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| <p>MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd, Plot 2A Medan Bayan Lepas, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.</p> | <p>FCC Part 15 Subpart E, 15.407</p> <p>Report Revision : Rev.C Report ID : 0680N01-RF-00009 Service Request ID : 0680N01</p> |
| <p>Date/s Tested : 08-August-2024 – 09-August-2024 Manufacturer/Location : Motorola Solutions Malaysia Sdn Bhd Manufacturer Address : Plot 2A Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia Requestor : DANESHKUMAR A/L R THAYAPARAN Product Type : Portable Tested Basic Function : Transmit / Receive Product Marketing Name (PMN) : R5 Hardware Version Identification Number (HVIN) : AAH07JDH9SA1AN Frequency Band : 5180-5320MHz; 5500-5825MHz Max RF Output Power : 63.1mW Applicant Name : Motorola Solutions Inc Applicant Address : Plot 2A Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia FCC Registrations : 461337 ISED Registrations : MY0001 Firmware Version Identification Number (FVIN) : B02.25.01.0019</p> <p>The equipment was tested to the standard(s) listed below with the following result :</p> <p>- FCC Part 15 Subpart E 15.407 PASS ISED RSS-247, Issue 2</p> | |
| <p>This report shall not be reproduced without written approval from an officially designated representative of the Motorola Penang Adv. Comm. Laboratory. The results and statements contained in this report pertain only to the device(s) evaluated.</p> | |
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REVISION HISTORY

| Revision History | Description | Date | Originator |
|-------------------------|---|-------------------|-------------------|
| Rev. A | Initial report | 11-September-2024 | Alieya |
| Rev. B | Updated EIRP calculation and antenna gain | 4-October-2024 | Vincent |
| Rev. C | Updated antenna gain | 10-October-2024 | Vincent |

1. Introduction and Overview

This report details the utilization, technical data of device under test, test equipment, and test results of the measurements performed at the Motorola Penang Advanced Communication Laboratory in accordance to the standards specified on page 1.

This test report is only valid in its original form.

The test results herein refer only to the tested sample. Motorola Penang Advanced Communication Laboratory is not responsible for any generalizations or conclusions drawn from these test results and concerning further samples.

2. Test Laboratory Status

Motorola Penang Advanced Communication Laboratory is an ISO/IEC17025:2005 accredited laboratory. The laboratory was accredited by SAMM, with SAMM Cert No #0825

3. Test Environmental Conditions

3.1. Temperature and Humidity

| Ambient Temperature | Rel. Air Humidity |
|---------------------|-------------------|
| 15 °C to 35 °C | 20 %RH to 75%RH |

3.2. Tolerance

| Chamber Temperature Tolerance | Chamber Humidity Tolerance |
|-------------------------------|----------------------------|
| ± 0.3 °C | ± 3 % |

3.3. Measurement Uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96

4. Test Results Summary

The table below summarizes the test results for the test completed. For detailed test data, refer to section 7.

| Section | Test Parameters | Results | Serial number |
|---------|---|---------|---------------|
| 7.1.1 | FCC Part 15.407 / RSS-247 Non Occupancy Period | PASS | 651EAK0146 |
| 7.1.2 | FCC Part 15.407 / RSS-247 Channel Move Time | PASS | 651EAK0146 |
| 7.1.3 | FCC Part 15.407 / RSS-247 Channel Closing Transmission Time | PASS | 651EAK0146 |

NOTE:
NA → Not Applicable

5. Technical Data of Device Under Test

5.1. Operating Frequency Bands and Mode of EUT

| Operational Mode | Operating Frequency Range | |
|--|---------------------------|--------------|
| | 5250-5350MHz | 5470-5725MHz |
| Client without radar detection and ad hoc function | Yes | Yes |

5.2. List of antennas and their corresponding gains

| Antenna # | Type | Frequency Range | Max Gain (dBi) |
|-----------|------|-----------------|----------------|
| 1 | PIFA | 5250-5350MHz | 6.0 |
| | | 5470-5725MHz | |

5.3. Modifications and deviation from standard

There is no deviation between the test carried out compared to the standard test method

5.4. EUT Maximum Output Power

802.11a

| Antenna # | Frequency Range | Output Power (dBm) | Max EIRP including duty cycle correction |
|-----------|-----------------|--------------------|--|
| 1 | 5250-5350MHz | 17.624 | 23.624 |
| | 5470-5725MHz | 14.162 | 20.162 |

802.11n (20MHz)

| Antenna # | Frequency Range | Output Power (dBm) | Max EIRP including duty cycle correction |
|-----------|-----------------|--------------------|--|
| 1 | 5250-5350MHz | 17.914 | 23.914 |
| | 5470-5725MHz | 14.413 | 20.413 |

5.5. Channel loading messages or sequences

Channel loading was achieved by using iPerf software to control throughput.

5.6. Transmit Power Control (TPC)

U-NII devices operating in the 5.25-5.35GHz band and the 5.47-5.725GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6dB below the EIRP value of 30dBm. A TPC mechanism is not required for systems with an EIRP of less than 500mW.

Maximum EIRP for this device is 23.914 dBm which is 246.26 mW, therefore TPC is not required.

5.7. Time required for master or client device to complete power cycle

The master device took 1 minute and 15 seconds to complete its power cycle. The client device does not have radar detection and therefore its power on time is not applicable.

5.8. System Architecture

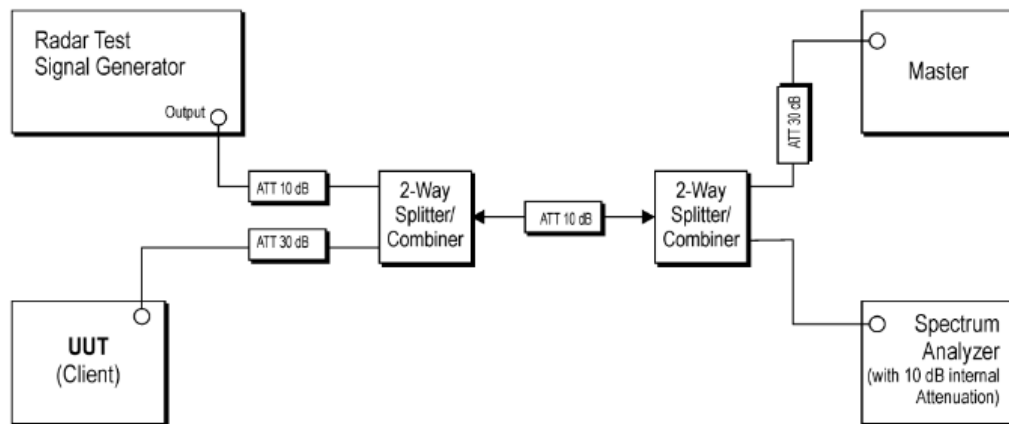
The EUT utilizes IP based system architecture

5.9. Master device identification

The DFS compliant master device used for testing was a Linksys WRT3200ACM with serial number 19810605700081, and FCC ID Q87-WRT3200ACM and IC ID 3839A-WRT3200ACM

6. Test setup and list of equipment

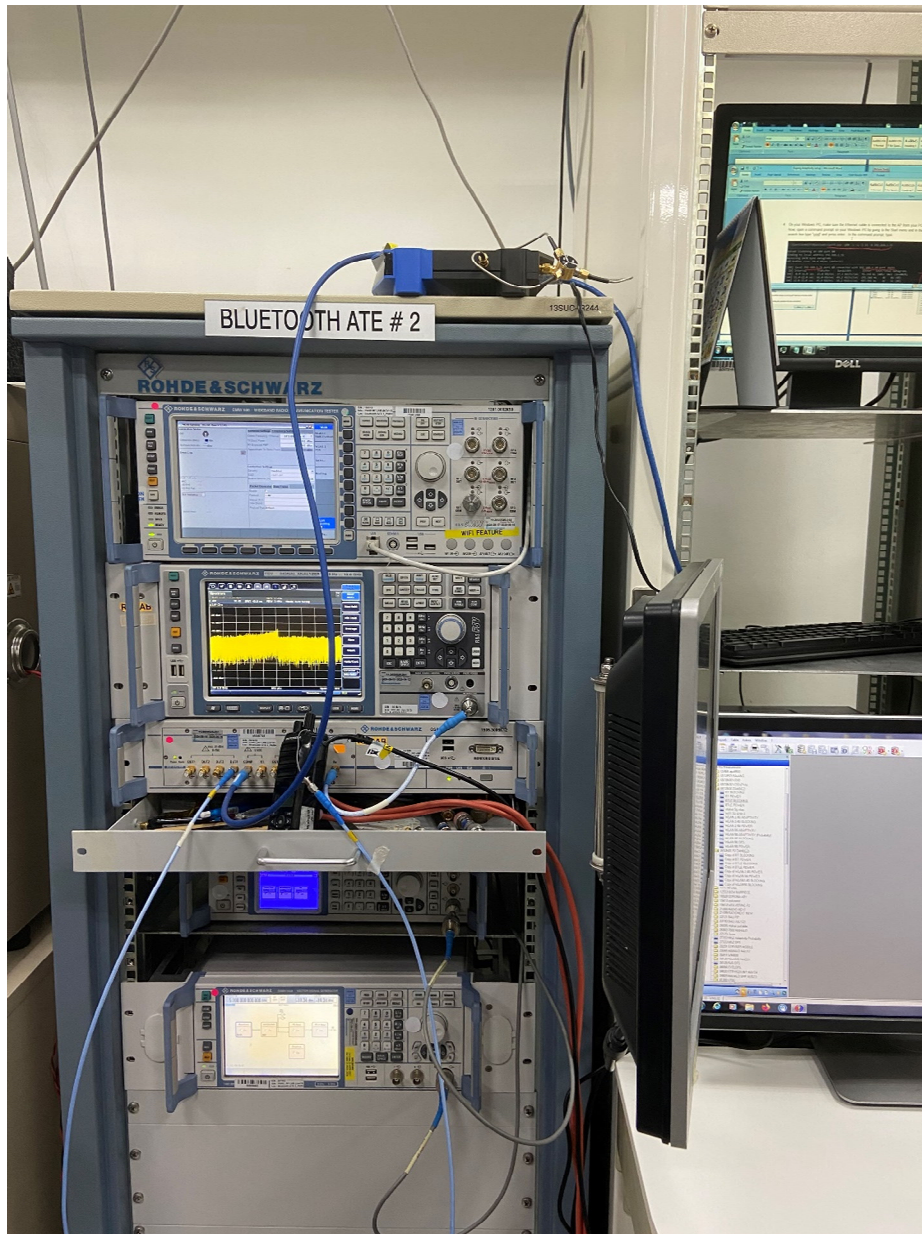
6.1. Setup block diagram



6.2. List of Equipment

| Description | Model # | Serial Number | Calibration Date | Calibration Due Date |
|-------------------------------------|------------|---------------|------------------|----------------------|
| SIGNAL ANALYZER | FSV | 101515 | 04-Nov-23 | 04-Nov-24 |
| BASIC 8-CHANNEL SWITCH MODULE | OSP-B157W8 | 101073 | 09-Nov-23 | 09-Nov-24 |
| VECTOR SIGNAL GENERATOR | SMBV100A | 261962 | 21-Nov-21 | 21-Nov-24 |
| CHAMBER | SH-641 | 92002651 | 13-Feb-24 | 13-Feb-25 |
| SIGNAL GENERATOR | SMB100A | 177677 | 04-Nov-21 | 04-Nov-24 |
| WIDEBAND RADIO COMMUNICATION TESTER | CMW500 | 154549 | 14-Nov-23 | 14-Nov-24 |
| POWER SUPPLY | 6033A | 3506A08076 | 05-Jan-24 | 05-Jan-25 |
| OPEN SWITCH & CONTROL UNIT | OSP120 | 101256 | NA | NA |

6.3. Test Setup Photos



7. Test Requirements

7.1. DFS Requirements / Limits

| Requirement | Limit |
|-----------------------------------|---|
| Channel Move Time | 10 seconds |
| Channel Closing Transmission Time | 200ms + an aggregate 60ms over following 10 seconds |
| Non-Occupancy Period | 30 minutes |

7.2. DFS Detection Threshold

The calibrated conducted DFS detection threshold level was set at -63 dBm. This level exceeds the specification for the stipulated detection level of -64dBm and ensures there is margin to the limit to ensure successful detection.

8. Test Procedure and Test Data

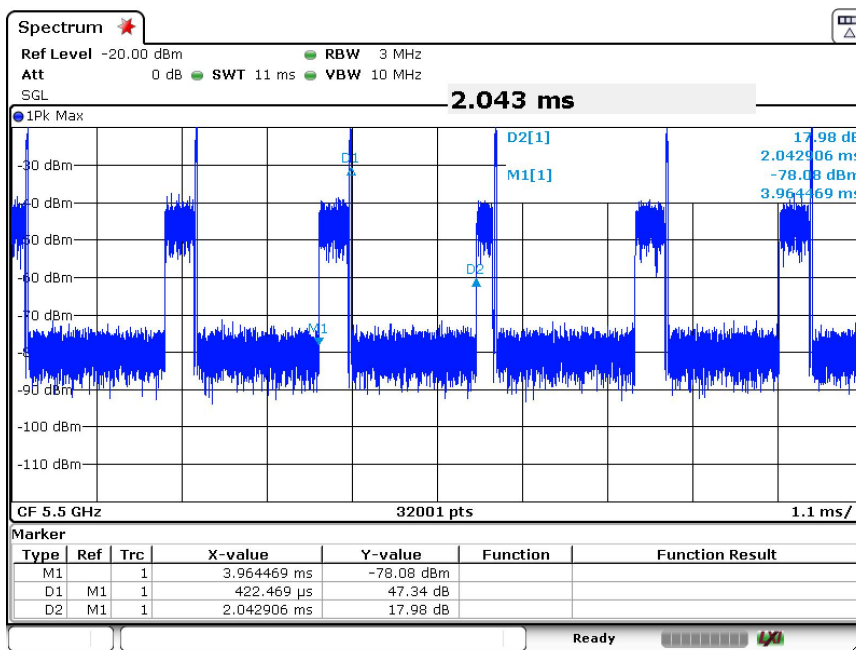
8.1. Test Method

DFS testing was performed using the conducted test methods defined in 905462 D02 UNII DFS Compliance Procedures New Rules v02. The device was a client only device without radar detection capability. The Rohde & Schwarz TS8997 test system in conjunction with WMS32 software was used for the automation of the testing.

8.2. Test Notes

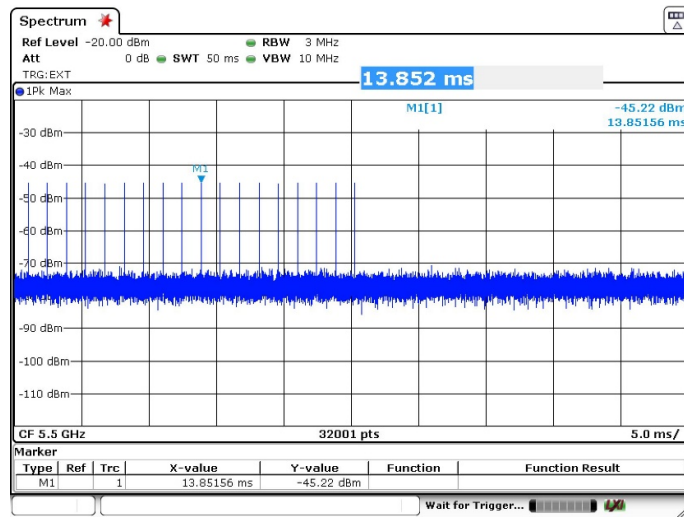
DFS test data is inherited from FCC ID AZ492FT7124 as the subsection is identical to that of this filing.

8.3. Test Data



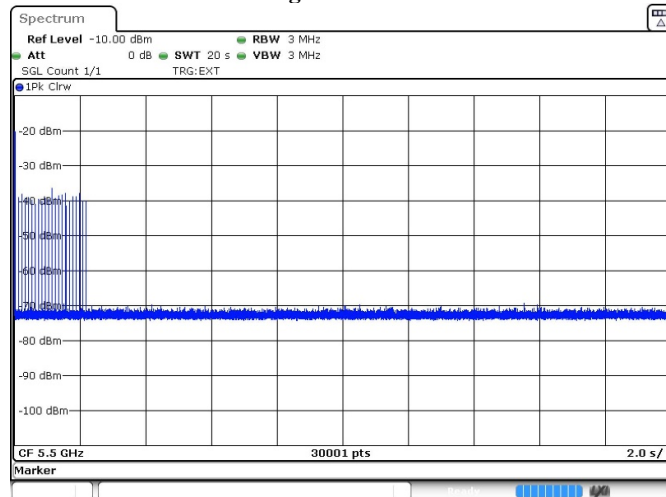
The resulting plot data was extracted and post processed, giving a duty cycle of 20.68%.

DFS Detection Threshold



Peak of -45.22dBm, with losses at combiners factoring antenna gain to be 15.81dB, therefore level going into antenna port is -61.03dBm which exceeds threshold level of -64dBm for successful detection.

Channel Move and Closing Time



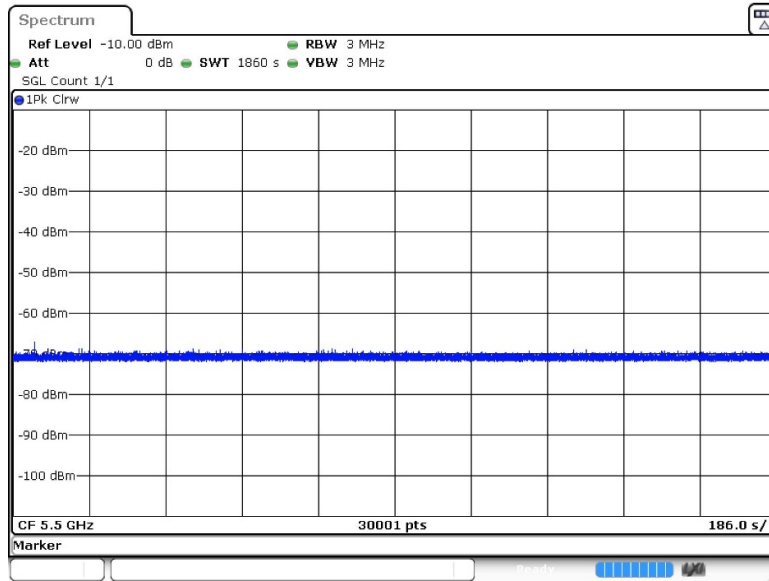
Channel Closing and Channel Move Time

Detailed Results

| DUT Frequency (MHz) | Radar Type No. | Time duration | No of pulses found | Tx time (ms) | Tx Time Limit (ms) |
|---------------------|----------------|------------------------|--------------------|--------------|--------------------|
| 5500 | 0 | 200ms | 2 | 0.764 | 200 |
| 5500 | 0 | remaining 10.0s period | 19 | 7.324 | 60 |

Last transmission after injection of radar is 2.143 seconds, therefore meeting channel closing time 10s requirement.

Non-Occupancy Period



No pulses were detected in the 30 minutes that followed after channel move time, meeting non-occupancy 30 minute requirement.

END OF TEST REPORT