UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-UX7
ISED ID	6545A-UX7
Equipment Under Test	UX7
Test Report Serial Number	TR9575_03
Date of Tests	9, 18-20 September; 7, 16-18 October; 26-27 November 2024, 6 December 2024
Report Issue Date	6 December 2024

Test Specification	Applicant
47 CFR FCC Part 15, Subpart E	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.

NVLAP TESTING ilac-MRA

NVLAP LAB CODE 600241-0

Certification of Engineering Report

This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart E. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested with the specifications provided by the manufacturer.

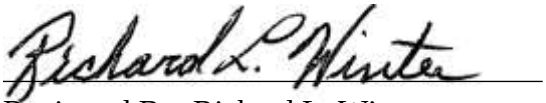
Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	UX7
FCC ID	SWX-UX7
ISED ID	6545A-UX7

On this 6th day of December 2024, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete and correct to the best of my knowledge and are made in good faith.

Although NVLAP has accredited the Unified Compliance Laboratory testing facilities, this report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. federal government.

Unified Compliance Laboratory

Written By: Clay Allred



Reviewed By: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	2 December 2024
02	Amend FCC and IC ID	3 December 2024
03	Updated results for OFDM mode	6 December 2024

Table of Contents

1 Client Information

1.1 Applicant

Company	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
Contact Name	Alex Macon
Title	Compliance

1.2 Manufacturer

Company	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
Contact Name	Alex Macon
Title	Compliance

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	UBIQUITI
Model Number	UX7
Serial Number	942A6F4226AE
Dimensions (cm)	11.7 x 11.7 x 4.3

2.2 Description of EUT

The UX7 is a WiFi 7 access point designed for wide-ranging wireless coverage while maintaining overall network capacity. The UX7 operates in the 2.4 GHz, 5 GHz, and 6 GHz range. The UX7 has a Bluetooth management radio for easy setup and administration of the wireless system. The UX7 is powered from a USB-C connector.

Band	Modulation Bandwidth	Frequency (MHz)
UNII-2A	20 MHz	5260, 5280, 5320
	40 MHz	5270, 5310
	80 MHz	5290
	160 MHz	5250
UNII-2C	20 MHz	5500, 5600*, 5720
	40 MHz	5510, 5590, 5710
	80 MHz	5530, 5610*, 5690
	160 MHz	5570
* Frequency not applicable in Canada		

Table 1: UNII-2A and UNII-2C Channel Settings

This report covers the circuitry of the device subject to FCC Part 15, Subpart E. The circuitry of the device subject to FCC Part 15 Subpart B was found to be compliant and is covered under a separate Unified Compliance Laboratory test report.

2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

Brand Name Model Number Serial Number	Description	Name of Interface Ports / Interface Cables
BN: UBIQUITI MN: UX7 SN: 942A6F422528	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: GP-M015-QC SN: N/A	USB C Power Adapter	2 conductor power cord/80 cm
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer	LAN Port / Un-shielded Cat 5e cable (Note 2)

Notes: (1) EUT
(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified in order to achieve compliance with this standard.

2.4 Interface Ports on EUT

Name of Ports	No. of Ports Fitted to EUT	Cable Description/Length
AC / USB-C	1	2 conductor power cord/80 cm
LAN	1	Un-shielded Cat 5e cable/5 meter
WAN	1	Un-shielded Cat 5e cable/5 meter

2.5 Operating Environment

Power Supply	240 Volts AC Mains to USB-C Power
AC Mains Frequency	50 Hz
Temperature	21.8 – 23.5 °C
Humidity	25.7 – 41.5 %
Barometric Pressure	1019 mBar

2.6 Operating Modes

The UX7 was tested using test software in order to enable a constant transmission. The measurements within this report are corrected to reference a 100% duty cycle. All emission modes of 802.11 a/ax were investigated. All measurements are reported with the worst-case mode (802.11ax) unless otherwise stated.

2.7 EUT Exercise Software

EUT firmware version 1.0 was used to operate the transmitter using a constant transmit mode.

2.8 Block Diagram of Test Configuration

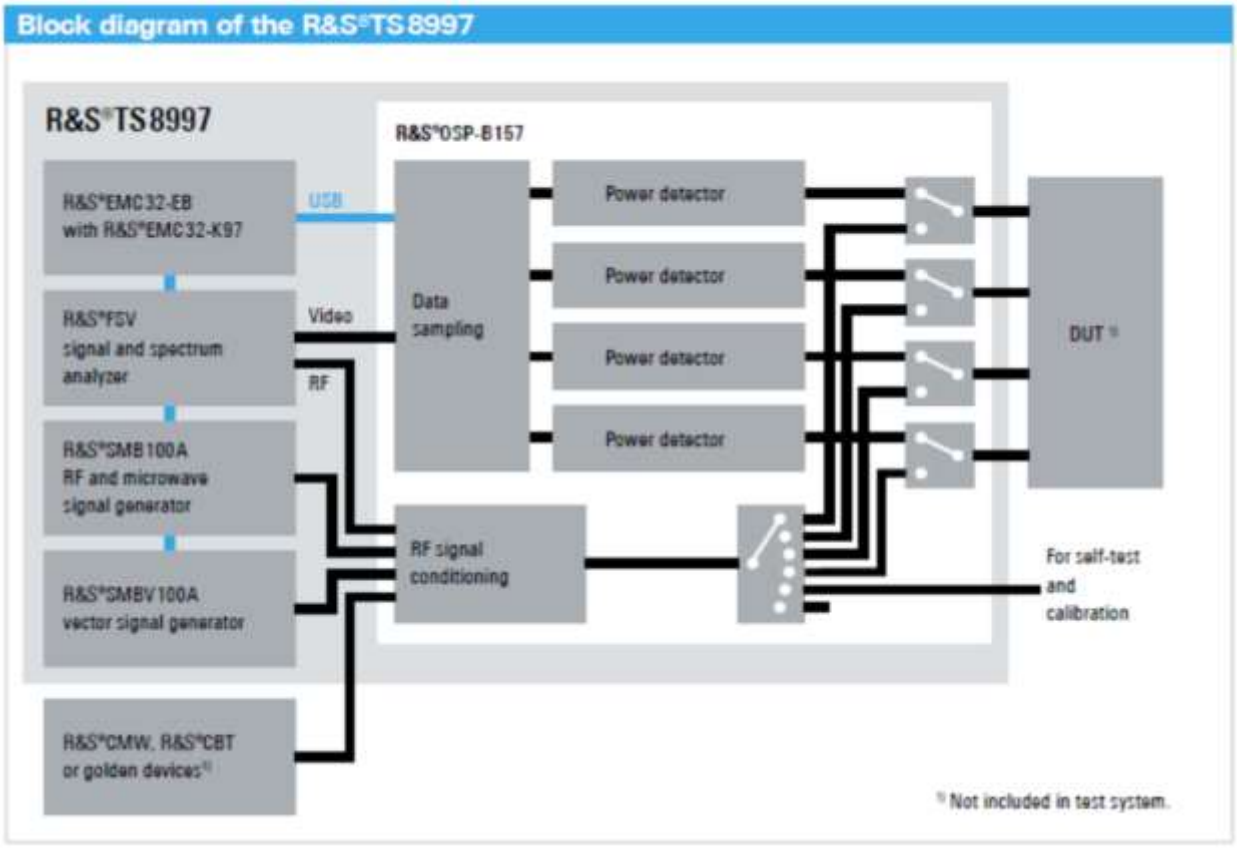


Diagram 1: Test Configuration Block Diagram

2.9 Modification Incorporated/Special Accessories on EUT

There were no modifications made to the EUT during testing to comply with the specification.

2.10 Deviation, Opinions Additional Information or Interpretations from Test Standard

There were no deviations, opinions, additional information or interpretations from the test specification.

3 Test Specification, Method and Procedures

3.1 Test Specification

Title	47 CFR FCC Part 15, Subpart E, Section 15.407 Limits and methods of measurement of radio interference characteristics of Unlicensed National Information Infrastructure Devices
Purpose of Test	The tests were performed to demonstrate initial compliance

3.2 Methods & Procedures

3.2.1 47 CFR FCC Part 15 Section 15.407

See test standard for details.

3.3 FCC Part 15, Subpart E

3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.407(a)	N/A	Antenna requirements	Structural Requirement	Compliant
15.407(b)	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Bandwidth Requirement	5260 to 5720	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Peak Output Power	5260 to 5720	Compliant
15.407(b)	RSS-247 §6.2.2, §6.2.3	Antenna Conducted Spurious Emissions	0.009 to 40000	Compliant
15.407(b)	RSS-247 §6.2.2, §6.2.3	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Peak Power Spectral Density	5260 to 5720	Compliant
15.407(h)	RSS-247 §6.3	DFS Requirements	5260 to 5720	Compliant
The testing was performed according to the procedures in ANSI C63.10-2013, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements.				

3.4 Results

In the configuration tested, the EUT complied with the requirements of the specification.

3.5 Test Location

Testing was performed at the Unified Compliance Laboratory 3-meter and 10-meter chamber located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2025. This site has also been registered with Innovations, Science and Economic Development (ISED) department as was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2025.

Unified Compliance Laboratory has been assigned Designation Number US5037 by the FCC and Conformity Assessment Number US0223 by ISED.

4 Test Equipment

4.1 Conducted Emissions at Mains Ports

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	AFJ	FFT3010	UCL-6754	1/23/2024	2/26/2025
LISN	AFJ	LS16C/10	UCL-2512	7/08/2024	7/08/2025
ISN	Teseq	ISN T800	UCL-2974	7/09/2024	7/09/2025
LISN	AFJ	LS16C\10	UCL-6749	1/29/2024	1/29/2025
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	UCL	Revision 1	UCL-3107	N/A	N/A

Table 2: List of equipment used for Conducted Emissions Testing at Mains Port

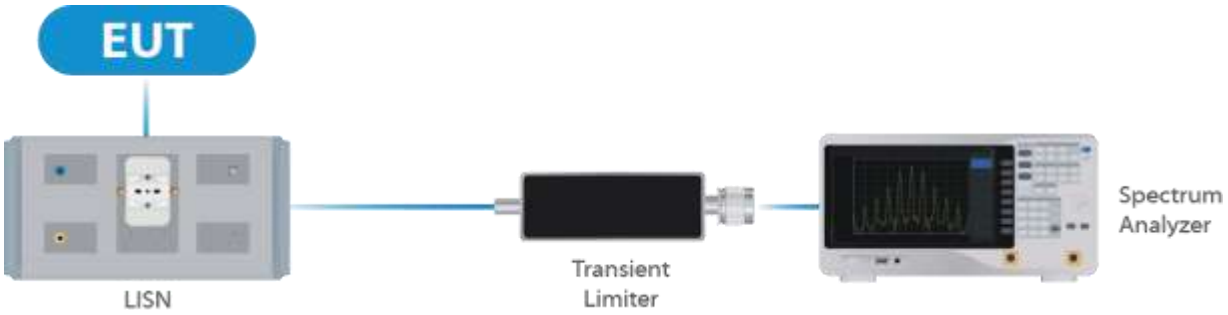


Figure 1: Conducted Emissions Test

4.2 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	UCL-2861	11/27/2023	12/22/2024
Signal Generator	R&S	SMB100A	UCL-2864	N/A	N/A
Vector Signal Generator	R&S	SMBV100A	UCL-2873	N/A	N/A
Switch Extension	R&S	OSP-B157WX	UCL-2867	4/12/2024	4/19/2025
Switch Extension	R&S	OSP-150W	UCL-2870	4/12/2024	4/19/2025

Table 3: List of equipment used for Direct Connect at the Antenna Port

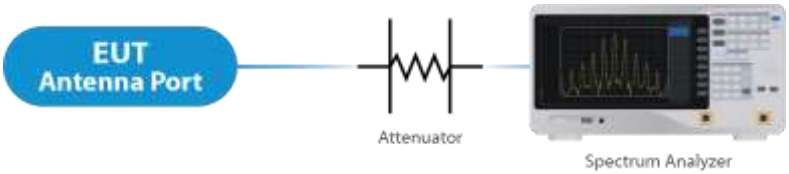


Figure 2: Direct Connect at the Antenna Port Test

Figure 3: Output Power Measurement

4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	1/25/2024	1/29/2025
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	1/19/2024	1/19/2026
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3062	2/22/2023	2/22/2025
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3071	1/11/2023	1/11/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	3/10/2023	3/10/2025
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	1/27/2023	1/27/2025
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	3/10/2023	3/10/2025
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	1/19/2024	1/19/2026
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 4: List of equipment used for Radiated Emissions

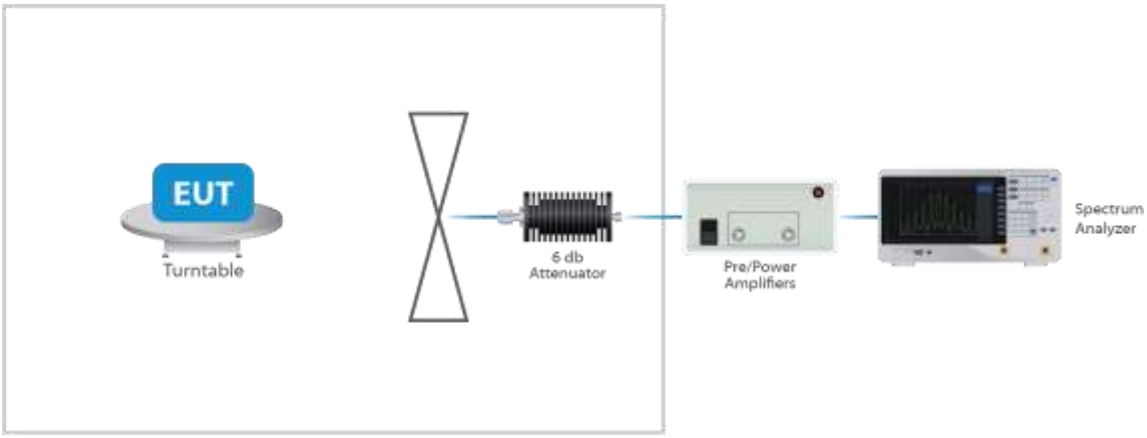


Figure 4: Radiated Emissions Test

4.4 DFS Testing

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Vector Signal Generator	R&S	SMBV100A	UCL-2873	N/A	N/A
Spectrum Analyzer	Keysight	N9010B	UCL-7069	5/3/2024	5/3/2025

4.4.1 Master Test Set Up

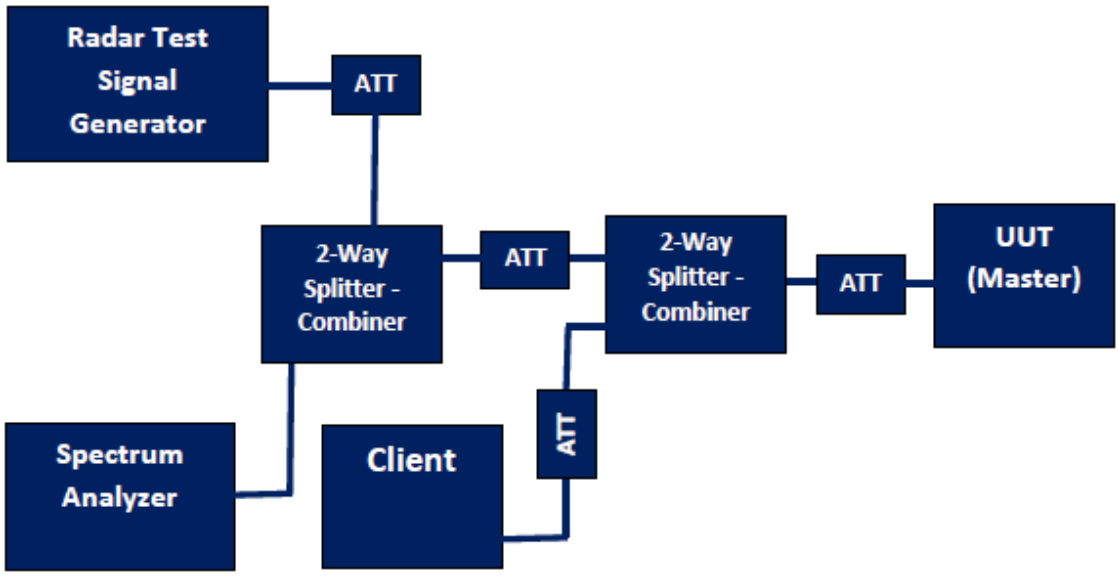


Figure 5: DFS Test Set Up - Master

Figure 6: DFS Test Set Up – Master Injection at the Master

4.5 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or Unified Compliance Laboratory personnel at intervals defined in ANSI C63.4:2014 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request.

4.6 Measurement Uncertainty

Test	Uncertainty (± dB)	Confidence (%)
Conducted Emissions	1.44	95
Radiated Emissions (9 kHz to 30 MHz)	2.50	95
Radiated Emissions (30 MHz to 1 GHz)	4.38	95
Radiated Emissions (1 GHz to 18 GHz)	4.37	95
Radiated Emissions (18 GHz to 40 GHz)	3.93	95
Direct Connect Tests	**K Factor**	**Value**
Emissions Bandwidth	2	2.0%
Output Power	2	1.0 dB
Peak Power Spectral Density	2	1.3 dB
Band Edge	2	0.8 dB
Transmitter Spurious Emissions	2	1.8 dB

5 Test Results

5.1 §15.203 Antenna Requirements

The EUT uses an integral antenna. Per the manufacturer, the Maximum gain of the antenna per chain is 7 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable. For CDD transmissions, directional gain is calculated as follows.

Array Gain = 10 log(NANT/NSS) dB
NANT = number of transmit antennas and
NSS = number of spatial streams. NSS = 1 considered worst case.

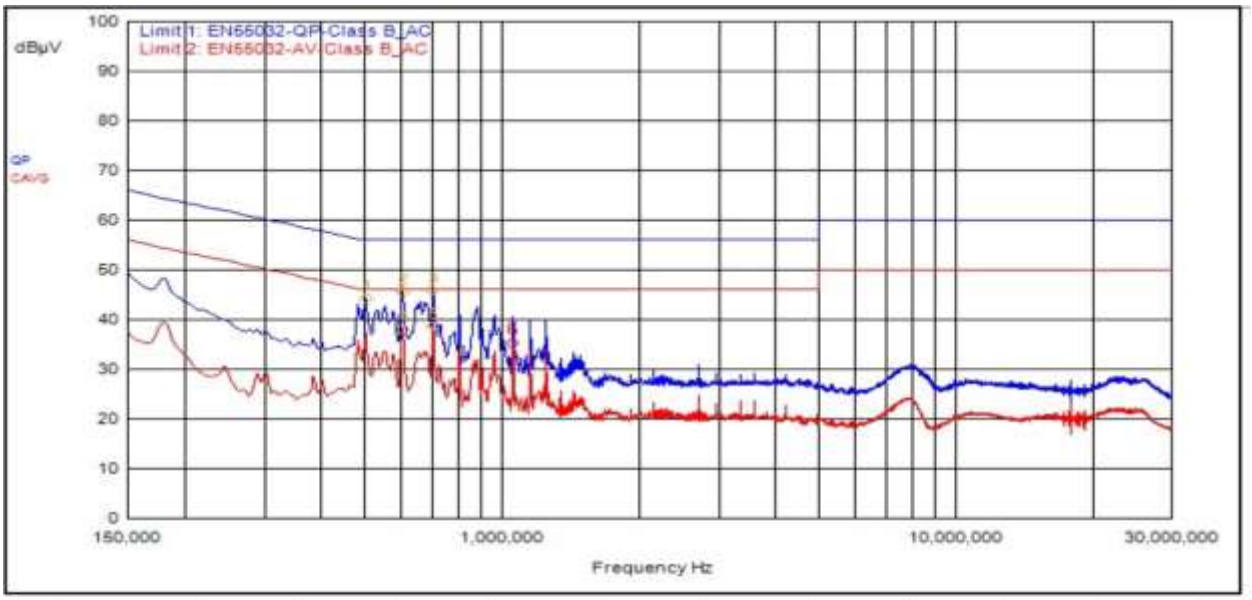
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;
For PSD measurements when Nss=1: Array Gain = 10 log(NANT/NSS) dB + Antenna Gain (dBi). Or 3.01 dB + 7 dBi = 10.01 dBi.

Results

The EUT complied with the specification

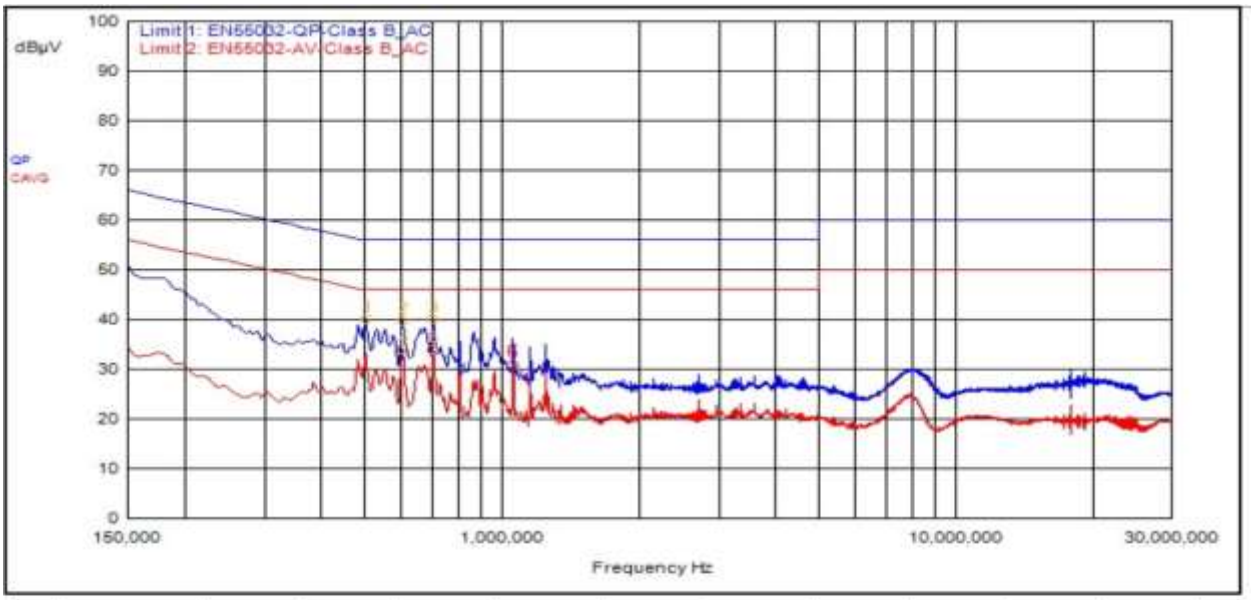
5.2 Conducted Emissions at Mains Ports Data

5.2.1 Line



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBµV	dBµV	dBµV	dB	dBµV	dB	P/F
3	705,000kHz	9.50			QPeak	36.47	45.97	56.00	-10.03			
2	603,000kHz	9.50			QPeak	36.03	45.53	56.00	-10.47			
1	501,000kHz	9.49			QPeak	34.78	44.27	56.00	-11.73			
4	606,000kHz	9.50			C_AVG	28.49	37.99			46.00	-8.01	
5	705,000kHz	9.50			C_AVG	29.04	38.54			46.00	-7.46	
6	1.059	9.58			C_AVG	25.65	35.23			46.00	-10.77	

5.2.2 Neutral



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBµV	dBµV	dBµV	dB	dBµV	dB	P/F
1	501,000kHz	9.64			QPeak	30.41	40.05	56.00	-15.95			
3	705,000kHz	9.54			QPeak	30.33	39.87	56.00	-16.13			
2	603,000kHz	9.59			QPeak	30.02	39.61	56.00	-16.39			
4	606,000kHz	9.59			C_AVG	24.26	33.85			46.00	-12.15	
5	705,000kHz	9.54			C_AVG	24.44	33.98			46.00	-12.02	
6	1.059	9.56			C_AVG	21.14	30.70			46.00	-15.30	

Result

The EUT complied with the specification limit.

5.3 §15.403(i) 26 dB Emissions Bandwidth

All chains were measured under the guidance of KDB 789033 Section II.C. and KDB 662911 D01. Please see associated annex for details on instrument settings.

5.3.1 UNII-2A

Bandwidth	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
a20	5260	17.50	22.3
a20	5280	17.25	22.5
a20	5320	17.5	22.4
ax20	5260	19.25	23.75
ax20	5280	19.25	23.25
ax20	5320	19.25	23.00
ax40	5720	38.25	43.05
ax40	5310	38.25	43.65
ax80	5290	77.50	91.00
ax160	5250	157.00	176.00

5.3.2 UNII-2C

Bandwidth	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
a20	5500	17.50	22.5
a20	5600	17.5	22.4
a20	5720	17.75	22.4
ax20	5500	19.25	22.20
ax20	5600	19.50	22.70
ax20	5720	19.25	22.60
ax40	5510	38.50	43.05
ax40	5590	38.50	43.35
ax40	5570	38.50	43.60
ax80	5530	79.00	87.00
ax80	5610	79.00	88.00
ax80	5690	79.00	89.00
ax160	5570	162.50	175.00

Result

The 26 dB bandwidths are reported for information purposes. Please see Annex for all bandwidth measurements.

5.4 §15.407(a)(2) Maximum Average Output Power

All chains were measured and summed under the guidance of KDB 789033 Section II. E.2. and KDB 662911 D01. Please see associated annex for details on instrument settings.

The maximum average RF conducted output power measured for this device was 29.97 dBm or 993.12 mW. The limit is 24 dBm or 250 mW when using antennas with 6 dBi or less gain. The antenna has a maximum gain of7 dBi.

5.4.1 UNII-2A

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5260	Mcs0_Nss2	19	21.33	28.33	9.20
OFDM 20	5280	Mcs0_Nss2	19	21.03	28.03	9.03
OFDM 20	5320	Mcs0_Nss2	20	22.12	29.12	9.97
HE20	5260	Mcs0_Nss2	20	22.21	29.21	9.15
HE20	5280	Mcs0_Nss2	20	22.07	29.07	8.98
HE20	5320	Mcs0_Nss2	21	22.97	29.97	9.84
HE40	5270	Mcs0_Nss2	20	22.19	29.19	6.13
HE40	5310	Mcs0_Nss2	20	22.32	29.32	6.21
HE80	5290	Mcs0_Nss2	21	22.94	29.94	3.96
HE160	5250	Mcs0_Nss2	21	22.96	29.96	1.29

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5260	Mcs0_Nss1	16	18.33	25.33	6.20
OFDM 20	5280	Mcs0_Nss1	16	18.03	25.03	6.03
OFDM 20	5320	Mcs0_Nss1	17	19.12	26.12	6.97
HE20	5260	Mcs0_Nss1	17	19.21	26.21	6.15
HE20	5280	Mcs0_Nss1	18	20.07	27.07	6.98
HE20	5320	Mcs0_Nss1	18	19.97	26.97	6.84
HE40	5270	Mcs0_Nss1	20	22.19	29.19	6.13
HE40	5310	Mcs0_Nss1	20	22.32	29.32	6.21
HE80	5290	Mcs0_Nss1	21	22.94	29.94	3.96
HE160	5250	Mcs0_Nss1	21	22.96	29.96	1.29

5.4.2 UNII-2C

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5500	Mcs0_Nss2	21	22.17	29.17	9.96
OFDM 20	5600	Mcs0_Nss2	20	21.56	28.56	9.96
OFDM 20	5720	Mcs0_Nss2	20	21.20	28.20	9.60
HE20	5500	Mcs0_Nss2	19	21.08	28.08	9.64
HE20	5600	Mcs0_Nss2	21	22.57	29.57	9.93
HE20	5720	Mcs0_Nss2	22	22.29	29.29	9.87
HE40	5510	Mcs0_Nss2	20	21.94	28.94	6.19
HE40	5590	Mcs0_Nss2	21	22.64	29.64	6.95
HE40	5710	Mcs0_Nss2	22	22.60	29.60	7.32
HE80	5530	Mcs0_Nss2	21	22.41	29.41	3.77
HE80	5610	Mcs0_Nss2	22	22.47	29.47	3.81
HE80	5690	Mcs0_Nss2	22	22.86	29.86	4.34
HE160	5570	Mcs0_Nss2	21	22.61	29.61	1.15

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5500	Mcs0_Nss1	18	19.17	26.17	6.96
OFDM 20	5600	Mcs0_Nss1	17	18.56	25.56	6.96
OFDM 20	5720	Mcs0_Nss1	17	18.20	25.20	6.60
HE20	5500	Mcs0_Nss1	16	18.08	25.08	6.64
HE20	5600	Mcs0_Nss1	18	19.57	26.57	6.93
HE20	5720	Mcs0_Nss1	19	19.29	26.29	6.87
HE40	5510	Mcs0_Nss1	20	21.94	28.94	6.19
HE40	5590	Mcs0_Nss1	21	22.64	29.64	6.95
HE40	5710	Mcs0_Nss1	21	21.60	28.60	6.32
HE80	5530	Mcs0_Nss1	21	22.41	29.41	3.77
HE80	5610	Mcs0_Nss1	22	22.47	29.47	3.81
HE80	5690	Mcs0_Nss1	22	22.86	29.86	4.34
HE160	5570	Mcs0_Nss1	21	22.61	29.61	1.15

Result

In the configuration tested, the maximum average RF output power was less than 0.250 watt; therefore, the EUT complied with the requirements of the specification.

5.5 §15.407(b) Spurious Emissions

5.5.1 Conducted Spurious Emissions

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental frequency was investigated to measure any antenna-conducted emissions. The graphs show the measurement data from spurious emissions noted across the frequency range when transmitting at the lowest frequency, middle frequency and upper frequency. Shown below are plots with the EUT turned to the upper and lower channels with the antenna gain of 7 dBi accounted for. These demonstrate compliance with the provisions of this section at the band edges.

The emissions must be below -27 dBm EIRP.

Result

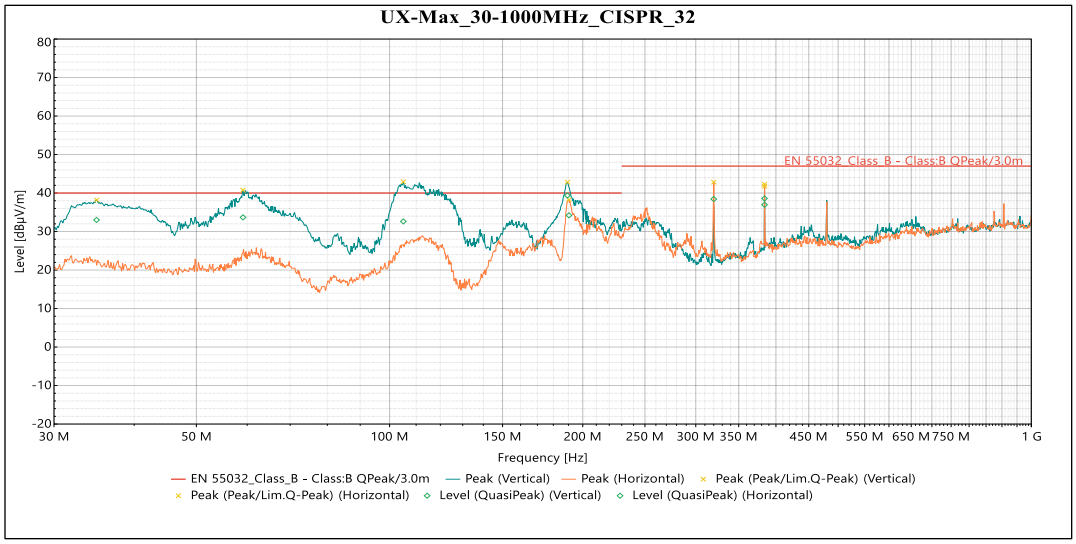
Conducted spurious emissions were below -27 dBm; therefore, the EUT complies with the specification. See Annex for results.

5.5.2 Radiated Spurious Emissions in the Restricted Bands of § 15.205

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions was investigated to measure any radiated emissions in the restricted bands. For frequencies above 18.0 GHz. The emissions in the restricted bans must meet the limits specified in § 15.209. Conducted measurement results are included in the Annex. Radiated data with the EUT transmitting into a load is included below. All emissions between the required frequencies were investigated, the following plots represent the worst case. The “fail” is the transmitted signal exceeding the spurious limit.

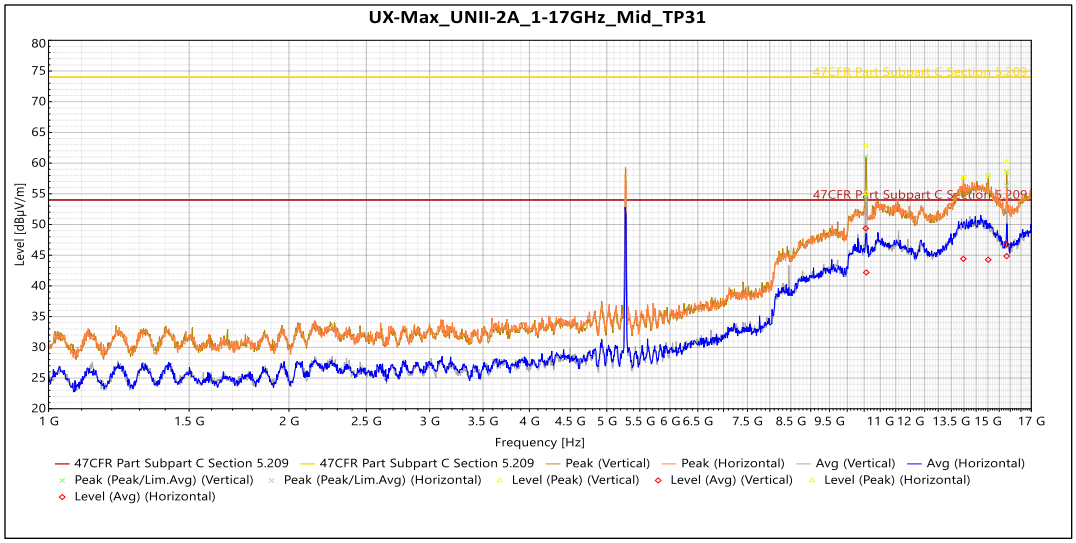
Correction Factor = Antenna Factor + Cable Loss - Pre-Amplifier Gain, and is added to the Receiver reading.

5.5.3 UNII-2A



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	RBW (Hz)	Correction (dB)
34.945975 MHz	QP	33.027	40	-6.973	200	1	Vertical	120 kHz	-10.415
59.11511 MHz	QP	33.683	40	-6.317	349	1.13	Vertical	120 kHz	-8.763
105.073162 MHz	QP	32.625	40	-7.375	166	1.13	Vertical	120 kHz	-8.953
189.288564 MHz	QP	39.353	40	-0.647	168	1.13	Vertical	120 kHz	-9.976
383.934924 MHz	QP	38.59	47	-8.41	151	1.13	Vertical	120 kHz	-4.861
190.368388 MHz	QP	34.215	40	-5.785	288	1.35	Horizontal	120 kHz	-9.777
320.023216 MHz	QP	38.442	47	-8.558	109	1.13	Horizontal	120 kHz	-6.691
384.019152 MHz	QP	36.961	47	-10.039	351	2.14	Horizontal	120 kHz	-4.857

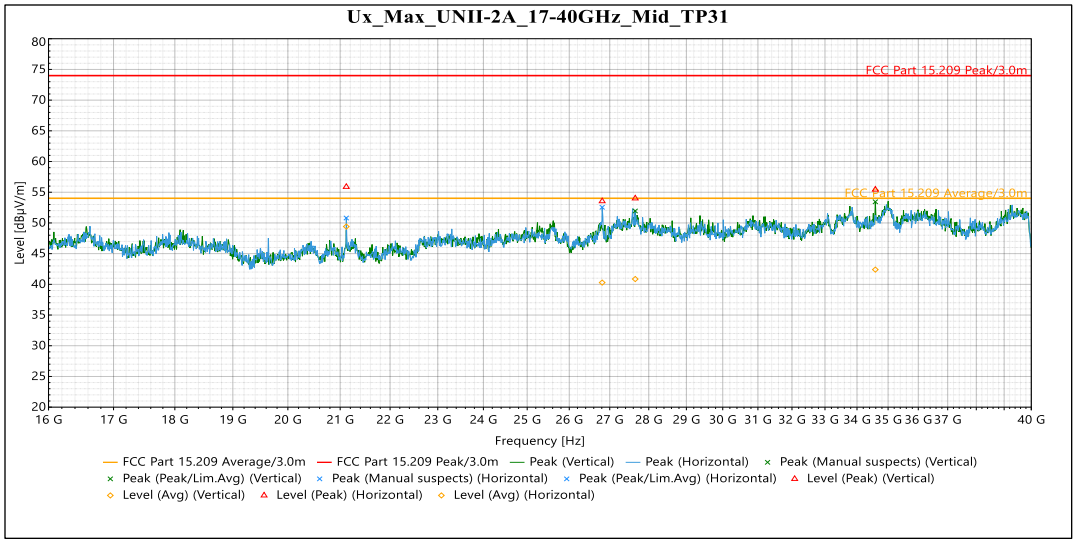
Graph 1: Radiated Emissions within 30MHz - 1GHz



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.5503434 GHz	Peak	62.866	74	-11.134	255	2.871	Vertical	9.564

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
15.0146354 GHz	Peak	57.86	74	-16.14	196	1.5	Vertical	13.633
15.8325248 GHz	Peak	60.168	74	-13.832	200	2.292	Vertical	10.767
10.5503434 GHz	Avg	49.38	54	-4.62	255	2.871	Vertical	9.564
15.0146354 GHz	Avg	44.271	54	-9.729	196	1.5	Vertical	13.633
15.8325248 GHz	Avg	46.75	54	-7.25	200	2.292	Vertical	10.767
10.565613 GHz	Peak	55.065	74	-18.935	239	1.714	Horizontal	9.531
13.975043 GHz	Peak	57.705	74	-16.295	179	1.714	Horizontal	13.329
15.8365534 GHz	Peak	58.497	74	-15.503	124	2.292	Horizontal	10.787
10.565613 GHz	Avg	42.199	54	-11.801	239	1.714	Horizontal	9.531
13.975043 GHz	Avg	44.412	54	-9.588	179	1.714	Horizontal	13.329
15.8365534 GHz	Avg	44.853	54	-9.147	124	2.292	Horizontal	10.787

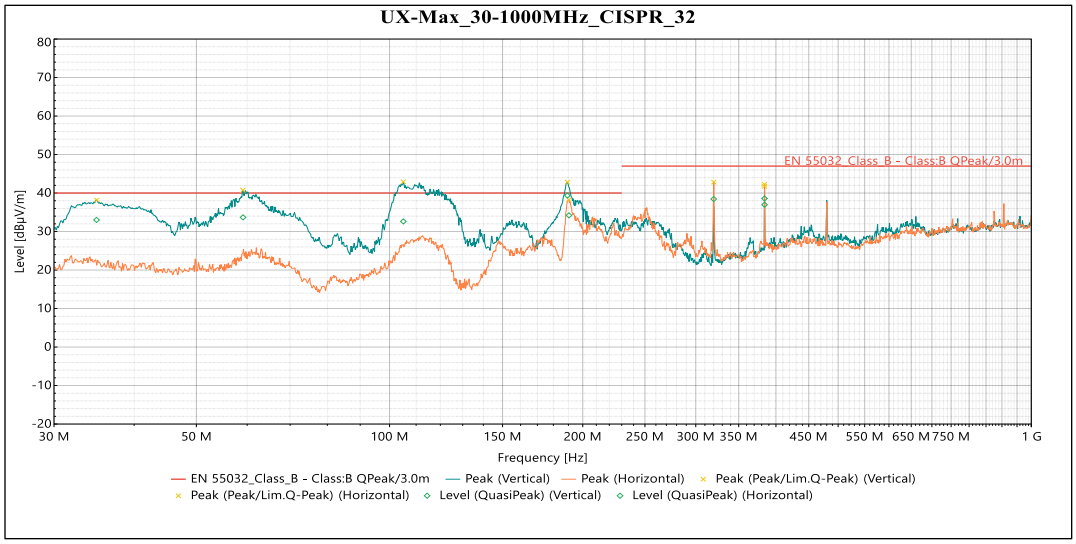
Graph 2: 1 GHz – 16 GHz



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
27.649571 GHz	1	53.999	74	-20.001	5	Vertical	3.428
34.5866027 GHz	1	55.429	74	-18.571	2	Vertical	4.449
27.649571 GHz	1	40.864	54	-13.136	5	Vertical	3.428
34.5866027 GHz	1	42.398	54	-11.602	2	Vertical	4.449
21.1202878 GHz	2	55.881	74	-18.119	119	Horizontal	0.807
26.8103057 GHz	2	53.541	74	-20.459	253	Horizontal	3.545
21.1202878 GHz	2	49.409	54	-4.591	119	Horizontal	0.807
26.8103057 GHz	2	40.286	54	-13.714	253	Horizontal	3.545

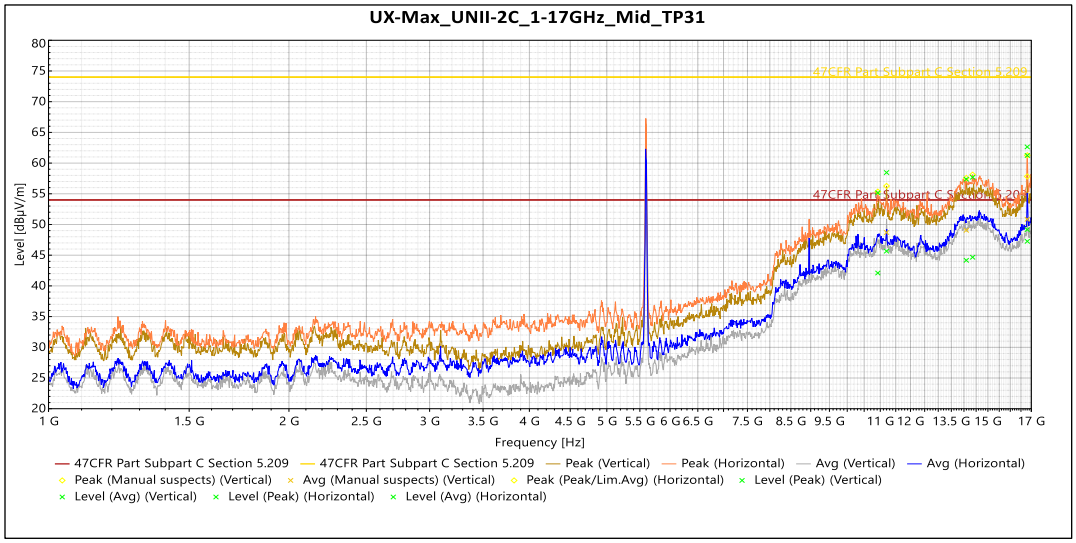
Graph 3: 16 GHz – 40 GHz

5.5.4 UNII-2C



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	RBW (Hz)	Correction (dB)
34.945975 MHz	QP	33.027	40	-6.973	200	1	Vertical	120 kHz	-10.415
59.11511 MHz	QP	33.683	40	-6.317	349	1.13	Vertical	120 kHz	-8.763
105.073162 MHz	QP	32.625	40	-7.375	166	1.13	Vertical	120 kHz	-8.953
189.288564 MHz	QP	39.353	40	-0.647	168	1.13	Vertical	120 kHz	-9.976
383.934924 MHz	QP	38.59	47	-8.41	151	1.13	Vertical	120 kHz	-4.861
190.368388 MHz	QP	34.215	40	-5.785	288	1.35	Horizontal	120 kHz	-9.777
320.023216 MHz	QP	38.442	47	-8.558	109	1.13	Horizontal	120 kHz	-6.691
384.019152 MHz	QP	36.961	47	-10.039	351	2.14	Horizontal	120 kHz	-4.857

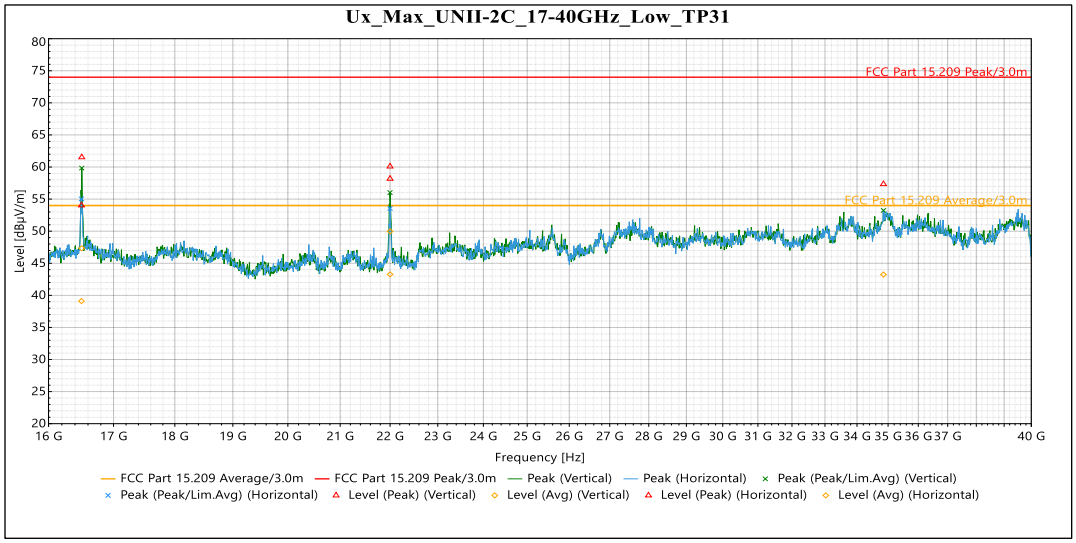
Graph 4: Radiated Emissions within 30MHz - 1GHz



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.1995137 GHz	Peak	58.46	74	-15.54	125	1.714	Vertical	10.02

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.094329 GHz	Peak	57.375	74	-16.625	337	2.287	Vertical	13.149
16.801855 GHz	Peak	62.634	74	-11.366	266	2.288	Vertical	13.568
11.1995137 GHz	Avg	45.657	54	-8.343	125	1.714	Vertical	10.02
14.094329 GHz	Avg	44.167	54	-9.833	337	2.287	Vertical	13.149
16.801855 GHz	Avg	49.168	54	-4.832	266	2.288	Vertical	13.568
10.9218789 GHz	Peak	55.158	74	-18.842	257	2.041	Horizontal	11.546
14.3548479 GHz	Peak	57.688	74	-16.312	34	1.714	Horizontal	13.673
16.8059417 GHz	Peak	61.244	74	-12.756	102	2.288	Horizontal	13.564
10.9218789 GHz	Avg	42.095	54	-11.905	257	2.041	Horizontal	11.546
14.3548479 GHz	Avg	44.666	54	-9.334	34	1.714	Horizontal	13.673
16.8059417 GHz	Avg	47.258	54	-6.742	102	2.288	Horizontal	13.564

Graph 5: 1 GHz – 16 GHz



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
16.5037029 GHz	Peak	61.524	74	-12.476	312	Vertical	0.988
21.9991988 GHz	Peak	58.18	74	-15.82	239	Vertical	0.514
34.8497511 GHz	Peak	57.339	74	-16.661	359	Vertical	5.696
16.5037029 GHz	Avg	47.338	54	-6.662	312	Vertical	0.988
21.9991988 GHz	Avg	43.273	54	-10.727	239	Vertical	0.514
34.8497511 GHz	Avg	43.24	54	-10.76	359	Vertical	5.696
16.4992125 GHz	Peak	54.026	74	-19.974	160	Horizontal	0.968
21.9996109 GHz	Peak	60.087	74	-13.913	247	Horizontal	0.514
16.4992125 GHz	Avg	39.099	54	-14.901	160	Horizontal	0.968
21.9996109 GHz	Avg	49.972	54	-4.028	247	Horizontal	0.514

Graph 6: 16 GHz – 40 GHz

5.6 §15.407(a) Maximum Power Spectral Density

All chains were measured and summed under the guidance of KDB 789033 Section II. F. and KDB 662911 D01. Please see associated annex for details on instrument settings.

The maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 11 dBm in any 1 MHz band during any time interval of continuous transmission. Results of this testing are summarized. With a 6 dBi antenna, the conducted limit for power spectral density is 11 dBm.

As per KDB 662911, When the EUT is using spatial-multiplexing in HT to HE modes, there is not additional array gain to accommodate. When the EUT uses Nss=1 data rates, the antenna gain is 7 dBi + Array gain of 3.01 dB which is a total of 10.01 dBi
Results of this testing are summarized.

5.6.1 UNII-2A

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5260	Mcs0_Nss2	19	21.33	28.33	9.20
OFDM 20	5280	Mcs0_Nss2	19	21.03	28.03	9.03
OFDM 20	5320	Mcs0_Nss2	20	22.12	29.12	9.97
HE20	5260	Mcs0_Nss2	20	22.21	29.21	9.15
HE20	5280	Mcs0_Nss2	20	22.07	29.07	8.98
HE20	5320	Mcs0_Nss2	21	22.97	29.97	9.84
HE40	5270	Mcs0_Nss2	20	22.19	29.19	6.13
HE40	5310	Mcs0_Nss2	20	22.32	29.32	6.21
HE80	5290	Mcs0_Nss2	21	22.94	29.94	3.96
HE160	5250	Mcs0_Nss2	21	22.96	29.96	1.29

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5260	Mcs0_Nss1	16	18.33	25.33	6.20
OFDM 20	5280	Mcs0_Nss1	16	18.03	25.03	6.03
OFDM 20	5320	Mcs0_Nss1	17	19.12	26.12	6.97
HE20	5260	Mcs0_Nss1	17	19.21	26.21	6.15

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
HE20	5280	Mcs0_Nss1	18	20.07	27.07	6.98
HE20	5320	Mcs0_Nss1	18	19.97	26.97	6.84
HE40	5270	Mcs0_Nss1	20	22.19	29.19	6.13
HE40	5310	Mcs0_Nss1	20	22.32	29.32	6.21
HE80	5290	Mcs0_Nss1	21	22.94	29.94	3.96
HE160	5250	Mcs0_Nss1	21	22.96	29.96	1.29

5.6.2 UNII-2C

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5500	Mcs0_Nss2	21	22.17	29.17	9.96
OFDM 20	5600	Mcs0_Nss2	20	21.56	28.56	9.96
OFDM 20	5720	Mcs0_Nss2	20	21.20	28.20	9.60
HE20	5500	Mcs0_Nss2	19	21.08	28.08	9.64
HE20	5600	Mcs0_Nss2	21	22.57	29.57	9.93
HE20	5720	Mcs0_Nss2	22	22.29	29.29	9.87
HE40	5510	Mcs0_Nss2	20	21.94	28.94	6.19
HE40	5590	Mcs0_Nss2	21	22.64	29.64	6.95
HE40	5710	Mcs0_Nss2	22	22.60	29.60	7.32
HE80	5530	Mcs0_Nss2	21	22.41	29.41	3.77
HE80	5610	Mcs0_Nss2	22	22.47	29.47	3.81
HE80	5690	Mcs0_Nss2	22	22.86	29.86	4.34
HE160	5570	Mcs0_Nss2	21	22.61	29.61	1.15

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
OFDM 20	5500	Mcs0_Nss1	18	19.17	26.17	6.96
OFDM 20	5600	Mcs0_Nss1	17	18.56	25.56	6.96
OFDM 20	5720	Mcs0_Nss1	17	18.20	25.20	6.60
HE20	5500	Mcs0_Nss1	16	18.08	25.08	6.64
HE20	5600	Mcs0_Nss1	18	19.57	26.57	6.93
HE20	5720	Mcs0_Nss1	19	19.29	26.29	6.87

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	EIRP	Measured PSD
HE40	5510	Mcs0_Nss1	20	21.94	28.94	6.19
HE40	5590	Mcs0_Nss1	21	22.64	29.64	6.95
HE40	5710	Mcs0_Nss1	21	21.60	28.60	6.32
HE80	5530	Mcs0_Nss1	21	22.41	29.41	3.77
HE80	5610	Mcs0_Nss1	22	22.47	29.47	3.81
HE80	5690	Mcs0_Nss1	22	22.86	29.86	4.34
HE160	5570	Mcs0_Nss1	21	22.61	29.61	1.15

Result

The maximum average power spectral density was less than the limit of 11 dBm; therefore, the EUT complies with the specification.

5.7 DFS Requirement

This product is a master with radar detection. The outcome of the required DFS tests is located in this section. DFS testing was performed following the test procedures as outlined in KDB 905462.

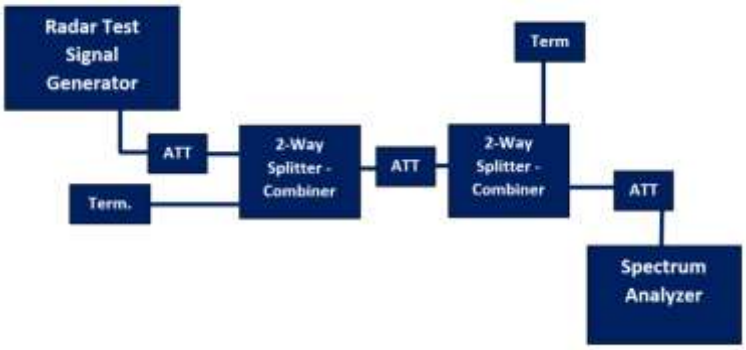
The product passes all required DFS tests for a master with radar detection.

Information	Status
Possible Antenna/s	Integral 7 dBi.
Antenna used for test	Integral 7 dBi
Operating mode	Master

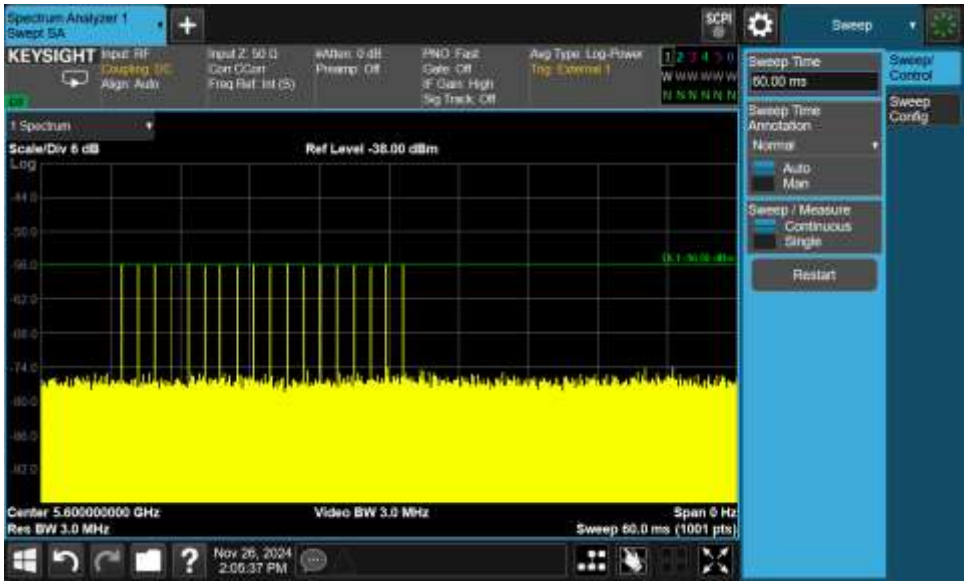
Port used for testing	5G0
EIRP range	> 200 milliwatts
Impedance of port	50 ohms
Channel loading technique	Data transfer was enacted to achieve a minimum channel loading of approximately 17%
Antenna measurement technique	See note 1
Time of power-on cycle	66s
Detection threshold level	-56 dBm

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

Requirement	Operational Mode	
	Master or Client Client Without 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

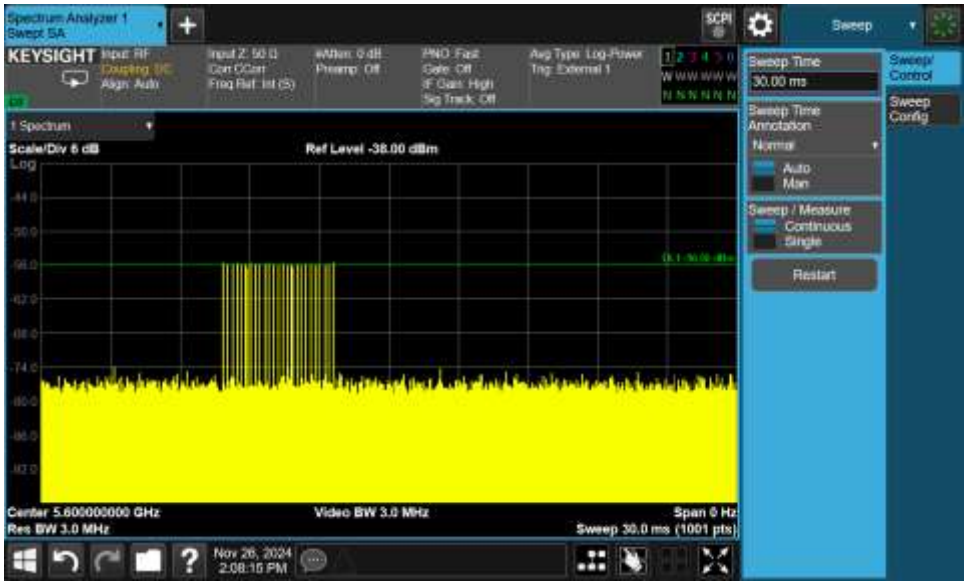


Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 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. **Note3:** EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

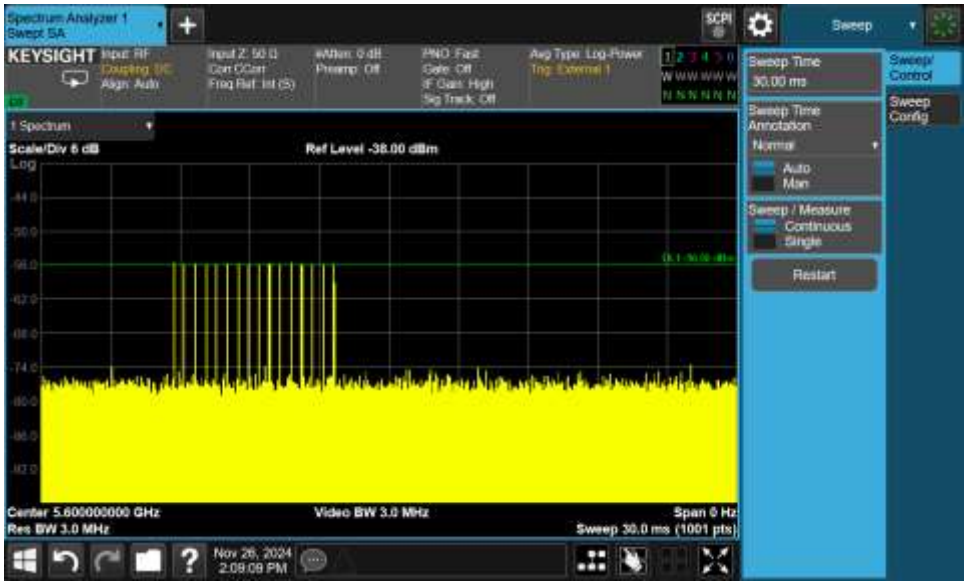


Plot 1: Radar Level 0

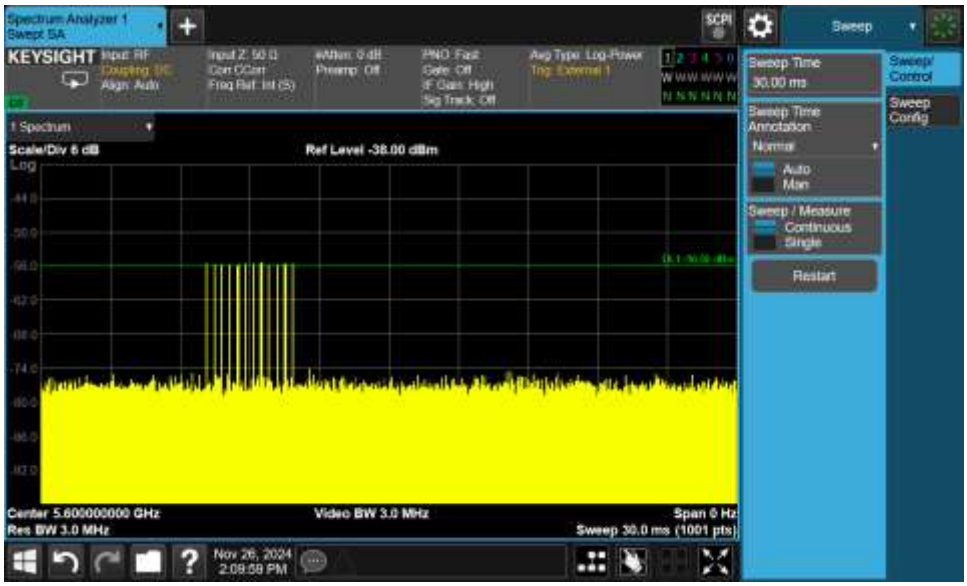
Plot 2: Radar Level 1



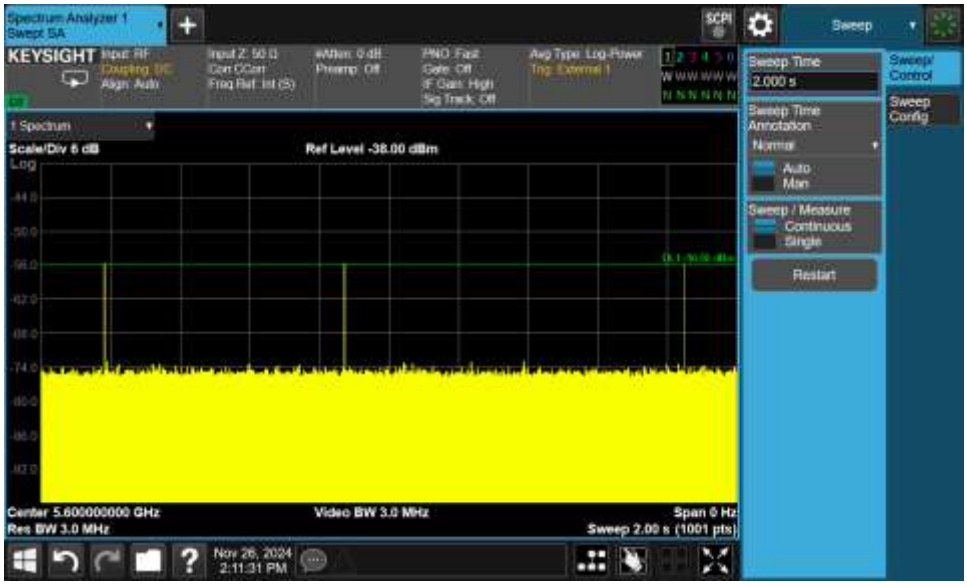
Plot 3: Radar Level 2



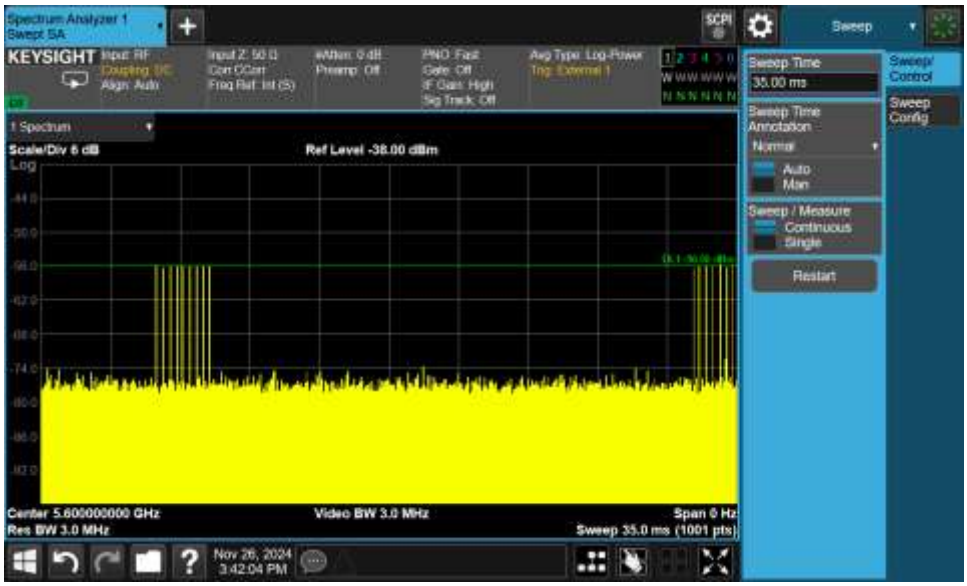
Plot 4: Radar Level 3



Plot 5: Radar Level 4



Plot 6: Radar Level 5



Plot 7: Radar Level 6

5.7.1 Channel Availability Check (CAC)

The EUT shall perform a CAC to ensure that there is no radar operating on the channel. After the power-up sequence, at-east 1 minute shall be monitored on the intended operating frequency. For initial CAC, the EUT does not emit beacon, control, or data signals on the test channel until the power-up sequence has been completed and the UNII device checks for radar waveforms for one minute on the test channel. This test does not use any radar waveforms. The markers in the associated plots indicate initial beacons.

For radar burst at the beginning of the CAC. To verify successful radar detection on the selected channel during a period equal to the beginning of the CAC time, visual indication on the EUT of successful detection of the radar burst will be recorded and reported. Observation of the radar burst is show on the associated plot to be within the beginning of the CAC time. Emissions will continue to be monitored for the remaining 300 seconds.

For radar burst at the end of the CAC. To verify successful radar detection on the selected channel during a period equal to the end of the CAC time, visual indication on the EUT of successful detection of the radar burst will be recorded and reported. Observation of the radar burst is show on the associated plot to be within the end of the CAC time. Emissions will continue to be monitored for the remaining 300 seconds.

A spectrum analyzer is used as a monitor to verify that the EUT has vacated the channel within the channel closing transmission time and channel move time, and does not transmit on a channel during the non-occupancy period after the detection and channel move.

Plot 8: DUT Turn On

Plot 9: Beginning

Plot 10: End

5.7.2 In-service Monitoring

Channel Move Time	10 seconds
Channel Closing Transmission Time	200 ms + aggregate of 60 ms over remaining 10 second period
Non-occupancy period	Minimum 30 minutes

Verified during in-service monitoring: channel closing transmission time and channel move time. The transmissions were observed at the end of the radar burst on the operating channel for a duration of greater than 10 seconds. The transmissions were measured and recorded during the observation time. This was compared to the channel move time and channel closing time limits.
One 12 second plot is reported for the short pulse radar type 0. A 60 ms plot is also provided to verify closing time for the aggregate transmission time starting from 200 ms after the end of the radar signal to the completion of the channel move.
During the 30 minutes observation time, the EUT did not make any transmissions on a channel after a radar signal was detected.
Please see plots below.
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the channel within the channel closing transmission time and channel move time, and does not transmit on a channel during the non-occupancy period after the detection and channel move.

Plot 11: Channel Close (400 ms)

Plot 12: Channel Move

Plot 13: Non-Occupancy

5.7.3 DFS Detection Bandwidth

20 MHz

EUT Frequency = 5600 MHz ; Bandwidth = 20 MHz											
Radar Frequency MHz	DFS Detection Trials (1 = Detection, 0 = No Detection)										Detection Rate %
	Trials										
	1	2	3	4	5	6	7	8	9	10	
5590	0	0	0	0	0	0	0	0	0	0	0
5591	0	0	0	0	0	0	0	0	0	0	0
5592	1	1	1	1	1	1	1	1	1	1	100
5593	1	1	1	1	1	1	0	1	1	1	90
5594	1	1	1	1	1	1	1	1	1	1	100
5595	1	1	1	0	1	1	1	1	1	1	90
5600	1	1	1	1	1	1	1	1	1	1	100
5605	1	1	1	1	1	1	1	1	1	1	100
5610	1	1	1	1	1	1	1	1	1	1	100
5611	0	0	0	0	0	0	0	0	0	0	0
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											18.225
Lowest frequency with at least 90% detection (F_L):											5592
Highest frequency with at least 90% detection (F_H):											5610
Detection Bandwidth (F_H - F_L):											18
Detection Bandwidth percentage of 99% Transmission Power Bandwidth:											99%

40 MHz

EUT Frequency = 5590 MHz ; Bandwidth = 40 MHz											
Radar Frequency MHz	DFS Detection Trials (1 = Detection, 0 = No Detection)										Detection Rate %
	Trials										
	1	2	3	4	5	6	7	8	9	10	
5570	1	1	1	1	1	1	1	1	1	1	100
5575	1	1	1	1	1	1	1	1	1	1	100
5580	1	1	1	1	1	1	1	1	1	1	100
5585	1	1	1	1	1	1	1	1	1	1	100
5590	1	1	1	1	1	1	1	1	1	1	100
5595	1	1	1	1	1	1	1	1	1	1	100
5600	1	1	1	1	1	1	1	1	1	1	100
5605	1	1	1	1	1	1	1	1	1	1	100
5610	1	1	1	1	1	1	1	1	1	1	100
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											38.5
Lowest frequency with at least 90% detection (F_L):											5570
Highest frequency with at least 90% detection (F_H):											5610
Detection Bandwidth (F_H - F_L):											40
Detection Bandwidth percentage of 99% Transmission Power Bandwidth:											104%

80 MHz

EUT Frequency = 5610 MHz ; Bandwidth = 80 MHz											
Radar Frequency MHz	DFS Detection Trials (1 = Detection, 0 = No Detection)										Detection Rate %
	Trials										
	1	2	3	4	5	6	7	8	9	10	
5570	1	1	1	1	1	1	1	1	1	1	100
5575	1	1	1	1	1	1	1	1	1	1	100
5580	1	1	1	1	1	1	1	1	1	1	100
5585	1	1	1	1	1	1	1	1	1	1	100
5590	1	1	1	1	1	1	1	1	1	1	100
5595	1	1	1	1	1	1	1	1	1	1	100
5600	1	1	1	1	1	1	1	1	1	1	100
5605	1	1	1	1	1	1	1	1	1	1	100
5610	1	1	1	1	1	1	1	1	1	1	100
5615	1	1	1	1	1	1	1	1	1	1	100
5620	1	1	1	1	1	1	1	1	1	1	100
5625	1	1	1	1	1	1	1	1	1	1	100
5630	1	1	1	1	1	1	1	1	1	1	100
5635	1	1	1	1	1	1	1	1	1	1	100
5640	1	1	1	1	1	1	1	1	1	1	100
5645	1	1	1	1	1	1	1	1	1	1	100
5650	1	1	1	1	1	1	1	1	1	1	100
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											79
Lowest frequency with at least 90% detection (F_L):											5570
Highest frequency with at least 90% detection (F_H):											5650
Detection Bandwidth (F_H - F_L):											80
Detection Bandwidth percentage of 99% Transmission Power Bandwidth:											101%

160 MHz

EUT Frequency = 5570 MHz ; Bandwidth = 160 MHz											
Radar Frequency MHz	DFS Detection Trials (1 = Detection, 0 = No Detection)										Detection Rate %
	Trials										
	1	2	3	4	5	6	7	8	9	10	
5490	1	1	1	1	1	1	1	1	1	1	100
5495	1	1	1	1	1	1	1	1	1	1	100
5500	1	1	1	1	1	1	1	1	1	1	100
5505	1	1	1	1	1	1	1	1	1	1	100
5510	1	1	1	1	1	1	1	1	1	1	100
5515	1	1	1	1	1	1	1	1	1	1	100
5520	1	1	1	1	1	1	1	1	1	1	100
5525	1	1	1	1	1	1	1	1	1	1	100
5530	1	1	1	1	1	1	1	1	1	1	100
5535	1	1	1	1	1	1	1	1	1	1	100
5540	1	1	1	1	1	1	1	1	1	1	100
5545	1	1	1	1	1	1	1	1	1	1	100
5550	1	1	1	1	1	1	1	1	1	1	100
5555	1	1	1	1	1	1	1	1	1	1	100
5560	1	1	1	1	1	1	1	1	1	1	100
5565	1	1	1	1	1	1	1	1	1	1	100
5570	1	0	1	1	1	1	1	1	1	1	90
5575	1	1	1	1	1	1	1	1	1	1	100
5580	1	1	1	1	1	1	1	1	1	1	100
5585	1	1	1	1	1	1	1	1	1	1	100
5590	1	1	1	1	1	1	1	1	1	1	100
5595	1	1	0	1	1	1	1	1	1	1	90
5600	1	1	1	1	1	1	1	1	1	1	100
5605	1	1	1	1	1	1	1	1	1	1	100
5610	1	1	1	1	1	1	1	1	1	1	100
5615	1	1	1	1	1	1	1	1	1	1	100
5620	1	1	1	1	1	1	1	1	1	1	100
5625	1	1	1	1	1	1	1	1	1	1	100
5630	1	1	1	1	1	1	1	1	1	1	100
5635	1	1	1	1	1	1	1	1	1	1	100
5640	1	1	1	1	1	1	1	1	1	1	100
5645	1	1	1	1	1	1	1	1	1	1	100
5650	1	1	1	1	1	1	1	1	1	1	100
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											158.56
Lowest frequency with at least 90% detection (F_L):											5490
Highest frequency with at least 90% detection (F_H):											5650
Detection Bandwidth (F_H - F_L):											160
Detection Bandwidth percentage of 99% Transmission Power Bandwidth:											101%

5.7.4 Detection Probability

For statistical performance check. Demonstrating a minimum channel loading of approximately 17% or greater of the test. 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 type 1-4 and 6 to ensure detection occurs. Then 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. The device can utilize a test mode to demonstrate when detection occurs to prevent the need to reset the device between trial runs.
Please see data below.

Radar Type	Min successful detection (%)	Minimum Trials
1	60	30
2	60	30
3	60	30
4	60	30
Types 1 - 4	80	120
5	80	30
6	70	30

20 MHz

Summary

Type	Detections	Trials	Detection Probability
Type 1	29	30	97%
Type 2	30	30	100%
Type 3	28	30	93%
Type 4	29	30	97%
Type 5	30	30	100%
Type 6	30	30	100%
Aggregate 1-4	116	120	97%

RADAR TYPE 1				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	89	1	598	y
2	70	1	758	y
3	86	1	618	y
4	92	1	578	y
5	58	1	918	y
6	72	1	738	y
7	59	1	898	y
8	81	1	658	y
9	57	1	938	y
10	67	1	798	y
11	68	1	778	y
12	78	1	678	y
13	65	1	818	y
14	83	1	638	y
15	74	1	718	y
16	56	1	944	y
17	45	1	1176	y
18	20	1	2738	y
19	36	1	1468	y
20	90	1	590	n
21	81	1	651	y
22	25	1	2128	y
23	33	1	1601	y
24	47	1	1142	y
25	65	1	820	y
26	62	1	854	y
27	78	1	679	y
28	55	1	970	y
29	50	1	1058	y
30	33	1	1639	y
				97%

RADAR TYPE 2				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	28	3.4	211	y
2	27	2.1	178	y
3	29	4.6	186	y
4	27	1.5	224	y
5	27	3.8	198	y
6	28	1.3	174	y
7	26	1.3	213	y
8	24	1.4	198	y
9	28	4.2	220	y
10	26	1.6	216	y
11	24	3.7	227	y
12	27	4.8	215	y
13	24	2.9	164	y
14	29	1.2	192	y
15	24	4.4	185	y
16	23	4.1	218	y
17	25	3.5	207	y
18	28	3.6	201	y
19	24	3.9	213	y
20	25	4.7	186	y
21	24	4.8	152	y
22	24	4.3	182	y
23	28	4.8	169	y
24	23	3.4	188	y
25	24	1.3	185	y
26	27	2	184	y
27	23	1.7	216	y
28	24	4.6	176	y
29	29	2.1	190	y
30	25	2.8	227	y
				100%

RADAR TYPE 3				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	17	9.2	320	y
2	17	6.8	247	y
3	18	6.4	304	y
4	18	7.4	219	y
5	18	9.7	452	y
6	18	6.7	292	y
7	18	7.5	315	y
8	17	8.8	447	y
9	17	6.3	467	y
10	16	8.4	326	y
11	16	8.1	261	y
12	18	9.6	383	y
13	16	6.1	219	y
14	17	9.2	480	n
15	17	9.2	324	y
16	17	9.9	334	y
17	17	9.4	379	y
18	18	9.7	499	y
19	17	9	448	y
20	17	8.4	246	y
21	17	7.7	369	y
22	17	7.8	348	y
23	17	9.7	246	y
24	17	7	305	y
25	17	6.2	460	y
26	17	9.4	237	y
27	18	8.7	372	y
28	17	6.3	469	y
29	17	6	331	n
30	17	6.9	213	y
				93%

RADAR TYPE 4				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	15	17.6	392	y
2	13	13.7	207	y
3	14	13.8	461	y
4	13	16.8	271	y
5	16	11.7	429	y
6	13	16.7	203	y
7	15	13	243	y
8	15	15.4	478	y
9	15	13.1	470	y
10	15	14.3	332	y
11	13	18.7	313	y
12	15	19.4	408	y
13	15	11.1	201	y
14	12	11	286	y
15	16	16.9	209	y
16	16	14.1	479	y
17	16	11	287	y
18	16	14.8	413	y
19	14	14.6	374	y
20	12	19.3	274	y
21	14	12.4	333	y
22	14	11	308	y
23	13	20	355	y
24	16	16.3	490	y
25	16	17.5	357	y
26	14	13.3	353	n
27	13	19.1	224	y
28	15	11.1	495	y
29	12	16.6	209	y
30	14	16.8	301	y
				97%

TYPE 5	Rohde & Schwarz K350 Pulse Sequencer DFS			
Trial #	**Detection (yes/no)**	**Chirp Width (MHz)**	**Subset**	**Fc**
1	y	15	1	5600
2	y	6	1	5600
3	y	20	1	5600
4	y	13	1	5600
5	y	5	1	5600
6	y	7	1	5600
7	y	12	1	5600
8	y	12	1	5600
9	y	16	1	5600
10	y	19	1	5600
11	y	9	2	5593.6
12	y	13	2	5595.2
13	y	6	2	5592.4
14	y	20	2	5598
15	y	14	2	5595.6
16	y	20	2	5598
17	y	5	2	5592
18	y	18	2	5597.2
19	y	17	2	5596.8
20	y	14	2	5595.6
21	y	16	3	5603.6
22	y	12	3	5605.2
23	y	12	3	5605.2
24	y	9	3	5606.4
25	y	17	3	5603.2
26	y	10	3	5606
27	y	13	3	5604.8
28	y	9	3	5606.4
29	y	19	3	5602.4
30	y	16	3	5603.6
	100%			

TYPE 6 S	Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Detection (yes/no)**
1	y
2	y
3	y
4	y
5	y
6	y
7	y
8	y
9	y
10	y
11	y
12	y
13	y
14	y
15	y
16	y
17	y
18	y
19	y
20	y
21	y
22	y
23	y
24	y
25	y
26	y
27	y
28	y
29	y
30	y
	100%

40 MHz

Summary

Type	Detections	Trials	Detection Probability
Type 1	28	30	93%
Type 2	27	30	90%
Type 3	28	30	93%
Type 4	29	30	97%
Type 5	30	30	100%
Type 6	30	30	100%
Aggregate 1-4	112	120	93%

RADAR TYPE 1				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	38	1	1418	y
2	51	1	1048	y
3	30	1	1808	y
4	52	1	1023	y
5	46	1	1147	y
6	19	1	2780	y
7	46	1	1158	y
8	26	1	2106	n
9	34	1	1584	y
10	18	1	2994	y
11	36	1	1484	y
12	67	1	794	y
13	98	1	539	y
14	57	1	932	y
15	56	1	957	y
16	22	1	2396	y
17	19	1	2827	y
18	43	1	1249	y
19	79	1	674	y
20	21	1	2544	y
21	30	1	1769	y
22	18	1	3064	y
23	42	1	1279	y
24	42	1	1267	y
25	25	1	2152	y
26	20	1	2668	y
27	23	1	2316	y
28	56	1	949	y
29	22	1	2469	n
30	48	1	1102	y
				93%

RADAR TYPE 2				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	25	3.5	214	y
2	27	1.7	226	y
3	24	4.3	154	y
4	29	4.7	207	y
5	24	1.5	163	n
6	27	3.1	197	y
7	26	2.6	156	y
8	28	1.8	218	n
9	27	3.8	151	y
10	24	4.6	210	y
11	27	2.3	150	n
12	25	1.8	153	y
13	26	3.1	160	y
14	27	3	156	y
15	27	2.3	173	y
16	24	3.4	164	y
17	27	1.4	171	y
18	28	4.3	153	y
19	24	3.1	164	y
20	23	3.2	152	y
21	25	4.3	191	y
22	26	4	150	y
23	27	4.4	207	y
24	24	3.9	195	y
25	27	3.2	154	y
26	28	2.3	194	y
27	26	3.5	230	y
28	27	1.7	208	y
29	23	3.2	165	y
30	28	1.4	171	y
				90%

RADAR TYPE 3				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	17	9.1	317	y
2	17	6	339	y
3	17	9.9	416	y
4	17	6.3	345	y
5	16	6	246	y
6	17	8.4	473	y
7	18	9.9	336	y
8	17	9.3	325	y
9	18	7.7	281	y
10	18	8.3	354	y
11	17	8.4	234	y
12	16	9	278	y
13	17	9.7	216	y
14	17	9.9	379	n
15	17	9.6	253	y
16	16	8.6	258	y
17	18	8.8	299	y
18	16	6.9	252	y
19	18	10	305	y
20	17	8.8	317	y
21	18	7.2	437	y
22	16	8.4	364	y
23	18	7.1	205	y
24	17	7.5	471	y
25	17	6	356	y
26	17	8.1	487	y
27	16	9	451	n
28	17	9.9	379	y
29	17	10	207	y
30	18	9.5	423	y
				93%

TYPE 5	Rohde & Schwarz K350 Pulse Sequencer DFS			
Trial #	**Detection (yes/no)**	**Chirp Width (MHz)**	**Subset**	**Fc**
1	y	5	1	5610
2	y	20	1	5610
3	y	17	1	5610
4	y	16	1	5610
5	y	7	1	5610
6	y	16	1	5610
7	y	12	1	5610
8	y	8	1	5610
9	y	10	1	5610
10	y	8	1	5610
11	y	11	2	5574.4
12	y	15	2	5576
13	y	13	2	5575.2
14	y	11	2	5574.4
15	y	14	2	5575.6
16	y	9	2	5573.6
17	y	15	2	5576
18	y	16	2	5576.4
19	y	20	2	5578
20	y	14	2	5575.6
21	y	11	3	5645.6
22	y	18	3	5642.8
23	y	9	3	5646.4
24	y	9	3	5646.4
25	y	14	3	5644.4
26	y	20	3	5642
27	y	16	3	5643.6
28	y	20	3	5642
29	y	9	3	5646.4
30	y	10	3	5646
	100%			

TYPE 6 S	Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Detection (yes/no)**
1	y
2	y
3	y
4	y
5	y
6	y
7	y
8	y
9	y
10	y
11	y
12	y
13	y
14	y
15	y
16	y
17	y
18	y
19	y
20	y
21	y
22	y
23	y
24	y
25	y
26	y
27	y
28	y
29	y
30	y
	100%

80 MHz

Summary			
Type	**Detections**	**Trials**	**Detection Probability**
Type 1	27	30	90%
Type 2	28	30	93%
Type 3	23	30	77%
Type 4	27	30	90%
Type 5	30	30	100%
Type 6	30	30	100%
Aggregate 1-4	105	120	88%

RADAR TYPE 1				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	33	1	1646	y
2	25	1	2118	n
3	32	1	1669	y
4	56	1	956	y
5	30	1	1767	y
6	18	1	2987	y
7	27	1	1992	y
8	44	1	1212	y
9	21	1	2593	y
10	31	1	1753	y
11	22	1	2416	y
12	18	1	2966	y
13	32	1	1689	y
14	18	1	3018	y
15	18	1	3062	y
16	23	1	2391	y
17	38	1	1399	y
18	75	1	706	y
19	45	1	1190	y
20	19	1	2828	y
21	22	1	2425	y
22	22	1	2450	y
23	32	1	1650	y
24	20	1	2733	y
25	39	1	1366	y
26	28	1	1898	y
27	48	1	1118	n
28	99	1	535	n
29	21	1	2512	y
30	27	1	1978	y
				90%

RADAR TYPE 2				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	26	2	179	y
2	27	3.3	204	y
3	25	3.5	198	y
4	26	1.4	218	n
5	28	4.6	217	y
6	24	4.6	219	y
7	24	4.8	190	y
8	28	5	209	y
9	28	3.9	162	y
10	25	5	227	y
11	27	2.8	174	y
12	25	1.8	203	y
13	25	4	223	y
14	25	3.5	161	y
15	25	2.2	162	y
16	23	3.8	204	y
17	28	1.7	213	y
18	25	3.7	200	y
19	24	2.5	158	y
20	24	2.9	190	y
21	23	1.1	173	y
22	23	1.6	205	y
23	25	4.9	213	y
24	28	2.8	206	y
25	28	1.1	170	y
26	28	2.7	155	y
27	27	3.5	183	y
28	27	2.9	191	y
29	28	4.3	171	y
30	26	3.2	183	n
				93%

RADAR TYPE 3				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	17	8.8	375	y
2	17	8.4	458	y
3	16	6.4	437	n
4	17	7.2	487	y
5	16	9.6	238	y
6	17	7.9	397	y
7	16	6.7	500	y
8	17	9.7	414	y
9	18	6.4	327	n
10	16	9.3	210	y
11	17	6.4	253	y
12	18	8.8	326	y
13	17	9.1	241	y
14	18	8.5	208	y
15	17	8	280	y
16	17	8.2	315	y
17	18	8.2	320	n
18	16	8.8	439	y
19	18	9.6	319	n
20	17	9.3	401	y
21	17	6.2	432	n
22	17	6.3	414	y
23	17	6.7	404	y
24	18	9	336	y
25	18	8.6	373	y
26	16	6	276	y
27	17	7.9	301	n
28	17	7.1	464	y
29	17	6.8	270	n
30	18	9.9	304	y
				77%

RADAR TYPE 4				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	13	16.6	417	y
2	15	19.4	341	n
3	12	13.3	329	y
4	16	16.2	331	y
5	16	11	209	y
6	15	16.4	253	y
7	13	11.6	408	y
8	16	11.4	296	y
9	14	12.2	462	y
10	14	16.5	285	y
11	15	16	260	y
12	13	18.1	479	y
13	15	14	474	y
14	14	14.4	228	y
15	13	19	224	y
16	15	19.7	458	y
17	16	16.1	493	y
18	15	19.2	303	y
19	13	16.5	459	y
20	14	15	263	y
21	13	17.5	387	y
22	14	17	361	y
23	12	11.3	257	n
24	14	17	385	y
25	14	14.9	495	n
26	13	18.2	325	y
27	12	11.1	326	y
28	16	16.1	344	y
29	15	15.1	472	y
30	15	13.1	227	y
				90%

TYPE 5	Rohde & Schwarz K350 Pulse Sequencer DFS			
Trial #	**Detection (yes/no)**	**Chirp Width (MHz)**	**Subset**	**Fc**
1	y	16	1	5610
2	y	17	1	5610
3	y	17	1	5610
4	y	14	1	5610
5	y	9	1	5610
6	y	15	1	5610
7	y	17	1	5610
8	y	17	1	5610
9	y	20	1	5610
10	y	10	1	5610
11	y	9	2	5573.6
12	y	6	2	5572.4
13	y	7	2	5572.8
14	y	9	2	5573.6
15	y	5	2	5572
16	y	19	2	5577.6
17	y	5	2	5572
18	y	16	2	5576.4
19	y	17	2	5576.8
20	y	15	2	5576
21	y	5	3	5648
22	y	18	3	5642.8
23	y	9	3	5646.4
24	y	6	3	5647.6
25	y	16	3	5643.6
26	y	15	3	5644
27	y	9	3	5646.4
28	y	6	3	5647.6
29	y	16	3	5643.6
30	y	18	3	5642.8
	100%			

TYPE 6 S	Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Detection (yes/no)**
1	y
2	y
3	y
4	y
5	y
6	y
7	y
8	y
9	y
10	y
11	y
12	y
13	y
14	y
15	y
16	y
17	y
18	y
19	y
20	y
21	y
22	y
23	y
24	y
25	y
26	y
27	y
28	y
29	y
30	y
	100%

160 MHz

Summary			
Type	**Detections**	**Trials**	**Detection Probability**
Type 1	28	30	93%
Type 2	25	30	83%
Type 3	29	30	97%
Type 4	26	30	87%
Type 5	29	30	97%
Type 6	30	30	100%
Aggregate 1-4	108	120	90%

RADAR TYPE 1				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	20	1	2682	y
2	40	1	1347	y
3	61	1	878	y
4	23	1	2350	y
5	59	1	899	y
6	43	1	1234	y
7	37	1	1455	y
8	57	1	933	y
9	28	1	1904	y
10	28	1	1928	y
11	37	1	1451	n
12	91	1	580	y
13	20	1	2766	y
14	19	1	2907	y
15	48	1	1106	y
16	21	1	2533	y
17	27	1	1986	y
18	25	1	2134	y
19	19	1	2923	y
20	21	1	2602	y
21	21	1	2583	y
22	23	1	2379	y
23	58	1	910	y
24	49	1	1078	y
25	32	1	1653	y
26	37	1	1433	y
27	19	1	2831	y
28	76	1	696	y
29	18	1	2983	y
30	19	1	2848	n
				93%

RADAR TYPE 2				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	29	1.1	175	y
2	25	4.1	155	y
3	23	4.3	177	y
4	28	2.2	204	y
5	26	1.4	223	y
6	28	3.2	182	y
7	25	1.3	190	y
8	27	1.4	198	y
9	27	2.3	212	y
10	25	2.8	209	y
11	25	2.5	204	y
12	28	1.4	218	n
13	26	2.6	197	n
14	24	2.1	175	y
15	27	1.7	227	y
16	25	1.2	202	y
17	25	1.8	229	y
18	27	1.4	180	n
19	28	2.8	160	y
20	29	3.5	219	y
21	24	4.6	203	y
22	29	3.6	221	y
23	25	1.1	227	y
24	26	2.7	190	y
25	24	2.7	186	n
26	23	1.6	151	y
27	27	3.3	185	y
28	26	1.8	155	n
29	28	3.1	170	y
30	26	3.2	225	y
				83%

RADAR TYPE 3				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	18	9.7	357	n
2	17	6.7	417	y
3	18	7.1	357	y
4	16	7.7	492	y
5	16	9	216	y
6	18	7.3	352	y
7	16	9	250	y
8	16	7.7	394	y
9	16	8.8	411	y
10	16	6.3	440	y
11	17	7.3	347	y
12	16	8.5	245	y
13	17	10	449	y
14	16	9.3	202	y
15	17	6.6	401	y
16	17	7.6	414	y
17	18	7.4	289	y
18	18	8.7	356	y
19	17	6	322	y
20	18	8.3	322	y
21	16	6.4	429	y
22	18	8.4	415	y
23	18	10	322	y
24	18	6.8	279	y
25	17	9.2	240	y
26	17	7	488	y
27	18	7.1	262	y
28	17	8.9	256	y
29	17	6.3	215	y
30	17	9.5	404	y
				97%

RADAR TYPE 4				Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Number of Pulses per Burst**	**Pulse Width (µsec)**	**PRI (µs)**	**Detection (yes/no)**
1	16	19	356	y
2	13	13.9	285	y
3	15	18.4	397	y
4	14	14.5	484	y
5	14	12.3	493	y
6	12	15	247	y
7	16	17.2	332	y
8	14	19	385	y
9	14	14.4	307	y
10	15	11.6	304	n
11	13	16.1	298	y
12	15	11.8	349	y
13	13	13.1	437	y
14	14	13.8	255	y
15	15	19.1	357	y
16	15	18.8	442	y
17	15	16.3	335	y
18	15	18.2	356	y
19	14	14.4	379	y
20	16	19.4	200	y
21	15	15.4	253	y
22	15	16.8	471	y
23	16	19.8	454	y
24	13	18.5	351	y
25	15	12.2	235	n
26	15	18.3	424	n
27	14	17.6	389	y
28	14	12	441	y
29	14	12	357	y
30	15	14.4	346	n
				87%

TYPE 5	Rohde & Schwarz K350 Pulse Sequencer DFS			
Trial #	**Detection (yes/no)**	**Chirp Width (MHz)**	**Subset**	**Fc**
1	y	19	1	5570
2	y	16	1	5570
3	y	7	1	5570
4	y	7	1	5570
5	y	19	1	5570
6	y	12	1	5570
7	y	9	1	5570
8	y	20	1	5570
9	y	18	1	5570
10	n	5	1	5570
11	y	14	2	5455.6
12	y	13	2	5455.2
13	y	20	2	5458
14	y	13	2	5455.2
15	y	6	2	5452.4
16	y	12	2	5454.8
17	y	14	2	5455.6
18	y	6	2	5452.4
19	y	15	2	5456
20	y	19	2	5457.6
21	y	19	3	5642.4
22	y	14	3	5644.4
23	y	6	3	5647.6
24	y	14	3	5644.4
25	y	5	3	5648
26	y	18	3	5642.8
27	y	16	3	5643.6
28	y	19	3	5642.4
29	y	5	3	5648
30	y	17	3	5643.2
	97%			

TYPE 6 S	Rohde & Schwarz K350 Pulse Sequencer DFS
Trial #	**Detection (yes/no)**
1	y
2	y
3	y
4	y
5	y
6	y
7	y
8	y
9	y
10	y
11	y
12	y
13	y
14	y
15	y
16	y
17	y
18	y
19	y
20	y
21	y
22	y
23	y
24	y
25	y
26	y
27	y
28	y
29	y
30	y
	100%

-- End of Test Report --