



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-UX7SP
ISED ID	6545A-UX7SP
Equipment Under Test	UX7-SP
Test Report Serial Number	TR10018_02
Date of Tests	18-20 March; 5-7, 20 May; 10 July 2025
Report Issue Date	25 May 2025

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



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-SP
FCC ID	SWX-UX7SP
ISED ID	6545-UX7SP

On this 25th day of may 2025, 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. Unified Compliance laboratory is not responsible for incorrect information provided by the manufacturer.

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: Kimberly DeBole



Reviewed By: Richard L. Winter

Revision History		
Revision	Description	Date
01	Original Report Release	May 23 2025
02	Modified Section 5.7	10 July 2025

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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-SP
Serial Number	8478487e893b
Dimensions (cm)	11.7 x 11.7 x 4.25

2.2 Description of EUT

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

For CDD transmission, direction gain is calculated as follows.

Array Gain = $10 \log(\text{NANT}/\text{NSS})$ 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 $\text{NANT} \leq 4$;

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or 3.01 dB + 7 dBi = 10.01 dBi.

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, 5520, 5540, 5560, 5580, 5600*, 5620*, 5640*, 5660, 5680, 5700, 5720
	40 MHz	5510, 5550, 5590, 5630*, 5670, 5710
	80 MHz	5530, 5610*, 5690
	160 MHz	5570
	240 MHz	5610
* 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	120 Volts AC Mains to USB-C Power
AC Mains Frequency	60 Hz
Temperature	21.8 – 23.5 °C
Humidity	25.7 – 41.5 %
Barometric Pressure	1019 mBar

2.6 Operating Modes

The UX7-SP 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

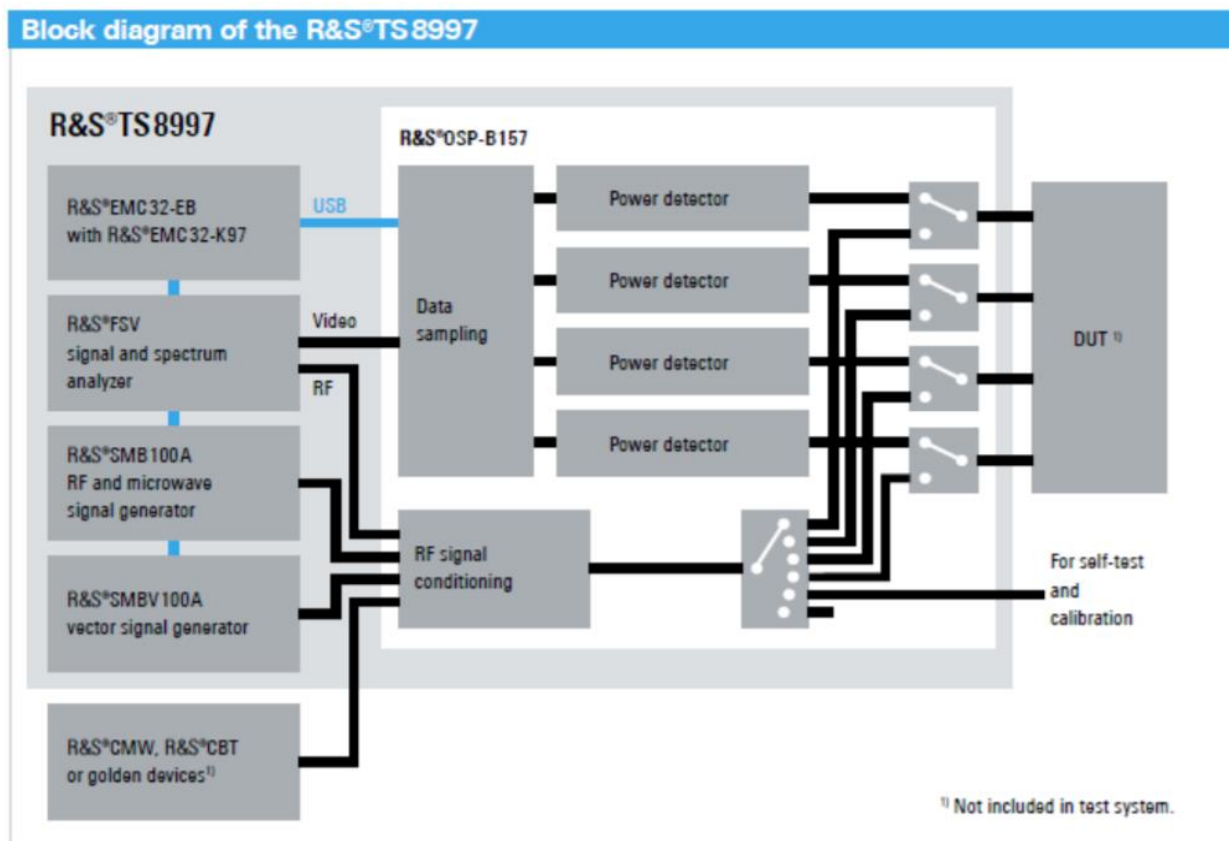


Diagram 1: Test Configuration Block Diagram

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
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(a)	RSS-247 §6.2.2	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	N/A Note ¹
15.209	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. Note ¹: Radiated Spurious was performed per 15.209 with the antenna unterminated.				

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 chambers 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-2500	8/27/2024	8/27/2025
LISN	AFJ	LS16C/10	UCL-2512	7/08/2024	7/08/2025
ISN	Teseq	ISN T800	UCL-2974	7/09/2024	7/09/2025
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	AFJ	AFJ FFT3010	UCL-3107	N/A	N/A

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

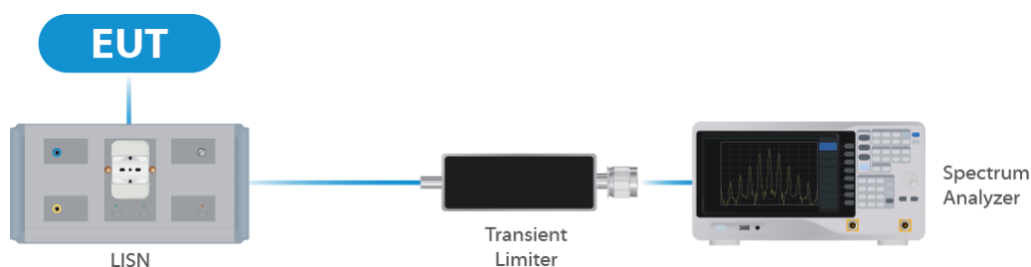


Figure 1: Conducted Emissions Test

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	1/16/2025	1/16/2026
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	4/28/2025	1/16/2026
Switch Extension	R&S	OSP-150W	UCL-2870	4/28/2025	1/16/2026
Test Software	R&S	EMC32	UCL-9442	--	--

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

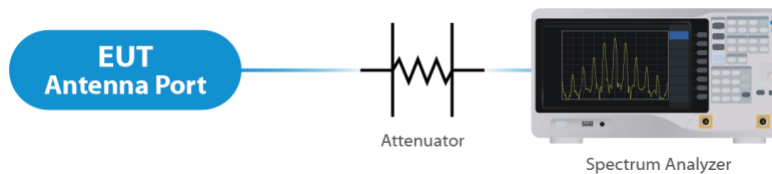


Figure 2: Direct Connect at the Antenna Port Test



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	12/27/2024	12/27/2025
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	1/19/2024	1/19/2026
Broadband Antenna	ETS-Lindgren	3142E	UCL-9782	2/6/2025	2/6/2026
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	4/2/2025	4/2/2027
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	2/11/2025	2/4/2027
10 - 40 GHz Horn Antenna	ETS-Lindgren	3116C	UCL-7209	6/6/2024	6/6/2026
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	7/2/2024	7/2/2025
Test Software	Nexio	BatEMC	UCL-5253,5249	N/A	N/A

Table 4: List of equipment used for Radiated Emissions

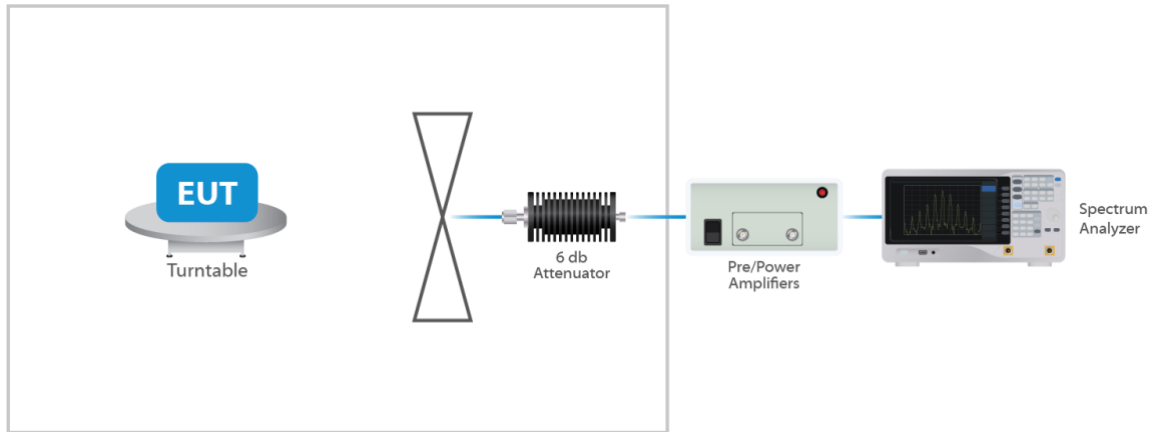


Figure 4: Radiated Emissions Test

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

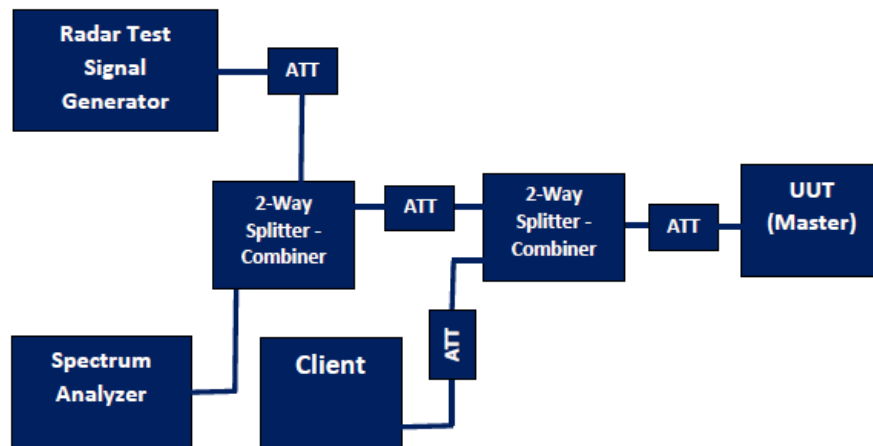


Figure 5: DFS Test Set Up - Master

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 ($\pm$ 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.

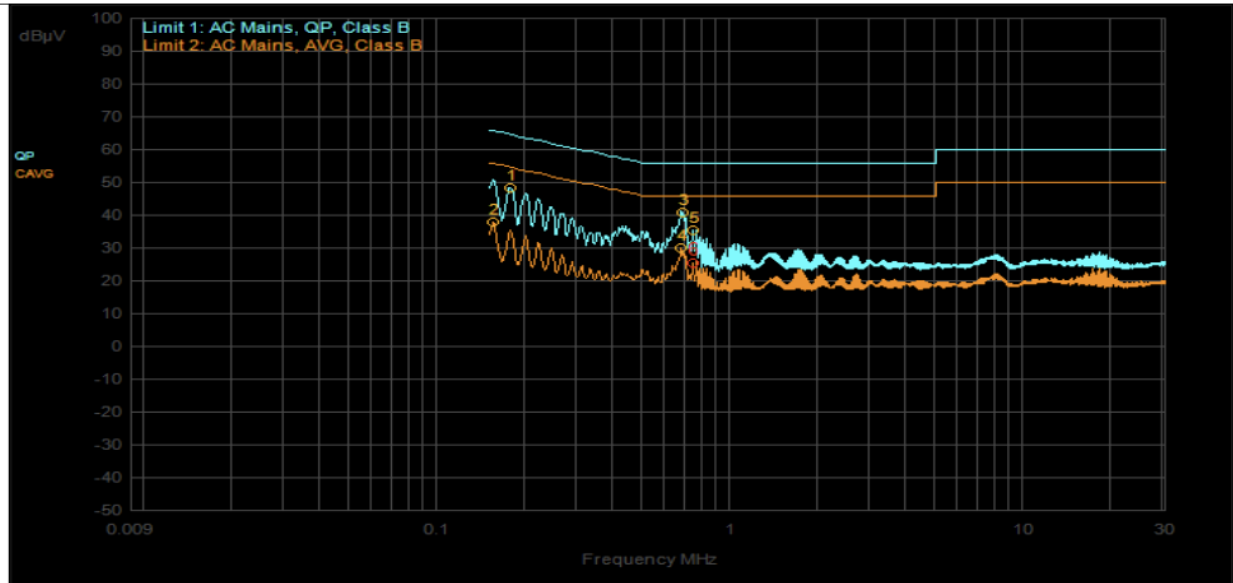
See Section 2.2 for directional gain calculation.

Results

The EUT complied with the specification

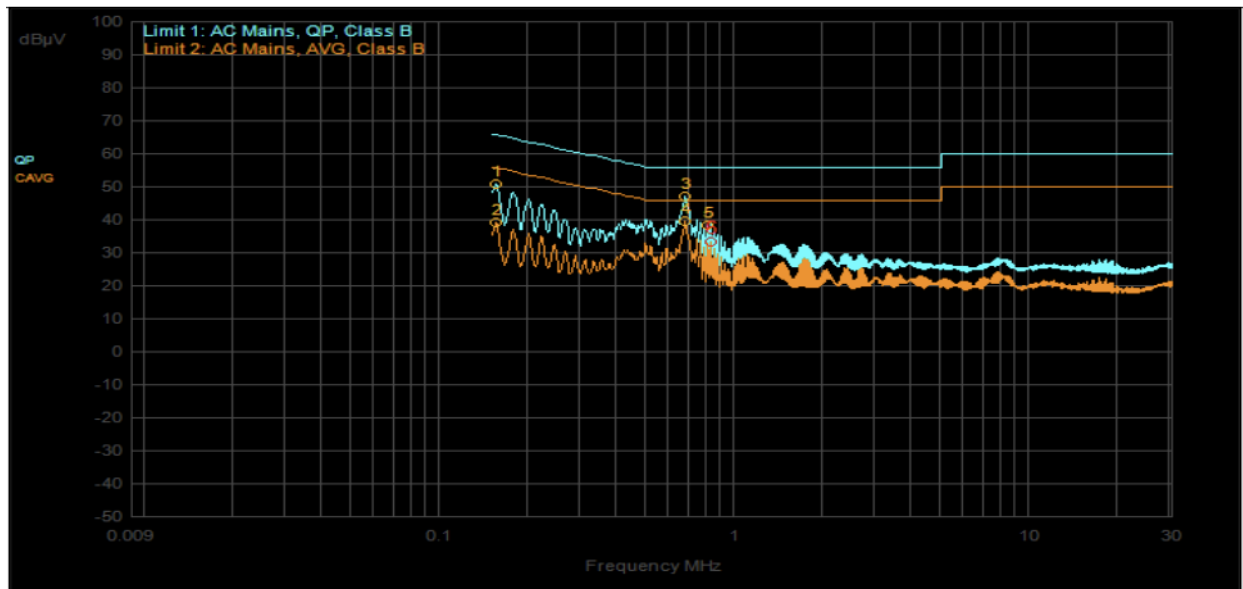
5.2 Conducted Emissions at Mains Ports Data

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	681,000kHz	12.39	0.00		QPeak	28.55	40.94	56.00	-15.06			
1	177,000kHz	12.38	0.00		QPeak	36.10	48.48	64.63	-16.15			
5	738,000kHz	12.39	0.00		QPeak	23.05	35.44	56.00	-20.56			
2	153,000kHz	12.41	0.00		C_AVG	25.38	37.79			55.84	-18.05	
4	672,000kHz	12.38	0.00		C_AVG	17.44	29.82			46.00	-16.18	
6	738,000kHz	12.39	0.00		C_AVG	13.16	25.55			46.00	-20.45	

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
3	672,000kHz	12.37	0.00		QPeak	34.77	47.14	56.00	-8.86			
1	153,000kHz	12.38	0.00		QPeak	38.33	50.71	65.84	-15.13			
5	804,000kHz	12.37	0.04		QPeak	25.93	38.34	56.00	-17.66			
2	153,000kHz	12.38	0.00		C_AVG	26.82	39.20			55.84	-16.64	
4	672,000kHz	12.37	0.00		C_AVG	27.26	39.63			46.00	-6.37	
6	825,000kHz	12.37	0.10		C_AVG	21.03	33.50			46.00	-12.50	

Result

The EUT complied with the specification limit.

5.3 §15.407(a) 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)
OFDM 20	5260	17.08	22.05
OFDM 20	5280	17.08	22.95
OFDM 20	5320	17.23	23.10
EHT 20	5260	19.18	23.40
EHT 20	5280	19.78	23.10
EHT 20	5320	19.18	22.20
EHT 40	5270	39.00	43.75
EHT 40	5310	38.50	44.50
EHT 80	5290	78.00	87.00
EHT 160	5250	157.75	171.00

5.3.2 UNII-2C

Bandwidth	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
OFDM 20	5500	17.08	22.80
OFDM 20	5600	17.23	22.50
OFDM 20	5720	16.93	23.25
EHT 20	5500	19.03	22.62
EHT 20	5600	19.18	22.62
EHT 20	5720	19.18	22.92
EHT 40	5510	38.50	44.25
EHT 40	5590	38.50	43.50
EHT 40	5710	39.00	43.75
EHT 80	5530	79.00	84.50
EHT 80	5610	79.00	85.00
EHT 80	5690	79.00	87.50
EHT 160	5570	159.25	173.00
EHT 240	5610	240.00	271.50

Result

All chains were tested and the highest bandwidth per chain is reported above. 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.

See Section 2.2 for directional gain calculation.

The maximum average RF conducted output power measured for this device was 22.73 dBm or 187.50 mW. The limit is 24 dBm or 250 mW when using antennas with 6 dBi or less gain. The antenna has a maximum gain of 7 dBi.

5.4.1 UNII-2A

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
a 20	5260	Mcs0_Nss2	19	20.36	7	27.36	30	-2.62
a 20	5280	Mcs0_Nss2	19	19.95	7	26.95	30	-3.05
a 20	5320	Mcs0_Nss2	19	19.81	7	26.81	30	-3.19
be 20	5260	Mcs0_Nss2	20	21.41	7	28.41	30	-1.59
be 20	5280	Mcs0_Nss2	20	21.11	7	28.11	30	-1.89
be 20	5320	Mcs0_Nss2	20	20.91	7	27.91	30	-2.09
be 40	5270	Mcs0_Nss2	21	22.27	7	29.27	30	-0.73
be 40	5310	Mcs0_Nss2	21	21.98	7	28.98	30	-1.02
be 80	5290	Mcs0_Nss2	21	21.79	7	28.79	30	-1.21
be 160	5250	Mcs0_Nss2	20	21.92	7	28.92	30	-1.08

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
a 20	5260	Mcs0_Nss1	16	17.36	7	24.36	30	-5.64
a 20	5280	Mcs0_Nss1	16	16.95	7	23.95	30	-6.05
a 20	5320	Mcs0_Nss1	16	16.81	7	23.81	30	-6.19
be 20	5260	Mcs0_Nss1	17	18.41	7	25.41	30	-4.59
be 20	5280	Mcs0_Nss1	17	18.11	7	25.11	30	-4.89
be 20	5320	Mcs0_Nss1	17	17.91	7	24.91	30	-5.09
be 40	5270	Mcs0_Nss1	20	21.27	7	28.27	30	-1.73
be 40	5310	Mcs0_Nss1	20	20.98	7	27.98	30	-2.02
be 80	5290	Mcs0_Nss1	21	21.79	7	28.79	30	-1.21
be 160	5250	Mcs0_Nss1	20	21.92	7	28.92	30	-1.08

5.4.2 UNII-2C

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
a 20	5500	Mcs0_Nss2	18	19.70	7	26.70	30	-3.30
a 20	5600	Mcs0_Nss2	18	19.59	7	26.59	30	-3.41
a 20	5720	Mcs0_Nss2	19	19.74	7	26.74	30	-3.26
be 20	5500	Mcs0_Nss2	19	20.91	7	27.91	30	-2.09
be 20	5600	Mcs0_Nss2	18	19.82	7	26.82	30	-3.18
be 20	5720	Mcs0_Nss2	19	20.09	7	27.09	30	-2.91
be 40	5510	Mcs0_Nss2	21	22.73	7	29.73	30	-0.27
be 40	5590	Mcs0_Nss2	21	22.65	7	29.65	30	-0.35
be 40	5710	Mcs0_Nss2	21	21.94	7	28.94	30	-1.06
be 80	5530	Mcs0_Nss2	21	22.41	7	29.41	30	-0.59
be 80	5610	Mcs0_Nss2	21	22.26	7	29.26	30	-0.74
be 80	5690	Mcs0_Nss2	21	21.79	7	28.79	30	-1.21
be 160	5570	Mcs0_Nss2	20	22.12	7	29.12	30	-0.88
be 240	5610	Mcs0_Nss2	21	22.06	7	29.06	30	-0.94

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
a 20	5500	Mcs0_Nss1	15	16.70	7	23.70	30	-6.30
a 20	5600	Mcs0_Nss1	15	16.59	7	23.59	30	-6.41
a 20	5720	Mcs0_Nss1	16	16.74	7	23.74	30	-6.26
be 20	5500	Mcs0_Nss1	16	17.91	7	24.91	30	-5.09
be 20	5600	Mcs0_Nss1	15	16.82	7	23.82	30	-6.18
be 20	5720	Mcs0_Nss1	16	17.09	7	24.09	30	-5.91
be 40	5510	Mcs0_Nss1	19	20.73	7	27.73	30	-2.27
be 40	5590	Mcs0_Nss1	18	19.65	7	26.65	30	-3.35
be 40	5710	Mcs0_Nss1	19	19.94	7	26.94	30	-3.06
be 80	5530	Mcs0_Nss1	21	22.41	7	29.41	30	-0.59
be 80	5610	Mcs0_Nss1	21	22.26	7	29.26	30	-0.74
be 80	5690	Mcs0_Nss1	21	21.79	7	28.79	30	-1.21
be 160	5570	Mcs0_Nss1	20	22.12	7	29.12	30	-0.88
be 240	5610	Mcs0_Nss1	21	22.06	7	29.06	30	-0.94

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.

* Gated EIRP shown in the Annex is the conducted measurement.

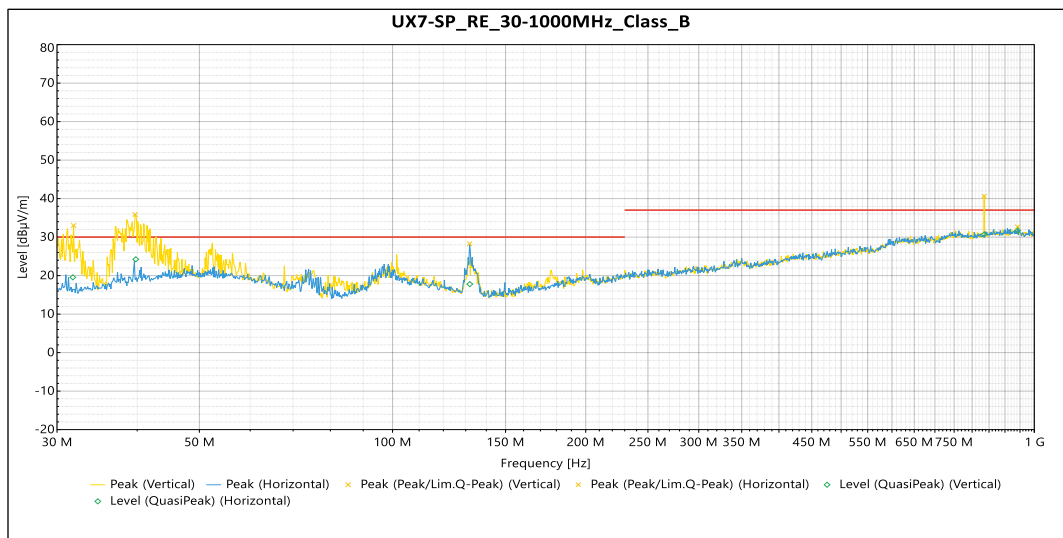
5.5 §15.407(b) Spurious Emissions

5.5.1 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.

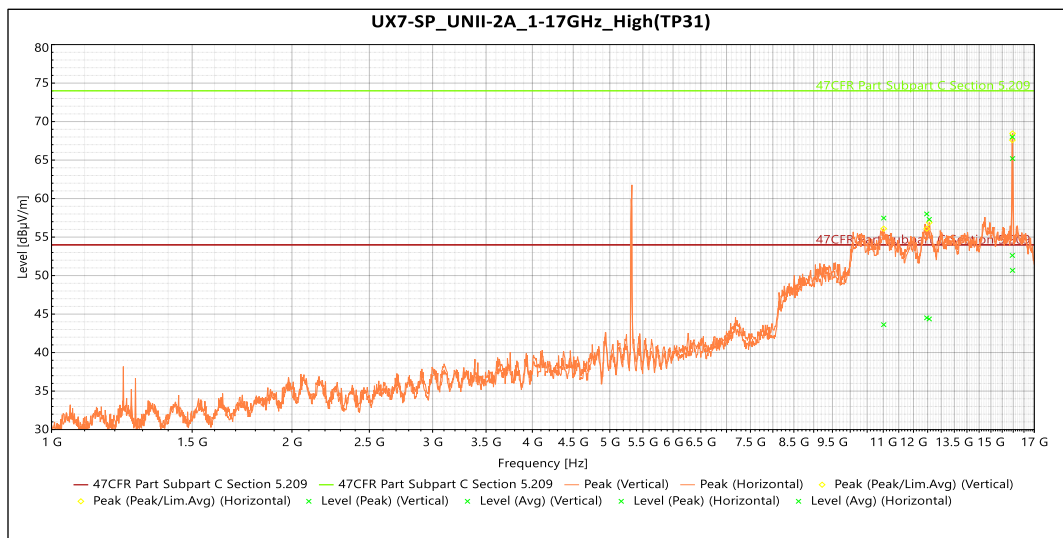
Correction Factor = Antenna Factor (dBi) + Cable Loss (dB) - Pre-Amplifier Gain (dB), and is added to the Receiver reading.

5.5.2 UNII-2A



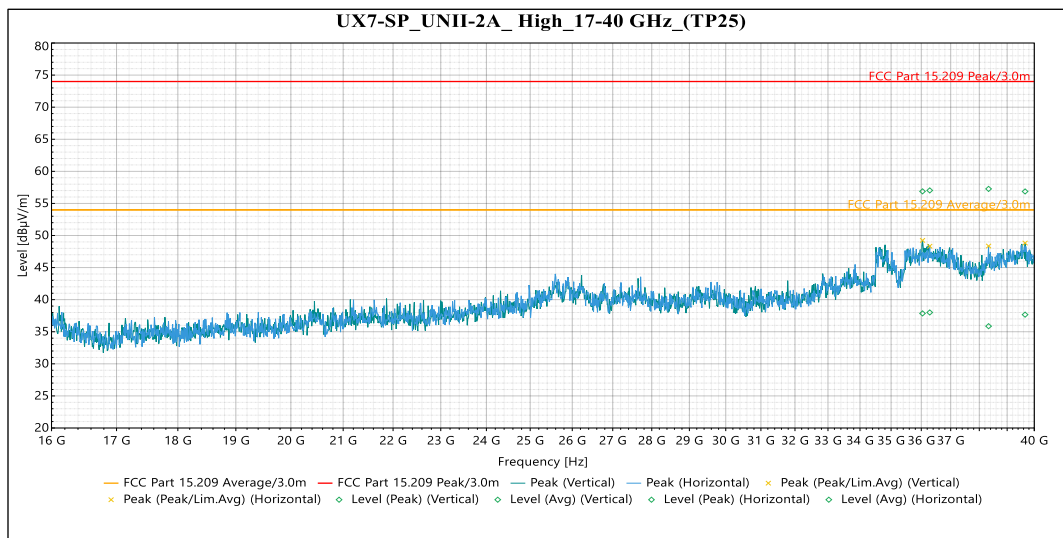
Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin	Azimuth (°)	Height	Pol.	Meas. Time	Correction (dB)
31.756 MHz	QP	19.552	30	-10.448	210	1.85	Vertical	15	-11.819
39.805 MHz	QP	24.238	30	-5.762	226	1.05	Vertical	15	-9.23
835.4 MHz	QP	30.694	37	-6.306	159	1.9	Vertical	15	0.43
131.94 MHz	QP	17.787	30	-12.213	322	3.97	Horizontal	15	-13.114
941.95 MHz	QP	31.668	37	-5.332	307	3.12	Horizontal	15	1.812

Graph 1: Radiated Emissions within 30MHz - 1GHz



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
12.558 GHz	Peak	57.302	74	-16.698	304	2.329	Vertical	13.091
15.958 GHz	Peak	67.997	74	-6.003	294	2.645	Vertical	12.216
12.558 GHz	AVG	44.368	54	-9.632	304	2.329	Vertical	13.091
15.958 GHz	AVG	52.616	54	-1.384	294	2.645	Vertical	12.216
11.013 GHz	Peak	57.471	74	-16.529	162	2.142	Horizontal	12.52
12.468 GHz	Peak	58.003	74	-15.997	195	2.146	Horizontal	13.421
15.966 GHz	Peak	65.198	74	-8.802	238	2.142	Horizontal	12.217
11.013 GHz	AVG	43.625	54	-10.375	162	2.142	Horizontal	12.52
12.468 GHz	AVG	44.514	54	-9.486	195	2.146	Horizontal	13.421
15.966 GHz	AVG	50.674	54	-3.326	238	2.142	Horizontal	12.217

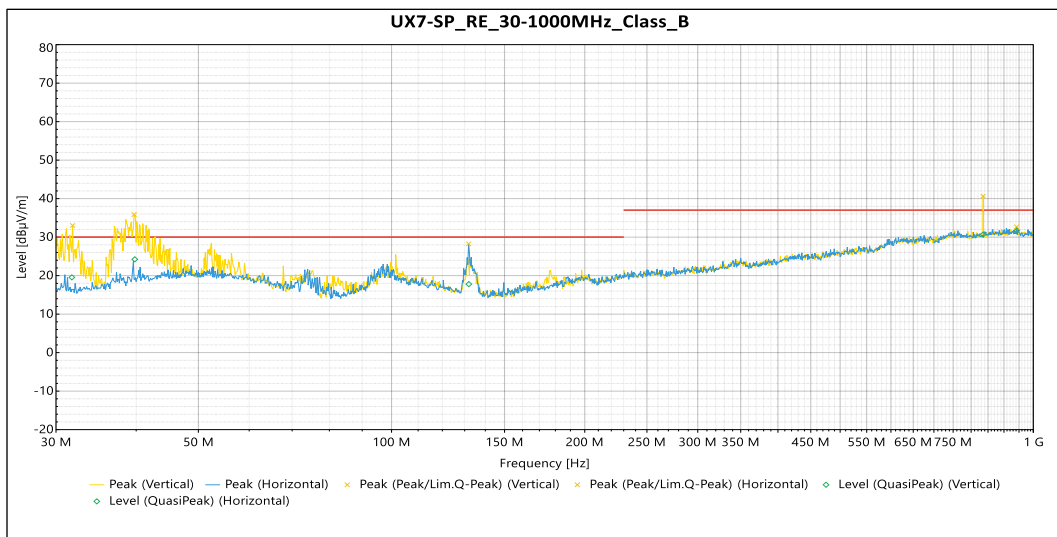
Graph 2: 1 GHz – 16 GHz



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
36.0407034 GHz	1	56.881	74	-17.119	26	Vertical	9.737
39.6576254 GHz	1	56.867	74	-17.133	10	Vertical	8.687
36.0407034 GHz	1	37.858	54	-16.142	26	Vertical	9.737
39.6576254 GHz	1	37.665	54	-16.335	10	Vertical	8.687
36.2851124 GHz	2	57.028	74	-16.972	158	Horizontal	10.3
38.3310934 GHz	2	57.263	74	-16.737	291	Horizontal	7.641
36.2851124 GHz	2	38.005	54	-15.995	158	Horizontal	10.3
38.3310934 GHz	2	35.867	54	-18.133	291	Horizontal	7.641

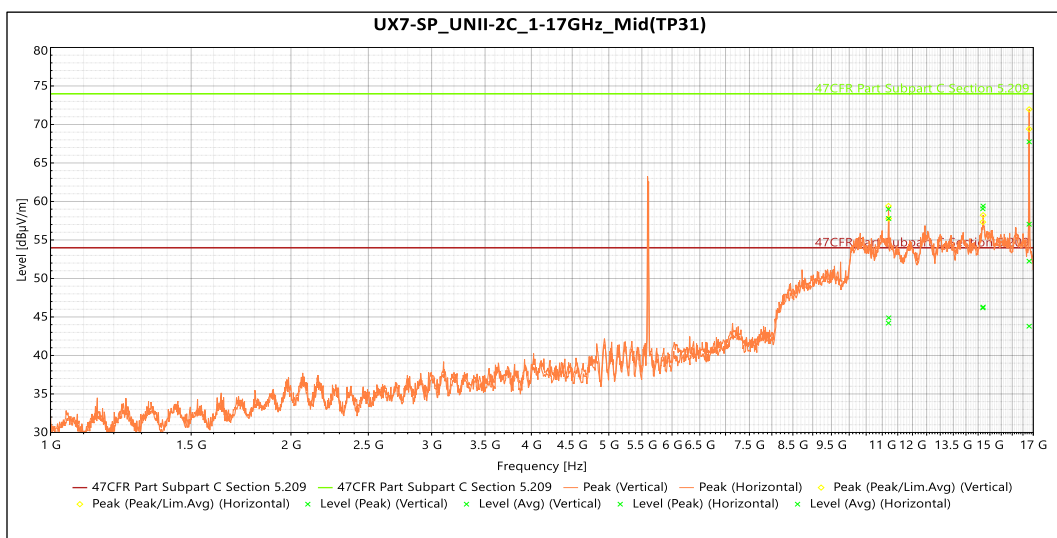
Graph 3: 16 GHz – 40 GHz

5.5.3 UNII-2C



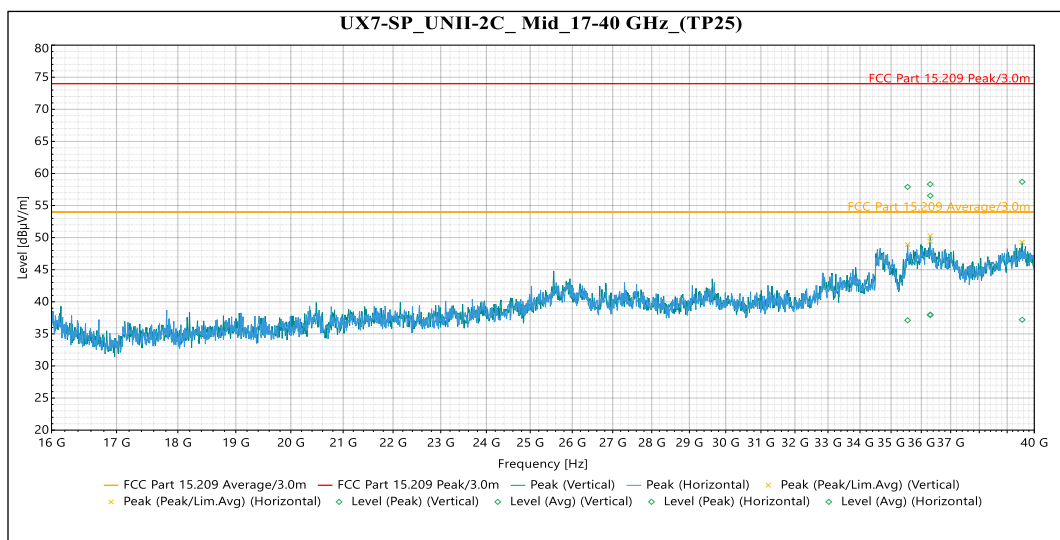
Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin	Azimuth (°)	Height	Pol.	Meas. Time	Correction (dB)
31.756 MHz	QP	19.552	30	-10.448	210	1.85	Vertical	15	-11.819
39.805 MHz	QP	24.238	30	-5.762	226	1.05	Vertical	15	-9.23
835.4 MHz	QP	30.694	37	-6.306	159	1.9	Vertical	15	0.43
131.94 MHz	QP	17.787	30	-12.213	322	3.97	Horizontal	15	-13.114
941.95 MHz	QP	31.668	37	-5.332	307	3.12	Horizontal	15	1.812

Graph 4: Radiated Emissions within 30MHz - 1GHz



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.205 GHz	Peak	57.782	74	-16.218	164	3.302	Vertical	10.981
14.698 GHz	Peak	59.047	74	-14.953	77	2.82	Vertical	15.128
16.799 GHz	Peak	67.748	74	-6.252	339	3.307	Vertical	13.656
11.205 GHz	AVG	44.888	54	-9.112	164	3.302	Vertical	10.981
14.698 GHz	AVG	46.175	54	-7.825	77	2.82	Vertical	15.128
16.799 GHz	AVG	52.244	54	-1.756	339	3.307	Vertical	13.656
11.198 GHz	Peak	58.996	74	-15.004	243	2.329	Horizontal	10.98
14.711 GHz	Peak	59.409	74	-14.591	175	4	Horizontal	15.007
16.797 GHz	Peak	57.045	74	-16.955	48	2.146	Horizontal	13.643
11.198 GHz	AVG	44.202	54	-9.798	243	2.329	Horizontal	10.98
14.711 GHz	AVG	46.287	54	-7.713	175	4	Horizontal	15.007
16.797 GHz	AVG	43.796	54	-10.204	48	2.146	Horizontal	13.643

Graph 5: 1 GHz – 16 GHz



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
36.3006286 GHz	1	58.332	74	-15.668	151	Vertical	10.207
39.549506 GHz	1	58.698	74	-15.302	250	Vertical	9.094
36.3006286 GHz	1	38	54	-16	151	Vertical	10.207
39.549506 GHz	1	37.204	54	-16.796	250	Vertical	9.094
35.5443505 GHz	2	57.903	74	-16.097	131	Horizontal	9.804
36.3028567 GHz	2	56.535	74	-17.465	188	Horizontal	10.192
35.5443505 GHz	2	37.121	54	-16.879	131	Horizontal	9.804
36.3028567 GHz	2	37.937	54	-16.063	188	Horizontal	10.192

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 7 dBi antenna, the conducted limit for power spectral density is 10 dBm.

See Section 2.2 for directional gain calculation.

Results of this testing are summarized.

5.6.1 UNII-2A

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
a 20	5260	Mcs0_Nss2	19	9.98	7	10	-0.02
a 20	5280	Mcs0_Nss2	19	9.47	7	10	-0.53
a 20	5320	Mcs0_Nss2	19	9.11	7	10	-0.89
be 20	5260	Mcs0_Nss2	20	9.80	7	10	-0.20
be 20	5280	Mcs0_Nss2	20	9.24	7	10	-0.76
be 20	5320	Mcs0_Nss2	20	9.02	7	10	-0.98
be 40	5270	Mcs0_Nss2	21	7.88	7	10	-2.12
be 40	5310	Mcs0_Nss2	21	7.49	7	10	-2.51
be 80	5290	Mcs0_Nss2	21	4.44	7	10	-5.56
be 160	5250	Mcs0_Nss2	20	1.96	7	10	-9.04

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
a 20	5260	Mcs0_Nss1	19	6.98	7	6.99	-0.01
a 20	5280	Mcs0_Nss1	19	6.47	7	6.99	-0.52
a 20	5320	Mcs0_Nss1	19	6.11	7	6.99	-0.88
be 20	5260	Mcs0_Nss1	20	6.80	7	6.99	-0.19
be 20	5280	Mcs0_Nss1	20	6.24	7	6.99	-0.75
be 20	5320	Mcs0_Nss1	20	6.02	7	6.99	-0.97
be 40	5270	Mcs0_Nss1	21	6.88	7	6.99	-0.11
be 40	5310	Mcs0_Nss1	21	6.49	7	6.99	-0.50
be 80	5290	Mcs0_Nss1	21	4.44	7	6.99	-2.55
be 160	5250	Mcs0_Nss1	20	1.96	7	6.99	-5.03

5.6.2 UNII-2C

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
a 20	5500	Mcs0_Nss2	18	9.24	7	10	-0.76
a 20	5600	Mcs0_Nss2	18	9.80	7	10	-0.20
a 20	5720	Mcs0_Nss2	19	9.53	7	10	-0.47
be 20	5500	Mcs0_Nss2	19	9.72	7	10	-0.28
be 20	5600	Mcs0_Nss2	18	9.23	7	10	-0.77
be 20	5720	Mcs0_Nss2	19	9.49	7	10	-0.51
be 40	5510	Mcs0_Nss2	21	8.98	7	10	-1.02
be 40	5590	Mcs0_Nss2	21	9.45	7	10	-0.55
be 40	5710	Mcs0_Nss2	21	8.26	7	10	-1.74
be 80	5530	Mcs0_Nss2	21	6.05	7	10	-3.95
be 80	5610	Mcs0_Nss2	21	5.92	7	10	-4.08
be 80	5690	Mcs0_Nss2	21	6.04	7	10	-3.96
be 160	5570	Mcs0_Nss2	20	2.73	7	10	-8.27
be 240	5610	Mcs0_Nss2	21	0.23	7	10	-9.77

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
a 20	5500	Mcs0_Nss1	15	6.24	7	6.99	-0.75
a 20	5600	Mcs0_Nss1	15	6.80	7	6.99	-0.19
a 20	5720	Mcs0_Nss1	16	6.53	7	6.99	-0.46
be 20	5500	Mcs0_Nss1	16	6.72	7	6.99	-0.27
be 20	5600	Mcs0_Nss1	15	6.23	7	6.99	-0.76
be 20	5720	Mcs0_Nss1	16	6.49	7	6.99	-0.50
be 40	5510	Mcs0_Nss1	19	6.98	7	6.99	-0.01
be 40	5590	Mcs0_Nss1	18	6.45	7	6.99	-0.54
be 40	5710	Mcs0_Nss1	19	6.26	7	6.99	-0.73
be 80	5530	Mcs0_Nss1	21	6.05	7	6.99	-0.94
be 80	5610	Mcs0_Nss1	21	5.92	7	6.99	-0.07
be 80	5690	Mcs0_Nss1	21	6.04	7	6.99	-0.95
be 160	5570	Mcs0_Nss1	20	2.73	7	6.99	-4.26
be 240	5610	Mcs0_Nss1	21	0.23	7	6.99	-6.76

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

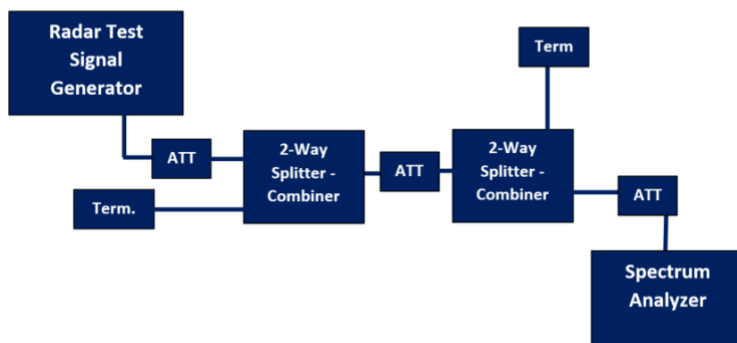
This product is a master with radar detection. The outcome of the required DFS tests is located in this section. DFS testing was performed following the test procedures as outlined in KDB 905462.

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

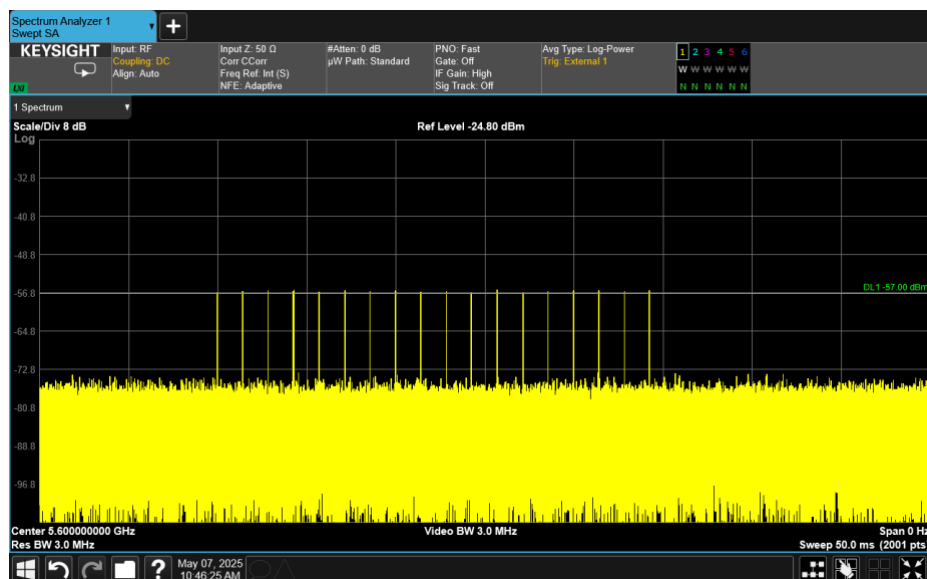
Information	Status
Possible Antenna/s	Integral 7 dBi.
Antenna used for test	Integral 7 dBi
Operating mode	Master
Port used for testing	5G0
EIRP range	> 200 milliwatts
Impedance of port	50 ohms
Channel loading technique	Data transfer was enacted to achieve a minimum channel loading of approximately 17%
Antenna measurement technique	See note 1
Time of power-on cycle	64s
Detection threshold level	-57 dBm

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not Required	Yes
<i>DFS Detection Threshold</i>	Yes	Not Required	Yes
<i>Channel Availability Check Time</i>	Yes	Not Required	Not Required
<i>U-NII Detection Bandwidth</i>	Yes	Not Required	Yes

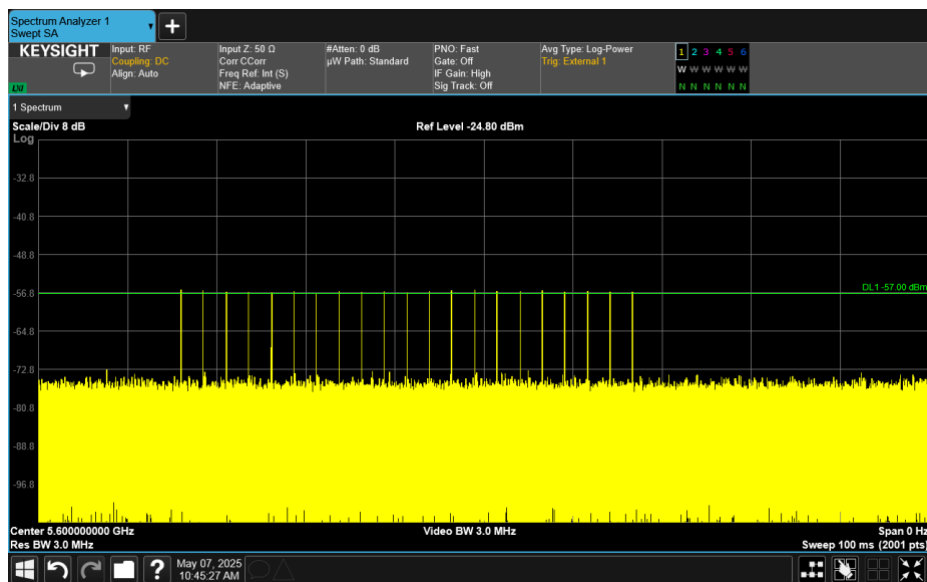
Requirement	Operational Mode	
	Master or Client Client Without Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not Required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not Required



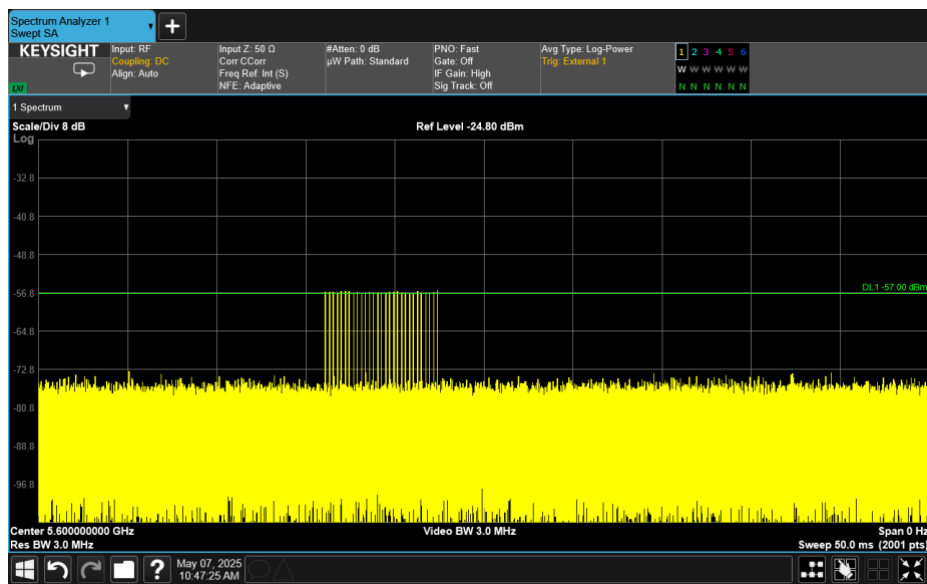
Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	



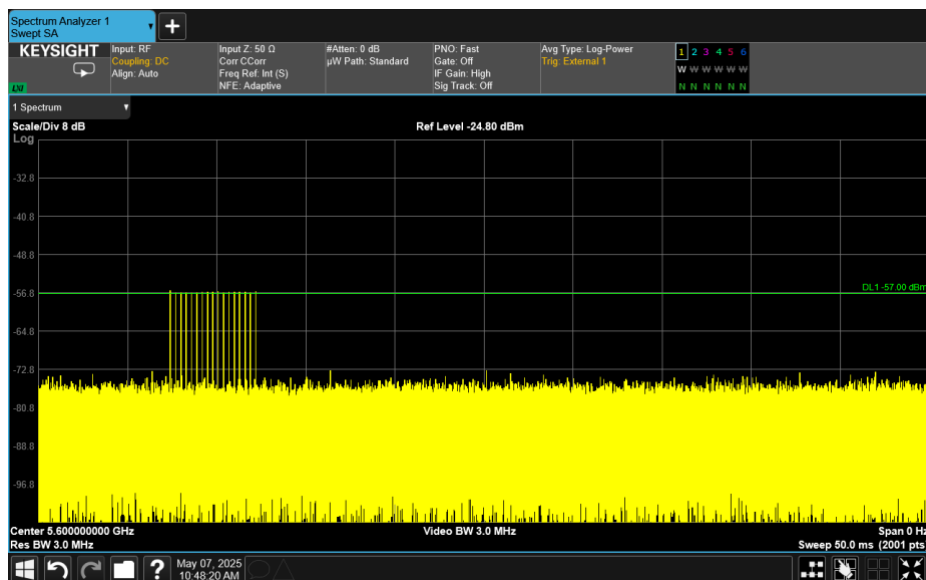
Plot 1: Radar Level 0



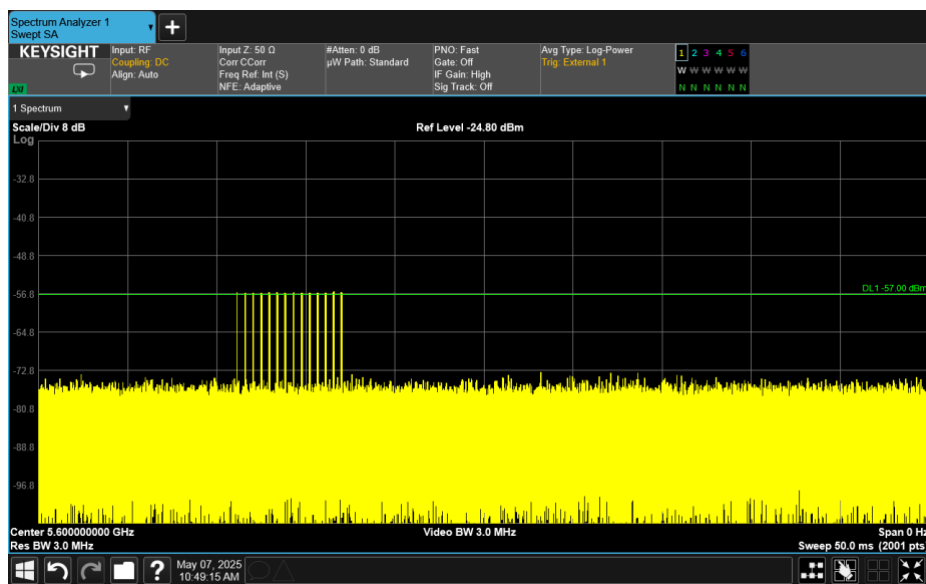
Plot 2: Radar Level 1



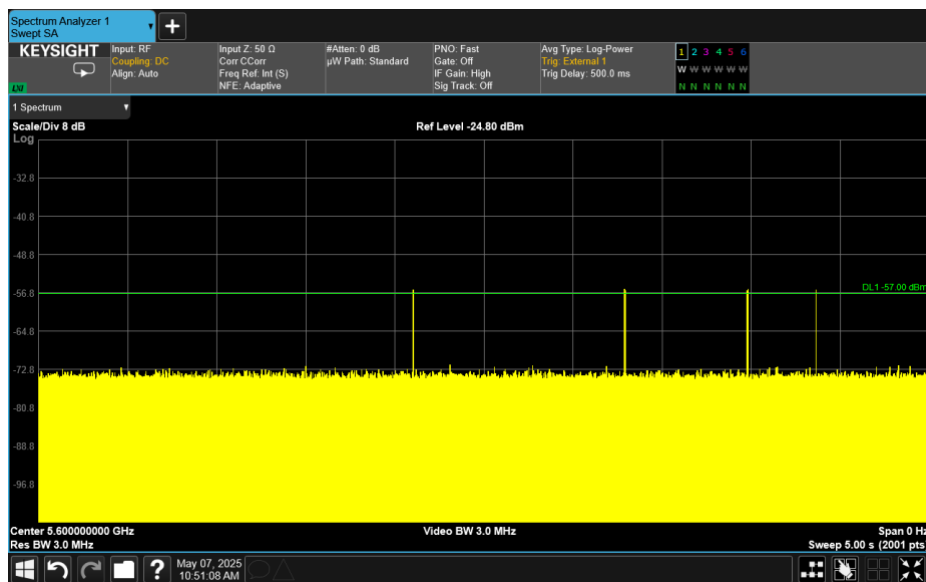
Plot 3: Radar Level 2



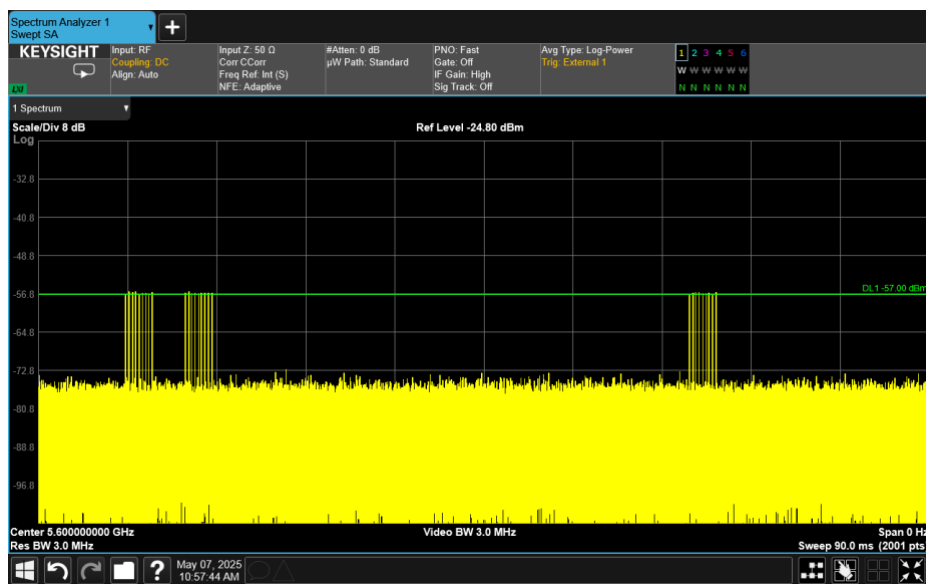
Plot 4: Radar Level 3



Plot 5: Radar Level 4



Plot 6: Radar Level 5



Plot 7: Radar Level 6

5.7.1 Channel Availability Check (CAC)

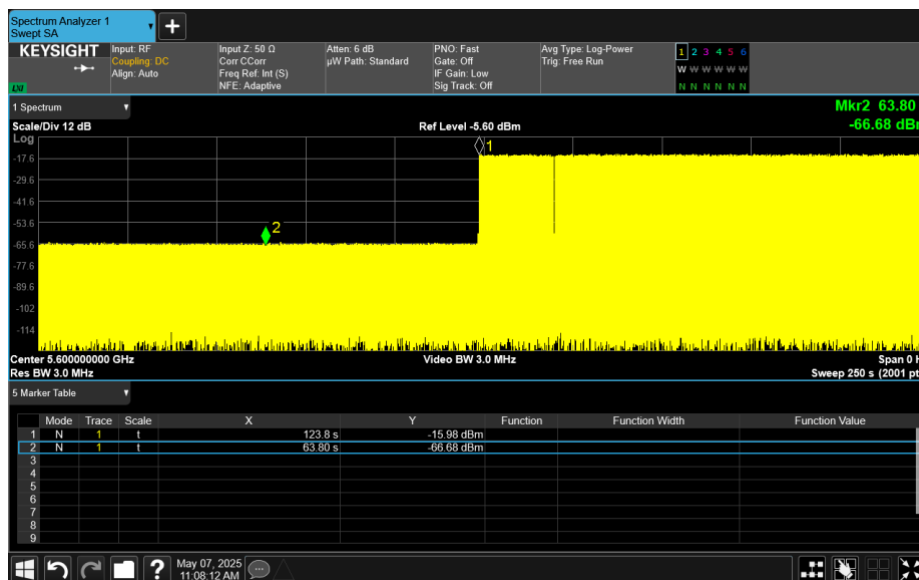
The EUT shall perform a CAC to ensure that there is no radar operating on the channel. After the power-up sequence, at-least 1 minute shall be monitored on the intended operating frequency.

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.

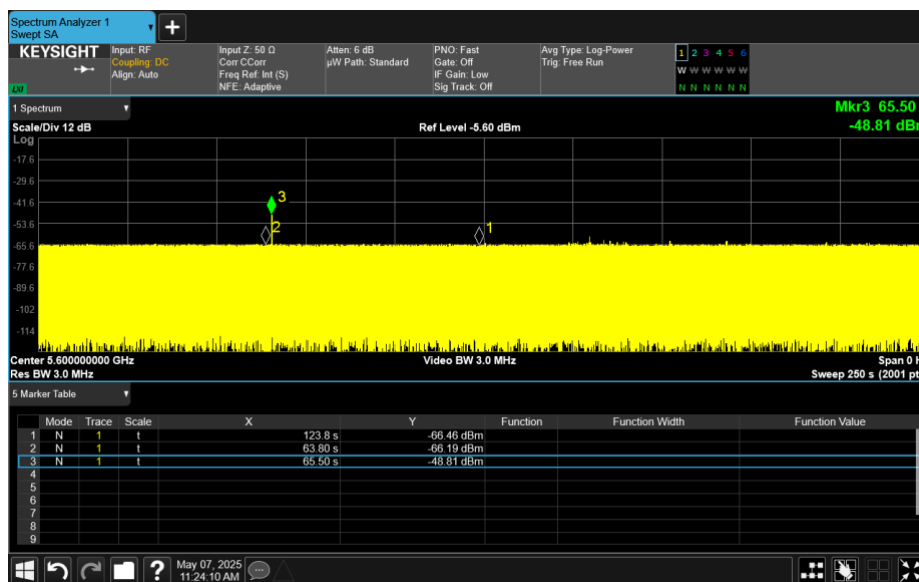
For radar burst at the beginning of the CAC. To verify successful radar detection on the selected channel during a period equal to the beginning of the CAC time, visual indication on the EUT of successful detection of the radar burst will be recorded and reported. Observation of the radar burst is show 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.

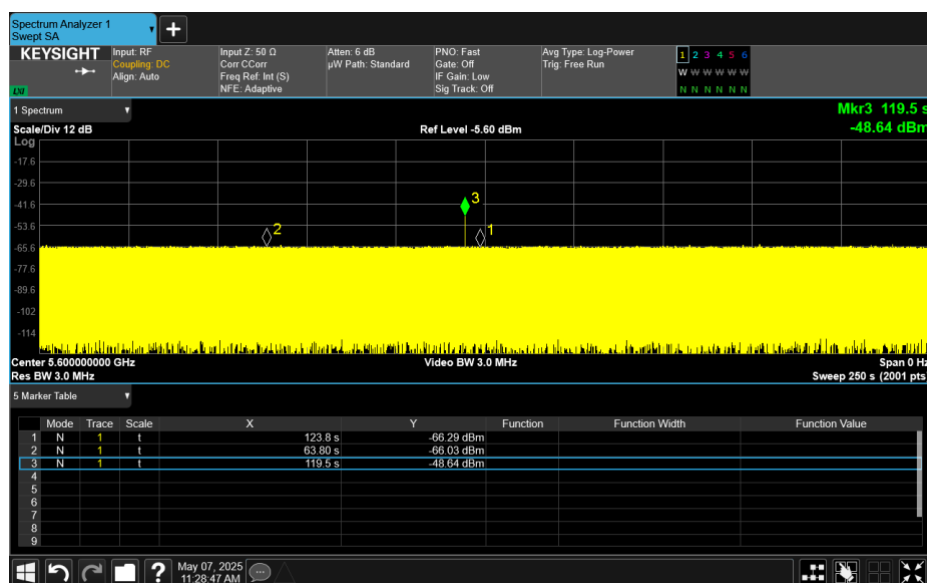
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the channel within the channel closing transmission time and channel move time, and does not transmit on a channel during the non-occupancy period after the detection and channel move.



Plot 8: DUT Turn On



Plot 9: Beginning



Plot 10: End

5.7.2 In-service Monitoring

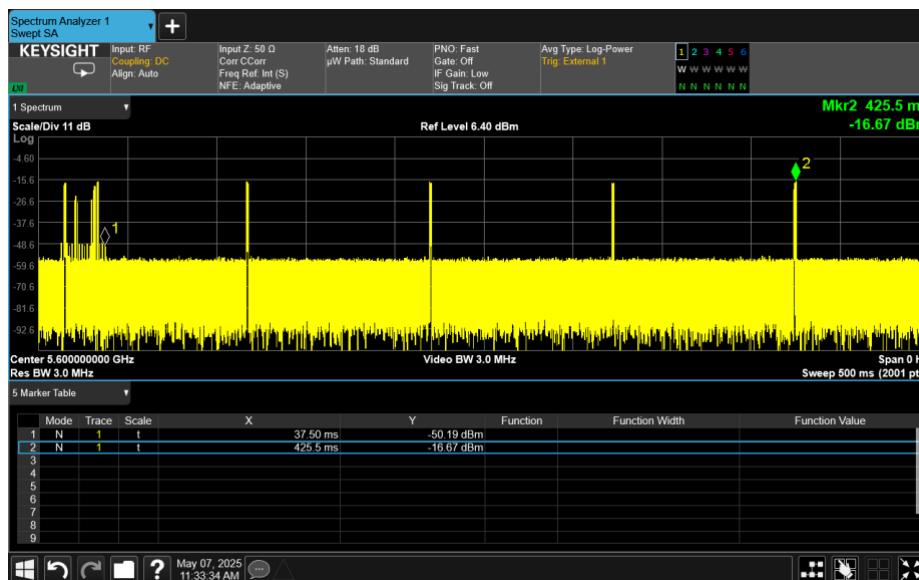
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 ms + aggregate of 60 ms over remaining 10 second period
Non-occupancy period	Minimum 30 minutes

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.

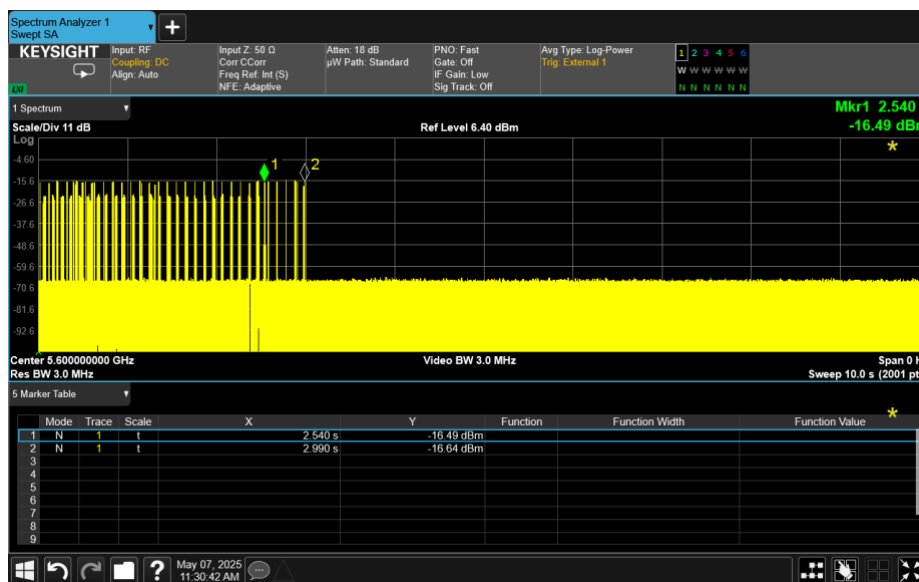
During the 30 minutes observation time, the EUT did not make any transmissions on a channel after a radar signal was detected.

Please see plots below.

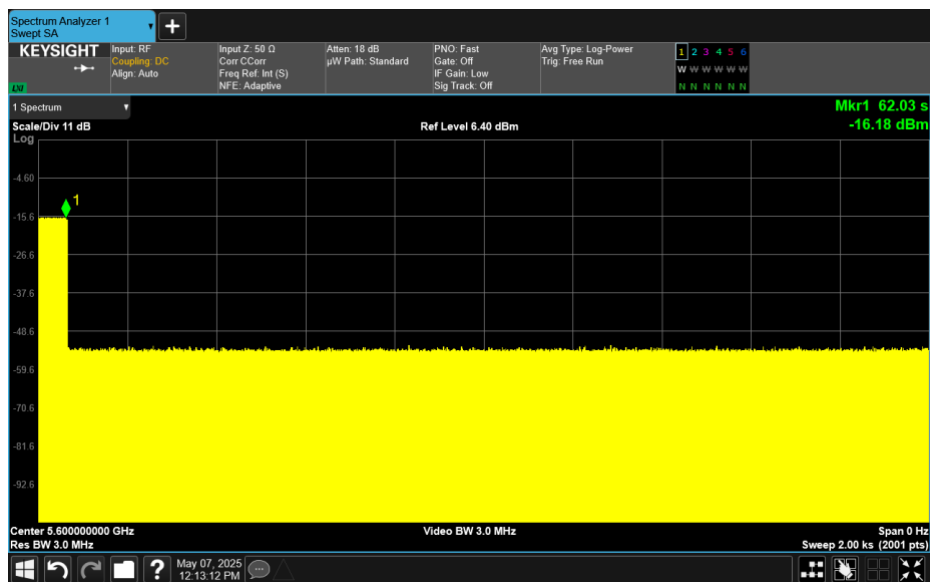
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the channel within the channel closing transmission time and channel move time, and does not transmit on a channel during the non-occupancy period after the detection and channel move.



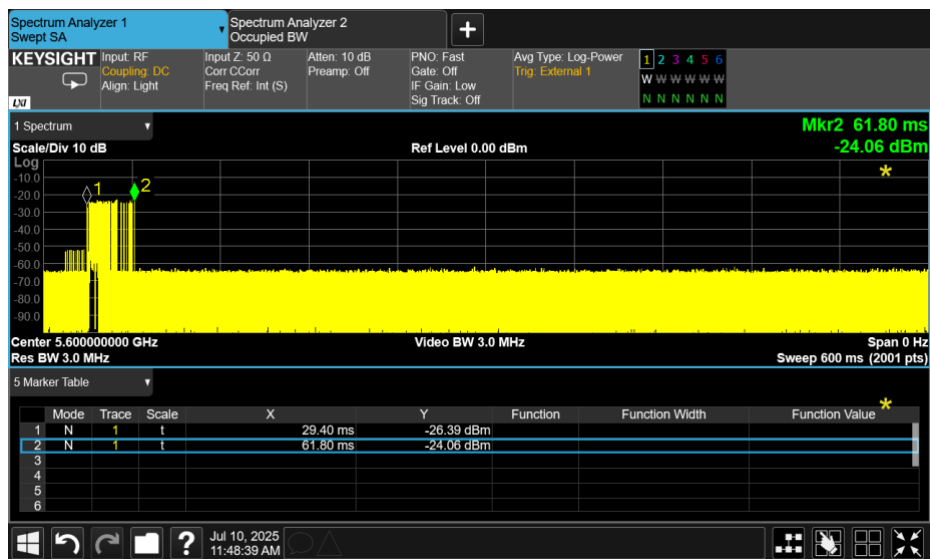
Plot 11: Channel Close (500 ms)



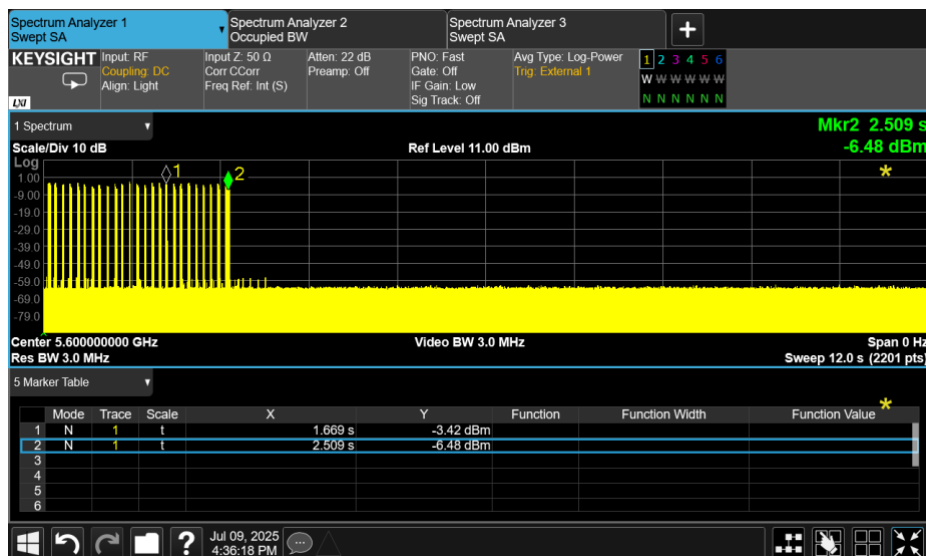
Plot 12: Channel Move



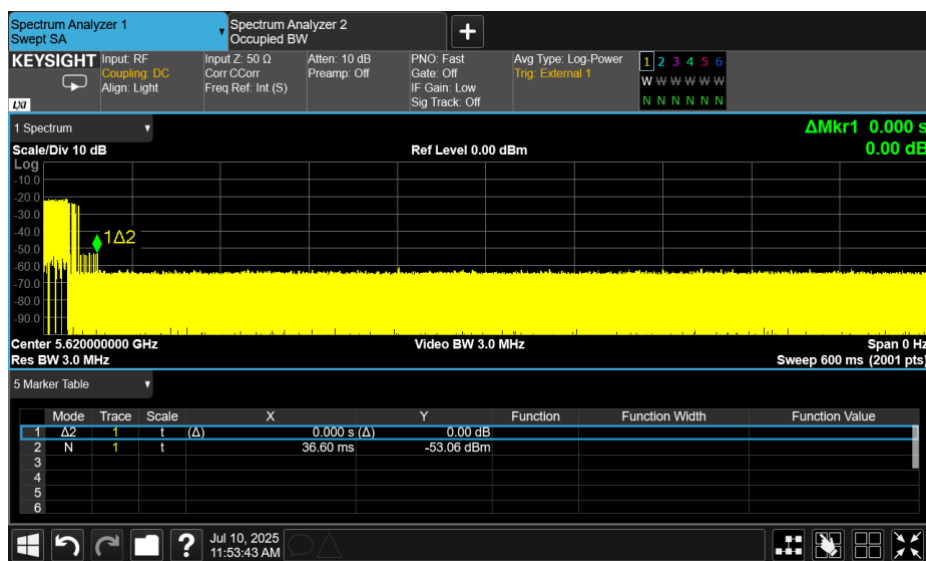
Plot 13: Non-Occupancy



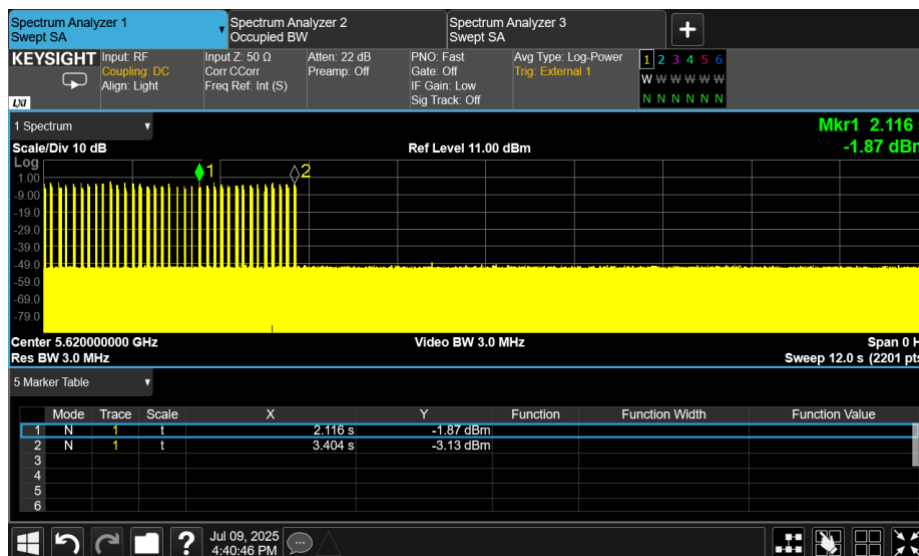
Plot 14: 240 MHz Puncturing Channel Close (600 ms)



Plot 15: 240 MHz Puncturing Channel Move



Plot 16: 240MHz Puncturing Channel Close (500 ms)



Plot 17: 240 MHz Puncturing Channel Move

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	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:											20
Lowest frequency with at least 90% detection (F _L):											5590
Highest frequency with at least 90% detection (F _H):											5610
Detection Bandwidth (F _H - F _L):											20
Detection Bandwidth percentage of 99% Transmission Power Bandwidth:											100%

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	0	1	1	1	1	1	1	1	1	1	90
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											40
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:											100%

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:											80
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:											100%

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	0	1	1	1	1	1	1	1	1	90
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	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	0	1	1	1	1	1	0	1	1	1	80
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	0	1	1	1	90
Parameter											Value
U-NII 99% Transmission Power Bandwidth:											160
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:											100%

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	26	30	87%
Type 3	23	30	77%
Type 4	26	30	87%
Type 5	30	30	100%
Type 6	30	30	100%
Aggregate 1-4	104	120	87%

RADAR TYPE 1				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	23	1	2292	y
2	100	1	531	y
3	58	1	916	y
4	24	1	2268	y
5	69	1	767	y
6	26	1	2028	y
7	71	1	751	y
8	50	1	1054	y
9	42	1	1271	y
10	29	1	1866	y
11	42	1	1280	y
12	26	1	2098	y
13	27	1	1965	y
14	19	1	2824	y
15	18	1	2981	y
16	49	1	1083	y
17	88	1	599	y
18	22	1	2422	y
19	24	1	2219	n
20	27	1	1952	y
21	27	1	2009	y
22	53	1	1005	y
23	22	1	2410	y
24	24	1	2258	y
25	25	1	2155	y
26	30	1	1768	y
27	51	1	1051	y
28	19	1	2847	y
29	66	1	806	y
30	101	1	522	y
				29/30: 96.7%

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	1.3	204	y
2	27	2.9	196	y
3	26	3.3	201	y
4	25	4	198	y
5	24	3.9	164	y
6	25	1.6	195	y
7	28	4.6	219	y
8	28	1.8	160	y
9	23	2.7	165	n
10	25	2.1	205	n
11	27	4	214	y
12	24	3.8	224	y
13	23	4.7	174	y
14	24	1.7	193	y
15	28	4.8	178	y
16	23	4.7	150	y
17	23	3.6	177	y
18	25	1.4	207	y
19	28	2.6	191	y
20	23	1	222	y
21	27	4.6	223	y
22	29	1.9	197	n
23	25	1.2	159	y
24	27	4.1	210	y
25	26	2.5	190	y
26	24	3.6	150	n
27	26	4.1	170	y
28	23	1.4	228	y
29	24	1.3	195	y
30	28	4.7	168	y
				26/30: 86.7%

RADAR TYPE 3				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	16	8.3	423	y
2	18	6.9	392	n
3	17	9.8	224	y
4	16	7.5	286	y
5	17	7.1	421	y
6	17	7.4	370	y
7	17	6.5	394	y
8	17	6.9	348	n
9	16	9.4	481	n
10	17	6	213	y
11	18	7.1	276	y
12	16	8.6	446	n
13	17	8.9	243	y
14	17	6.6	237	y
15	17	9.5	463	y
16	18	8.6	452	y
17	16	9.8	269	y
18	18	9.6	498	y
19	17	7.5	299	y
20	18	8	348	y
21	17	7.9	430	y
22	16	10	265	y
23	18	6.7	324	y
24	18	9.3	255	n
25	16	6.3	403	n
26	18	8.7	227	y
27	18	9.6	206	n
28	18	6	208	y
29	16	7.9	259	y
30	17	9.8	381	y
				23/30: 76.7%

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	17.9	407	y
2	13	15.3	321	y
3	14	14.4	282	y
4	14	12.7	395	y
5	13	15.7	381	y
6	14	12.8	304	y
7	14	19.1	373	y
8	15	12.9	472	y
9	14	16.7	396	y
10	13	12.8	446	y
11	13	17	376	y
12	13	15.4	272	y
13	14	19.5	440	y
14	15	17.1	221	n
15	14	19.4	269	y
16	13	11.2	236	y
17	12	15.6	481	n
18	13	12.9	334	y
19	14	14.2	492	n
20	13	18.6	342	y
21	15	11.9	447	y
22	13	17.5	472	y
23	15	13.3	487	y
24	12	13.1	355	y
25	13	17.8	409	y
26	15	12.7	386	n
27	13	13.2	325	y
28	14	12.3	409	y
29	13	13.4	475	y
30	16	15.1	434	y
				26/30: 86.7%

TYPE 5 Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Detection (yes/no)	Chirp Width (MHz)	Subset	Fc
1	y	12	1	5600
2	y	6	1	5600
3	y	18	1	5600
4	y	9	1	5600
5	y	19	1	5600
6	y	6	1	5600
7	y	7	1	5600
8	y	5	1	5600
9	y	14	1	5600
10	y	14	1	5600
11	y	13	2	5595.2
12	y	8	2	5593.2
13	y	8	2	5593.2
14	y	5	2	5592
15	y	20	2	5598
16	y	5	2	5592
17	y	5	2	5592
18	y	6	2	5592.4
19	y	19	2	5597.6
20	y	11	2	5594.4
21	y	5	3	5608
22	y	8	3	5606.8
23	y	10	3	5606
24	y	20	3	5602
25	y	8	3	5606.8
26	y	5	3	5608
27	y	11	3	5605.6
28	y	13	3	5604.8
29	y	12	3	5605.2
30	y	6	3	5607.6
30/30: 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
30/30: 100%	

40 MHz

Summary

Type	Detections	Trials	Detection Probability
Type 1	27	30	90%
Type 2	28	30	93%
Type 3	26	30	87%
Type 4	26	30	87%
Type 5	30	30	100%
Type 6	30	30	100%
Aggregate 1-4	107	120	89%

RADAR TYPE 1					RADAR TYPE 2				
Rohde & Schwarz K350 Pulse Sequencer DFS					Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)	Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)
1	30	1	1811	y	1	26	4.1	185	y
2	73	1	723	y	2	29	3.9	230	y
3	26	1	2069	y	3	27	4.9	186	y
4	19	1	2906	y	4	24	1.5	161	n
5	27	1	1954	y	5	23	3.2	190	y
6	24	1	2276	y	6	25	4.6	205	y
7	58	1	911	y	7	29	2.3	219	y
8	23	1	2394	y	8	25	1.4	196	y
9	32	1	1673	y	9	26	2.3	222	y
10	21	1	2548	y	10	26	4.5	167	y
11	34	1	1575	y	11	25	3.5	181	y
12	52	1	1025	y	12	24	2.3	205	y
13	48	1	1114	y	13	26	3.7	198	n
14	22	1	2501	y	14	27	3.1	167	y
15	19	1	2903	y	15	25	2.1	210	y
16	27	1	1992	n	16	24	4.6	152	y
17	45	1	1173	y	17	26	1.8	168	y
18	43	1	1253	y	18	25	4.1	159	y
19	41	1	1313	y	19	29	3.8	167	y
20	24	1	2209	n	20	26	2.7	187	y
21	100	1	528	y	21	27	1.1	161	y
22	102	1	521	y	22	24	2.2	181	y
23	19	1	2799	y	23	26	4	220	y
24	18	1	2999	n	24	27	1.8	189	y
25	21	1	2525	y	25	29	1.5	170	y
26	23	1	2380	y	26	26	4.6	201	y
27	52	1	1020	y	27	27	1.8	151	y
28	87	1	612	y	28	24	2.7	210	y
29	19	1	2853	y	29	27	2.9	188	y
30	40	1	1331	y	30	26	1.5	226	y
27/30: 90%					28/30: 93.3%				

RADAR TYPE 3					RADAR TYPE 4				
Rohde & Schwarz K350 Pulse Sequencer DFS					Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)	Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)
1	18	9.6	376	y	1	14	16	496	y
2	16	7.9	278	n	2	15	11.4	455	y
3	18	6.7	287	n	3	15	17.3	377	y
4	18	8.3	404	y	4	15	15.2	349	y
5	18	8.6	498	y	5	15	15.7	397	y
6	17	9.5	341	y	6	14	15.4	350	y
7	18	9.7	272	y	7	16	18.1	220	y
8	16	7.1	380	y	8	13	19.2	304	y
9	18	9.6	374	y	9	16	14.1	445	y
10	18	8.1	482	y	10	13	11.6	487	y
11	16	6.9	477	n	11	13	11.2	469	y
12	17	8.6	471	y	12	15	13.6	279	y
13	17	7.9	413	y	13	14	15.8	275	n
14	16	8.1	301	y	14	13	19.3	341	y
15	17	6.2	425	y	15	12	18.6	275	y
16	17	6.4	407	y	16	13	15.6	205	y
17	17	7.7	208	n	17	14	17.4	444	n
18	17	6.4	433	y	18	13	13.2	318	y
19	17	8.4	338	y	19	15	19.9	475	y
20	18	6.3	500	y	20	15	20	202	y
21	16	7.1	480	y	21	15	14.1	326	y
22	17	7.1	336	y	22	15	18.8	337	n
23	17	8.3	201	y	23	13	19.6	477	y
24	16	7.7	264	y	24	16	14.1	388	y
25	17	6.8	390	y	25	12	16.4	489	y
26	16	6.2	321	y	26	16	13.5	207	y
27	17	7.8	370	y	27	15	12.6	456	n
28	17	9.9	258	y	28	16	19.7	397	y
29	16	9.5	329	y	29	13	12.6	247	y
30	18	7.5	456	y	30	12	12.4	472	y
26/30: 86.7%					26/30: 86.7%				

TYPE 5				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Detection (yes/no)	Chirp Width (MHz)	Subset	Fc
1	y	5	1	5590
2	y	13	1	5590
3	y	20	1	5590
4	y	18	1	5590
5	y	12	1	5590
6	y	8	1	5590
7	y	7	1	5590
8	y	11	1	5590
9	y	12	1	5590
10	y	5	1	5590
11	y	9	2	5573.6
12	y	17	2	5576.8
13	y	17	2	5576.8
14	y	9	2	5573.6
15	y	17	2	5576.8
16	y	16	2	5576.4
17	y	9	2	5573.6
18	y	16	2	5576.4
19	y	16	2	5576.4
20	y	19	2	5577.6
21	y	10	3	5606
22	y	8	3	5606.8
23	y	6	3	5607.6
24	y	12	3	5605.2
25	y	20	3	5602
26	y	11	3	5605.6
27	y	6	3	5607.6
28	y	18	3	5602.8
29	y	18	3	5602.8
30	y	16	3	5603.6
30/30: 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	
		30/30: 100%

80 MHz

Summary			
Type	Detections	Trials	Detection Probability
Type 1	29	30	97%
Type 2	28	30	93%
Type 3	29	30	97%
Type 4	29	30	97%
Type 5	29	30	97%
Type 6	30	30	100%
Aggregate 1-4	115	120	96%

RADAR TYPE 1				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	30	1	1811	y
2	73	1	723	y
3	26	1	2069	y
4	19	1	2906	y
5	27	1	1954	y
6	24	1	2276	y
7	58	1	911	y
8	23	1	2394	y
9	32	1	1673	y
10	21	1	2548	y
11	34	1	1575	y
12	52	1	1025	y
13	48	1	1114	y
14	22	1	2501	y
15	19	1	2903	y
16	27	1	1992	y
17	45	1	1173	y
18	43	1	1253	y
19	41	1	1313	y
20	24	1	2209	n
21	100	1	528	y
22	102	1	521	y
23	19	1	2799	y
24	18	1	2999	y
25	21	1	2525	y
26	23	1	2380	y
27	52	1	1020	y
28	87	1	612	y
29	19	1	2853	y
30	40	1	1331	y
				29/30: 96.7%

RADAR TYPE 2				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	27	4.1	168	y
2	25	2.9	156	y
3	27	2.6	205	n
4	27	3.5	178	y
5	23	1.7	162	y
6	29	2.7	230	y
7	27	1.8	153	y
8	24	2.6	180	y
9	23	3.5	202	y
10	28	4.4	183	y
11	28	1.8	205	y
12	23	4.2	203	y
13	25	1.8	227	y
14	28	4.3	214	y
15	23	4.3	226	y
16	27	2	202	y
17	25	2.1	205	y
18	23	4.7	167	y
19	24	4.2	226	y
20	26	4.2	167	y
21	26	4.9	217	y
22	27	1.1	207	n
23	25	2.2	155	y
24	25	4.6	151	y
25	25	2.7	204	y
26	26	2.6	157	y
27	24	1.7	161	y
28	25	1.1	194	y
29	27	4.9	191	y
30	27	4.3	178	y
				28/30: 93.3%

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	6.5	363	y
2	16	9.6	237	y
3	16	7.1	356	y
4	16	7.1	337	y
5	17	8.6	276	y
6	17	7.4	288	y
7	17	6.9	222	y
8	16	7.8	282	y
9	18	9.8	242	y
10	17	9.5	431	y
11	17	6.1	365	y
12	17	9.4	271	y
13	17	7.7	483	y
14	17	8.9	375	y
15	17	9.5	202	y
16	17	9.4	441	y
17	17	6.9	403	y
18	17	8.6	349	y
19	18	7	298	n
20	16	6.9	230	y
21	17	6	266	y
22	17	8.9	283	y
23	17	6	394	y
24	17	8.8	248	y
25	18	9	324	y
26	17	6.9	380	y
27	17	6.5	393	y
28	17	8.2	485	y
29	17	7.9	241	y
30	17	7.4	338	y
				29/30: 96.7%

RADAR TYPE 4				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (μsec)	PRI (μs)	Detection (yes/no)
1	14	19.5	323	y
2	14	14.4	412	y
3	13	18	346	y
4	13	19.9	295	y
5	15	15.1	281	y
6	14	12.7	432	y
7	14	11	481	n
8	15	17	237	y
9	15	11.9	498	y
10	12	14.9	342	y
11	14	15.8	374	y
12	13	15.9	415	y
13	16	12.5	482	y
14	14	19.3	214	y
15	16	12	227	y
16	14	11.7	271	y
17	16	11.2	339	y
18	12	16.5	366	y
19	15	14.8	428	y
20	14	14.3	446	y
21	15	15	314	y
22	16	16.5	271	y
23	16	12.6	348	y
24	15	19.2	482	y
25	13	12.3	451	y
26	15	14.7	470	y
27	13	17.3	446	y
28	13	14.1	236	y
29	14	14.1	466	y
30	12	18	343	y
				29/30: 96.7%

TYPE 5 Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Detection (yes/no)	Chirp Width (MHz)	Subset	Fc
1	y	15	1	5610
2	y	14	1	5610
3	y	17	1	5610
4	y	19	1	5610
5	y	19	1	5610
6	y	18	1	5610
7	y	16	1	5610
8	n	8	1	5610
9	y	15	1	5610
10	y	17	1	5610
11	y	20	2	5578
12	y	9	2	5573.6
13	y	8	2	5573.2
14	y	9	2	5573.6
15	y	7	2	5572.8
16	y	19	2	5577.6
17	y	16	2	5576.4
18	y	16	2	5576.4
19	y	10	2	5574
20	y	7	2	5572.8
21	y	17	3	5643.2
22	y	5	3	5648
23	y	19	3	5642.4
24	y	15	3	5644
25	y	12	3	5645.2
26	y	18	3	5642.8
27	y	10	3	5646
28	y	6	3	5647.6
29	y	13	3	5644.8
30	y	8	3	5646.8
29/30: 96.7%				

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
30/30: 100%	

160 MHz

Summary

Type	Detections	Trials	Detection Probability
Type 1	28	30	93%
Type 2	29	30	97%
Type 3	26	30	87%
Type 4	27	30	90%
Type 5	29	30	97%
Type 6	30	30	100%
Aggregate 1-4	110	120	92%

RADAR TYPE 1					RADAR TYPE 2				
Rohde & Schwarz K350 Pulse Sequencer DFS					Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)	Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)
1	98	1	543	y	1	26	4.9	181	y
2	31	1	1743	y	2	25	4.3	160	n
3	34	1	1563	y	3	25	3.6	159	y
4	43	1	1240	y	4	24	4.6	169	y
5	65	1	819	y	5	26	4.1	221	y
6	46	1	1158	y	6	28	4.5	225	y
7	18	1	3048	y	7	23	4.6	174	y
8	47	1	1141	y	8	26	1.4	173	n
9	24	1	2199	n	9	25	1.4	166	y
10	19	1	2894	y	10	27	4.5	189	y
11	48	1	1107	n	11	27	4.5	221	y
12	41	1	1307	y	12	26	4.5	181	y
13	58	1	910	y	13	26	4.8	201	y
14	21	1	2627	y	14	25	2.4	164	y
15	26	1	2083	y	15	25	1.6	218	y
16	24	1	2238	y	16	25	4.6	174	y
17	19	1	2895	y	17	23	3.8	191	y
18	23	1	2363	y	18	24	2.3	224	y
19	36	1	1499	y	19	26	4.5	169	y
20	38	1	1419	y	20	26	2.5	209	y
21	18	1	2972	y	21	26	3.6	195	y
22	27	1	1987	y	22	27	2.8	171	y
23	23	1	2335	y	23	27	2.6	218	y
24	20	1	2655	y	24	24	4.3	206	y
25	21	1	2595	y	25	27	3.1	214	y
26	25	1	2130	y	26	27	2.8	186	y
27	21	1	2604	y	27	27	4.6	224	y
28	19	1	2775	y	28	26	4.9	165	y
29	24	1	2234	y	29	26	2.4	166	y
30	63	1	837	y	30	28	4	178	y
28/30: 93.3%					28/30: 93.3%				

RADAR TYPE 3					RADAR TYPE 4				
Rohde & Schwarz K350 Pulse Sequencer DFS					Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)	Trial #	Number of Pulses per Burst	Pulse Width (µsec)	PRI (µs)	Detection (yes/no)
1	18	8	211	n	1	14	11.6	461	y
2	17	6.6	358	y	2	16	17.4	349	y
3	17	6.3	473	y	3	16	17.1	436	y
4	17	7.2	204	y	4	13	19.3	244	y
5	16	9.6	393	y	5	16	11.3	473	y
6	18	8.2	301	y	6	16	19.2	214	y
7	16	7.5	277	y	7	15	13.1	358	y
8	17	10	324	y	8	15	17.2	473	y
9	17	6.1	320	y	9	16	12.5	206	y
10	17	8.8	448	y	10	16	17	262	y
11	17	7.3	244	y	11	14	17.7	277	y
12	16	8.9	401	y	12	13	11	490	y
13	17	8.2	337	y	13	13	15	208	y
14	17	6.4	209	y	14	13	18.5	245	y
15	17	7.7	477	n	15	15	17.6	258	y
16	16	8.4	385	y	16	15	19.5	455	y
17	17	7.3	280	y	17	13	16	383	y
18	16	8.3	393	y	18	16	17.4	312	y
19	16	6.8	439	y	19	14	16.8	475	y
20	17	9.3	454	y	20	14	17.6	363	y
21	16	7.5	450	y	21	13	19.3	279	n
22	17	6.5	444	y	22	14	14.4	286	y
23	17	8.7	417	y	23	14	14.6	275	y
24	17	7.4	242	n	24	16	11.8	230	n
25	16	9	376	y	25	13	15.8	314	n
26	17	9.8	285	y	26	15	18	275	y
27	16	6.2	494	y	27	15	16	442	y
28	18	8.3	346	n	28	13	16.2	306	y
29	17	8.3	483	y	29	16	15.8	363	y
30	17	6.4	414	y	30	16	13.7	212	y
26/30: 86.7%					27/30: 90%				

TYPE 5				
Rohde & Schwarz K350 Pulse Sequencer DFS				
Trial #	Detection (yes/no)	Chirp Width (MHz)	Subset	Fc
1	y	14	1	5490
2	y	20	1	5490
3	y	20	1	5490
4	y	14	1	5490
5	y	12	1	5490
6	y	6	1	5490
7	y	13	1	5490
8	y	16	1	5490
9	y	16	1	5490
10	y	7	1	5490
11	y	13	2	5575.2
12	y	6	2	5572.4
13	y	11	2	5574.4
14	y	8	2	5573.2
15	y	8	2	5573.2
16	y	9	2	5573.6
17	y	15	2	5576
18	y	13	2	5575.2
19	y	15	2	5576
20	n	17	2	5576.8
21	y	6	3	5647.6
22	y	19	3	5642.4
23	y	20	3	5642
24	y	5	3	5648
25	y	14	3	5644.4
26	y	8	3	5646.8
27	y	5	3	5648
28	y	5	3	5648
29	y	19	3	5642.4
30	y	20	3	5642
29/30: 96.7%				

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	
		30/30: 100%

-- End of Test Report --