FCC and ISED Test Report

Manufacturer: Rexon Technology Co., Ltd
Portable VHF Radio, Model: - PJ2 GPS

In accordance with FCC 47 CFR Part 87, FCC 47 CFR Part 2 and ISED RSS-141 and ISED RSS-GEN

Prepared for: Rexon Technology Co., Ltd
No 261
Taichung City
412

FCC ID: I7OPJGP IC: I7OPJGP

COMMERCIAL-IN-CONFIDENCE

Document 75965539-04 Issue 02

SIGNATURE			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Matthew Russell	Chief Engineer, RF	Authorised Signatory	10 March 2026

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Hugo Petty	10 March 2026	
	Joshua Peploe-Williams	10 March 2026	
	Wenceslao Acosta Carrazco	10 March 2026	

EXECUTIVE SUMMARY / ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on the test pages A sample of this product was tested to demonstrate limited compliance with FCC 47 CFR Part 87 2024, FCC 47 CFR Part 2 2024, ISED RSS-141 Issue 2 (06-2010) and ISED RSS-GEN: Issue 5 (04-2018) + A2 (02-2021) for the tests detailed in section 1.3. The sample tested was found to comply with the requirements defined in the applied rules.

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Contents

1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
01	First version	02-Feb-2026
02	Updated to amend FCC / IC ID Numbers	10-Mar-2026

Table 1

1.2 Introduction

Applicant	Rexon Technology Co., Ltd
Manufacturer	Rexon Technology Co., Ltd
Model Number(s)	PJ2 GPS
Serial Number(s)	509001 and 4
Hardware Version(s)	PL426-V02
Software Version(s)	1.0.0.2
Number of Samples Tested	2
Test Specification/Issue/Date	FCC 47 CFR Part 87: 2024 FCC 47 CFR Part 2: 2024 ISED RSS-141: Issue 2 (06-2010) ISED RSS-GEN: Issue 5 (04-2018) + A2 (02-2021)
Order Number	QAF 92330437
Date	15-August-2025
Date of Receipt of EUT	18-September-2025 and 12-November-2025
Start of Test	30-September-2025
Finish of Test	28-January-2026
Name of Engineer(s)	Joshua Peploe-Williams Hugo Petty Wenceslao Acosta Carrazco
Related Document(s)	ANSI C63.26 (2015) ANSI C63.4 (2014) + A(2017)

1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 87, FCC 47 CFR Part 2 and ISED RSS-141 and ISED RSS-GEN is shown below.

Section	Specification				Test Description	Result	Comments/Base Standard
	FCC Part 87	FCC Part 2	RSS-141	RSS-GEN			
Configuration and Mode: VHF transmitter							
2.1	87.137	N/A	5.1	N/A	Types of Emission	-	Declaration
2.2	87.139	2.1051	5.2	6.13	Spurious Emissions at Antenna Terminals	Pass	ANSI C63.26 (2015)
2.3	87.131	2.1046	5.1	6.12	Power and Emissions	Pass	ANSI C63.26 (2015)
2.4	87.133	2.1055	5.1	6.11	Frequency Stability	Pass	ANSI C63.26 (2015)
2.5	87.141	2.1047	5.1		Modulation Characteristics	Pass	ANSI C63.26 (2015)
2.6	87.135	2.1049	5.1	6.7	Bandwidth of Emission	Pass	ANSI C63.26 (2015)
2.7	87.139	2.1053	5.2	6.13	Radiated Spurious Emissions	Pass	ANSI C63.26 (2015) ANSI C63.4 (2014) + A(2017)

Table 2

1.4 Customer Supplied Form

Equipment Description

Technical Description: *(Please provide a brief description of the intended use of the equipment including the technologies the product supports)*	Portable air band transceiver		
Manufacturer:	Rexon Technology Co., LTD		
Model:	PJ2 GPS		
Part Number:			
Hardware Version:	PL426-V02		
Software Version:	1.0.0.2		
FCC ID of the product under test – see guidance here		I7OPJGP	
IC ID of the product under test – see guidance here		I7OPJGP	
Device Category	Mobile ☐	Portable ☐ Portable	Fixed ☐
Equipment is fitted with an Audio Low Pass Filter		Yes ☐ Yes	No ☐

Intentional Radiators

Technology	VHF		
Frequency Range (MHz to MHz)	118.000~136.975MHz		
Conducted Declared Output Power (dBm)	32.55(CW) 37.7(PEP)		
Antenna Gain (dBi)	0		
Supported Bandwidth(s) (MHz) (e.g. 1 MHz, 20 MHz, 40 MHz)	25 kHz		
Modulation Scheme(s) (e.g. GFSK, QPSK etc)	AM		
ITU Emission Designator (see guidance here) (not mandatory for Part 15 devices)	6K00A3E		
Bottom Frequency (MHz)	118.000MHz		
Middle Frequency (MHz)	127.500MHz		
Top Frequency (MHz)	136.975MHz		

Un-intentional Radiators

Highest frequency generated or used in the device or on which the device operates or tunes	209.625MHz
Lowest frequency generated or used in the device or on which the device operates or tunes	15.30MHz
Class A Digital Device (Use in commercial, industrial or business environment) ☐No Class B Digital Device (Use in residential environment only) ☐No	

AC Power Source

AC supply frequency:		Hz
Voltage		V
Max current:		A
Single Phase ☐ Three Phase ☒		

DC Power Source

Nominal voltage:		V
Extreme upper voltage:		V
Extreme lower voltage:		V
Max current:		A

Battery Power Source

Voltage:	Alkaline 9.0V/Lithium 7.5V	V
End-point voltage:	6.8V	V *(Point at which the battery will terminate)*
Alkaline ☐Alkaline 9.0V. Leclanche ☐ Lithium ☐Lithium 7.5V. Nickel Cadmium ☐ Lead Acid* ☐ **(Vehicle regulated)*		
Other ☐ Please detail:		

Charging

Can the EUT transmit whilst being charged	Yes ☐ No ☐ No

Temperature

Minimum temperature:	-30	°C
Maximum temperature:	+60	°C

Cable Loss

Adapter Cable Loss (Conducted sample)	N/A	dB

Antenna Characteristics

Antenna connector ☐ BNC Type			State impedance	50	Ohm
Temporary antenna connector ☐			State impedance		Ohm
Integral antenna ☐	Type:		Gain		dBi
External antenna ☐	Type:	BNC	Gain	0	dBi

For external antenna only:

Standard Antenna Jack ☐BNC Type. If yes, describe how user is prohibited from changing antenna (if not professional installed):

Equipment is only ever professionally installed ☐Yes

Non-standard Antenna Jack ☐No

All part 15 applications will need to show how the antenna gain was derived either from a manufacturer data sheet or a measurement. Where the gain of the antenna is inherently accounted for as a result of the measurement, such as field strength measurements on a part 15.249 or 15.231 device, so the gain does not necessarily need to be verified. However, enough information regarding the construction of the antenna shall be provided. Such information maybe photographs, length of wire antenna etc.

Ancillaries (if applicable)

Manufacturer:		Part Number:	
Model:		Country of Origin:	

I hereby declare that the information supplied is correct and complete.

Name: Maurice Ma
Position held: RD manager
Date: 19 September 2025

1.5 Product Information

1.5.1 Technical Description

The Rexon PJ2 GPS is a hand-held, aircraft communication transceiver with a number of supported features.

1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model:PJ2 GPS -, Serial Number: 509001			
0	As supplied by the customer	Not Applicable	Not Applicable
Model:PJ2 GPS -, Serial Number: 4			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 3

1.8 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: VHF transmitter		
Spurious Emissions at Antenna Terminals	Hugo Petty	UKAS
Power and Emissions	Joshua Peploe-Williams	UKAS
Frequency Stability	Hugo Petty	UKAS
Modulation Characteristics	Joshua Peploe-Williams	UKAS
Bandwidth of Emission	Joshua Peploe-Williams	UKAS
Radiated Spurious Emissions	Wenceslao Acosta Carrazco	UKAS

Table 4

Laboratory Address: TÜV SÜD, Octagon House,
Concorde Way, Fareham, Hampshire,
PO15 5RL, United Kingdom

2 Test Details

2.1 Types of Emission

2.1.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.137
FCC 47 CFR Part 2, Clause N/A
ISED RSS-141, Clause 5.1
ISED RSS-GEN, Clause N/A

2.1.2 Equipment Under Test

Model: PJ2 GPS, S/N: 509001

2.1.3 Date of Assessment

20-January-2026

2.1.4 Test Method

A declaration was made by the manufacturer

2.1.5 Test Results

VHF transmitter

The emission designator used by the equipment was declared by the manufacturer as: A3E

FCC 47 CFR Part 87, Limit Clause 137

The emission designator shall be specified.

ISED RSS-141, Limit Clause 5.1

A3E, A9W, G1D or G7D

2.2 Spurious Emissions at Antenna Terminals

2.2.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.139
FCC 47 CFR Part 2, Clause 2.1051
ISED RSS-141, Clause 5.2
ISED RSS-GEN, Clause 6.13

2.2.2 Equipment Under Test and Modification State

Model: PJ2 GPS, S/N: 509001

2.2.3 Date of Test

13-January-2026 to 21-January-2026

2.2.4 Test Method

VHF transmitter

This test was performed in accordance with ANSI C63.26, clause 5.7 and ISED RSS141, clause 4.2.

All attenuators, cables and filter losses were checked on a Vector Network Analyser prior to commencement of testing.

2.2.5 Environmental Conditions

Ambient Temperature	19.2 - 21.7 °C
Relative Humidity	33.1 - 50.5 %

2.2.6 Test Results

VHF transmitter Unmodulated – 25 kHz Channel Spacing

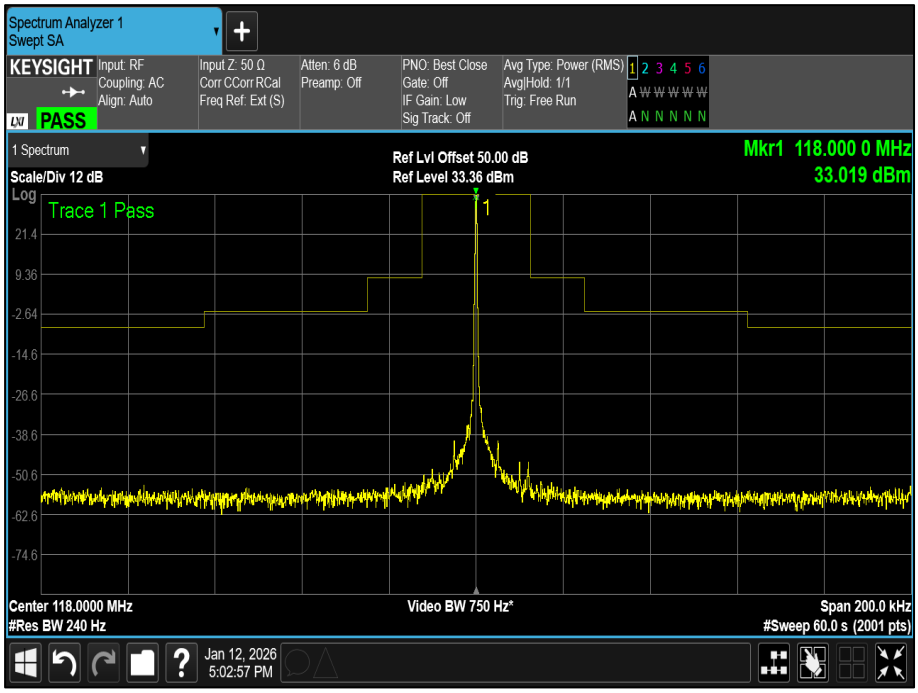

Figure 1 - 118 MHz - Transmitter Spectrum Mask, Unmodulated

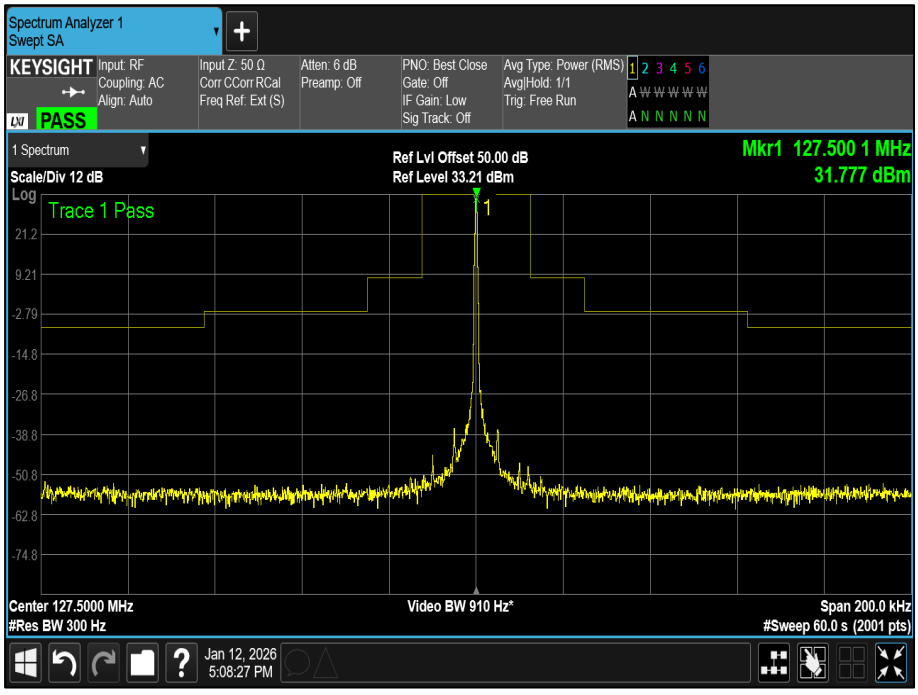

Figure 2 - 127.5 MHz - Transmitter Spectrum Mask, Unmodulated

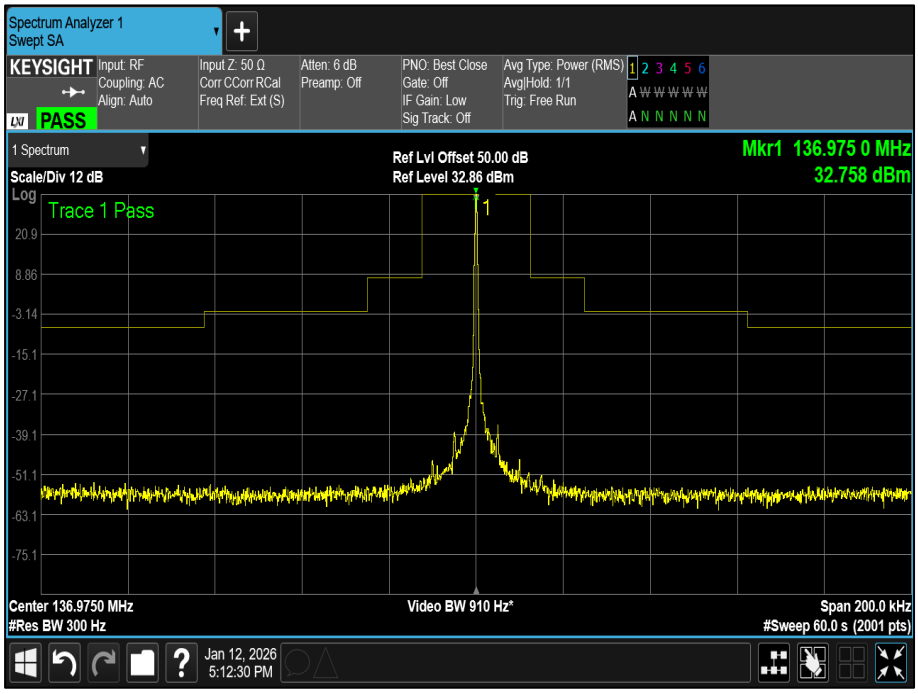

Figure 3 - 136.975 MHz - Transmitter Spectrum Mask, Unmodulated

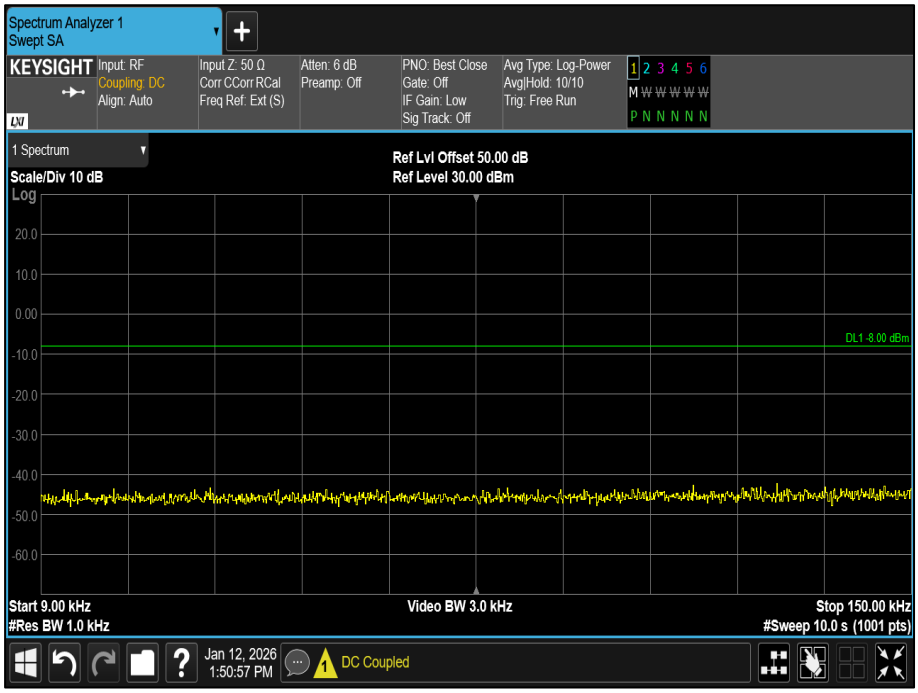

Figure 4 - 118 MHz - 9 kHz to 150 kHz, Unmodulated

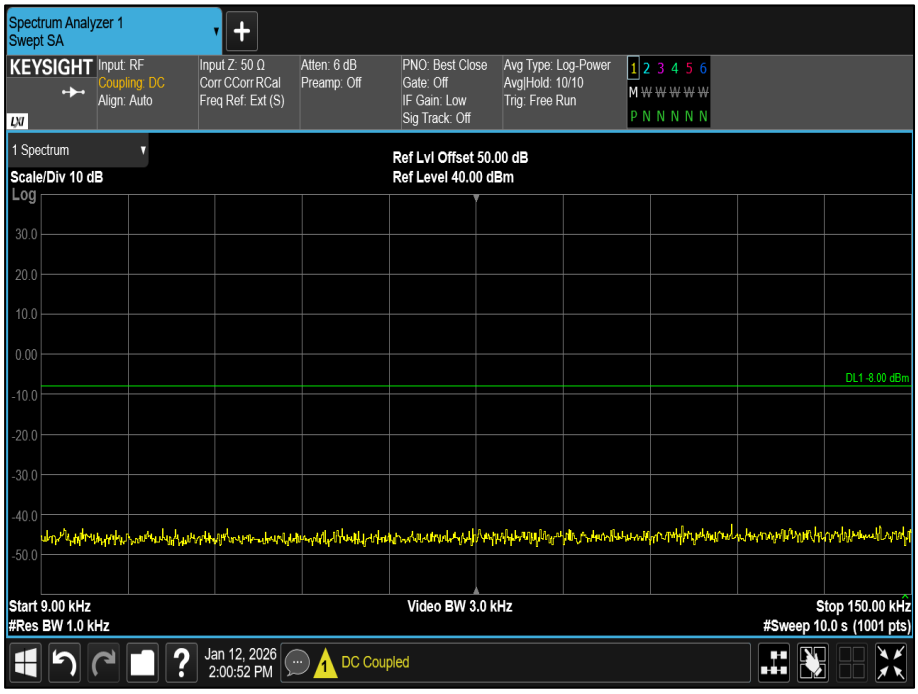

Figure 5 - 127.5 MHz - 9 kHz to 150 kHz, Unmodulated

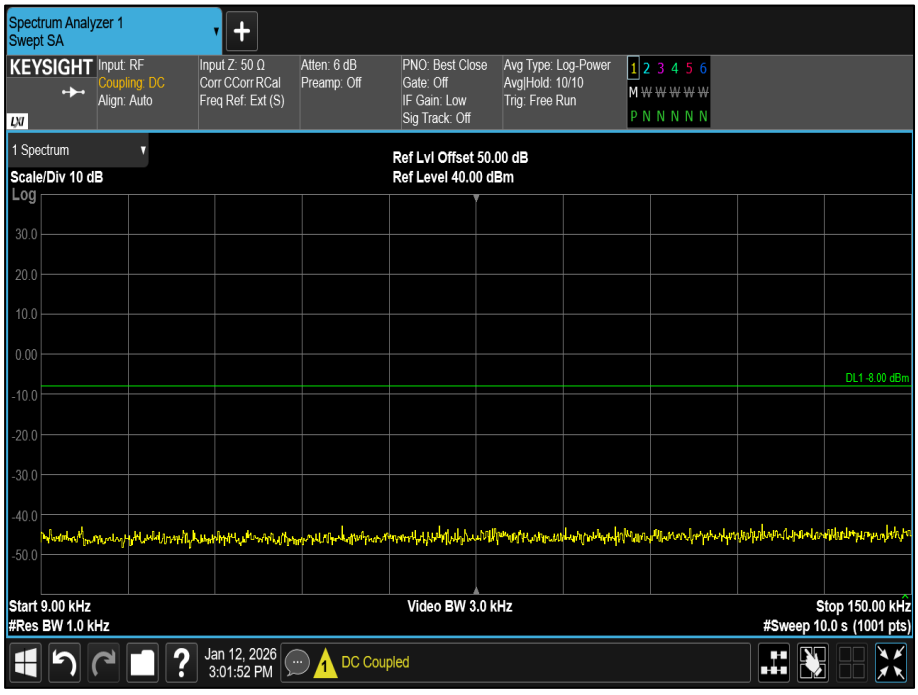

Figure 6 - 136.975 MHz - 9 kHz to 150 kHz, Unmodulated

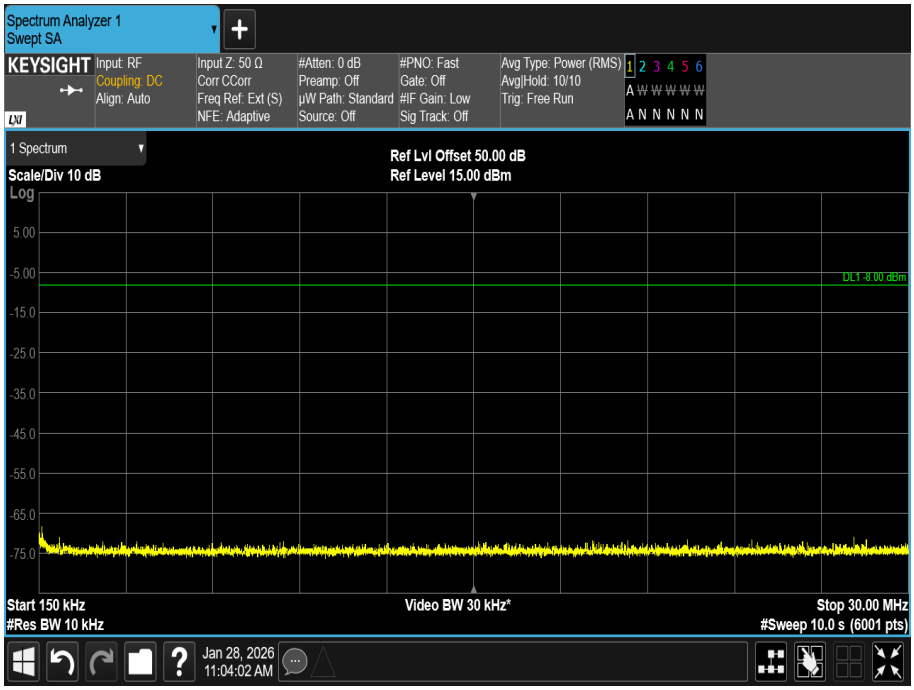

Figure 7 - 118 MHz - 150 kHz to 30 MHz, Unmodulated

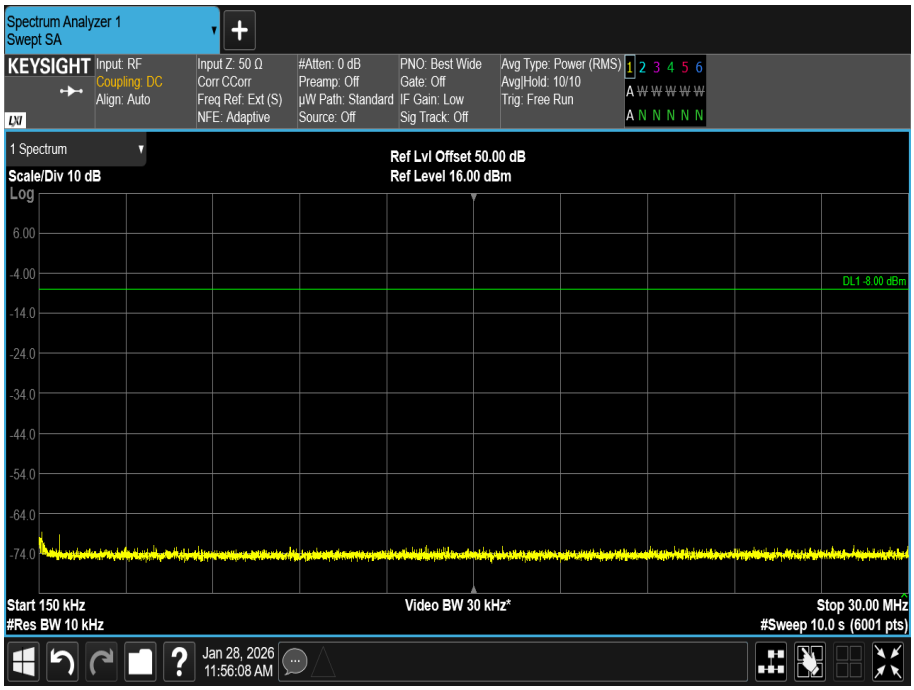

Figure 8 - 127.5 MHz - 150 kHz to 30 MHz, Unmodulated

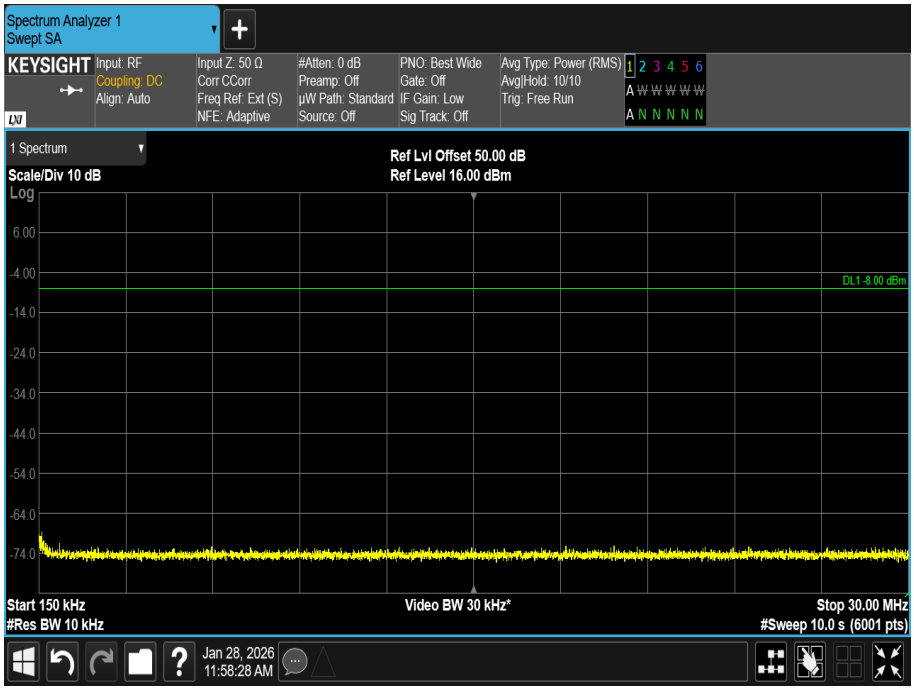

Figure 9 - 136.975 MHz - 150 kHz to 30 MHz, Unmodulated

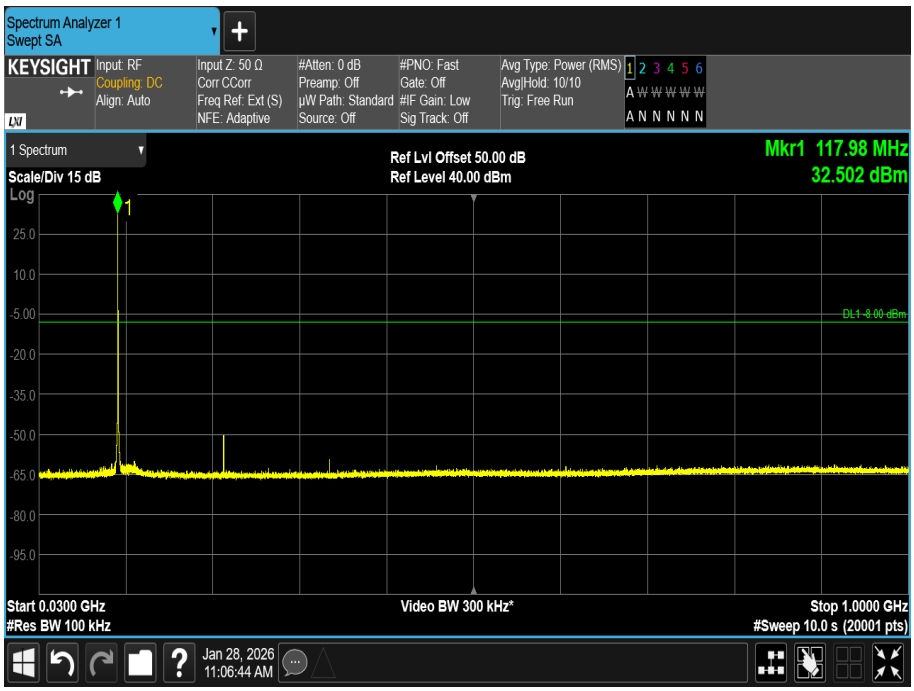

Figure 10 - 118 MHz - 30 MHz to 1 GHz, Unmodulated

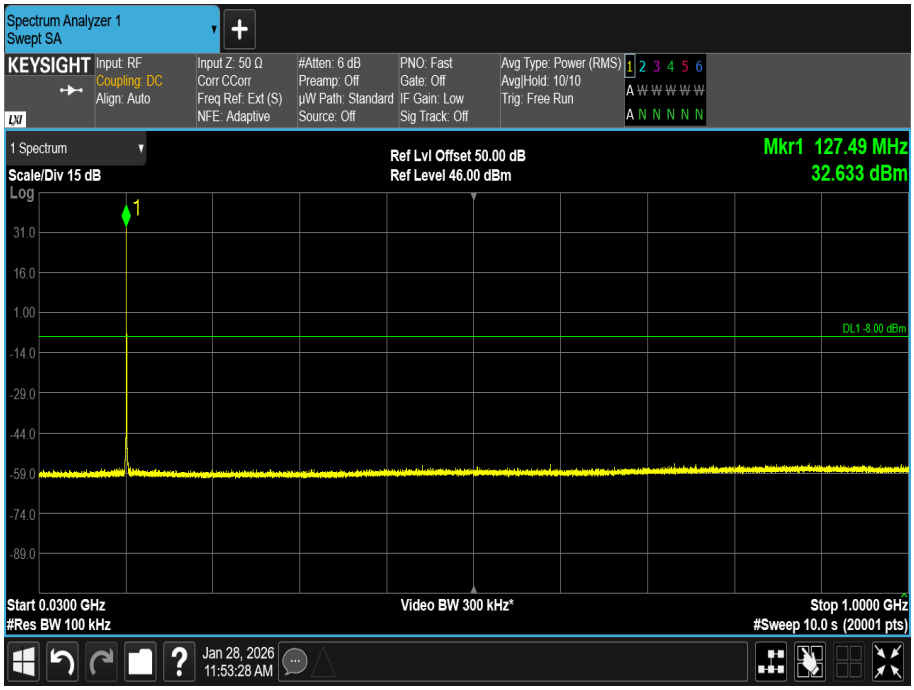

Figure 11 - 127.5 MHz - 30 MHz to 1 GHz, Unmodulated

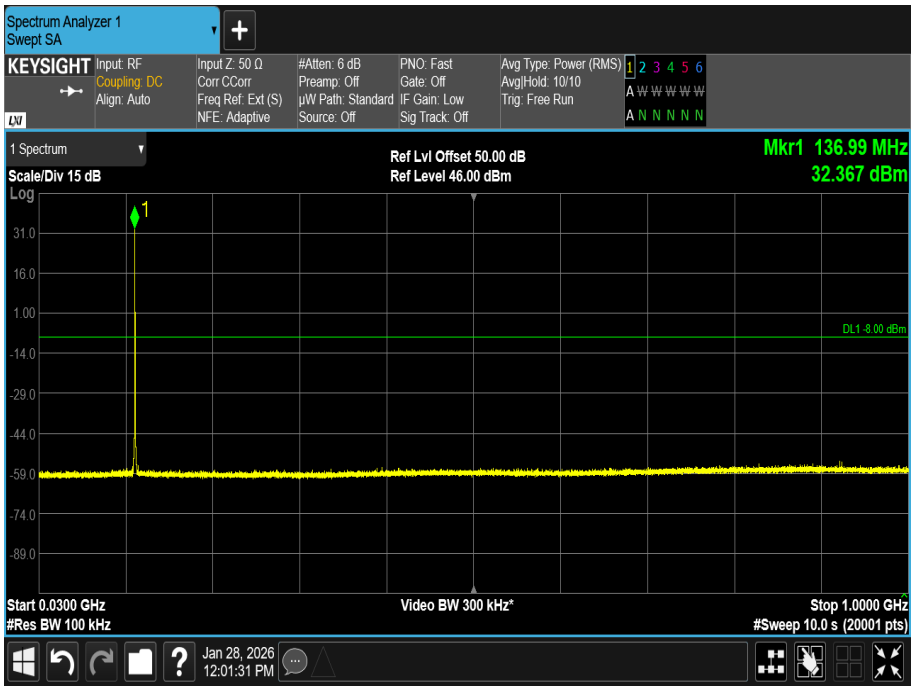

Figure 12 - 136.975 MHz - 30 MHz to 1 GHz, Unmodulated

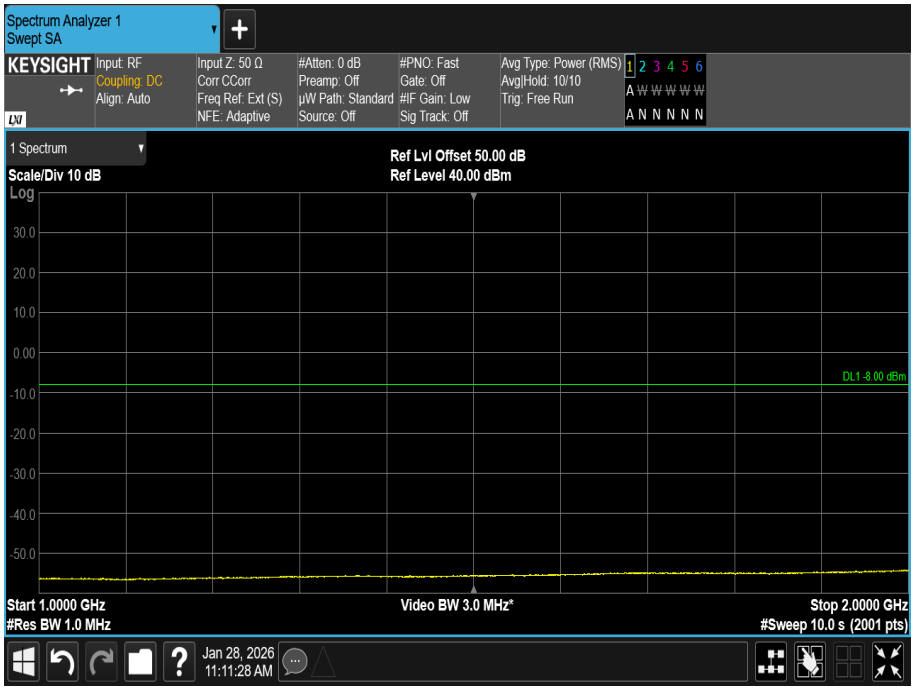

Figure 13 - 118 MHz - 1 GHz to 2 GHz, Unmodulated

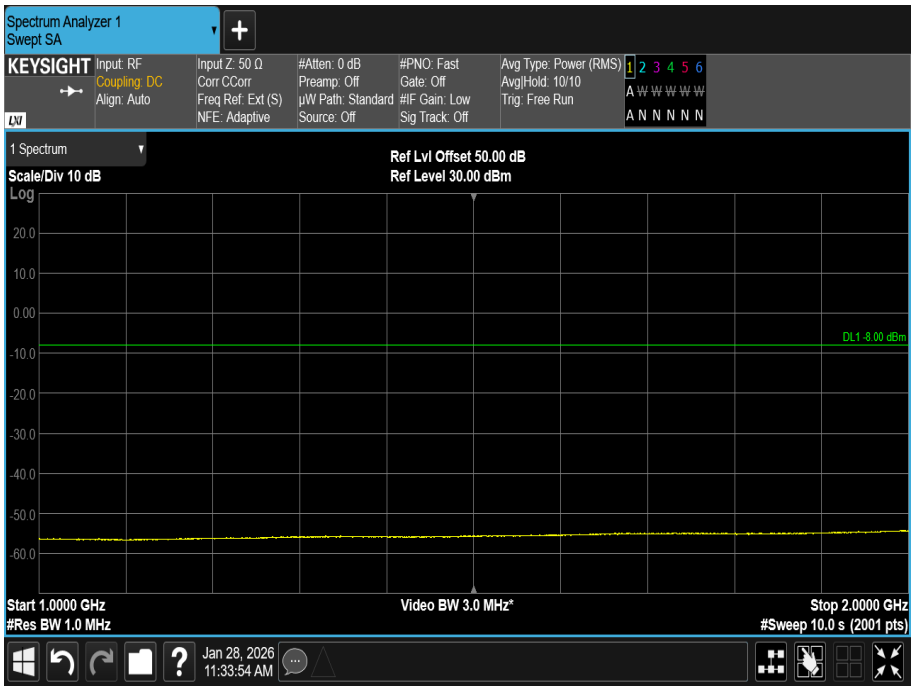

Figure 14 - 127.5 MHz - 1 GHz to 2 GHz, Unmodulated

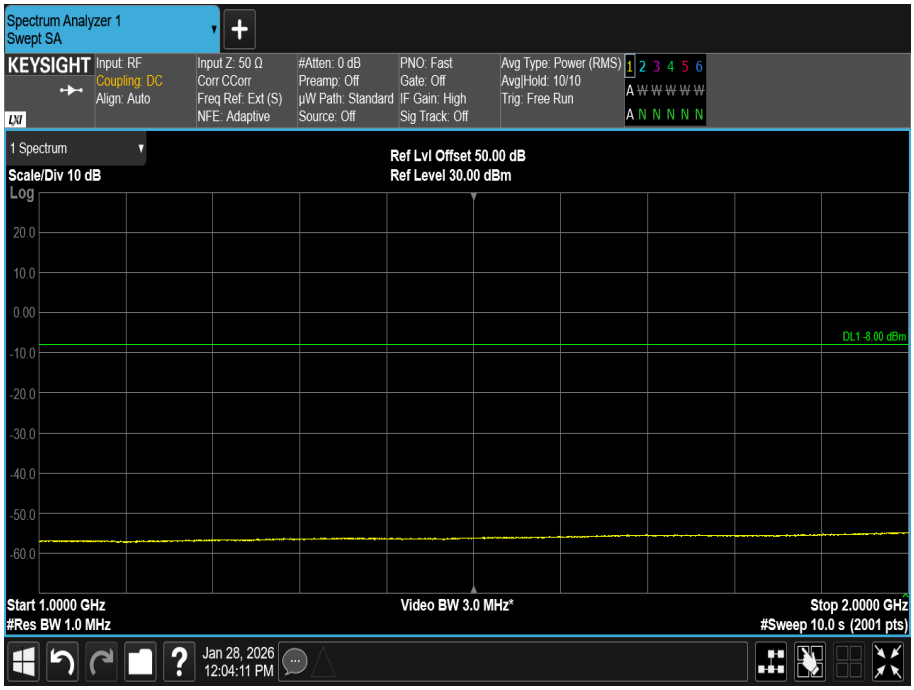

Figure 15 - 136.975 MHz - 1 GHz to 2 GHz, Unmodulated

VHF transmitter Modulated – 25kHz Channel Spacing

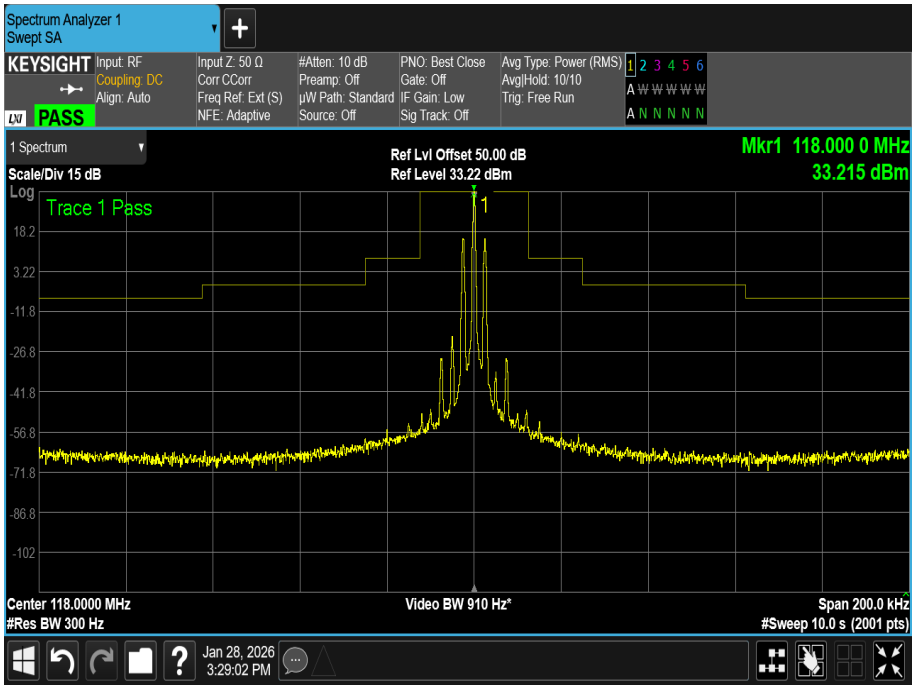

Figure 16 – 118 MHz Transmitter Spectrum Mask, Modulated (AM)

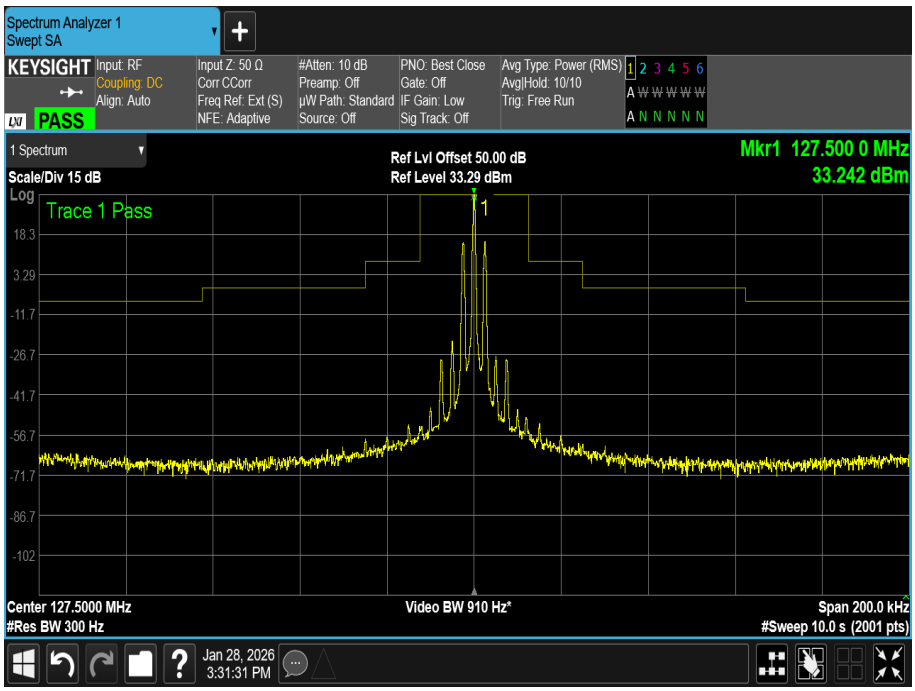

Figure 17 – 127.5 MHz Transmitter Spectrum Mask, Modulated (AM)

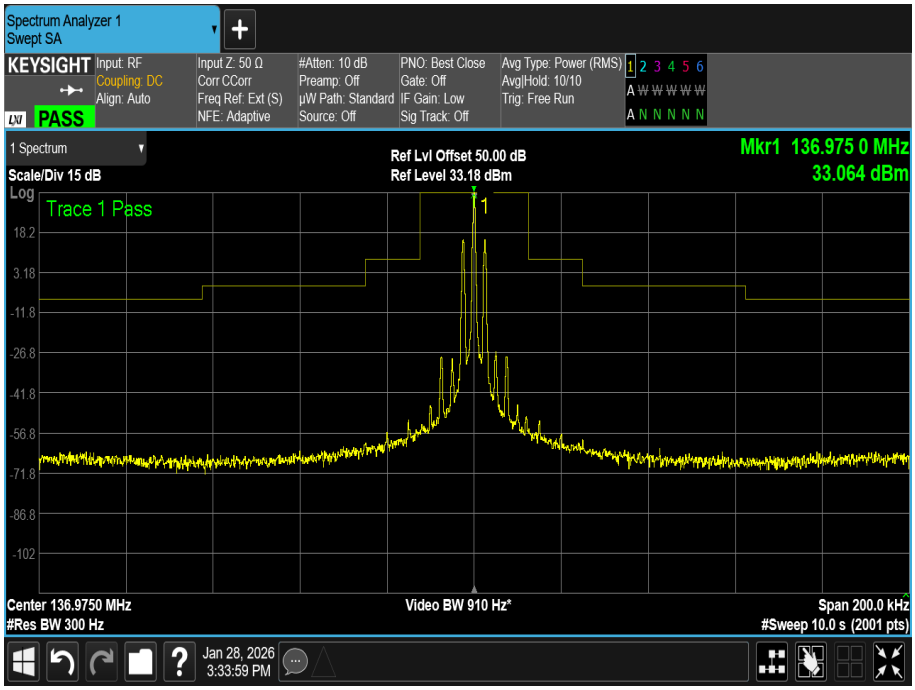

Figure 18 – 136.975 MHz Transmitter Spectrum Mask, Modulated (AM)

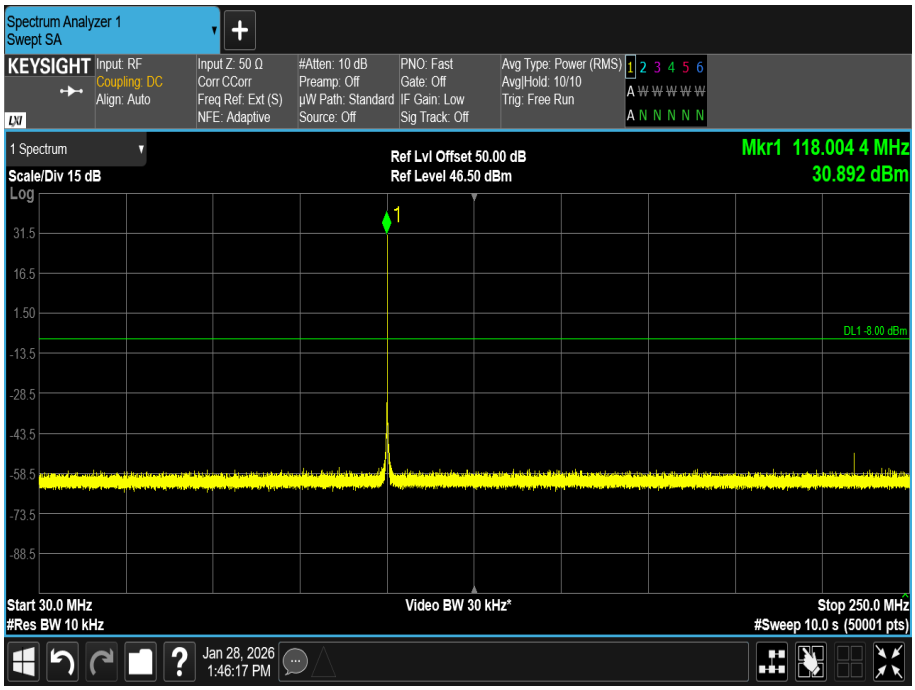

Figure 19 – 118 MHz – 30 MHz to 250 MHz, Modulated (AM)

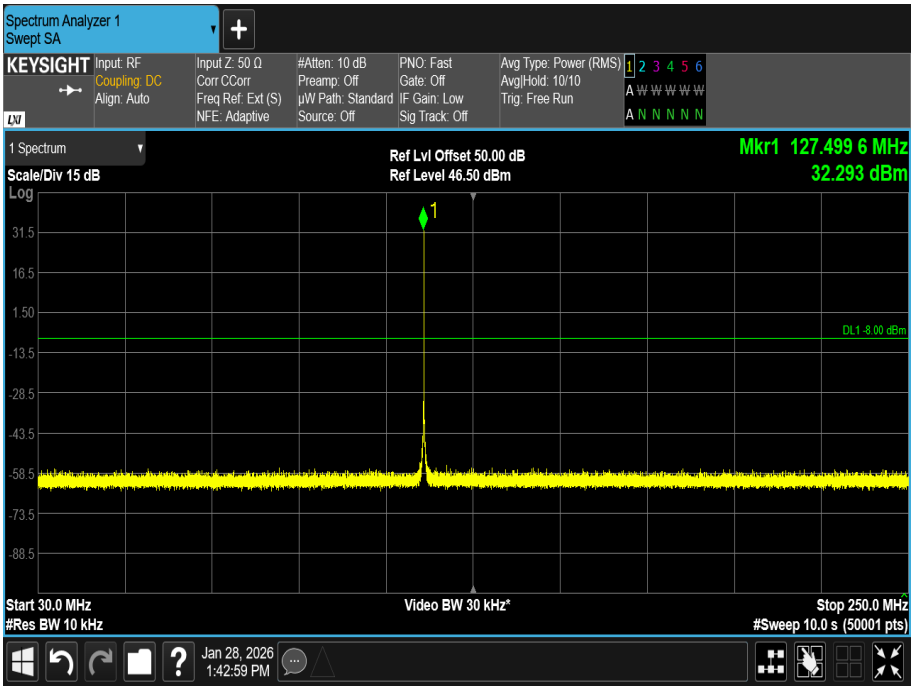

Figure 20 – 127.5 MHz –30 MHz to 250 MHz, Modulated (AM)

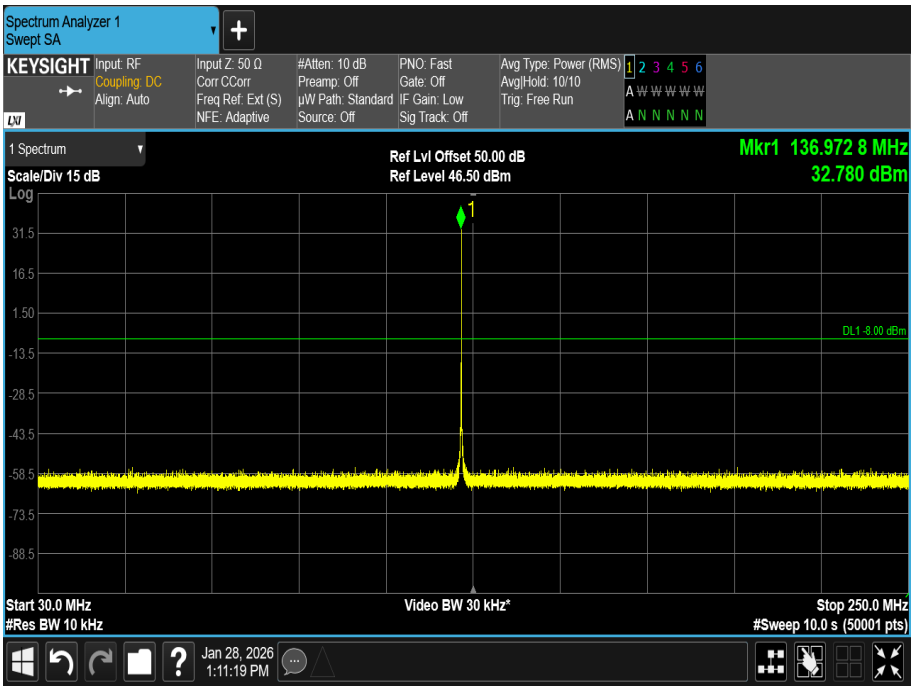

Figure 21 – 136.975 MHz –30 MHz to 250 MHz, Modulated (AM)

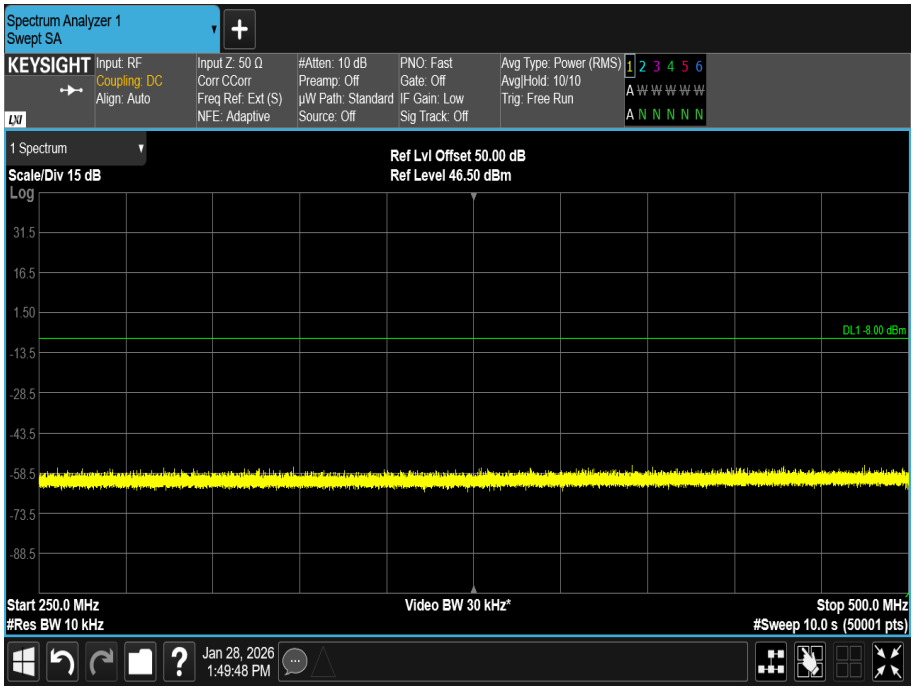

Figure 22 – 118 MHz – 250 MHz to 500 MHz, Modulated (AM)

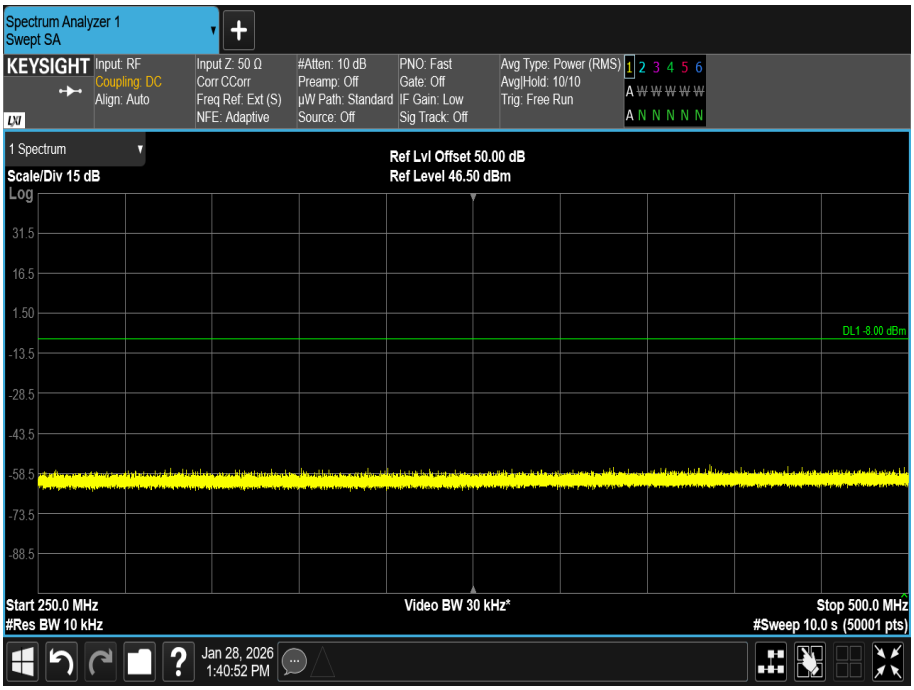

Figure 23 – 127.5 MHz – 250 MHz to 500 MHz, Modulated (AM)

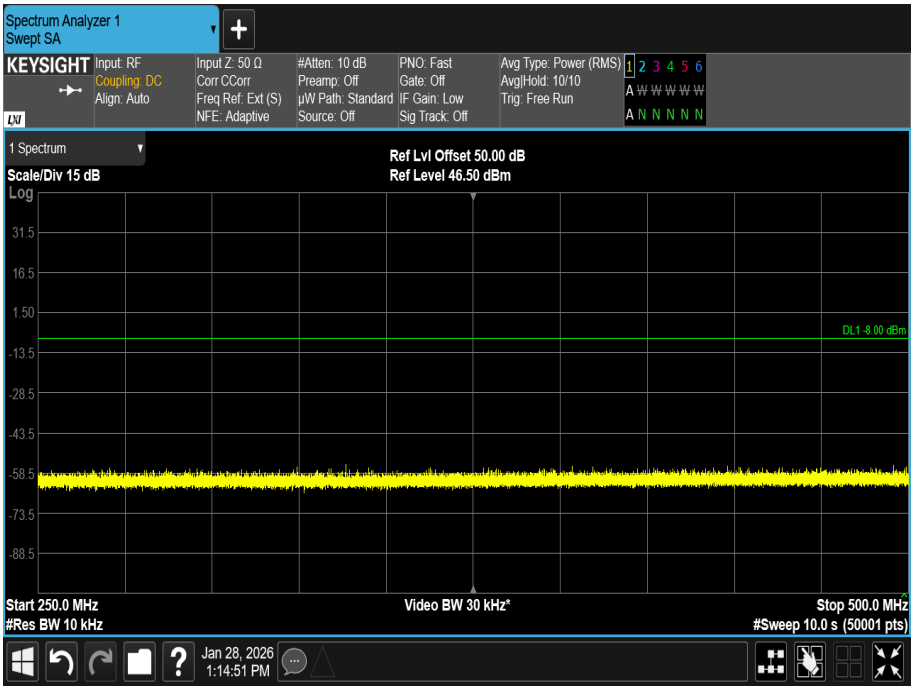

Figure 24 – 136.975 MHz – 250 MHz to 500 MHz, Modulated (AM)

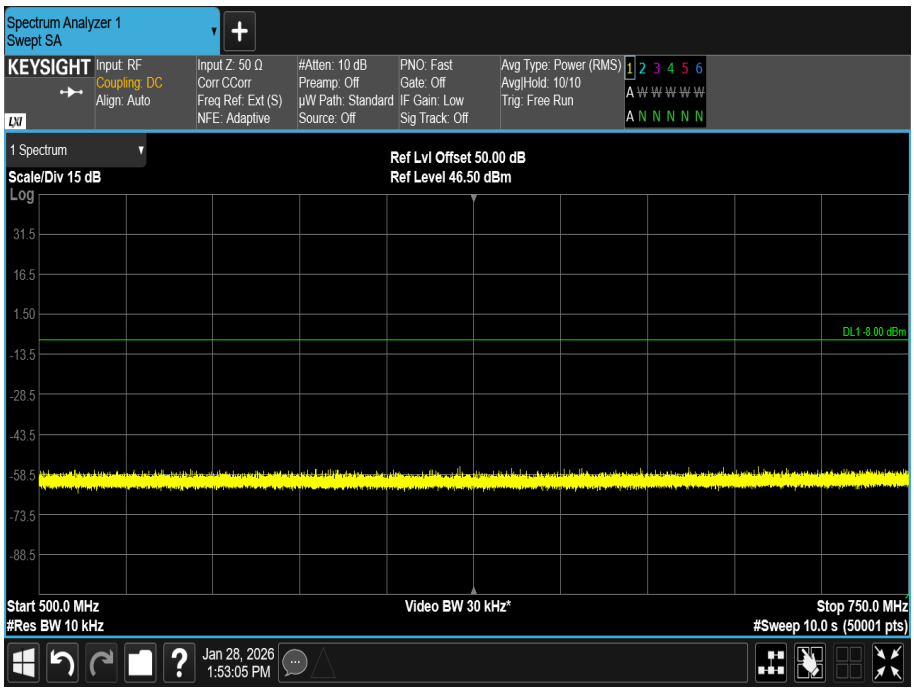

Figure 25 – 118 MHz –500 MHz to 750 MHz, Modulated (AM)

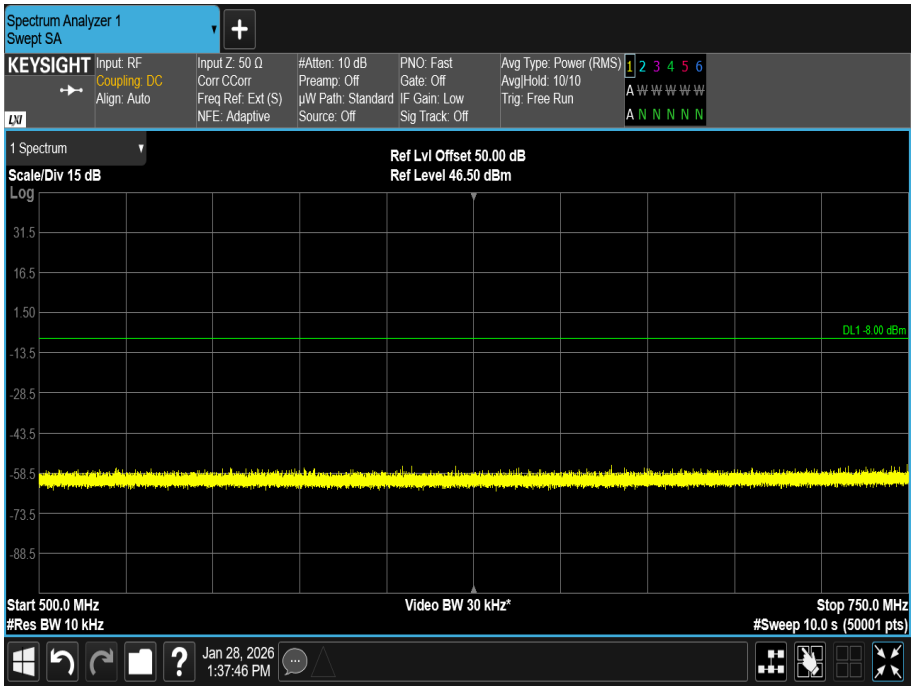

Figure 26 – 127.5 MHz – 500 MHz to 750 MHz, Modulated (AM)

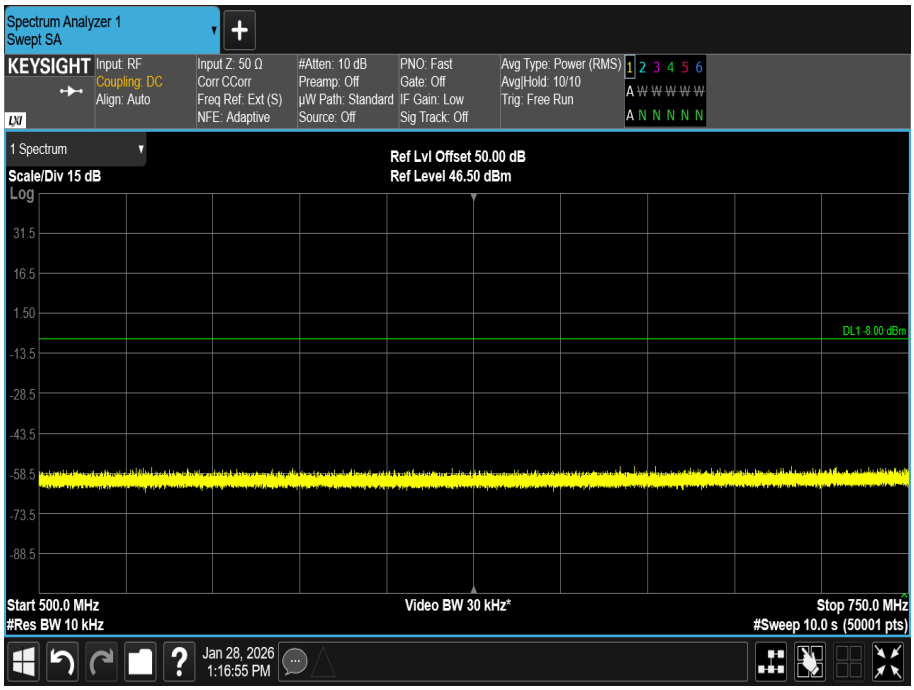

Figure 27 – 136.975 MHz – 500 MHz to 750 MHz, Modulated (AM)

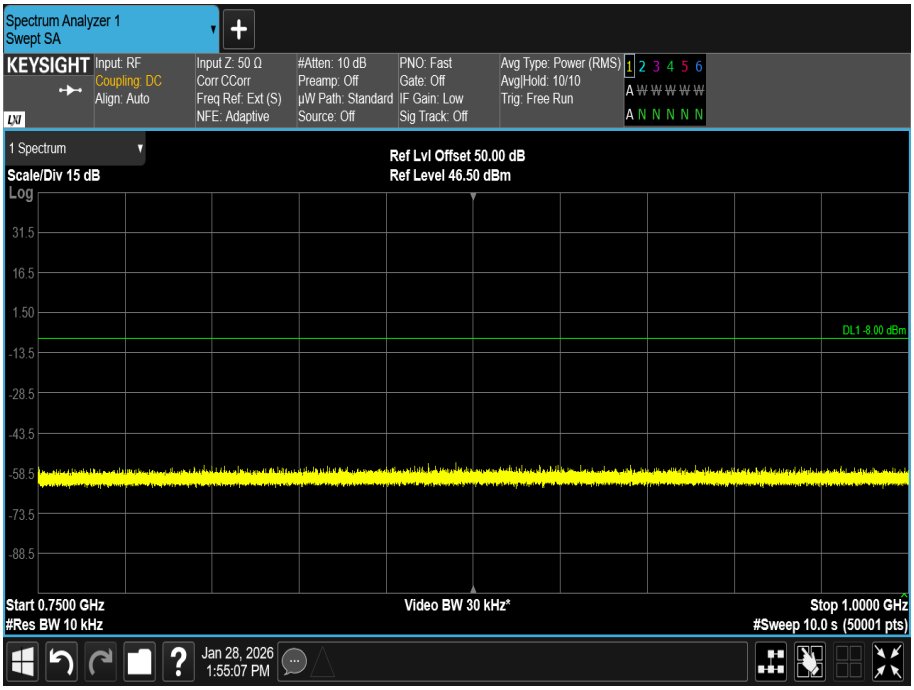

Figure 28 – 118 MHz –750 MHz to 1 GHz, Modulated (AM)

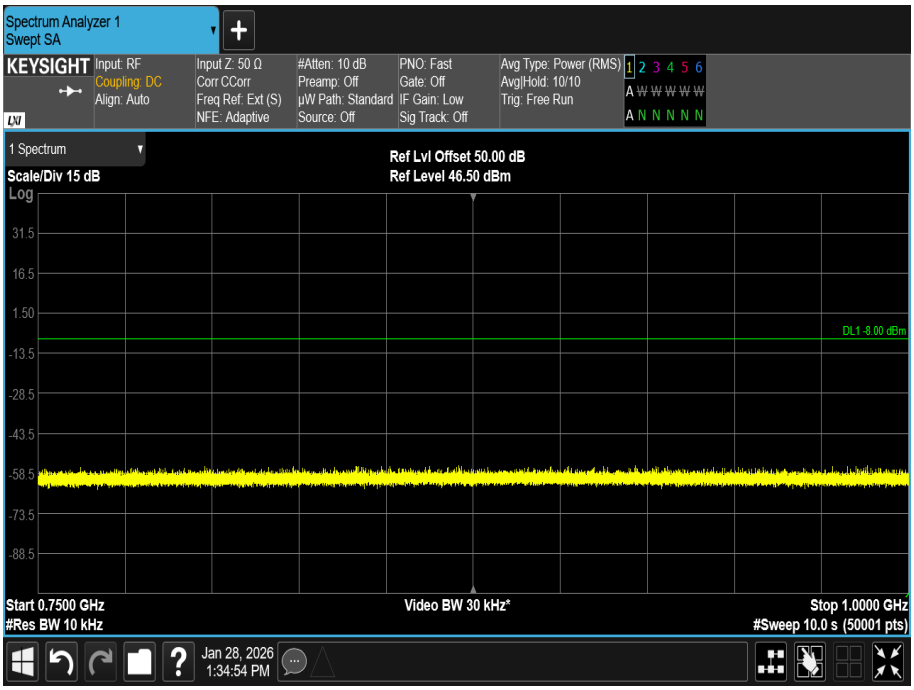

Figure 29 – 127.5 MHz – 750 MHz to 1 GHz, Modulated (AM)

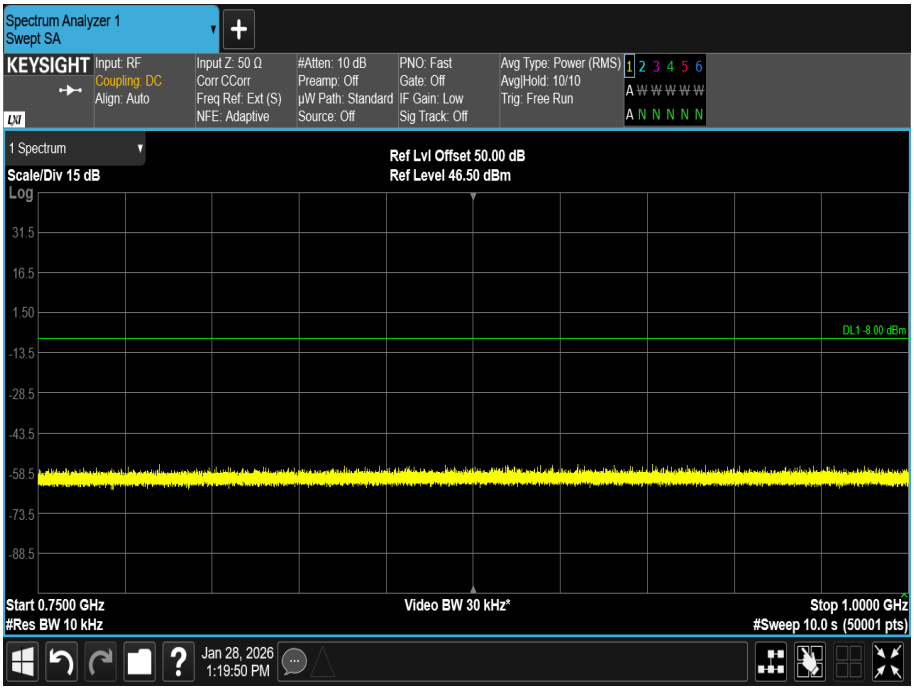

Figure 30 – 136.975 MHz – 750 MHz to 1 GHz, Modulated (AM)

FCC 47 CFR Part 87, Limit Clause 87.139 (a)

Except for ELTs and when using single sideband (R3E, H3E, J3E), or frequency modulation (F9) or digital modulation (F9Y) for telemetry or telecommand in the 1435-1525 MHz, 2345-2395 MHz, or 5091–5150 MHz band or digital modulation (G7D) for differential GPS, the mean power of any emissions must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB;

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43 + 10 log10 pY dB.

ISED RSS-141, Limit Clause 5.2

For transmitters with A3E or A9W emissions, the mean power of any emissions shall be attenuated below the mean power of the transmitter, P as follows:

(a) When the frequency is removed from the equipment's channel centre frequency by more than 50% up to and including 100% of the channel bandwidth, the attenuation shall be at least 25 dB, measured with a bandwidth of 300 Hz;
(b) When the frequency is removed from the equipment's channel centre frequency by more than 100% up to and including 250% of the channel bandwidth, the attenuation shall be at least 35 dB, measured with a bandwidth of 300 Hz;
(c) When the frequency is removed from the equipment's channel centre frequency by more than 250% of the channel bandwidth, the attenuation for on-board aircraft transmitters shall be at least 40 dB; and the attenuation for ground transmitters shall be at least 43 + 10 log10 P (in watts) dB, measured with a bandwidth of 3 kHz.

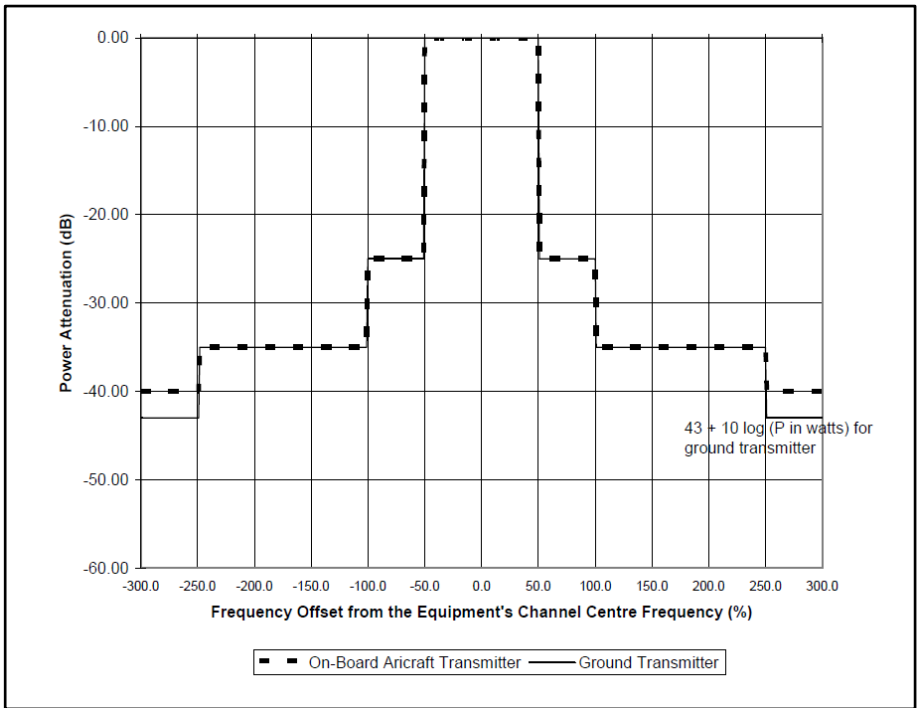

Figure 31 - Unwanted Emission Mask for Transmitters with A3E and A9W Emissions

2.2.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Power Supply Unit	Hewlett Packard	6267B	21	-	O/P Mon
Attenuator (10dB/100W)	Bird	8343-100	495	12	01-Sep-2026
Multimeter	Iso-Tech	IDM101	2421	12	11-Nov-2026
Tunable Notch Filter	Wainwright	WRCD 130.0/170.0-0.05/50-5EEK	3412	-	TU
Tunable Notch Filter	Wainwright	WRCD 100.0/130.0-0.05/50-5EEK	3426	-	TU
HygroPalm	Rotronic	HygroPalm 0	3484	12	25-Nov-2026
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	02-Jul-2026
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	18-Mar-2026
1 metre N-Type Cable	Florida Labs	NMS-235SP-39.4-NMS	4510	12	04-Feb-2025
1 metre N-Type Cable	Florida Labs	NMS-235SP-39.4-NMS	4511	12	01-Feb-2026
Quad Power Supply	Rohde & Schwarz	HMP4040	4955	-	O/P Mon
Cable (N-Type to N-Type, 1 m)	Rosenberger	LU7-036-1000	5031	12	17-Oct-2026
Attenuator 40dB 100Wr	Weinschel	48-40-43-LIM	5134	12	13-Feb-2026
Function Generator	Keysight Technologies	33210A	5409	-	O/P Mon
Signal Analyzer	Keysight Technologies	PXA N9030B	5432	12	19-Aug-2026
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	5514	12	06-Jun-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6418	24	15-Oct-2027
2m N-type Cable	Junkosha	MWX221-02000NMSNMS/B	6923	12	11-Dec-2026
1m N-type Cable	Junkosha	MWX221-01000NMSNMS/B	6933	12	12-Dec-2026

Table 5

TU - Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

2.3 Power and Emissions

2.3.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.131
FCC 47 CFR Part 2, Clause 2.1046
ISED RSS-141, Clause 5.1
ISED RSS-GEN, Clause 6.12

2.3.2 Equipment Under Test and Modification State

Model: PJ2 GPS, S/N: 509001

2.3.3 Date of Test

30-September-2025

2.3.4 Test Method

VHF transmitter

This test was performed in accordance with ANSI C63.26, clause 5.2.3 and ISED RSS-141, clause 4.1.
The EUT was powered using a battery supplied by the manufacturer for the duration of the test.

2.3.5 Environmental Conditions

Ambient Temperature	19.3 °C
Relative Humidity	50.7 %

2.3.6 Test Results

VHF transmitter

118 MHz		127.5 MHz		136.975 MHz	
Maximum Power (dBm)	Maximum Power (W)	Maximum Power (dBm)	Maximum Power (W)	Maximum Power (dBm)	Maximum Power (W)
32.31	1.702	32.17	1.648	31.95	1.567

Table 6 - Transmitter Output Power

FCC 47 CFR Part 87, Limit Clause 87.131

Aircraft (Communication)
55 W for A3E and VHF emissions.

ISED RSS-141, Limit Clause 5.1

Ground Equipment:

50 W for fixed equipment with A9W, G1D or G7D emissions
300 W for fixed equipment with A3E emissions
20 W for mobile, portable and transportable equipment with A3E emissions

Airborne Equipment:

55 W

2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Signal Generator	Rohde & Schwarz	SMY 01	118	12	21-Feb-2026
Hygrometer	Rotronic	I-1000	2891	12	02-Dec-2025
Attenuator (30dB, 150W)	Narda	769-30	3369	12	21-Feb-2026
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	18-Mar-2026
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5497	12	23-Apr-2026
Cable (SMA to SMA, 2 m)	Junkosha	MWX221-02000AMSAMS/A	5518	12	15-Apr-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6876	24	31-Aug-2026
1m SMA Cable	Junkosha	MWX221-01000AMSAMS/B	6921	12	08-Dec-2025

Table 7

2.4 Frequency Stability

2.4.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.133
FCC 47 CFR Part 2, Clause 2.1055
ISED RSS-141, Clause 5.1
ISED RSS-GEN, Clause 6.11

2.4.2 Equipment Under Test and Modification State

Model: PJ2 GPS, S/N: 509001

2.4.3 Date of Test

06-January-2026 to 08-January-2026

2.4.4 Test Method

VHF transmitter

This test was performed in accordance with ANSI C63.26 clause 5.6 and ISED RSS-GEN 6.11.

2.4.5 Environmental Conditions

Ambient Temperature	19.6 - 22.8 °C
Relative Humidity	27.0 - 32.4 %

2.4.6 Test Results

VHF transmitter

Voltage	Frequency Error (ppm)		
	118 MHz	127.5 MHz	136.975 MHz
6.3	-0.042	-0.047	-0.044
9.0	-0.051	-0.047	-0.044

Table 8 - Frequency Stability Under Voltage Variations

Temperature	Frequency Error (ppm)		
	118 MHz	127.5 MHz	136.975 MHz
50 °C	0.042	0.039	0.037
40 °C	0.068	0.055	0.066
30 °C	-0.042	-0.031	-0.022
20 °C	-0.042	-0.024	-0.015
10 °C	-0.025	-0.047	-0.015
0 °C	-0.068	-0.047	-0.124
-10 °C	-0.085	-0.118	-0.102
-20 °C	-0.22	-0.243	-0.234
-30 °C	-0.314	-0.298	-0.248

Table 9 - Frequency Stability Under Temperature Variations

FCC 47 CFR Part 87, Limit Clause 87.133

20 ppm.

ISED RSS-141, Limit Clause 5.1

Airborne Equipment:

30 ppm for A3E and A9W emissions
5 ppm for G1D and G7D emissions

2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Climatic Chamber	Votsch	VT4002	161	-	O/P Mon
Attenuator (10dB/100W)	Bird	8343-100	495	12	01-Sep-2026
Multimeter	Iso-tech	IDM101	2421	12	11-Nov-2026
Thermocouple Thermometer	Fluke	51	3173	12	17-Jun-2026
HygroPalm	Rotronic	HygroPalm 0	3484	12	25-Nov-2026
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	02-Jul-2026
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	18-Mar-2026
1 metre N-Type Cable	Florida Labs	NMS-235SP-39.4-NMS	4510	12	04-Feb-2025
1 metre N-Type Cable	Florida Labs	NMS-235SP-39.4-NMS	4511	12	01-Feb-2026
Attenuator 40dB 100W	Weinschel	48-40-43-LIM	5134	12	13-Feb-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6418	24	15-Oct-2027
DC Power Supply 0-60V	R.S Components	RS-6005P	6981	-	TU

Table 10

TU - Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

2.5 Modulation Characteristics

2.5.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.141
FCC 47 CFR Part 2, Clause 2.1047
ISED RSS-141, Clause 5.1
ISED RSS-GEN, Clause

2.5.2 Equipment Under Test and Modification State

Model: PJ2 GPS, S/N: 509001

2.5.3 Date of Test

10-October-2025 to 12-January-2026

2.5.4 Test Method

VHF transmitter

The test was performed in accordance with ANSI C63.26, clause 5.3

2.5.5 Environmental Conditions

Ambient Temperature	20.8 - 21.8 °C
Relative Humidity	38.6 - 62.7 %

2.5.6 Test Results

VHF transmitter

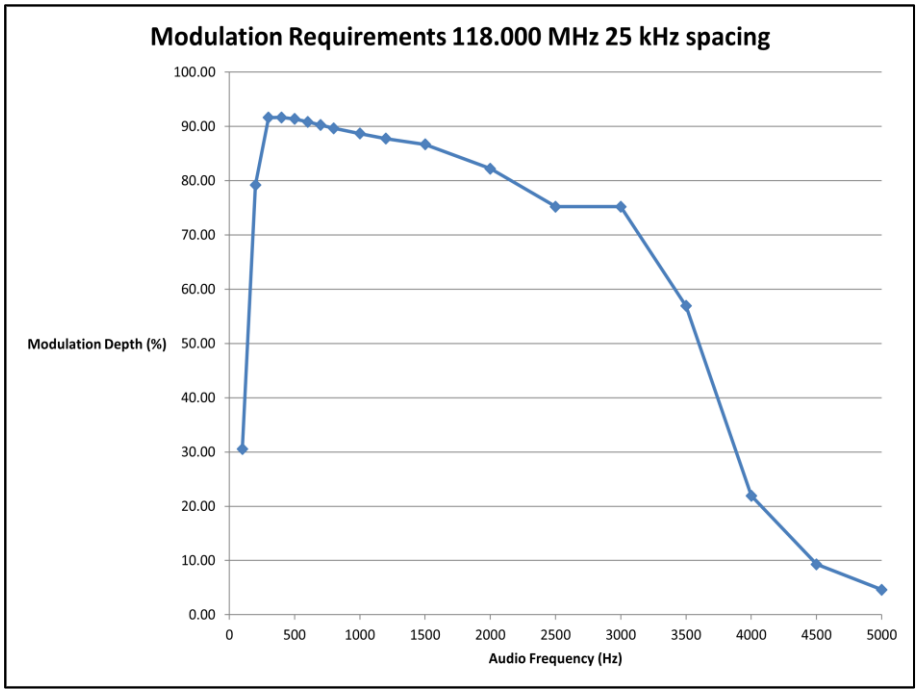

Figure 32

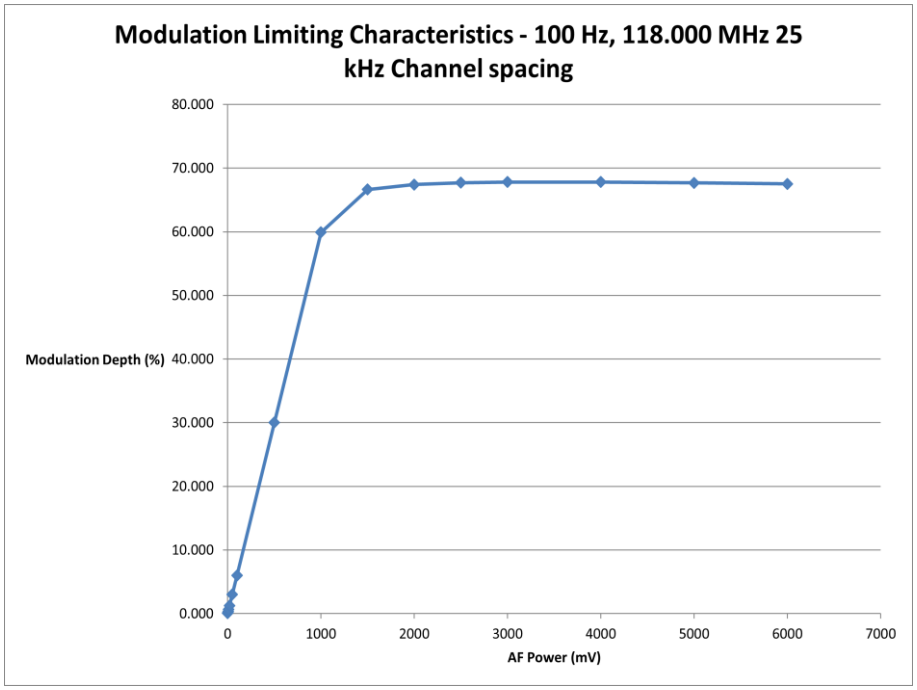

Figure 33

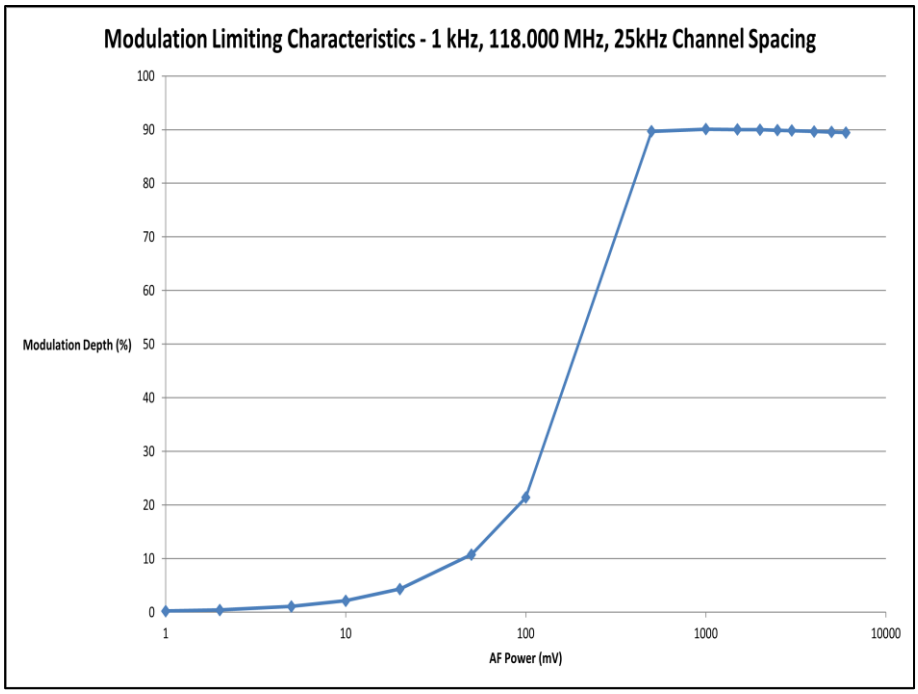

Figure 34

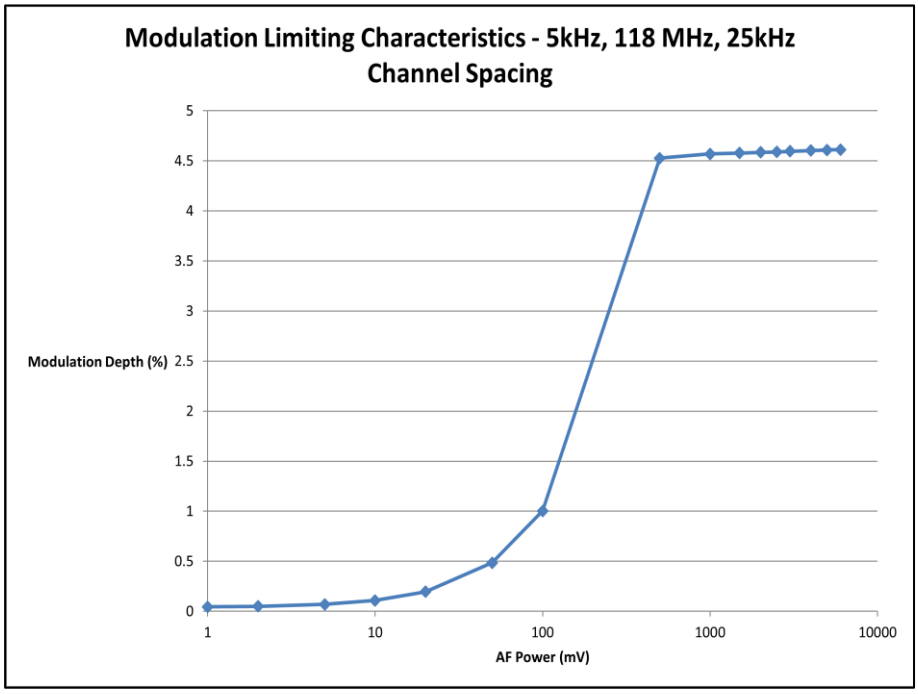

Figure 35

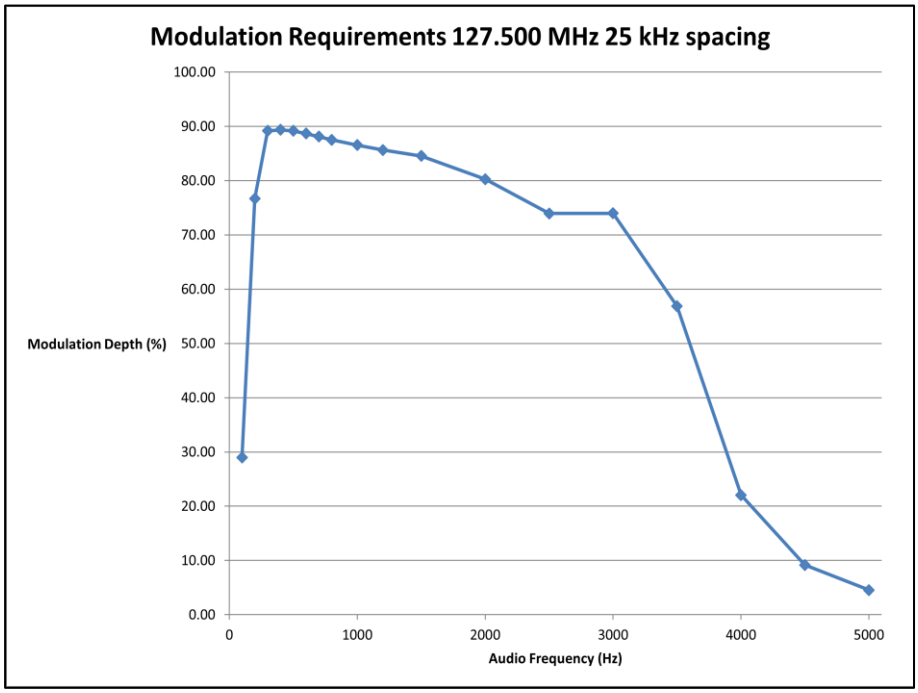

Figure 36

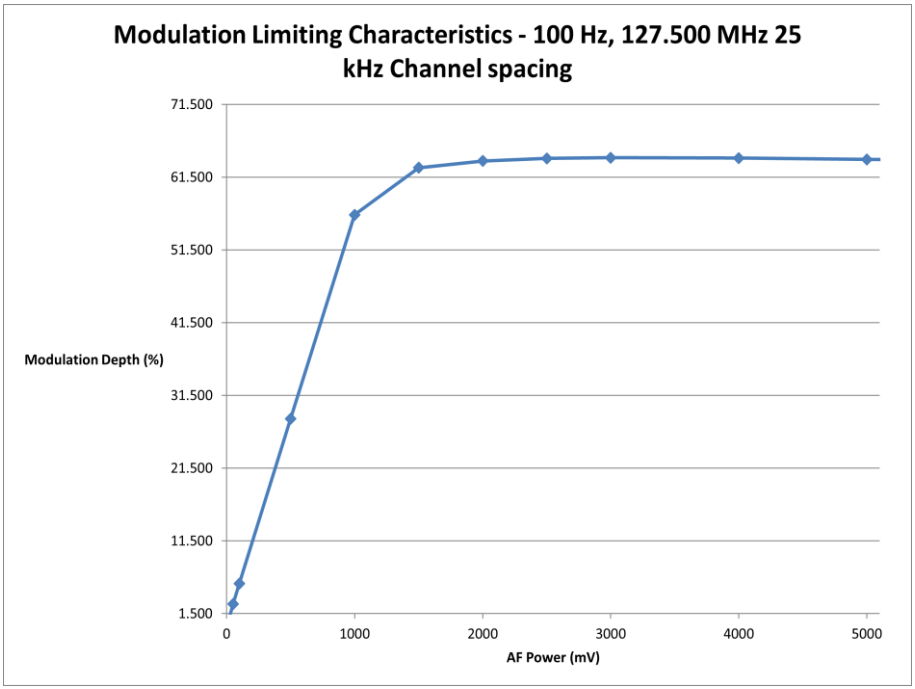

Figure 37

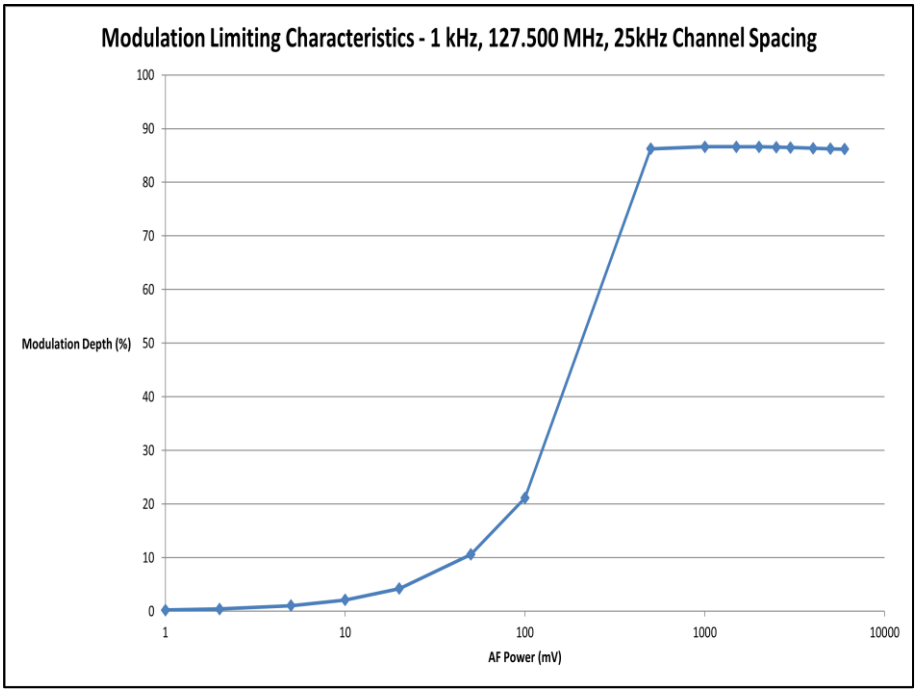

Figure 38

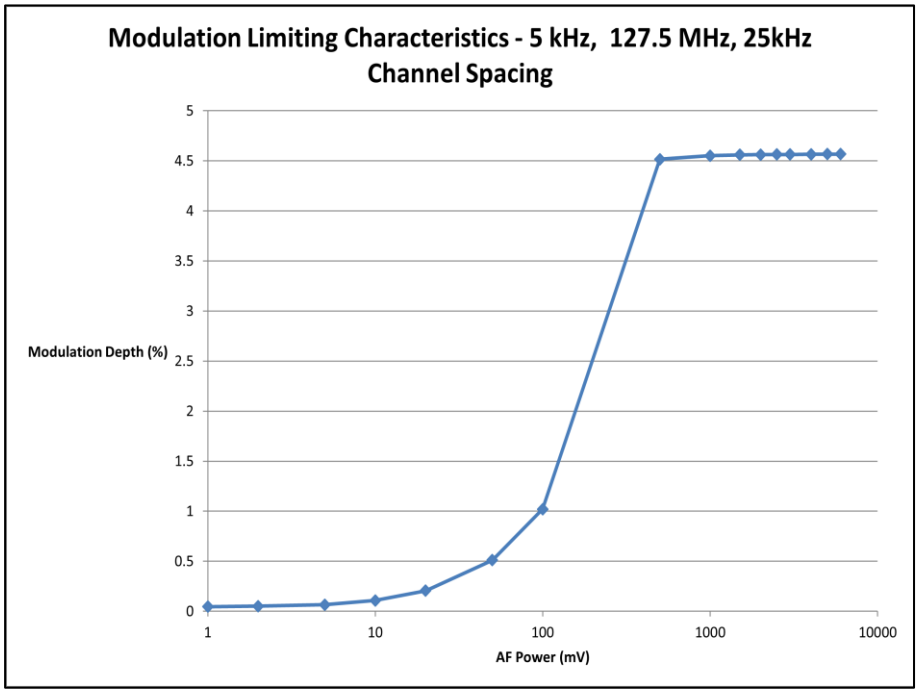

Figure 39

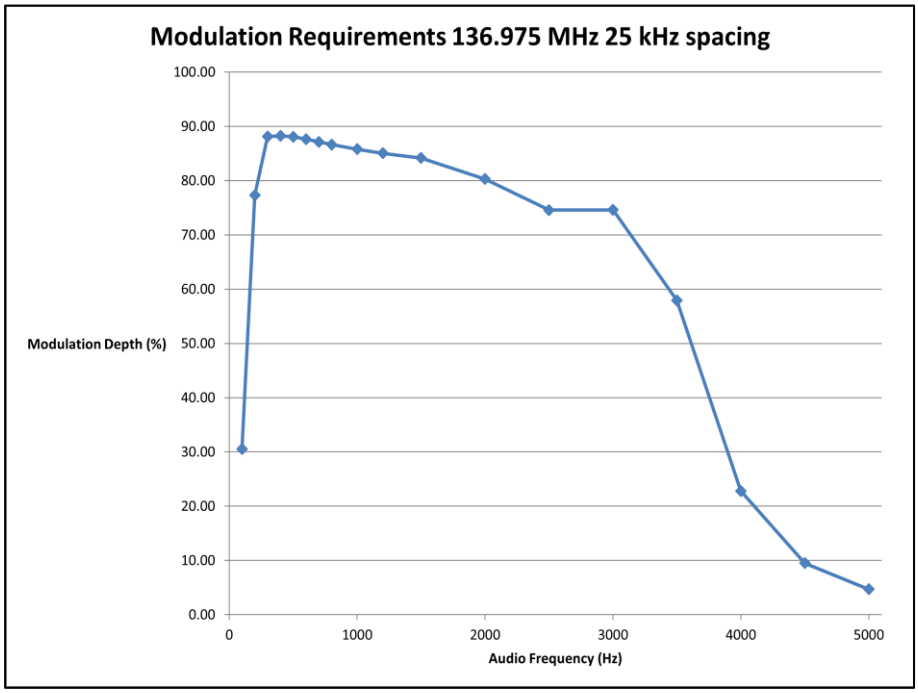

Figure 40

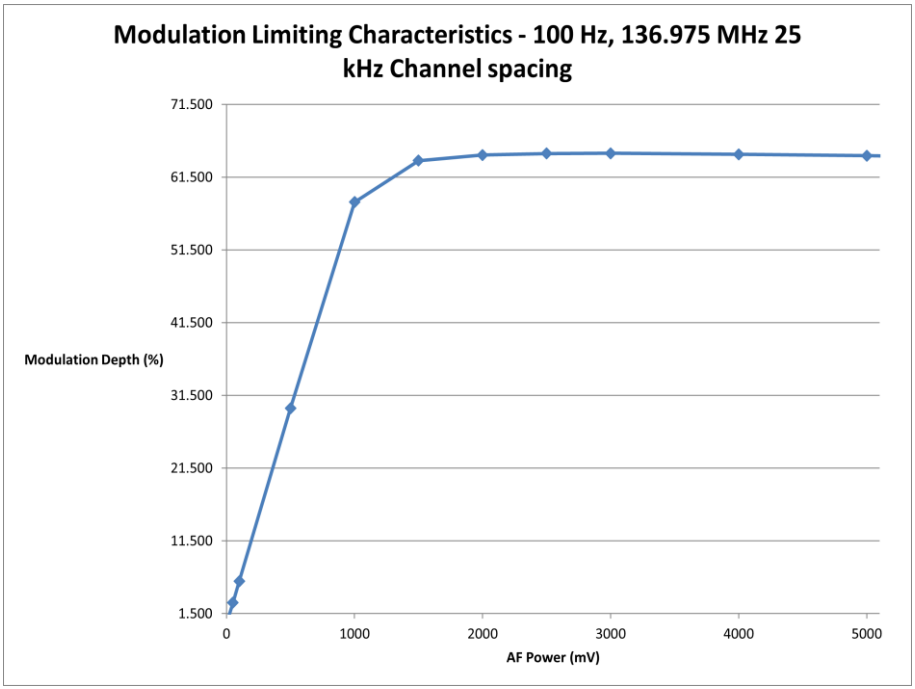

Figure 41

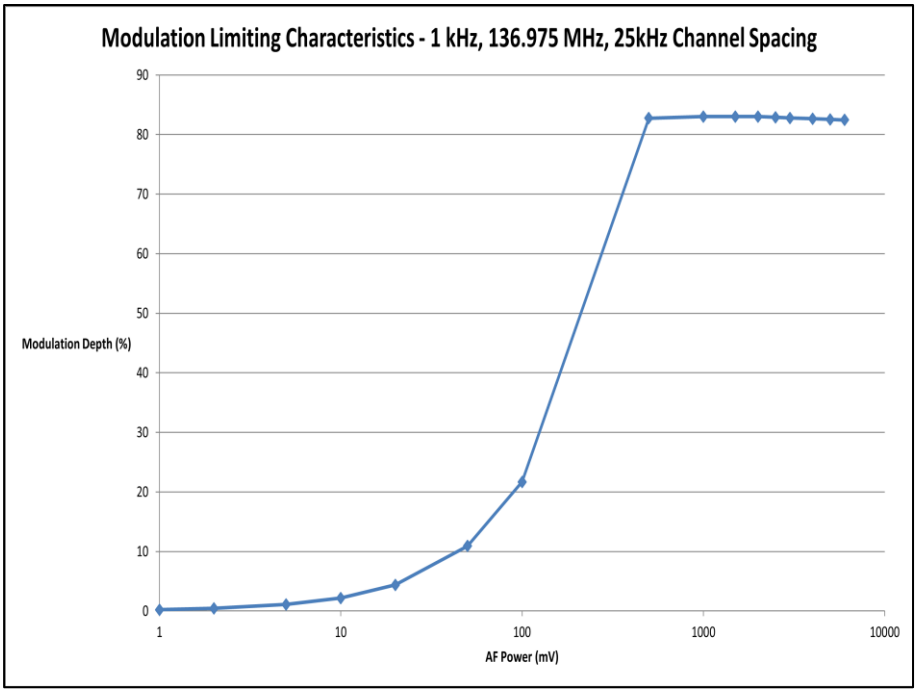

Figure 42

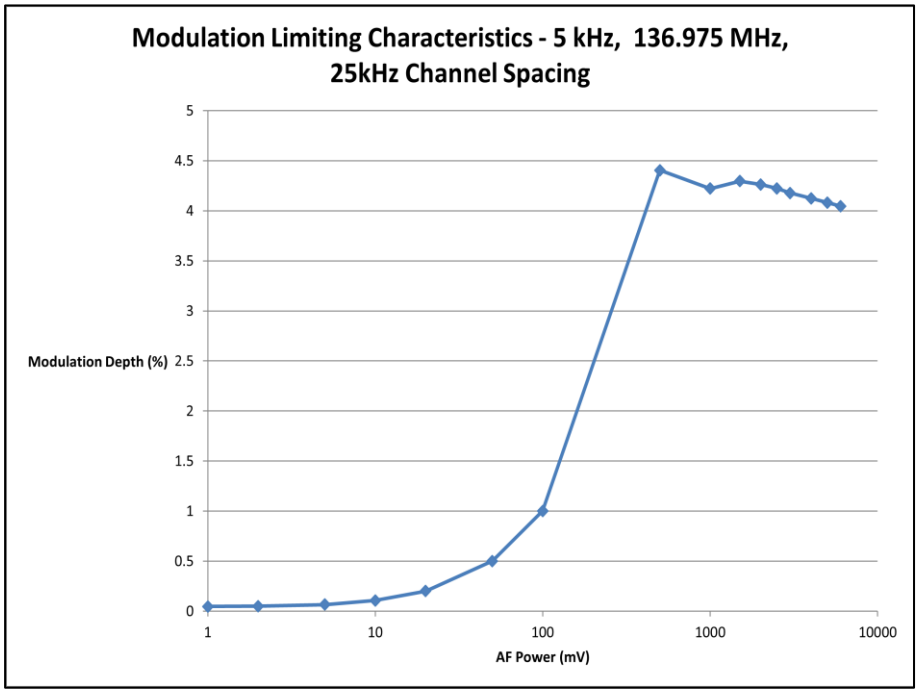

Figure 43

2.5.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Audio Analyser	Hewlett Packard	8903B	1350	12	06-Feb-2026
Hygrometer	Rotronic	I-1000	2891	12	23-Dec-2026
Attenuator (30dB, 150W)	Narda	769-30	3369	12	21-Feb-2026
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	18-Mar-2026
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5497	12	23-Apr-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6876	24	31-Aug-2026
1m SMA Cable	Junkosha	MWX221-01000AMSAMS/B	6921	12	09-Dec-2026

Table 11

2.6 Bandwidth of Emission

2.6.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.135
FCC 47 CFR Part 2, Clause 2.1049
ISED RSS-141, Clause 5.1
ISED RSS-GEN, Clause 6.7

2.6.2 Equipment Under Test and Modification State

PJ2 GPS, S/N: 509001

2.6.3 Date of Test

02-October-2025

2.6.4 Test Method

VHF transmitter

This test was performed in accordance with ANSI C63.26, clause 5.4.4, using the modulation specified in FCC Part 2.1049 (c)(1).

The EUT was powered using the manufacturers supplied battery for the duration of the test.

2.6.5 Environmental Conditions

Ambient Temperature	21.5 °C
Relative Humidity	50.8 %

2.6.6 Test Results

VHF transmitter

99% Occupied Bandwidth (kHz)		
118 MHz	127.5 MHz	136.975 MHz
5.146	5.148	5.144

Table 12 - Occupied Bandwidth Results

Figure 44 - Occupied Bandwidth - 118 MHz

Figure 45 - Occupied Bandwidth - 127.5 MHz

Figure 46 - Occupied Bandwidth - 136.975 MHz

FCC 47 CFR Part 87, Limit Clause 87.135(a)

50 kHz for 6K00A3E emissions

The authorized bandwidth declared by the manufacturer is: 25 kHz

ISED RSS-141, Limit Clause 5.1

Channel Bandwidth:

25 kHz

Necessary Bandwidth

6 kHz for A3E emissions
13 kHz for A9W emissions
14 kHz for G1D and G7D emissions

2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Audio Analyser	Hewlett Packard	8903B	1350	12	06-Feb-2026
Hygrometer	Rotronic	I-1000	2891	12	02-Dec-2025
Attenuator (30dB, 150W)	Narda	769-30	3369	12	21-Feb-2026
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	18-Mar-2026
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5497	12	23-Apr-2026
Cable (SMA to SMA, 2 m)	Junkosha	MWX221-02000AMSAMS/A	5518	12	15-Apr-2026
MXA Signal Analyser	Keysight Technologies	N9020B	6876	24	31-Aug-2026
1m SMA Cable	Junkosha	MWX221-01000AMSAMS/B	6921	12	08-Dec-2025

Table 13

2.7 Radiated Spurious Emissions

2.7.1 Specification Reference

FCC 47 CFR Part 87, Clause 87.139
FCC 47 CFR Part 2, Clause 2.1053
ISED RSS-141, Clause 5.2
ISED RSS-GEN, Clause 6.13

2.7.2 Equipment Under Test and Modification State

PJ2 GPS, S/N: 4

2.7.3 Date of Test

14-January-2026

2.7.4 Test Method

VHF transmitter

A preliminary profile of the Radiated Spurious Emissions was obtained up to the 10th harmonic by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber.

Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

The limit was based on conducted power results. This would be 32 dBm - 40dB = -8 dBm.
Based on Power test, the channel spacing was set on 25kHz.

The EUT was powered with 7.5 VDC internal battery.

The antenna port was terminated with a 50 ohm load as per ANSI C63.4, Clause 8.1.

Testing was performed in accordance with ANSI C63.26, Clause 5.5.

Prescans and final measurements were performed using the direct field strength method.

Field strength measurements were performed and then converted to Equivalent Power Measurements in accordance with ANSI C63.26, Clause 5.2.7 equation c)

Example calculation:

E (dBuV/m) + 20log(d) - 104.8 = EIRP (dBm) where (d) is the measurement distance.

82.2 (dBuV/m) + 20log(3) – 104.8 = EIRP (dBm)

-13.0 = EIRP (dBm)

2.7.5 Example Test Setup Diagram

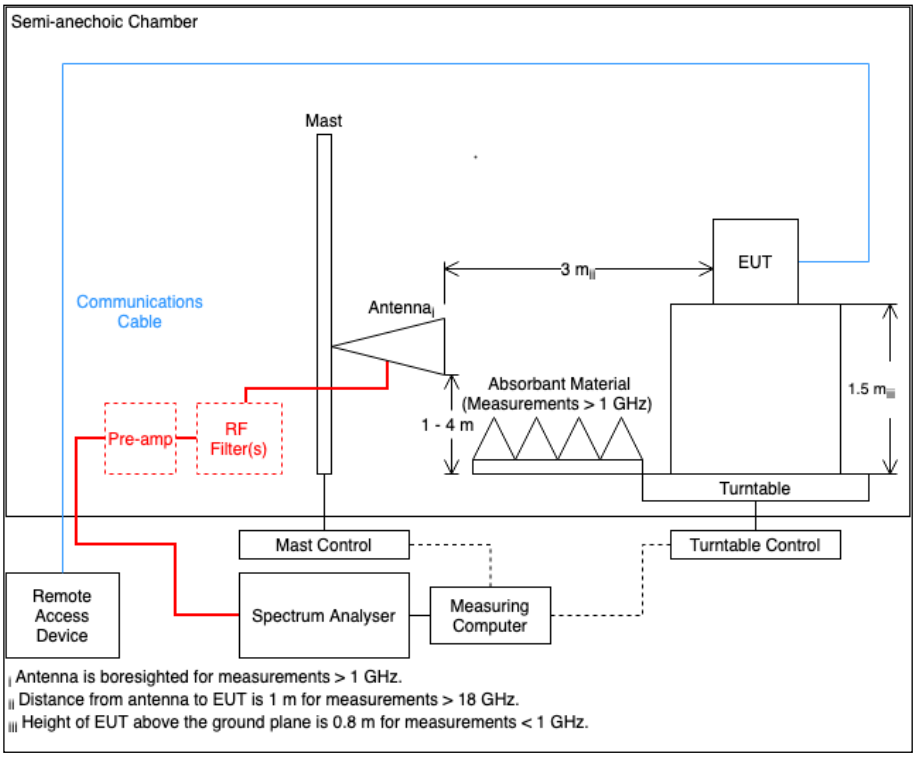

Figure 47

2.7.6 Environmental Conditions

Ambient Temperature	18.6 °C
Relative Humidity	41.6 %

2.7.7 Test Results

VHF transmitter

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 14 - 118 MHz – Tx Bottom Channel, 118.000 MHz, X Orientation, 30 MHz to 2 GHz

*No emissions were detected within 10 dB of the limit.

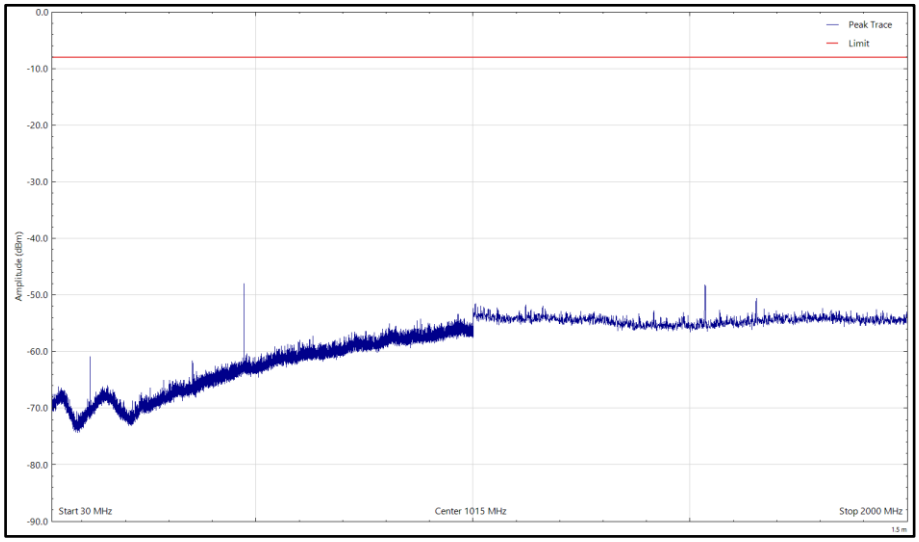

Figure 48 - Tx Bottom Channel, 118.000 MHz, X Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

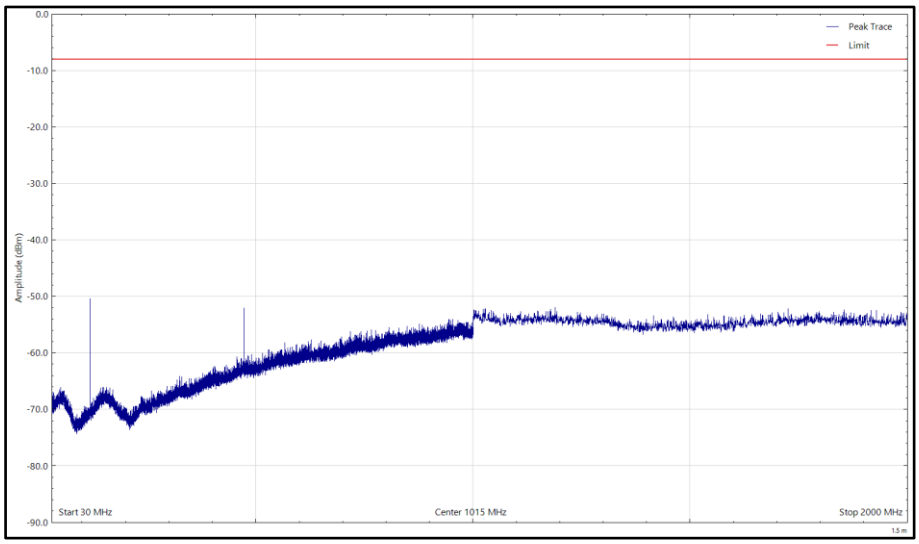

Figure 49 - Tx Bottom Channel, 118.000 MHz, X Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 15 - 118 MHz – Tx Bottom Channel, 118.000 MHz, Y Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

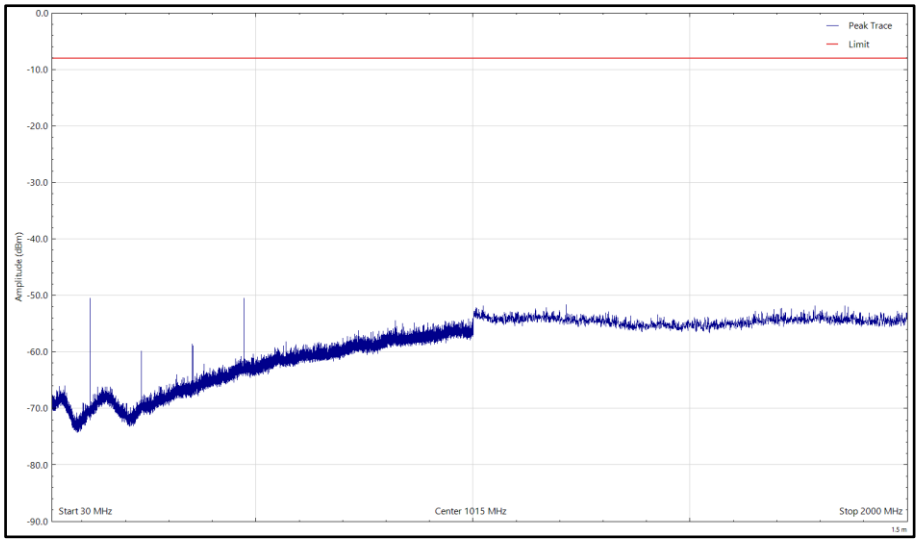

Figure 50 - Tx Bottom Channel, 118.000 MHz, Y Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

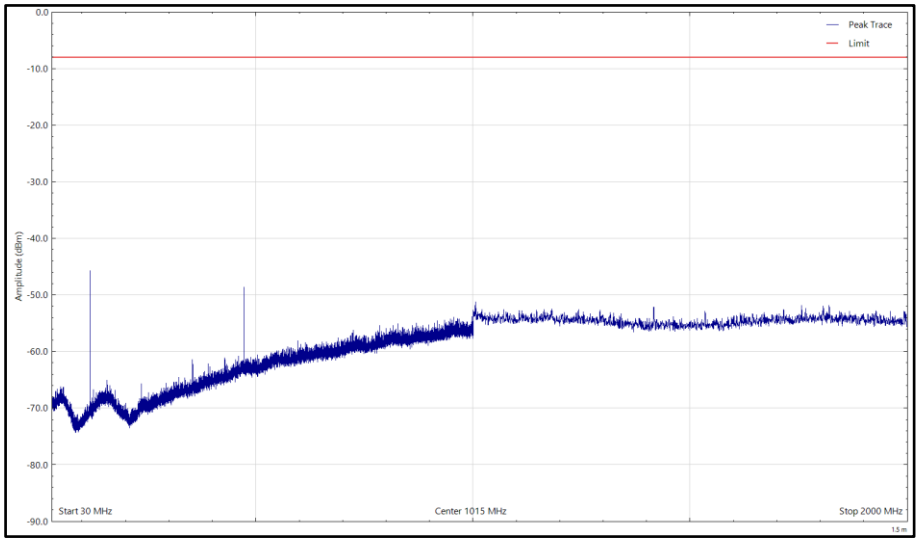

Figure 51 - Tx Bottom Channel, 118.000 MHz, Y Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 16 - Tx Bottom Channel, 118.000 MHz, Z Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

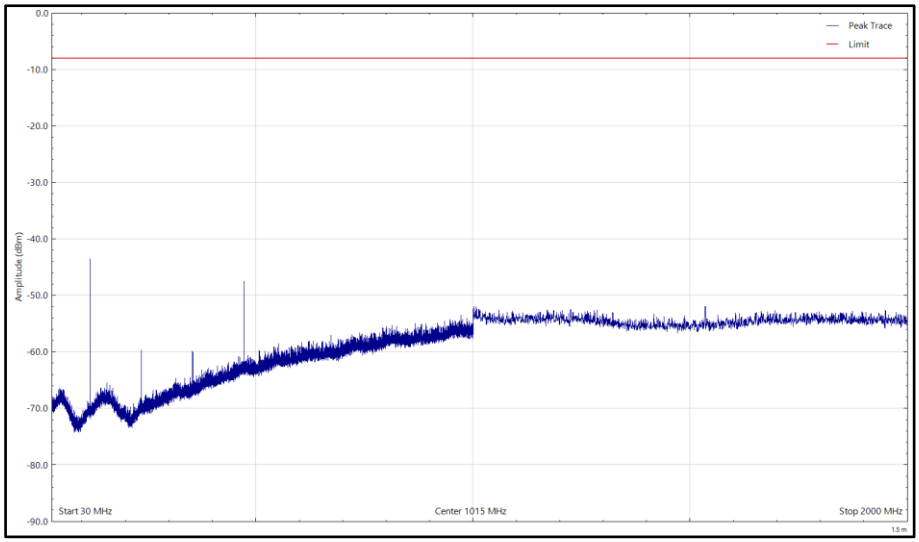

Figure 52 - Tx Bottom Channel, 118.000 MHz, Z Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

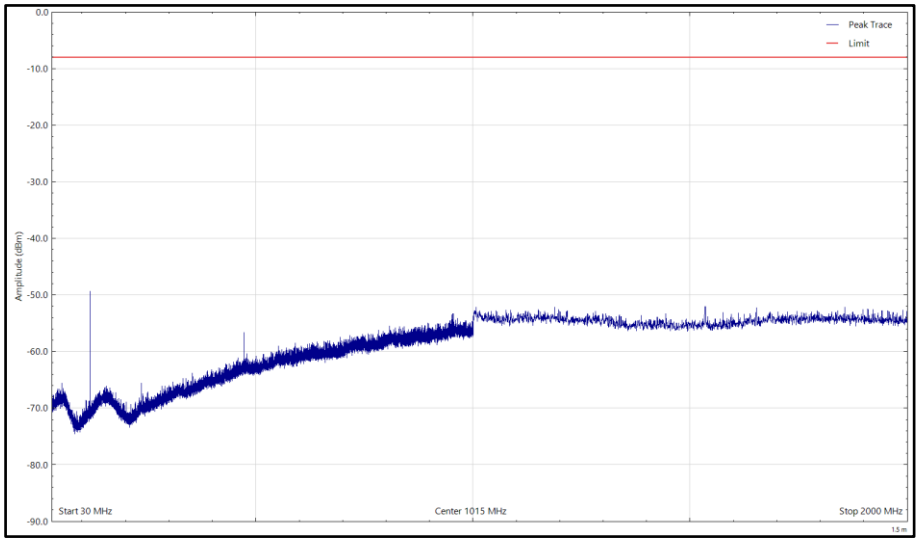

Figure 53 - Tx Bottom Channel, 118.000 MHz, Z Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 17 – Tx Middle Channel, 127.500 MHz, X Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

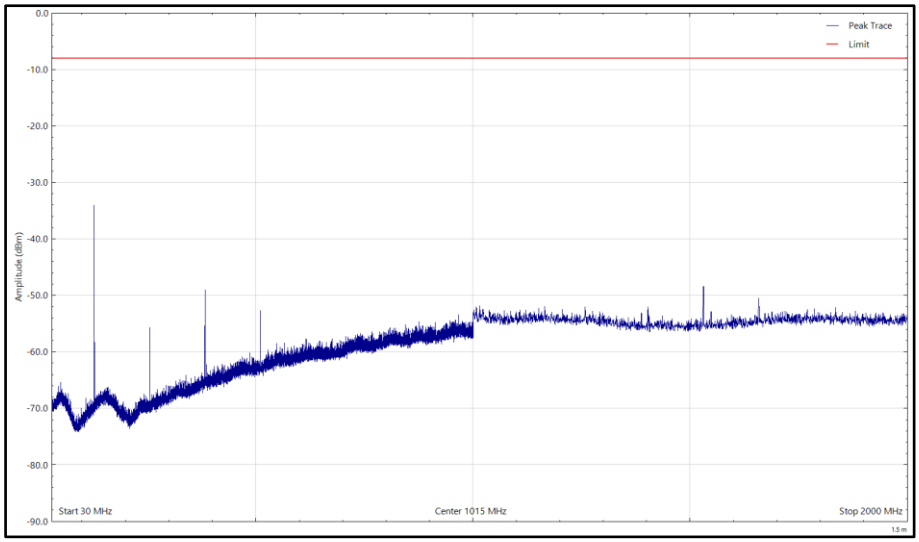

Figure 54 - Tx Middle Channel, 127.500 MHz, X Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

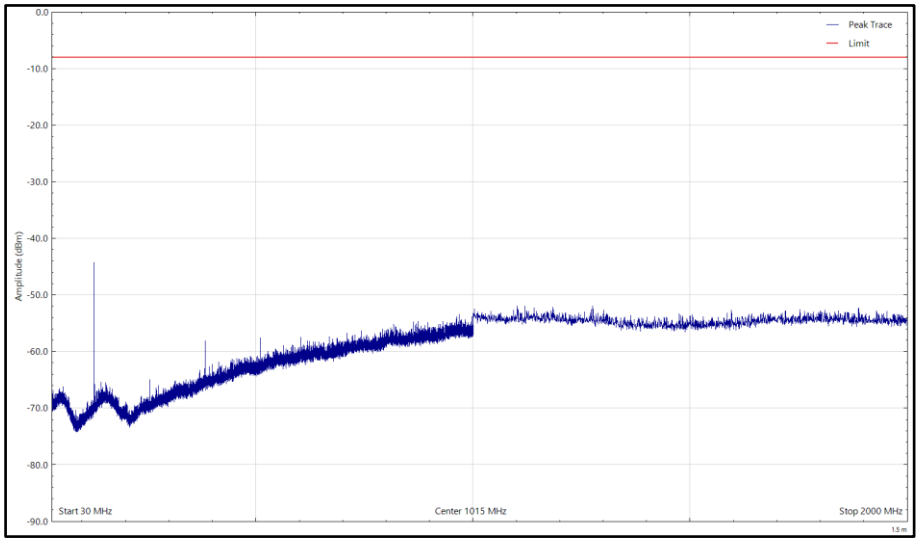

Figure 55 - Tx Middle Channel, 127.500 MHz, X Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 18 – Tx Middle Channel, 127.500 MHz, Y Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

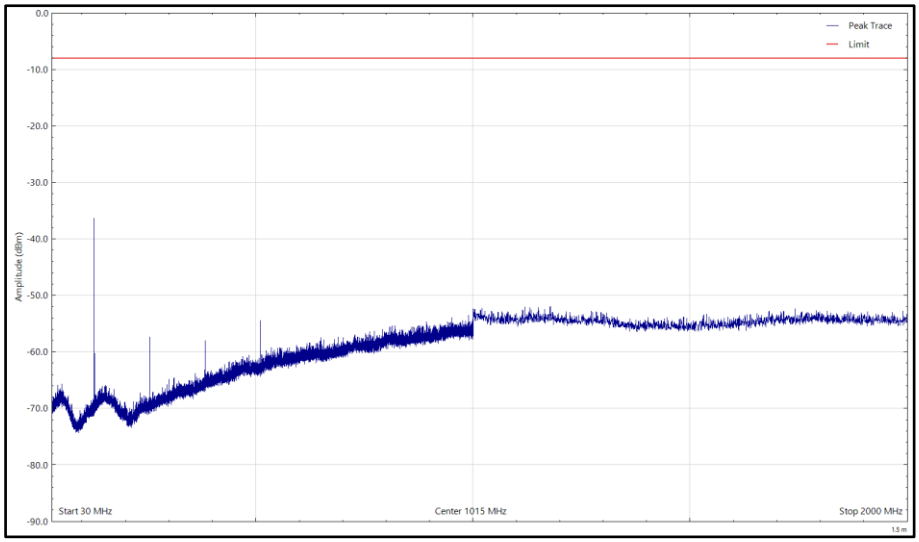

Figure 56 - Tx Middle Channel, 127.500 MHz, Y Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

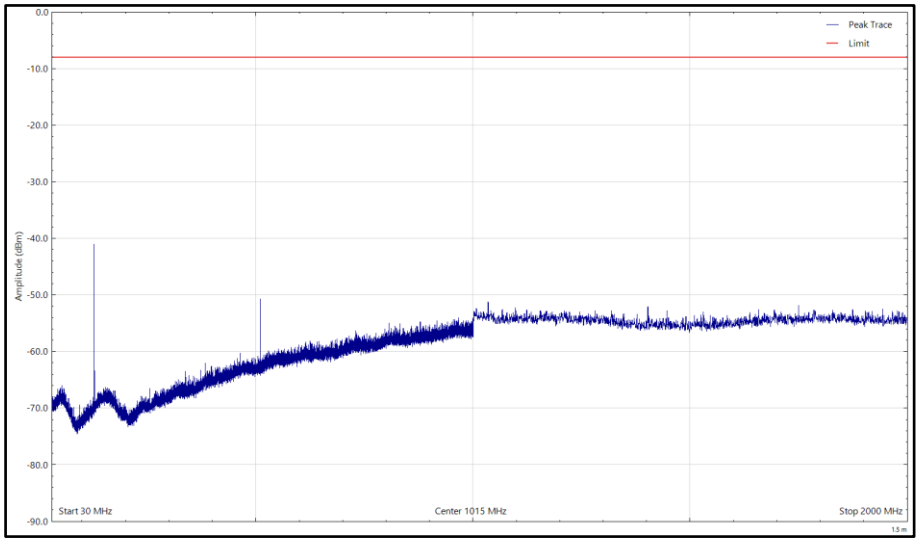

Figure 57 - Tx Middle Channel, 127.500 MHz, Y Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 19 – Tx Middle Channel, 127.500 MHz, Z Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

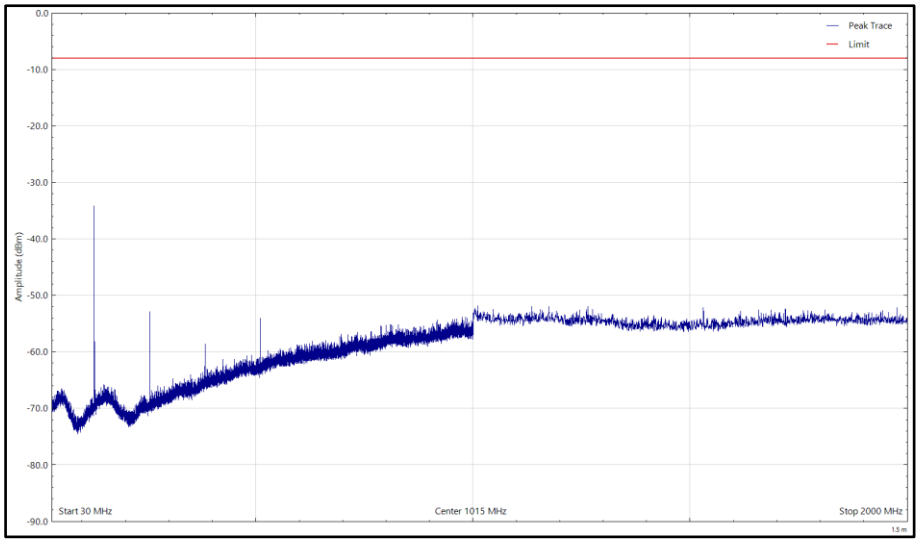

Figure 58 - Tx Middle Channel, 127.500 MHz, Z Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

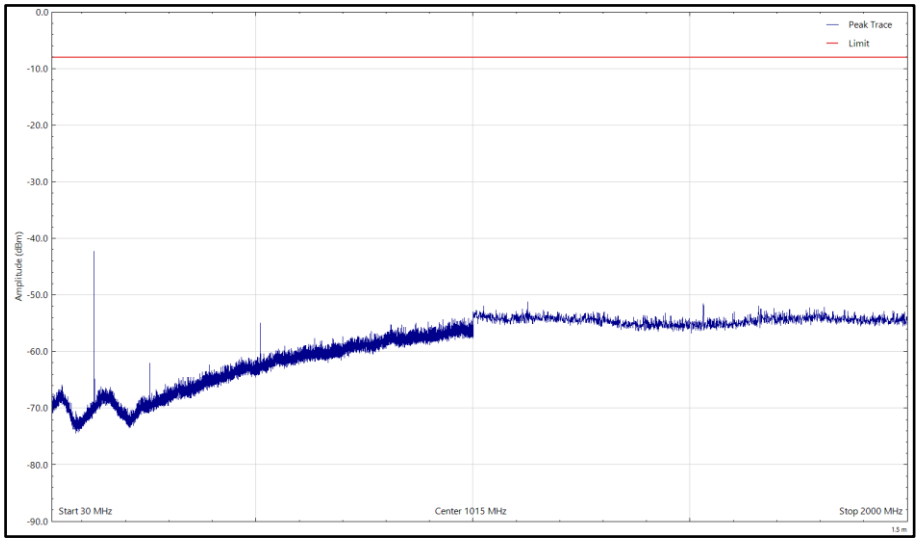

Figure 59 - Tx Middle Channel, 127.500 MHz, Z Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 20 – Tx Top Channel, 136.975 MHz, X Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

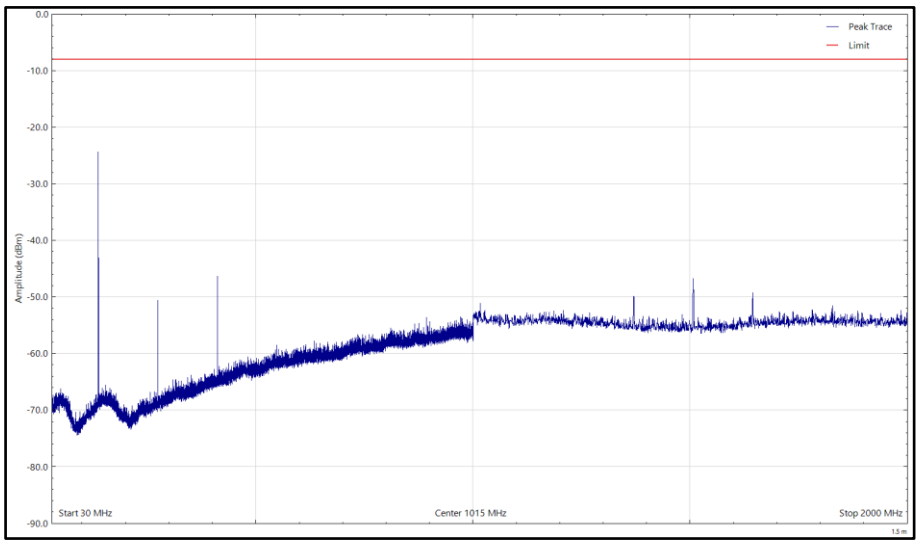

Figure 60 - Tx Top Channel, 136.975 MHz, X Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

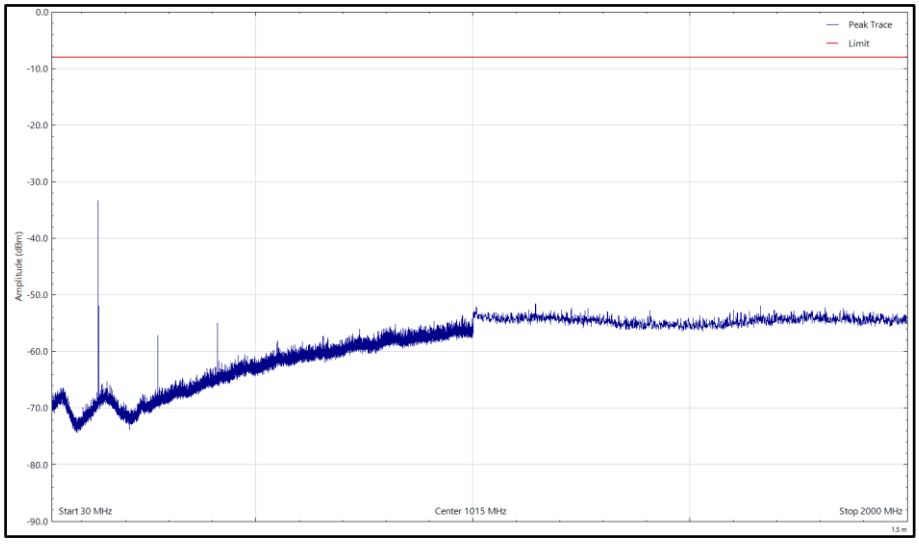

Figure 61 - Tx Top Channel, 136.975 MHz, X Orientation, 30 MHz to 2 GHz, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 21 – Tx Top Channel, 136.975 MHz, Y Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

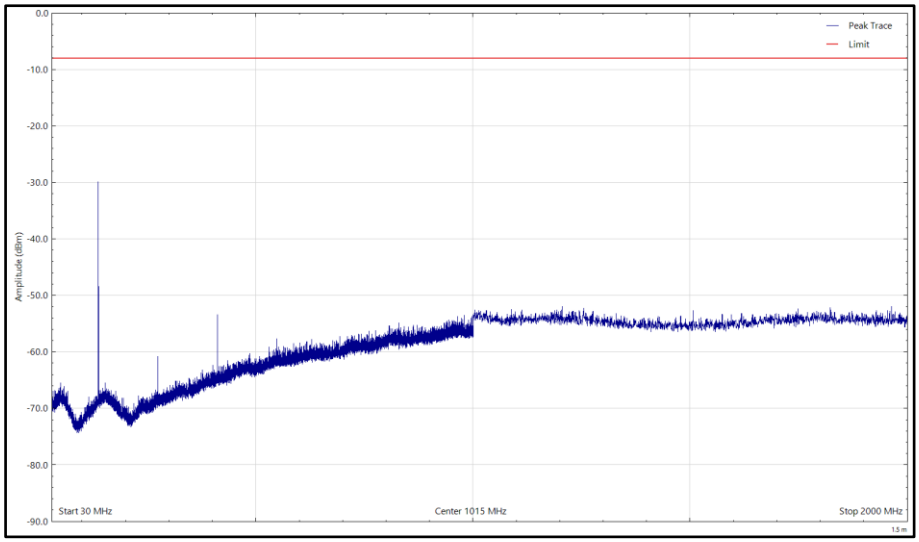

Figure 62 - Tx Top Channel, 136.975 MHz, Y Orientation, Horizontal (Peak)

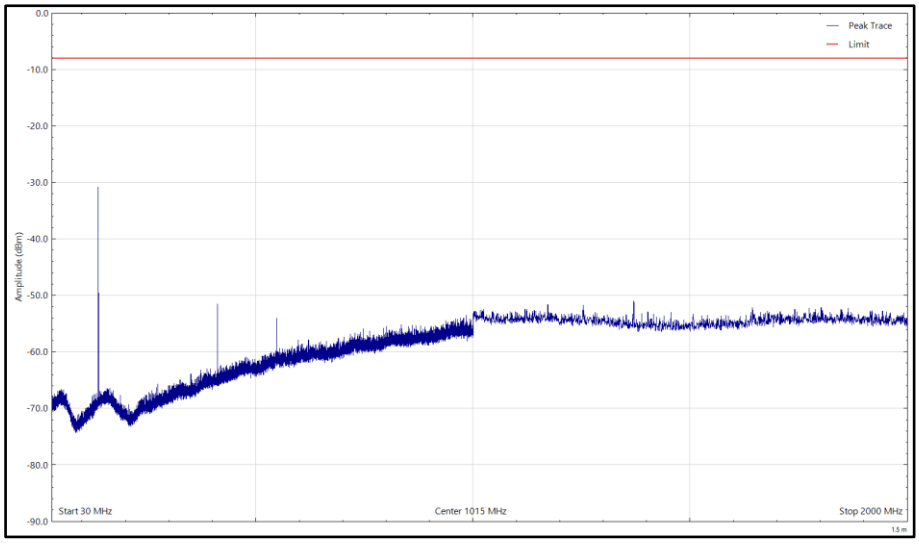

Figure 63 - Tx Top Channel, 136.975 MHz, Y Orientation, Vertical (Peak)

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
*							

Table 22 – Tx Top Channel, 136.975 MHz, Z Orientation, 30 MHz to 2 GHz

*No emissions found within 10 dB of the limit.

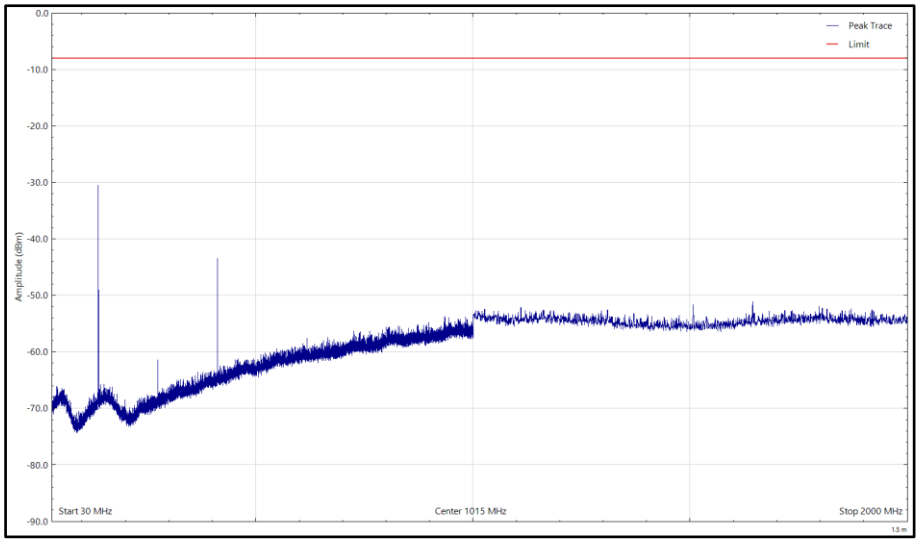

Figure 64 - Tx Top Channel, 136.975 MHz, Z Orientation, 30 MHz to 2 GHz, Horizontal (Peak)

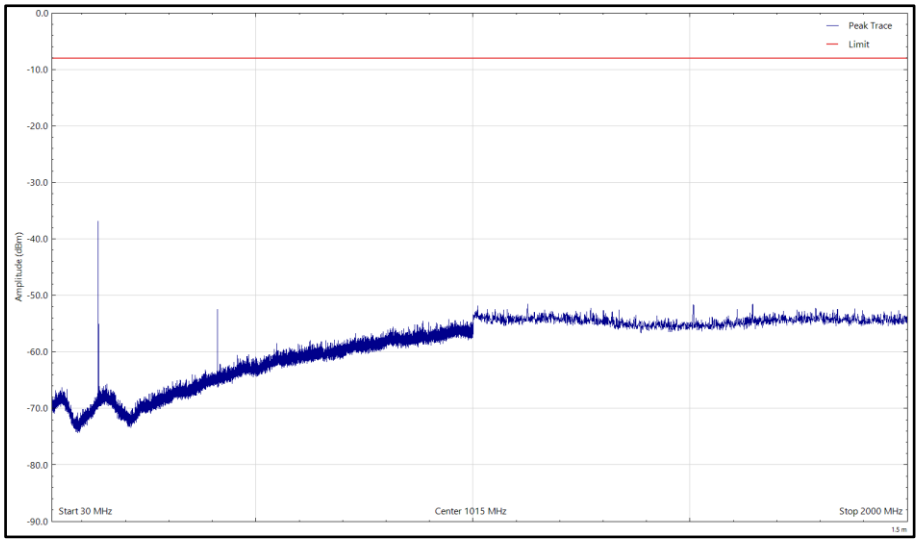

Figure 65 - Tx Top Channel, 136.975 MHz, Z Orientation, 30 MHz to 2 GHz, Vertical (Peak)

FCC 47 CFR Part 87, Limit Clause 87.139 (a)

Except for ELTs and when using single sideband (R3E, H3E, J3E), or frequency modulation (F9) or digital modulation (F9Y) for telemetry or telecommand in the 1435-1525 MHz, 2345-2395 MHz, or 5091–5150 MHz band or digital modulation (G7D) for differential GPS, the mean power of any emissions must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB;

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43 + 10 log10 pY dB.

ISED RSS-141, Limit Clause 5.2

For transmitters with A3E or A9W emissions, the mean power of any emissions shall be attenuated below the mean power of the transmitter, P as follows:

(a) When the frequency is removed from the equipment’s channel centre frequency by more than 50% up to and including 100% of the channel bandwidth, the attenuation shall be at least 25 dB, measured with a bandwidth of 300 Hz;
(b) When the frequency is removed from the equipment’s channel centre frequency by more than 100% up to and including 250% of the channel bandwidth, the attenuation shall be at least 35 dB, measured with a bandwidth of 300 Hz;
(c) When the frequency is removed from the equipment’s channel centre frequency by more than 250% of the channel bandwidth, the attenuation for on-board aircraft transmitters shall be at least 40 dB; and the attenuation for ground transmitters shall be at least 43 + 10 log10 P (in watts) dB, measured with a bandwidth of 3 kHz.

2.7.8 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Multimeter	Iso-tech	IDM101	2421	12	11-Nov-2026
Termination (50ohm, 2W)	Omni-Spectra	3001-6100	3081	12	12-Mar-2026
Emissions Software	TUV SUD	EmX V3.6.1	5125	-	Software
3m Semi-Anechoic Chamber	Rainford	RF Chamber 11	5136	36	14-Nov-2027
Mast	Maturo	TAM 4.0-P	5158	-	TU
Mast and Turntable Controller	Maturo	Maturo NCD	5159	-	TU
Turntable	Maturo	TT 15WF	5160	-	TU
Antenna (DRG, 1 GHz to 10.5 GHz)	Schwarzbeck	BBHA9120B	5215	12	05-Jul-2026
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB-40	5475	12	28-Aug-2026
EMI Test Receiver	Rohde & Schwarz	ESW44	5527	12	14-Aug-2026
2m Coaxial Cable Assy	Junkosha	MWX221-02000AMSAMS/A	6360	12	13-May-2026
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	6557	12	18-Jun-2026
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9168	6635	24	25-Jul-2027
Cable Assy 8m (N to N) 18GHz	Junkosha	MWX221-08000NMSNMS/B	7049	12	01-Jun-2026

Table 23

TU - Traceability Unscheduled

3 Photographs

3.1 Test Setup Photographs

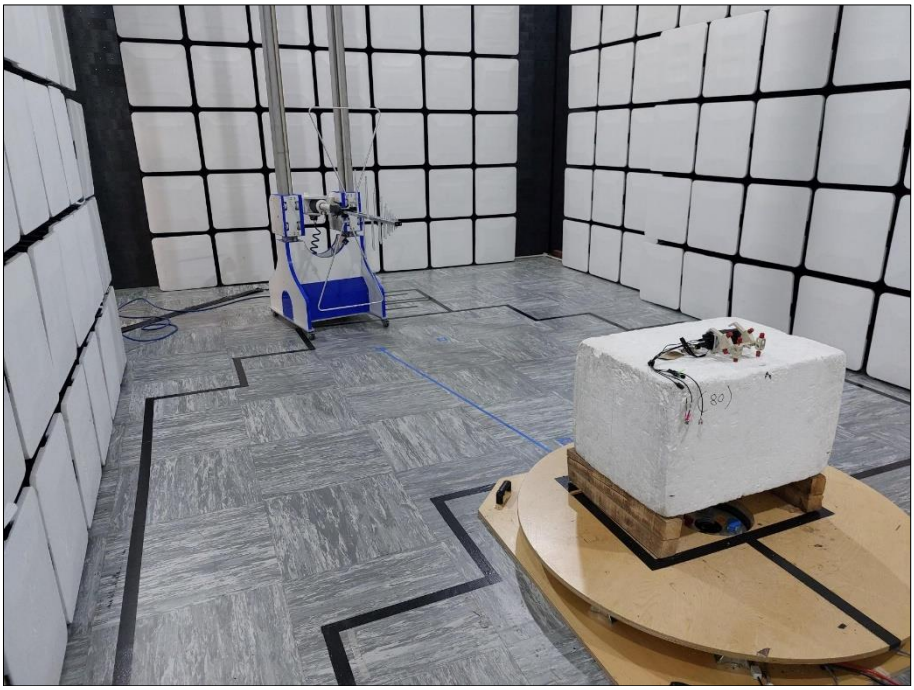

Figure 66 - Test Setup - 30 MHz to 1 GHz

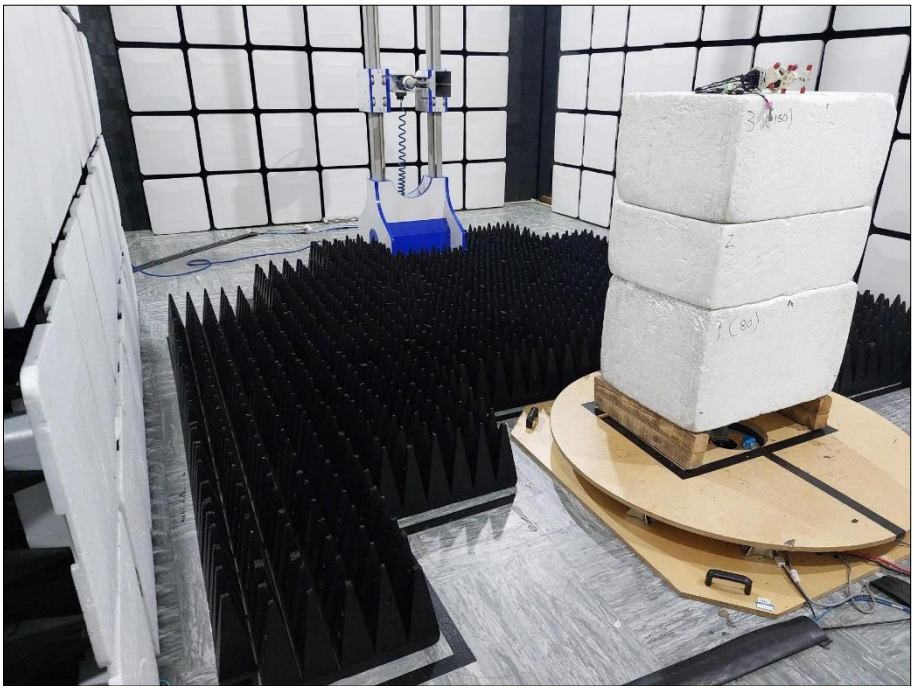

Figure 67 - Test Setup - 1 GHz to 2 GHz

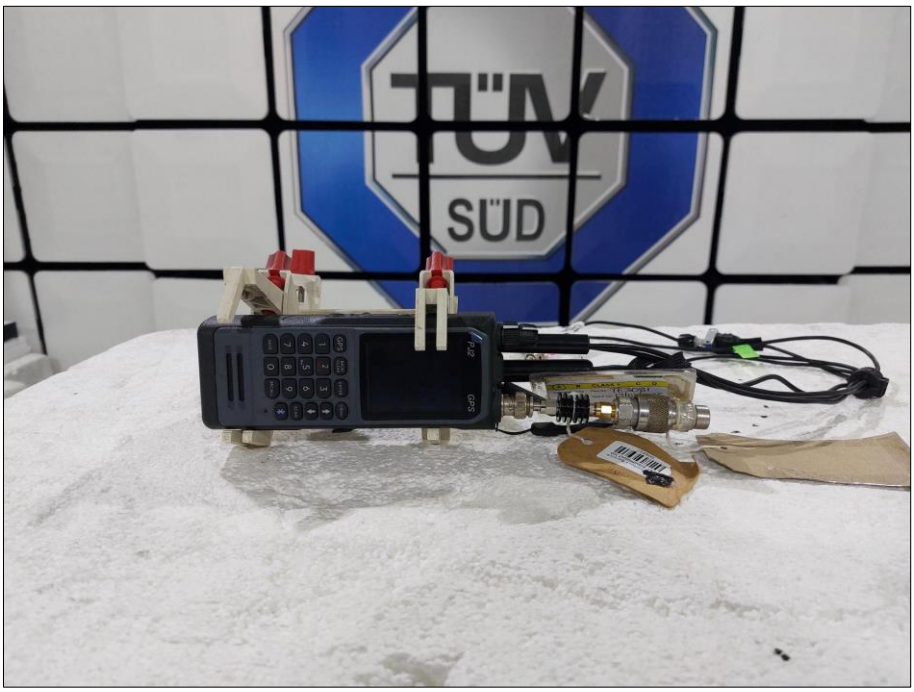

Figure 68 – X Orientation

Figure 69 – Y Orientation

Figure 70 - Z Orientation

4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Spurious Emissions at Antenna Terminals	± 3.454 dB
Power and Emissions	± 3.2 dB
Frequency Stability	± 12.11 Hz
Modulation Characteristics	-
Bandwidth of Emission	± 187.90 Hz
Radiated Spurious Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 18 GHz: ± 6.3 dB

Table 24

Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.