HERMON LABORATORIES

ELECTRICAL TESTING
0839.01

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TEST REPORT

ACCORDING TO: FCC CFR 47 Part 90 subpart Y, Part 15 subpart B

FOR:

Airspan Networks Inc.

5G NR Base station

Model: AirSpeed 1900, 4.94 – 4.99GHz (n79)

FCC ID: PIDAS1900

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1 Applicant information

Client name:	Airspan Networks Inc.
Address:	777 Yamato, Road Suite 310 Boca Raton, FL 33431, USA
Telephone:	+972 (3) 3030020
Fax:	+972 (3) 9777400
E-mail:	oeinem@airspan.com
Contact name:	Mr. Oleg Einem

2 Equipment under test attributes

Product name:	5G NR Base station
Product type:	Transceiver
Model(s):	AirSpeed 1900, 4.94 – 4.99GHz (n79)
Product Code:	AS19-F495-DSC1
Serial number:	F6787101336C
Hardware version:	A0
Software release:	SR19.00
Receipt date	25-Oct-23

3 Manufacturer information

Manufacturer name:	Airspan Networks Inc.
Address:	777 Yamato, Road Suite 310 Boca Raton, FL 33431, USA
Telephone:	+972 (3) 3030020
Fax:	+972 (3) 9777400
E-Mail:	oeinem@airspan.com
Contact name:	Mr. Oleg Einem

4 Test details

Project ID:	52632
Location:	Hermon Laboratories Ltd. 66 HaTachana str., P.O. Box 23, Binyamina 3055001, Israel
Test started:	26-Dec-23
Test completed:	07-Jan-24
Test specification(s):	FCC 47CFR Part 90 subpart Y, Part 15 subpart B class B

5 Tests summary

Test	Status
Transmitter characteristics	
Section 90.205, 90.1215, Maximum output power and peak power spectral density	
Section 90.209, Occupied bandwidth	Pass
Section 90.210(l), Emission mask	Pass
Section 90.210, Radiated spurious emissions	Pass
Section 90.210, Conducted spurious emissions	Pass
Section 90.213, Frequency stability	Tested without limit
Section 90.214, Transient frequency behaviour	Not required
Section 2.1091, RF radiation exposure evaluation	Pass
Unintentional emissions	
Section 15.107, Class B, Conducted emission at AC power port	Pass
Section 15.109, Class B, Radiated emission	Pass
Section 15.111, Conducted emission at receiver antenna port	Not required

Revision history:

Date	File No.	Change Description
21-Feb-24	AIRRAD_FCC.52632_Rev1	1. Title page, The model name was modified from AirSpeed 1900, 5G, 4.94-4.99GHz (n79), FM, DC to AirSpeed 1900, 4940-4990MHz (n79)
19-Feb-24	AIRRAD_FCC.52632	Original report

This test report supersedes the previously issued test report identified by Doc ID: AIRRAD_FCC.52632

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.
The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

	Name and Title	Date	Signature
Tested by:	Mr. S. Sugatov, test engineer, EMC & Radio	26-Dec-23 – 07-Jan-24	
Reviewed by:	Mrs. S. Peysahov Sheynin, certification specialist, EMC & Radio	20-Jan-24	
Approved by:	Mr. M. Nikishin, group leader, EMC & Radio	21-Feb-24	

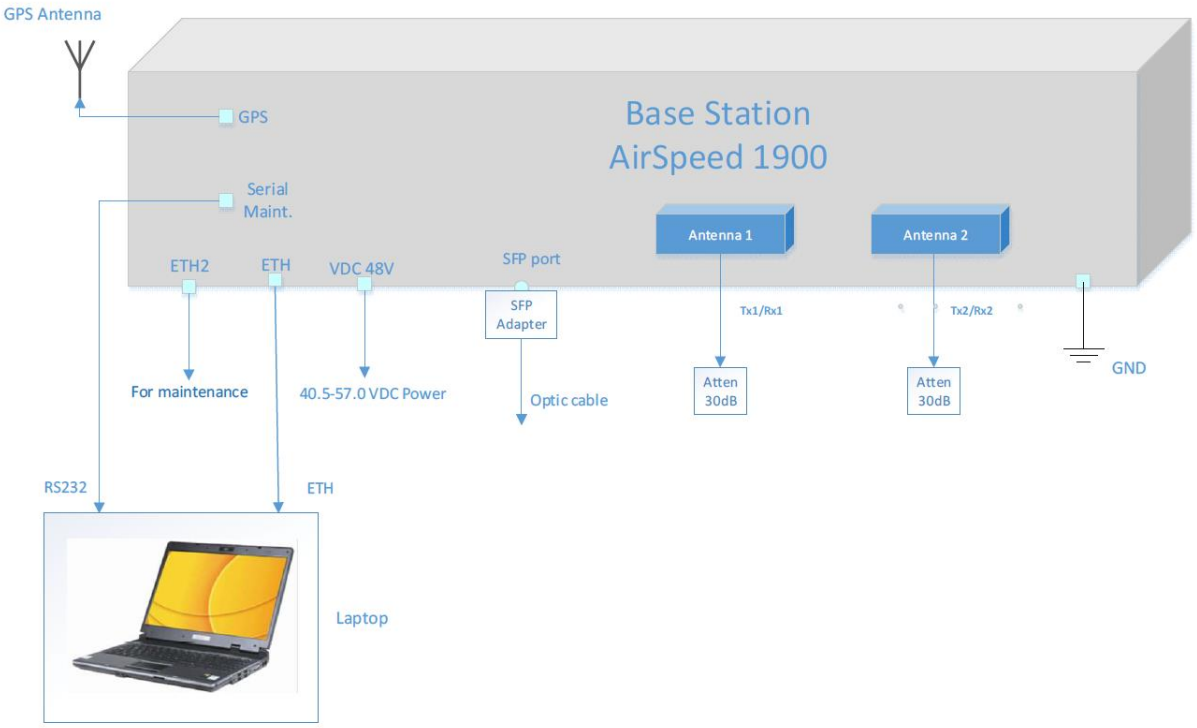
6 EUT description

Note: The following data in this clause is provided by the customer and represents his sole responsibility

6.1 General information

Mobile Digital station, AirSpeed 1900 4.94 – 4.99 GHz (n79), is part of a 5G broadband fixed cellular wireless access system. The system provides a radio link between an end-user (a subscriber) and a network to give high-speed data access. The AirSpeed 1900's transceiver/receiver (Up to 256 QAM modulation, data rate up to 285 Mbps) equipped with External antennas – maximum 19dBi antenna gain.
Advanced Antenna Techniques 2x2 MIMO are supported. The maximum RF output power (not including antenna gain) is 32.24 dBm for 19 dBi and it can be reduced by software.
The AirSpeed is installed outdoors. The Subscriber transmits and receives traffic to and from the base station respectively. The transceiver provides subscribers with "always-on" Internet, high speed data only, or data and voice (VoIP) services and is configured with a unique base station reference number, preventing the 5G UE from relocating to another subscriber premises without authorization.
This device supports 5G-NR TDD n79 band.

6.2 Test configuration



6.3 Ports and lines

Port No.	Name	Type	Cable Max. >3m	Cable Shielded	Qty.	Comments
1	ETH	RG45	>3m	v	1	NA
2	ETH2	RG45	>3m	v	1	For maintenance
3	RS232	RG45	>3m	v	1	For maintenance
4	SFP port	Optic cable	>3m	-	1	NA
5	GPS	GPS antenna	NA	NA	1	NA
6	RF	RF antenna	NA	NA	2	NA
7	DC power 48VDC	Power	>3m	NA	1	Range 40.5 – 57 VDC

6.4 Support and test equipment

Use	Product Type	Manufacturer	Model	Qty.	Serial number
AE	Laptop	DELL	Latitude E7440	1	3234219878
AE	GPS Antenna	Tallysman	32-3372-00-01	1	20150313
AE	SFP adapter	Hisense	LTE3409-BC+	1	Q65A4000001
AE	DC power supply	TDK-Lambda	GENH80-9.5	1	NA
AE	RF attenuator 30db	INMET	6N20W-30dB	2	NA

6.5 Changes made in the EUT

No changes were implemented in the EUT during testing.

6.6 Transmitter characteristics

Type of equipment	
V	Stand-alone (Equipment with or without its own control provisions)
	Combined equipment (Equipment where the radio part is fully integrated within another type of equipment)
	Plug-in card (Equipment intended for a variety of host systems)

Intended use		**Condition of use**
V	fixed	Always at a distance more than 2 m from all people
	mobile	Always at a distance more than 20 cm from all people
	portable	May operate at a distance closer than 20 cm to human body

Assigned frequency range	4940 – 4990 MHz
Operating frequency (full bands)	4945 – 4985 MHz (for 10 MHz channel spacing) 4952.5 – 4977.5 MHz (for 25 MHz channel spacing) 4965 MHz (for 50 MHz channel spacing)
RF channel spacing	10 MHz, 25 MHz, 50 MHz
Maximum rated output power	At transmitter 50 Ω RF output connector (per port)

Maximum rated output power	29.98 dBm for 8.645 MHz Occupied bandwidth 32.20 dBm for 18.439 MHz Occupied bandwidth 32.24 dBm for 38.331 MHz Occupied bandwidth

Is transmitter output power variable?					
	No				
V	Yes		continuous variable		
		V	stepped variable with step size	0.25 dB	
		minimum RF power		-30 dBm	
		maximum RF power at antenna connector		dBm	

Antenna connection				
unique coupling	**V**	standard connector	Integral	with temporary RF connector without temporary RF connector

Antenna/s technical characteristics

Type	Manufacturer	Model number / Part Number	Gain
External	MP Antenna LTD.	08-ANT-1041	10 dBi
External	Infinite Electronics, Inc.	KP-5HA-60 / KP-5HA-45 / KP-5HA-30	13.8 dBi / 16 dBi / 19 dBi
External	PCTEL, Inc.	DAA4959-14DP	14.6 dBi

Transmitter aggregate data rate/s, Mbps

Transmitter 26dBc power bandwidth	Type of modulation			
	QPSK	16QAM	64QAM	256 QAM
10 MHz	10.7	22.7	47.3	71.5
20 MHz	23.4	45.4	95.0	143.0
40 MHz	46.8	90.8	190.0	285.0

Type of multiplexing	TDD
Modulating test signal (baseband)	PRBS
Maximum transmitter duty cycle in normal use	0.74

Transmitter power source

		Nominal rated voltage		Battery type	
V	DC	**Nominal rated voltage**	48 VDC		
	AC mains	**Nominal rated voltage**		Frequency	

Common power source for transmitter and receiver	**V**	yes	no

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

7 Transmitter tests according to FCC 47CFR part 90 requirements

7.1 Maximum output power

7.1.1 General

This test was performed to measure the peak output power at RF antenna connector. Specification test limits are given in Table 7.1.1.

Table 7.1.1 Peak output power limits

Assigned frequency range, MHz	**Occupied Bandwidth, MHz**	**Maximum peak output power***
		dBm
4940.0 – 4990.0	10	30.0
	20	33.0
	40	36.0
Assigned frequency range, MHz	**Occupied Bandwidth, MHz**	**Maximum peak power spectral density**
		dBm/MHz
4940.0 – 4990.0	10	21
	20	
	40	

*For high power transmitters point-to-point or point-to-multipoint operation (both fixed and temporary-fixed rapid deployment) may employ transmitting antennas with total directional antenna gain up to 26 dBi without any corresponding reduction in the transmitter power or spectral density. Corresponding reduction in the peak transmit power and peak power spectral density should be the amount in decibels that the total directional gain of the antennas exceeds 26 dBi

NOTE: Maximum declared Individual antenna gain is 19 dBi. Total Directional Antenna Gain should not exceed 26 dBi.

Total Directional Antenna Gain = Individual antenna gain + 10 log (number of co-polarized antennas)

7.1.2 Test procedure

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.

7.1.2.2 The EUT was adjusted to produce maximum available to the end user RF output power.

7.1.2.3 The peak output power was measured with spectrum analyzer as provided in Table 7.1.2 and associated plots.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Figure 7.1.1 Peak output power test setup

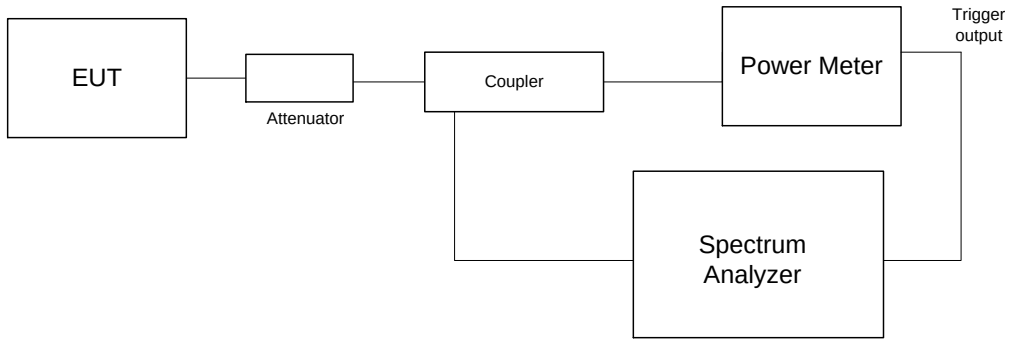


Table 7.1.2 Maximum conducted output power

ASSIGNED FREQUENCY RANGE: 4940.0 – 4990.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 10 MHz

Channel, MHz	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	Sum RF output power dBm*	Limit, dBm	Margin, dB**	Verdict
Modulation QPSK						
4945.0	26.97	26.65	29.98	30.0	-0.02	Pass
4965.0	26.75	26.25	29.76	30.0	-0.24	Pass
4985.0	26.42	26.77	29.78	30.0	-0.22	Pass
Modulation 16 QAM						
4945.0	26.89	26.73	29.90	30.0	-0.10	Pass
4965.0	26.92	26.43	29.93	30.0	-0.07	Pass
4985.0	26.46	26.16	29.47	30.0	-0.53	Pass
Modulation 64QAM						
4945.0	26.77	26.75	29.78	30.0	-0.22	Pass
4965.0	26.78	26.71	29.79	30.0	-0.21	Pass
4985.0	26.55	26.37	29.56	30.0	-0.44	Pass
Modulation 256QAM						
4945.0	26.90	26.23	29.91	30.0	-0.09	Pass
4965.0	26.70	26.79	29.80	30.0	-0.20	Pass
4985.0	26.63	26.30	29.64	30.0	-0.36	Pass

* Sum RF output Power=P_{ind} + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Sum RF output Power – specification limit.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Table 7.1.3 Maximum conducted output power

ASSIGNED FREQUENCY RANGE: 4942.5 – 4987.5 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 25 MHz

Channel, MHz	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	Sum RF output power dBm*	Limit, dBm	Margin, dB**	Verdict
Modulation QPSK						
4952.5	28.65	28.93	31.94	33.0	-1.06	Pass
4967.5	28.89	28.65	31.90	33.0	-1.10	Pass
4977.5	29.05	28.97	32.06	33.0	-0.94	Pass
Modulation 16 QAM						
4952.5	28.59	28.89	31.90	33.0	-1.10	Pass
4967.5	28.95	28.55	31.96	33.0	-1.04	Pass
4977.5	29.04	28.87	32.05	33.0	-0.95	Pass
Modulation 64QAM						
4952.5	28.61	28.95	31.96	33.0	-1.04	Pass
4967.5	28.92	28.50	31.93	33.0	-1.07	Pass
4977.5	29.19	28.84	32.20	33.0	-0.80	Pass
Modulation 256QAM						
4952.5	28.63	28.78	31.79	33.0	-1.21	Pass
4967.5	28.90	28.46	31.91	33.0	-1.09	Pass
4977.5	29.03	28.81	32.04	33.0	-0.96	Pass

* Sum RF output Power=P_{ind} + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Sum RF output Power – specification limit.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Table 7.1.4 Maximum conducted output power

ASSIGNED FREQUENCY RANGE: 4942.5 – 4987.5 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 50 MHz

Channel, MHz	Pmeas (RF#1), dBm	Pmeas (RF#2), dBm	Sum RF output power dBm*	Limit, dBm	Margin, dB**	Verdict
Modulation QPSK						
4965.0	29.02	29.00	32.03	36.0	-3.97	Pass
Modulation 16 QAM						
4965.0	29.23	28.73	32.24	36.0	-3.76	Pass
Modulation 64QAM						
4965.0	29.09	28.65	32.10	36.0	-3.90	Pass
Modulation 256QAM						
4965.0	29.07	28.78	32.08	36.0	-3.92	Pass

* Sum RF output Power=P_{ind} + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Sum RF output Power – specification limit.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Table 7.1.5 Peak spectral power density test results

ASSIGNED FREQUENCY RANGE: 4940.0 – 4990.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 10 MHz

Channel, MHz	Modulation	meas (RF#1), dBm/MHz	meas (RF#2), dBm/MHz	Total PSD dBm/MHz*	Limit, dBm/MHz	Margin, dB**	Verdict
Modulation QPSK							
4945.0	QPSK	16.76	16.85	19.86	21.0	-1.14	Pass
4965.0	QPSK	16.99	16.69	20.00	21.0	-1.00	Pass
4985.0	QPSK	17.35	16.96	20.36	21.0	-0.64	Pass
Modulation 16 QAM							
4945.0	16QAM	16.82	16.87	19.88	21.0	-1.12	Pass
4965.0	16QAM	16.63	17.01	20.02	21.0	-0.98	Pass
4985.0	16QAM	17.37	17.53	20.54	21.0	-0.46	Pass
Modulation 64QAM							
4945.0	64QAM	16.70	17.12	20.13	21.0	-0.87	Pass
4965.0	64QAM	16.61	17.42	20.43	21.0	-0.57	Pass
4985.0	64QAM	17.35	17.53	20.54	21.0	-0.46	Pass
Modulation 256QAM							
4945.0	256QAM	16.53	16.80	19.81	21.0	-1.19	Pass
4965.0	256QAM	17.12	17.42	20.43	21.0	-0.57	Pass
4985.0	256QAM	17.25	17.49	20.50	21.0	-0.50	Pass

* Total PSD $=PSD_{ind}$ + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Total PSD – specification limit.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Table 7.1.6 Peak spectral power density test results (continue)

ASSIGNED FREQUENCY RANGE: 4942.5 – 4987.5 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 25 MHz

Channel, MHz	Modulation	meas (RF#1), dBm/MHz	meas (RF#2), dBm/MHz	Total PSD dBm/MHz*	Limit, dBm/MHz	Margin, dB**	Verdict
Modulation QPSK							
4952.5	QPSK	16.76	16.70	19.77	21.0	-1.23	Pass
4967.5	QPSK	17.01	16.76	20.02	21.0	-0.98	Pass
4977.5	QPSK	16.96	16.95	19.97	21.0	-1.03	Pass
Modulation 16 QAM							
4952.5	16QAM	16.78	16.81	19.82	21.0	-1.18	Pass
4967.5	16QAM	17.05	16.91	20.06	21.0	-0.94	Pass
4977.5	16QAM	17.00	17.08	20.09	21.0	-0.91	Pass
Modulation 64QAM							
4952.5	64QAM	16.76	16.84	19.85	21.0	-1.15	Pass
4967.5	64QAM	17.04	16.88	20.05	21.0	-0.95	Pass
4977.5	64QAM	16.88	17.10	20.11	21.0	-0.89	Pass
Modulation 256QAM							
4952.5	256QAM	16.72	16.68	19.73	21.0	-1.27	Pass
4967.5	256QAM	16.90	16.71	19.91	21.0	-1.09	Pass
4977.5	256QAM	16.80	16.89	19.90	21.0	-1.10	Pass

* Total PSD =PSD_{ind} + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Total PSD – specification limit.

Test specification:	**Section 90.1215, Maximum output power**		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	**Relative Humidity:** 39 %	**Air Pressure:** 1018 hPa	**Power:** 48 VDC
Remarks:			

Table 7.1.7 Peak spectral power density test results (continue)

ASSIGNED FREQUENCY RANGE: 4942.5 – 4987.5 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
CHANNEL SPACING: 50 MHz

Channel, MHz	Modulation	meas (RF#1), dBm/MHz	meas (RF#2), dBm/MHz	Total PSD dBm/MHz*	Limit, dBm/MHz	Margin, dB**	Verdict
Modulation QPSK							
4965.0	QPSK	13.70	13.96	16.97	21.0	-4.03	Pass
Modulation 16 QAM							
4965.0	16QAM	14.04	14.08	17.09	21.0	-3.91	Pass
Modulation 64QAM							
4965.0	64QAM	13.88	14.20	17.21	21.0	-3.79	Pass
Modulation 256QAM							
4965.0	256QAM	13.86	14.06	17.07	21.0	-3.93	Pass

* Total PSD =PSD_{ind} + 10log(N), where N = 1,2,…,8 number of chain
** Margin = Total PSD – specification limit.

Reference numbers of test equipment used

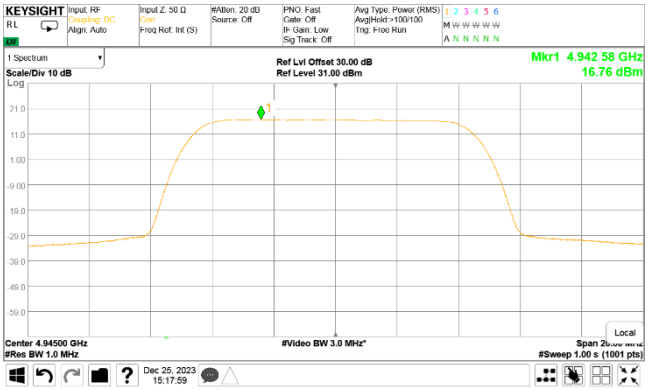
HL 3301	HL 4366	HL 5376	HL 5636	HL 5933			

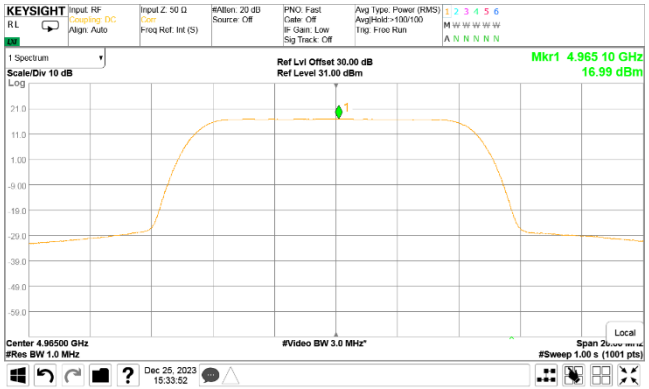
Full description is given in Appendix A.

Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.1 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1
Modulation: **QPSK**

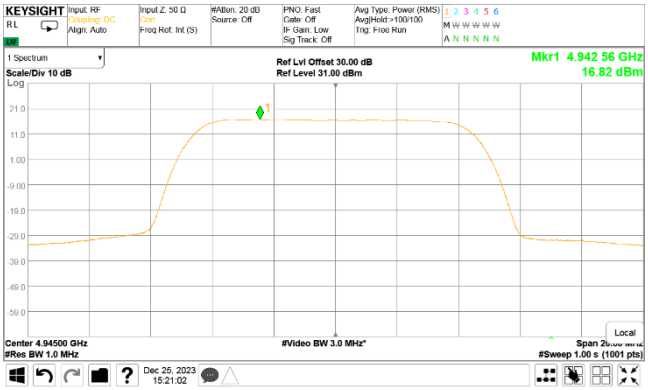


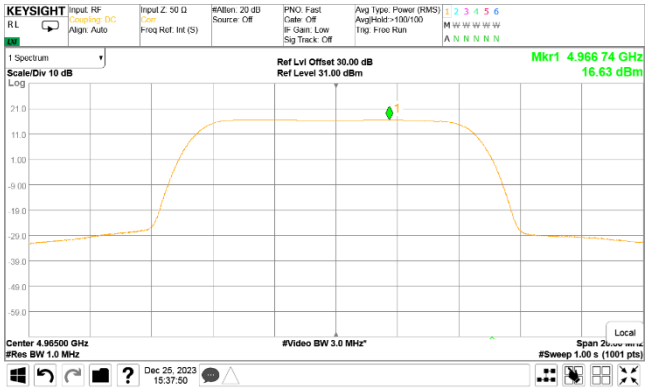


Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.2 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1
Modulation: **16QAM**

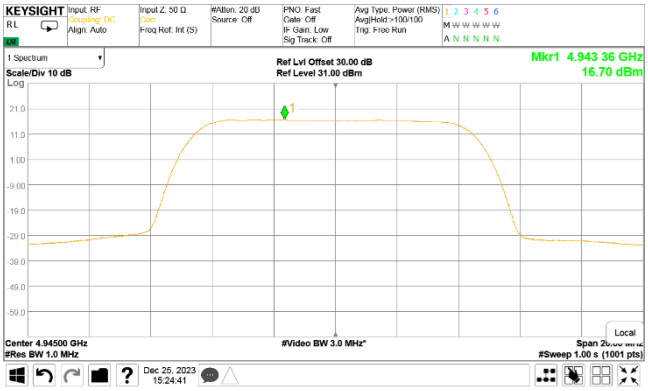


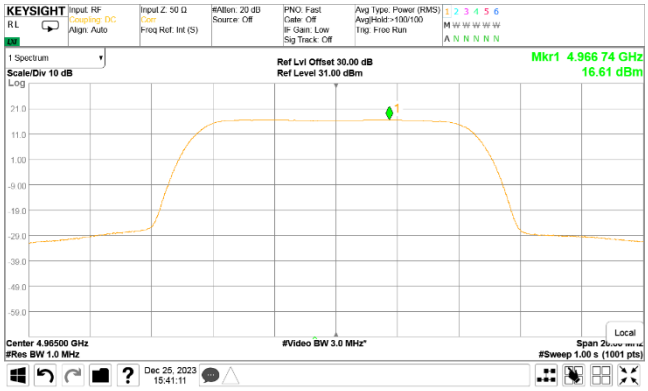


Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.3 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1
Modulation: **64QAM**

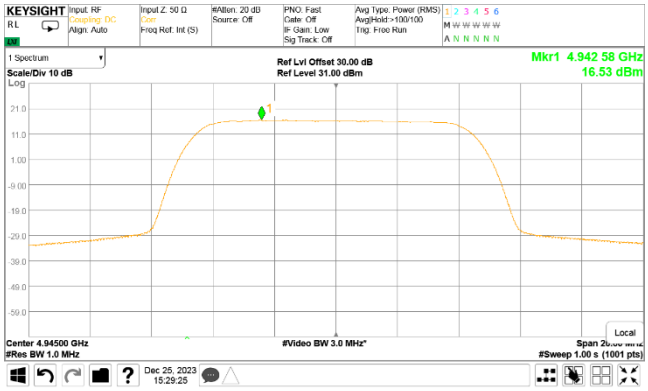


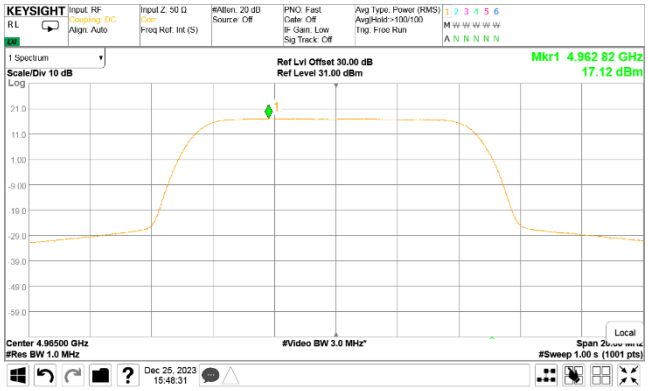


Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.4 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1
Modulation: **256QAM**

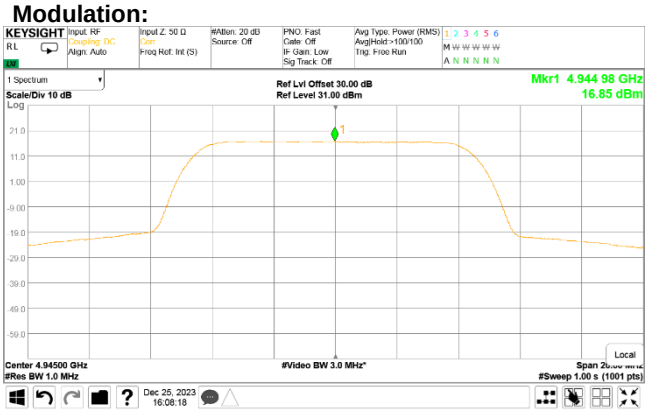


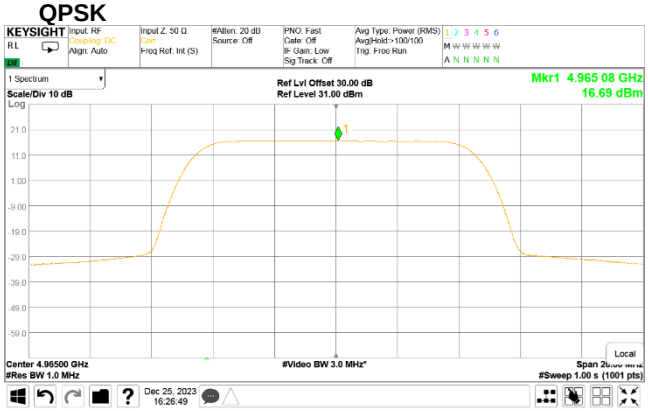


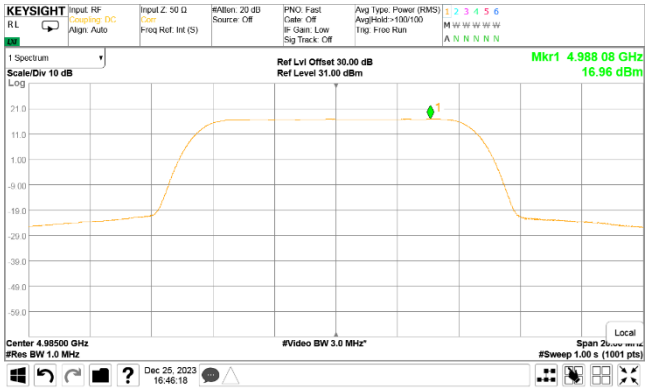
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.5 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 2
Modulation: **QPSK**



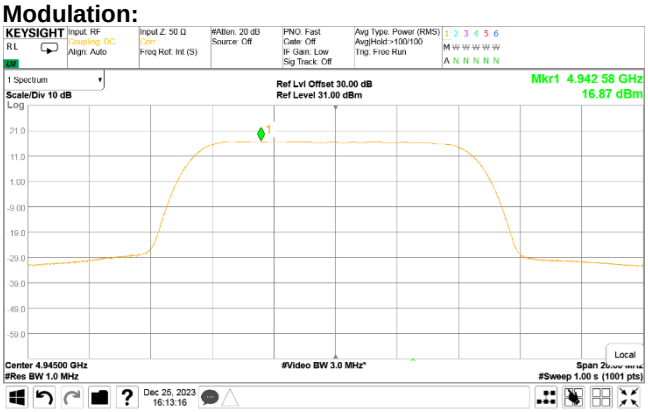


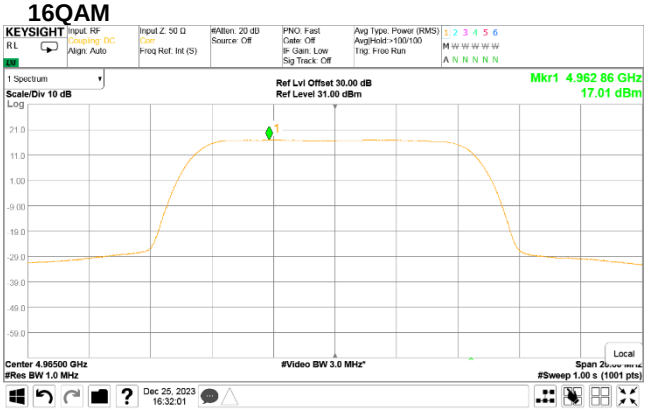


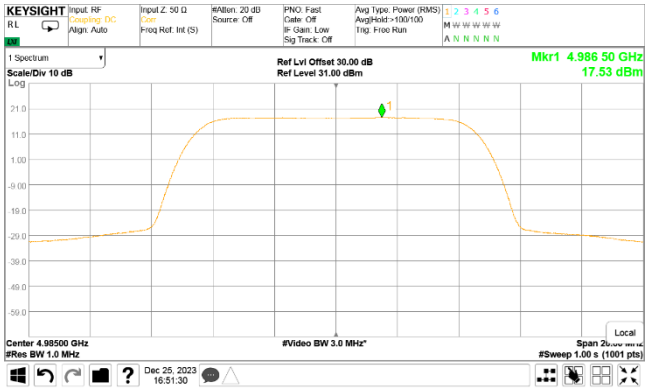
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.6 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 2
Modulation: 16QAM



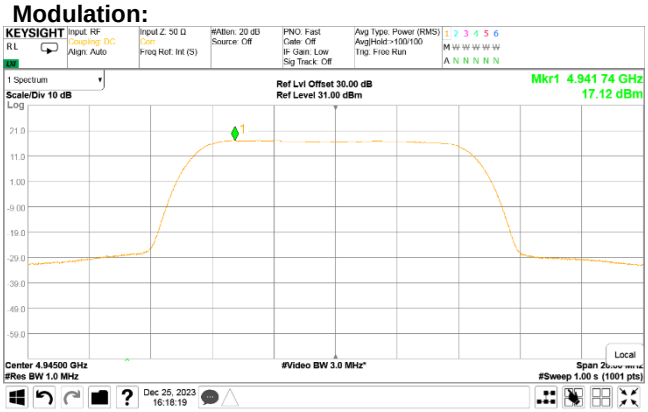


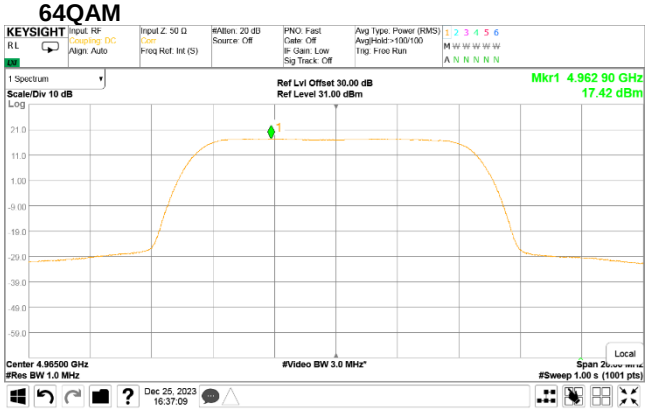


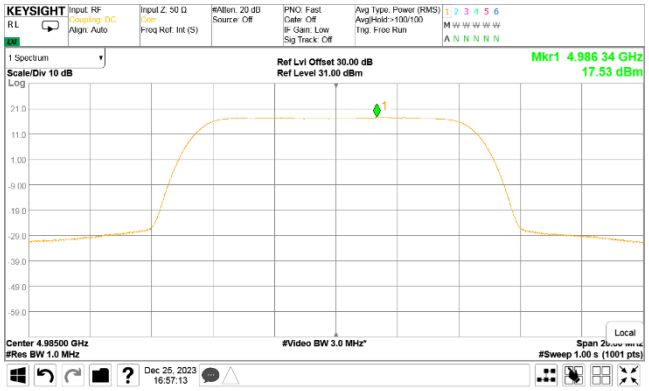
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.7 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 2
Modulation: **64QAM**



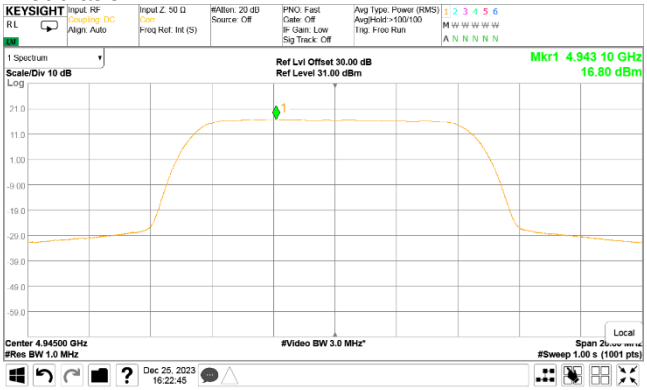


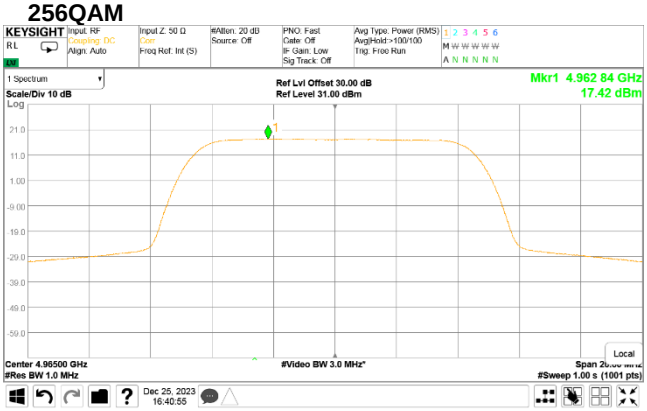


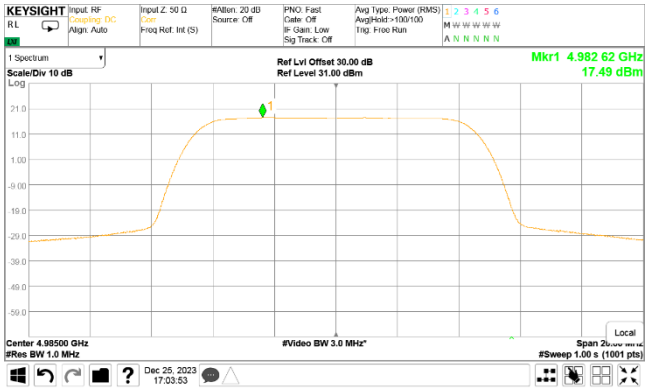
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.8 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 2
Modulation: 256QAM



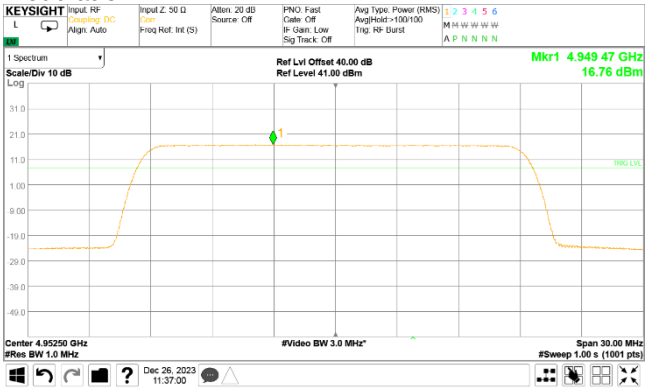


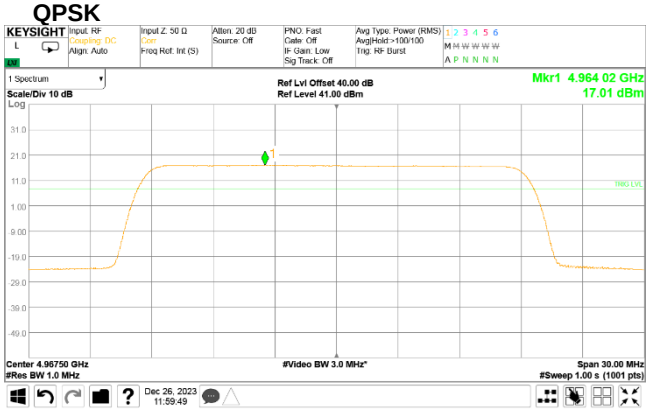


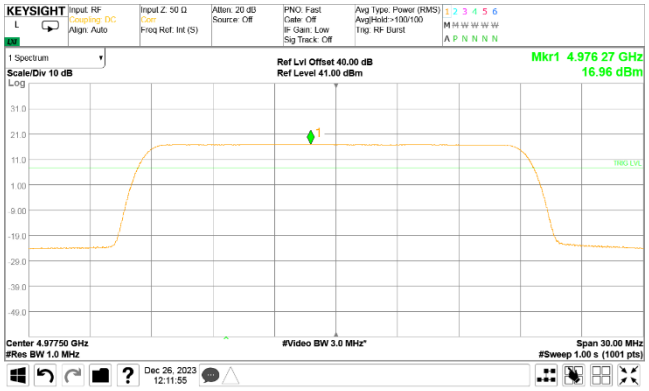
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.9 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 1
Modulation: **QPSK**



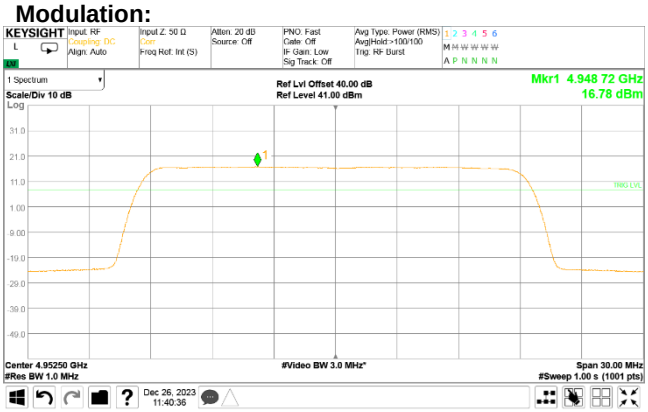


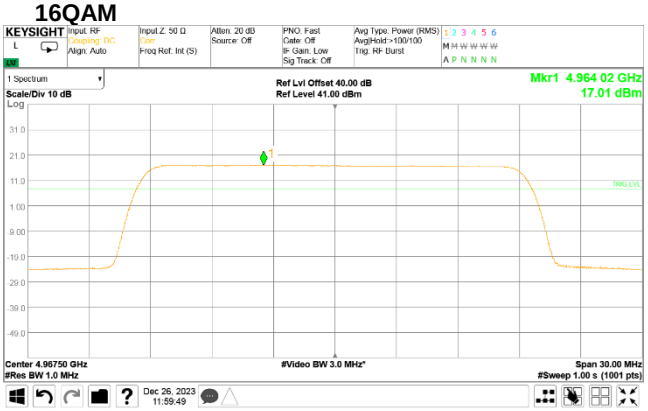


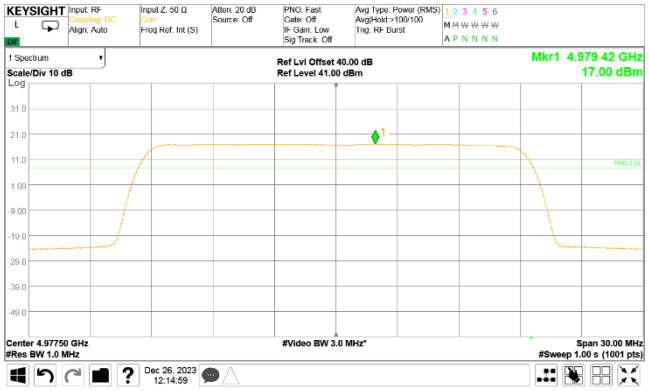
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.10 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 1
Modulation: 16QAM



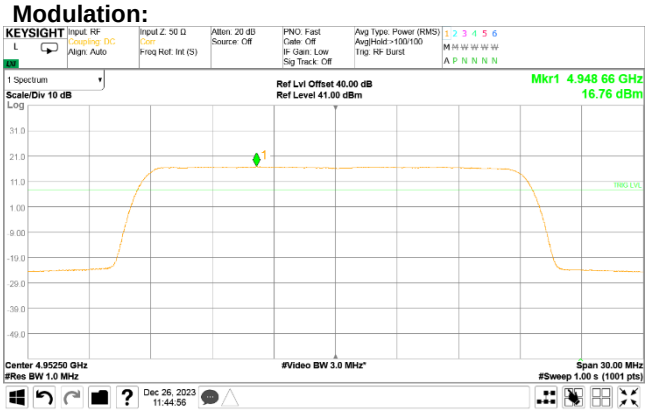


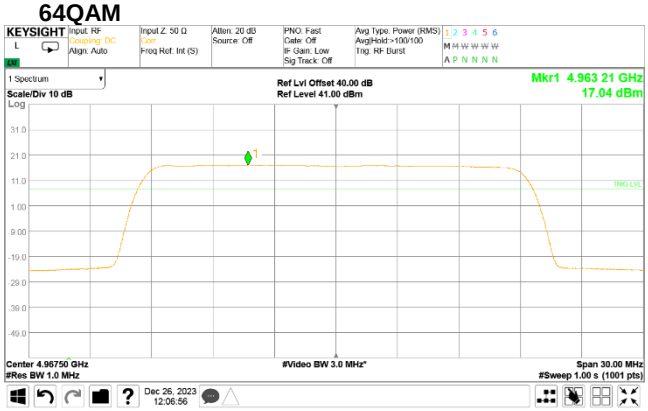


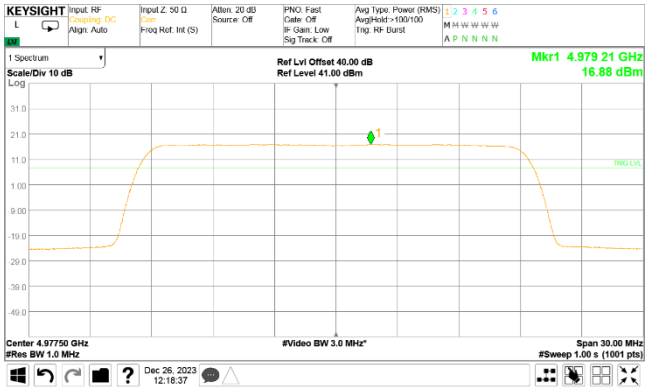
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.11 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 1
Modulation: 64QAM



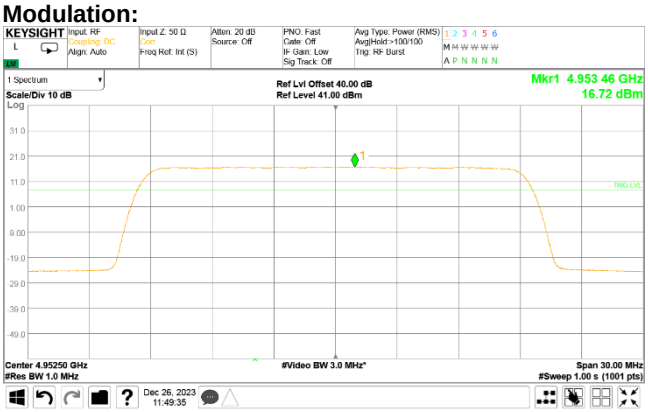


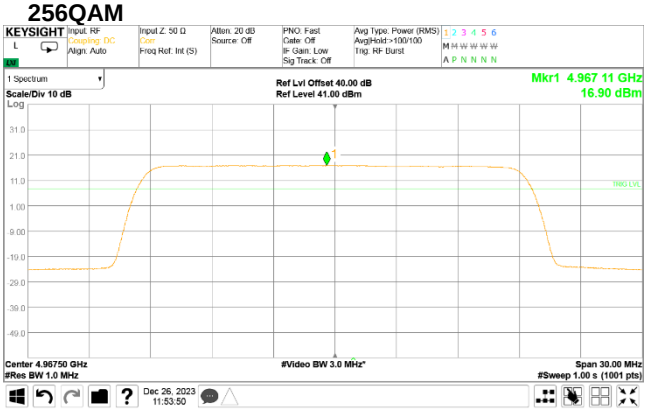


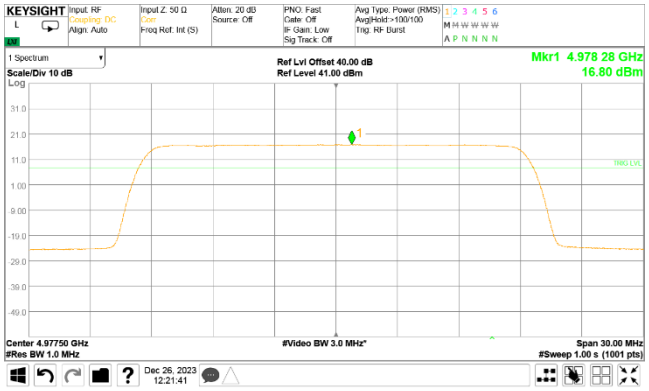
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.12 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 1
Modulation: 256QAM



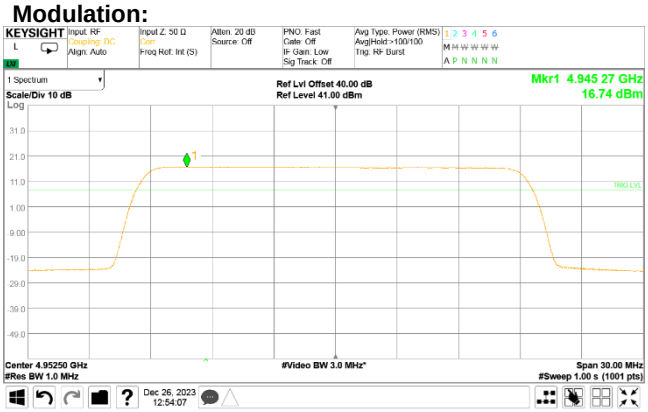


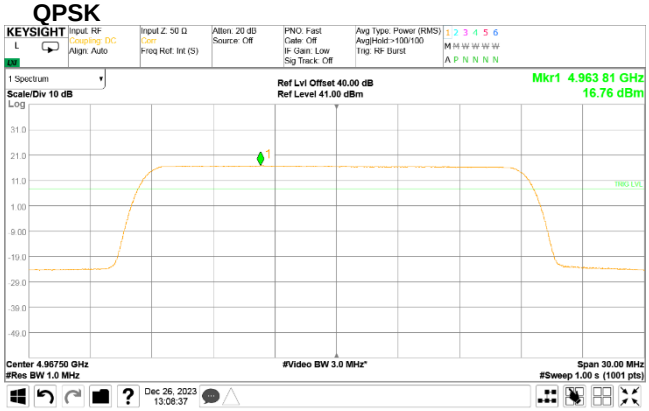


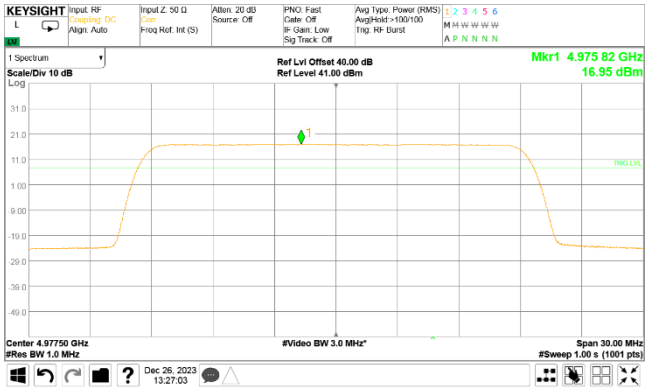
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.13 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 2
Modulation: **QPSK**



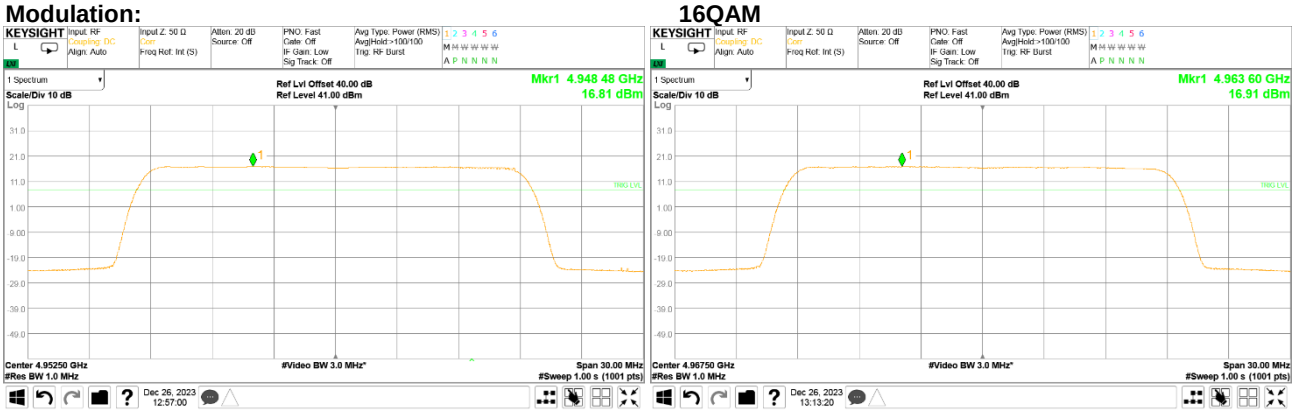


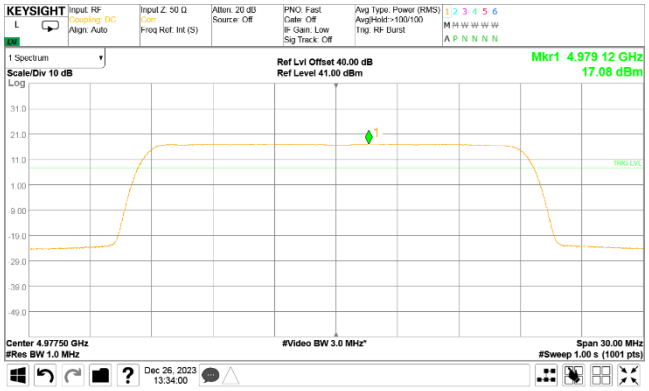


Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.14 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 2
Modulation: 16QAM

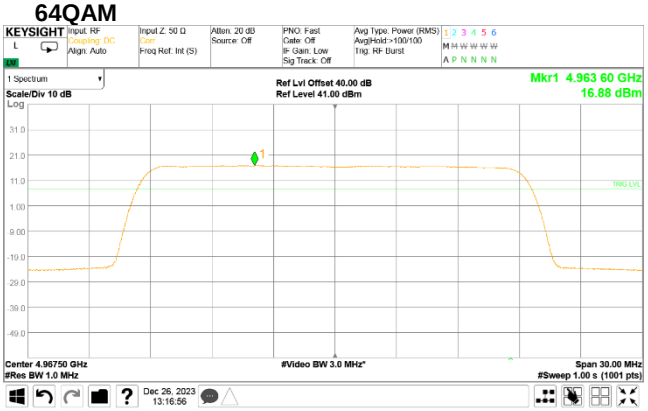


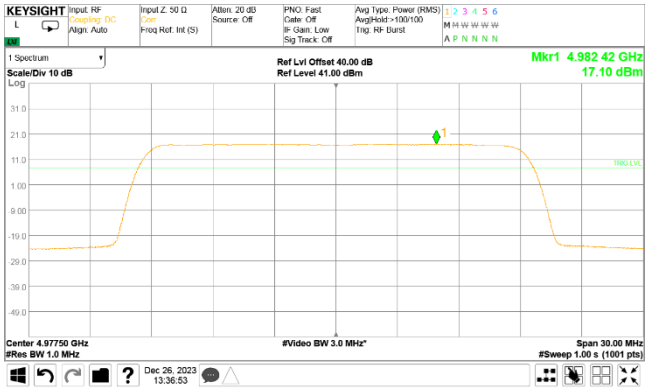


Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.15 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 2
Modulation: 64QAM

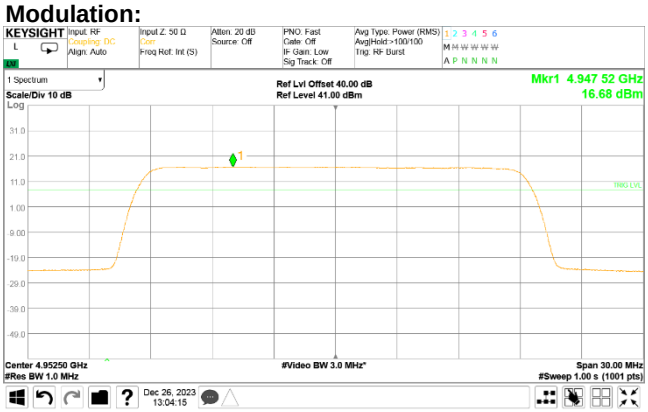


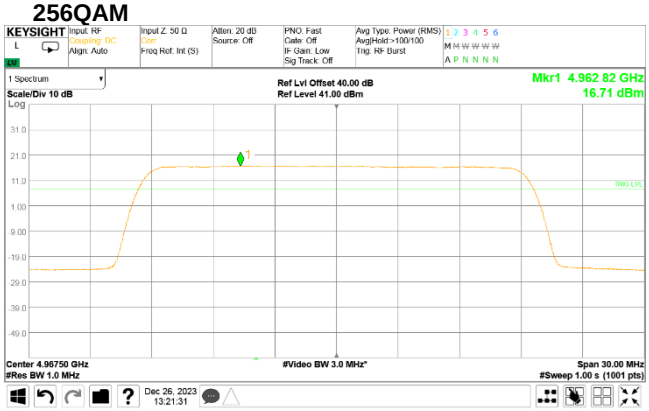


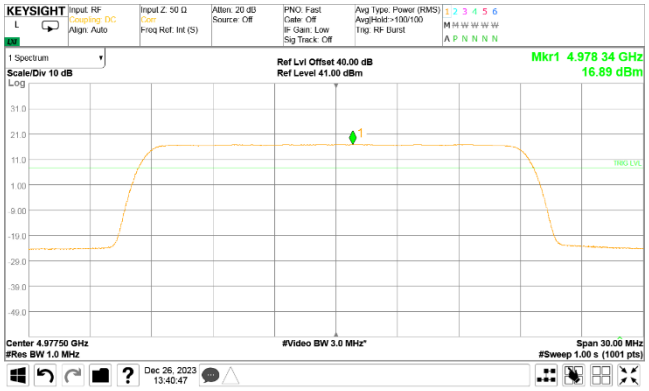
Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.16 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 25 MHz
ANTENNA CHAIN: 2
Modulation: 256QAM







Test specification:	Section 90.1215, Maximum output power		
Test procedure:	47 CFR, Section 2.1046; TIA/EIA-603-A, Section 2.2.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	26-Dec-23		
Temperature: 24 ºC	Relative Humidity: 39 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Plot 7.1.17 Peak spectral power density at mid frequency

CHANNEL SPACING: 50 MHz
ANTENNA CHAIN: 1
Modulation: QPSK