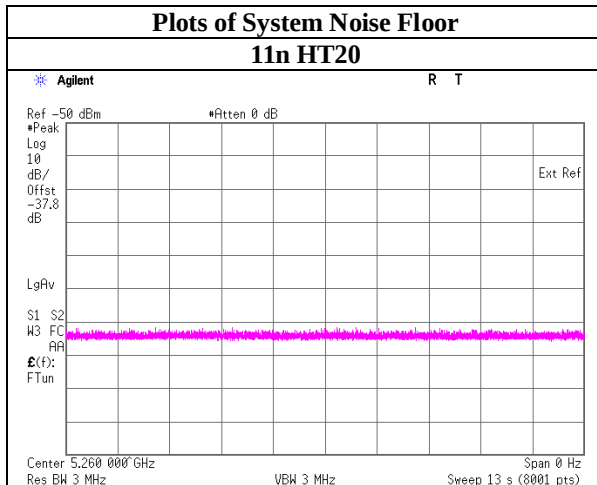
**Step 4:** Without changing any of the instrument settings, restore the system setting to Step 2 and adjust the Reference Level Offset of the spectrum analyzer to the level at Step 3.

By taking the above steps 1 to 4, the spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device.

See Clause 5.4 for Plots of Noise, Radar Waveforms, and WLAN signals.

## 5.4 Plots of Noise, Radar Waveforms, and WLAN signals

<Master mode>



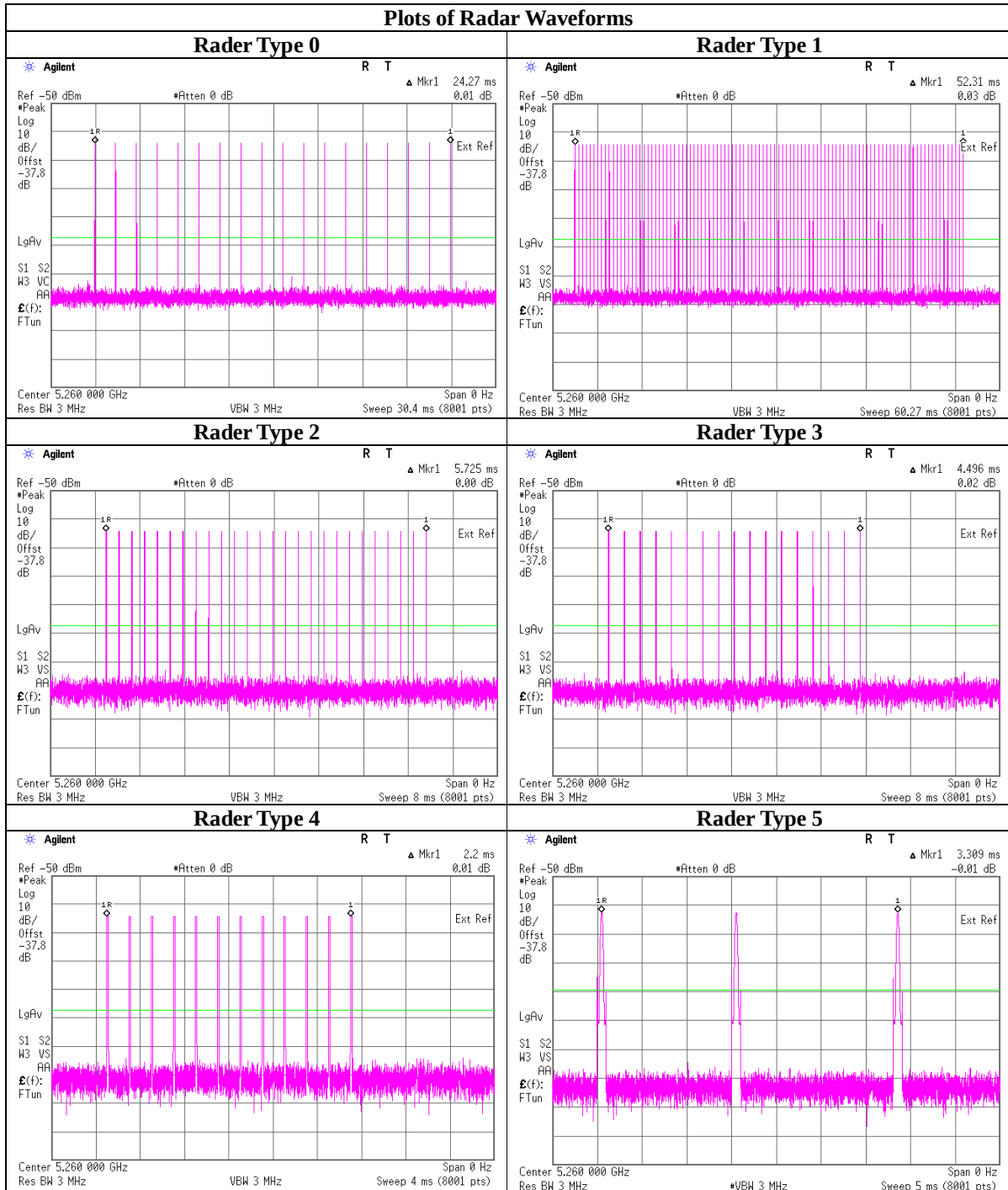
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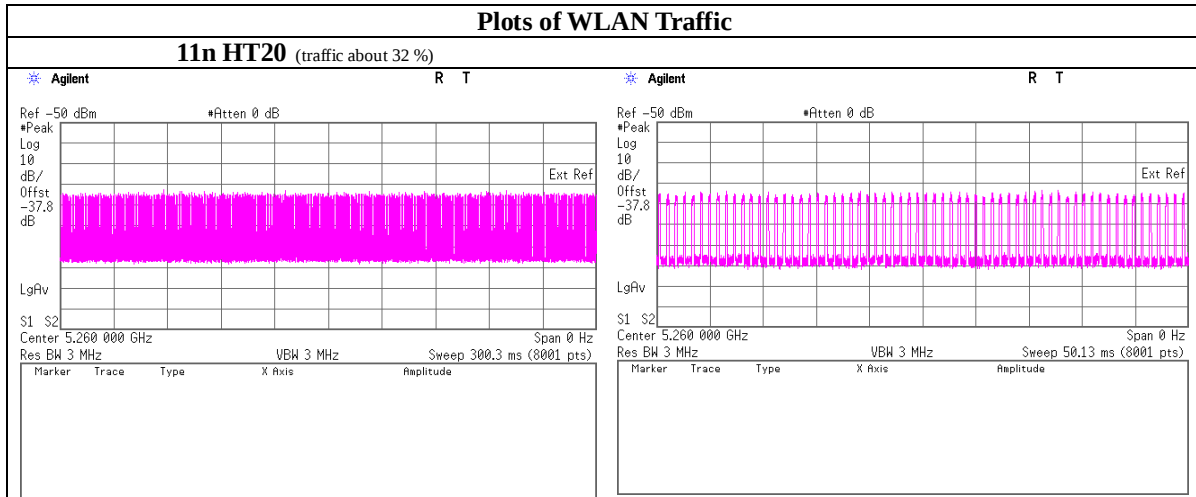
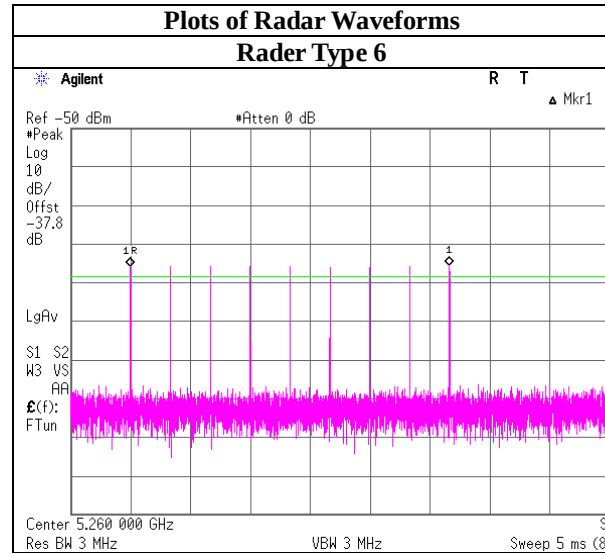
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## **SECTION 6: U-NII Detection Bandwidth**

### **6.1 Operating environment**

|                       |                                    |
|-----------------------|------------------------------------|
| Test place            | Shonan EMC Lab. No.5 Shielded room |
| Date                  | May 31, 2017                       |
| Temperature/ Humidity | 24 deg. C / 40 % RH                |
| Engineer              | Kenichi Adachi                     |
| Mode                  | Communication 11n HT20             |

### **6.2 Test Procedure**

Adjust the equipment to produce a single Burst of the Short Pulse Radar Type 0 at the center frequency of the EUT Operating Channel at the specified DFS Detection Threshold level. Set the EUT up as a standalone device (no associated Client or Master, as appropriate) and no traffic. Frame based systems will be set to a talk/listen ratio reflecting the worst case (maximum) that is user configurable during this test. Generate a single radar Burst, and note the response of the EUT. Repeat for a minimum of 10 trials. The EUT must detect the Radar Waveform within the DFS band using the specified U-NII Detection Bandwidth criterion. In cases where the channel bandwidth may exceed past the DFS band edge on specific channels (i.e., IEEE802.11n HT20 or wideband frame based systems) select a channel that has the entire emission bandwidth within the DFS band. If this is not possible, test the detection BW to the DFS band edge.

Starting at the center frequency of the EUT operating Channel, increase the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Repeat this measurement in 1MHz steps at frequencies 5 MHz below where the detection rate begins to fall. Record the highest frequency (denote as FH) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies above FH is not required to demonstrate compliance.

Starting at the center frequency of the EUT operating Channel, decrease the radar frequency in 5 MHz steps, repeating the above test sequence, until the detection rate falls below the U-NII Detection Bandwidth criterion. Repeat this measurement in 1MHz steps at frequencies 5 MHz above where the detection rate begins to fall. Record the lowest frequency (denote as FL) at which detection is greater than or equal to the U-NII Detection Bandwidth criterion. Recording the detection rate at frequencies below FL is not required to demonstrate compliance.

The U-NII Detection Bandwidth is calculated as follows:  
$$\text{U-NII Detection Bandwidth} = \text{FH} - \text{FL}$$

Radar detection is observed by two techniques.

- Monitoring LAN traffic with Spectrum Analyzer.
- Indicator of the shell program "dfs3\_0530.sh" on PC connected to EUT

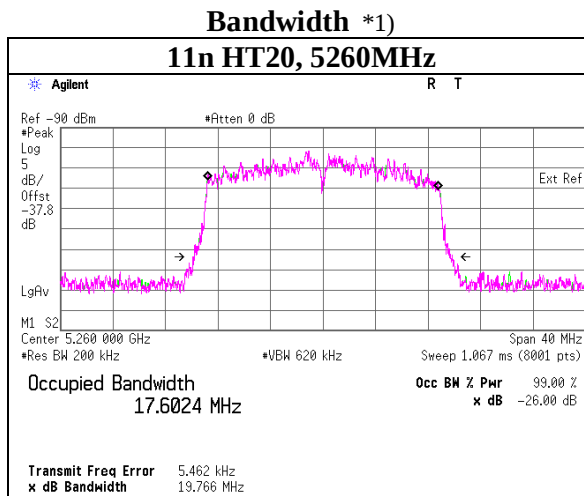
### 6.3 Test data

5260 MHz (11n HT20)

Waveform : Radar Type 0

| FL<br>[MHz] | FH<br>[MHz] | Detection<br>Bandwidth<br>[MHz] | 99%<br>Power<br>Bandwidth | Ratio of Detection BW<br>to 99% Power BW<br>[%] | Limit<br>[%] | Results |
|-------------|-------------|---------------------------------|---------------------------|-------------------------------------------------|--------------|---------|
| 5249        | 5271        | 22                              | 17.6024                   | 125.0                                           | 100          | Pass    |

### (Reference data) 99% Occupied Bandwidth



\*1) This measurement was performed by a normal communication operation.

### 6.4 Test result

Test result: Pass

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## SECTION 7: Initial Channel Availability Check Time

### 7.1 Operating environment

|                       |                                    |
|-----------------------|------------------------------------|
| Test place            | Shonan EMC Lab. No.5 Shielded room |
| Date                  | May 31, 2017                       |
| Temperature/ Humidity | 24 deg. C / 40 % RH                |
| Engineer              | Kenichi Adachi                     |
| Mode                  | Communication 11n HT20             |

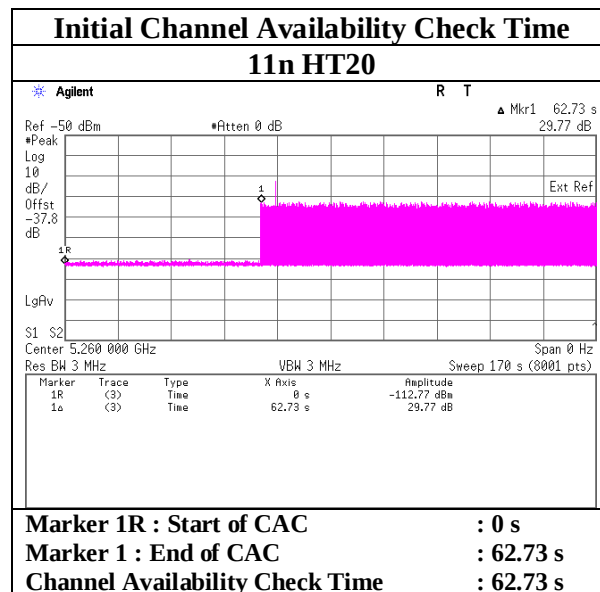
### 7.2 Test Procedure

The Initial Channel Availability Check Time tests that the EUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel.

This test does not use any Radar Waveforms and only needs to be performed one time.

The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the EUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar (Chr) with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device. The EUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.

### 7.3 Test data



### 7.4 Test result

Test result: Pass

## SECTION 8: Radar Burst at the Beginning of the Channel Availability Check Time

### 8.1 Operating environment

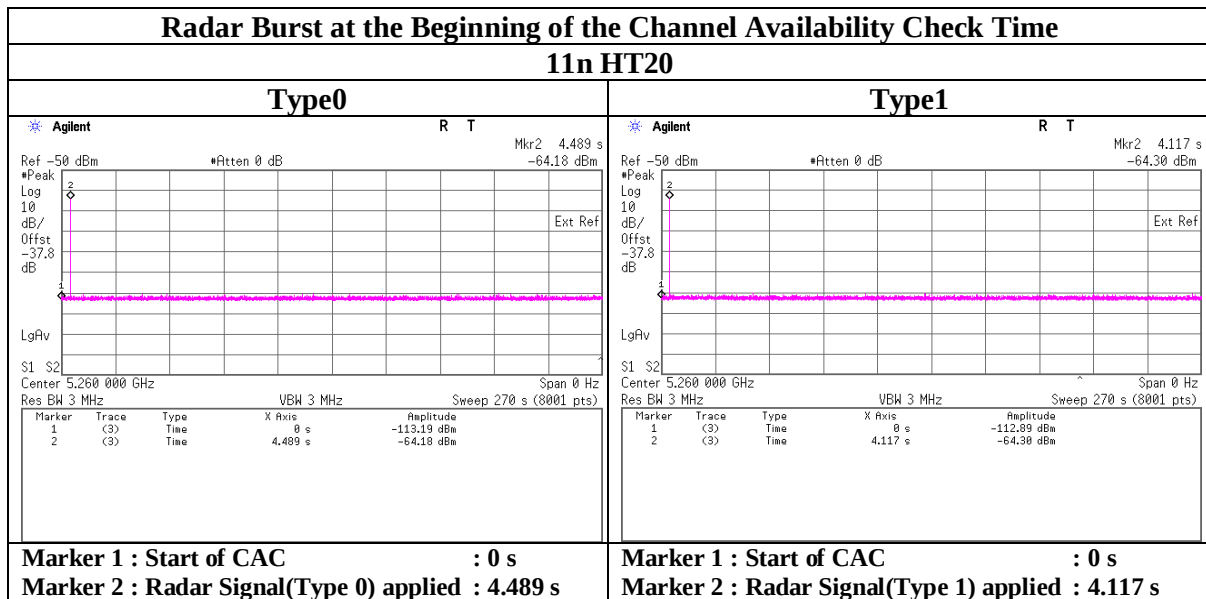
|                       |                                    |
|-----------------------|------------------------------------|
| Test place            | Shonan EMC Lab. No.5 Shielded room |
| Date                  | May 31, 2017                       |
| Temperature/ Humidity | 24 deg. C / 40 % RH                |
| Engineer              | Kenichi Adachi                     |
| Mode                  | Communication 11n HT20             |

### 8.2 Test Procedure

A single Burst of the Short Pulse Radar Types 0-4 will commence within a 6 second window starting at Start of CAC. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr.

### 8.3 Test data



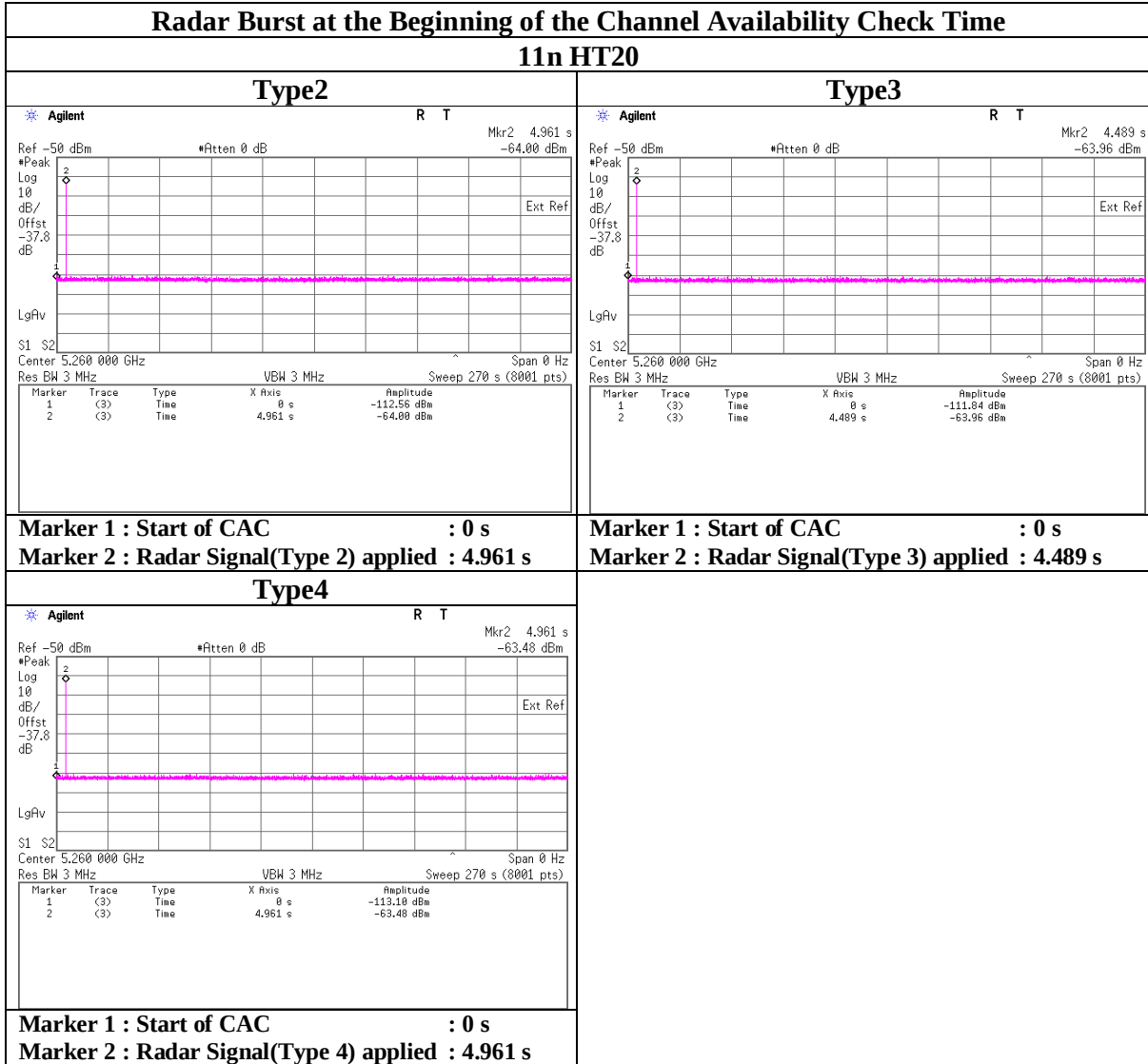
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#### 8.4 Test result

Test result: Pass

## SECTION 9: Radar Burst at the End of the Channel Availability Check Time

### 9.1 Operating environment

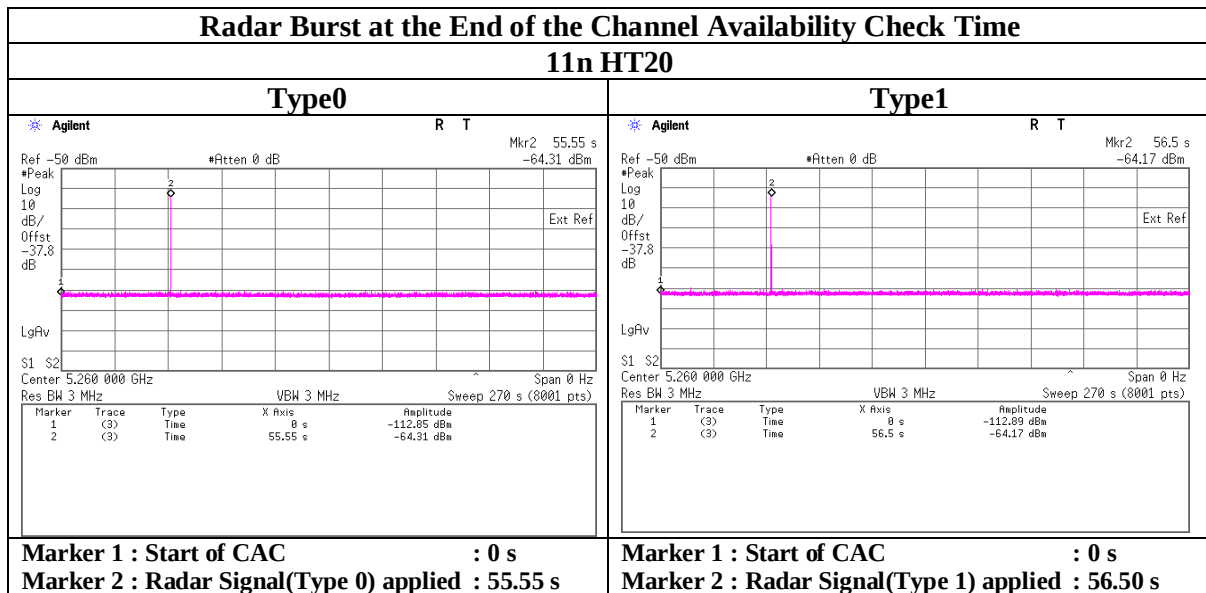
|                       |                                    |
|-----------------------|------------------------------------|
| Test place            | Shonan EMC Lab. No.5 Shielded room |
| Date                  | May 31, 2017                       |
| Temperature/ Humidity | 24 deg. C / 40 % RH                |
| Engineer              | Kenichi Adachi                     |
| Mode                  | Communication 11n HT20             |

### 9.2 Test Procedure

A single Burst of the Short Pulse Radar Types 0-4 will commence within a 6 second window starting at Start of CAC + 54 seconds. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Verify that during the 2.5 minute measurement window no EUT transmissions occurred on Chr.

### 9.3 Test data



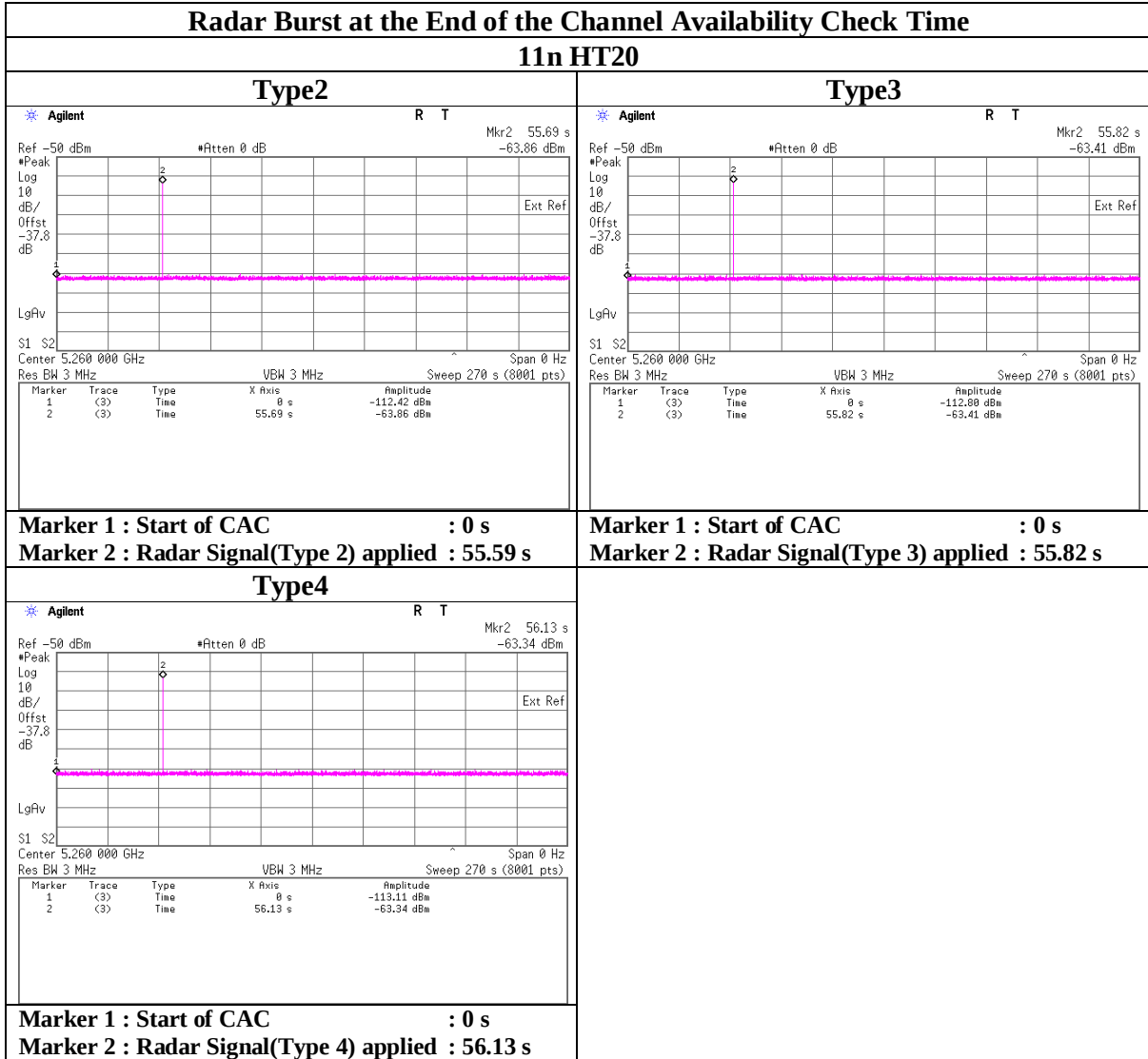
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#### 9.4 Test result

Test result: Pass

## **SECTION 10: Channel Move Time, Channel Closing Transmission Time**

### **10.1 Operating environment**

Test place : Shonan EMC Lab. No.5 Shielded room  
Date : May 30, 2017  
Temperature/ Humidity : 25 deg. C / 51 % RH  
Engineer : Kenichi Adachi  
Mode : Communication 11n HT20

### **10.2 Test Procedure**

1) Sending the same test data by iperf.exe from the Master Device to the Client Device on the test Channel for the entire period of the test.

The Radar Waveform generator sends a Burst of pulses for one of the Radar Types 0 at levels defined on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds.

### **10.3 Test data**

#### **<Master Device>**

##### **11n-20**

| Test Item                             | Unit   | Measurement Time | Limit  | Results |
|---------------------------------------|--------|------------------|--------|---------|
| Channel Move Time *1)                 | [sec]  | 0.720            | 10.000 | Pass    |
| Channel Closing Transmission Time *2) | [msec] | 35.75            | 60     | Pass    |

\*1) Channel Move Time is calculated as follows:

(Channel Move Time) = (End of Transmission) - (End of Burst) = 1.185 [ms] - 0.4648 [ms]

\*2) Channel Closing Transmission Time is calculated from (End of Burst + 200 ms) to (End of Burst + 10 s )

(Channel Closing Transmission Time) = (Number of analyzer bins showing transmission) × (dwell time per bin)  
= 22 × 1.625 [ms]

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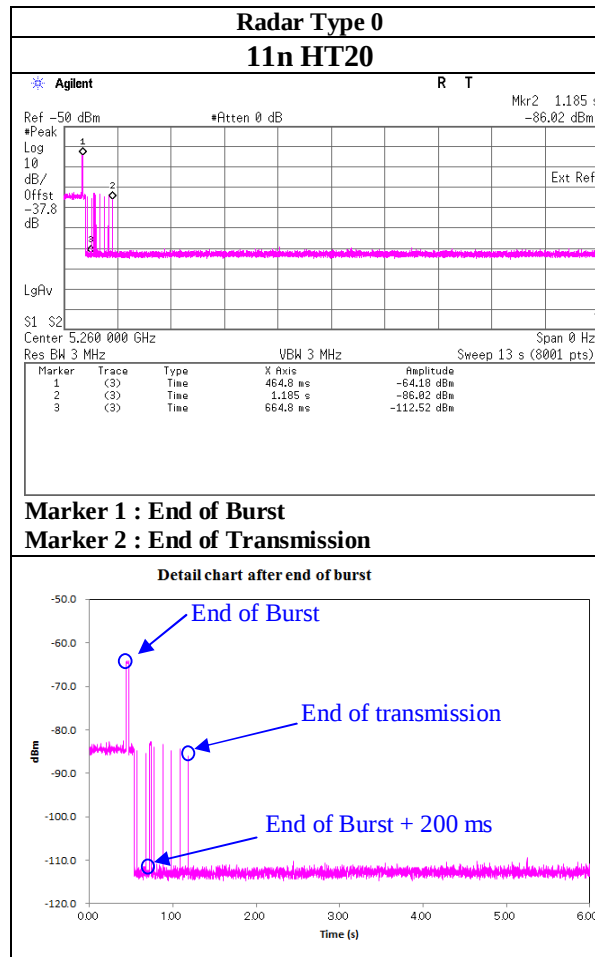
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<Master mode>



#### 10.4 Test result

Test result: Pass

## **SECTION 11: Non-Occupancy Period**

### **11.1 Operating environment**

|                       |                                    |
|-----------------------|------------------------------------|
| Test place            | Shonan EMC Lab. No.5 Shielded room |
| Date                  | May 31, 2017                       |
| Temperature/ Humidity | 24 deg. C / 40 % RH                |
| Engineer              | Kenichi Adachi                     |
| Mode                  | Communication 11n HT20             |

### **11.2 Test Procedure**

The following two tests are performed:

1) Sending the same test data by iperf.exe from the Master Device to the Client Device on the test Channel for the entire period of the test.

The Radar Waveform generator sends a Burst of pulses for one of the Radar Types 0-4(Master Device) or the Radar Types 0(Client Device) at levels defined on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors. Observe the transmissions of the EUT after the Channel Move Time on the Operating Channel for duration greater than 30 minutes.

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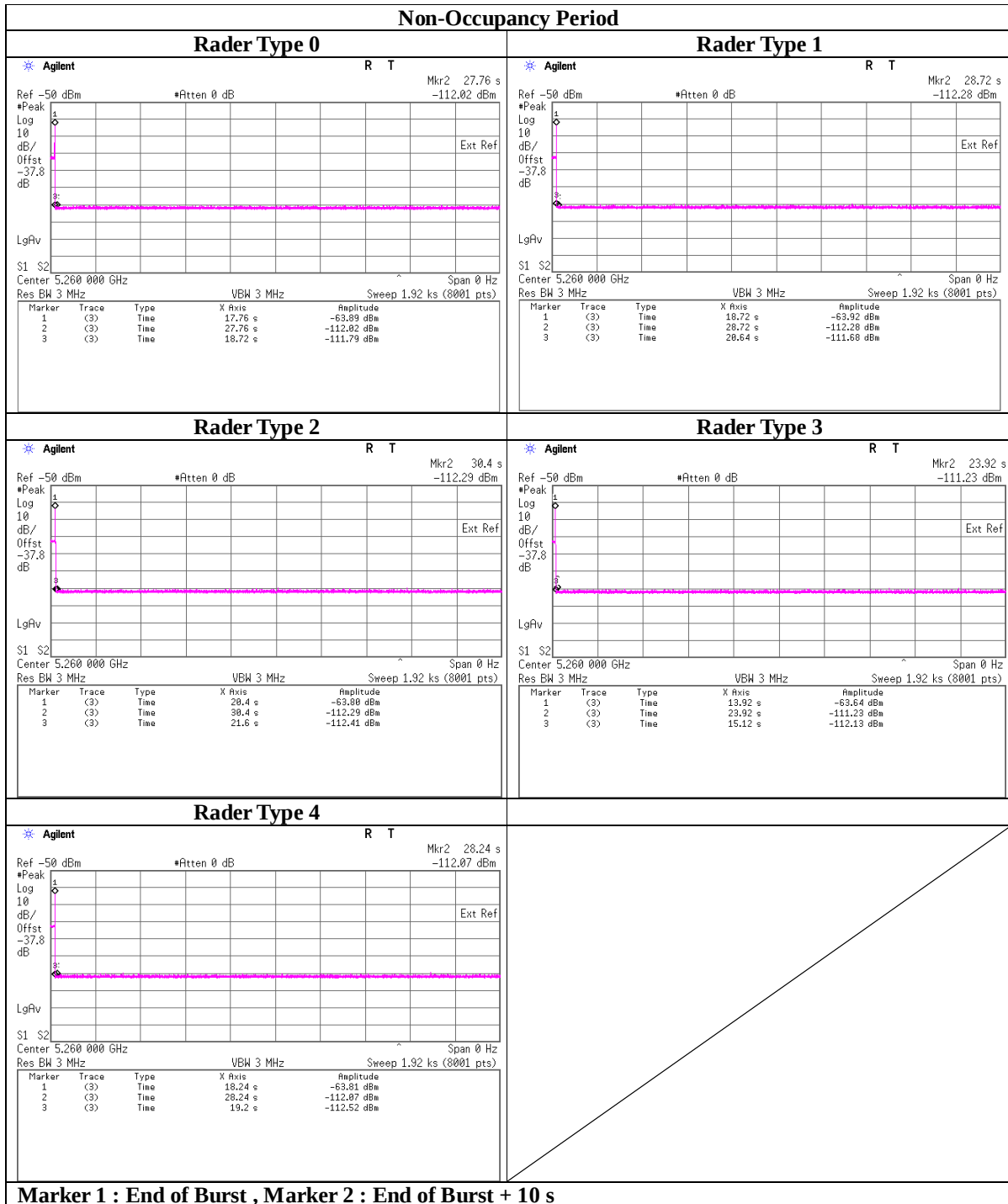
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### 11.3 Test data

<Master mode>



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## **SECTION 12: In-Service Monitoring(Statistical Performance Check)**

### **12.1 Operating environment**

Test place Shonan EMC Lab. No.5 Shielded room  
Date June 1, 2017 (day time) June 1, 2017 (night time)  
Temperature/ Humidity 25 deg. C / 44 % RH 25 deg. C / 44 % RH  
Engineer Kenichi Adachi Yosuke Ishikawa  
Mode Communication 11n HT20

### **12.2 Test Procedure**

Sending the same test data by iperf.exe from the Master Device to the Client Device on the test Channel for the entire period of the test.

Radar Waveform generator sends the individual waveform for each of the Radar Types 1-6, at levels defined, on the Operating Channel. An additional 1dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Short Pulse Radar Types 1-4 and 6 to ensure detection occurs.

Observe the transmissions of the EUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.

Radar detection is observed by two techniques.

- Monitoring LAN traffic with Spectrum Analyzer.
- Indicator of the shell program "dfs3\_0530.sh" on PC connected to EUT

### **12.3 Test data**

#### **5300MHz (11n HT20)**

| Radar Type          | Number of Trials | Number of Successful Detections | Percentage of Successful Detections [%] | Limit [%] | Results |
|---------------------|------------------|---------------------------------|-----------------------------------------|-----------|---------|
| 1                   | 30               | 30                              | 100.00                                  | 60        | Pass    |
| 2                   | 30               | 30                              | 100.00                                  | 60        | Pass    |
| 3                   | 30               | 24                              | 80.00                                   | 60        | Pass    |
| 4                   | 30               | 28                              | 93.33                                   | 60        | Pass    |
| Aggregate of 1 to 4 | -                | -                               | 93.33                                   | 80        | Pass    |
| 5                   | 30               | 27                              | 90.00                                   | 80        | Pass    |
| 6                   | 30               | 30                              | 100.00                                  | 70        | Pass    |

### **12.4 Test result**

Test result: Pass

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**APPENDIX 1: Data of DFS test**

**U-NII Detection Bandwidth**

**5260 MHz (11n HT20)**

| Frequency<br>[MHz] | Number of<br>Trials<br>[Times] | Number of<br>Detected<br>[Times] | Ratio of<br>Detected<br>[%] | Mark |
|--------------------|--------------------------------|----------------------------------|-----------------------------|------|
| 5245               | 10                             | 0                                | 0                           |      |
| 5246               | 10                             | 0                                | 0                           |      |
| 5247               | 10                             | 0                                | 0                           |      |
| 5248               | 10                             | 0                                | 0                           |      |
| 5249               | 10                             | 10                               | 100                         | FL   |
| 5250               | 10                             | 10                               | 100                         |      |
| 5255               | 10                             | 10                               | 100                         |      |
| 5260               | 10                             | 10                               | 100                         |      |
| 5265               | 10                             | 10                               | 100                         |      |
| 5270               | 10                             | 10                               | 100                         |      |
| 5271               | 10                             | 10                               | 100                         | FH   |
| 5272               | 10                             | 0                                | 0                           |      |
| 5273               | 10                             | 0                                | 0                           |      |
| 5274               | 10                             | 0                                | 0                           |      |
| 5275               | 10                             | 0                                | 0                           |      |

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### Statistical Performance Check

#### 5260 MHz (11n HT20)

| Trial #                      | Radar Type1 | Radar Type2 | Radar Type3 | Radar Type4 | Radar Type5 | Radar Type6 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                              | Detection   | Detection   | Detection   | Detection   | Detection   | Detection   |
|                              | Yes/No      | Yes/No      | Yes/No      | Yes/No      | Yes/No      | Yes/No      |
| 1                            | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 2                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 3                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 4                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 5                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 6                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 7                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 8                            | Yes         | Yes         | Yes         | Yes         | No          | Yes         |
| 9                            | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 10                           | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 11                           | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 12                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 13                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 14                           | Yes         | Yes         | Yes         | No          | Yes         | Yes         |
| 15                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 16                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 17                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 18                           | Yes         | Yes         | Yes         | No          | Yes         | Yes         |
| 19                           | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 20                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 21                           | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 22                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 23                           | Yes         | Yes         | Yes         | Yes         | No          | Yes         |
| 24                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 25                           | Yes         | Yes         | No          | Yes         | Yes         | Yes         |
| 26                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 27                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 28                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| 29                           | Yes         | Yes         | Yes         | Yes         | No          | Yes         |
| 30                           | Yes         | Yes         | Yes         | Yes         | Yes         | Yes         |
| EUT Test Frequency: 5260 MHz |             |             |             |             |             |             |
| Radar Frequency: 5260 MHz    |             |             |             |             |             |             |

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## Parameter Data sheet for Radar Type 1

### 5260 MHz (11n HT20)

| FCC Radar Type1 |                                            |                                                |                  |                                |
|-----------------|--------------------------------------------|------------------------------------------------|------------------|--------------------------------|
| Trial #         | Pulse Repetition Frequency Number(1 to 23) | Pulse Repetition Frequency (Pulses Per Second) | Number of Pulses | Pulse Repetition Interval [ms] |
| 1               | 8                                          | 1519.8                                         | 81               | 658                            |
| 2               | 21                                         | 1089.3                                         | 58               | 918                            |
| 3               | 14                                         | 1285.3                                         | 68               | 778                            |
| 4               | 2                                          | 1858.7                                         | 99               | 538                            |
| 5               | 10                                         | 1432.7                                         | 76               | 698                            |
| 6               | 1                                          | 1930.5                                         | 102              | 518                            |
| 7               | 9                                          | 1474.9                                         | 78               | 678                            |
| 8               | 18                                         | 1165.6                                         | 62               | 858                            |
| 9               | 7                                          | 1567.4                                         | 83               | 638                            |
| 10              | 19                                         | 1139.0                                         | 61               | 878                            |
| 11              | 11                                         | 1392.8                                         | 74               | 718                            |
| 12              | 6                                          | 1618.1                                         | 86               | 618                            |
| 13              | 4                                          | 1730.1                                         | 92               | 578                            |
| 14              | 13                                         | 1319.3                                         | 70               | 758                            |
| 15              | 23                                         | 326.2                                          | 18               | 3066                           |
| 16              | 3a                                         | 1834.9                                         | 97               | 545                            |
| 17              | 16a                                        | 1221.0                                         | 65               | 819                            |
| 18              | 5a                                         | 1721.2                                         | 91               | 581                            |
| 19              | 12a                                        | 1338.7                                         | 71               | 747                            |
| 20              | 22a                                        | 1904.8                                         | 101              | 525                            |
| 21              | 17a                                        | 1175.1                                         | 63               | 851                            |
| 22              | 15a                                        | 1236.1                                         | 66               | 809                            |
| 23              | 20a                                        | 1103.8                                         | 59               | 906                            |
| 24              | 15b                                        | 1236.1                                         | 66               | 809                            |
| 25              | 5b                                         | 1669.4                                         | 89               | 599                            |
| 26              | 17b                                        | 1175.1                                         | 63               | 851                            |
| 27              | 3b                                         | 1779.4                                         | 94               | 562                            |
| 28              | 22b                                        | 1904.8                                         | 101              | 525                            |
| 29              | 12b                                        | 1338.7                                         | 71               | 747                            |
| 30              | 20b                                        | 1103.8                                         | 59               | 906                            |

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**Parameter Data sheet for Radar Type 2**

**5260 MHz (11n HT20)**

| Radar Type2 |               |             |      |
|-------------|---------------|-------------|------|
| Trial #     | Number Pulses | Pulse Width | PRI  |
|             | per           | [us]        | [us] |
| 1           | 26            | 3.8         | 229  |
| 2           | 29            | 3.4         | 209  |
| 3           | 26            | 4.4         | 183  |
| 4           | 27            | 2.3         | 201  |
| 5           | 28            | 3.9         | 195  |
| 6           | 26            | 1.6         | 164  |
| 7           | 29            | 1.2         | 185  |
| 8           | 23            | 1.1         | 170  |
| 9           | 25            | 3.9         | 160  |
| 10          | 28            | 2.8         | 166  |
| 11          | 27            | 4.6         | 151  |
| 12          | 28            | 2.0         | 228  |
| 13          | 28            | 3.5         | 212  |
| 14          | 25            | 4.0         | 173  |
| 15          | 23            | 5.0         | 156  |
| 16          | 24            | 3.2         | 206  |
| 17          | 28            | 1.2         | 152  |
| 18          | 23            | 4.7         | 176  |
| 19          | 29            | 3.7         | 156  |
| 20          | 27            | 3.7         | 165  |
| 21          | 27            | 3.7         | 176  |
| 22          | 26            | 4.7         | 156  |
| 23          | 29            | 2.6         | 198  |
| 24          | 26            | 4.5         | 215  |
| 25          | 29            | 4.6         | 228  |
| 26          | 27            | 3.6         | 167  |
| 27          | 23            | 4.8         | 208  |
| 28          | 29            | 2.4         | 199  |
| 29          | 25            | 4.2         | 228  |
| 30          | 28            | 1.2         | 167  |

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**Parameter Data sheet for Radar Type 3**

**5260 MHz (11n HT20)**

| Radar Type3 |                      |                     |             |
|-------------|----------------------|---------------------|-------------|
| Trial #     | Number Pulses<br>per | Pulse Width<br>[us] | PRI<br>[us] |
| 1           | 17                   | 7.0                 | 281         |
| 2           | 16                   | 9.0                 | 221         |
| 3           | 16                   | 9.2                 | 266         |
| 4           | 17                   | 6.4                 | 211         |
| 5           | 16                   | 6.5                 | 250         |
| 6           | 18                   | 7.7                 | 269         |
| 7           | 16                   | 6.9                 | 334         |
| 8           | 17                   | 9.4                 | 409         |
| 9           | 17                   | 9.2                 | 270         |
| 10          | 18                   | 6.4                 | 261         |
| 11          | 17                   | 9.7                 | 377         |
| 12          | 17                   | 7.2                 | 261         |
| 13          | 17                   | 8.9                 | 258         |
| 14          | 18                   | 6.8                 | 363         |
| 15          | 17                   | 9.9                 | 291         |
| 16          | 16                   | 7.9                 | 448         |
| 17          | 17                   | 6.7                 | 345         |
| 18          | 16                   | 6.5                 | 232         |
| 19          | 18                   | 9.0                 | 450         |
| 20          | 16                   | 9.7                 | 455         |
| 21          | 17                   | 9.8                 | 277         |
| 22          | 18                   | 6.5                 | 367         |
| 23          | 18                   | 6.9                 | 459         |
| 24          | 17                   | 8.2                 | 339         |
| 25          | 18                   | 8.5                 | 274         |
| 26          | 16                   | 6.8                 | 216         |
| 27          | 17                   | 8.9                 | 360         |
| 28          | 17                   | 9.6                 | 449         |
| 29          | 16                   | 6.9                 | 448         |
| 30          | 18                   | 6.0                 | 261         |

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**Parameter Data sheet for Radar Type 4**

**5260 MHz (11n HT20)**

| Radar Type4 |                      |                     |             |
|-------------|----------------------|---------------------|-------------|
| Trial #     | Number Pulses<br>per | Pulse Width<br>[us] | PRI<br>[us] |
| 1           | 12                   | 13.7                | 200         |
| 2           | 14                   | 19.2                | 481         |
| 3           | 13                   | 12.5                | 283         |
| 4           | 15                   | 18.4                | 399         |
| 5           | 13                   | 12.5                | 489         |
| 6           | 14                   | 16.6                | 286         |
| 7           | 13                   | 11.1                | 225         |
| 8           | 14                   | 17.1                | 401         |
| 9           | 16                   | 18.9                | 372         |
| 10          | 13                   | 19.5                | 357         |
| 11          | 13                   | 12.8                | 307         |
| 12          | 12                   | 13.2                | 409         |
| 13          | 13                   | 12.0                | 337         |
| 14          | 15                   | 21.0                | 444         |
| 15          | 13                   | 15.7                | 498         |
| 16          | 14                   | 16.9                | 247         |
| 17          | 16                   | 20.8                | 466         |
| 18          | 13                   | 19.0                | 309         |
| 19          | 16                   | 13.4                | 483         |
| 20          | 13                   | 16.6                | 427         |
| 21          | 12                   | 19.2                | 277         |
| 22          | 12                   | 13.9                | 283         |
| 23          | 14                   | 19.4                | 284         |
| 24          | 15                   | 18.5                | 299         |
| 25          | 16                   | 20.7                | 467         |
| 26          | 16                   | 12.1                | 383         |
| 27          | 13                   | 15.9                | 434         |
| 28          | 14                   | 13.4                | 210         |
| 29          | 13                   | 15.8                | 426         |
| 30          | 13                   | 20.3                | 467         |

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## Parameter Data sheet for Radar Type 5

### 5260 MHz (11n HT20)

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 1       | 1            | 3                | 60               | 5257.00               | 15                | 1227                      | 1775                      | 575084                                 |
|         | 2            | 1                | 56               | 5257.00               | 15                |                           |                           | 920549                                 |
|         | 3            | 1                | 75               | 5257.00               | 15                |                           |                           | 1302318                                |
|         | 4            | 3                | 78               | 5257.00               | 15                | 1902                      | 1321                      | 497781                                 |
|         | 5            | 3                | 56               | 5257.00               | 15                | 1565                      | 1973                      | 1337014                                |
|         | 6            | 2                | 94               | 5257.00               | 15                | 1966                      |                           | 1301075                                |
|         | 7            | 1                | 96               | 5257.00               | 15                |                           |                           | 508455                                 |
|         | 8            | 3                | 58               | 5257.00               | 15                | 1869                      | 1737                      | 1522930                                |
|         | 9            | 1                | 87               | 5257.00               | 15                |                           |                           | 128930                                 |
|         | 10           | 1                | 68               | 5257.00               | 15                |                           |                           | 1020118                                |
|         | 11           | 1                | 50               | 5257.00               | 15                |                           |                           | 967967                                 |
|         | 12           | 2                | 86               | 5257.00               | 15                | 1270                      |                           | 1677394                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 2       | 1            | 3                | 57               | 5255.00               | 10                | 1821                      | 1602                      | 16504                                  |
|         | 2            | 2                | 51               | 5255.00               | 10                | 1612                      |                           | 1200097                                |
|         | 3            | 1                | 99               | 5255.00               | 10                |                           |                           | 514512                                 |
|         | 4            | 3                | 61               | 5255.00               | 10                | 1735                      | 1260                      | 556990                                 |
|         | 5            | 3                | 74               | 5255.00               | 10                | 1762                      | 1842                      | 1064831                                |
|         | 6            | 3                | 88               | 5255.00               | 10                | 1891                      | 1361                      | 201080                                 |
|         | 7            | 3                | 57               | 5255.00               | 10                | 1447                      | 1738                      | 1139421                                |
|         | 8            | 3                | 55               | 5255.00               | 10                | 1213                      | 1698                      | 574302                                 |
|         | 9            | 3                | 100              | 5255.00               | 10                | 1430                      | 1589                      | 667333                                 |
|         | 10           | 2                | 56               | 5255.00               | 10                | 1230                      |                           | 1075648                                |
|         | 11           | 2                | 75               | 5255.00               | 10                | 1394                      |                           | 78596                                  |
|         | 12           | 2                | 65               | 5255.00               | 10                | 1117                      |                           | 762924                                 |
|         | 13           | 2                | 65               | 5255.00               | 10                | 1542                      |                           | 1025766                                |
|         | 14           | 1                | 64               | 5255.00               | 10                |                           |                           | 425507                                 |
|         | 15           | 3                | 99               | 5255.00               | 10                | 1454                      | 1179                      | 718860                                 |
|         | 16           | 3                | 72               | 5255.00               | 10                | 1616                      | 1139                      | 880624                                 |
|         | 17           | 2                | 99               | 5255.00               | 10                | 1334                      |                           | 763070                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 3       | 1            | 2                | 62               | 5257.40               | 16                | 1000                      |                           | 1415338                                |
|         | 2            | 3                | 64               | 5257.40               | 16                | 1587                      | 1405                      | 1101987                                |
|         | 3            | 2                | 96               | 5257.40               | 16                | 1323                      |                           | 515293                                 |
|         | 4            | 1                | 80               | 5257.40               | 16                |                           |                           | 1708711                                |
|         | 5            | 2                | 81               | 5257.40               | 16                | 1748                      |                           | 1974462                                |
|         | 6            | 1                | 86               | 5257.40               | 16                |                           |                           | 1284154                                |
|         | 7            | 2                | 59               | 5257.40               | 16                | 1194                      |                           | 1952571                                |
|         | 8            | 2                | 81               | 5257.40               | 16                | 1472                      |                           | 1058521                                |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 4       | 1            | 3                | 71               | 5253.80               | 7                 | 1872                      | 1110                      | 239921                                 |
|         | 2            | 2                | 85               | 5253.80               | 7                 | 1645                      |                           | 1893817                                |
|         | 3            | 2                | 53               | 5253.80               | 7                 | 1384                      |                           | 1047130                                |
|         | 4            | 3                | 73               | 5253.80               | 7                 | 1783                      | 1735                      | 779766                                 |
|         | 5            | 2                | 87               | 5253.80               | 7                 | 1551                      |                           | 872223                                 |
|         | 6            | 2                | 90               | 5253.80               | 7                 | 1710                      |                           | 1077386                                |
|         | 7            | 3                | 62               | 5253.80               | 7                 | 1972                      | 1474                      | 1179342                                |
|         | 8            | 2                | 52               | 5253.80               | 7                 | 1111                      |                           | 1179405                                |
|         | 9            | 3                | 62               | 5253.80               | 7                 | 1970                      | 1109                      | 1013258                                |
|         | 10           | 1                | 55               | 5253.80               | 7                 |                           |                           | 993717                                 |
|         | 11           | 1                | 65               | 5253.80               | 7                 |                           |                           | 979119                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 5       | 1            | 3                | 86               | 5256.60               | 14                | 1113                      | 1246                      | 961334                                 |
|         | 2            | 3                | 76               | 5256.60               | 14                | 1079                      | 1449                      | 190757                                 |
|         | 3            | 2                | 94               | 5256.60               | 14                | 1039                      |                           | 2056822                                |
|         | 4            | 1                | 63               | 5256.60               | 14                |                           |                           | 750576                                 |
|         | 5            | 3                | 83               | 5256.60               | 14                | 1703                      | 1675                      | 1303943                                |
|         | 6            | 3                | 55               | 5256.60               | 14                | 1744                      | 1136                      | 356923                                 |
|         | 7            | 3                | 95               | 5256.60               | 14                | 1374                      | 1760                      | 1435088                                |
|         | 8            | 1                | 61               | 5256.60               | 14                |                           |                           | 968607                                 |
|         | 9            | 3                | 75               | 5256.60               | 14                | 1832                      | 1763                      | 1107426                                |
|         | 10           | 3                | 88               | 5256.60               | 14                | 1622                      | 1273                      | 1179449                                |
|         | 11           | 1                | 84               | 5256.60               | 14                |                           |                           | 1049833                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 6       | 1            | 2                | 99               | 5258.60               | 19                | 1000                      |                           | 460668                                 |
|         | 2            | 2                | 56               | 5258.60               | 19                | 1061                      |                           | 680701                                 |
|         | 3            | 3                | 92               | 5258.60               | 19                | 1026                      | 1004                      | 625277                                 |
|         | 4            | 3                | 87               | 5258.60               | 19                | 1828                      | 1578                      | 768629                                 |
|         | 5            | 3                | 64               | 5258.60               | 19                | 1713                      | 1709                      | 1102371                                |
|         | 6            | 3                | 69               | 5258.60               | 19                | 1408                      | 1594                      | 661559                                 |
|         | 7            | 1                | 56               | 5258.60               | 19                |                           |                           | 353914                                 |
|         | 8            | 3                | 68               | 5258.60               | 19                | 1195                      | 1852                      | 633097                                 |
|         | 9            | 2                | 91               | 5258.60               | 19                | 1127                      |                           | 954557                                 |
|         | 10           | 3                | 81               | 5258.60               | 19                | 1059                      | 1663                      | 590853                                 |
|         | 11           | 2                | 66               | 5258.60               | 19                | 1437                      |                           | 948035                                 |
|         | 12           | 2                | 68               | 5258.60               | 19                | 1518                      |                           | 659256                                 |
|         | 13           | 3                | 85               | 5258.60               | 19                | 1037                      | 1519                      | 964449                                 |
|         | 14           | 1                | 89               | 5258.60               | 19                |                           |                           | 743685                                 |
|         | 15           | 1                | 95               | 5258.60               | 19                |                           |                           | 427607                                 |
|         | 16           | 3                | 77               | 5258.60               | 19                | 1635                      | 1256                      | 1133046                                |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 7       | 1            | 1                | 91               | 5254.20               | 8                 |                           |                           | 88                                     |
|         | 2            | 2                | 89               | 5254.20               | 8                 | 1956                      |                           | 1014249                                |
|         | 3            | 3                | 68               | 5254.20               | 8                 | 1862                      | 1291                      | 1326671                                |
|         | 4            | 2                | 72               | 5254.20               | 8                 | 1069                      |                           | 1422016                                |
|         | 5            | 3                | 94               | 5254.20               | 8                 | 1802                      | 1659                      | 1213631                                |
|         | 6            | 2                | 86               | 5254.20               | 8                 | 1919                      |                           | 794208                                 |
|         | 7            | 3                | 95               | 5254.20               | 8                 | 1045                      | 1010                      | 516326                                 |
|         | 8            | 2                | 71               | 5254.20               | 8                 | 1029                      |                           | 1456442                                |
|         | 9            | 3                | 71               | 5254.20               | 8                 | 1176                      | 1676                      | 574818                                 |
|         | 10           | 2                | 92               | 5254.20               | 8                 | 1981                      |                           | 1212240                                |
|         | 11           | 2                | 67               | 5254.20               | 8                 | 1232                      |                           | 1105535                                |
|         | 12           | 2                | 72               | 5254.20               | 8                 | 1164                      |                           | 647611                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 8       | 1            | 1                | 63               | 5256.20               | 13                |                           |                           | 1226                                   |
|         | 2            | 3                | 55               | 5256.20               | 13                | 1120                      | 1908                      | 2937098                                |
|         | 3            | 1                | 79               | 5256.20               | 13                |                           |                           | 147010                                 |
|         | 4            | 1                | 96               | 5256.20               | 13                |                           |                           | 2079569                                |
|         | 5            | 2                | 76               | 5256.20               | 13                | 1827                      |                           | 1182682                                |
|         | 6            | 2                | 79               | 5256.20               | 13                | 1067                      |                           | 2120148                                |
|         | 7            | 1                | 55               | 5256.20               | 13                |                           |                           | 892585                                 |
|         | 8            | 2                | 74               | 5256.20               | 13                | 1332                      |                           | 1485101                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 9       | 1            | 2                | 90               | 5259.00               | 20                | 1000                      |                           | 329192                                 |
|         | 2            | 1                | 89               | 5259.00               | 20                |                           |                           | 1210989                                |
|         | 3            | 2                | 76               | 5259.00               | 20                | 1881                      |                           | 1027132                                |
|         | 4            | 1                | 56               | 5259.00               | 20                |                           |                           | 963516                                 |
|         | 5            | 3                | 56               | 5259.00               | 20                | 1440                      | 1238                      | 738460                                 |
|         | 6            | 1                | 84               | 5259.00               | 20                |                           |                           | 753805                                 |
|         | 7            | 2                | 55               | 5259.00               | 20                | 1686                      |                           | 1211395                                |
|         | 8            | 3                | 54               | 5259.00               | 20                | 1727                      | 1352                      | 548737                                 |
|         | 9            | 2                | 56               | 5259.00               | 20                | 1317                      |                           | 1427803                                |
|         | 10           | 3                | 68               | 5259.00               | 20                | 1101                      | 1979                      | 308726                                 |
|         | 11           | 1                | 96               | 5259.00               | 20                |                           |                           | 1519486                                |
|         | 12           | 1                | 61               | 5259.00               | 20                |                           |                           | 1000420                                |
|         | 13           | 1                | 59               | 5259.00               | 20                |                           |                           | 115021                                 |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 10      | 1            | 1                | 96               | 5254.60               | 9                 |                           |                           | 685                                    |
|         | 2            | 3                | 97               | 5254.60               | 9                 | 1463                      | 1626                      | 1760880                                |
|         | 3            | 1                | 72               | 5254.60               | 9                 |                           |                           | 1489891                                |
|         | 4            | 3                | 85               | 5254.60               | 9                 | 1266                      | 1901                      | 1794345                                |
|         | 5            | 3                | 81               | 5254.60               | 9                 | 1395                      | 1951                      | 791445                                 |
|         | 6            | 1                | 80               | 5254.60               | 9                 |                           |                           | 2003312                                |
|         | 7            | 1                | 81               | 5254.60               | 9                 |                           |                           | 888899                                 |
|         | 8            | 3                | 71               | 5254.60               | 9                 | 1476                      | 1393                      | 1135413                                |
|         | 9            | 3                | 80               | 5254.60               | 9                 | 1875                      | 1379                      | 1677595                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 11      | 1            | 1                | 50               | 5260                  | 5                 |                           |                           | 327                                    |
|         | 2            | 2                | 72               | 5260                  | 5                 | 1575                      |                           | 954355                                 |
|         | 3            | 1                | 98               | 5260                  | 16                |                           |                           | 1203009                                |
|         | 4            | 3                | 94               | 5260                  | 19                | 1851                      | 1829                      | 781005                                 |
|         | 5            | 2                | 67               | 5260                  | 14                | 1708                      |                           | 181504                                 |
|         | 6            | 3                | 76               | 5260                  | 17                | 1632                      | 1231                      | 889492                                 |
|         | 7            | 1                | 66               | 5260                  | 11                |                           |                           | 949088                                 |
|         | 8            | 3                | 52               | 5260                  | 17                | 1094                      | 1991                      | 518479                                 |
|         | 9            | 1                | 85               | 5260                  | 20                |                           |                           | 896268                                 |
|         | 10           | 3                | 98               | 5260                  | 16                | 1503                      | 1806                      | 622405                                 |
|         | 11           | 1                | 65               | 5260                  | 15                |                           |                           | 741745                                 |
|         | 12           | 2                | 91               | 5260                  | 9                 | 1510                      |                           | 1061579                                |
|         | 13           | 1                | 75               | 5260                  | 11                |                           |                           | 223168                                 |
|         | 14           | 3                | 92               | 5260                  | 14                | 1931                      | 1010                      | 724577                                 |
|         | 15           | 1                | 95               | 5260                  | 13                |                           |                           | 1375036                                |
|         | 16           | 3                | 58               | 5260                  | 15                | 1728                      | 1359                      | 384022                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 12      | 1            | 2                | 95               | 5260.00               | 8                 | 1000                      |                           | 605191                                 |
|         | 2            | 1                | 52               | 5260.00               | 6                 |                           |                           | 1905255                                |
|         | 3            | 3                | 86               | 5260.00               | 19                | 1098                      | 1201                      | 1379472                                |
|         | 4            | 1                | 53               | 5260.00               | 18                |                           |                           | 305010                                 |
|         | 5            | 3                | 89               | 5260.00               | 5                 | 1574                      | 1538                      | 2164153                                |
|         | 6            | 2                | 68               | 5260.00               | 20                | 1299                      |                           | 1518501                                |
|         | 7            | 2                | 73               | 5260.00               | 9                 | 1071                      |                           | 1338644                                |
|         | 8            | 3                | 84               | 5260.00               | 5                 | 1548                      | 1432                      | 212765                                 |
|         | 9            | 3                | 67               | 5260.00               | 14                | 1172                      | 1083                      | 2339058                                |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 13      | 1            | 2                | 83               | 5260.00               | 15                | 1000                      |                           | 462632                                 |
|         | 2            | 2                | 81               | 5260.00               | 11                | 1467                      |                           | 697031                                 |
|         | 3            | 3                | 73               | 5260.00               | 14                | 1304                      | 1224                      | 1004125                                |
|         | 4            | 1                | 71               | 5260.00               | 5                 |                           |                           | 978866                                 |
|         | 5            | 2                | 53               | 5260.00               | 10                | 1916                      |                           | 535385                                 |
|         | 6            | 2                | 81               | 5260.00               | 7                 | 1200                      |                           | 643293                                 |
|         | 7            | 1                | 88               | 5260.00               | 12                |                           |                           | 755408                                 |
|         | 8            | 2                | 100              | 5260.00               | 15                | 1922                      |                           | 731546                                 |
|         | 9            | 2                | 75               | 5260.00               | 15                | 1631                      |                           | 659792                                 |
|         | 10           | 2                | 72               | 5260.00               | 8                 | 1797                      |                           | 910401                                 |
|         | 11           | 3                | 53               | 5260.00               | 12                | 1828                      | 1559                      | 1257274                                |
|         | 12           | 2                | 71               | 5260.00               | 7                 | 1286                      |                           | 309314                                 |
|         | 13           | 1                | 62               | 5260.00               | 7                 |                           |                           | 952772                                 |
|         | 14           | 1                | 76               | 5260.00               | 10                |                           |                           | 733100                                 |
|         | 15           | 3                | 80               | 5260.00               | 5                 | 1693                      | 1013                      | 795137                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 14      | 1            | 3                | 64               | 5260.00               | 9                 | 1060                      | 1389                      | 1389247                                |
|         | 2            | 3                | 68               | 5260.00               | 18                | 1857                      | 1211                      | 926201                                 |
|         | 3            | 3                | 73               | 5260.00               | 18                | 1298                      | 1967                      | 1375009                                |
|         | 4            | 2                | 56               | 5260.00               | 20                | 1324                      |                           | 2259483                                |
|         | 5            | 2                | 59               | 5260.00               | 12                | 1921                      |                           | 604411                                 |
|         | 6            | 1                | 92               | 5260.00               | 19                |                           |                           | 2357848                                |
|         | 7            | 1                | 76               | 5260.00               | 17                |                           |                           | 130961                                 |
|         | 8            | 3                | 83               | 5260.00               | 20                | 1225                      | 1229                      | 1809280                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar Frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 15      | 1            | 2                | 95               | 5260.00               | 15                | 1000                      |                           | 310315                                 |
|         | 2            | 1                | 89               | 5260.00               | 7                 |                           |                           | 707626                                 |
|         | 3            | 3                | 69               | 5260.00               | 16                | 1227                      | 1303                      | 585651                                 |
|         | 4            | 3                | 55               | 5260.00               | 13                | 1166                      | 1666                      | 585167                                 |
|         | 5            | 1                | 84               | 5260.00               | 8                 |                           |                           | 589367                                 |
|         | 6            | 1                | 61               | 5260.00               | 11                |                           |                           | 546039                                 |
|         | 7            | 2                | 64               | 5260.00               | 5                 | 1242                      |                           | 787147                                 |
|         | 8            | 1                | 67               | 5260.00               | 10                |                           |                           | 637162                                 |
|         | 9            | 3                | 80               | 5260.00               | 19                | 1696                      | 1760                      | 338120                                 |
|         | 10           | 1                | 72               | 5260.00               | 8                 |                           |                           | 363256                                 |
|         | 11           | 3                | 64               | 5260.00               | 12                | 1857                      | 1796                      | 873128                                 |
|         | 12           | 2                | 78               | 5260.00               | 11                | 1803                      |                           | 586828                                 |
|         | 13           | 2                | 52               | 5260.00               | 18                | 1085                      |                           | 288392                                 |
|         | 14           | 3                | 58               | 5260.00               | 13                | 1342                      | 1690                      | 1068905                                |
|         | 15           | 2                | 54               | 5260.00               | 19                | 1840                      |                           | 160550                                 |
|         | 16           | 3                | 54               | 5260.00               | 18                | 1780                      | 1023                      | 567933                                 |
|         | 17           | 1                | 58               | 5260.00               | 17                |                           |                           | 763000                                 |
|         | 18           | 1                | 75               | 5260.00               | 9                 |                           |                           | 574918                                 |
|         | 19           | 3                | 58               | 5260.00               | 15                | 1270                      | 1114                      | 839740                                 |
|         | 20           | 2                | 64               | 5260.00               | 7                 | 1157                      |                           | 389076                                 |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 16      | 1            | 2                | 89               | 5260.00               | 6                 | 1000                      |                           | 49861                                  |
|         | 2            | 2                | 60               | 5260.00               | 16                | 1795                      |                           | 836538                                 |
|         | 3            | 2                | 93               | 5260.00               | 17                | 1753                      |                           | 780471                                 |
|         | 4            | 3                | 54               | 5260.00               | 12                | 1971                      | 1127                      | 819482                                 |
|         | 5            | 3                | 60               | 5260.00               | 20                | 1822                      | 1948                      | 739385                                 |
|         | 6            | 1                | 62               | 5260.00               | 5                 |                           |                           | 630956                                 |
|         | 7            | 1                | 66               | 5260.00               | 13                |                           |                           | 564147                                 |
|         | 8            | 3                | 69               | 5260.00               | 9                 | 1107                      | 1599                      | 693165                                 |
|         | 9            | 1                | 92               | 5260.00               | 8                 |                           |                           | 219010                                 |
|         | 10           | 2                | 56               | 5260.00               | 16                | 1839                      |                           | 934633                                 |
|         | 11           | 2                | 70               | 5260.00               | 13                | 1781                      |                           | 640981                                 |
|         | 12           | 3                | 98               | 5260.00               | 7                 | 1660                      | 1756                      | 971301                                 |
|         | 13           | 3                | 89               | 5260.00               | 16                | 1403                      | 1250                      | 551321                                 |
|         | 14           | 1                | 80               | 5260.00               | 10                |                           |                           | 807473                                 |
|         | 15           | 2                | 63               | 5260.00               | 5                 | 1987                      |                           | 490971                                 |
|         | 16           | 1                | 67               | 5260.00               | 16                |                           |                           | 697664                                 |
|         | 17           | 2                | 63               | 5260.00               | 12                | 1615                      |                           | 527918                                 |
|         | 18           | 2                | 82               | 5260.00               | 16                | 1134                      |                           | 733209                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 17      | 1            | 2                | 70               | 5260.00               | 14                | 1000                      |                           | 253751                                 |
|         | 2            | 2                | 54               | 5260.00               | 11                | 1286                      |                           | 907342                                 |
|         | 3            | 2                | 54               | 5260.00               | 13                | 1177                      |                           | 597469                                 |
|         | 4            | 3                | 53               | 5260.00               | 20                | 1956                      | 1940                      | 1573880                                |
|         | 5            | 1                | 73               | 5260.00               | 9                 |                           |                           | 911911                                 |
|         | 6            | 1                | 56               | 5260.00               | 5                 |                           |                           | 144413                                 |
|         | 7            | 2                | 66               | 5260.00               | 10                | 1887                      |                           | 1114912                                |
|         | 8            | 3                | 71               | 5260.00               | 5                 | 1176                      | 1398                      | 1029206                                |
|         | 9            | 3                | 95               | 5260.00               | 10                | 1062                      | 1896                      | 879427                                 |
|         | 10           | 1                | 87               | 5260.00               | 16                |                           |                           | 935024                                 |
|         | 11           | 3                | 50               | 5260.00               | 17                | 1584                      | 1876                      | 551976                                 |
|         | 12           | 1                | 82               | 5260.00               | 8                 |                           |                           | 678835                                 |
|         | 13           | 3                | 65               | 5260.00               | 9                 | 1827                      | 1324                      | 1013614                                |
|         | 14           | 1                | 82               | 5260.00               | 16                |                           |                           | 1085813                                |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 18      | 1            | 3                | 79               | 5260.00               | 9                 | 1578                      | 1788                      | 268637                                 |
|         | 2            | 2                | 67               | 5260.00               | 9                 | 1514                      |                           | 752569                                 |
|         | 3            | 3                | 92               | 5260.00               | 15                | 1299                      | 1871                      | 359308                                 |
|         | 4            | 2                | 59               | 5260.00               | 10                | 1371                      |                           | 985135                                 |
|         | 5            | 2                | 56               | 5260.00               | 7                 | 1305                      |                           | 680191                                 |
|         | 6            | 2                | 60               | 5260.00               | 12                | 1715                      |                           | 543619                                 |
|         | 7            | 3                | 88               | 5260.00               | 19                | 1839                      | 1745                      | 552891                                 |
|         | 8            | 3                | 70               | 5260.00               | 17                | 1542                      | 1702                      | 897459                                 |
|         | 9            | 3                | 53               | 5260.00               | 16                | 1594                      | 1106                      | 698467                                 |
|         | 10           | 3                | 71               | 5260.00               | 17                | 1758                      | 1631                      | 638609                                 |
|         | 11           | 3                | 81               | 5260.00               | 7                 | 1588                      | 1025                      | 572823                                 |
|         | 12           | 1                | 74               | 5260.00               | 11                |                           |                           | 836677                                 |
|         | 13           | 2                | 65               | 5260.00               | 16                | 1024                      |                           | 242917                                 |
|         | 14           | 2                | 83               | 5260.00               | 15                | 1095                      |                           | 652469                                 |
|         | 15           | 1                | 88               | 5260.00               | 11                |                           |                           | 1010281                                |
|         | 16           | 3                | 78               | 5260.00               | 10                | 1394                      | 1248                      | 566310                                 |
|         | 17           | 1                | 73               | 5260.00               | 14                |                           |                           | 442208                                 |
|         | 18           | 2                | 53               | 5260.00               | 6                 | 1994                      |                           | 980307                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 19      | 1            | 2                | 71               | 5260.00               | 19                | 1000                      |                           | 530435                                 |
|         | 2            | 3                | 71               | 5260.00               | 6                 | 1166                      | 1863                      | 158787                                 |
|         | 3            | 3                | 91               | 5260.00               | 14                | 1272                      | 1818                      | 1241581                                |
|         | 4            | 3                | 95               | 5260.00               | 15                | 1421                      | 1315                      | 416157                                 |
|         | 5            | 1                | 73               | 5260.00               | 20                |                           |                           | 678333                                 |
|         | 6            | 2                | 89               | 5260.00               | 13                | 1098                      |                           | 728278                                 |
|         | 7            | 1                | 79               | 5260.00               | 15                |                           |                           | 422107                                 |
|         | 8            | 2                | 59               | 5260.00               | 9                 | 1628                      |                           | 968283                                 |
|         | 9            | 3                | 83               | 5260.00               | 20                | 1772                      | 1398                      | 486334                                 |
|         | 10           | 3                | 91               | 5260.00               | 6                 | 1987                      | 1547                      | 485780                                 |
|         | 11           | 1                | 81               | 5260.00               | 16                |                           |                           | 622765                                 |
|         | 12           | 2                | 77               | 5260.00               | 8                 | 1363                      |                           | 1075927                                |
|         | 13           | 3                | 51               | 5260.00               | 19                | 1208                      | 1329                      | 790744                                 |
|         | 14           | 3                | 83               | 5260.00               | 19                | 1054                      | 1486                      | 408006                                 |
|         | 15           | 2                | 64               | 5260.00               | 15                | 1208                      |                           | 828072                                 |
|         | 16           | 1                | 87               | 5260.00               | 11                |                           |                           | 261539                                 |
|         | 17           | 2                | 82               | 5260.00               | 18                | 1221                      |                           | 617347                                 |
|         | 18           | 1                | 100              | 5260.00               | 8                 |                           |                           | 985444                                 |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 20      | 1            | 2                | 67               | 5260.00               | 14                | 1000                      |                           | 417577                                 |
|         | 2            | 3                | 89               | 5260.00               | 15                | 1814                      | 1200                      | 1131359                                |
|         | 3            | 2                | 84               | 5260.00               | 11                | 1972                      |                           | 76634                                  |
|         | 4            | 2                | 97               | 5260.00               | 16                | 1348                      |                           | 807464                                 |
|         | 5            | 1                | 81               | 5260.00               | 12                |                           |                           | 1276532                                |
|         | 6            | 3                | 89               | 5260.00               | 12                | 1350                      | 1577                      | 328883                                 |
|         | 7            | 3                | 89               | 5260.00               | 12                | 1439                      | 1610                      | 1029050                                |
|         | 8            | 2                | 91               | 5260.00               | 18                | 1436                      |                           | 993643                                 |
|         | 9            | 1                | 50               | 5260.00               | 7                 |                           |                           | 333185                                 |
|         | 10           | 2                | 99               | 5260.00               | 16                | 1813                      |                           | 794234                                 |
|         | 11           | 1                | 73               | 5260.00               | 17                |                           |                           | 893811                                 |
|         | 12           | 1                | 63               | 5260.00               | 11                |                           |                           | 1250384                                |
|         | 13           | 1                | 100              | 5260.00               | 6                 |                           |                           | 717965                                 |
|         | 14           | 3                | 64               | 5260.00               | 6                 | 1341                      | 1643                      | 346891                                 |
|         | 15           | 2                | 80               | 5260.00               | 5                 | 1951                      |                           | 843153                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 21      | 1            | 2                | 77               | 5266.60               | 6                 | 1000                      |                           | 368006                                 |
|         | 2            | 3                | 55               | 5266.60               | 6                 | 1218                      | 1023                      | 362182                                 |
|         | 3            | 1                | 80               | 5266.60               | 6                 |                           |                           | 561223                                 |
|         | 4            | 2                | 98               | 5266.60               | 6                 | 1848                      |                           | 851181                                 |
|         | 5            | 1                | 72               | 5266.60               | 6                 |                           |                           | 655852                                 |
|         | 6            | 3                | 82               | 5266.60               | 6                 | 1785                      | 1084                      | 728379                                 |
|         | 7            | 2                | 60               | 5266.60               | 6                 | 1523                      |                           | 512563                                 |
|         | 8            | 3                | 92               | 5266.60               | 6                 | 1140                      | 1502                      | 544059                                 |
|         | 9            | 3                | 76               | 5266.60               | 6                 | 1913                      | 1222                      | 611128                                 |
|         | 10           | 1                | 83               | 5266.60               | 6                 |                           |                           | 223988                                 |
|         | 11           | 1                | 51               | 5266.60               | 6                 |                           |                           | 789595                                 |
|         | 12           | 3                | 72               | 5266.60               | 6                 | 1332                      | 1548                      | 650844                                 |
|         | 13           | 2                | 91               | 5266.60               | 6                 | 1362                      |                           | 804478                                 |
|         | 14           | 2                | 92               | 5266.60               | 6                 | 1812                      |                           | 406864                                 |
|         | 15           | 1                | 90               | 5266.60               | 6                 |                           |                           | 773325                                 |
|         | 16           | 2                | 69               | 5266.60               | 6                 | 1653                      |                           | 161082                                 |
|         | 17           | 3                | 81               | 5266.60               | 6                 | 1537                      | 1582                      | 1046372                                |
|         | 18           | 1                | 50               | 5266.60               | 6                 |                           |                           | 329771                                 |
|         | 19           | 1                | 90               | 5266.60               | 6                 |                           |                           | 610900                                 |
|         | 20           | 1                | 57               | 5266.60               | 6                 |                           |                           | 674092                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 22      | 1            | 3                | 92               | 5264.60               | 11                | 1109                      | 1096                      | 852484                                 |
|         | 2            | 2                | 93               | 5264.60               | 11                | 1475                      |                           | 717911                                 |
|         | 3            | 2                | 71               | 5264.60               | 11                | 1565                      |                           | 423306                                 |
|         | 4            | 3                | 79               | 5264.60               | 11                | 1782                      | 1530                      | 1243039                                |
|         | 5            | 2                | 76               | 5264.60               | 11                | 1121                      |                           | 1010150                                |
|         | 6            | 2                | 66               | 5264.60               | 11                | 1823                      |                           | 1219285                                |
|         | 7            | 2                | 55               | 5264.60               | 11                | 1703                      |                           | 730263                                 |
|         | 8            | 2                | 99               | 5264.60               | 11                | 1465                      |                           | 696600                                 |
|         | 9            | 3                | 81               | 5264.60               | 11                | 1898                      | 1870                      | 818049                                 |
|         | 10           | 1                | 94               | 5264.60               | 11                |                           |                           | 1163712                                |
|         | 11           | 1                | 85               | 5264.60               | 11                |                           |                           | 533665                                 |
|         | 12           | 1                | 50               | 5264.60               | 11                |                           |                           | 996282                                 |
|         | 13           | 3                | 92               | 5264.60               | 11                | 1637                      | 1371                      | 1306557.923                            |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 23      | 1            | 2                | 71               | 5262.20               | 17                | 1000                      |                           | 481876                                 |
|         | 2            | 1                | 55               | 5262.20               | 17                |                           |                           | 952766                                 |
|         | 3            | 1                | 61               | 5262.20               | 17                |                           |                           | 2054479                                |
|         | 4            | 2                | 90               | 5262.20               | 17                | 1871                      |                           | 1202925                                |
|         | 5            | 2                | 55               | 5262.20               | 17                | 1416                      |                           | 890260                                 |
|         | 6            | 2                | 84               | 5262.20               | 17                | 1528                      |                           | 2220463                                |
|         | 7            | 1                | 64               | 5262.20               | 17                |                           |                           | 776117                                 |
|         | 8            | 1                | 88               | 5262.20               | 17                |                           |                           | 1884578                                |
|         | 9            | 2                | 82               | 5262.20               | 17                | 1448                      |                           | 515084                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 24      | 1            | 1                | 79               | 5267.00               | 5                 |                           |                           | 502                                    |
|         | 2            | 2                | 76               | 5267.00               | 5                 | 1924                      |                           | 2183113                                |
|         | 3            | 3                | 68               | 5267.00               | 5                 | 1773                      | 1157                      | 1148688                                |
|         | 4            | 2                | 84               | 5267.00               | 5                 | 1484                      |                           | 2502453                                |
|         | 5            | 1                | 95               | 5267.00               | 5                 |                           |                           | 1454807                                |
|         | 6            | 3                | 79               | 5267.00               | 5                 | 1997                      | 1559                      | 1134376                                |
|         | 7            | 3                | 76               | 5267.00               | 5                 | 1350                      | 1169                      | 1550779                                |
|         | 8            | 3                | 81               | 5267.00               | 5                 | 1100                      | 1556                      | 1703843                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 25      | 1            | 1                | 98               | 5261.80               | 18                |                           |                           | 431                                    |
|         | 2            | 2                | 98               | 5261.80               | 18                | 1178                      |                           | 849435                                 |
|         | 3            | 3                | 87               | 5261.80               | 18                | 1853                      | 1983                      | 459700                                 |
|         | 4            | 3                | 89               | 5261.80               | 18                | 1074                      | 1112                      | 1185778                                |
|         | 5            | 1                | 86               | 5261.80               | 18                |                           |                           | 512876                                 |
|         | 6            | 2                | 88               | 5261.80               | 18                | 1547                      |                           | 328173                                 |
|         | 7            | 2                | 58               | 5261.80               | 18                | 1445                      |                           | 505282                                 |
|         | 8            | 3                | 65               | 5261.80               | 18                | 1419                      | 1187                      | 1145875                                |
|         | 9            | 2                | 64               | 5261.80               | 18                | 1795                      |                           | 460122                                 |
|         | 10           | 3                | 64               | 5261.80               | 18                | 1277                      | 1934                      | 726329                                 |
|         | 11           | 1                | 62               | 5261.80               | 18                |                           |                           | 440112                                 |
|         | 12           | 2                | 99               | 5261.80               | 18                | 1831                      |                           | 402135                                 |
|         | 13           | 1                | 89               | 5261.80               | 18                |                           |                           | 778155                                 |
|         | 14           | 2                | 92               | 5261.80               | 18                | 1973                      |                           | 570489                                 |
|         | 15           | 2                | 50               | 5261.80               | 18                | 1037                      |                           | 686197                                 |
|         | 16           | 3                | 80               | 5261.80               | 18                | 1706                      | 1594                      | 910467                                 |
|         | 17           | 3                | 96               | 5261.80               | 18                | 1157                      | 1220                      | 608542                                 |
|         | 18           | 3                | 62               | 5261.80               | 18                | 1079                      | 1188                      | 269524                                 |
|         | 19           | 3                | 59               | 5261.80               | 18                | 1216                      | 1955                      | 819034                                 |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 26      | 1            | 2                | 90               | 5266.20               | 7                 | 1000                      |                           | 21406                                  |
|         | 2            | 2                | 70               | 5266.20               | 7                 | 1156                      |                           | 1188007                                |
|         | 3            | 2                | 53               | 5266.20               | 7                 | 1457                      |                           | 417766                                 |
|         | 4            | 2                | 91               | 5266.20               | 7                 | 1269                      |                           | 842201                                 |
|         | 5            | 3                | 57               | 5266.20               | 7                 | 1573                      | 1384                      | 733907                                 |
|         | 6            | 1                | 69               | 5266.20               | 7                 |                           |                           | 1350470                                |
|         | 7            | 1                | 66               | 5266.20               | 7                 |                           |                           | 935075                                 |
|         | 8            | 3                | 72               | 5266.20               | 7                 | 1061                      | 1122                      | 834287                                 |
|         | 9            | 1                | 91               | 5266.20               | 7                 |                           |                           | 245451                                 |
|         | 10           | 3                | 73               | 5266.20               | 7                 | 1879                      | 1073                      | 1015693                                |
|         | 11           | 2                | 74               | 5266.20               | 7                 | 1042                      |                           | 983968                                 |
|         | 12           | 3                | 52               | 5266.20               | 7                 | 1321                      | 1985                      | 819245                                 |
|         | 13           | 2                | 66               | 5266.20               | 7                 | 1339                      |                           | 506276                                 |
|         | 14           | 3                | 68               | 5266.20               | 7                 | 1432                      | 1190                      | 1129842                                |
|         | 15           | 2                | 88               | 5266.20               | 7                 | 1938                      |                           | 611901                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 27      | 1            | 3                | 67               | 5264.20               | 12                | 1773                      | 1879                      | 269482                                 |
|         | 2            | 2                | 87               | 5264.20               | 12                | 1770                      |                           | 720468                                 |
|         | 3            | 1                | 89               | 5264.20               | 12                |                           |                           | 797601                                 |
|         | 4            | 1                | 68               | 5264.20               | 12                |                           |                           | 651494                                 |
|         | 5            | 1                | 65               | 5264.20               | 12                |                           |                           | 565157                                 |
|         | 6            | 2                | 73               | 5264.20               | 12                | 1873                      |                           | 498073                                 |
|         | 7            | 1                | 90               | 5264.20               | 12                |                           |                           | 863911                                 |
|         | 8            | 2                | 64               | 5264.20               | 12                | 1019                      |                           | 406868                                 |
|         | 9            | 2                | 71               | 5264.20               | 12                | 1300                      |                           | 761799                                 |
|         | 10           | 3                | 97               | 5264.20               | 12                | 1328                      | 1160                      | 656499                                 |
|         | 11           | 2                | 62               | 5264.20               | 12                | 1616                      |                           | 132027                                 |
|         | 12           | 3                | 64               | 5264.20               | 12                | 1511                      | 1858                      | 685294                                 |
|         | 13           | 3                | 75               | 5264.20               | 12                | 1481                      | 1791                      | 920101                                 |
|         | 14           | 3                | 52               | 5264.20               | 12                | 1790                      | 1634                      | 713137                                 |
|         | 15           | 2                | 55               | 5264.20               | 12                | 1917                      |                           | 614654                                 |
|         | 16           | 1                | 60               | 5264.20               | 12                |                           |                           | 420541                                 |
|         | 17           | 2                | 58               | 5264.20               | 12                | 1016                      |                           | 1014903                                |
|         | 18           | 1                | 93               | 5264.20               | 12                |                           |                           | 308080                                 |
|         | 19           | 2                | 92               | 5264.20               | 12                | 1550                      |                           | 646622                                 |

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| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 28      | 1            | 3                | 77               | 5261.00               | 20                | 1742                      | 1027                      | 263870                                 |
|         | 2            | 3                | 58               | 5261.00               | 20                | 1034                      | 1090                      | 1207853                                |
|         | 3            | 3                | 74               | 5261.00               | 20                | 1406                      | 1033                      | 712438                                 |
|         | 4            | 3                | 68               | 5261.00               | 20                | 1166                      | 1872                      | 663182                                 |
|         | 5            | 1                | 54               | 5261.00               | 20                |                           |                           | 418405                                 |
|         | 6            | 1                | 59               | 5261.00               | 20                |                           |                           | 677857                                 |
|         | 7            | 1                | 99               | 5261.00               | 20                |                           |                           | 752458                                 |
|         | 8            | 3                | 76               | 5261.00               | 20                | 1011                      | 1212                      | 697503                                 |
|         | 9            | 3                | 58               | 5261.00               | 20                | 1102                      | 1506                      | 1236513                                |
|         | 10           | 1                | 61               | 5261.00               | 20                |                           |                           | 794155                                 |
|         | 11           | 1                | 82               | 5261.00               | 20                |                           |                           | 749688                                 |
|         | 12           | 1                | 67               | 5261.00               | 20                |                           |                           | 786670                                 |
|         | 13           | 3                | 88               | 5261.00               | 20                | 1786                      | 1768                      | 378812                                 |
|         | 14           | 2                | 89               | 5261.00               | 20                | 1974                      |                           | 672301                                 |
|         | 15           | 3                | 57               | 5261.00               | 20                | 1317                      | 1099                      | 880204                                 |
|         | 16           | 2                | 53               | 5261.00               | 20                | 1301                      |                           | 575247                                 |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 29      | 1            | 2                | 59               | 5265.80               | 8                 | 1000                      |                           | 714854                                 |
|         | 2            | 1                | 68               | 5265.80               | 8                 |                           |                           | 987552                                 |
|         | 3            | 2                | 89               | 5265.80               | 8                 | 1833                      |                           | 1903299                                |
|         | 4            | 1                | 94               | 5265.80               | 8                 |                           |                           | 639651                                 |
|         | 5            | 2                | 66               | 5265.80               | 8                 | 1539                      |                           | 1459640                                |
|         | 6            | 3                | 68               | 5265.80               | 8                 | 1639                      | 1521                      | 1599170                                |
|         | 7            | 2                | 97               | 5265.80               | 8                 | 1102                      |                           | 1142720                                |
|         | 8            | 1                | 78               | 5265.80               | 8                 |                           |                           | 963689                                 |
|         | 9            | 1                | 98               | 5265.80               | 8                 |                           |                           | 2019679                                |

| Trial # | Burst Number | Number of Pulses | Pulse Width [μs] | Radar frequency [MHz] | Chirp Width [MHz] | Pulse 1-to-2 Spacing [μs] | Pulse 2-to-3 Spacing [μs] | Starting Location Within Interval [μs] |
|---------|--------------|------------------|------------------|-----------------------|-------------------|---------------------------|---------------------------|----------------------------------------|
| 30      | 1            | 3                | 69               | 5263.00               | 15                | 1339                      | 1381                      | 222494                                 |
|         | 2            | 1                | 70               | 5263.00               | 15                |                           |                           | 1119349                                |
|         | 3            | 3                | 56               | 5263.00               | 15                | 1660                      | 1444                      | 685457                                 |
|         | 4            | 2                | 73               | 5263.00               | 15                | 1710                      |                           | 868924                                 |
|         | 5            | 2                | 100              | 5263.00               | 15                | 1536                      |                           | 340684                                 |
|         | 6            | 3                | 93               | 5263.00               | 15                | 1652                      | 1731                      | 1136450                                |
|         | 7            | 2                | 55               | 5263.00               | 15                | 1629                      |                           | 190418                                 |
|         | 8            | 1                | 79               | 5263.00               | 15                |                           |                           | 1024554                                |
|         | 9            | 2                | 97               | 5263.00               | 15                | 1504                      |                           | 844764                                 |
|         | 10           | 2                | 87               | 5263.00               | 15                | 1658                      |                           | 580134                                 |
|         | 11           | 2                | 73               | 5263.00               | 15                | 1719                      |                           | 1019178                                |
|         | 12           | 3                | 63               | 5263.00               | 15                | 1220                      | 1669                      | 922750                                 |
|         | 13           | 3                | 58               | 5263.00               | 15                | 1030                      | 1034                      | 744379                                 |
|         | 14           | 1                | 69               | 5263.00               | 15                |                           |                           | 48331                                  |
|         | 15           | 3                | 79               | 5263.00               | 15                | 1218                      | 1069                      | 1073458                                |
|         | 16           | 1                | 93               | 5263.00               | 15                |                           |                           | 1016043                                |

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### Parameter Data sheet for Radar Type 6

#### **5260 MHz (11n HT20)**

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 1       | 32             | 93         | 5250            |
|         | 34             | 99         | 5265            |
|         | 84             | 249        | 5251            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 2       | 12             | 33         | 5259            |
|         | 19             | 54         | 5251            |
|         | 25             | 72         | 5266            |
|         | 29             | 84         | 5253            |
|         | 84             | 249        | 5261            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 3       | 31             | 90         | 5251            |
|         | 83             | 246        | 5269            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 4       | 74             | 219        | 5252            |
|         | 82             | 243        | 5267            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 5       | 24             | 69         | 5259            |
|         | 32             | 93         | 5265            |
|         | 50             | 147        | 5261            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 6       | 42             | 123        | 5268            |
|         | 46             | 135        | 5255            |
|         | 78             | 231        | 5258            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 7       | 20             | 57         | 5251            |
|         | 38             | 111        | 5257            |
|         | 94             | 279        | 5264            |

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| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 8       | 41             | 120        | 5254            |
|         | 44             | 129        | 5250            |
|         | 58             | 171        | 5270            |
|         | 67             | 198        | 5262            |
|         | 70             | 207        | 5259            |
|         | 78             | 231        | 5258            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 9       | 4              | 9          | 5252            |
|         | 17             | 48         | 5263            |
|         | 33             | 96         | 5253            |
|         | 47             | 138        | 5270            |
|         | 60             | 177        | 5260            |
|         | 92             | 273        | 5259            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 10      | 51             | 150        | 5268            |
|         | 62             | 183        | 5266            |
|         | 65             | 192        | 5257            |
|         | 66             | 195        | 5261            |
|         | 75             | 222        | 5259            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 11      | 46             | 135        | 5266            |
|         | 66             | 195        | 5263            |
|         | 88             | 261        | 5262            |
|         | 94             | 279        | 5256            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 12      | 3              | 6          | 5251            |
|         | 21             | 60         | 5268            |
|         | 32             | 93         | 5264            |
|         | 45             | 132        | 5250            |
|         | 48             | 141        | 5258            |
|         | 88             | 261        | 5252            |
|         | 96             | 285        | 5269            |

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| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 13      | 21             | 60         | 5267            |
|         | 40             | 117        | 5262            |
|         | 42             | 123        | 5250            |
|         | 64             | 189        | 5256            |
|         | 100            | 297        | 5254            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 14      | 31             | 90         | 5256            |
|         | 76             | 225        | 5262            |
|         | 92             | 273        | 5267            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 15      | 6              | 15         | 5256            |
|         | 26             | 75         | 5270            |
|         | 65             | 192        | 5260            |
|         | 99             | 294        | 5255            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 16      | 6              | 15         | 5264            |
|         | 21             | 60         | 5251            |
|         | 40             | 117        | 5256            |
|         | 64             | 189        | 5261            |
|         | 100            | 297        | 5269            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 17      | 20             | 57         | 5255            |
|         | 63             | 186        | 5269            |
|         | 65             | 192        | 5258            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 18      | 12             | 33         | 5270            |
|         | 27             | 78         | 5256            |
|         | 39             | 114        | 5253            |
|         | 48             | 141        | 5263            |
|         | 66             | 195        | 5259            |
|         | 82             | 243        | 5264            |

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| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 19      | 71             | 210        | 5270            |
|         | 92             | 273        | 5266            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 20      | 9              | 24         | 5256            |
|         | 15             | 42         | 5259            |
|         | 70             | 207        | 5265            |
|         | 91             | 270        | 5270            |
|         | 94             | 279        | 5268            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 21      | 15             | 42         | 5251            |
|         | 27             | 78         | 5270            |
|         | 52             | 153        | 5254            |
|         | 63             | 186        | 5255            |
|         | 64             | 189        | 5256            |
|         | 68             | 201        | 5250            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 22      | 24             | 69         | 5261            |
|         | 40             | 117        | 5250            |
|         | 46             | 135        | 5269            |
|         | 57             | 168        | 5255            |
|         | 60             | 177        | 5252            |
|         | 67             | 198        | 5264            |
|         | 99             | 294        | 5253            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 23      | 91             | 69         | 5258            |
|         | 96             | 72         | 5253            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 24      | 28             | 81         | 5268            |
|         | 37             | 84         | 5261            |

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| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 25      | 44             | 129        | 5251            |
|         | 62             | 183        | 5258            |
|         | 67             | 198        | 5252            |
|         | 70             | 207        | 5256            |
|         | 77             | 228        | 5250            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 26      | 38             | 111        | 5265            |
|         | 59             | 174        | 5254            |
|         | 60             | 177        | 5258            |
|         | 68             | 201        | 5262            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 27      | 5              | 12         | 5252            |
|         | 11             | 30         | 5263            |
|         | 26             | 75         | 5267            |
|         | 33             | 96         | 5256            |
|         | 36             | 105        | 5260            |
|         | 64             | 189        | 5265            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 28      | 24             | 69         | 5270            |
|         | 26             | 75         | 5252            |
|         | 95             | 282        | 5253            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 29      | 10             | 27         | 5265            |
|         | 25             | 72         | 5251            |
|         | 33             | 96         | 5253            |
|         | 51             | 150        | 5255            |

| Trial # | Hopping Number | Start Time | Frequency [MHz] |
|---------|----------------|------------|-----------------|
| 30      | 18             | 51         | 5252            |
|         | 28             | 81         | 5256            |
|         | 85             | 252        | 5268            |
|         | 90             | 267        | 5261            |
|         | 98             | 291        | 5253            |

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## **APPENDIX 2: Test instruments**

### **EMI Test Equipment**

| Control No.  | Instrument                     | Manufacturer    | Model No           | Serial No     | Test Item | Calibration Date *<br>Interval(month) |
|--------------|--------------------------------|-----------------|--------------------|---------------|-----------|---------------------------------------|
| SSG-01       | Signal Generator               | Agilent         | E4438C             | MY47271584    | DFS       | 2017/03/06 * 12                       |
| SCC-G14      | Coaxial Cable                  | Suhner          | SUCOFLEX 102       | 31600/2       | DFS       | 2017/03/23 * 12                       |
| SPSC-07      | Power Splitters/Combiners      | Mini-Circuits   | ZFSC-2-10G+        | -             | DFS       | 2016/07/28 * 12                       |
| SCC-G29      | Coaxial Cable                  | Junkosha        | MWX241-01000KMSKMS | SEP-20-12-003 | DFS       | -                                     |
| SRENT-09     | Spectrum Analyzer              | Agilent         | E4440A             | MY46186392    | DFS       | 2016/11/01 * 12                       |
| SCC-G24      | Coaxial Cable                  | Suhner          | 141PE              | -             | DFS       | 2016/07/27 * 12                       |
| SAT10-14     | Attenuator                     | Weinschel Corp. | 54A-10             | 81595         | DFS       | 2017/04/20 * 12                       |
| SAT20-02     | Attenuator                     | Agilent         | 8493C-020          | 74890         | DFS       | 2017/03/23 * 12                       |
| SAT20-03     | Attenuator                     | Agilent         | 8493C-020          | 74891         | DFS       | 2017/03/23 * 12                       |
| SPSC-08      | Power Splitters/Combiners      | Mini-Circuits   | ZFSC-2-10G+        | -             | DFS       | 2016/07/28 * 12                       |
| SAT20-05     | Attenuator                     | Weinschel Corp. | 54A-20             | Y5649         | DFS       | 2016/11/07 * 12                       |
| SAT20-06     | Attenuator                     | Weinschel Corp. | 54A-20             | 31506         | DFS       | 2017/04/20 * 12                       |
| SAT20-07     | Attenuator                     | Weinschel Corp. | 54A-20             | 31484         | DFS       | 2017/04/20 * 12                       |
| SCC-G26      | Coaxial Cable                  | Suhner          | 141PE              | -             | DFS       | 2016/07/27 * 12                       |
| SCC-G25      | Coaxial Cable                  | Suhner          | 141PE              | -             | DFS       | 2016/07/27 * 12                       |
| COTS-SDFS-01 | Signal Studio Software for DFS | Agilent         | N7620A-101         | 5010-7739     | DFS       | -                                     |
| SOS-09       | Humidity Indicator             | A&D             | AD-5681            | 4061484       | DFS       | 2016/12/13 * 12                       |
| STS-05       | Digital Hitester               | Hioki           | 3805-50            | 080997828     | DFS       | 2016/10/17 * 12                       |

**\*1) Signal generator is only used to generate radar test signal, and the wave form is confirmed with spectrum analyzer every time before the test.**

**The expiration date of the calibration is the end of the expired month.**

**All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.**

**As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.**

#### **Test Item:**

**DFS: Dynamic Frequency Selection**

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