



FCC TEST REPORT

Test report
On Behalf of
Shenzhen Yingdakang Technology CO., LTD
For
Wireless Repeater

Model No.: DA213WUS, DA213BUS, AC12RP, DWR-C5400R,
DWR-C4510R, W120RP, W121RP

FCC ID: 2ACSI-DA213WX

Prepared for : Shenzhen Yingdakang Technology CO., LTD
Room 8004, B/51, 2nd Dist ,Shangtang Songzi Park, MinZhi ,
Longhua , Shenzhen, China

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Date of Test: Apr. 15, 2020
Date of Report: Apr. 15, 2020 – May 06, 2020
Report Number: TZ200401300-E



TEST RESULT CERTIFICATION

Applicant's name.....: Shenzhen Yingdakang Technology CO., LTD
Address: Room 8004, B/51, 2nd Dist ,Shangtang Songzi Park,
MinZhi , Longhua , Shenzhen, China
Manufacture's Name: Shenzhen Yingdakang Technology CO., LTD
Address: Room 8004, B/51, 2nd Dist ,Shangtang Songzi Park,
MinZhi , Longhua , Shenzhen, China

Product description

Trade Mark: N/A
Product name: Wireless Repeater
Model No: DA213WUS, DA213BUS, AC12RP, DWR-C5400R,
DWR-C4510R, W120RP, W121RP

Standards.....: Part 15 Subpart E (15.407) / KDB 905462 D02 v02

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Date of Test:
Date (s) of performance of tests.....: Apr. 15, 2020
Date of Issue: Apr. 15, 2020 – May 06, 2020
Test Result.....: **PASS**

Testing Engineer : Anna Hu
(Anna Hu)

Technical Manager : Hugo Chen
(Hugo Chen)

Authorized Signatory : Andy Zhang
(Andy Zhang)



Revision History

| Revision | Issue Date | Revisions | Revised By |
|----------|------------|---------------|------------|
| 00 | 2020/5/06 | Initial Issue | Andy Zhang |
| | | | |
| | | | |



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1 General Description

1.1 Applicant

Applicant name Shenzhen Yingdakang Technology CO., LTD
Applicant address Room 8004, B/51, 2nd Dist ,Shangtang Songzi Park, MinZhi ,
Longhua , Shenzhen, China

Manufacturer Shenzhen Yingdakang Technology CO., LTD
address Room 8004, B/51, 2nd Dist ,Shangtang Songzi Park, MinZhi ,
Longhua , Shenzhen, China

1.2 Feature of Equipment Under Test

| GENERAL DESCRIPTION OF EUT | |
|----------------------------|---|
| Product name | Wireless Repeater |
| Model Name | DA213WUS |
| Brand name | N/A |
| Serial No. | DA213WUS, DA213BUS, AC12RP, DWR-C5400R, DWR-C4510R, W120RP, W121RP |
| FCC ID | 2ACSI-DA213WX |
| BAND III | IEEE802.11 n HT20 5745-5825 MHz IEEE802.11 n HT40 5755-5795 MHz IEEE802.11 ac HT20 5745-5825 MHz IEEE802.11 ac HT40 5755-5795 MHz IEEE802.11 ac HT80 5775 MHz |
| Type of Modulation | OFDM (BPSK / QPSK / 16QAM / 64QAM) |
| EUT Stage | Production Unit |
| Operational Mode | Master |
| Antenna Type | Internal antenna |
| Antenna Gain | Antenna 1: 3dBi Antenna 2: 3dBi MIMO: 6.01dBi |

Remark:1.above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

2. This device is not support TPC.

3. We use software to control the auxiliary equipment and EUT transmit the same channel



1.3 Specification of Equipment Under Test

| | |
|-------------------------------|------------------------------------|
| Operational Mode | Master |
| Tx/Rx Channel Frequency Range | 5250MHz~5350MHz&5470MHz~5725MHz |
| Type of Modulation | OFDM (BPSK / QPSK / 16QAM / 64QAM) |

| Frequency Band | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|---------|-------------|---------|-------------|
| 5250-5350 MHz Band 2 (U-NII-2A) | 52 | 5260 | 60 | 5300 |
| | 54 | 5270 | 62 | 5310 |
| | 56 | 5280 | 64 | 5320 |
| | 58 | 5290 | | |

| Frequency Band | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------------------------------------|---------|-------------|---------|-------------|
| 5470-5725 MHz Band 3 (U-NII-2C) | 100 | 5500 | 122 | 5610 |
| | 102 | 5510 | 124 | 5620 |
| | 104 | 5520 | 126 | 5630 |
| | 106 | 5530 | 128 | 5640 |
| | 108 | 5540 | 130 | 5650 |
| | 110 | 5550 | 132 | 5660 |
| | 112 | 5560 | 134 | 5670 |
| | 114 | 5570 | 136 | 5680 |
| | 116 | 5580 | 138 | 5690 |
| | 118 | 5590 | 140 | 5700 |
| | 120 | 5600 | | |

1.4 Conducted Output Power and PSD

| 802.11 Mode | Channel No. | Frequency [MHz] | Conducted Power [dBm] | | EIRP [dBm] | |
|-------------|-------------|-----------------|-----------------------|-------|------------|-------|
| | | | ANT1 | ANT2 | ANT1 | ANT2 |
| n (20MHz) | 149 | 5745 | 10.66 | 12.79 | 13.66 | 15.79 |
| | 157 | 5785 | 12.36 | 12.43 | 15.36 | 15.43 |
| | 165 | 5825 | 9.10 | 11.13 | 12.1 | 14.13 |
| n (40MHz) | 151 | 5755 | 10.90 | 10.89 | 13.9 | 13.89 |
| | 159 | 5795 | 9.03 | 10.64 | 12.03 | 13.64 |
| ac (20MHz) | 149 | 5745 | 11.90 | 11.61 | 14.9 | 14.61 |
| | 157 | 5785 | 10.99 | 11.21 | 13.99 | 14.21 |
| | 165 | 5825 | 10.27 | 10.95 | 13.27 | 13.95 |
| ac(40MHz) | 151 | 5755 | 8.80 | 10.89 | 11.8 | 13.89 |
| | 159 | 5795 | 10.36 | 10.38 | 13.36 | 13.38 |
| ac(80MHz) | 155 | 5775 | 7.11 | 9.68 | 10.11 | 12.68 |

**Power Spectral Density**

| Mode | Channel No. | Frequency [MHz] | Measured PSD[dBm/510KHz] | | Covert PSD [dBm/500KHz] | |
|------------|-------------|-----------------|--------------------------|-------|-------------------------|-------|
| | | | ANT1 | ANT2 | ANT1 | ANT2 |
| n (20MHz) | 149 | 5745 | 8.388 | 7.958 | 8.302 | 7.872 |
| | 157 | 5785 | 8.352 | 8.109 | 8.266 | 8.023 |
| | 165 | 5825 | 7.55 | 7.721 | 7.464 | 7.635 |
| n (40MHz) | 151 | 5755 | 5.947 | 6.312 | 5.861 | 6.226 |
| | 159 | 5795 | 4.56 | 5.732 | 4.474 | 5.646 |
| ac (20MHz) | 149 | 5745 | 8.377 | 7.507 | 8.291 | 7.421 |
| | 157 | 5785 | 8.007 | 7.837 | 7.921 | 7.751 |
| | 165 | 5825 | 7.336 | 7.486 | 7.250 | 7.400 |
| ac (40MHz) | 151 | 5755 | 5.447 | 5.612 | 5.361 | 5.526 |
| | 159 | 5795 | 5.561 | 5.625 | 5.475 | 5.539 |
| ac (80MHz) | 155 | 5775 | 3.342 | 2.497 | 3.256 | 2.411 |

Note: Reference report of test results: HK2004170655-3E

MIMO/CDD Maximum Conducted Output Power

| 802.11 Mode | Channel No. | Freq. [MHz] | MIMO |
|-------------|-------------|-------------|-------|
| n(20MHz) | 149 | 5745 | 14.57 |
| | 157 | 5785 | 15.14 |
| | 165 | 5825 | 13.95 |
| n(40MHz) | 151 | 5755 | 13.88 |
| | 159 | 5795 | 13.16 |
| ac(20MHz) | 149 | 5745 | 14.64 |
| | 157 | 5785 | 13.97 |
| | 165 | 5825 | 13.60 |
| ac(40MHz) | 151 | 5755 | 13.72 |
| | 159 | 5795 | 13.25 |
| ac(80MHz) | 155 | 5775 | 12.15 |

Note: Reference report of test results: HK2004170655-3E



2 Testing site and standards

2.1 Testing Site

| | |
|--------------------|--|
| Test site | Shenzhen Tongzhou Testing Co.,Ltd |
| Test site location | 1th Floor, Building 1, Haomai High-tech Park, Huating Road 387, Dalang Street, Longhua, Shenzhen, China |

2.2 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
- FCC KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02

Remark: All test items were verified and recorded according to the standards and without any deviation during the test



3 Requirements and Parameters for DFS Test

3.1 TEST LIMITS AND RADAR SIGNAL PARAMETERS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 5: Applicability of DFS requirements prior to use a channel

| Requirement | Operational Mode | | |
|---------------------------------|------------------|----------------------|-----------------------------|
| | Master | Client Without Radar | Detection Client With Radar |
| Non-Occupancy Period | Yes | Not required | Yes |
| DFS Detection Threshold | Yes | Not required | Yes |
| Channel Availability Check Time | Yes | Not required | Not required |
| Uniform Spreading | Yes | Not required | Not required |
| U-NII Detection Bandwidth | Yes | Not required | Yes |

Table 6: Applicability of DFS requirements during normal operation.

| Requirement | Operational Mode | | |
|-----------------------------------|------------------|--------------------------------|-----------------------------|
| | Master | Client Without Radar Detection | Client With Radar Detection |
| DFS Detection Threshold | Yes | Not required | Yes |
| Channel Closing Transmission Time | Yes | Yes | Yes |
| Channel Move Time | Yes | Yes | Yes |
| U-NII Detection Bandwidth | Yes | Not required | Yes |
| Client Beacon Test | N/A | Yes | Yes |



3.2 DETECTION THRESHOLD VALUES

Table 7: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection.

| Maximum Transmit Power | Value (see notes 1, 2, and 3) |
|--|-------------------------------|
| EIRP \geq 200 milliwatt | -64 dBm |
| EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz | -62 dBm |
| EIRP < 200 milliwatt that do not meet the power spectral density requirement | -64 dBm |

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

NOTE: The radar Detection Threshold, lowest antenna gain is the parameter of Interference radar DFS detection threshold, The Interference Detection Threshold is the $(-62\text{dBm}) + (0) [\text{dBi}] + 1 \text{ dB} = -61 \text{ dBm}$.

DFS Response Requirement Values

| Parameter | Value |
|-----------------------------------|--|
| Non-occupancy period | Minimum 30 minutes |
| Channel Availability Check Time | 60 seconds |
| Channel Move Time | 10 seconds See Note 1. |
| Channel Closing Transmission Time | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2. |
| U-NII Detection Bandwidth | Minimum 100% of the 99% power bandwidth See Note 3. |

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- *For the Short pulse radar Test Signals this instant is the end of the Burst.
- *For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- *For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any



additional intermittent control signals required to facilitate Channel changes (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.

3.3 PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms

Short Pulse Radar Test Waveforms

| Radar Type | Pulse Width (μsec) | PRI (μsec) | Number of Pulses | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|--|--------------------|--|---|--|--------------------------|
| 0 | 1 | 1428 | 18 | Note1 | Note1 |
| 1 | 1 | Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1usec , excluding PRI values selected in Test A | $\text{Roundup} \left\{ \left(\frac{1}{360} \right), \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$ | 60% | 30 |
| 2 | 1-5 | 150-230 | 23-29 | 60% | 30 |
| 3 | 6-10 | 200-500 | 16-18 | 60% | 30 |
| 4 | 11-20 | 200-500 | 12-16 | 60% | 30 |
| Aggregate (Radar Types 1-4) | | | - | 80% | 120 |
| Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. | | | | | |

Long Pulse Radar Test Waveform

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

Frequency Hopping Radar Test Waveform

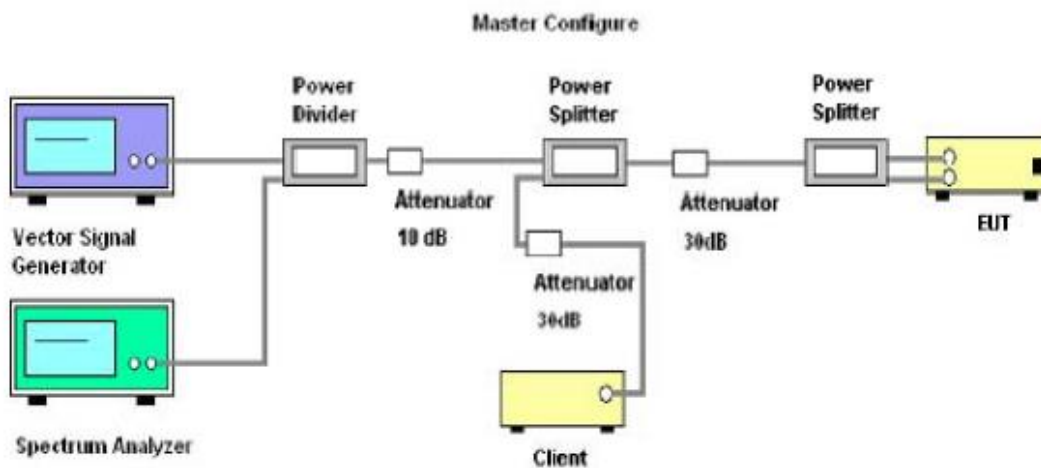
| Radar Type | Pulse Width (μsec) | Chirp Width (MHz) | PRI (μsec) | Number of Pulses per Burst | Number of Bursts | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|-------------------|------------|----------------------------|------------------|--|--------------------------|
| 6 | 1 | 333 | 9 | 0.333 | 300 | 70% | 30 |

4 Calibration Setup and DFS Test Results

4.1 DFS measurement system

A complete ADT DFS Measurement System consists of two subsystems: (1) the Radar Signal Generating Subsystem and (2) the Traffic Monitoring Subsystem. The control PC is necessary for generating the Radar waveforms in Table 10, 11 and 12. The traffic monitoring subsystem is specified to the type of unit under test (UUT).

Master conducted measurement



System overview



The short pulse and long pulse signal generating system utilizes the NTIA software. The vector signal generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by DOD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2.3 and 4 and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point is randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96. The frequency of the signal generator is incremented in 1 MHz steps from FL to FH for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer set to display 8001 bins on the horizontal axis. The time-domain resolution is 2 msec / bin with a 16 second sweep time, meeting the 10 second 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 and max hold.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), additional combiner/dividers are inserted between the Master Combiner/Divider and the pad connected to the Master Device (and/or between the Slave Combiner/Divider and the pad connected to the Slave Device). Additional pads are utilized such that there is one pad at each RF port on each EUT.

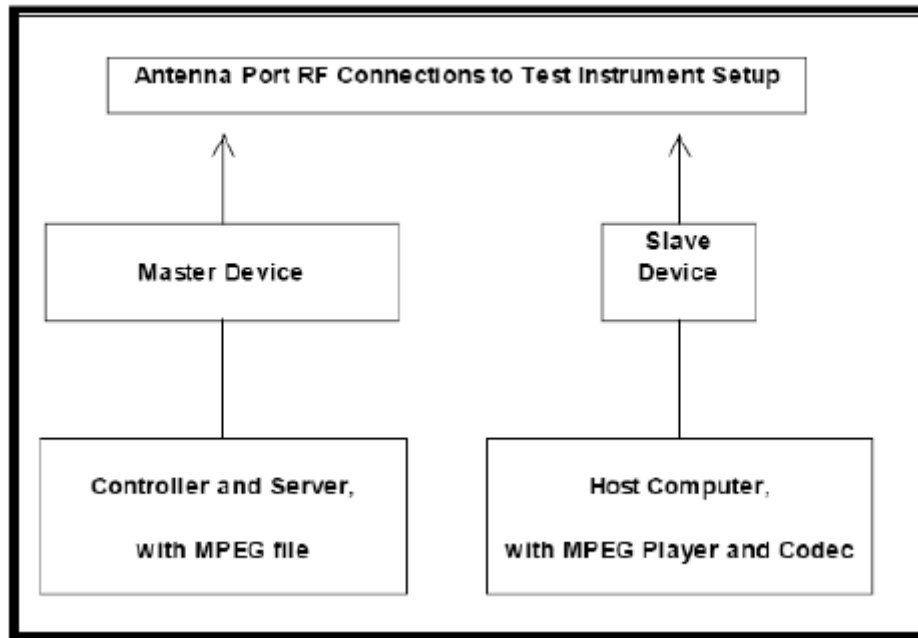
CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:

A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of -62 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from -62 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of -62 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level 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.



4.2 Calibration Deviation

There is no deviation with the standard

4.3 TEST RESULTS

| Test Parameter | Remarks | Pass/Fail |
|-----------------------------------|------------|-----------|
| DFS Detection Threshold | Applicable | Pass |
| Channel Availability Check Time | Applicable | Pass |
| Channel Move Time | Applicable | Pass |
| Channel Closing Transmission Time | Applicable | Pass |
| Non- Occupancy Period | Applicable | Pass |
| Uniform Spreading | Applicable | Pass |
| U-NII Detection Bandwidth | Applicable | Pass |



4.4 TEST MODE

Device operating in master mode

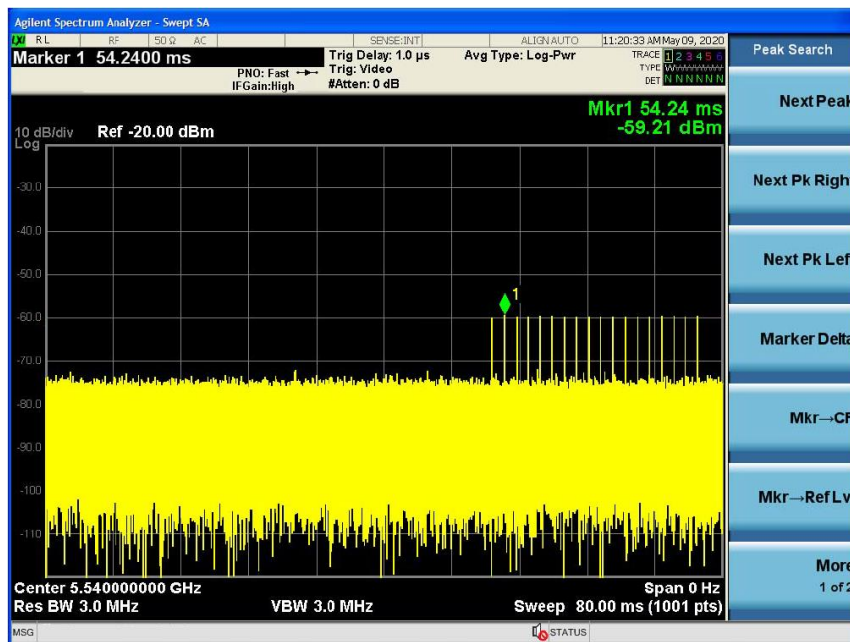
Master with injection at the Master. (Radar Test Waveforms are injected into the Master)

Calibration:

For a detection threshold level of -62dBm and the EUT antenna gain is 3dBi, required detection threshold is -59dBm (= -62+3)

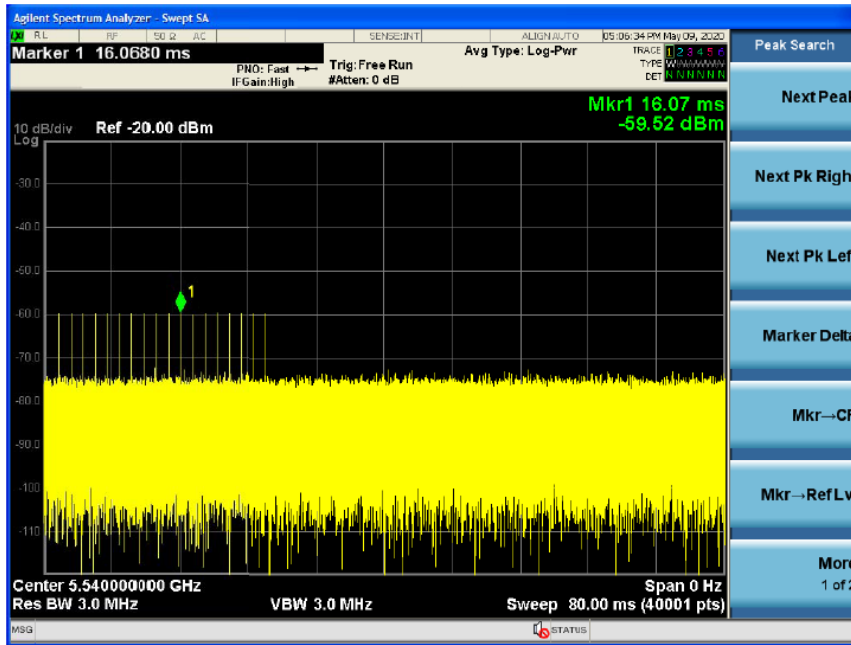
Radar Waveform Calibration Result

Radar Signal 0

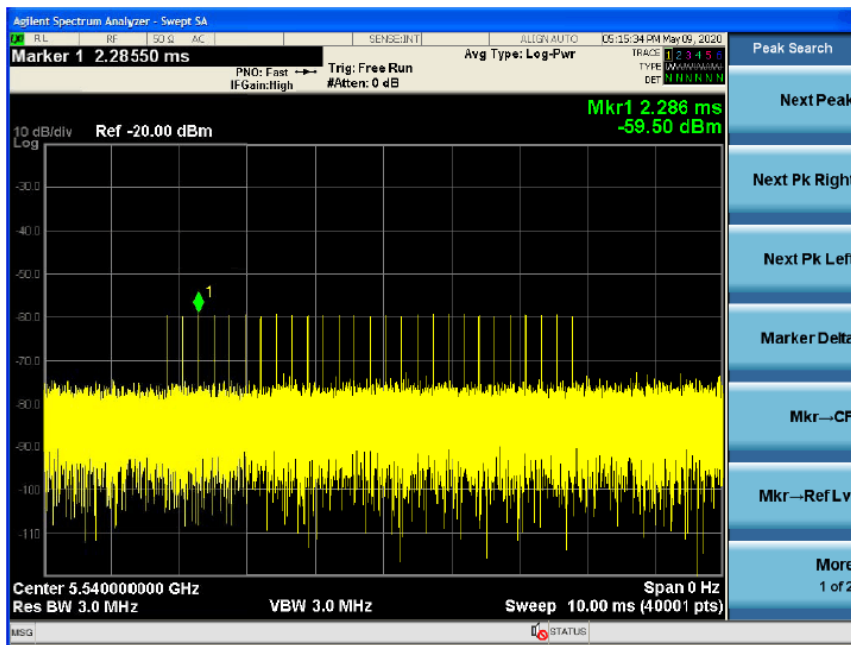




Radar Signal 1

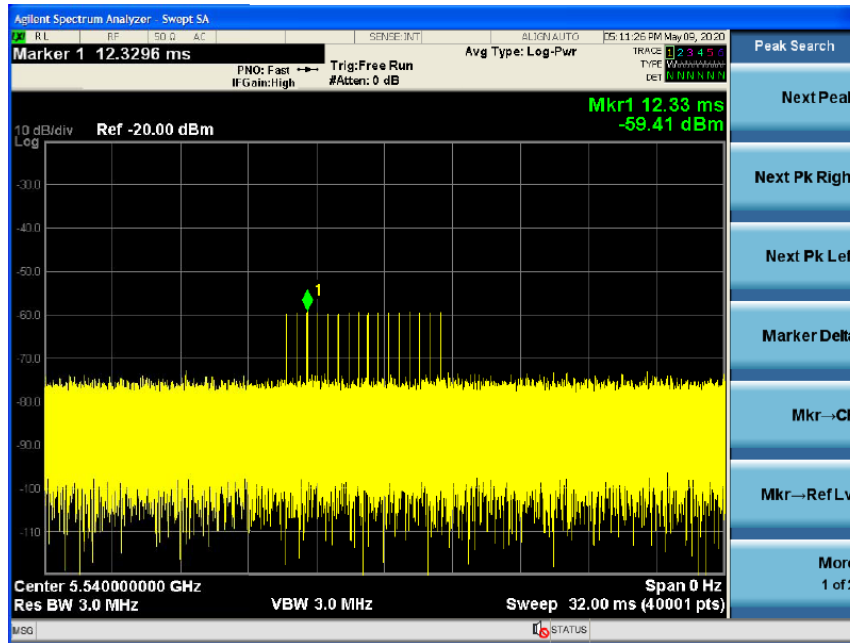


Radar Signal 2

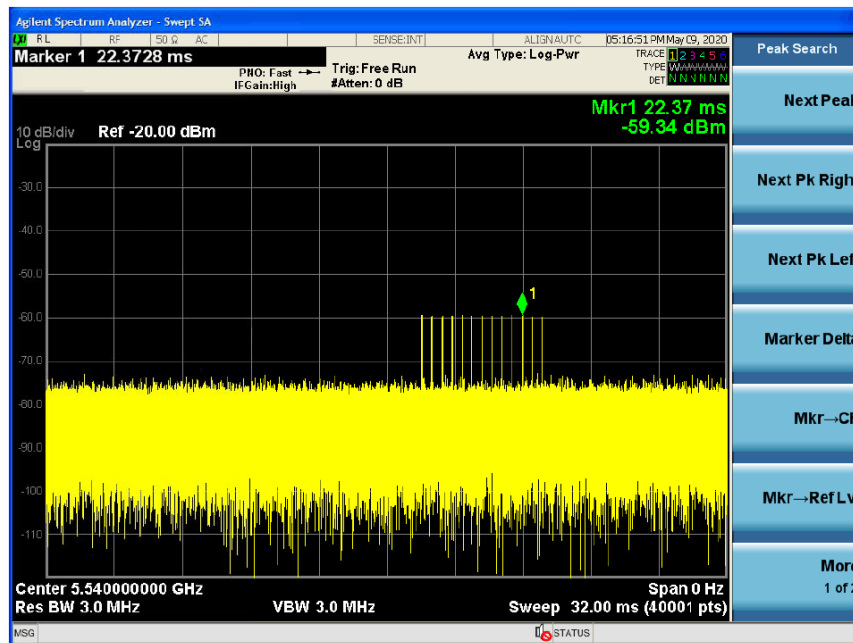




Radar Signal 3

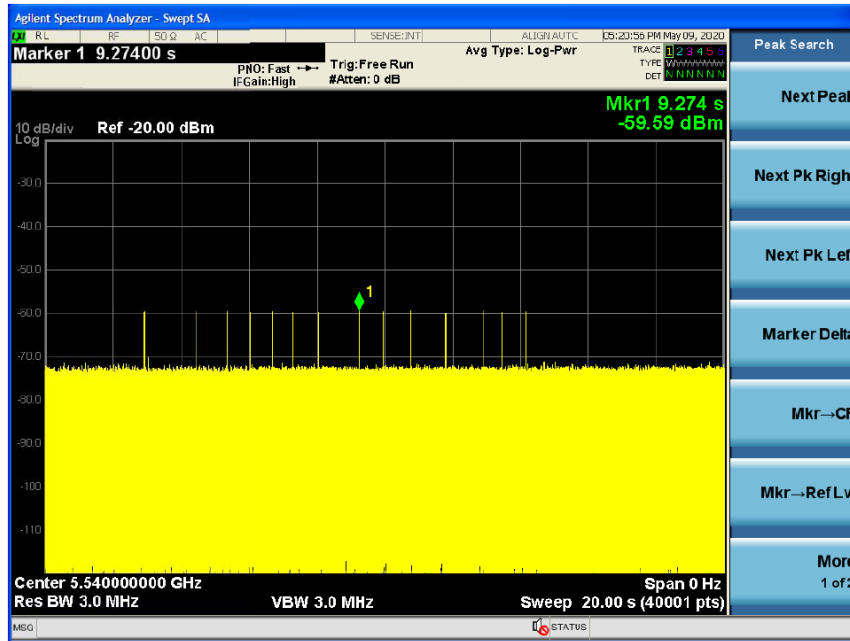


Radar Signal 4

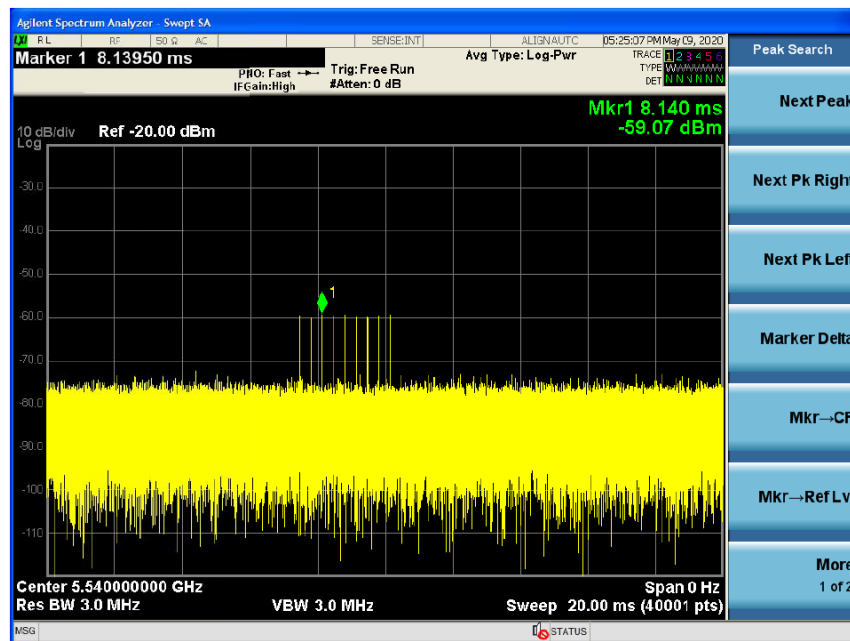




Radar Signal 5



Radar Signal 6



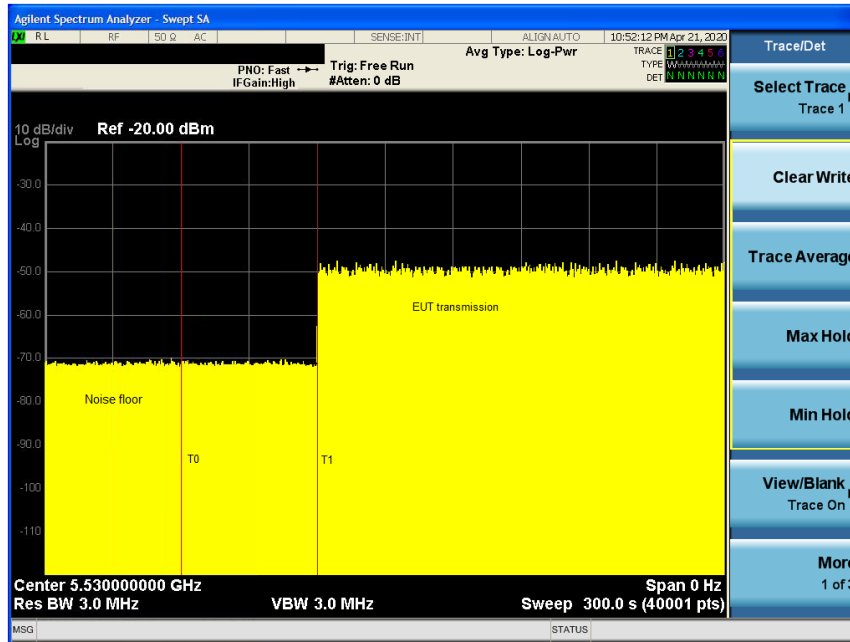


4.4 CHANNEL AVAILABILITY CHECK TIME

If the EUT successfully detected the radar burst, it should be observed as the EUT has no transmissions occurred until the EUT starts transmitting on another channel.

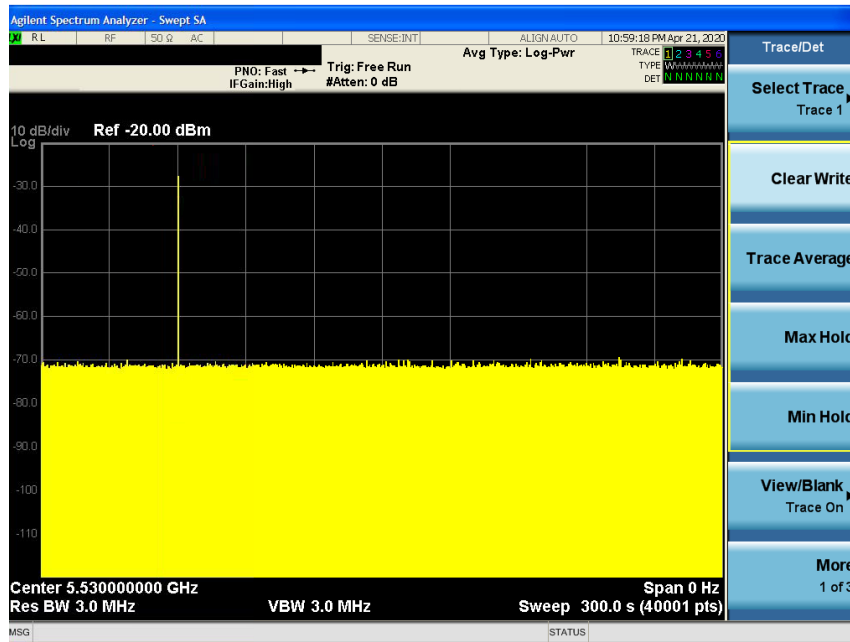
| | |
|-----------------|---------|
| Modulation Mode | Fre. |
| 802.11 ac80 | 5530MHz |

Initial Channel Availability Check Time(Radar test signal: N/A)



NOTE: The EUT do not transmit any beacon or data transmissions until at least 60s after the completion of the power-on cycle. The initial Check Time of the EUT is indicated by T0, initial beacons/data transmissions are indicated by T1

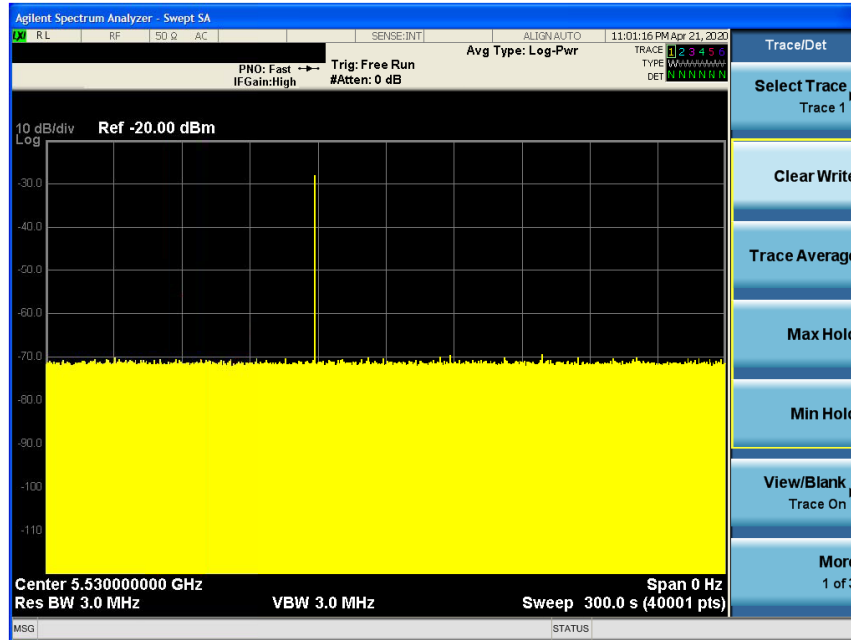
Beginning of the Channel Availability Check Time (Radar test signal: Type 0)





NOTE:visual indication on the EUT of successful detection of the radar burst will be recorded and reported. Observation of emission will continue for 240 seconds after the radar burst has been generated.verify that during the 300 seconds measurement without no EUT transmission occurred.

end of the Channel Availability Check Time (Radar test signal: Type 0)



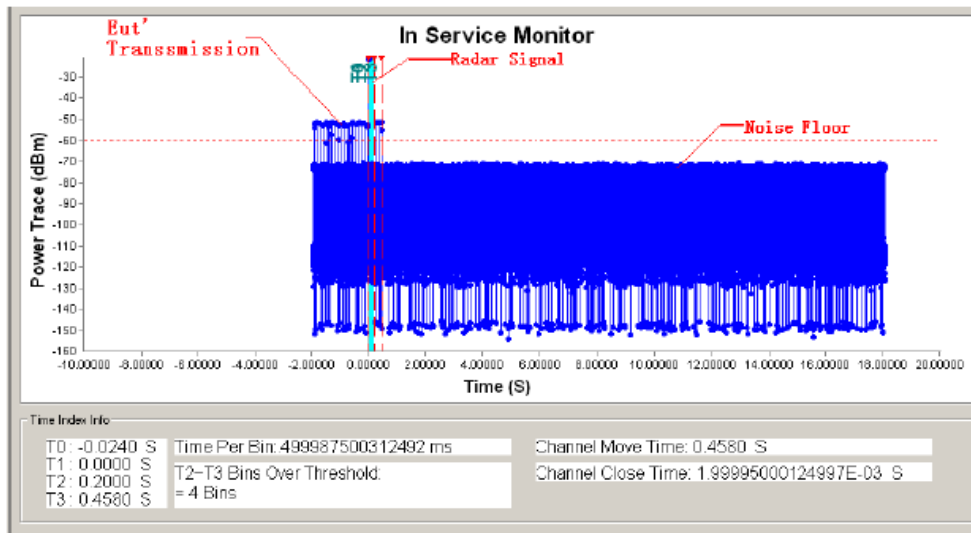
NOTE: visual indication on the EUT of successful detection of the radar burst will be recorded and reported. Observation of emission will continue for 198 seconds after the radar burst has been generated.verify that during the 300 seconds measurement without no EUT transmission occurred.



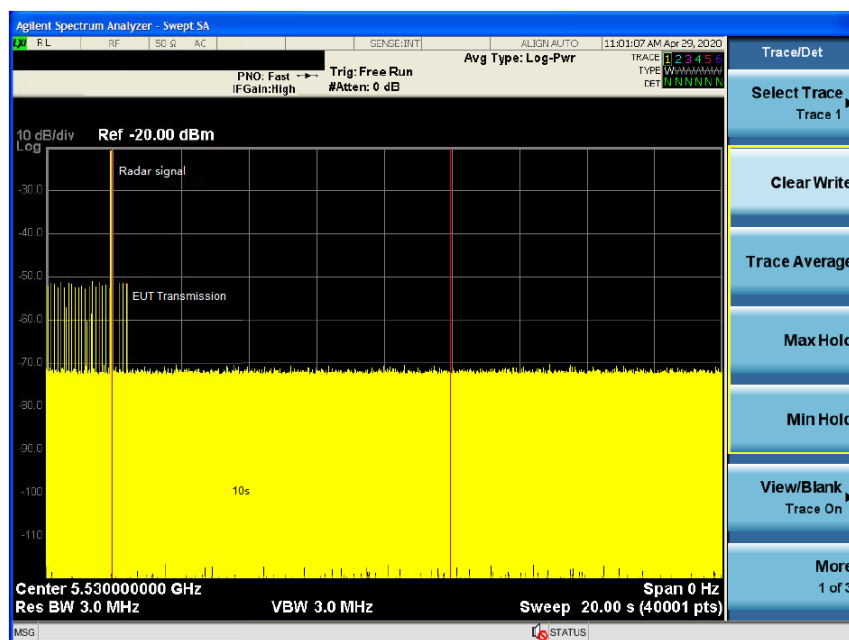
TEST RESULT OF MOVE TIME

802.11 ac80 mode

| Parameter | Test result | Limit |
|--------------------------|-------------|-------|
| | Type 0 | |
| Test channel | 5530MHz | - |
| Channel move time(s) | 0.458 | < 10s |
| Channel closing time(ms) | 1.999 | 260ms |



Note: T0 denotes the start of Channel Move Time upon the end of the last Radar burst.
 T1 denotes the data transmission time of 200ms from T0.
 T2 denotes the end of Channel Move Time.
 T3 denotes the 10 second from T0 to observe the aggregate duration of transmissions.





PERFORMANCE CHECK

CHECK LIMIT:

| Radar Type | Minimum Percentage of Successful Detection (Pd) | Minimum Trials |
|-----------------------------|---|----------------|
| 1 | 60% | 30 |
| 2 | 60% | 30 |
| 3 | 60% | 30 |
| 4 | 60% | 30 |
| Aggregate (Radar Types 1-4) | 80% | 120 |
| 5 | 80% | 30 |
| 6 | 70% | 30 |

The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrails}} \times 100 = \text{Probability of Detection Radar Waveform}$$

In addition an aggregate minimum percentage of successful detection across all Short Pulse Radar Types 1-4 is required and is calculated as follows:

$$\frac{Pd1 + Pd2 + Pd3 + Pd4}{4}$$

TEST PROCEDURES

| Test Method |
|---|
| <input checked="" type="checkbox"/> For Statistical Performance Check test. Demonstrating a minimum channel loading of approximately 17% or greater of the test. Observe the transmissions of the UUT 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. Then Observe the transmissions of the UUT 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. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs. |

802.11 AC80



| Radar1 Statical Performances | | | | |
|------------------------------|-----------------|-----------------|---------|---------------------|
| Trial # | Pluse per Burst | Pluse Width(us) | PRI(us) | Detection(Yes / No) |
| 1 | 18 | 1.0u | 1.428 | YES |
| 2 | 18 | 1.0u | 1.428 | YES |
| 3 | 18 | 1.0u | 1.428 | YES |
| 4 | 18 | 1.0u | 1.428 | YES |
| 5 | 18 | 1.0u | 1.428 | YES |
| 6 | 18 | 1.0u | 1.428 | YES |
| 7 | 18 | 1.0u | 1.428 | YES |
| 8 | 18 | 1.0u | 1.428 | YES |
| 9 | 18 | 1.0u | 1.428 | YES |
| 10 | 18 | 1.0u | 1.428 | YES |
| 11 | 18 | 1.0u | 1.428 | YES |
| 12 | 18 | 1.0u | 1.428 | YES |
| 13 | 18 | 1.0u | 1.428 | YES |
| 14 | 18 | 1.0u | 1.428 | YES |
| 15 | 18 | 1.0u | 1.428 | YES |
| 16 | 18 | 1.0u | 1.428 | YES |
| 17 | 18 | 1.0u | 1.428 | YES |
| 18 | 18 | 1.0u | 1.428 | YES |
| 19 | 18 | 1.0u | 1.428 | YES |
| 20 | 18 | 1.0u | 1.428 | YES |
| 21 | 18 | 1.0u | 1.428 | YES |
| 22 | 18 | 1.0u | 1.428 | YES |
| 23 | 18 | 1.0u | 1.428 | YES |
| 24 | 18 | 1.0u | 1.428 | YES |
| 25 | 18 | 1.0u | 1.428 | YES |
| 26 | 18 | 1.0u | 1.428 | YES |
| 27 | 18 | 1.0u | 1.428 | YES |
| 28 | 18 | 1.0u | 1.428 | YES |
| 29 | 18 | 1.0u | 1.428 | YES |
| 30 | 18 | 1.0u | 1.428 | YES |
| Detection Rate 100% | | | | |



| Radar2 Statical Performances | | | | |
|------------------------------|-----------------|-----------------|---------|---------------------|
| Trial # | Pluse per Burst | Pluse Width(us) | PRI(us) | Detection(Yes / No) |
| 1 | 23 | 1.2u | 207 | YES |
| 2 | 23 | 1.4u | 158 | YES |
| 3 | 25 | 1.5u | 208 | YES |
| 4 | 26 | 2.6u | 160 | YES |
| 5 | 24 | 2.2u | 184 | YES |
| 6 | 27 | 1.3u | 186 | YES |
| 7 | 27 | 3.2u | 221 | YES |
| 8 | 26 | 4.3u | 227 | YES |
| 9 | 26 | 3.1u | 169 | YES |
| 10 | 26 | 3.1u | 169 | YES |
| 11 | 25 | 2.2u | 208 | YES |
| 12 | 27 | 1.3u | 220 | YES |
| 13 | 28 | 1.4u | 168 | YES |
| 14 | 25 | 4.5u | 209 | YES |
| 15 | 24 | 3.3u | 204 | YES |
| 16 | 23 | 2.4u | 229 | YES |
| 17 | 27 | 3.8u | 224 | YES |
| 18 | 23 | 1.4u | 158 | YES |
| 19 | 27 | 1.3u | 186 | YES |
| 20 | 28 | 1.4u | 172 | YES |
| 21 | 28 | 4.5u | 170 | YES |
| 22 | 29 | 2.7u | 221 | YES |
| 23 | 27 | 2.9u | 203 | YES |
| 24 | 24 | 1.8u | 190 | YES |
| 25 | 27 | 3.8u | 224 | YES |
| 26 | 23 | 1.2u | 207 | YES |
| 27 | 23 | 1.4u | 158 | YES |
| 28 | 25 | 1.5u | 208 | YES |
| 29 | 26 | 2.6u | 160 | YES |
| 30 | 24 | 2.2u | 184 | YES |
| Detection Rate 100% | | | | |



| Radar3 Static Performances | | | | |
|----------------------------|-----------------|----------------|---------|---------------------|
| Trial # | Pluse per Burst | Pluse Width(s) | PRI(us) | Detection(Yes / No) |
| 1 | 16 | 9.9u | 481 | YES |
| 2 | 17 | 8.5u | 436 | YES |
| 3 | 17 | 8.0u | 447 | YES |
| 4 | 18 | 8.6u | 410 | YES |
| 5 | 18 | 8.8u | 409 | YES |
| 6 | 16 | 7.6u | 398 | YES |
| 7 | 16 | 7.9u | 364 | YES |
| 8 | 16 | 9.0u | 398 | YES |
| 9 | 17 | 9.5u | 364 | YES |
| 10 | 17 | 6.6u | 369 | YES |
| 11 | 16 | 8.8u | 258 | YES |
| 12 | 16 | 9.5u | 477 | YES |
| 13 | 18 | 9.8u | 206 | YES |
| 14 | 18 | 8.6u | 213 | YES |
| 15 | 16 | 8.0u | 366 | YES |
| 16 | 18 | 9.9u | 260 | YES |
| 17 | 16 | 8.5u | 269 | NO |
| 18 | 17 | 8.0u | 431 | YES |
| 19 | 18 | 9.6u | 330 | YES |
| 20 | 18 | 6.0u | 440 | YES |
| 21 | 18 | 8.6u | 300 | YES |
| 22 | 18 | 8.2u | 336 | YES |
| 23 | 17 | 8.7u | 328 | YES |
| 24 | 18 | 9.0u | 408 | YES |
| 25 | 16 | 9.8u | 492 | YES |
| 26 | 18 | 9.5u | 463 | YES |
| 27 | 17 | 9.8u | 445 | YES |
| 28 | 16 | 8.6u | 442 | YES |
| 29 | 16 | 8.2u | 405 | YES |
| 30 | 18 | 8.7u | 409 | YES |
| Detection Rate 97% | | | | |



| Radar4 Statical Performances | | | | |
|------------------------------|-----------------|-----------------|---------|---------------------|
| Trial # | Pluse per Burst | Pluse Width(us) | PRI(us) | Detection(Yes / No) |
| 1 | 13 | 13.9u | 409 | YES |
| 2 | 15 | 18.0u | 477 | YES |
| 3 | 16 | 13.2u | 206 | YES |
| 4 | 12 | 12.0u | 206 | YES |
| 5 | 13 | 12.0u | 213 | YES |
| 6 | 13 | 13.8u | 482 | YES |
| 7 | 13 | 14.9u | 436 | NO |
| 8 | 12 | 12.7u | 330 | YES |
| 9 | 14 | 12.0u | 335 | YES |
| 10 | 15 | 13.8u | 328 | YES |
| 11 | 15 | 14.9u | 445 | YES |
| 12 | 13 | 19.8u | 442 | YES |
| 13 | 15 | 14.6u | 405 | YES |
| 14 | 13 | 19.3u | 405 | YES |
| 15 | 16 | 18.2u | 409 | YES |
| 16 | 16 | 15.3u | 481 | NO |
| 17 | 14 | 19.0u | 492 | YES |
| 18 | 14 | 13.8u | 463 | YES |
| 19 | 13 | 14.9u | 445 | YES |
| 20 | 16 | 15.8u | 442 | YES |
| 21 | 15 | 15.8u | 447 | YES |
| 22 | 15 | 14.6u | 258 | YES |
| 23 | 14 | 13.9u | 270 | YES |
| 24 | 14 | 16.5u | 441 | YES |
| 25 | 15 | 14.0u | 332 | YES |
| 26 | 16 | 15.6u | 478 | YES |
| 27 | 12 | 17.0u | 442 | YES |
| 28 | 16 | 19.6u | 405 | YES |
| 29 | 12 | 13.9u | 334 | YES |
| 30 | 14 | 17.0u | 470 | YES |
| Detection Rate 93% | | | | |



| Radar5 Statical Performances | | |
|------------------------------|------------------|---------------------|
| Trial # | Test Signal name | Detection(Yes / No) |
| 1 | LP_Signal_01 | Yes |
| 2 | LP_Signal_02 | Yes |
| 3 | LP_Signal_03 | Yes |
| 4 | LP_Signal_04 | Yes |
| 5 | LP_Signal_05 | Yes |
| 6 | LP_Signal_06 | Yes |
| 7 | LP_Signal_07 | Yes |
| 8 | LP_Signal_08 | Yes |
| 9 | LP_Signal_09 | Yes |
| 10 | LP_Signal_10 | Yes |
| 11 | LP_Signal_11 | Yes |
| 12 | LP_Signal_12 | Yes |
| 13 | LP_Signal_13 | Yes |
| 14 | LP_Signal_14 | Yes |
| 15 | LP_Signal_15 | Yes |
| 16 | LP_Signal_16 | Yes |
| 17 | LP_Signal_17 | Yes |
| 18 | LP_Signal_18 | Yes |
| 19 | LP_Signal_19 | Yes |
| 20 | LP_Signal_20 | Yes |
| 21 | LP_Signal_21 | Yes |
| 22 | LP_Signal_22 | Yes |
| 23 | LP_Signal_23 | Yes |
| 24 | LP_Signal_24 | Yes |
| 25 | LP_Signal_25 | Yes |
| 26 | LP_Signal_26 | Yes |
| 27 | LP_Signal_27 | Yes |
| 28 | LP_Signal_28 | Yes |
| 29 | LP_Signal_29 | Yes |
| 30 | LP_Signal_30 | Yes |
| Detection Rate 100% | | |



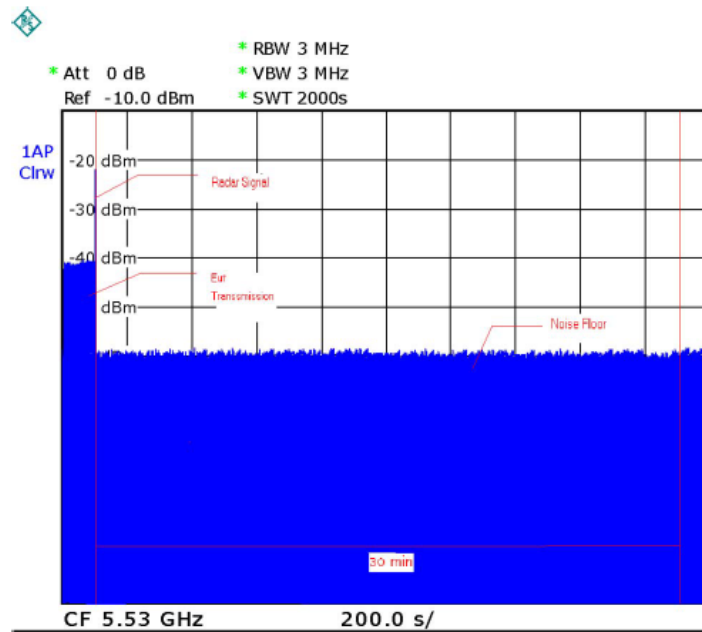
| Radar6 Statical Performances | | |
|------------------------------|--------------------------------|---------------------|
| Trial # | Hoping Frequency Sequence Name | Detection(Yes / No) |
| 1 | HOP_FREQ_SEQ_01 | Yes |
| 2 | HOP_FREQ_SEQ_02 | Yes |
| 3 | HOP_FREQ_SEQ_03 | Yes |
| 4 | HOP_FREQ_SEQ_04 | Yes |
| 5 | HOP_FREQ_SEQ_05 | Yes |
| 6 | HOP_FREQ_SEQ_06 | Yes |
| 7 | HOP_FREQ_SEQ_07 | Yes |
| 8 | HOP_FREQ_SEQ_08 | Yes |
| 9 | HOP_FREQ_SEQ_09 | Yes |
| 10 | HOP_FREQ_SEQ_10 | Yes |
| 11 | HOP_FREQ_SEQ_11 | Yes |
| 12 | HOP_FREQ_SEQ_12 | Yes |
| 13 | HOP_FREQ_SEQ_13 | Yes |
| 14 | HOP_FREQ_SEQ_14 | Yes |
| 15 | HOP_FREQ_SEQ_15 | Yes |
| 16 | HOP_FREQ_SEQ_16 | Yes |
| 17 | HOP_FREQ_SEQ_17 | Yes |
| 18 | HOP_FREQ_SEQ_18 | Yes |
| 19 | HOP_FREQ_SEQ_19 | Yes |
| 20 | HOP_FREQ_SEQ_20 | Yes |
| 21 | HOP_FREQ_SEQ_21 | Yes |
| 22 | HOP_FREQ_SEQ_22 | Yes |
| 23 | HOP_FREQ_SEQ_23 | Yes |
| 24 | HOP_FREQ_SEQ_24 | Yes |
| 25 | HOP_FREQ_SEQ_25 | Yes |
| 26 | HOP_FREQ_SEQ_26 | Yes |
| 27 | HOP_FREQ_SEQ_27 | Yes |
| 28 | HOP_FREQ_SEQ_28 | Yes |
| 29 | HOP_FREQ_SEQ_29 | Yes |
| 30 | HOP_FREQ_SEQ_30 | Yes |
| Detection Rate 100% | | |



4.6 NON- OCCUPANCY PERIOD

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring

TX – 802.11ac80 mode



Test Result Table
BAND 2A:

| FRE. | 5260MHz (BW=20MHz) | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|----|--------------------|
| Test result | PASS | | | | | | | | | | |
| Radar Fre. | DFS Detection Trials(1- Detection; 0- no Detection) | | | | | | | | | | Detection Rate (%) |
| MHz | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 5249 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 60 |
| 5250 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5251 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5252 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5253 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5254 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5255 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5256 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5257 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5258 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 5259 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5260 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5261 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5262 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5263 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5264 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5265 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5266 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5267 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5268 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5269 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5270 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5271 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 60 |



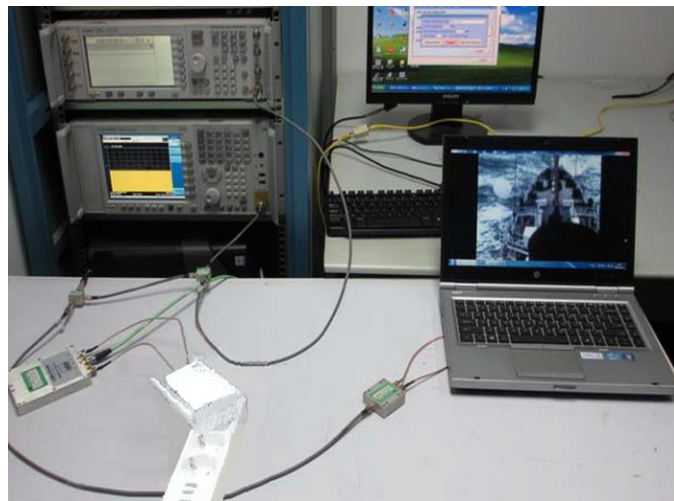
BAND 2C:

| | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|----|--------------------|
| FRE. | 5540MHz (BW=20MHz) | | | | | | | | | | |
| Test result | PASS | | | | | | | | | | |
| Radar Fre. | DFS Detection Trials(1- Detection; 0- no Detection) | | | | | | | | | | Detection Rate (%) |
| MHz | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 5529 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 50 |
| 5530(FL) | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 50 |
| 5531 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5532 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5533 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5534 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5535 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5536 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5537 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5538 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5539 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5540 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5541 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5542 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5543 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5544 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5545 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5546 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5547 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5548 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5549 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5550(FH) | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 40 |
| 5551 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 50 |



| | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|-----|
| 5564 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5565 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5566 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5567 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5568 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5569 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5570(FH) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 100 |
| 5571 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 20 |

TEST SETUP



*******END OF REPORT*******