



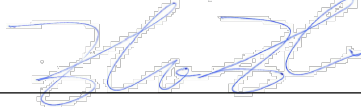
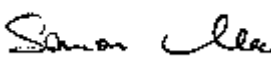
FCC PART 15.407
ISED C RSS-247, ISSUE 2, FEBRUARY 2017
DYNAMIC FREQUENCY SELECTION
TEST REPORT

For

Ruckus Wireless, Inc.

350 West Java Dr.
Sunnyvale, CA 94089, USA

FCC ID: S9GH350
IC: 5912A-H350

Report Type: Original Report	Product Type: Indoor Access Point
Prepared By: Zhao Zhao RF Project Engineer	
Report Number: R2105132-DFS	
Report Date: 2021-08-17	
Reviewed By: Simon Ma RF Lead	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government.

* This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk “*” (Rev.3)

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R2105132-DFS	Original Report	2021-08-17

1 General Description

1.1 Product Description for Equipment under Test (EUT)

This test report was prepared on behalf of *Ruckus Wireless, Inc.*, and their product model: *H350*, *FCC ID: S9GH350*, *IC: 5192A-H350*, or the “EUT” as referred to in this report. The EUT is an Access Point with 2.4GHz/5GHz Wi-Fi, BLE and ZigBee capabilities. This device (H350) is an update from previous certified model H550 (FCC ID: S9GH550, IC: 5192A-H550). Please refer to the manufacturer declaration of similarity letter in Annex A of this report.

EUT SW version: 116.0.0.0.16110238

1.2 Objective

This report was prepared on behalf of *Ruckus Wireless, Inc.*, in accordance with FCC CFR47 §15.407 (h), RSS247 Issue 2 and KDB: 905462 D02 UNII DFS Compliance Procedures New Rules v02

The objective was to spot check DFS radar detection in accordance with KDB 484596 D01.

Based on manufacturer declaration of similarity (DOS), H350 and H550 use identical internal printed circuit board layouts, have common design and components. The differences as listed in the manufacturer DOS do not affect Wi-Fi radio characteristics or DFS functionalities. Therefore, the H550 DFS test result is referenced in this report to show compliance for H350. H350 was spot checked for radar detection at channel 106, and recorded in this report.

1.3 Related Submittal(s)/Grant(s)

Equipment Class: DTS, FCC ID: S9GH350, IC: 5912A-H350

1.4 Test Methodology

FCC CFR 47 Part2, Part15.407 (h)

KDB: 905462 D02 UNII DFS Compliance Procedures New Rules v02

COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION

1.5 Test Facility Registrations

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Industry Canada under Registration Numbers: 3062A-1, 3062A-2, and 3062A-3.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Annex B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0027.

1.6 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2005 by A2LA (Test Laboratory Accreditation Certificate Number 3297.02), in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2005 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report..

BACL's ISO/IEC 17025:2005 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio, RF Exposure, Safety and wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include Central Office Telecommunications Equipment [including NEBS - Network Equipment Building Systems], Unlicensed and Licensed Wireless and RF devices, Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial and Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, and Energy Efficient Lighting.

B- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.03) to certify

- For the USA (Federal Communications Commission):

- 1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
- 2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
- 3- All Telephone Terminal Equipment within FCC Scope C.

- For the Canada (Industry Canada):

- 1 All Scope 1-Licence-Exempt Radio Frequency Devices;
- 2 All Scope 2-Licensed Personal Mobile Radio Services;
- 3 All Scope 3-Licensed General Mobile & Fixed Radio Services;
- 4 All Scope 4-Licensed Maritime & Aviation Radio Services;
- 5 All Scope 5-Licensed Fixed Microwave Radio Services
- 6 All Broadcasting Technical Standards (BETS) in the Category I Equipment Standards List.

- For Singapore (Info-Communications Development Authority (IDA)):

- 1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2
2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2

- For the Hong Kong Special Administrative Region:

- 1 All Radio Equipment, per KHCA 10XX-series Specifications;
 - 2 All GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications;
 - 3 All Fixed Network Equipment, per HKCA 20XX-series Specifications.
- For Japan:
- 1 MIC Telecommunication Business Law (Terminal Equipment):
 - All Scope A1 - Terminal Equipment for the Purpose of Calls;
 - All Scope A2 - Other Terminal Equipment
 - 2 Radio Law (Radio Equipment):
 - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
 - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
 - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.01) to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

- 1 Electronics and Office Equipment:
 - for Telephony (ver. 3.0)
 - for Audio/Video (ver. 3.0)
 - for Battery Charging Systems (ver. 1.1)
 - for Set-top Boxes & Cable Boxes (ver. 4.1)
 - for Televisions (ver. 6.1)
 - for Computers (ver. 6.0)
 - for Displays (ver. 6.0)
 - for Imaging Equipment (ver. 2.0)
 - for Computer Servers (ver. 2.0)
- 2 Commercial Food Service Equipment
 - for Commercial Dishwashers (ver. 2.0)
 - for Commercial Ice Machines (ver. 2.0)
 - for Commercial Ovens (ver. 2.1)
 - for Commercial Refrigerators and Freezers
- 3 Lighting Products
 - For Decorative Light Strings (ver. 1.5)
 - For Luminaires (including sub-components) and Lamps (ver. 1.2)
 - For Compact Fluorescent Lamps (CFLs) (ver. 4.3)
 - For Integral LED Lamps (ver. 1.4)
- 4 Heating, Ventilation, and AC Products
 - for Residential Ceiling Fans (ver. 3.0)
 - for Residential Ventilating Fans (ver. 3.2)
- 5 Other
 - For Water Coolers (ver. 3.0)

D- A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:

- Australia: ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I;
- Canada: (Innovation, Science and Economic development Canada - ISED) Foreign Certification Body – FCB – APEC Tel MRA -Phase I & Phase II;
- Chinese Taipei (Republic of China – Taiwan):
 - o BSMI (Bureau of Standards, Metrology and Inspection) APEC Tel MRA -Phase I;
 - o NCC (National Communications Commission) APEC Tel MRA -Phase I;
- European Union:
 - o EMC Directive 2014/30/EU US-EU EMC & Telecom MRA CAB (NB)

- Radio Equipment (RE) Directive 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
- Low Voltage Directive (LVD) 2014/35/EU
- Hong Kong Special Administrative Region: (Office of the Telecommunications Authority – OFTA)
APEC Tel MRA -Phase I & Phase II
- Israel – US-Israel MRA Phase I
- Republic of Korea (Ministry of Communications - Radio Research Laboratory) APEC Tel MRA -Phase I
- Singapore: (Infocomm Media Development Authority - IMDA) APEC Tel MRA -Phase I & Phase II;
- Japan: VCCI - Voluntary Control Council for Interference US-Japan Telecom Treaty VCCI Side Letter-
- USA:
 - ENERGY STAR Recognized Test Laboratory – US EPA
 - Telecommunications Certification Body (TCB) – US FCC;
 - Nationally Recognized Test Laboratory (NRTL) – US OSHA
 - Vietnam: APEC Tel MRA -Phase I;

2 EUT Test Configuration

2.1 Justification

The EUT was configured for testing according to FCC Part 15.407(h), RSS 247 Issue 2 and KDB: 905462 D02 UNII DFS Compliance Procedures New Rules v02

2.2 EUT Exercise Software

The test software used was *Putty* provided by *Rucks, Inc.*, the software is compliant with the standard requirements being tested against.

2.3 Equipment Modifications

N/A

2.4 Local Support Equipment

Manufacturer	Description	Model
Dell	Laptop	Latitude D630
ASUS	Laptop	-

2.5 Interface Ports and Cables

Cable Description	Length (m)	To	From
USB Cable	2 m	Laptop	EUT
Ethernet Cable	2 m	POE	Laptop
Ethernet Cable	5 m	POE	Laptop

3 Summary of Test Results

The following result table represents the list of measurements required under the CFR47 §47 Part15.407 (h), and KDB: 905462 D02 UNII DFS Compliance Procedures New Rules v02.

Items	Description of Test	Results
Detection Bandwidth	UNII Detection Bandwidth	Compliant ¹
Performance Requirements Check	Initial Channel Availability Check Time (CAC)	Compliant ¹
	Radar Burst at the Beginning of the CAC	Compliant ¹
	Radar Burst at the End of the CAC	Compliant ¹
In-Service Monitoring	Channel Move Time	Compliant ¹
	Channel Closing Transmission Time	Compliant ¹
	Non-Occupancy Period	Compliant ¹
Radar Detection	Statistical Performance Check	Compliant ¹

Note: Based on description in Section 1.2 Objective of this report, please refer to BACL report R2007201-04 with FCC ID: S9GH550, IC: 5912A-H550 for all test results.

Note: Spot Check was performed for Radar Detection.

4 Applicable Standards

4.1 DFS Requirement

FCC CFR47 §15.407 (h), RSS-247 Issue 2 and KDB: 905462 D02 UNII DFS Compliance Procedures New Rules v02

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (Without radar detection)	Client (With radar detection)
Non-Occupancy Period	Yes	Not Required	Yes
DFS Detection Threshold	Yes	Not Required	Yes
Channel Availability Check Time	Yes	Not Required	Not Required
U-NII Detection Bandwidth	Yes	Not Required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not Required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not Required

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

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (See Notes 1, 2 and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10dBm/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. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911D01.	

Table 4: 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 UNII 99% transmission power bandwidth. See Note 3.
Note 1: <i>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.</i> 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 a Channel move (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 <i>U-NII Detection Bandwidth</i> detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

Table 5: Short Pulse Radar Test Waveforms

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

Table 6: Long Pulse Radar Test Signal

Radar Type	Bursts	Chirp Width (MHz)	PRI (usec)	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

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

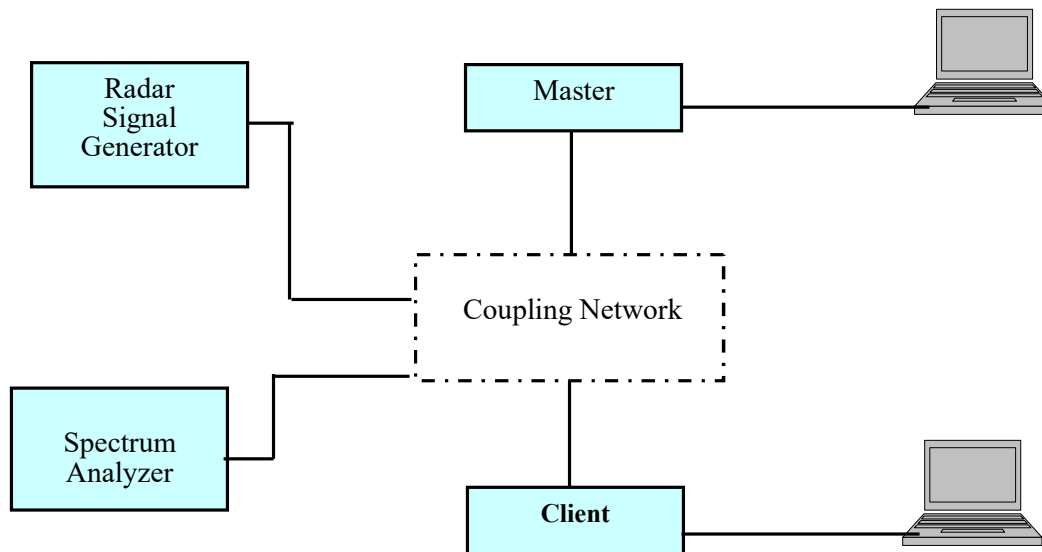
Table 7: Frequency Hopping Radar Test Signal

Radar Type	Pulse Width (usec)	PRI (usec)	Pulses per Hop	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

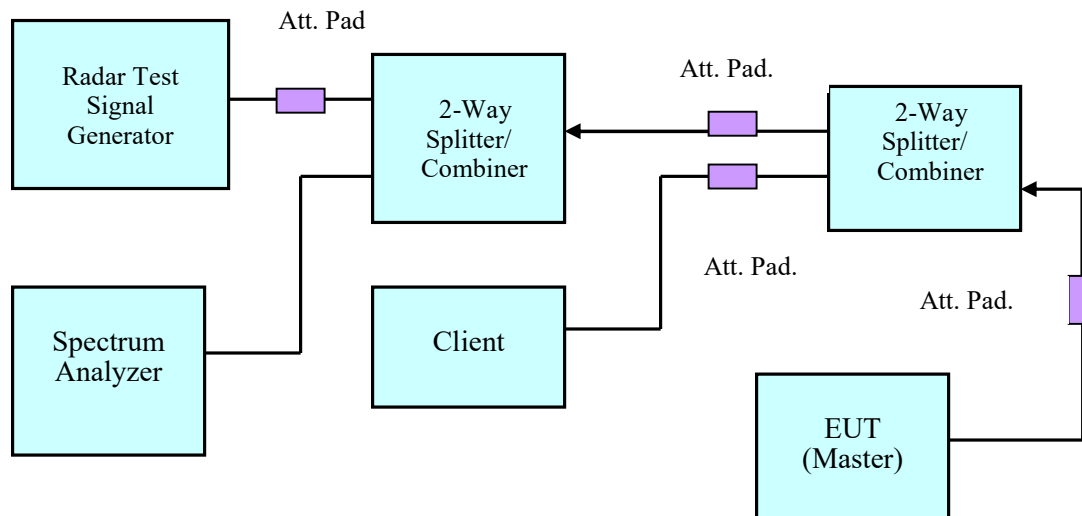
4.2 DFS Measurement System

BACL DFS measurement system consists of two subsystems: (1) The radar signal generating subsystem and (2) the traffic monitoring subsystem.

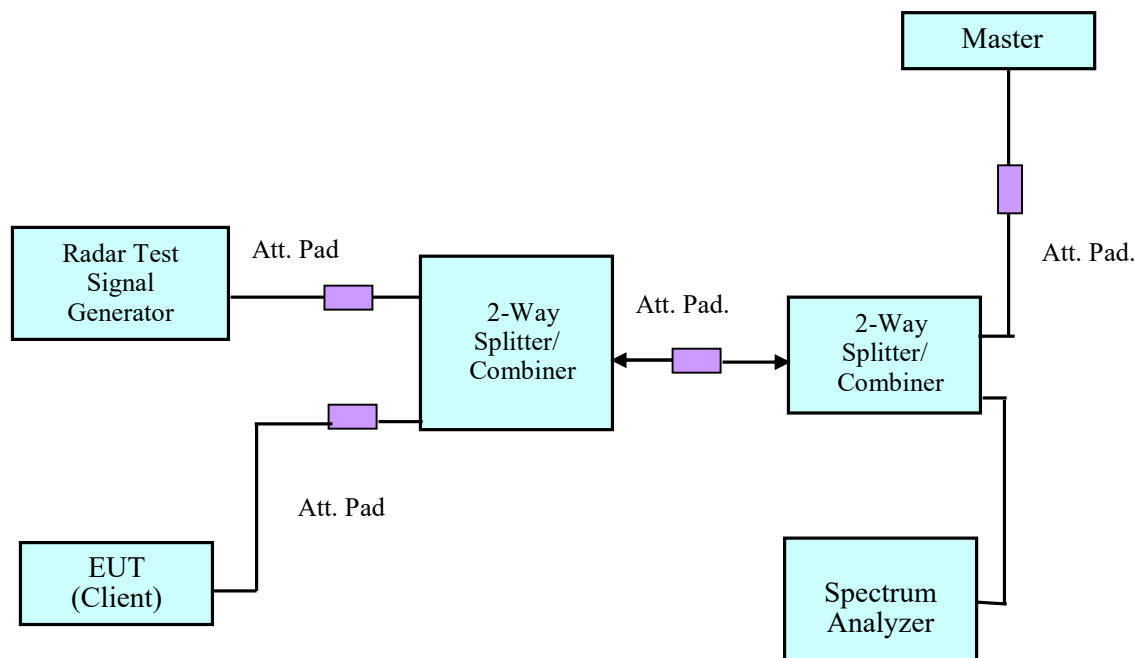
4.3 System Block Diagram



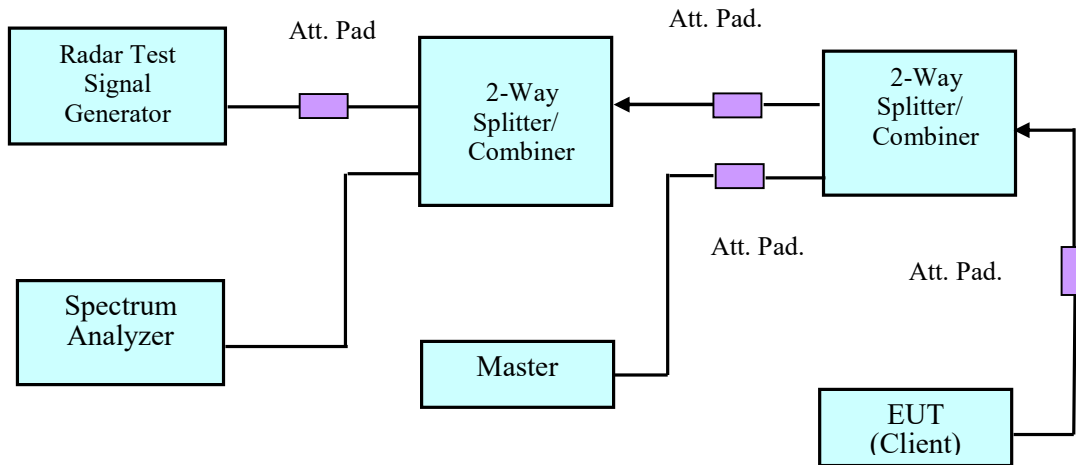
4.4 Conducted Method



Setup for Master with injection at the Master

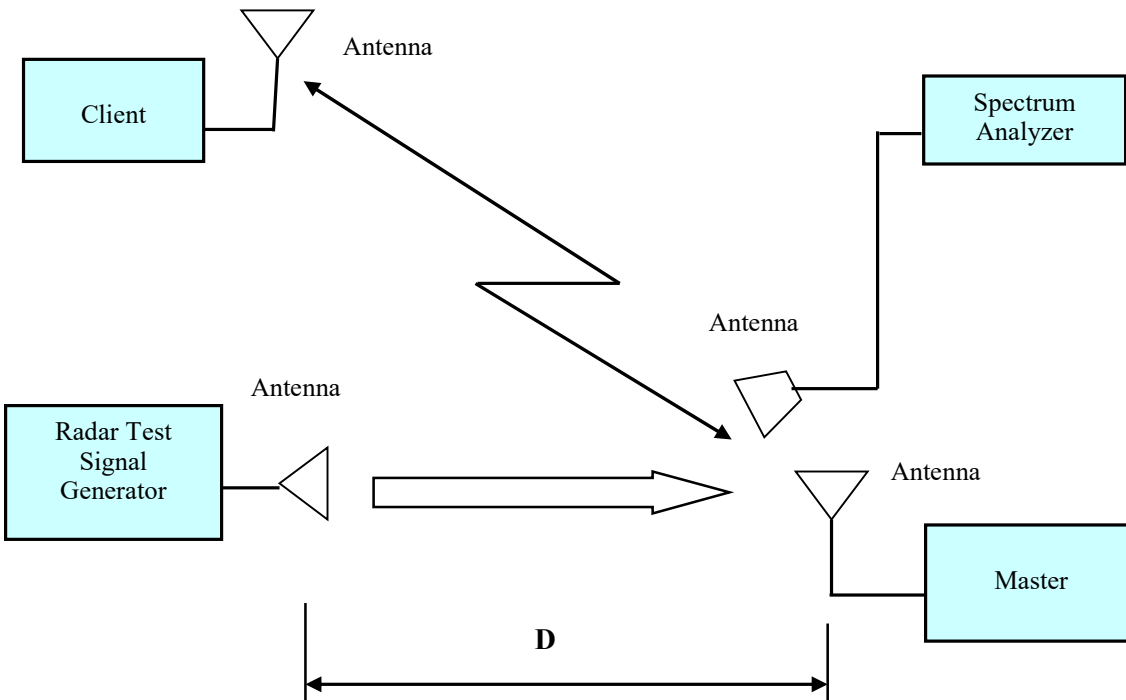


Setup for Client with injection at the Master



Setup for Client with injection at the Client

4.5 Radiated Method



4.6 Test Procedure

A spectrum analyzer was used as a monitor that verifies the EUT's status, which includes the Channel Closing Transmission Time and the Channel Move Time. The Spectrum analyzer was used to monitor the equipment under test (EUT) does not transmit on the same channel during the Non-Occupied Period after the radar detection.

5 Test Results

5.1 Description of EUT

The EUT operates in 5230-5350 MHz and 5470-5725 MHz range in master Mode.

The rated output power of master device is < 23 dBm (EIRP). The radar threshold at antenna port was -62 dBm.

WLAN traffic is generated by streaming the data with iperf software.

5.2 Antenna Details

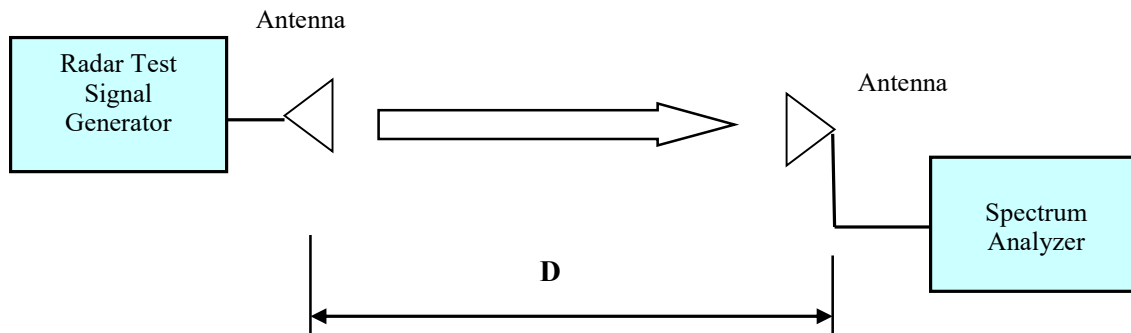
Antenna usage	Frequency Range (MHz)	Maximum Antenna Gain (dBi)
2.4GHz Wi-Fi/Bluetooth/ZigBee	2400-2483.5	0
5GHz Wi-Fi	5150 - 5850	1

5.3 Test Equipment List and Details

Manufacturer	Equipment Description	Model	S/N	Calibration Date	Calibration Interval
National Instruments	NI PXI-1042 8-Slot chassis	PXI-1042	V08X01EE1	N/A	N/A
National Instruments	Arbitrary Waveform Generator	PXI-5421	N/A	N/A	N/A
National Instruments	RF Upconverter	PXI-5610	N/A	N/A	N/A
ASCOR	Upconverter	AS-7206	N/A	N/A	N/A
Agilent	Analyzer, Spectrum	E4446A	MY48250238	2021-02-12	1 year
EMCO	Antenna Horn	3115	9511-4627	2020-10-12	2 years
Sunol Sciences	Antenna Horn	DRH-118	A052704	2019-04-02	2.5 years
-	RF Cable	-	-	Each Time	Each Time
National Instruments	NI PXI-1042 8-Slot chassis	PXI-1042	V08X01EE1	N/A	N/A
Keysight Technologies	Vector Signal Generator	N5182B	MY51350070	2021-06-22	1 year

Statement of Traceability: *BACL Corp.* attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".

5.4 Radar Waveform Calibration



Radiated Calibration Setup Block Diagram

5.5 Test Environmental Conditions

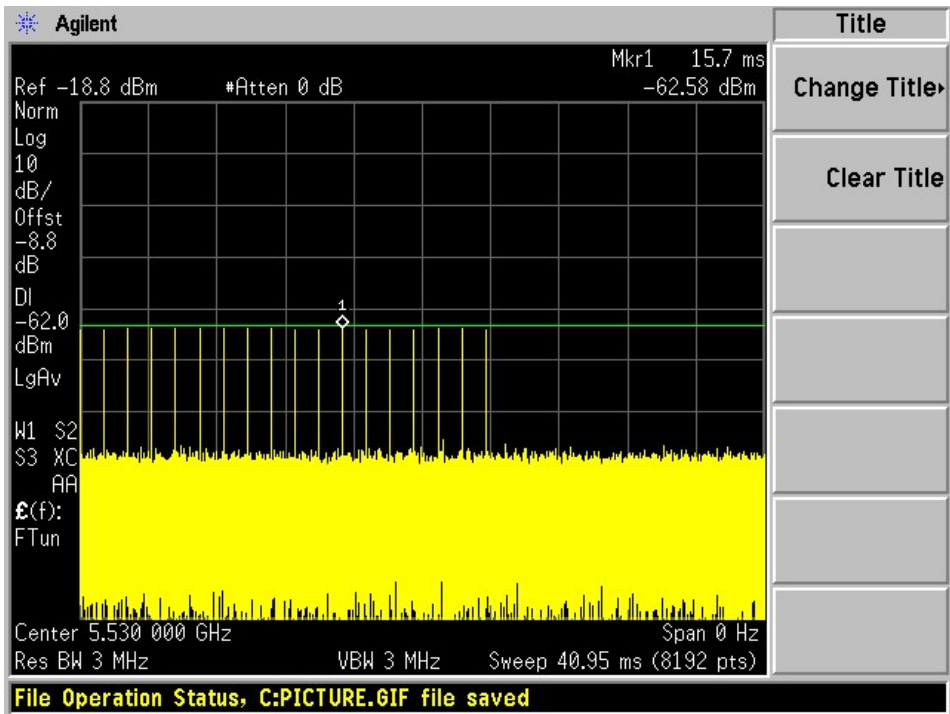
Temperature:	24° C
Relative Humidity:	44 %
ATM Pressure:	102.1 kPa

Testing was performed by Rita Yang on 2021-08-17 in DFS site.

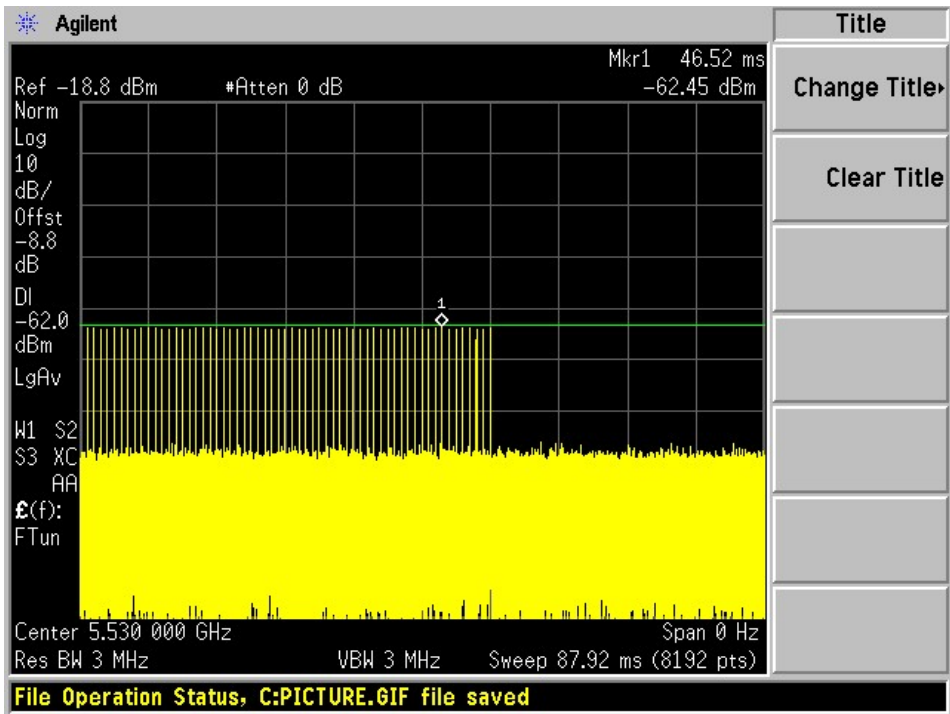
Plots of Radar Waveforms

5530 GHz

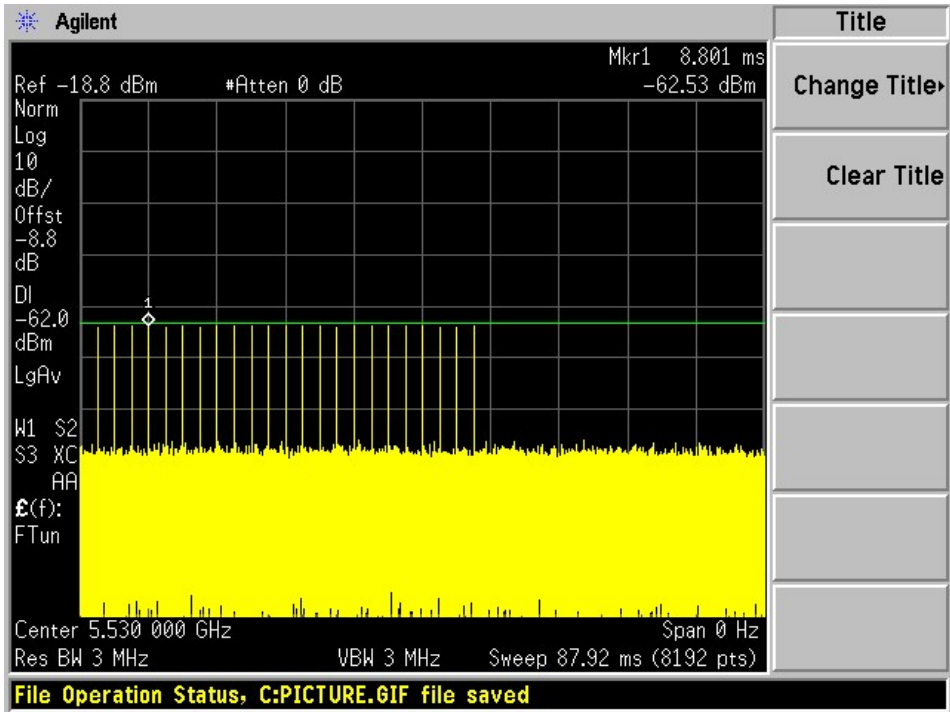
Radar Type 0



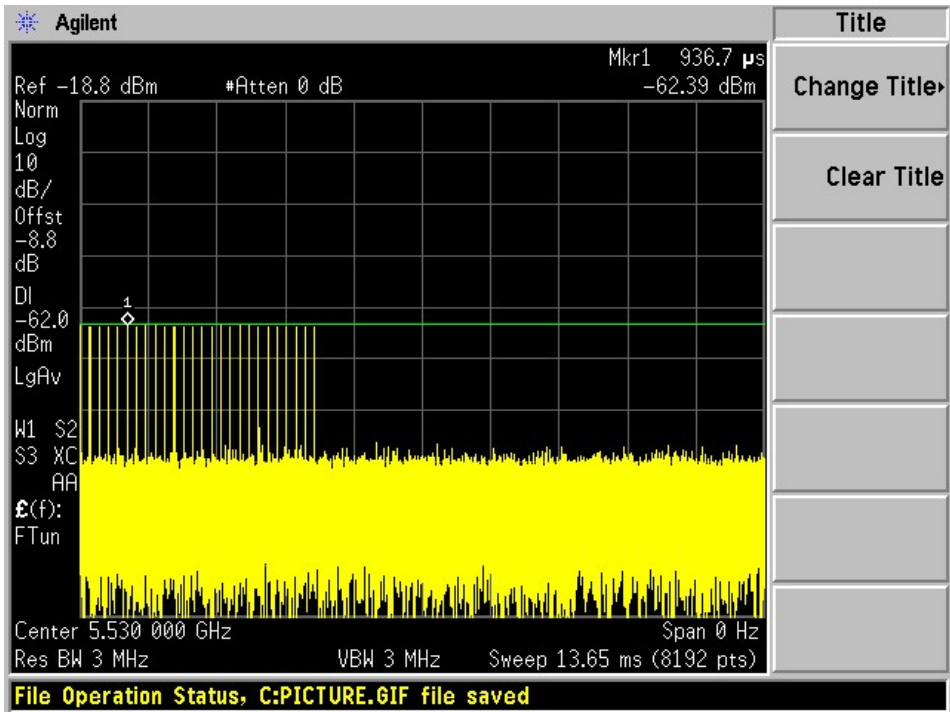
Radar Type 1A



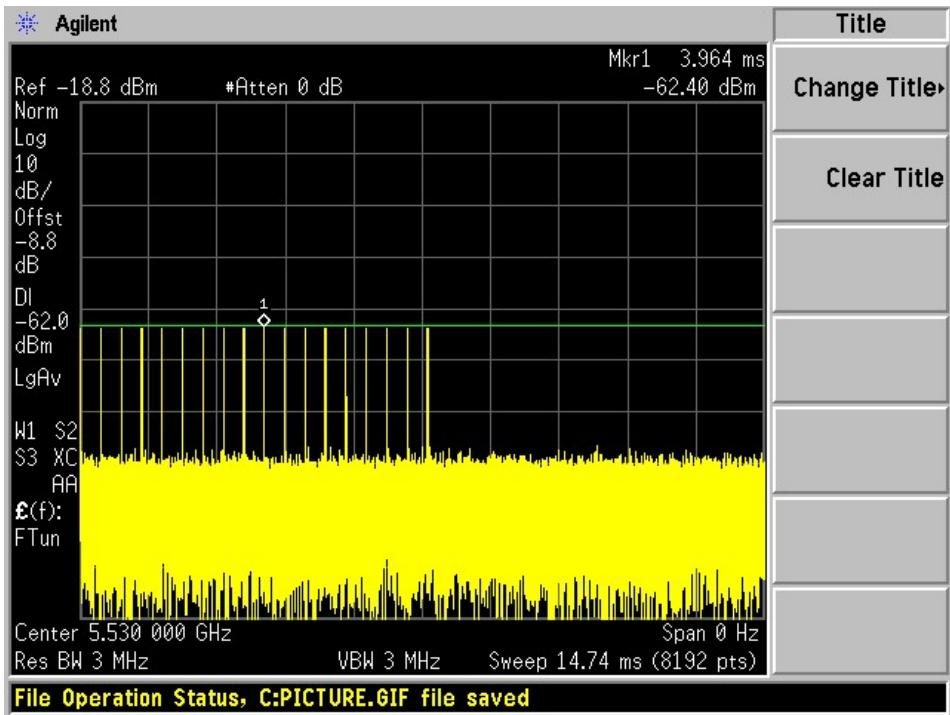
Radar Type 1B



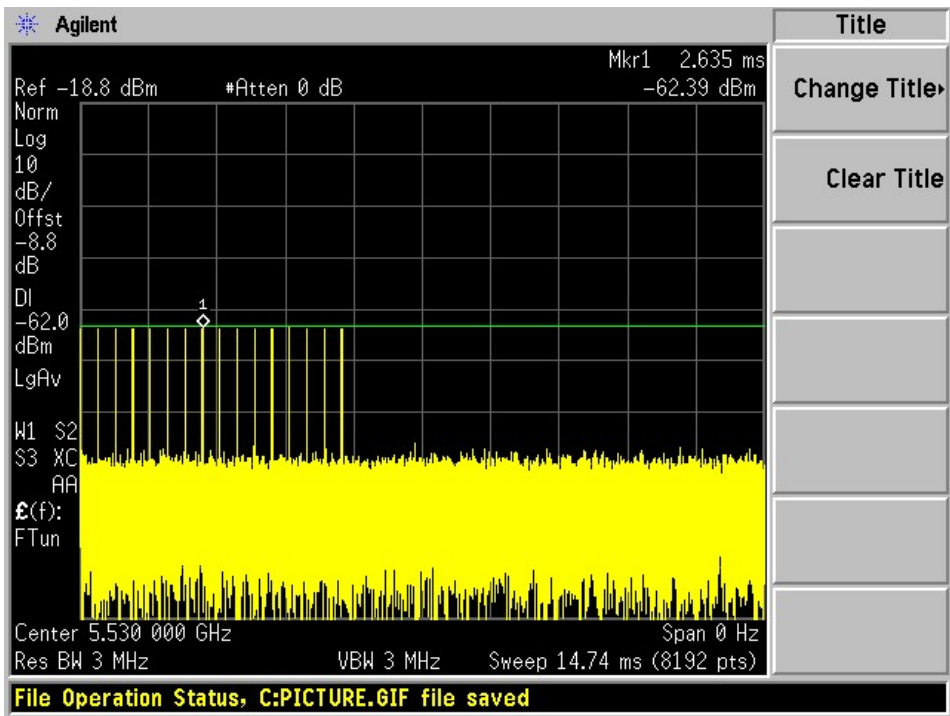
Radar Type 2



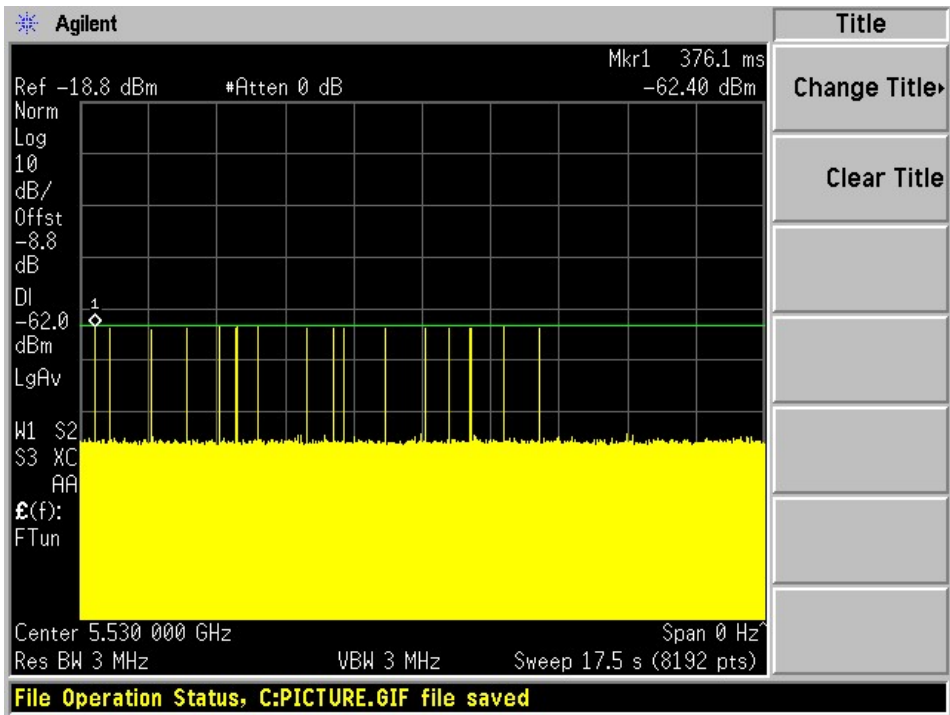
Radar Type 3



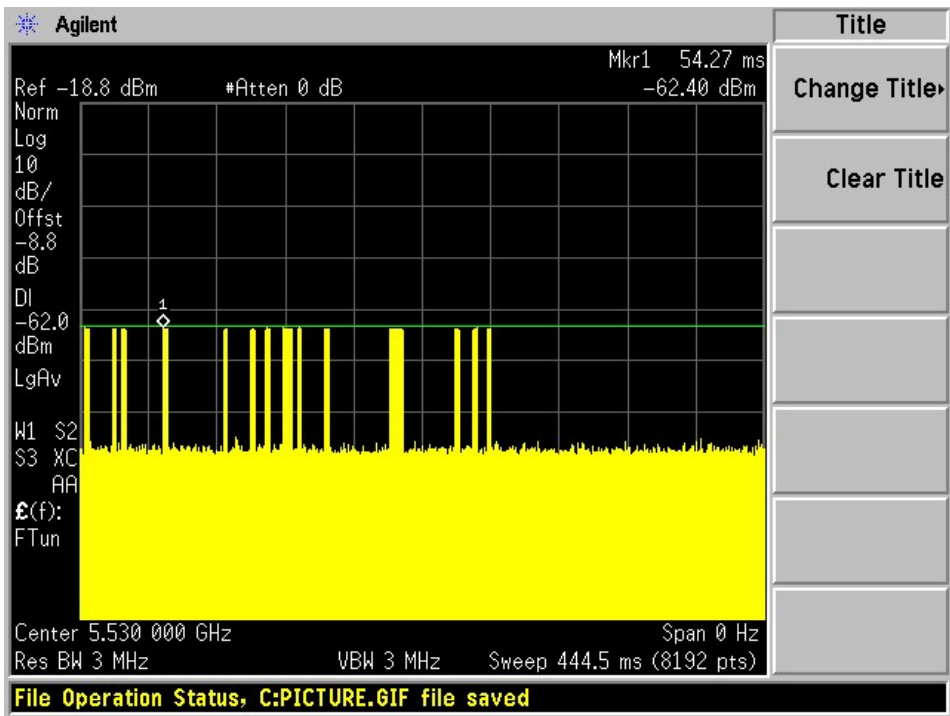
Radar Type 4



Radar Type 5



Radar Type 6



6 Radar Detection Performance Spot Check

Procedure:

Stream MPEG file from master to slave

Generate radar waveform

Record whether or not the waveform was detected

At least 30 trials are applied for each radar type

For radar types with randomized parameters, each trial uses a unique waveform

Perform with each of the radar types 1-6

Confirm that the detection rate for each radar type meets the minimum requirement

Type 1A&1B, 2, 3, 4: 60% each

Type 5: 80%

Type 6: 70%

Confirm that the mean of the rates for radar types 1 through 4 meets the requirement of 80%

$$\text{Detection Ratio} = \frac{\text{Total Waveform Detections}}{\text{Total Waveform Trials}} \times 100$$

Test Results:

Please refer to the following summary table.

5530 MHz, 80 MHz Bandwidth

Radar Signal Type	Waveform/Trial Number	Detection (%)	Limit	Pass/Fail
Type 0	10	100	60%	Pass
Type 1A	10	90	60%	Pass
Type 1B	10	100	60%	Pass
Type 2	10	70	60%	Pass
Type 3	10	90	60%	Pass
Type 4	10	100	60%	Pass
Aggregate (Type1 to 4)	40	88.75	80%	Pass
Type 5	10	100	80%	Pass
Type 6	10	100	70%	Pass

Table-1 Radar Type 0 Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5490	18	1	1428	1
2	5490	18	1	1428	1
3	5490	18	1	1428	1
4	5490	18	1	1428	1
5	5490	18	1	1428	1
6	5490	18	1	1428	1
7	5490	18	1	1428	1
8	5490	18	1	1428	1
9	5490	18	1	1428	1
10	5490	18	1	1428	1
Detection Percentage: 100 %					

Table-2 Radar Type 1A Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5500	81	1	658	1
2	5500	65	1	818	1
3	5500	83	1	638	1
4	5500	63	1	838	1
5	5500	61	1	878	1
6	5500	59	1	898	1
7	5500	68	1	778	0
8	5500	62	1	858	1
9	5500	86	1	618	1
10	5500	89	1	598	1
Detection Percentage: 90 % (>60%)					

Table-3 Radar Type 1B Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5510	36	1	1500	1
2	5510	75	1	708	1
3	5510	66	1	809	1
4	5510	79	1	671	1
5	5510	21	1	2584	1
6	5510	18	1	2950	1
7	5510	28	1	1885	1
8	5510	93	1	569	1
9	5510	66	1	811	1
10	5510	54	1	992	1
Detection Percentage: 100 % (>60%)					

Table-4 Radar Type 2 Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5520	27	1.9	198	0
2	5520	23	1	173	0
3	5520	26	1	160	1
4	5520	28	3.3	164	1
5	5520	26	3.3	222	1
6	5520	27	2.1	152	0
7	5520	26	3.4	180	1
8	5520	28	1.3	190	1
9	5520	24	1.5	165	1
30	5520	24	3.1	158	1
Detection Percentage: 70 % (>60%)					

Table-5 Radar Type 3 Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5530	18	8.9	220	1
2	5530	17	9.4	480	1
3	5530	17	6	413	1
4	5530	18	10	397	1
5	5530	17	6.7	431	1
6	5530	17	6.4	291	1
7	5530	18	7.8	451	1
8	5530	17	8.9	290	0
9	5530	16	6.4	365	1
10	5530	16	9.2	208	1
Detection Percentage: 90 % (>60%)					

Table-6 Radar Type 4 Statistical Performance

Trial #	Fc (MHz)	Pulse/Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)
1	5540	15	16.1	234	1
2	5540	16	19	407	1
3	5540	12	13.5	361	1
4	5540	14	18.7	392	1
5	5540	12	15	474	1
6	5540	14	19.7	204	1
7	5540	14	19.9	263	1
8	5540	16	17.9	268	1
9	5540	15	16.9	217	1
10	5540	15	13.9	357	1
Detection Percentage: 100 % (>60%)					

Table-7 Radar Type 5 Statistical Performance

Trial #	Fc (MHz)	Detection (1:yes; 0:no)
1	5550	1
2	5550	1
3	5550	1
4	5550	1
5	5550	1
6	5550	1
7	5550	1
8	5550	1
9	5550	1
10	5550	1
Detection Percentage: 100 % (>80%)		

Bin5 Statistics 1

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	8	67.8	1595		0.439235	1
1	2	8	69.2	1504		0.736828	
2	2	8	66.5	1930		1.643337	
3	3	8	55.7	1886	1457	1.882961	
4	2	8	79.4	1546		2.500755	
5	2	8	91.1	1123		3.486246	
6	2	8	99.3	1462		4.162108	
7	3	8	68.9	1962	1279	4.773061	
8	2	8	64.9	1742		4.804042	
9	2	8	97	1015		5.448093	
10	2	8	64.8	1677		6.22983	
11	2	8	88.4	1074		6.684262	
12	2	8	93.5	1901		7.438844	
13	2	8	63	1524		8.126674	
14	1	8	92.2			8.824613	
15	1	8	66			9.239753	
16	1	8	92.5			10.180966	
17	2	8	71.7	1662		10.728748	
18	3	8	55	1585	1974	10.819363	
19	3	8	77.3	1246	1951	11.825268	

Bin5 Statistics 2

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	8	57.4	1622		0.693829	1
1	1	8	51.8			1.162836	
2	2	8	56.5	1511		2.916864	
3	2	8	52.7	1934		3.801196	
4	1	8	95.7			4.638288	
5	1	8	54.7			5.734062	
6	1	8	83.8			7.396085	
7	1	8	73.8			8.682857	
8	3	8	66.9	1207	1896	9.782596	
9	3	8	74.9	1473	1352	10.870682	
10	1	8	62.4			10.951785	

Bin5 Statistics 3

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	13	90.5	1420		0.251277	1
1	3	13	91.9	1948	1609	1.225291	
2	3	13	80.6	1387	1956	2.188323	
3	3	13	78.3	1420	1717	2.921799	
4	2	13	70.5	1118		3.72805	
5	2	13	82.9	1439		4.713837	
6	2	13	58.3	1604		5.416927	
7	2	13	56.8	1027		6.339355	
8	3	13	83.7	1757	1676	6.507273	
9	2	13	93.9	1808		7.913991	
10	2	13	67.1	1365		8.084593	
11	3	13	96.6	1794	1929	9.492641	
12	2	13	69.7	1723		10.224077	
13	1	13	71.2			10.494788	
14	1	13	50.4			11.38037	

Bin5 Statistics 4

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	3	10	66.2	1941	1320	0.615754	1
1	2	10	58.6	1883		1.530125	
2	1	10	67.5			1.946822	
3	2	10	51.2	1136		3.427449	
4	1	10	79.1			4.476029	
5	3	10	53.2	1728	1226	5.119061	
6	1	10	57.8			5.969568	
7	2	10	91.9	1830		6.873624	
8	1	10	58.9			7.387854	
9	2	10	65.1	1474		9.130438	
10	1	10	67.4			9.628712	
11	2	10	72.3	1618		10.875678	
12	2	10	95	1460		11.209093	

Bin5 Statistics 5

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	10	54.1	1901		0.048196	1
1	3	10	75.7	1366	1959	1.345725	
2	2	10	72.6	1007		2.698938	
3	2	10	79.5	1810		4.287306	
4	2	10	92.4	1933		4.916052	
5	3	10	52	1843	1536	6.550699	
6	3	10	71.6	1005	1600	7.722603	
7	3	10	93.4	1173	1391	8.432882	
8	2	10	52.2	1920		10.282626	
9	2	10	53.6	1341		11.795398	

Bin5 Statistics 6

Trial #	Pulse	Chirp (MHz)	Pulse Width (μS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	10	97.4	1710		0.041773	1
1	2	10	56.2	1647		2.05112	
2	1	10	82.9			2.592436	
3	2	10	75.1	1016		3.821927	
4	2	10	56.6	1752		5.430983	
5	1	10	62			6.717535	
6	3	10	52.3	1202	1155	8.18906	
7	2	10	90.9	1500		9.555109	
8	2	10	92.5	1281		10.20647	
9	3	10	84.7	1380	1902	11.767768	

Bin5 Statistics 7

Trial #	Pulse	Chirp (MHz)	Pulse Width (µS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	12	59.4	1282		0.173422	0
1	3	12	85.5	1429	1109	1.489413	
2	2	12	87.6	1038		1.823785	
3	3	12	71.4	1277	1148	2.466049	
4	3	12	92.3	1363	1875	3.362437	
5	2	12	64.4	1585		4.248689	
6	3	12	84.9	1635	1840	4.610098	
7	2	12	97.9	1687		5.296135	
8	2	12	89	1946		6.650314	
9	2	12	75.1	1390		7.238406	
10	2	12	56.2	1456		7.761687	
11	3	12	73.8	1431	1681	8.442511	
12	1	12	80.6			9.192092	
13	2	12	57.7	1703		9.756118	
14	2	12	68	1410		10.787993	
15	1	12	66.1			11.650186	

Bin5 Statistics 8

Trial #	Pulse	Chirp (MHz)	Pulse Width (µS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	13	57.8	1253		0.459406	1
1	1	13	98.6			1.838839	
2	2	13	71.3	1203		2.911151	
3	1	13	55.5			3.755527	
4	2	13	60.1	1117		4.558421	
5	2	13	86.1	1469		5.529554	
6	1	13	81.9			6.896473	
7	2	13	61.5	1448		8.095096	
8	3	13	81.2	1687	1179	9.758217	
9	2	13	74.9	1823		10.289605	
10	1	13	57.4			11.864307	

Bin5 Statistics 9

Trial #	Pulse	Chirp (MHz)	Pulse Width (µS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	2	14	50.1	1261		0.860648	1
1	2	14	77.1	1988		1.328124	
2	2	14	76.8	1446		2.773496	
3	2	14	68.7	1082		3.836399	
4	2	14	72.3	1914		4.971951	
5	2	14	98.4	1438		7.109472	
6	2	14	66.6	1470		7.469796	
7	1	14	66.5			8.902897	
8	1	14	90.5			9.950199	
9	3	14	97.6	1133	1787	11.838707	

Bin5 Statistics 10

Trial #	Pulse	Chirp (MHz)	Pulse Width (µS)	Pulse 1-2 spacing (uS)	Pulse 2-3 spacing (uS)	Pulse Start(S)	Detection (1:yes; 0:no)
0	3	16	51.2	1250	1209	0.136587	0
1	3	16	74.6	1141	1562	1.189788	
2	1	16	97			2.915448	
3	3	16	51.9	1594	1069	3.075412	
4	3	16	99.9	1902	1560	4.570051	
5	2	16	80.3	1593		5.894182	
6	1	16	93.1			6.951113	
7	2	16	90.1	1605		7.124643	
8	3	16	66.2	1199	1667	8.3847	
9	1	16	61.9			9.408546	
10	2	16	83.5	1914		10.586556	
11	1	16	68.3			11.062563	

Table-8 Radar Type 6 Statistical Performance

Trial #	Fc (MHz)	Pulse /Burst	Pulse Width (μS)	PRI (μs)	Detection (1:yes; 0:no)	Hopping Sequence
1	5560	9	1	333	1	5413.0, 5554.0, 5713.0, 5411.0, 5323.0, 5595.0, 5282.0, 5620.0, 5682.0, 5288.0, 5399.0, 5332.0, 5269.0, 5371.0, 5657.0, 5516.0, 5612.0, 5549.0, 5379.0, 5330.0, 5315.0, 5593.0, 5652.0, 5646.0, 5437.0, 5449.0, 5718.0, 5585.0, 5445.0, 5626.0, 5686.0, 5317.0, 5584.0, 5316.0, 5313.0, 5451.0, 5537.0, 5619.0, 5394.0, 5518.0, 5374.0, 5337.0, 5396.0, 5283.0, 5471.0, 5254.0, 5517.0, 5302.0, 5524.0, 5667.0, 5443.0, 5294.0, 5675.0, 5551.0, 5266.0, 5588.0, 5610.0, 5651.0, 5706.0, 5335.0, 5498.0, 5412.0, 5607.0, 5360.0, 5575.0, 5381.0, 5442.0, 5604.0, 5431.0, 5497.0, 5338.0, 5299.0, 5650.0, 5440.0, 5484.0, 5487.0, 5541.0, 5260.0, 5296.0, 5582.0, 5542.0, 5307.0, 5666.0, 5630.0, 5472.0, 5587.0, 5467.0, 5536.0, 5631.0, 5356.0, 5376.0, 5613.0, 5525.0, 5602.0, 5267.0, 5426.0, 5365.0, 5343.0, 5458.0, 5312.0 (number of hits: 17)
2	5560	9	1	333	1	5328.0, 5530.0, 5457.0, 5704.0, 5434.0, 5304.0, 5562.0, 5556.0, 5266.0, 5363.0, 5657.0, 5618.0, 5484.0, 5488.0, 5490.0, 5327.0, 5610.0, 5438.0, 5424.0, 5573.0, 5324.0, 5399.0, 5591.0, 5679.0, 5348.0, 5428.0, 5270.0, 5444.0, 5280.0, 5415.0, 5447.0, 5682.0, 5578.0, 5553.0, 5462.0, 5442.0, 5314.0, 5561.0, 5633.0, 5624.0, 5512.0, 5315.0, 5544.0, 5533.0, 5425.0, 5446.0, 5410.0, 5716.0, 5251.0, 5389.0, 5271.0, 5276.0, 5546.0, 5397.0, 5395.0, 5709.0, 5289.0, 5354.0, 5259.0, 5386.0, 5584.0, 5662.0, 5256.0, 5281.0, 5320.0, 5451.0, 5418.0, 5590.0, 5414.0, 5615.0, 5473.0, 5576.0, 5429.0, 5700.0, 5655.0, 5680.0, 5691.0, 5404.0, 5703.0, 5335.0, 5308.0, 5383.0, 5513.0, 5368.0, 5387.0, 5435.0, 5534.0, 5478.0, 5465.0, 5722.0, 5461.0, 5634.0, 5277.0, 5623.0, 5260.0, 5482.0, 5627.0, 5686.0, 5543.0, 5669.0 (number of hits: 16)
3	5560	9	1	333	1	5700.0, 5630.0, 5373.0, 5389.0, 5681.0, 5674.0, 5663.0, 5523.0, 5251.0, 5660.0, 5623.0, 5261.0, 5359.0, 5311.0, 5322.0, 5494.0, 5538.0, 5573.0, 5355.0, 5570.0, 5500.0, 5345.0, 5467.0, 5654.0, 5380.0, 5720.0, 5504.0, 5557.0, 5548.0, 5643.0, 5435.0, 5667.0, 5272.0, 5498.0, 5584.0, 5605.0, 5682.0, 5579.0, 5436.0, 5328.0, 5556.0, 5429.0, 5339.0, 5360.0, 5599.0, 5450.0, 5572.0, 5696.0, 5650.0, 5469.0, 5411.0, 5655.0, 5483.0, 5528.0, 5606.0, 5280.0, 5361.0, 5395.0, 5658.0, 5711.0, 5542.0, 5430.0, 5307.0, 5568.0, 5463.0, 5549.0, 5457.0, 5715.0, 5392.0, 5677.0, 5289.0, 5612.0, 5622.0, 5679.0, 5302.0,

						5648.0, 5675.0, 5532.0, 5484.0, 5414.0, 5692.0, 5613.0, 5616.0, 5434.0, 5255.0, 5329.0, 5308.0, 5396.0, 5475.0, 5608.0, 5707.0, 5719.0, 5503.0, 5439.0, 5642.0, 5722.0, 5344.0, 5490.0, 5614.0, 5276.0 (number of hits: 16)
4	5560	9	1	333	1	5319.0, 5474.0, 5662.0, 5690.0, 5611.0, 5623.0, 5353.0, 5397.0, 5700.0, 5601.0, 5502.0, 5289.0, 5605.0, 5471.0, 5259.0, 5651.0, 5529.0, 5707.0, 5533.0, 5258.0, 5615.0, 5678.0, 5547.0, 5457.0, 5604.0, 5467.0, 5579.0, 5396.0, 5663.0, 5512.0, 5483.0, 5370.0, 5673.0, 5448.0, 5620.0, 5508.0, 5699.0, 5372.0, 5355.0, 5262.0, 5340.0, 5384.0, 5429.0, 5390.0, 5600.0, 5564.0, 5545.0, 5383.0, 5493.0, 5577.0, 5347.0, 5269.0, 5501.0, 5342.0, 5558.0, 5713.0, 5351.0, 5631.0, 5393.0, 5263.0, 5516.0, 5291.0, 5644.0, 5423.0, 5310.0, 5573.0, 5507.0, 5268.0, 5364.0, 5535.0, 5511.0, 5318.0, 5578.0, 5305.0, 5486.0, 5317.0, 5292.0, 5587.0, 5405.0, 5312.0, 5661.0, 5392.0, 5656.0, 5688.0, 5606.0, 5499.0, 5670.0, 5703.0, 5671.0, 5527.0, 5371.0, 5440.0, 5702.0, 5323.0, 5598.0, 5613.0, 5264.0, 5681.0, 5621.0, 5314.0 (number of hits: 14)
5	5560	9	1	333	1	5474.0, 5397.0, 5595.0, 5602.0, 5701.0, 5296.0, 5315.0, 5559.0, 5462.0, 5680.0, 5519.0, 5532.0, 5392.0, 5314.0, 5290.0, 5570.0, 5340.0, 5283.0, 5323.0, 5321.0, 5450.0, 5380.0, 5643.0, 5259.0, 5655.0, 5371.0, 5416.0, 5589.0, 5302.0, 5536.0, 5421.0, 5671.0, 5639.0, 5592.0, 5430.0, 5672.0, 5600.0, 5276.0, 5668.0, 5310.0, 5687.0, 5480.0, 5419.0, 5711.0, 5491.0, 5673.0, 5657.0, 5252.0, 5445.0, 5562.0, 5601.0, 5669.0, 5677.0, 5603.0, 5709.0, 5641.0, 5583.0, 5307.0, 5689.0, 5504.0, 5518.0, 5614.0, 5278.0, 5512.0, 5708.0, 5637.0, 5579.0, 5301.0, 5661.0, 5567.0, 5413.0, 5324.0, 5359.0, 5697.0, 5436.0, 5490.0, 5488.0, 5665.0, 5346.0, 5515.0, 5520.0, 5612.0, 5383.0, 5489.0, 5279.0, 5503.0, 5466.0, 5406.0, 5305.0, 5707.0, 5568.0, 5692.0, 5516.0, 5590.0, 5266.0, 5552.0, 5431.0, 5385.0, 5362.0, 5297.0 (number of hits: 15)
6	5560	9	1	333	1	5441.0, 5320.0, 5658.0, 5541.0, 5281.0, 5341.0, 5279.0, 5503.0, 5438.0, 5321.0, 5636.0, 5614.0, 5415.0, 5715.0, 5409.0, 5477.0, 5532.0, 5696.0, 5693.0, 5621.0, 5523.0, 5689.0, 5659.0, 5542.0, 5360.0, 5406.0, 5379.0, 5619.0, 5275.0, 5668.0, 5561.0, 5297.0, 5256.0, 5618.0, 5311.0, 5286.0, 5646.0, 5346.0, 5548.0, 5566.0, 5671.0, 5421.0, 5257.0, 5704.0, 5394.0, 5719.0, 5329.0, 5712.0, 5677.0, 5480.0, 5687.0, 5522.0, 5427.0, 5521.0, 5268.0, 5307.0, 5653.0, 5359.0, 5501.0, 5492.0, 5447.0, 5461.0, 5650.0, 5686.0, 5278.0, 5318.0, 5294.0, 5688.0, 5374.0, 5334.0

						5400.0, 5664.0, 5312.0, 5511.0, 5644.0, 5518.0, 5494.0, 5635.0, 5388.0, 5272.0, 5707.0, 5383.0, 5336.0, 5685.0, 5625.0, 5384.0, 5439.0, 5643.0, 5337.0, 5298.0, 5428.0, 5602.0, 5393.0, 5702.0, 5580.0, 5626.0, 5579.0, 5260.0, 5500.0, 5495.0 (number of hits: 11)
7	5560	9	1	333	1	5267.0, 5562.0, 5650.0, 5403.0, 5295.0, 5558.0, 5699.0, 5591.0, 5286.0, 5543.0, 5264.0, 5656.0, 5402.0, 5710.0, 5539.0, 5263.0, 5585.0, 5677.0, 5548.0, 5626.0, 5534.0, 5312.0, 5261.0, 5644.0, 5615.0, 5268.0, 5641.0, 5582.0, 5704.0, 5661.0, 5600.0, 5601.0, 5258.0, 5379.0, 5692.0, 5496.0, 5647.0, 5335.0, 5497.0, 5384.0, 5530.0, 5445.0, 5486.0, 5660.0, 5472.0, 5372.0, 5482.0, 5549.0, 5404.0, 5387.0, 5448.0, 5345.0, 5274.0, 5358.0, 5289.0, 5423.0, 5435.0, 5380.0, 5696.0, 5397.0, 5432.0, 5416.0, 5449.0, 5317.0, 5678.0, 5603.0, 5495.0, 5671.0, 5337.0, 5280.0, 5390.0, 5256.0, 5321.0, 5405.0, 5284.0, 5400.0, 5594.0, 5709.0, 5427.0, 5681.0, 5637.0, 5302.0, 5414.0, 5373.0, 5314.0, 5519.0, 5662.0, 5575.0, 5440.0, 5581.0, 5706.0, 5609.0, 5684.0, 5595.0, 5542.0, 5319.0, 5323.0, 5363.0, 5331.0, 5452.0 (number of hits: 16)
8	5560	9	1	333	1	5372.0, 5362.0, 5311.0, 5251.0, 5716.0, 5516.0, 5292.0, 5549.0, 5624.0, 5687.0, 5325.0, 5320.0, 5590.0, 5488.0, 5426.0, 5658.0, 5498.0, 5608.0, 5721.0, 5570.0, 5271.0, 5604.0, 5437.0, 5593.0, 5722.0, 5379.0, 5636.0, 5312.0, 5529.0, 5688.0, 5275.0, 5270.0, 5315.0, 5344.0, 5322.0, 5376.0, 5489.0, 5310.0, 5318.0, 5260.0, 5453.0, 5375.0, 5474.0, 5692.0, 5484.0, 5581.0, 5522.0, 5664.0, 5617.0, 5510.0, 5411.0, 5665.0, 5609.0, 5597.0, 5486.0, 5660.0, 5262.0, 5710.0, 5519.0, 5261.0, 5409.0, 5493.0, 5281.0, 5603.0, 5659.0, 5709.0, 5638.0, 5360.0, 5423.0, 5328.0, 5295.0, 5700.0, 5317.0, 5425.0, 5552.0, 5477.0, 5458.0, 5339.0, 5719.0, 5467.0, 5301.0, 5585.0, 5463.0, 5562.0, 5672.0, 5439.0, 5390.0, 5366.0, 5450.0, 5707.0, 5610.0, 5469.0, 5652.0, 5502.0, 5472.0, 5276.0, 5278.0, 5454.0, 5508.0, 5655.0 (number of hits: 11)
9	5560	9	1	333	1	5383.0, 5406.0, 5491.0, 5328.0, 5703.0, 5658.0, 5288.0, 5390.0, 5303.0, 5409.0, 5664.0, 5304.0, 5380.0, 5372.0, 5549.0, 5473.0, 5685.0, 5349.0, 5347.0, 5449.0, 5294.0, 5665.0, 5653.0, 5688.0, 5292.0, 5259.0, 5720.0, 5343.0, 5470.0, 5281.0, 5545.0, 5628.0, 5632.0, 5524.0, 5689.0, 5503.0, 5357.0, 5510.0, 5431.0, 5494.0, 5613.0, 5724.0, 5567.0, 5699.0, 5571.0, 5371.0, 5692.0, 5367.0, 5530.0, 5526.0, 5418.0, 5408.0, 5557.0, 5318.0, 5575.0, 5298.0, 5457.0, 5283.0, 5334.0, 5622.0, 5435.0, 5673.0, 5382.0, 5579.0, 5360.0,

						5268.0, 5686.0, 5649.0, 5539.0, 5577.0, 5484.0, 5582.0, 5329.0, 5365.0, 5269.0, 5641.0, 5284.0, 5679.0, 5682.0, 5507.0, 5332.0, 5405.0, 5683.0, 5698.0, 5599.0, 5251.0, 5264.0, 5636.0, 5424.0, 5346.0, 5412.0, 5327.0, 5267.0, 5430.0, 5583.0, 5467.0, 5702.0, 5348.0, 5676.0, 5573.0 (number of hits: 16)
10	5560	9	1	333	1	5567.0, 5535.0, 5639.0, 5449.0, 5687.0, 5668.0, 5453.0, 5520.0, 5493.0, 5426.0, 5649.0, 5417.0, 5609.0, 5276.0, 5642.0, 5693.0, 5672.0, 5444.0, 5363.0, 5638.0, 5291.0, 5653.0, 5387.0, 5681.0, 5647.0, 5707.0, 5655.0, 5561.0, 5296.0, 5663.0, 5667.0, 5458.0, 5438.0, 5380.0, 5478.0, 5403.0, 5568.0, 5250.0, 5261.0, 5349.0, 5439.0, 5551.0, 5679.0, 5284.0, 5554.0, 5351.0, 5514.0, 5658.0, 5611.0, 5354.0, 5574.0, 5519.0, 5301.0, 5418.0, 5476.0, 5413.0, 5576.0, 5327.0, 5355.0, 5500.0, 5366.0, 5293.0, 5286.0, 5316.0, 5545.0, 5598.0, 5617.0, 5382.0, 5494.0, 5484.0, 5620.0, 5587.0, 5446.0, 5630.0, 5410.0, 5557.0, 5570.0, 5379.0, 5312.0, 5283.0, 5307.0, 5341.0, 5270.0, 5513.0, 5716.0, 5627.0, 5496.0, 5252.0, 5709.0, 5457.0, 5714.0, 5338.0, 5483.0, 5257.0, 5572.0, 5384.0, 5569.0, 5272.0, 5259.0, 5372.0 (number of hits: 16)

7 Annex A (Informative) – Manufacturer Declaration of Similarity



Business Unit - Ruckus Wireless Inc.
350 W. Java Dr.
Sunnyvale CA 94089 USA
T: +1 650 265 4200
F: +1 408 738 2065
www.commscope.com

DECLARATION OF SIMILARITY

To:

May 14, 2021

Bay Area Compliance Laboratories Corp.
1274 Anvilwood Ave. Sunnyvale, CA 94089
Phone: 408-732-9162, Fax: 408-732-9164
<http://www.baclcorp.com>

Dear Sir or Madam:

Ruckus Wireless Inc., hereby declare that product: *Indoor Access Points*, model(s): *H550 and H350* are electrically identical with the same electromagnetic emissions and electromagnetic compatibility characteristics as model: *H550* tested by BACL, the results of which are featured in BACL project: *R2007201-xx*.

A description of the differences between the tested model and the new one are as follows:

Features / Specifications	H550	H350
Wi-Fi	11ax	11ax
2.4 & 5GHz Radio Config	2x2	2x2
Tx Power 5GHz (Target)	22 dBm	22 dBm
Tx Power 2.4GHz (Target)	19 dBm	19 dBm
Wi-Fi BW Supported (MHz)	20/40/80	20/40/80
Onboard BLE	Yes	Yes – 1 radio
Onboard Zigbee	Yes	BLE + Zigbee
USB Port	Yes	No
WAN Port Ethernet	1x (1GbE)	1x (1GbE)
PoE Input	Yes, 802.3bt	Yes, 802.3af
LAN Port Ethernet	4x (1GbE)	2x (1GbE)
PoE Output	1x (af)	No
DC power	Yes	Yes
Dimensions	90 x 29 x 180 mm	90 x 29 x 180 mm
BSS Coloring	Yes	Yes

Please contact me should there be need for any additional clarification or information.

Sincerely,

Responsible Party Signature

Signature: 
Name: Ivaylo Tankov
Title: Principal Wireless Compliance Engineering
Email: certifications@commscope.com



Business Unit - Ruckus Wireless Inc.
350 West Java Dr.
Sunnyvale CA 94089 USA
T: +1 650 265 4200
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DECLARATION OF SIMILARITY

Date: 24 June 2021

To:

FEDERAL COMMUNICATIONS COMMISSIONS
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Innovation, Science and Economic Development Canada
Certification and Engineering Bureau
P.O. Box 11490, Station 'H'
3701 Carling Ave., Building 94
Ottawa, Ontario K2H 8S2
Canada

Dear Sir or Madam:

Ruckus Wireless, Inc hereby declare that product: *Access Point, model: H350 (FCC ID: S9GH350, IC: 5912A-H350)* is electrically identical with the same RF power, electromagnetic emissions and electromagnetic compatibility characteristics as model: *H550 (FCC ID: S9GH550, IC: 5912A-H550)* tested by BACL, the results of which are featured in BACL project: *R2007201*.

A description of the differences between the tested model H550 and Model H350 that is declared similar are as follows – on H350 is depopulated:

1. One of the IoT chipset is depopulated and on second is enabled Zigbee functionality – test report provided for review
2. USB port is removed
3. Number of Ethernet ports reduced form 4 to 2

Should you have further inquiry, please do not hesitate to contact us.

Sincerely,

Signature: 

Name: Ivaylo Tankov

Title: Principal Wireless Compliance Engineering

Email: certifications@commscope.com

8 Annex B (Normative) - A2LA Electrical Testing Certificate**Accredited Laboratory**

A2LA has accredited

BAY AREA COMPLIANCE LABORATORIES CORP.

Sunnyvale, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This laboratory also meets A2LA R222 - Specific Requirements EPA ENERGY STAR Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

Presented this 10th day of March 2021.

A handwritten signature in blue ink.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3297.02
Valid to September 30, 2022

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

Please follow the web link below for a full ISO 17025 scope

<https://www.a2la.org/scopepdf/3297-02.pdf>

--- END OF REPORT ---