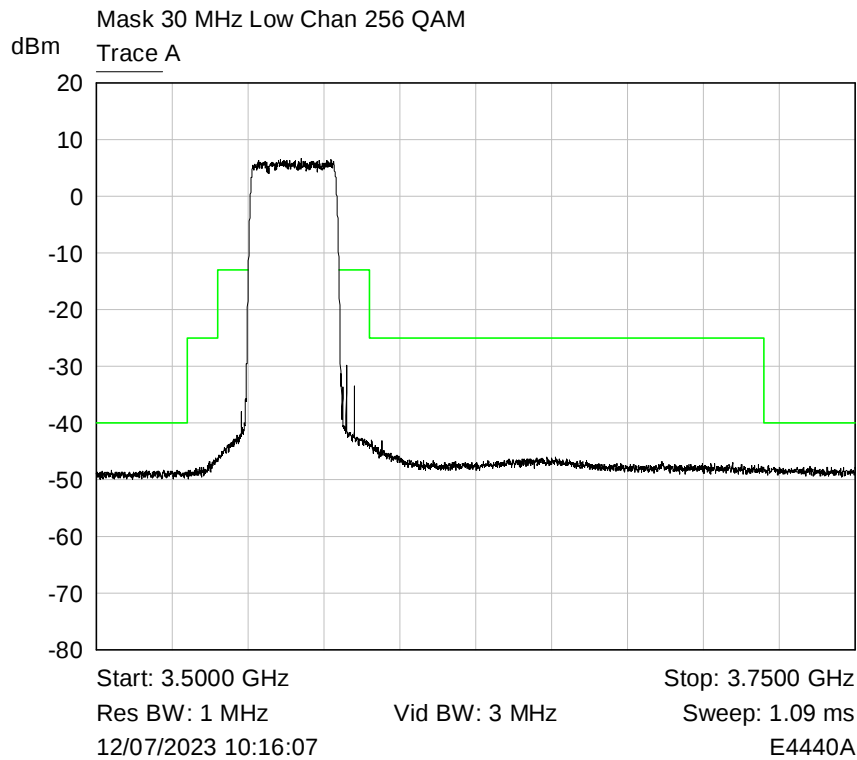
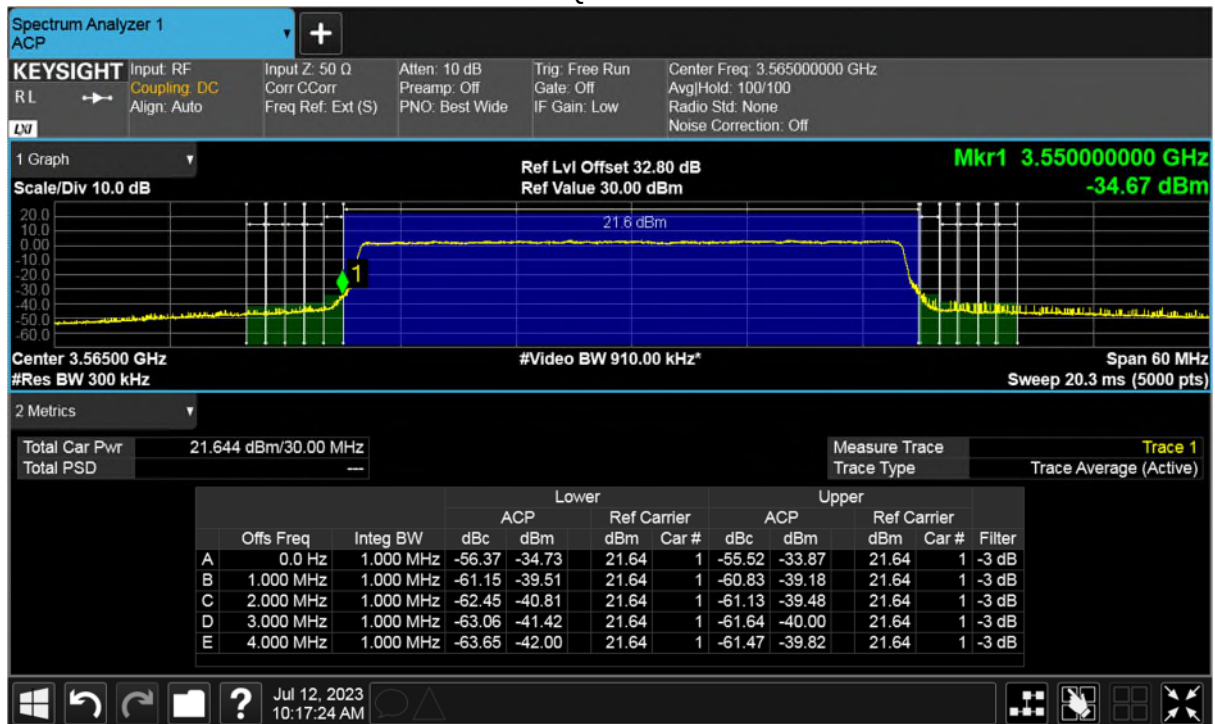


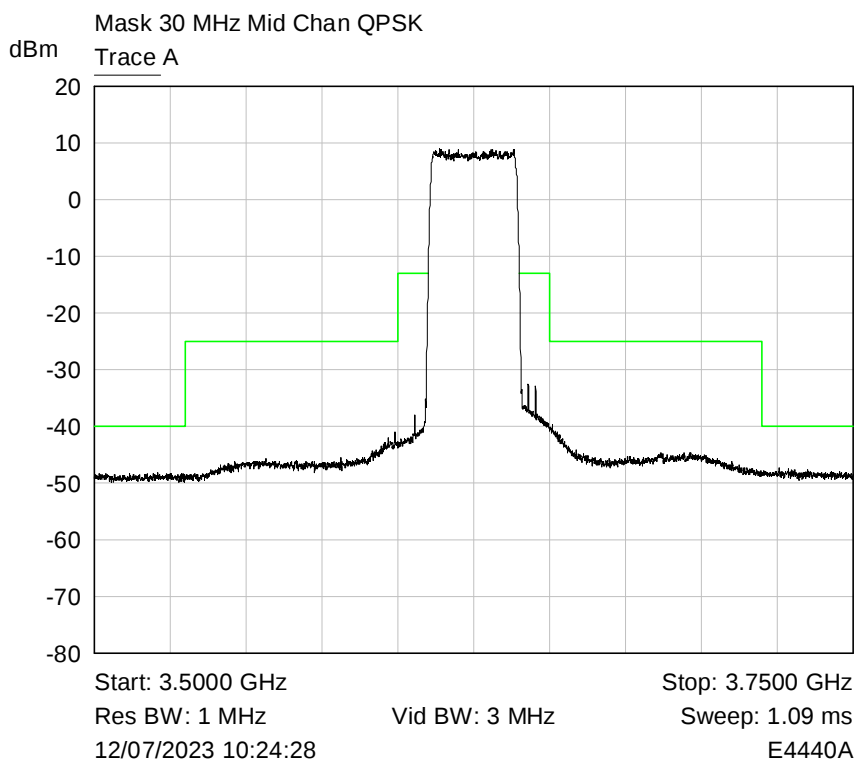


256QAM Mask

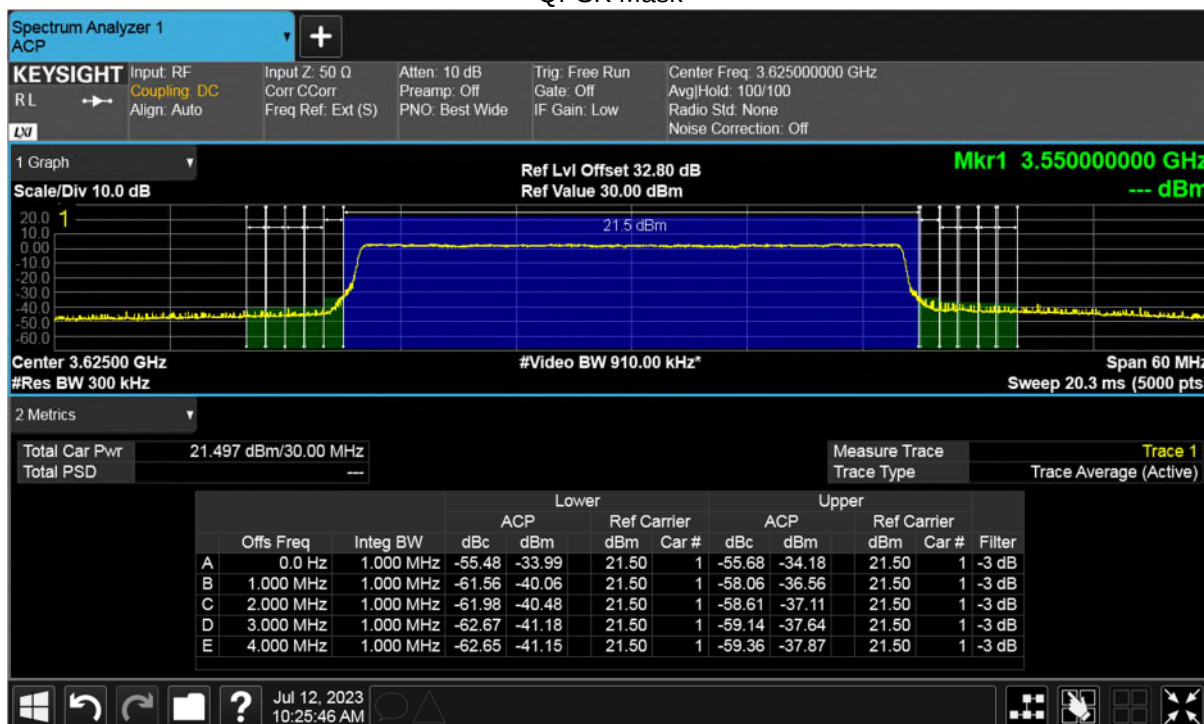


256QAM Band Edge

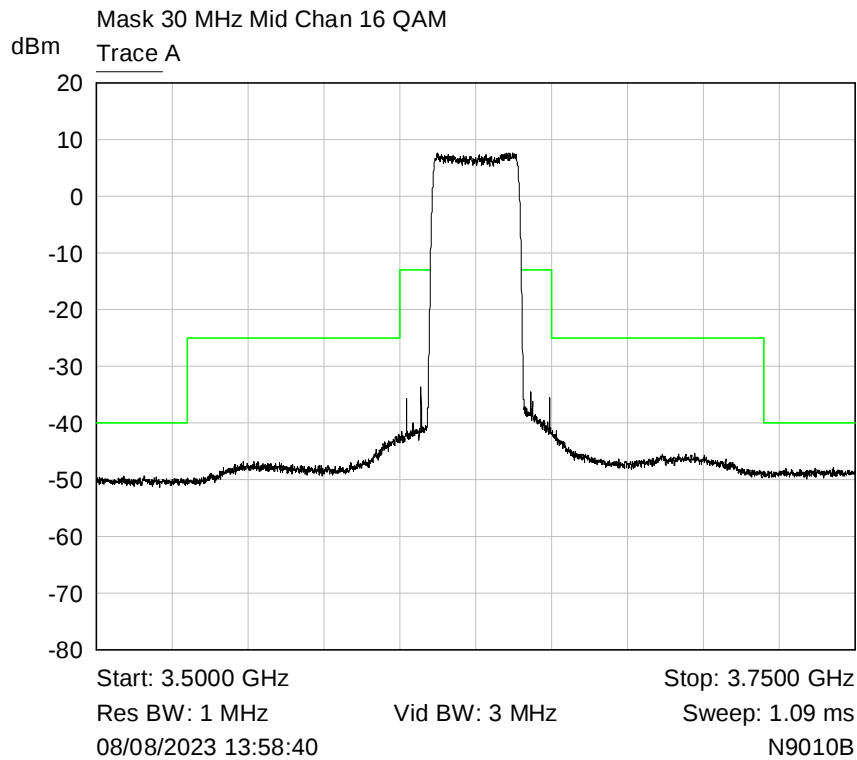
RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 30 MHz, Mid Channel



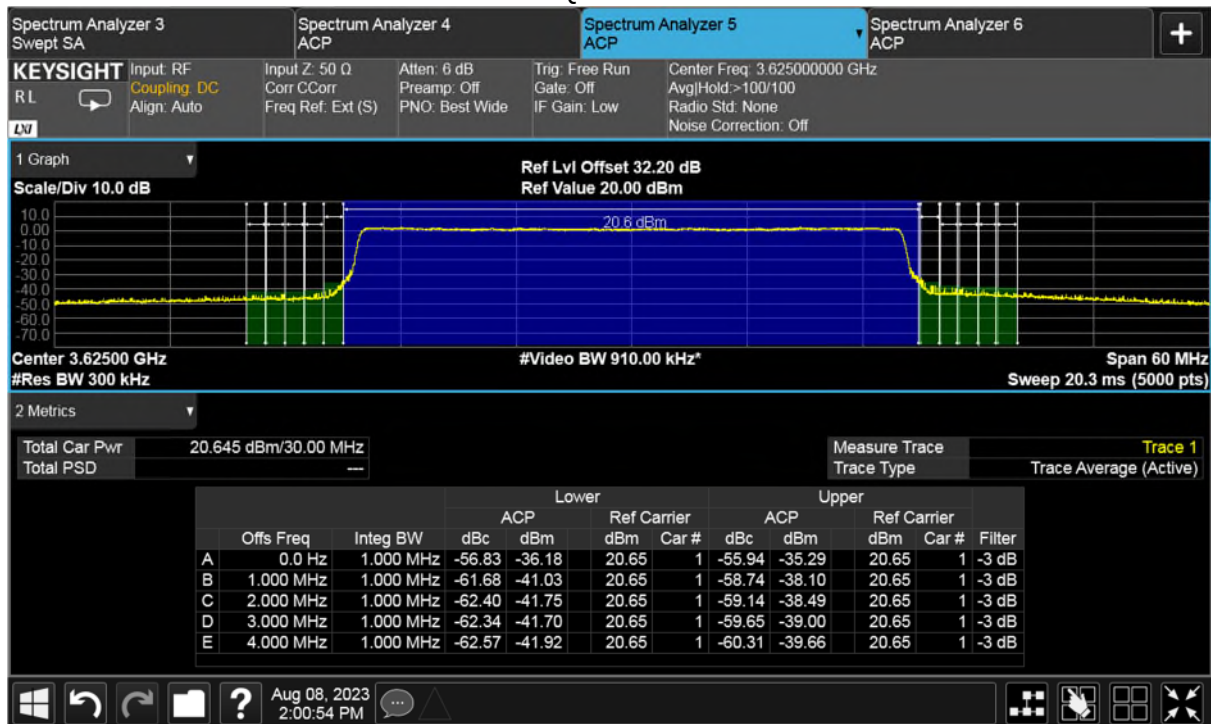
QPSK Mask



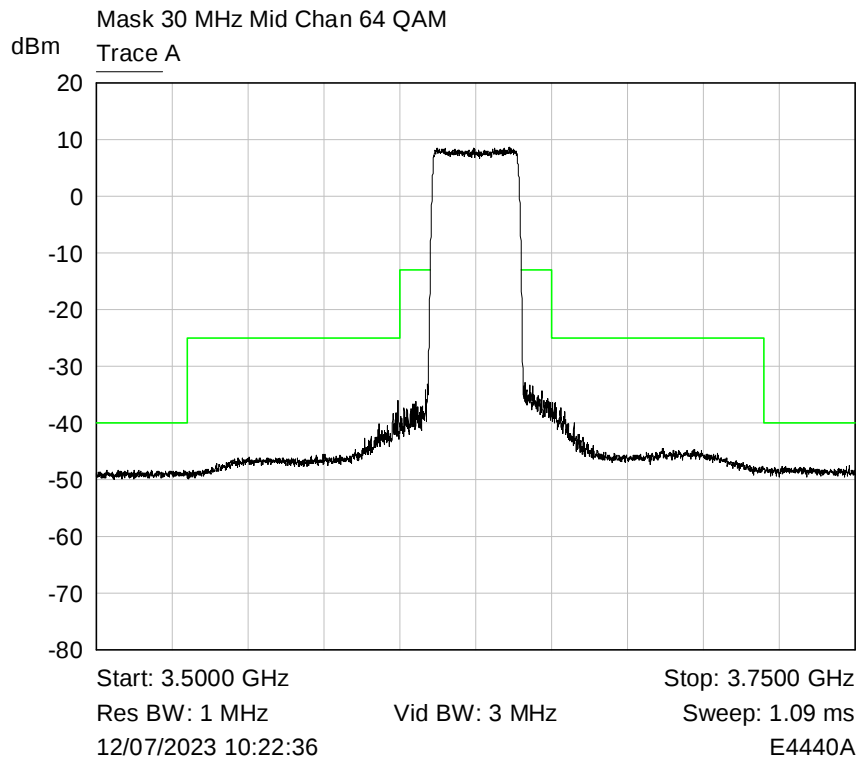
QPSK Band Edge



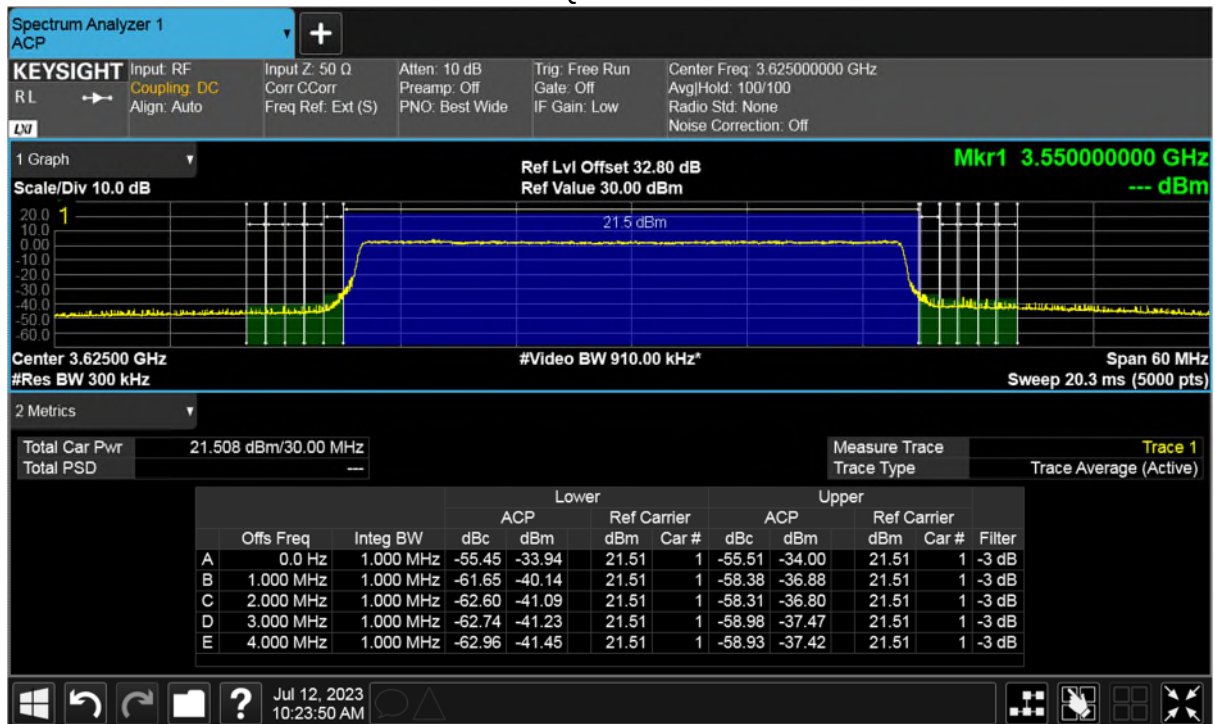
16QAM Mask



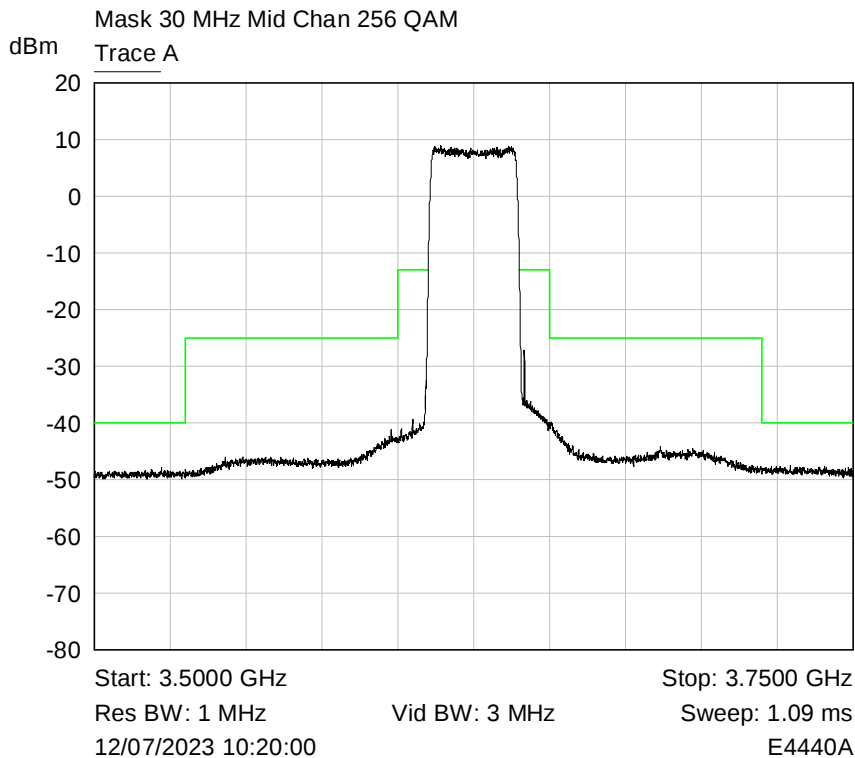
16QAM Band Edge



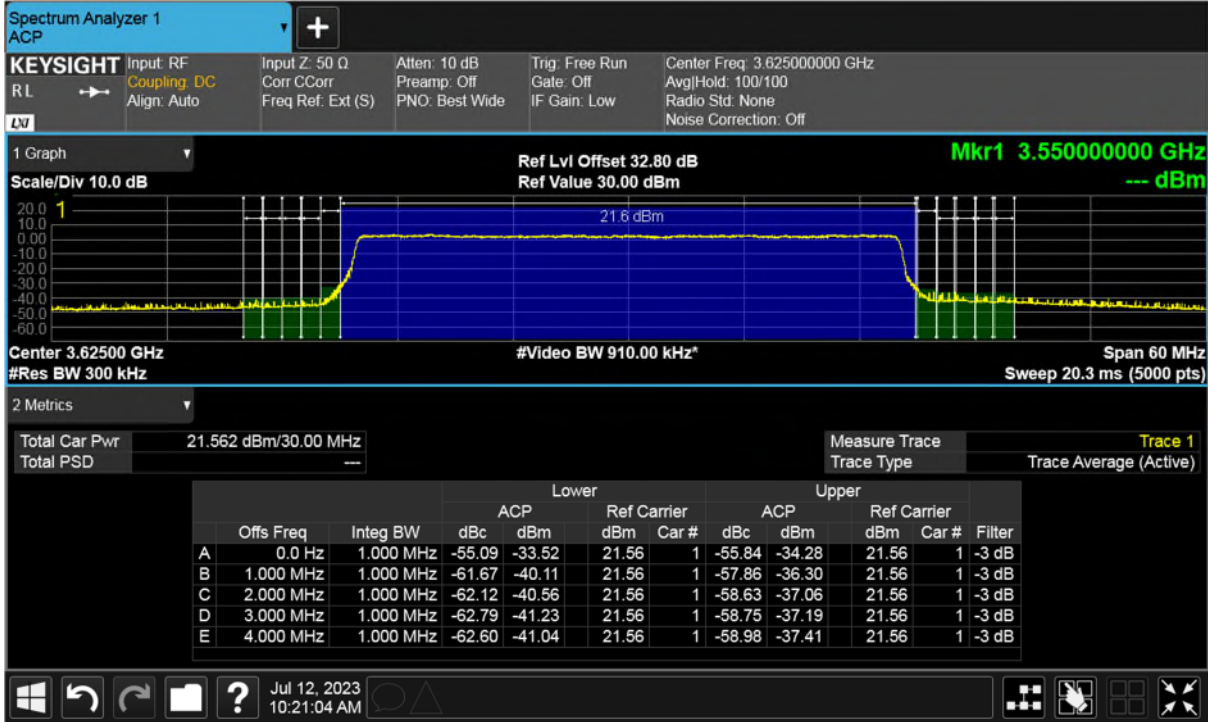
64QAM Mask



64QAM Band Edge

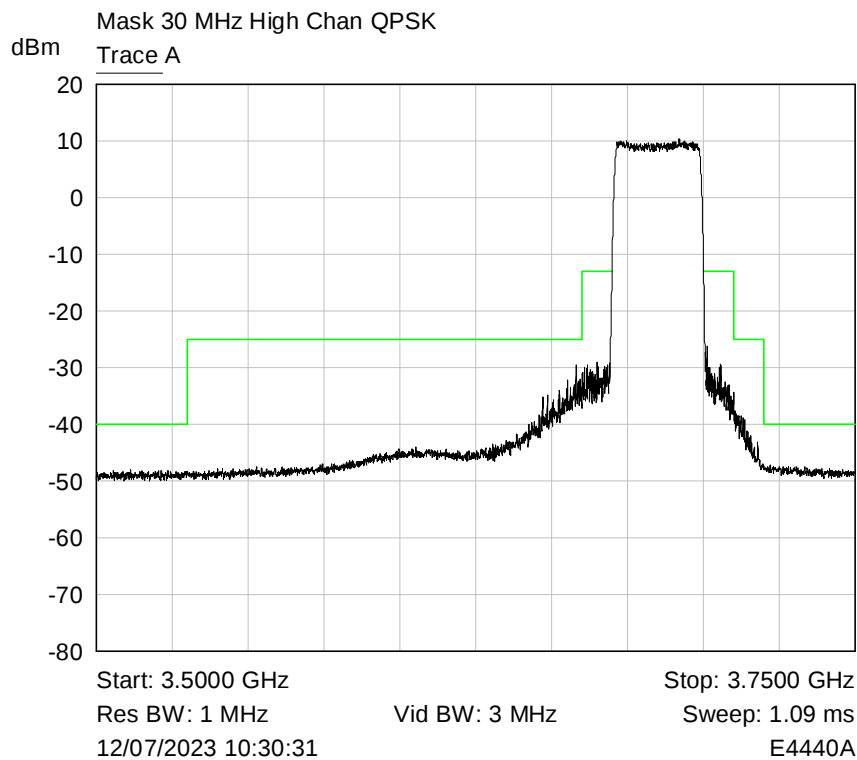


256QAM Mask

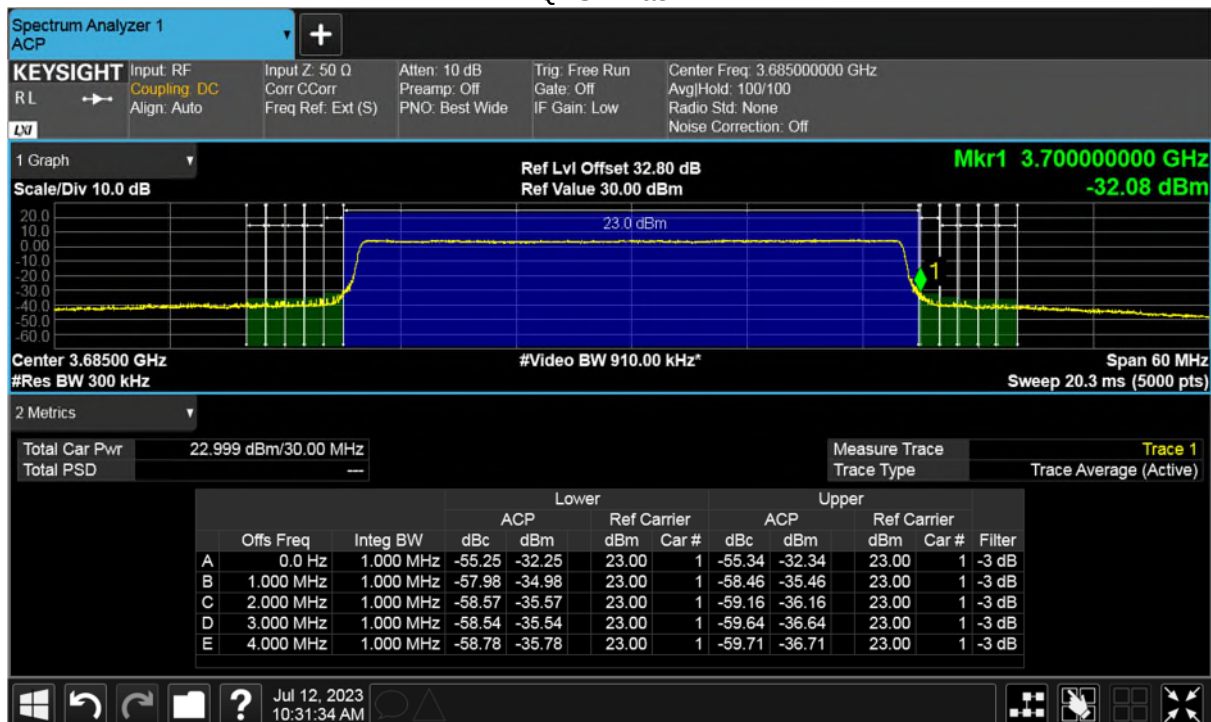


256QAM Band Edge

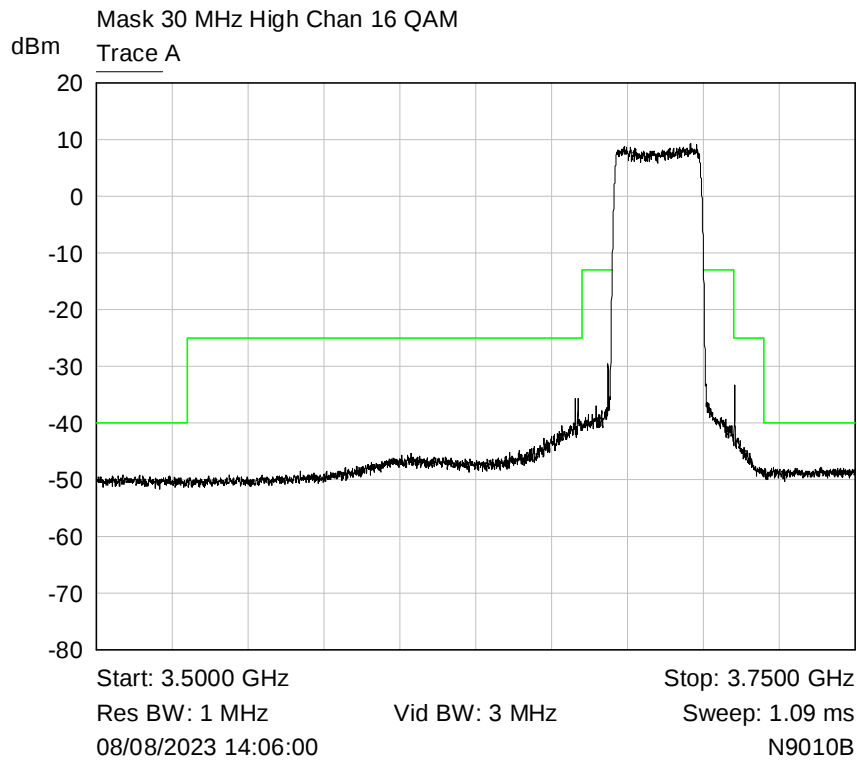
RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 30 MHz, High Channel



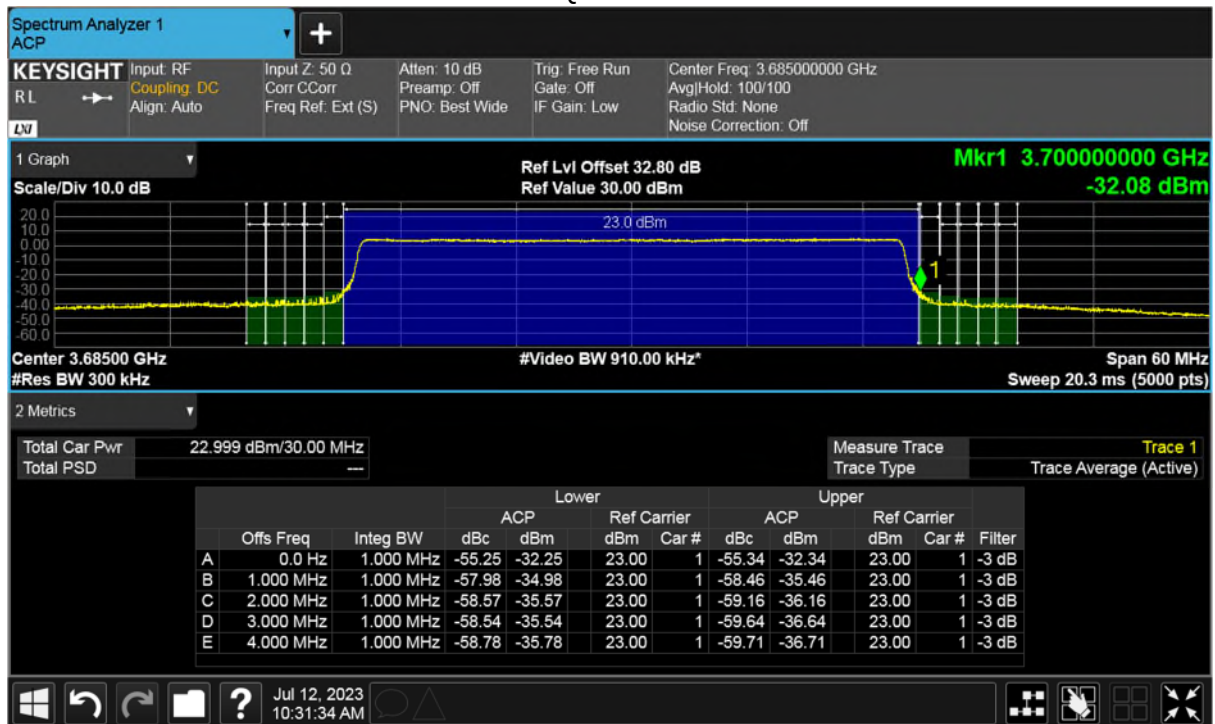
QPSK Mask



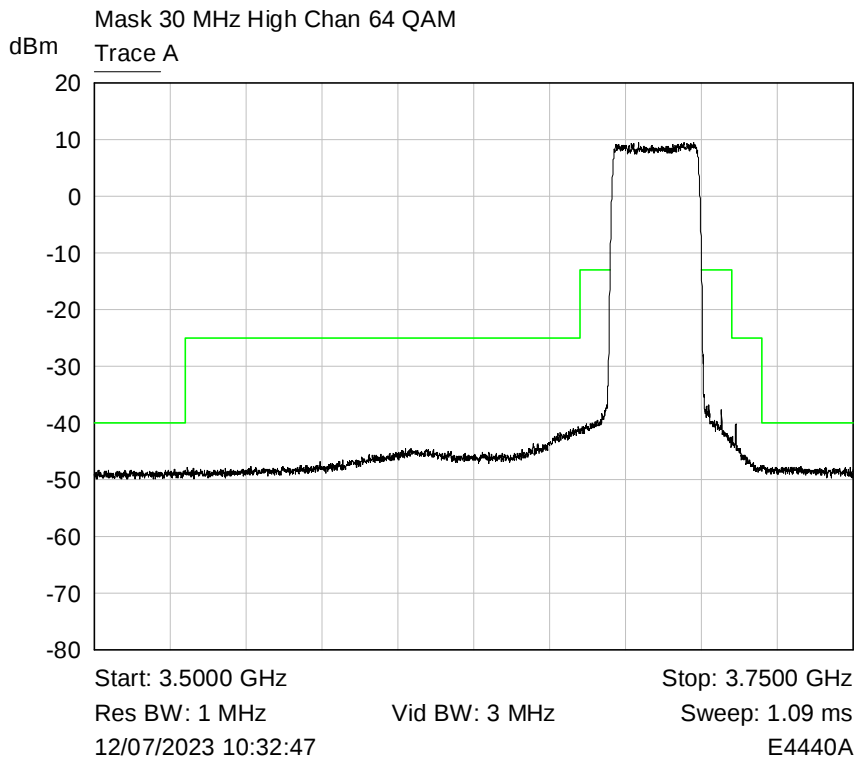
QPSK Band Edge



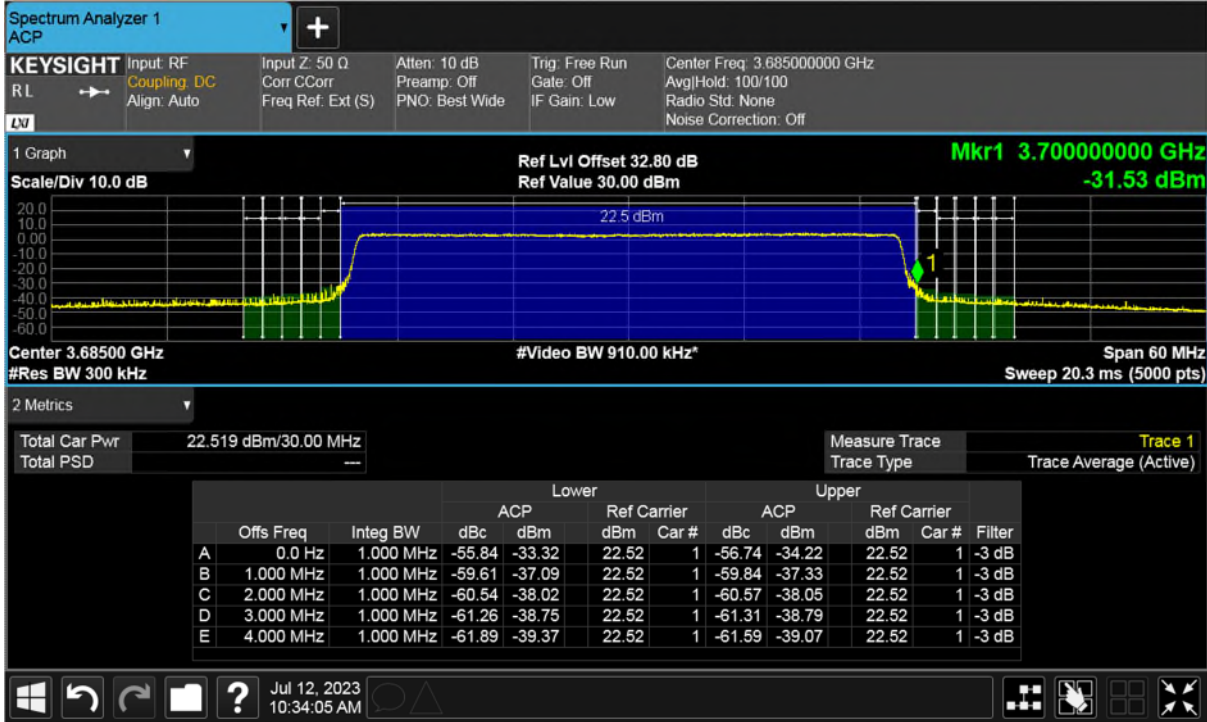
16QAM Mask



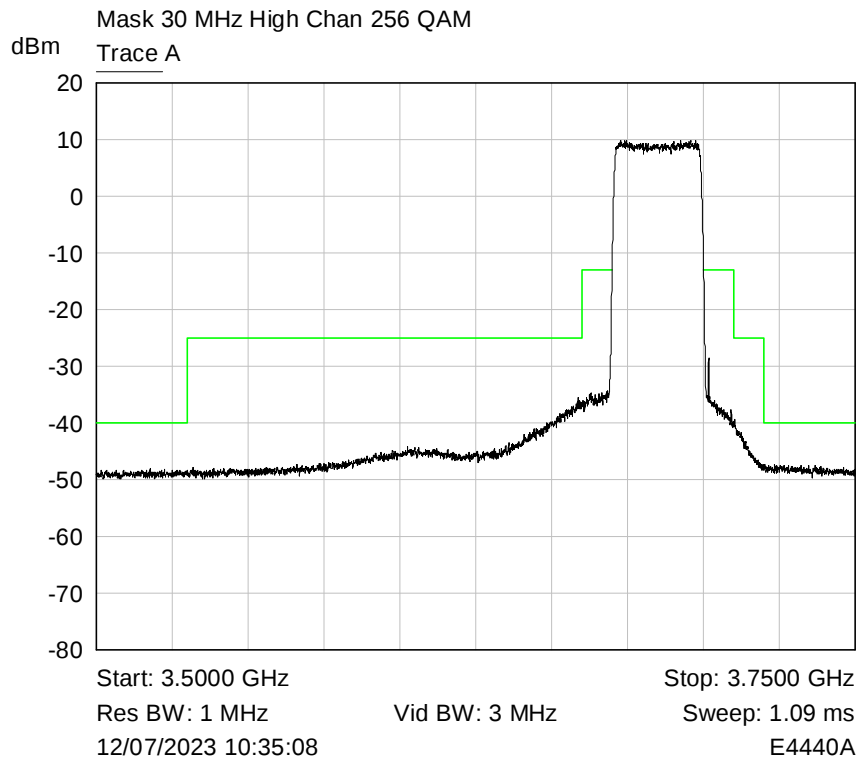
16QAM Band Edge



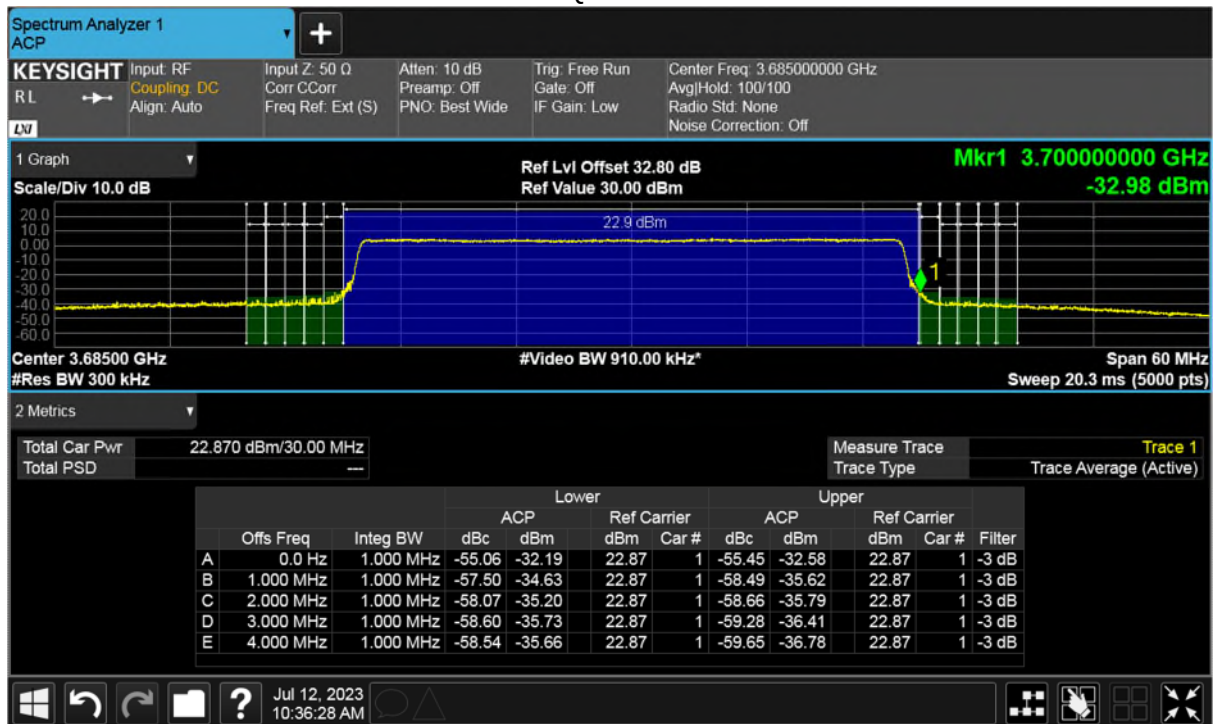
64QAM Mask



64QAM Band Edge

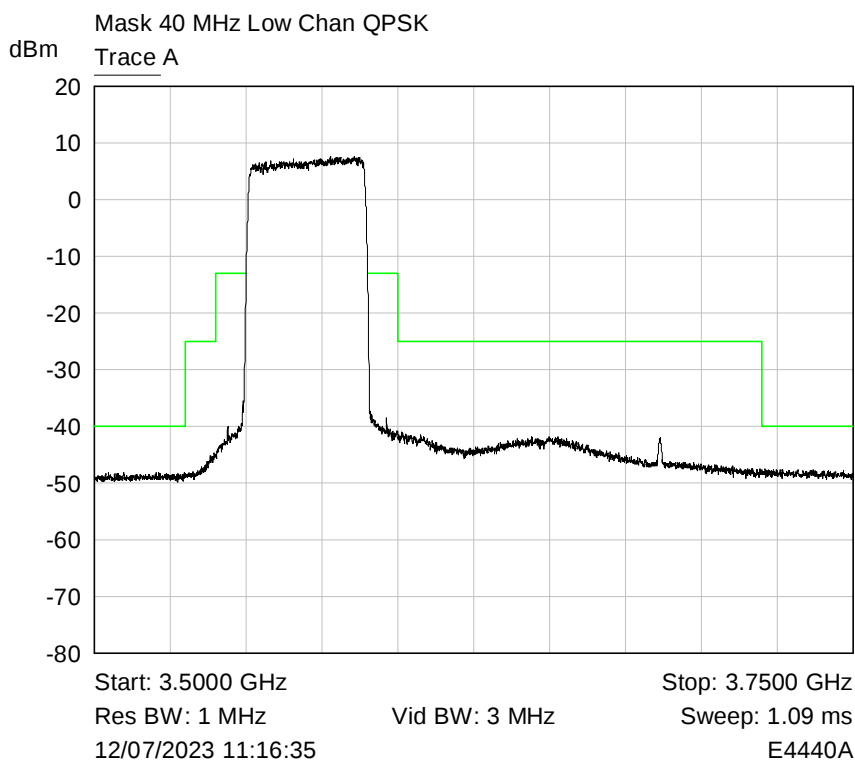


256QAM Mask

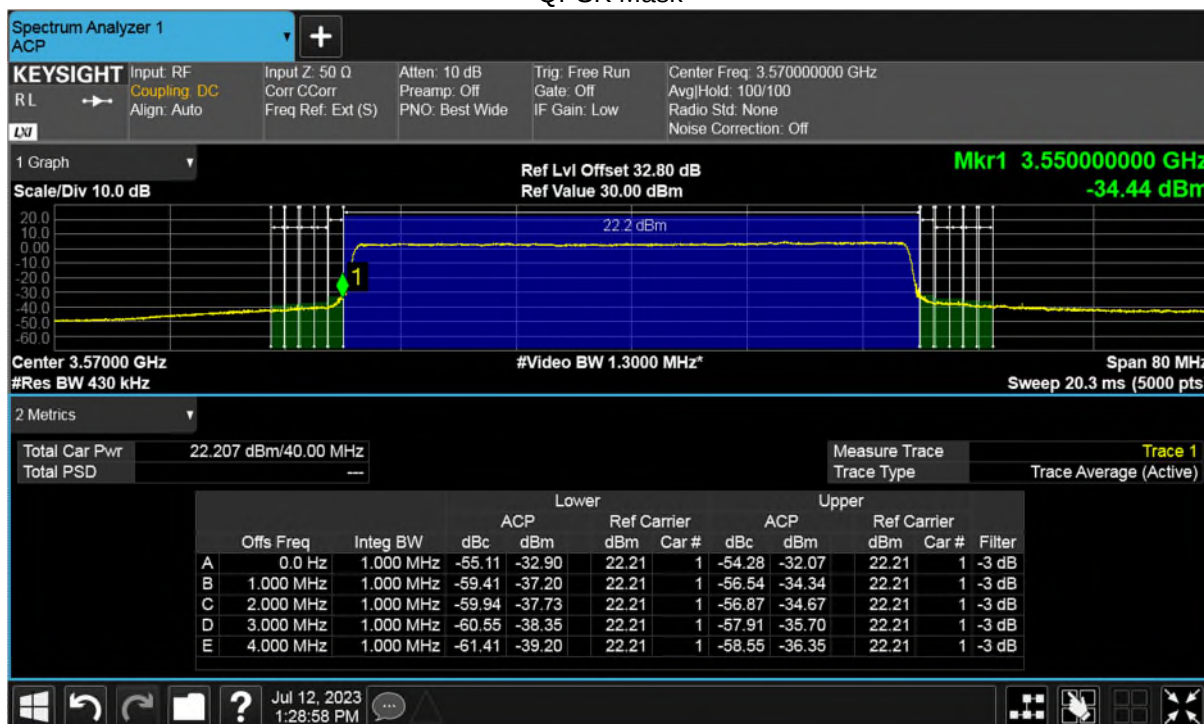


256QAM Band Edge

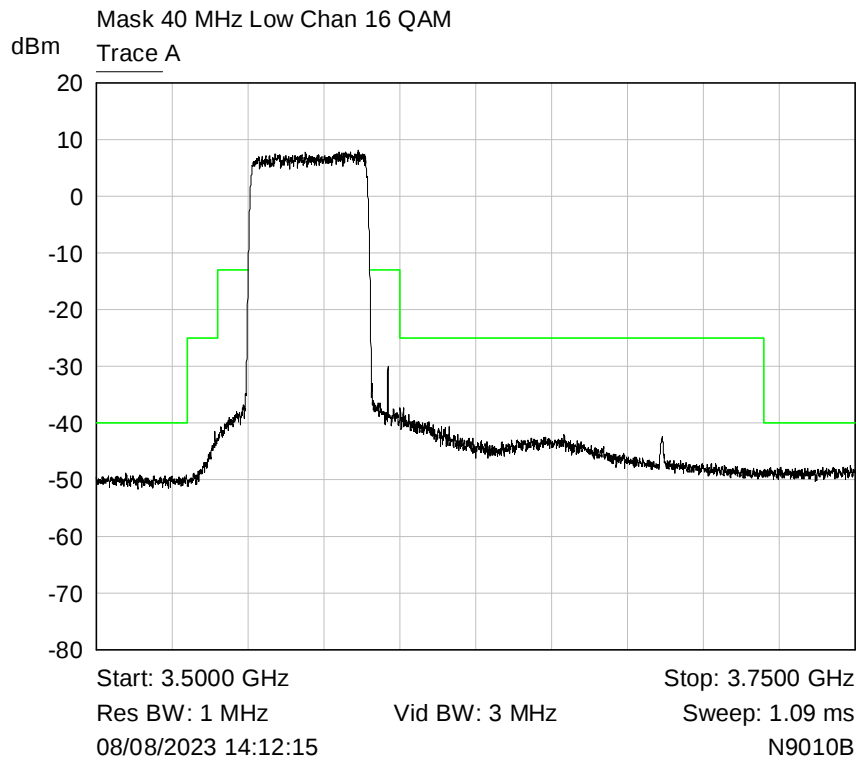
RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 40 MHz, Low Channel



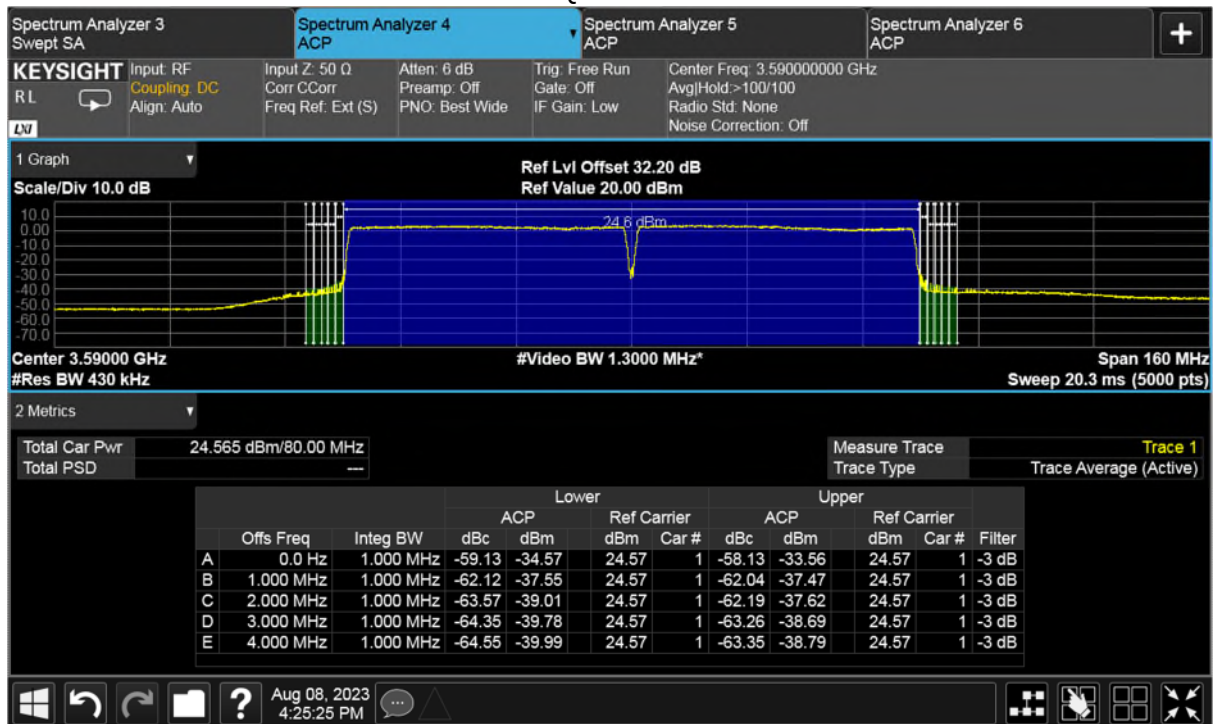
QPSK Mask



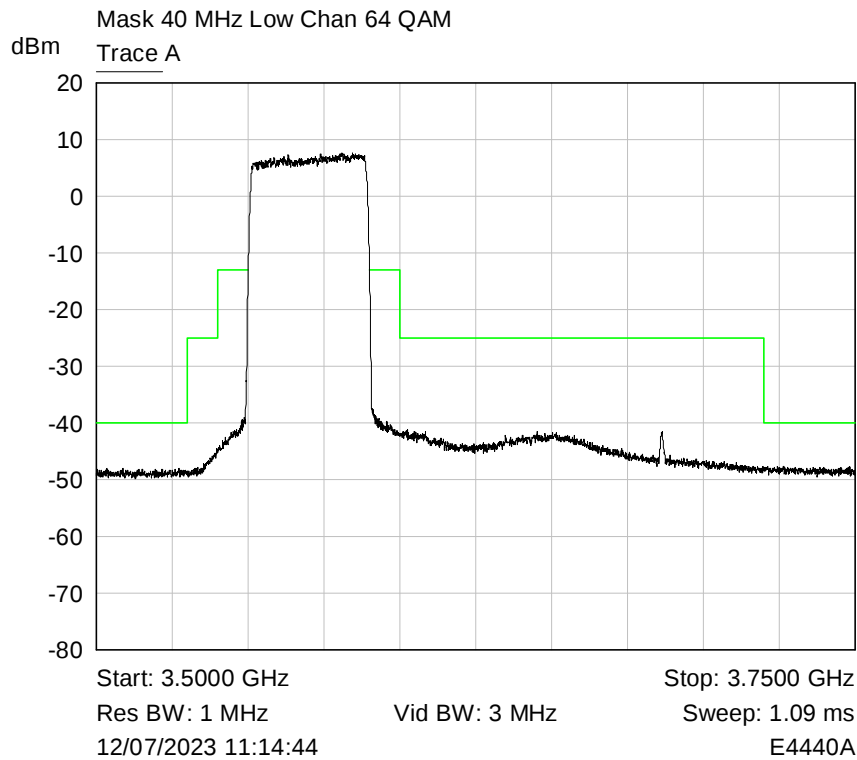
QPSK Band Edge



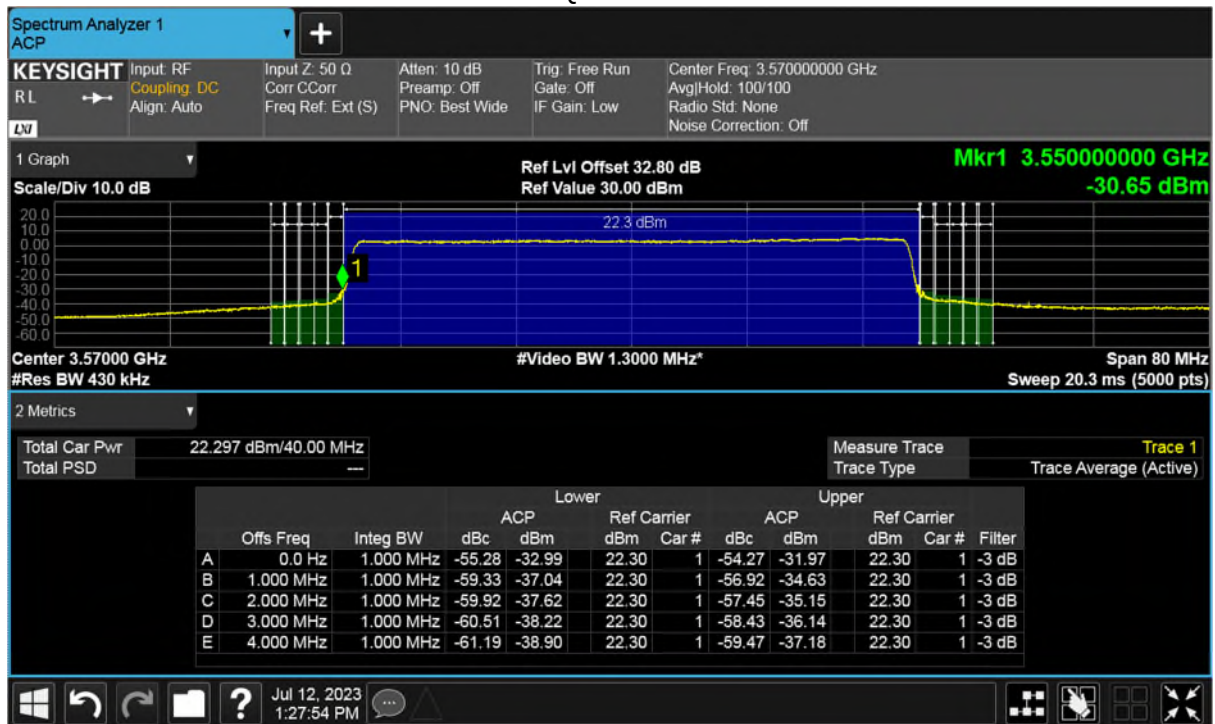
16QAM Mask



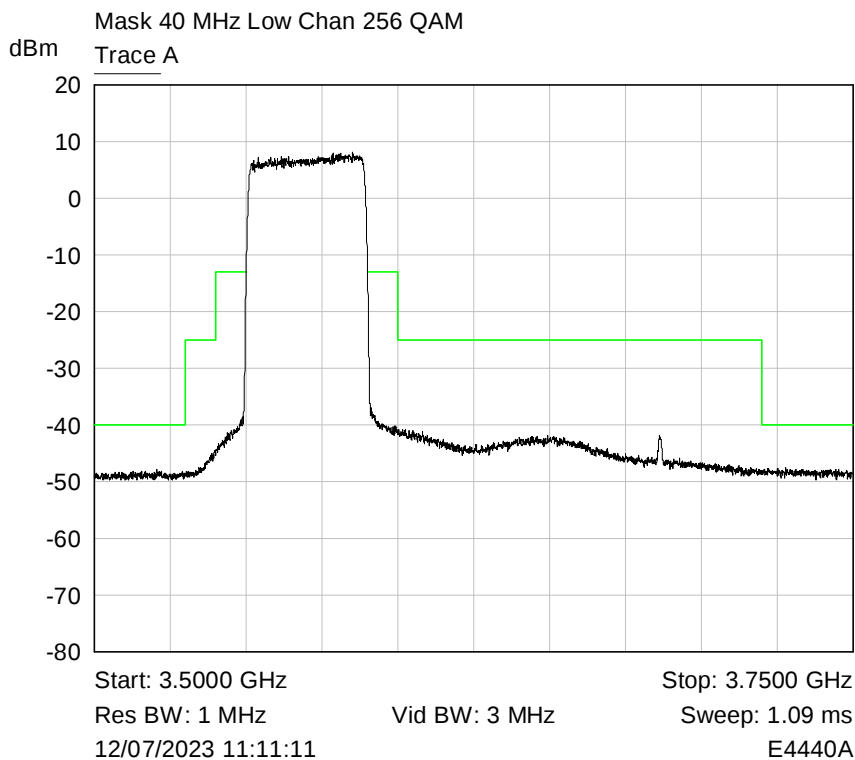
16QAM Band Edge



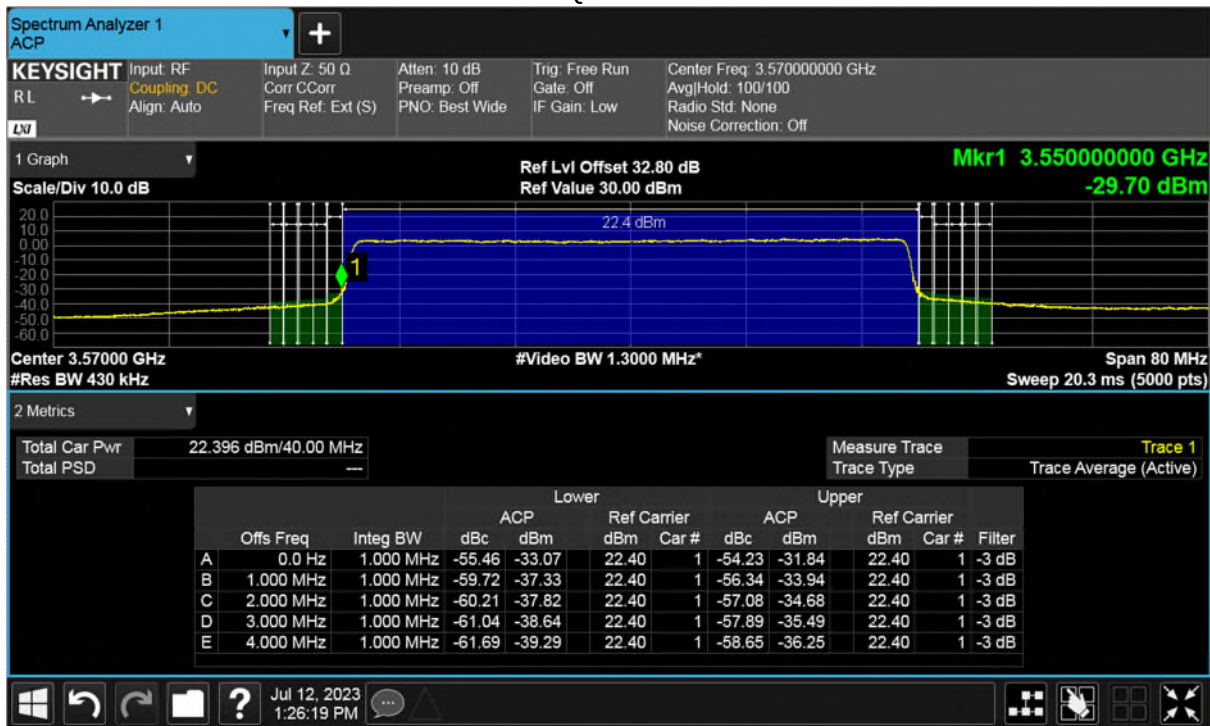
64QAM Mask



64QAM Band Edge

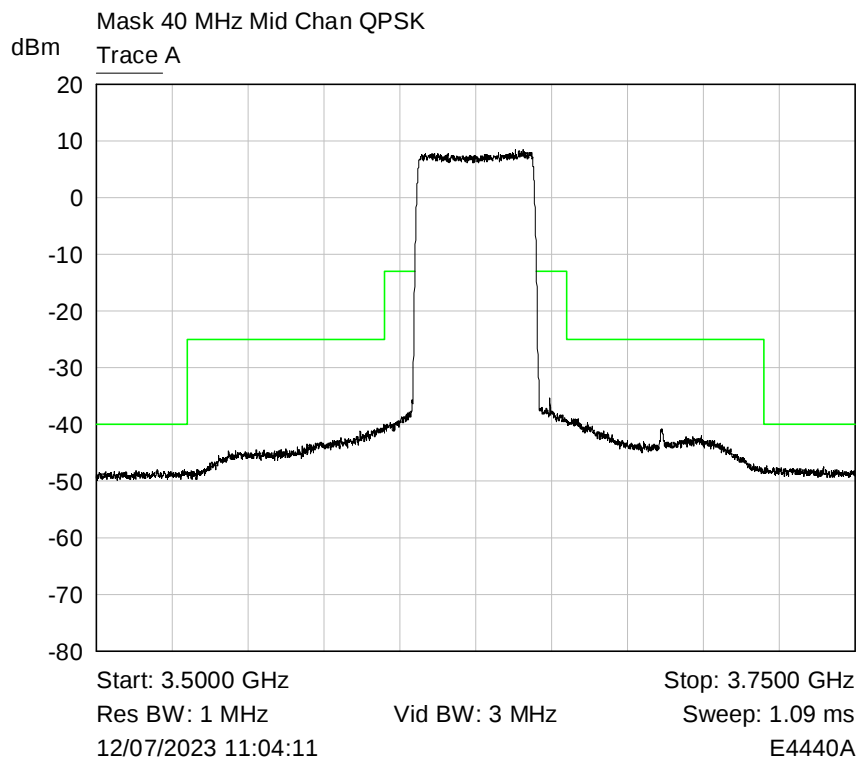


256QAM Mask

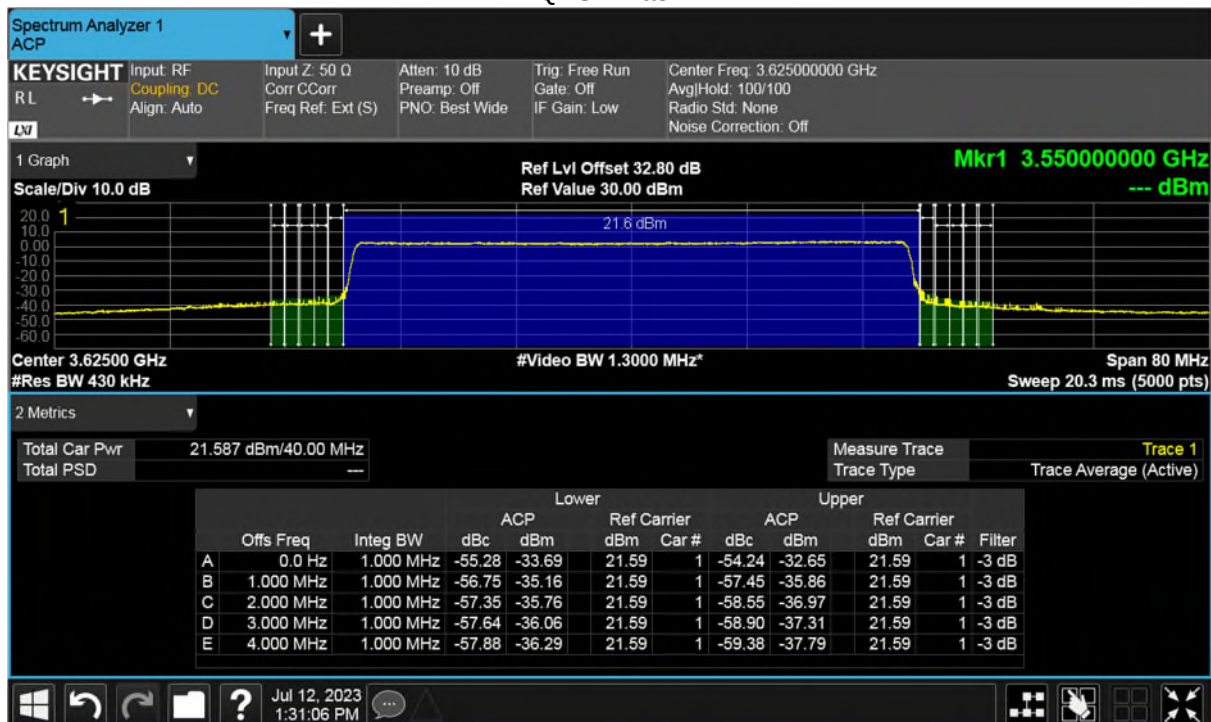


256QAM Band Edge

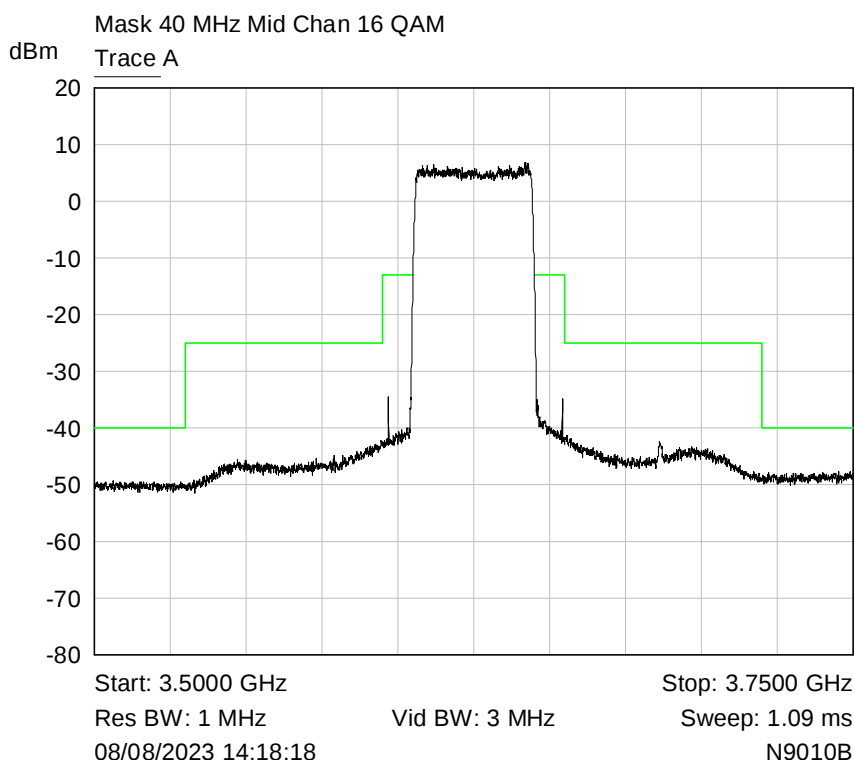
RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 40 MHz, Mid Channel



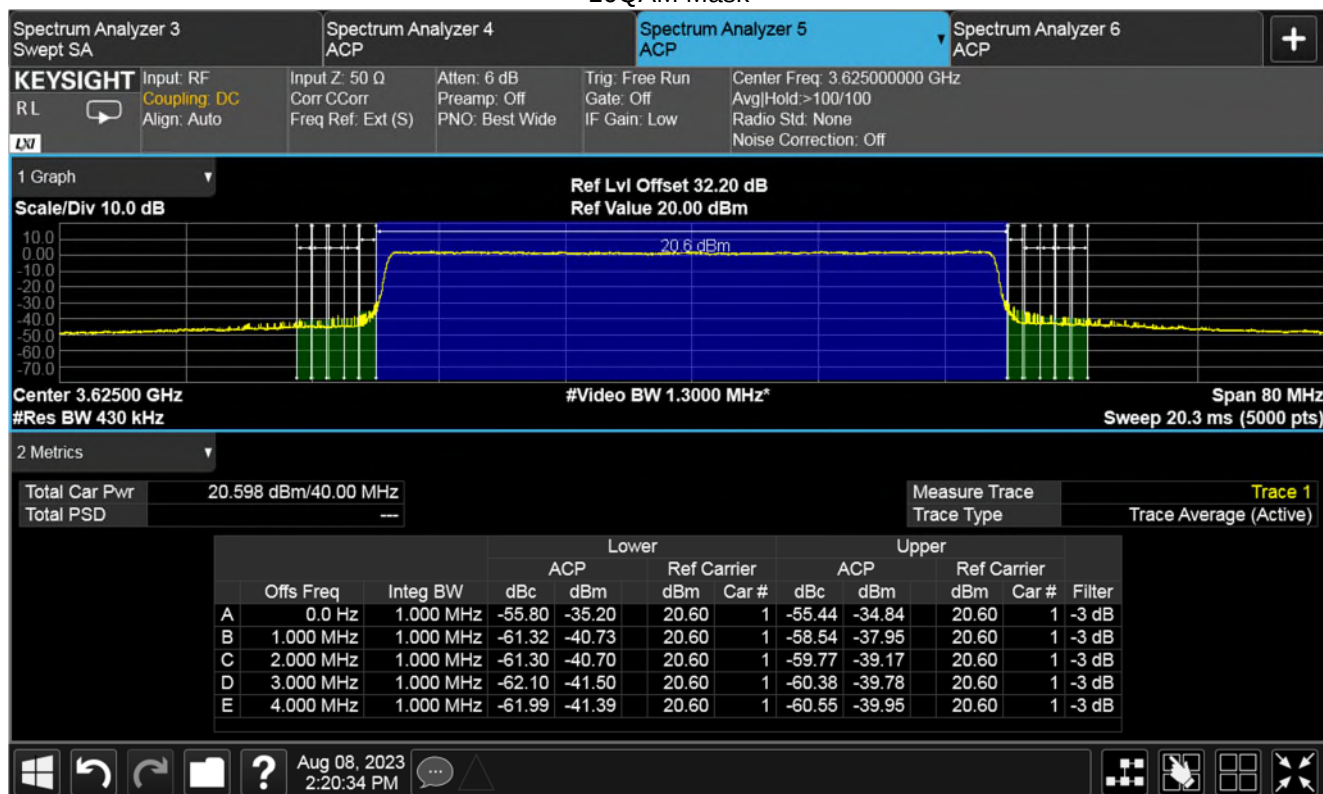
QPSK Mask



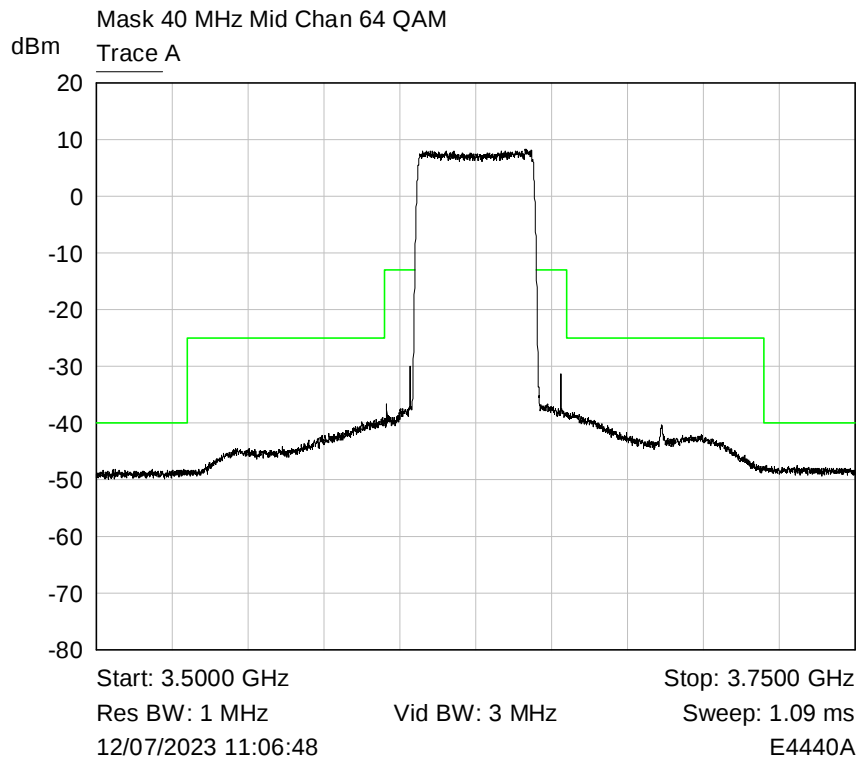
QPSK Band Edge



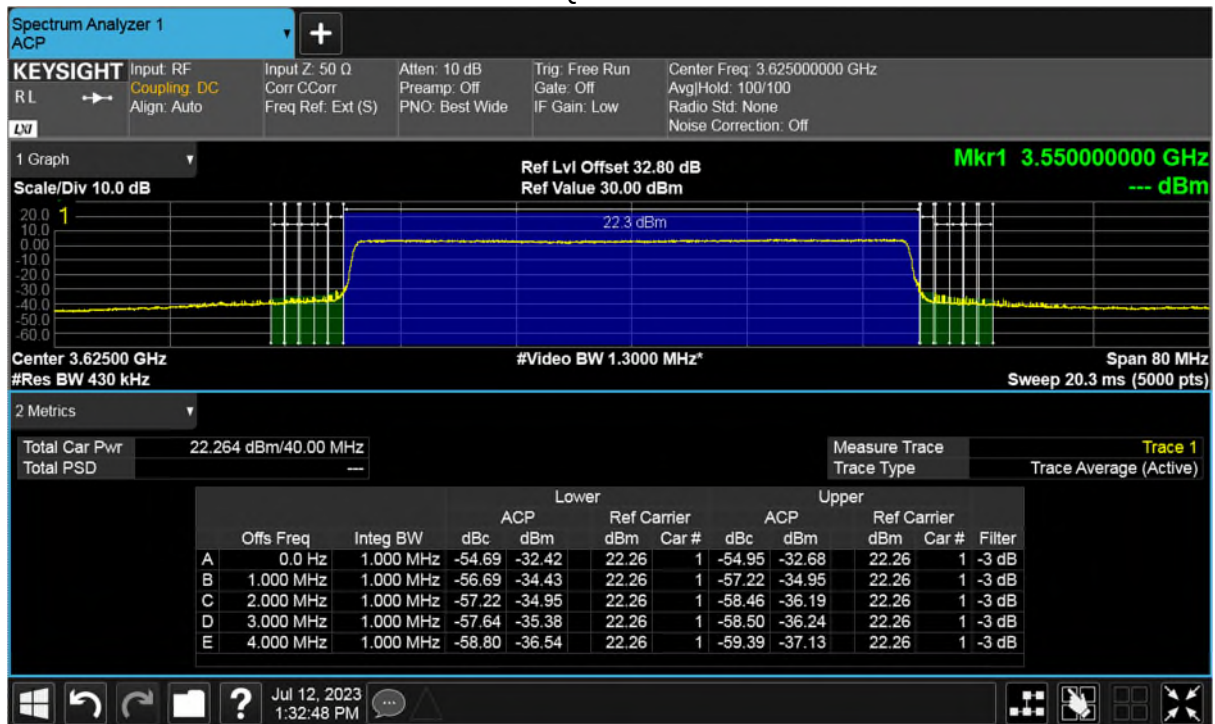
16QAM Mask



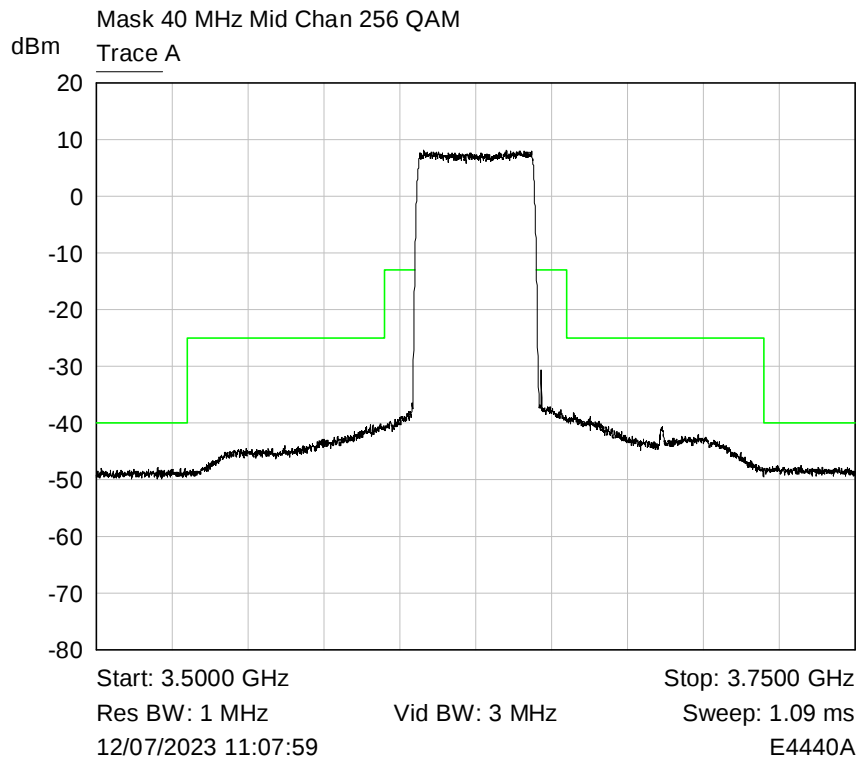
16QAM Band Edge



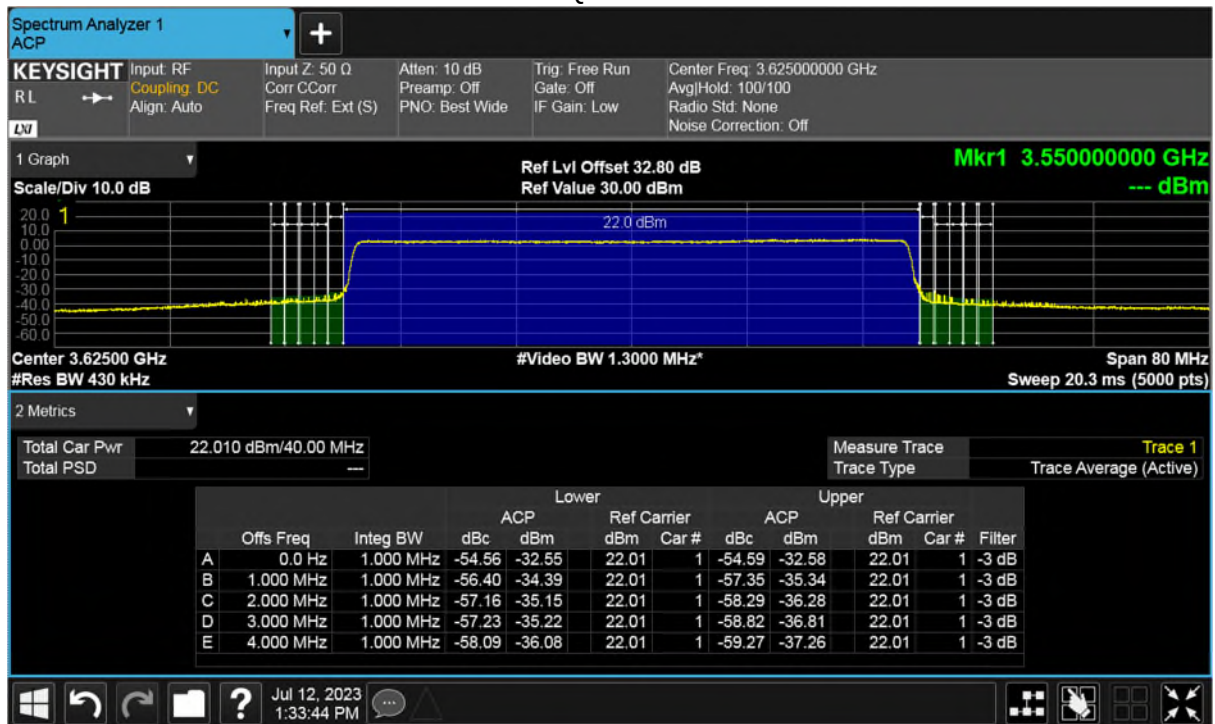
64QAM Mask



64QAM Band Edge

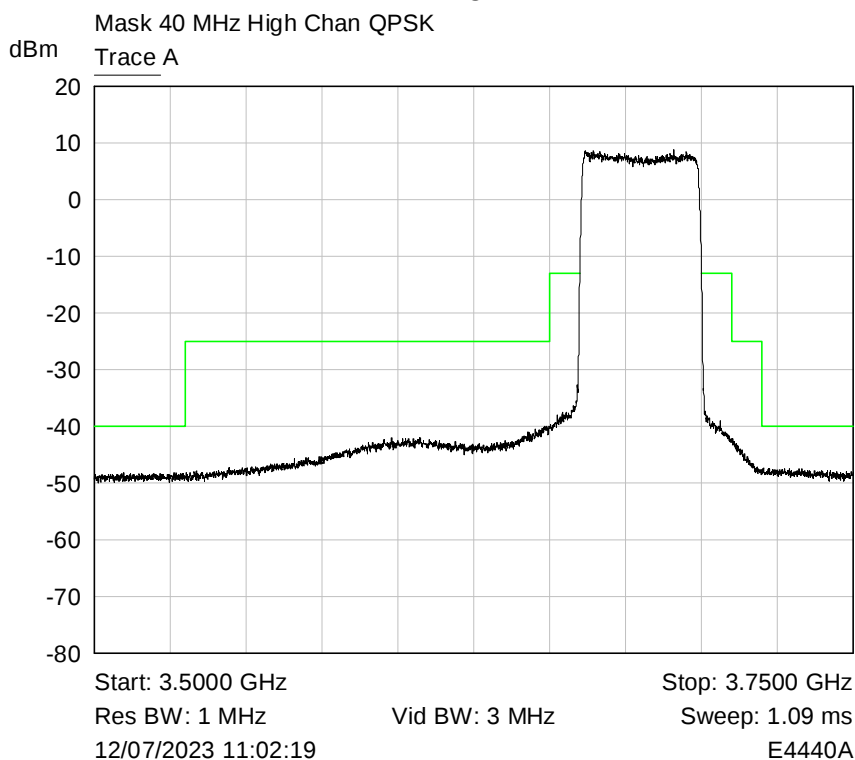


256QAM Mask

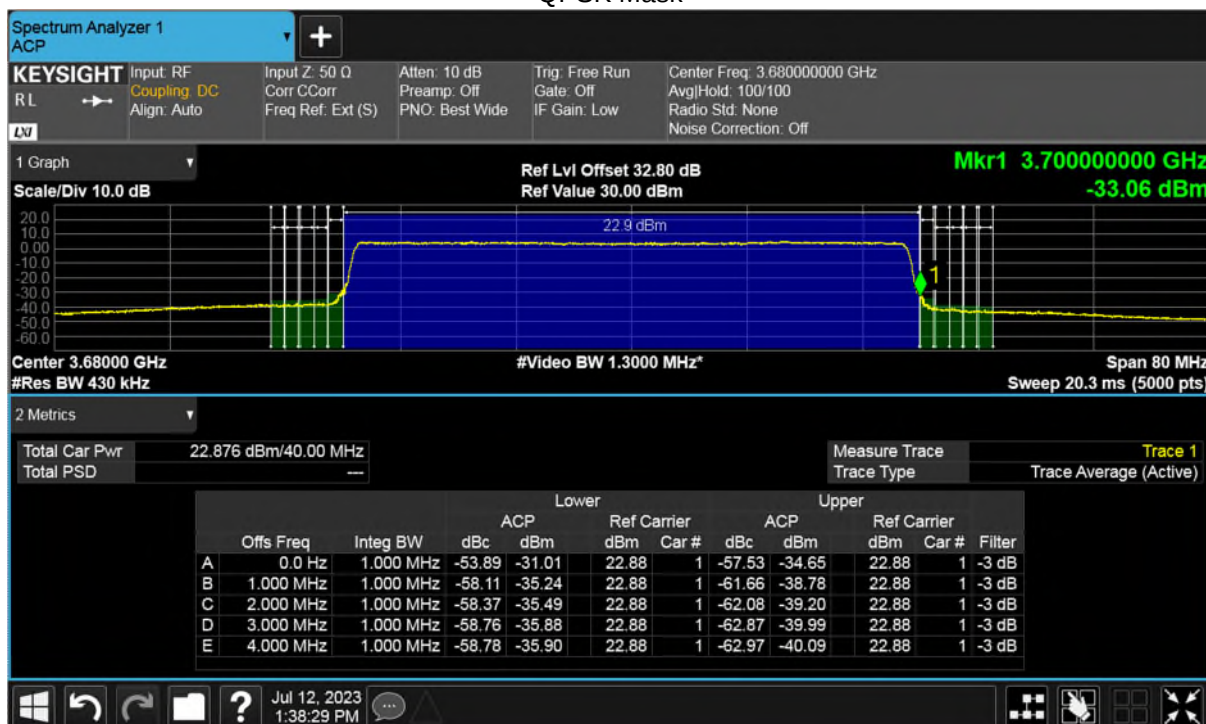


256QAM Band Edge

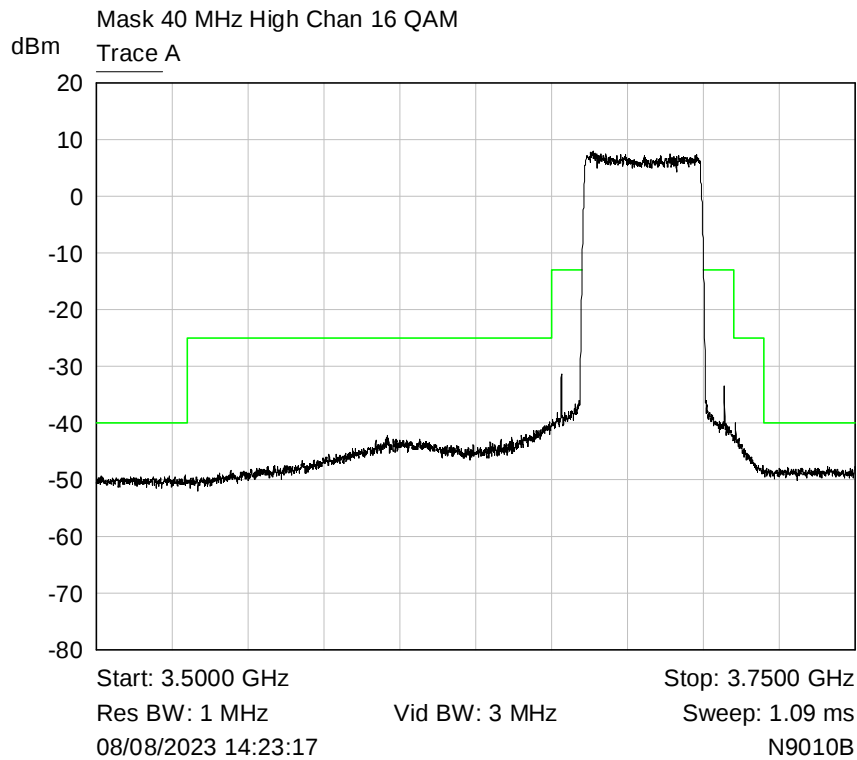
RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 40 MHz, High Channel



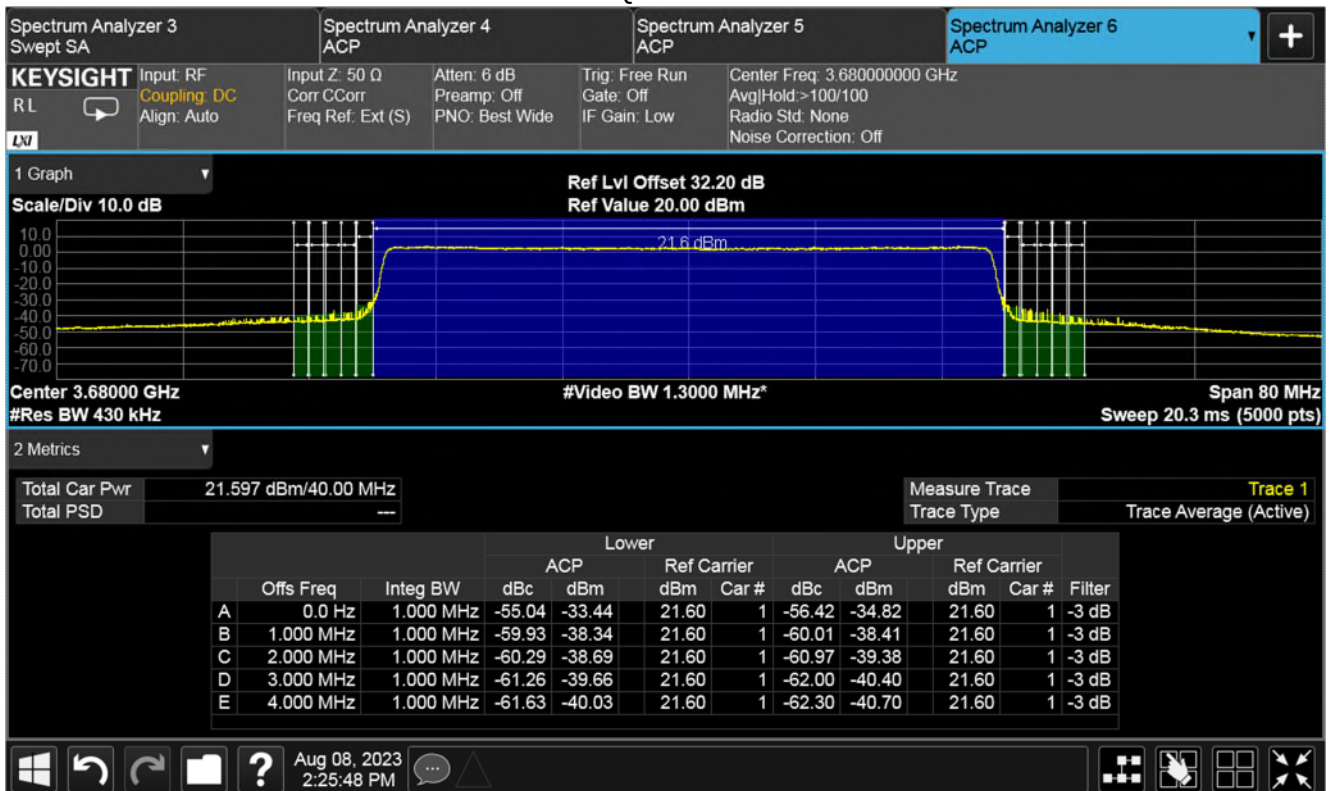
QPSK Mask



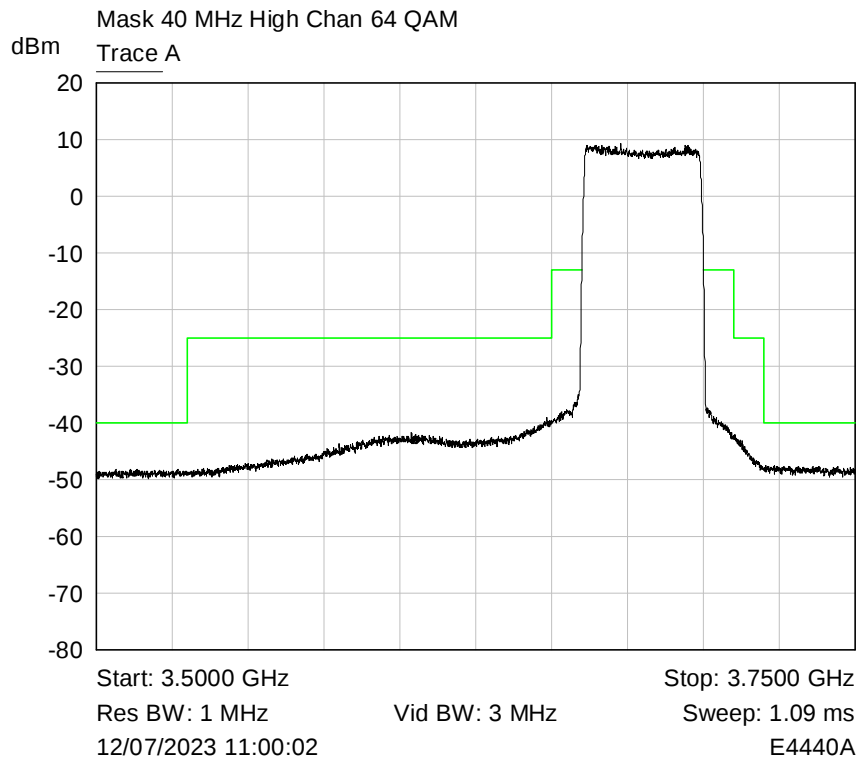
QPSK Band Edge



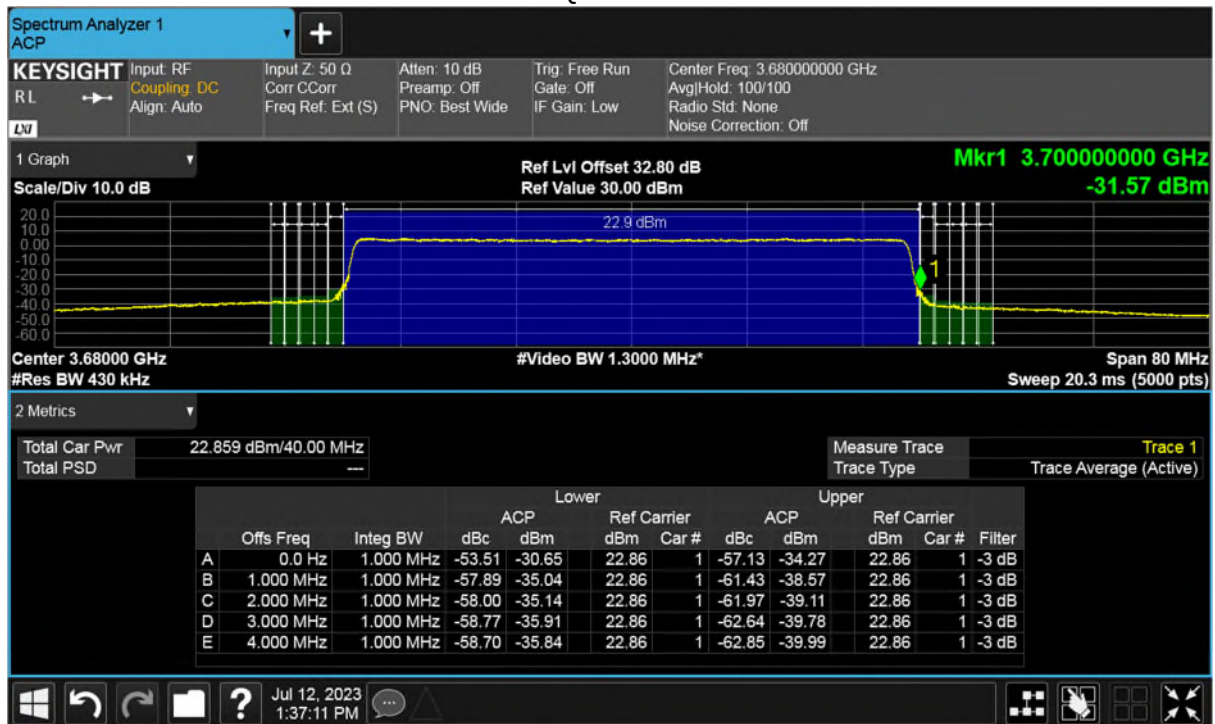
16QAM Mask



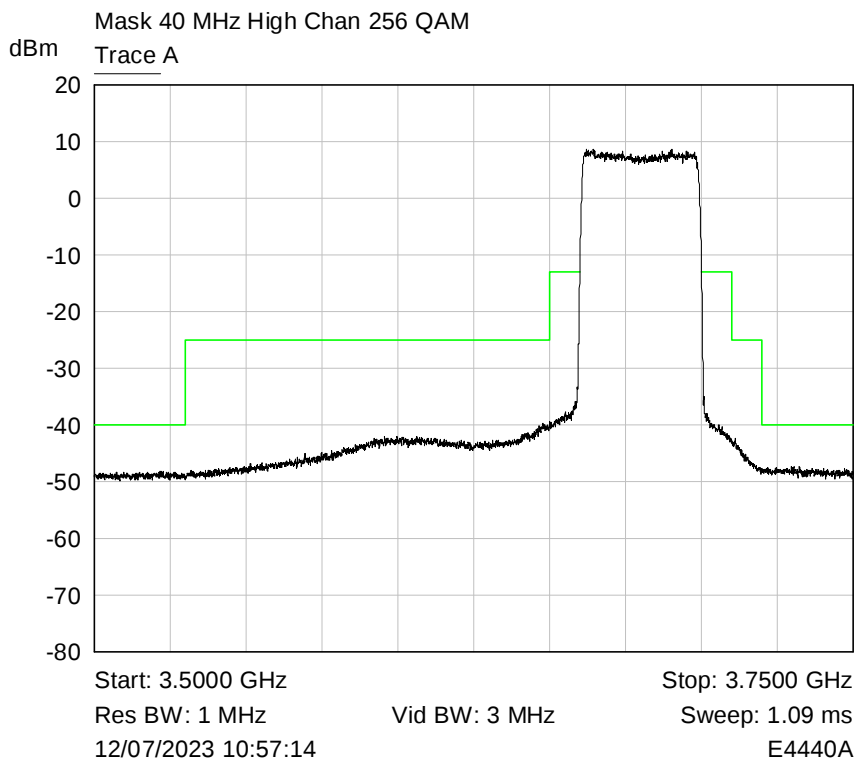
16QAM Band Edge



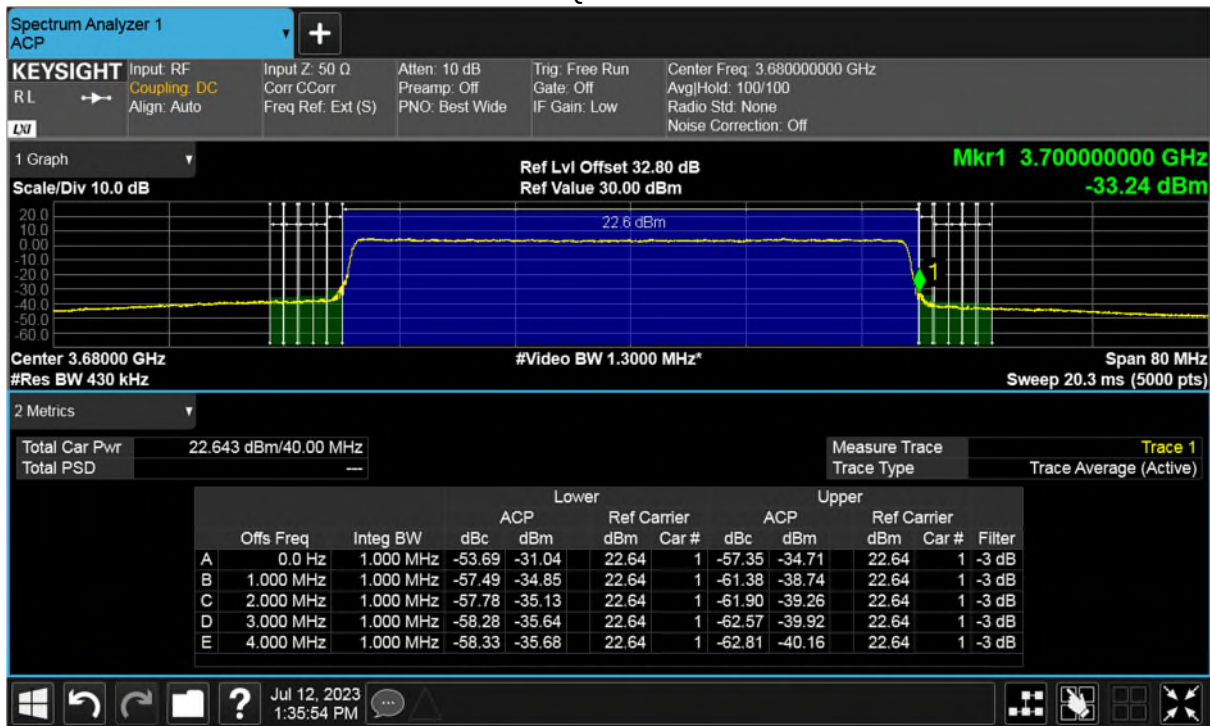
64QAM Mask



64QAM Band Edge



256QAM Mask

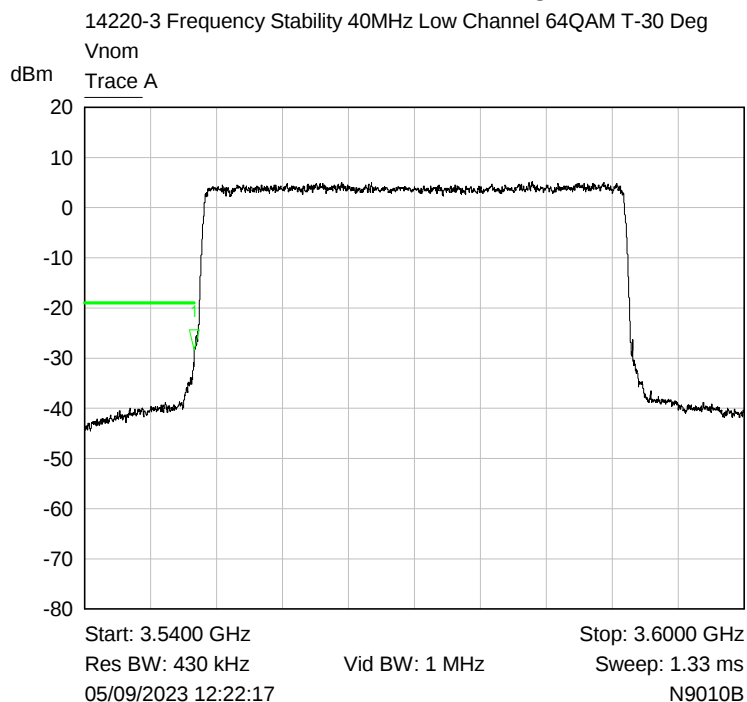


256QAM Band Edge

6.6 Frequency stability

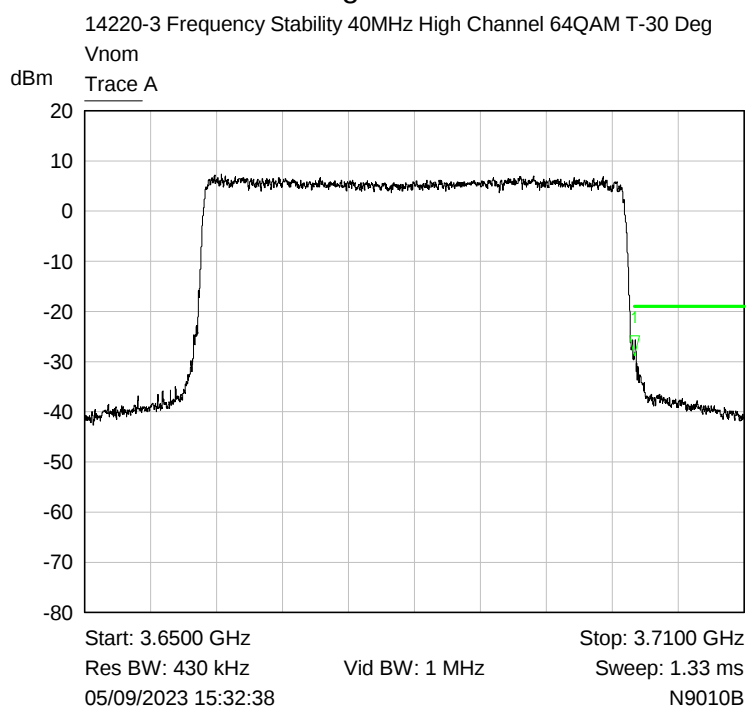
Note: Only 40MHz Bandwidth 64QAM worst case plots are shown below to minimise report size.

RF Parameters: Band 3550-3700 MHz, Power +33 dBm conducted (set), Channel Spacing 40 MHz, 64QAM, Low and High channels



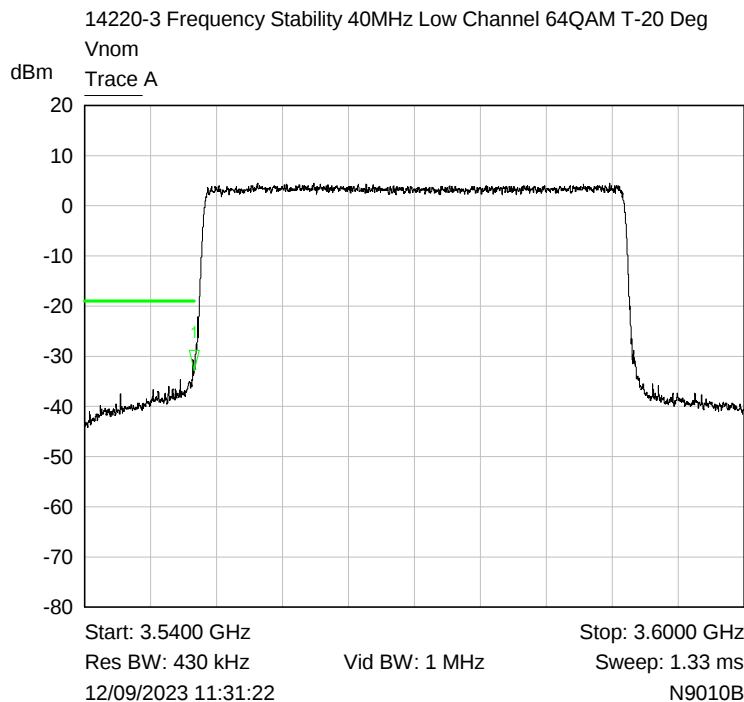
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-28.28 dBm	

-30 Degrees Low Chan



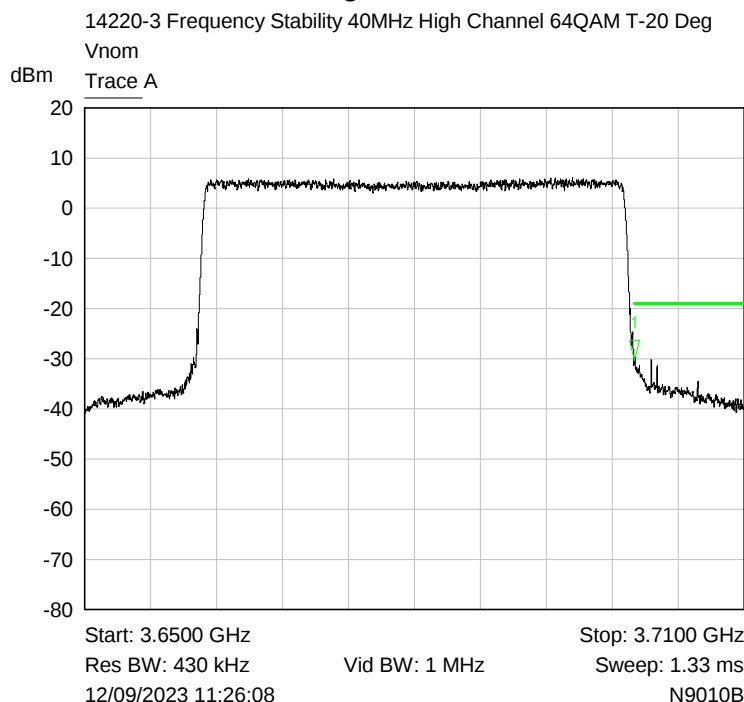
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-28.86 dBm	

-30 Degrees High Chan



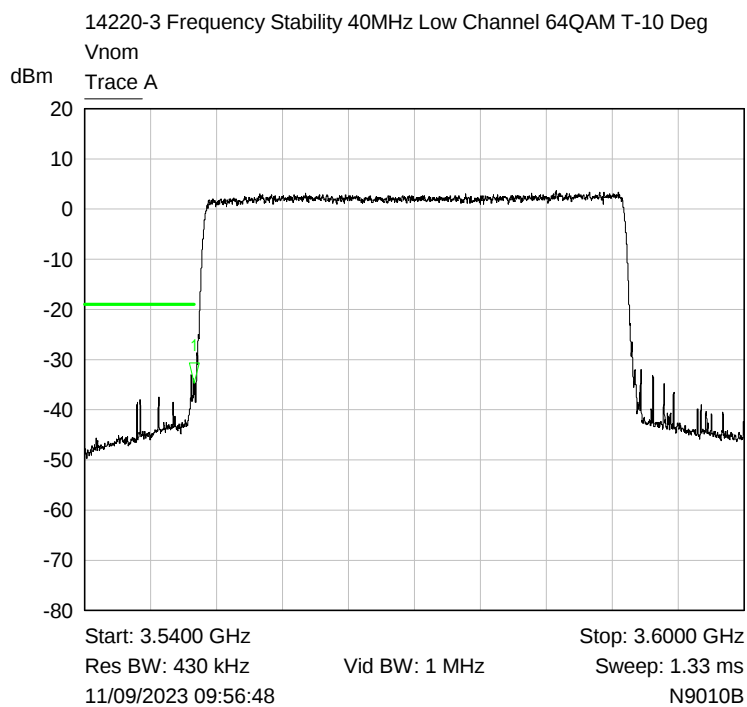
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-32.91 dBm	

-20 Degrees Low Chan



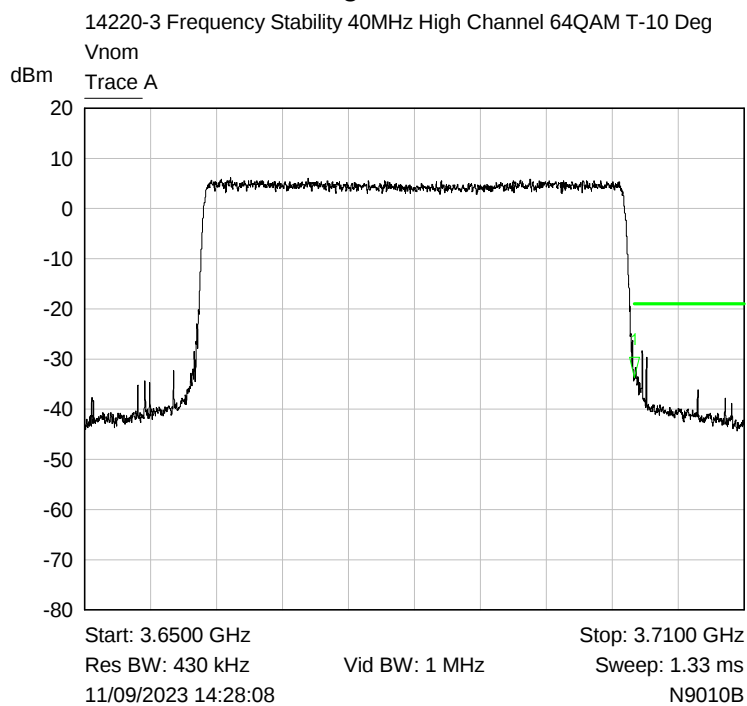
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-30.40 dBm	

-20 Degrees High Chan



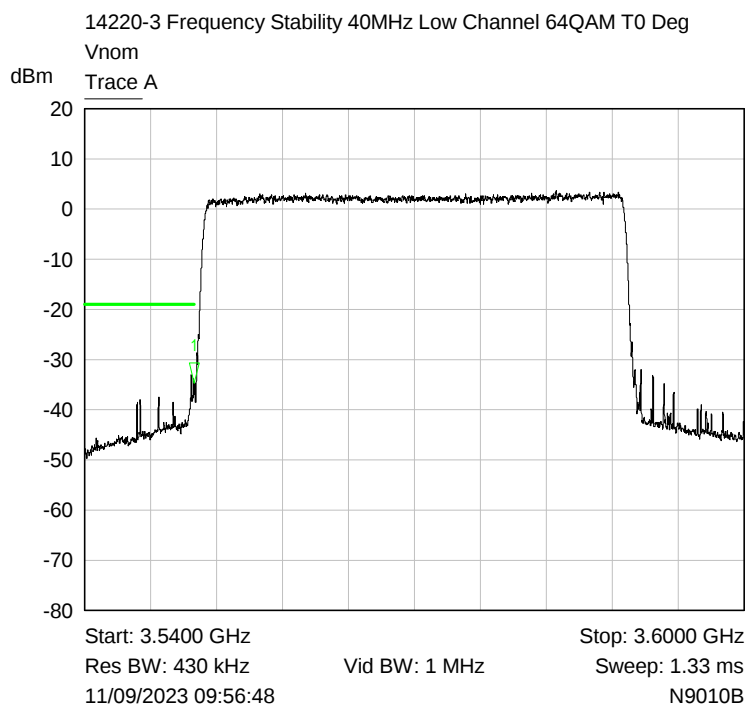
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-34.72 dBm	

-10 Degrees Low Chan



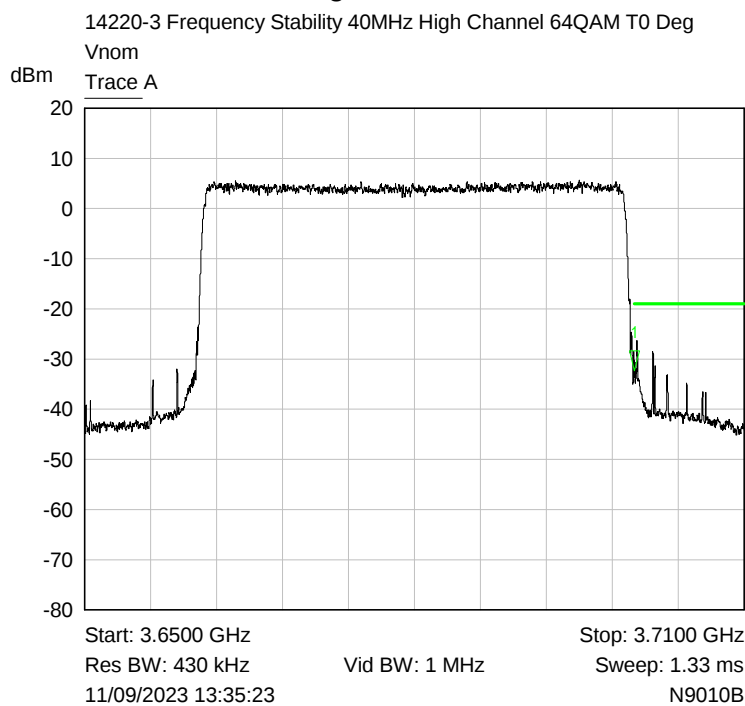
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-33.65 dBm	

-10 Degrees High Chan



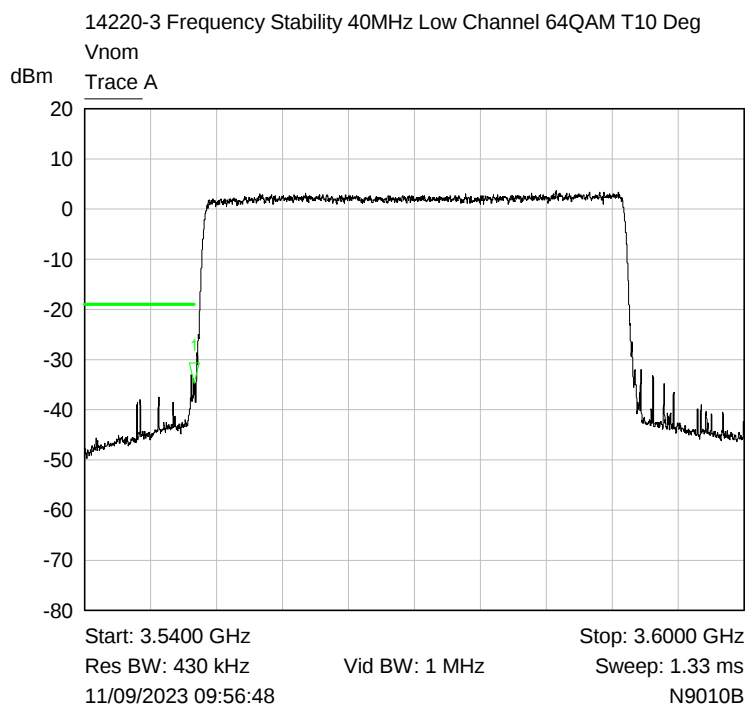
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-34.72 dBm	

0 Degrees Low Chan



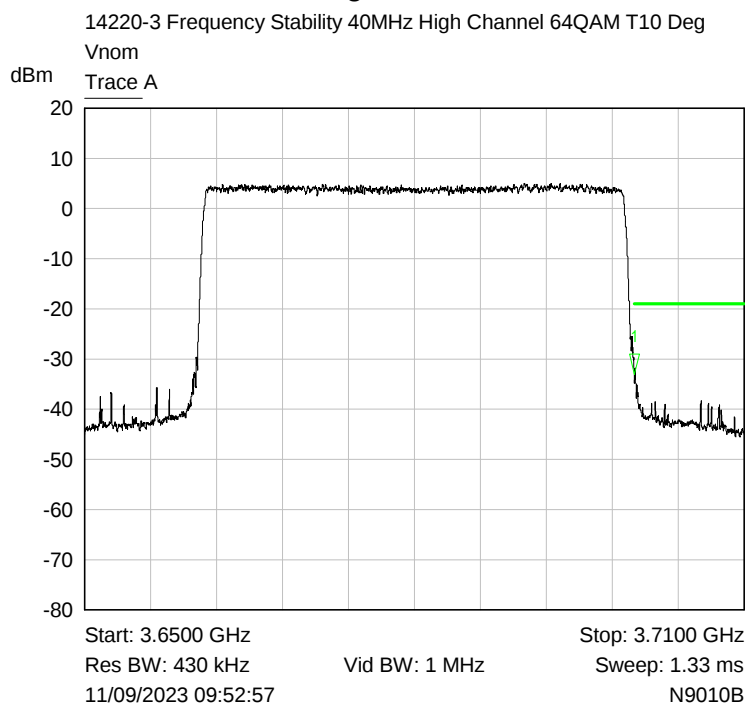
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-32.34 dBm	

0 Degrees High Chan



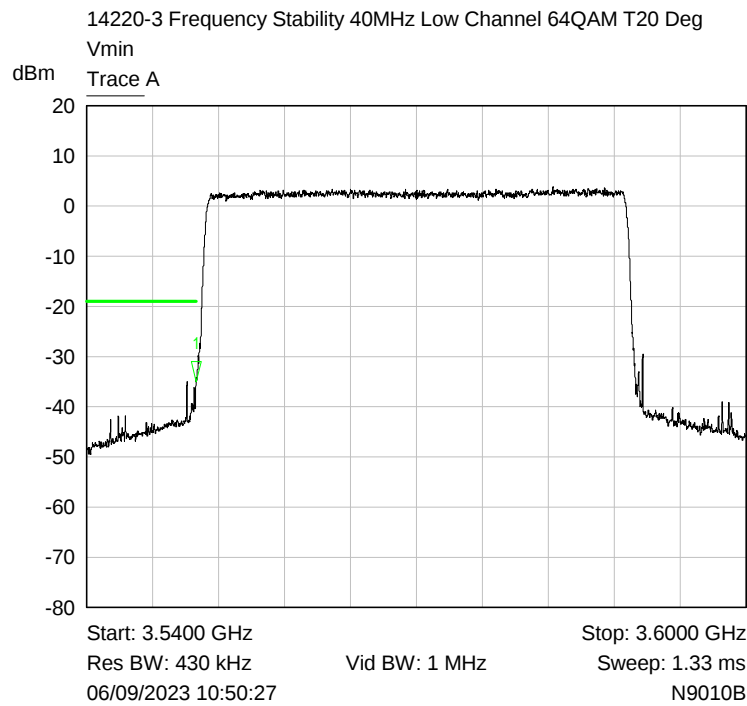
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-34.72 dBm	

+10 Degrees Low Chan



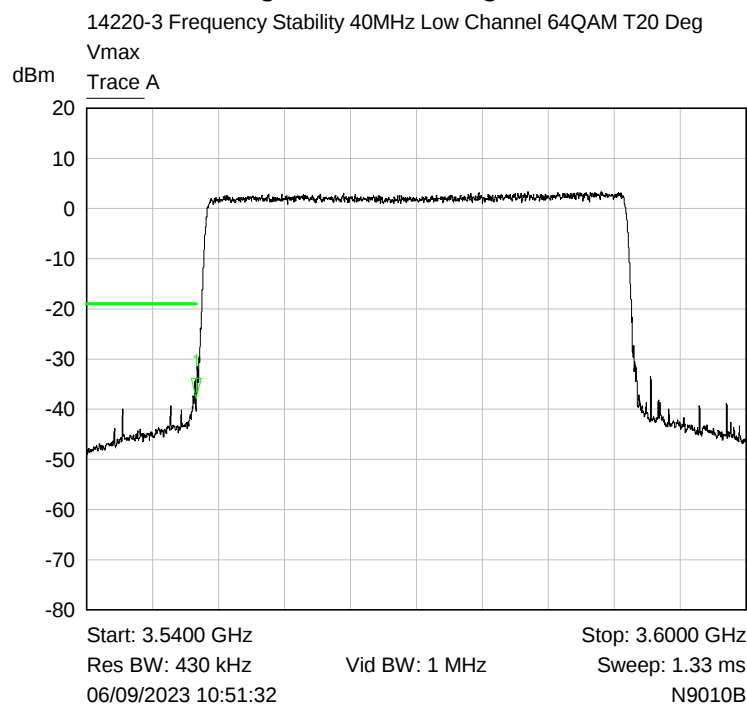
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-32.95 dBm	

+10 Degrees High Chan



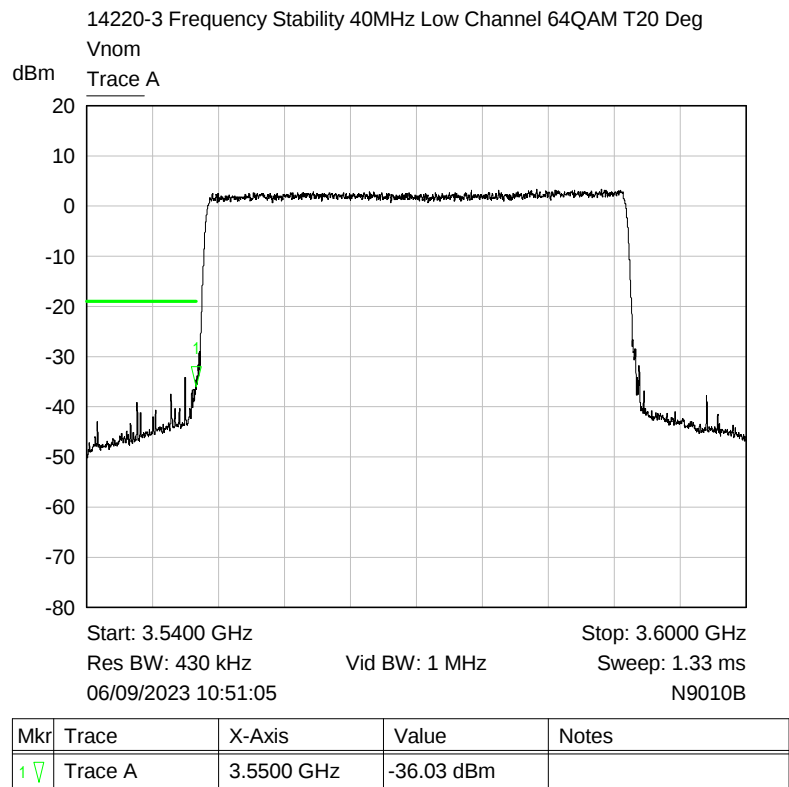
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-35.02 dBm	

+20 Degrees Min Voltage Low Chan

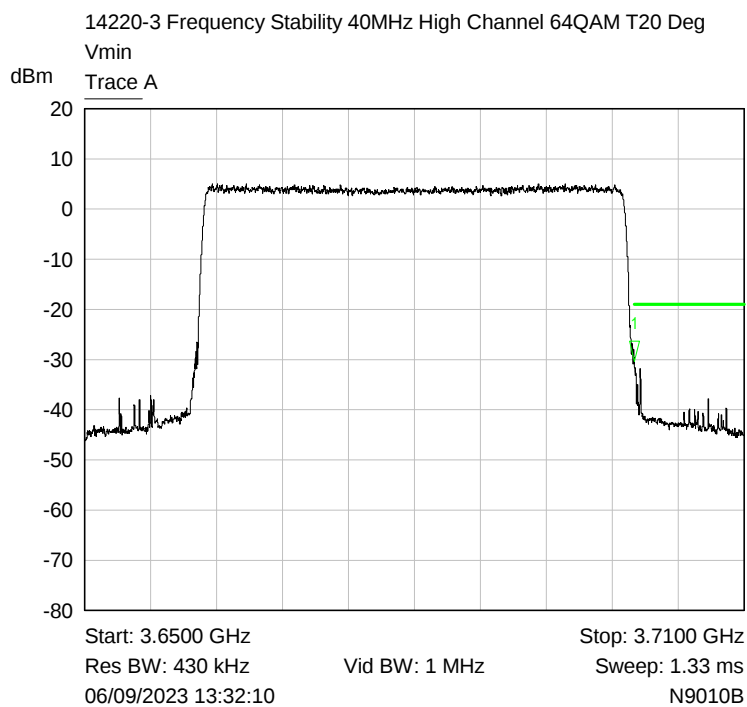


Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-37.86 dBm	

+20 Degrees Max Voltage Low Chan

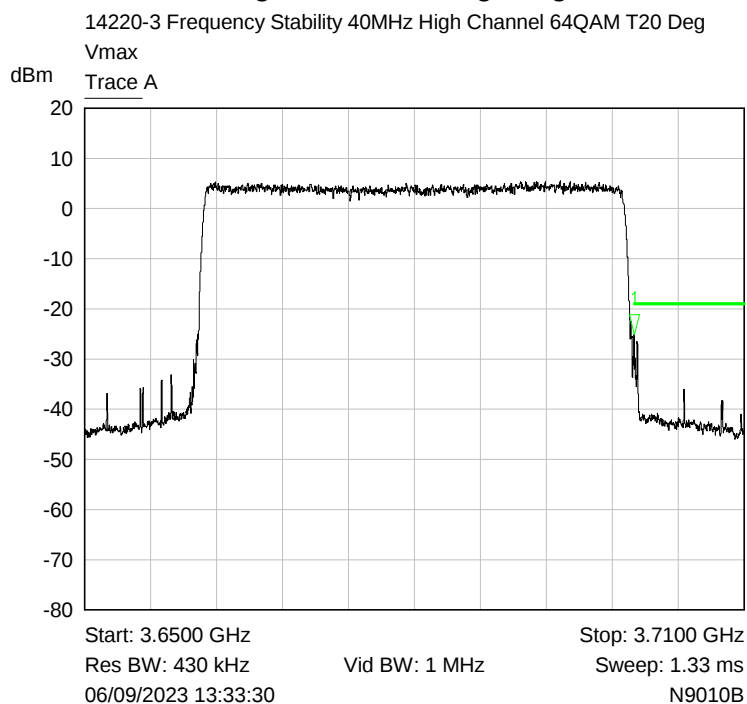


+20 Degrees Nominal Voltage Low Chan



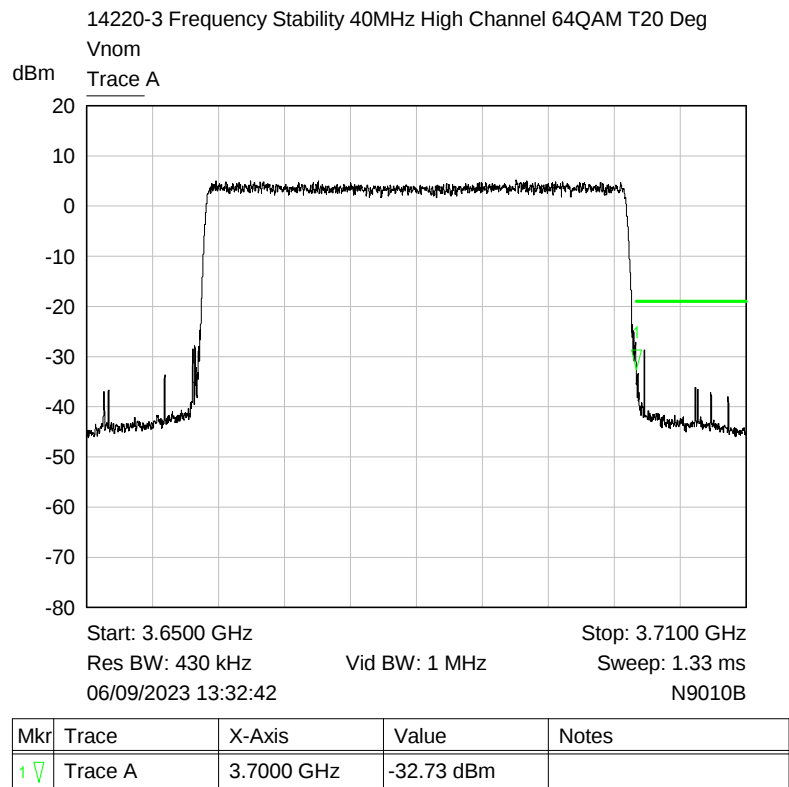
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-30.37 dBm	

+20 Degrees Min Voltage High Chan

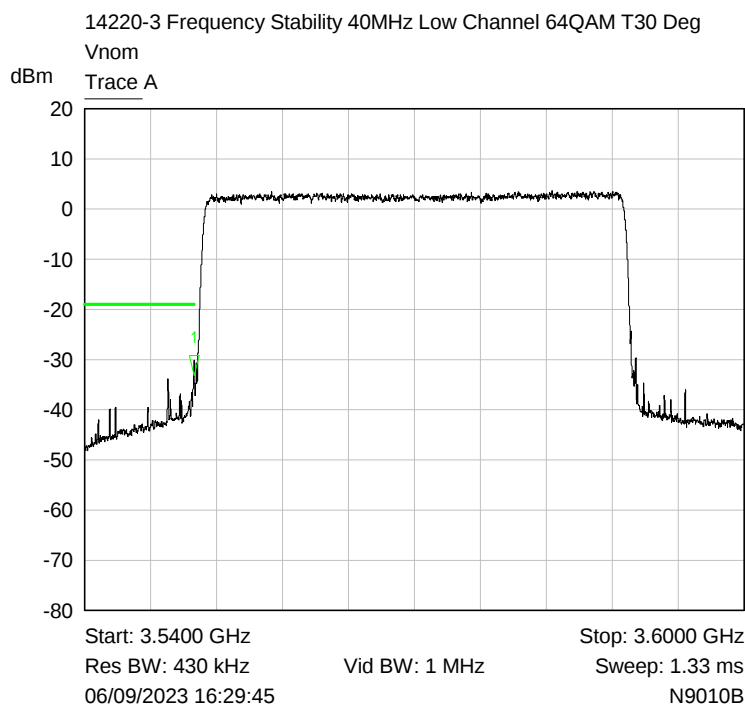


Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-25.12 dBm	

+20 Degrees Max Voltage High Chan

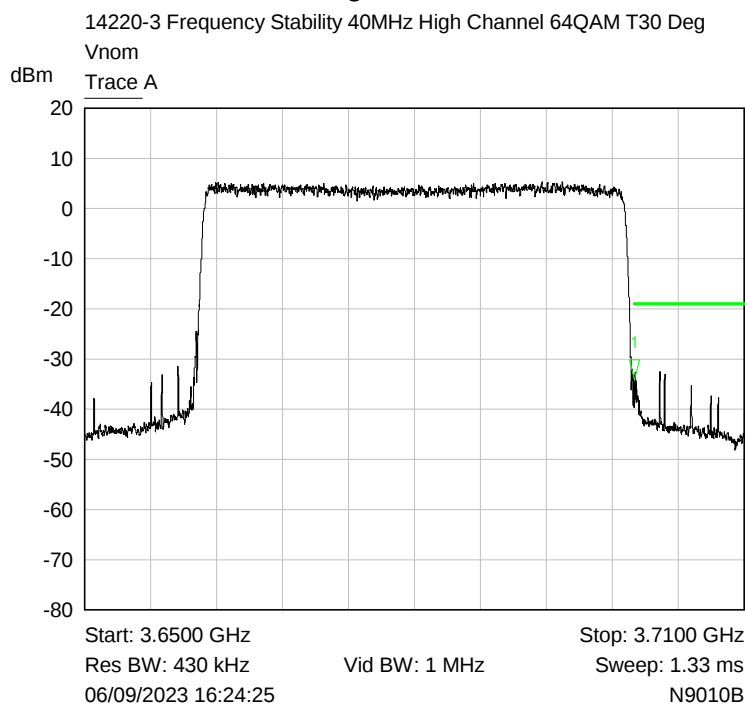


+20 Degrees Nominal Voltage High Chan



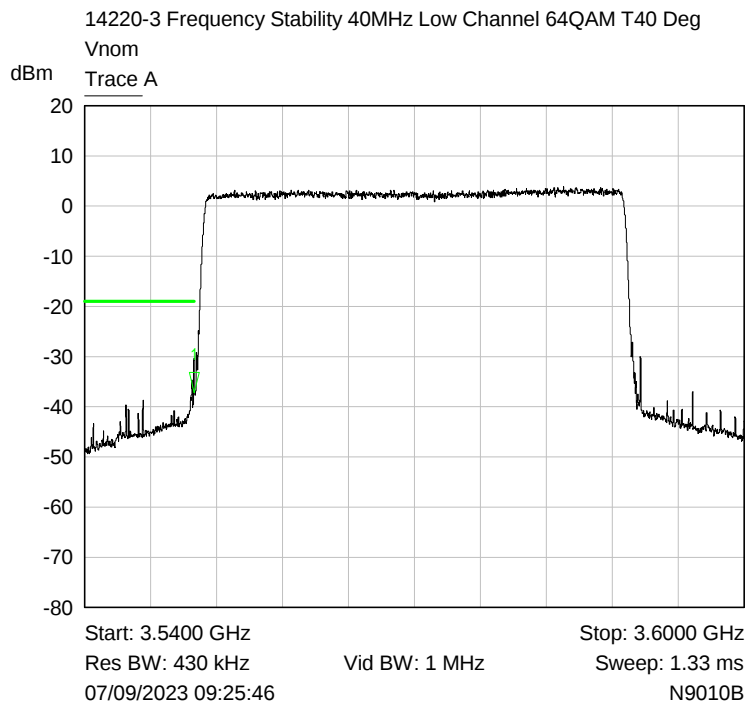
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-33.21 dBm	

+30 Degrees Low Chan



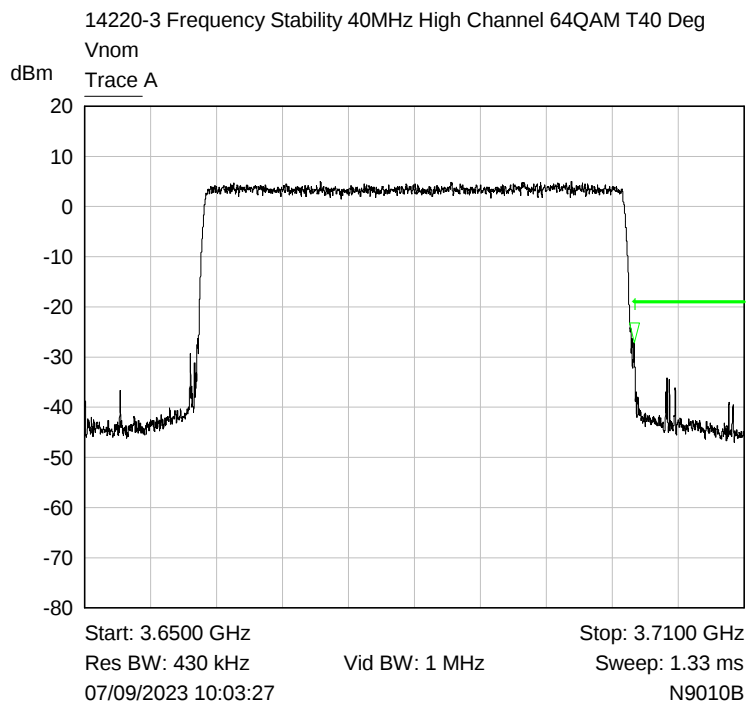
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-34.20 dBm	

+30 Degrees High Chan



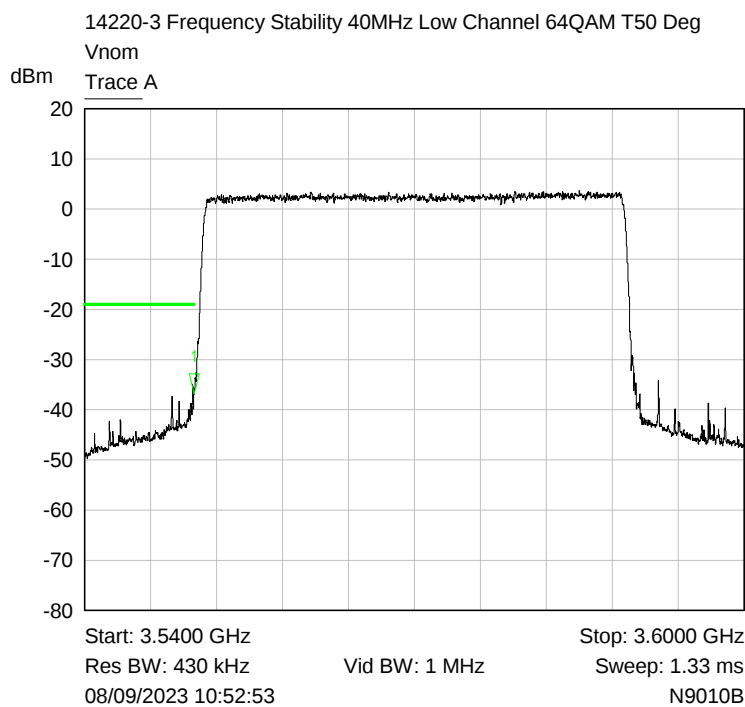
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-37.11 dBm	

+40 Degrees Low Chan



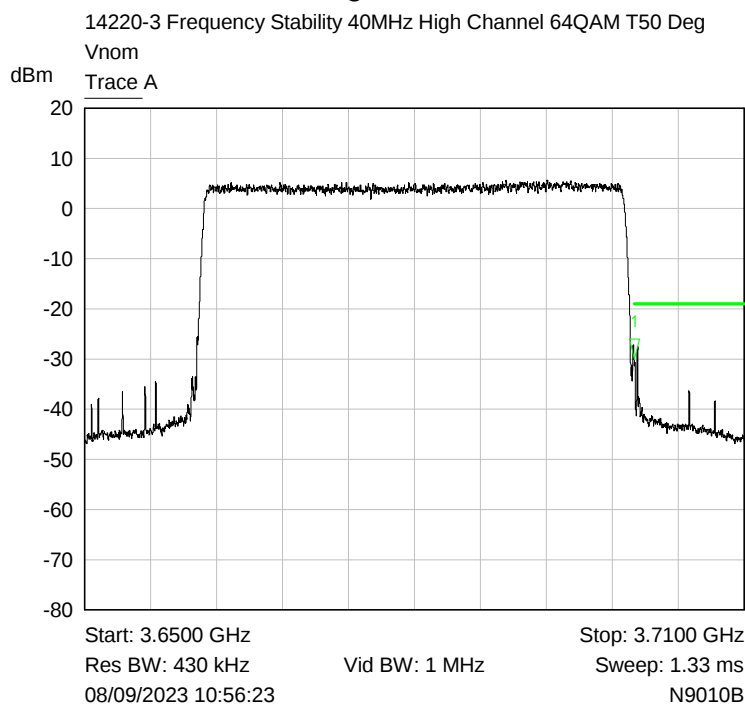
Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-27.15 dBm	

+40 Degrees High Chan



Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.5500 GHz	-36.85 dBm	

+50 Degrees Low Chan

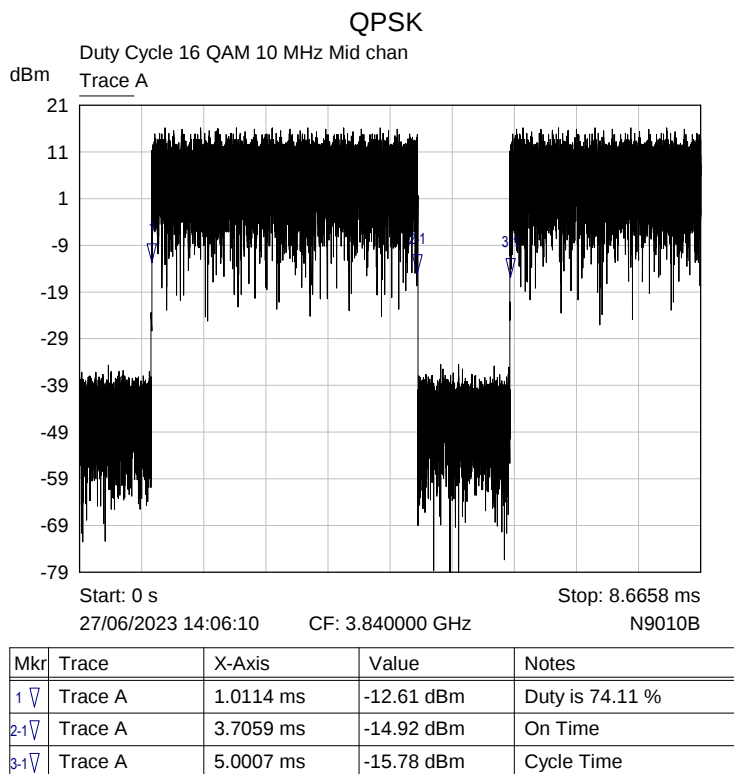
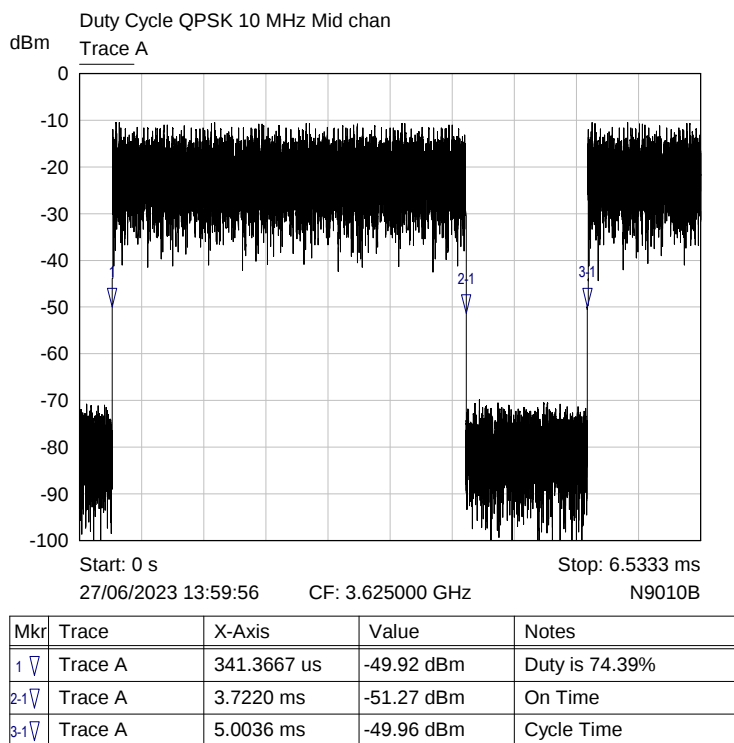


Mkr	Trace	X-Axis	Value	Notes
1 ▽	Trace A	3.7000 GHz	-30.01 dBm	

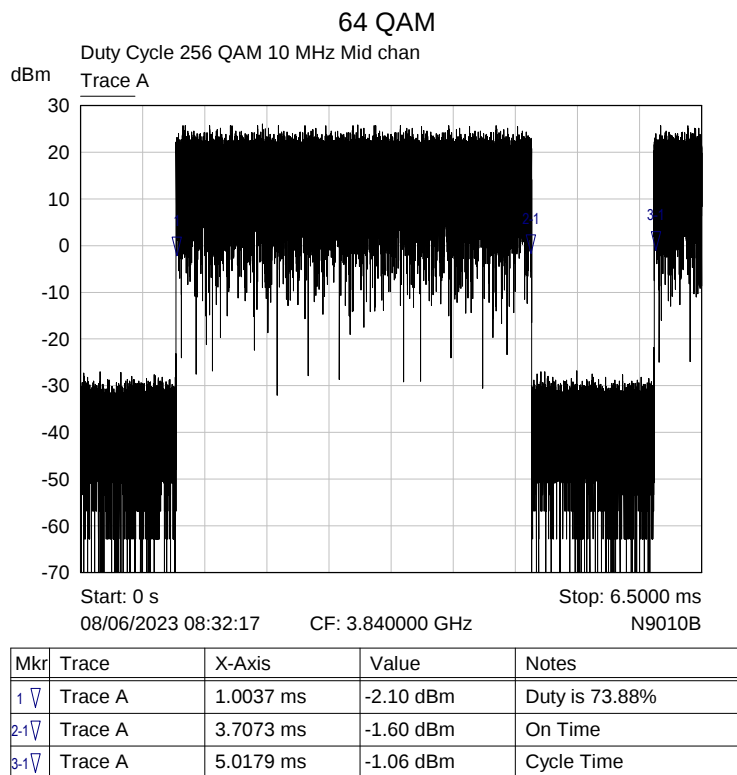
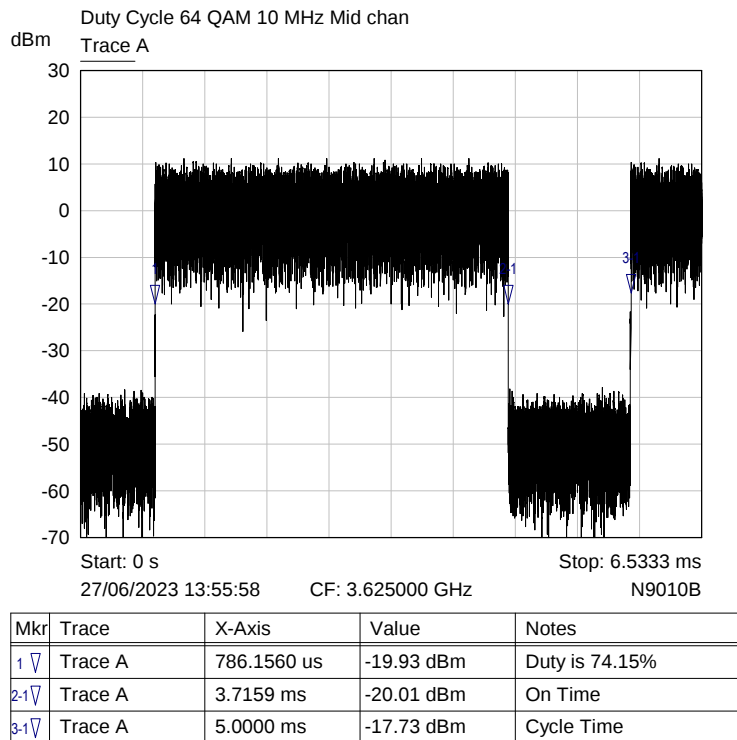
+50 Degrees High Chan

6.7 Duty Cycle

RF Parameters: Band 3700-3980 MHz, Power +33 dBm conducted (set), Channel Spacing 10 MHz, Mid Channel



16 QAM



256 QAM

7 Photographs

No photos included in report due to confidentiality requested for certification.

7.1 Radiated emission diagrams

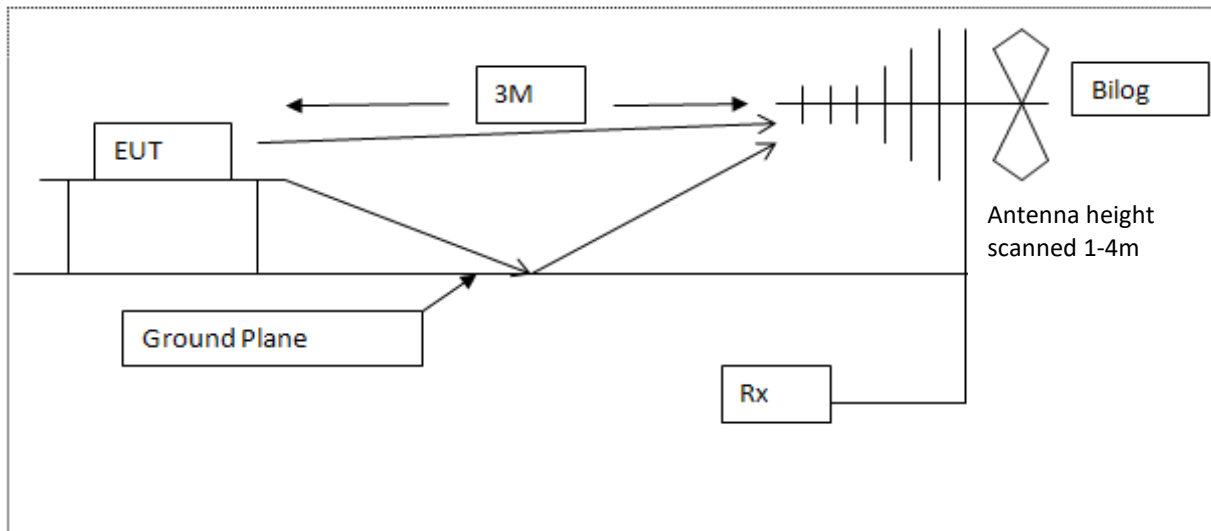


Diagram of the radiated emissions test setup 30 - 1000 MHz

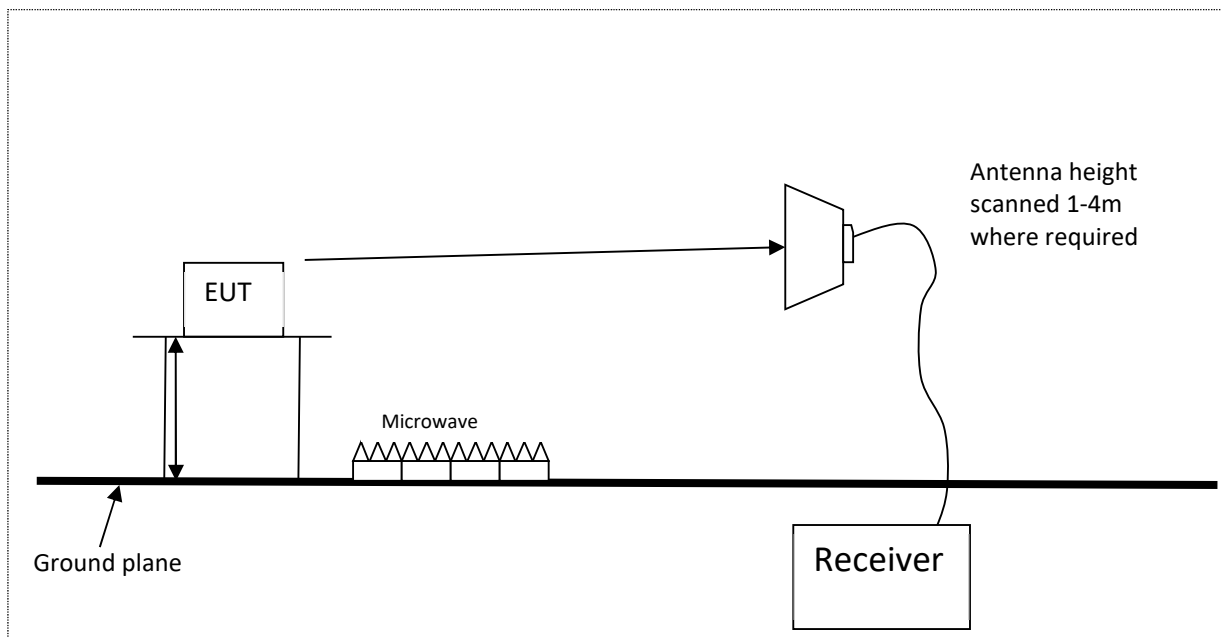


Diagram of the radiated emissions test setup above 1GHz

8 Test equipment calibration list

The following is a list of the test equipment used by R.N. Electronics Ltd to test the unit detailed within this report. In line with our procedures, the equipment was within calibration for the period during which testing was carried out.

RN No.	Model No.	Description	Manufacturer	Calibration date	Cal period
CAL07	MWX221	Cable N Type to SMA Blue 2m	Junflon	#12-June-2023	6 months
E136	3105	Horn Antenna 1 - 12.5 GHz	EMCO	02-Apr-2023	12 months
E268	BHA 9118	Horn Antenna 1 - 18 GHz	Schaffner	02-Apr-2023	12 months
E296-2	11970A	Harmonic Mixer 26.5-40GHz	Hewlett Packard	27-Jun-2022	12 months
E309	392	Attenuator 30dB 12.4GHz 10W	Midwest Microwave	15-Dec-2022	12 months
E330	2224-20	Horn Antenna 26.5-40GHz	Flann (FMI)	17-Apr-2023	12 months
E367	6534/4	Attenuator 20dB 18GHz	Marconi Instruments	09-Nov-2022	12 months
E392	11708A	Attenuator Reference Atten 30dB 50MHz	Hewlett Packard	28-Apr-2022	24 months
E404	2024-20	Horn Std Gain 17.6 - 26.7 GHz	Flann (FMI)	#23-May-2023	12 months
E411	N9039A	9 kHz - 1 GHz RF Filter Section	Agilent Technologies	#05-Jul-2023	12 months
E467	8447F	Pre-Amplifier 0.1MHz to 1300MHz	Hewlett Packard	#16-May-2023	12 months
E533	N5182A	Signal Generator 6 GHz MXG	Agilent Technologies	07-Dec-2022	36 months
E534	E4440A	PSA 3 Hz - 26.5 GHz	Agilent Technologies	25-Jan-2023	24 months
E602	MG3692A	Signal Generator 10 MHz - 20 GHz	Anritsu	02-Mar-2023	12 months
E615	4768-10	Attenuator 10dB 40GHz	Narda	28-Feb-2023	12 months
E624	E4440A	PSA 3 Hz - 26.5 GHz	Agilent Technologies	#06-Jul-2023	24 months
E725	6610.42	Attenuator 10dB 40GHz	Suhner	29-Mar-2023	12 months
E743	2017 4/2dB	Attenuator 4/2dB 30-1000MHz	RN Electronics	15-Mar-2023	12 months
E755	N9030B	PXA Signal Analyser 3 Hz to 50 GHz	Keysight Technologies	#14-Aug-2023	12 months
E777	MG3695B	Signal Generator 8 MHz - 50 GHz	Anritsu	#20-Jun-2023	12 months
E807	10MHz OCXO	Frequency Standard 10MHz OCXO	BG7TBL	#11-Jan-2023	12 months
E843	G3RUH	10 MHz GPS Disciplined Oscillator	G3RUH - James Miller	11-Jan-2023	12 months
E853	C-2.4PKP-1501-500mm	Cable 2.4mm to 2.92mm 50cm Yellow	Intelliconnect	N/A	N/A
E887	BW-S6-2W263+	Attenuator SMA 6dB 26GHz	Mini-Circuits	14-Feb-2023	12 months
E899	1851	Directional Coupler .5 - 18.5GHz	Krytar	12-May-2023	12 months
E938	BW-N10W5+	Attenuator N 10dB 18GHz	Mini-Circuits	#16-Jun-2023	12 months
F153	08673-60083	Detector 2 - 26.5 GHz	Hewlett Packard	N/A	N/A
F249	ZFSC-2-10G-1	Power splitter 2GHz to 10GHz	Mini-Circuits	#11-Aug-2022	12 months
H071	N9010B	EXA Signal Analyser 10 Hz to 44 GHz	Keysight Technologies	12-Dec-2022	24 months
L264	DT75	Digital Thermometer	Instrotech Ltd	20-Dec-2021	24 months
LPE364	CBL6112A	Antenna BiLog 30MHz - 2GHz	Chase Electronics Ltd	28-Mar-2022	24 months
S036	FMH1 420	Temperature & Humidity Test Chamber	JTS Ltd	N/A	N/A
TMS78	3160-08	Horn Std Gain 12.4 - 18 GHz	ETS Systems	30-Sep-2022	12 months
TMS79	3160-09	Horn Std Gain 18 - 26.5 GHz	ETS Systems	23-May-2023	12 months
TMS812	MP534A MP651A	Dipole Set 200 - 1700 MHz	Anritsu	#23-Aug-2023	12 months
TMS82	8449B	Pre-Amplifier 1GHz - 26.5GHz	Agilent Technologies	16-Dec-2022	12 months

Equipment was within calibration dates for tests and has been re-calibrated since/during date of tests.

9 Auxiliary and peripheral equipment

9.1 Customer supplied equipment

Item No.	Model No.	Description	Manufacturer	Serial No.
1	Latitude 74900	Laptop	Dell	7N635S2
2	ZM1833	USB C to multi-port adaptor	ZmUIPnG	-
3	-	Serial to Ethernet adaptor	TRIPP-LITE	N034-35N BL
4	CPX200D	Dual 180 Watt DC Power Supply	Aim-TTI	558035
5		4off 20dB attenuators	Mini circuits	-
6		4off 30dB Attenuators	Mini circuits	-

9.2 RN Electronics supplied equipment

RN No.	Model No.	Description	Manufacturer	Serial No
N532	-	GPS Repeater	-	-
		DC PSU		

10 Condition of the equipment tested

In order for the EUT to produce the results shown within this report the following modifications, if any, were implemented.

10.1 Modifications before test

No modifications were made before test by RN Electronics Ltd.

10.2 Modifications during test

No modifications were made during test by RN Electronics Ltd.

11 Description of test sites

Site A	Radio Laboratory and Anechoic Chamber
Site B	Semi-Anechoic Chamber and Control Room FCC Registration No. 293246, ISED Registration No. 5612A-4
Site C	Transient Laboratory
Site D	Screened Room (Conducted Immunity)
Site E	Screened Room (Control Room for Site D)
Site F	Screened Room (Conducted Emissions)
Site G	Screened Room (Control Room for Site H)
Site H	3m Semi-Anechoic Chamber (indoor OATS) FCC Registration No. 293246, ISED Registration No. 5612A-2, VCCI Registration No. 4065
Site J	Transient Laboratory
Site K	Screened Room (Control Room for Site M)
Site M	3m Semi-Anechoic Chamber (indoor OATS) FCC Registration No. 293246, ISED Registration No. 5612A-3
Site N	Radio Laboratory
Site Q	Fully-Anechoic Chamber
Site OATS 3m and 10m Open Area Test Site	FCC Registration No. 293246, ISED Registration No. 5612A-1
Site R	Screened Room (Conducted Immunity)
Site S	Safety Laboratory
Site T	Transient Laboratory

RN Electronics CAB identifier as issued by Innovation, Science and Economic Development Canada is UK0002

RN Electronics CAB identifier as issued by FCC is UK2015

12 Abbreviations and units

%	Percent	dBμV	decibels relative to 1μV
λ	Wavelength	dBμV/m	decibels relative to 1μV/m
μA/m	microAmps per metre	dBc	decibels relative to Carrier
μV	microVolts	dBd	decibels relative to dipole gain
μW	microWatts	dBi	decibels relative to isotropic gain
AC	Alternating Current	dBm	decibels relative to 1mW
ACK	ACKnowledgement	dB	decibels relative to a maximum value
ACP	Adjacent Channel Power	dBW	decibels relative to 1W
AFA	Adaptive Frequency Agility	DC	Direct Current
ALSE	Absorber Lined Screened Enclosure	DFS	Dynamic Frequency Selection
AM	Amplitude Modulation	DMO	Dynamic Modulation Order
Amb	Ambient	DSSS	Direct Sequence Spread Spectrum
ANSI	American National Standards Institute	DTA	Digital Transmission Analyser
ATPC	Automatic Transmit Power Control	EIRP	Equivalent Isotropic Radiated Power
AVG	Average	emf	electromotive force
AWGN	Additive White Gaussian Noise	ERC	European Radiocommunications Committee
BER	Bit Error Rate	ERP	Effective Radiated Power
BPSK	Binary Phase Shift Keying	ETSI	European Telecommunications Standards Institute
BT	Bluetooth	EU	European Union
BLE	Bluetooth Low Energy	EUT	Equipment Under Test
BW	Bandwidth	FCC	Federal Communications Commission
°C	Degrees Celsius	FER	Frame Error Rate
C/I	Carrier / Interferer	FHSS	Frequency Hopping Spread Spectrum
CAC	Channel Availability Check	FM	Frequency Modulation
CCA	Clear Channel Assessment	FSK	Frequency Shift Keying
CEPT	European Conference of Postal and Telecommunications Administrations	FSS	Fixed Satellite Service
CFR	Code of Federal Regulations	g	Grams
CISPR	Comité International Spécial des Perturbations Radioélectriques	GHz	GigaHertz
cm	centimetre	GNSS	Global Navigation Satellite System
COFDM	Coherent OFDM	GPS	Global Positioning System
COT	Channel Occupancy Time	Hz	Hertz
CS	Channel Spacing	IEEE	Institute of Electrical and Electronics Engineers
CW	Continuous Wave	IF	Intermediate Frequency
DAA	Detect And Avoid	ISED	Innovation Science and Economic Development
dB	decibels	ITU	International Telecommunications Union
dBμA/m	decibels relative to 1μA/m	KDB	Knowledge DataBase

kg	kilogram	pW	picoWatts
kHz	kiloHertz	QAM	Quadrature Amplitude Modulation
kPa	Kilopascal	QP	Quasi Peak
LBT	Listen Before Talk	QPSK	Quadrature Phase Shift Keying
LISN	Line Impedance Stabilisation Network	RBW	Resolution Band Width
LNA	Low Noise Amplifier	RED	Radio Equipment Directive
LNB	Low Noise Block	R&TTE	Radio and Telecommunication Terminal Equipment
LO	Local Oscillator	Ref	Reference
m	metre	RF	Radio Frequency
mA	milliAmps	RFC	Remote Frequency Control
max	maximum	RFID	Radio Frequency IDentification
Mbit/s	MegaBits per second	RLAN	Radio Local Area Network
MCS	Modulation and Coding Scheme	RMS	Root Mean Square
MHz	MegaHertz	RNSS	Radio Navigation Satellite Service
mic	Microphone	RSL	Received Signal Level
MIMO	Multiple Input, Multiple Output	RSSI	Received Signal Strength Indicator
min	minimum	RTP	Room Temperature and Pressure
mm	millimetres	RTPC	Remote Transmit Power Control
ms	milliseconds	Rx	Receiver
mW	milliWatts	s	Seconds
NA	Not Applicable	SINAD	Signal to Noise And Distortion
NFC	Near Field Communications	SRD	Short Range Device
nom	Nominal	Tx	Transmitter
nW	nanoWatt	UKAS	United Kingdom Accreditation Service
OATS	Open Area Test Site	UKCA	United Kingdom Conformity Assessed
OBW	Occupied Band Width	UKRER	United Kingdom Radio Equipment Regulations
OCW	Occupied Channel Width	UHF	Ultra High Frequency
OFDM	Orthogonal Frequency Division Multiplexing	U-NII	Unlicensed National Information Infrastructure
OOB	Out Of Band	USB	Universal Serial Bus
ppm	Parts per million	UWB	Ultra Wide Band
PER	Packet Error Rate	V	Volts
PK	Peak	V/m	Volts per metre
PMR	Private Mobile Radio	VBW	Video Band Width
PRBS	Pseudo Random Bit Sequence	VHF	Very High Frequency
PRF	Pulse Repetition Frequency	VSAT	Very Small Aperture Terminal
PSD	Power Spectral Density	W	Watts
PSU	Power Supply Unit		

===== END OF TEST REPORT =====