

FCC Test Report

(PART 27)

Report No.: RF200325E02

FCC ID: MAD-G06RRH-46-01B

Test Model: G06RRH-46-01B

Received Date: Mar. 25, 2020

Test Date: Mar. 25 to Apr. 26, 2020

Issued Date: May 19, 2020

Applicant: Microelectronics Technology Inc.

Address: No. 1, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan, R.O.C.

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Test Site and Instruments	7
3 General Information	9
3.1 General Description of EUT	9
3.2 Configuration of System under Test	12
3.2.1 Description of Support Units	13
3.3 Test Mode Applicability and Tested Channel Detail	14
3.4 EUT Operating Conditions	17
3.5 General Description of Applied Standards	17
4 Test Types and Results	18
4.1 Output Power Measurement	18
4.1.1 Limits of Output Power Measurement	18
4.1.2 Test Procedures	18
4.1.3 Test Setup	18
4.1.4 Test Results	19
4.2 Modulation characteristics Measurement	47
4.2.1 Limits of Modulation characteristics	47
4.2.2 Test Procedure	47
4.2.3 Test Setup	47
4.2.4 Test Results	48
4.3 Frequency Stability Measurement	49
4.3.1 Limits of Frequency Stability Measurement	49
4.3.2 Test Procedure	49
4.3.3 Test Setup	49
4.3.4 Test Results	50
4.4 Emission Bandwidth Measurement	54
4.4.1 Limits of Emission Bandwidth Measurement	54
4.4.2 Test Procedure	54
4.4.3 Test Setup	54
4.4.4 Test Results (-26dBc Bandwidth)	55
4.4.5 Test Results (Occupied Bandwidth)	93
4.5 Channel Edge Measurement	131
4.5.1 Limits of Band Edge Measurement	131
4.5.2 Test Setup	131
4.5.3 Test Procedures	131
4.5.4 Test Results	132
4.6 Peak to Average Ratio	138
4.6.1 Limits of Peak to Average Ratio Measurement	138
4.6.2 Test Setup	138
4.6.3 Test Procedures	138
4.6.4 Test Results	139
4.7 Conducted Spurious Emissions	147
4.7.1 Limits of Conducted Spurious Emissions Measurement	147
4.7.2 Test Setup	147
4.7.3 Test Procedure	147
4.7.4 Test Results	148
4.8 Radiated Emission Measurement	158
4.8.1 Limits of Radiated Emission Measurement	158
4.8.2 Test Procedure	158
4.8.3 Deviation from Test Standard	158

4.8.4 Test Setup.....	159
4.8.5 Test Results	160
5 Pictures of Test Arrangements.....	188
Appendix – Information on the Testing Laboratories	189

Release Control Record

Issue No.	Description	Date Issued
RF200325E02	Original release.	May 19, 2020

1 Certificate of Conformity

Product: 2x40W B71 RRH

Brand: MTI

Test Model: G06RRH-46-01B

Sample Status: ENGINEERING SAMPLE

Applicant: Microelectronics Technology Inc.

Test Date: Mar. 25 to Apr. 26, 2020

Standards: FCC Part 27, Subpart N
FCC Part 2

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Joyce Kuo , **Date:** May 19, 2020
Joyce Kuo / Specialist

Approved by : Clark Lin , **Date:** May 19, 2020
Clark Lin / Technical Manager

2 Summary of Test Results

Applied Standard: FCC Part 27, Subpart N & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(d)(4)	Equivalent Isotropically radiated power	PASS	Meet the requirement of limit.
2.1047	Modulation characteristics	PASS	Meet the requirement
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	PASS	Meet the requirement of limit.
2.1049 27.53(g)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak To Average Ratio	PASS	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -35.82dB at 93.88MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Test Site and Instruments

For radiated spurious emissions test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 30, 2019	May 29, 2020
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 30, 2019	Apr. 29, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 26, 2019	Sep. 25, 2020
Horn Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1200	160922	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 10, 2019	June 09, 2020
RF Cable	EMC104-SM-SM-6000	180602	June 10, 2019	June 09, 2020
Spectrum Analyzer Keysight	N9030A	MY54490679	July 17, 2019	July 16, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Apr. 10 to 26, 2020

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Keysight	N9030A	MY55410176	Jul 03, 2019	Jul 02, 2020
18GHz 30dB 100W Fixed Attenuator(*) woken	WATT-10018FS-30	N/A	May. 17, 2018	May. 16, 2020
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
True RMS Clamp Meter FLUKE	325	31130711WS	May 21, 2019	May 20, 2020
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. (*)The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
 4. Tested Date: Mar. 25, 2020

3 General Information

3.1 General Description of EUT

Product	2x40W B71 RRH		
Brand	MTI		
Test Model	G06RRH-46-01B		
Status of EUT	ENGINEERING SAMPLE		
Power Supply Rating	DC -40.5 to -57 V (Nominal -48Vdc)		
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM		
Modulation Technology	LTE FDD		
Operating Frequency	Band 71	Channel Bandwidth: 5MHz	619.5MHz ~649.5MHz
		Channel Bandwidth: 10MHz	622MHz ~647MHz
		Channel Bandwidth: 15MHz	624.5MHz ~644.5MHz
		Channel Bandwidth: 20MHz	627MHz ~642MHz
Number of Channel	Channel Bandwidth: 5MHz		301
	Channel Bandwidth: 10MHz		251
	Channel Bandwidth: 15MHz		201
	Channel Bandwidth: 20MHz		151
Max. ERP Power	Channel Bandwidth: 5MHz		1610645.64mW (256QAM)
	Channel Bandwidth: 10MHz		1621810.1mW (256QAM)
	Channel Bandwidth: 15MHz		1633051.95mW (QPSK)
	Channel Bandwidth: 20MHz		1640589.77mW (QPSK)
	Channel Bandwidth: 5MHz+5MHz CA Contiguous		1584893.19mW (256QAM)
	Channel Bandwidth: 5MHz+10MHz CA Contiguous		1584893.19mW (QPSK, 16QAM)
	Channel Bandwidth: 5MHz+15MHz CA Contiguous		1577611.27mW (QPSK, 64QAM, 256QAM)
	Channel Bandwidth: 5MHz+20MHz CA Contiguous		1588546.75mW (64QAM)
	Channel Bandwidth: 10MHz+10MHz CA Contiguous		1588546.75mW (64QAM, 256QAM)
	Channel Bandwidth: 10MHz+15MHz CA Contiguous		1581248.04mW (64QAM)
	Channel Bandwidth: 10MHz+20MHz CA Contiguous		1584893.19mW (256QAM)
	Channel Bandwidth: 15MHz+15MHz CA Contiguous		1584893.19mW (256QAM)
	Channel Bandwidth: 15MHz+20MHz CA Contiguous		1614358.56mW (QPSK)
	Channel Bandwidth: 5MHz+5MHz CA-NC Non-Contiguous		1485935.64mW (QPSK)
	Channel Bandwidth: 5MHz+10MHz CA-NC Non-Contiguous		1510080.15mW (QPSK)
	Channel Bandwidth: 5MHz+15MHz CA-NC Non-Contiguous		1527566.06mW (QPSK)
	Channel Bandwidth: 5MHz+20MHz CA-NC Non-Contiguous		1527566.06mW (QPSK)

Max. ERP Power	Channel Bandwidth: 10MHz+10MHz CA-NC Non-Contiguous	1510080.15mW (QPSK)
	Channel Bandwidth: 10MHz+15MHz CA-NC Non-Contiguous	1563147.64mW (QPSK)
	Channel Bandwidth: 10MHz+20MHz CA-NC Non-Contiguous	1524052.75mW (QPSK)
	Channel Bandwidth: 15MHz+15MHz CA-NC Non-Contiguous	1577611.27mW (QPSK)
Emission Designator	Channel Bandwidth: 5MHz	QPSK: 4M51G7D
		16QAM: 4M50D7W
		64QAM: 4M52D7W
		256QAM: 4M51D7W
	Channel Bandwidth: 10MHz	QPSK: 9M02G7D
		16QAM: 9M06D7W
		64QAM: 9M04D7W
		256QAM: 9M00D7W
	Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5D7W
		64QAM: 13M5D7W
		256QAM: 13M5D7W
	Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 18M1D7W
		64QAM: 18M0D7W
		256QAM: 18M0D7W
	Channel Bandwidth: 15MHz+20MHz CA Contiguous	QPSK: 33M2G7D
		16QAM: 33M2D7W
		64QAM: 33M1D7W
		256QAM: 33M3D7W
	Channel Bandwidth: 15MHz+15MHz CA-NC Non-Contiguous	QPSK: 27M0G7D
		16QAM: 27M0D7W
		64QAM: 27M0D7W
		256QAM: 27M0D7W
Antenna Type	Refer to note as below	
Antenna Connector	Refer to user's manual	
Accessory Device	NA	
Data Cable Supplied	NA	

Note:

- There is LTE technology used for the EUT, which supports 619.5~649.5MHz frequency band.
- The EUT incorporates a MIMO function for LTE mode

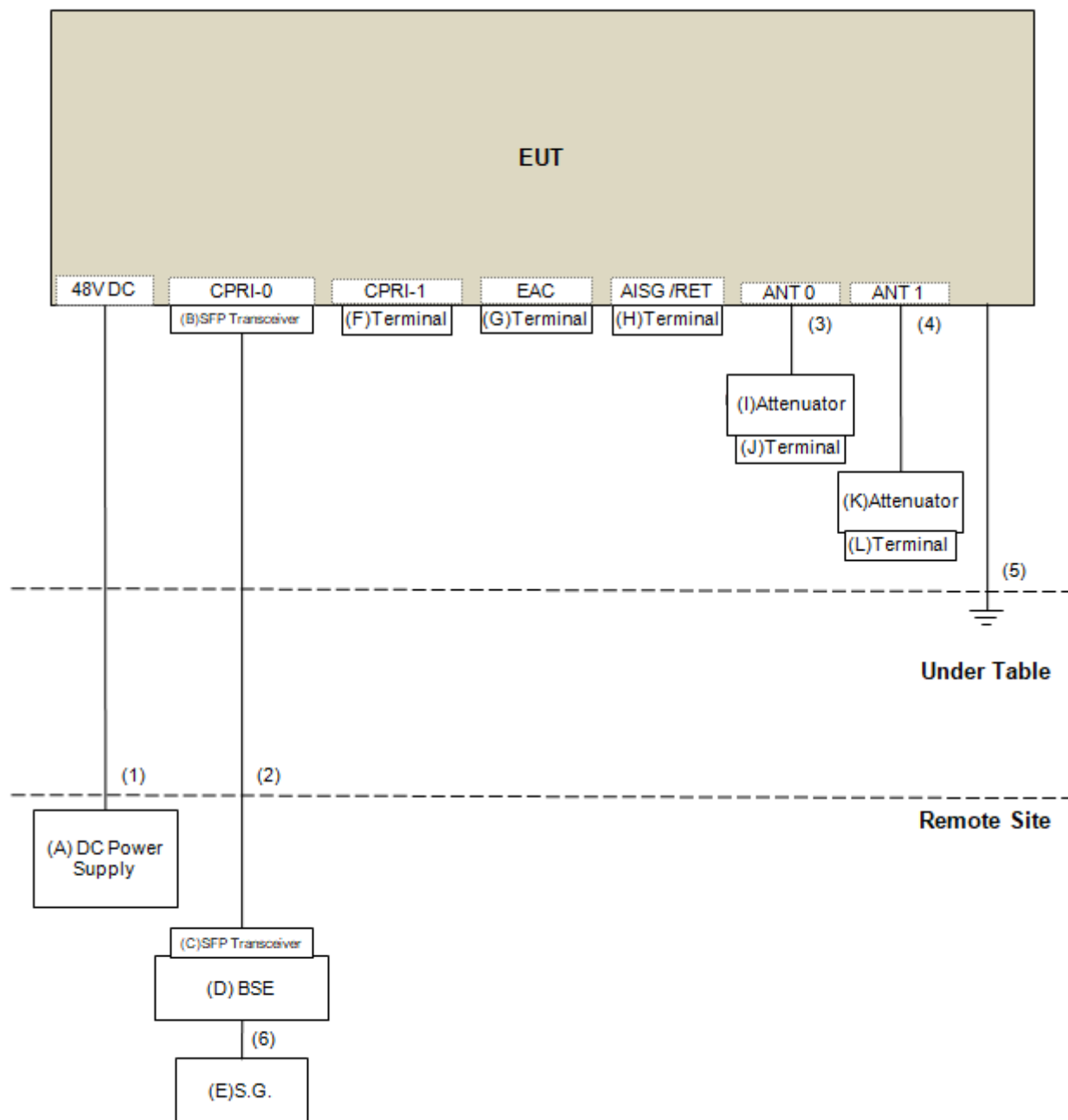
Channel Bandwidth	Modulation	TX & RX configuration	
5MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	2RX
10MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	2RX
15MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	2RX
20MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	2RX

3. The antennas provided to the EUT, please refer to the following table:

Antenna Gain (dBi)	Frequency range(MHz)	Antenna Type	Connector Type
18	617-698	Sector	4×4.3-10 Female

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	DC Power Supply	NA	NA	NA	NA	Supplied by client
B	SFP Transceiver	NA	NA	NA	NA	Supplied by client
C	SFP Transceiver	NA	NA	NA	NA	Supplied by client
D	BSE (Note 2)	NA	NA	NA	NA	Supplied by client
E	S.G	Agilent	E4438C	NA	NA	Provided by Lab
F	Terminal	NA	NA	NA	NA	Supplied by client
G	Terminal	NA	NA	NA	NA	Supplied by client
H	Terminal	NA	NA	NA	NA	Supplied by client
I	Attenuator	NA	NA	NA	NA	Supplied by client
J	Terminal	NA	NA	NA	NA	Supplied by client
K	Attenuator	NA	NA	NA	NA	Supplied by client
L	Terminal	NA	NA	NA	NA	Supplied by client

NOTE:

1. All power cords of the above support units are non-shielded (1.8 m).
2. BSE: Based Station Emulator which is to transmit/receive the waveform
2. Items B-C acted as communication partners to transfer data.

No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1	DC Power Cable	1	10	Yes	0	Supplied by client
2	Coaxial Cable	1	10	Yes	0	Supplied by client
3	RF Cable	1	1.5	Yes	0	Supplied by client
4	RF Cable	1	1.5	Yes	0	Supplied by client
5	GND Cable	1	3	No	0	Provided by Lab
6	RF Cable	1	3	No	0	Supplied by client

3.3 Test Mode Applicability and Tested Channel Detail

Following channel(s) was (were) selected for the final test as listed below:

Test Item	Available Frequency (MHz)	Tested Frequency (MHz)	Channel Bandwidth	Modulation
Output Power	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		622, 634.5, 647	10MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		627, 634.5, 642	20MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+624.5, 632+637, 644.5+649.5	5MHz+5MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+627, 629.5+637, 642+649.5	5MHz+10MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+629.5, 627+637, 639.5+649.5	5MHz+15MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+632, 624.5+637, 637+649.5	5MHz+20MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+632, 629.5+639.5, 637+647	10MHz+10MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+634.5, 627+639.5, 634.5+647	10MHz+15MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+637, 624.5+639.5, 632+647	10MHz+20MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+639.5, 627+642, 629.5+644.5	15MHz+15MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+642	15MHz+20MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+649.5	5MHz+5MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+647	5MHz+10MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+644.5	5MHz+15MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		619.5+642	5MHz+20MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+647	10MHz+10MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+644.5	10MHz+15MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		622+642	10MHz+20MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM

Frequency Stability	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK
		622, 634.5, 647	10MHz Single Carrier	QPSK
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK
		627, 634.5, 642	20MHz Single Carrier	QPSK
		624.5+642	15MHz+20MHz CA Contiguous	QPSK
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK
Emission Bandwidth	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		622, 634.5, 647	10MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		627, 634.5, 642	20MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+642	15MHz+20MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
Channel Edge	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK
		622, 634.5, 647	10MHz Single Carrier	QPSK
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK
		627, 634.5, 642	20MHz Single Carrier	QPSK
		624.5+642	15MHz+20MHz CA Contiguous	QPSK
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK
Peak To Average Ratio	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		622, 634.5, 647	10MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		627, 634.5, 642	20MHz Single Carrier	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+642	15MHz+20MHz CA Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, , 256QAM
Conducted Emission	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK
		622, 634.5, 647	10MHz Single Carrier	QPSK
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK
		627, 634.5, 642	20MHz Single Carrier	QPSK
		624.5+642	15MHz+20MHz CA Contiguous	QPSK
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK

Test Item	Available Frequency (MHz)	Tested Frequency (MHz)	Channel Bandwidth	Modulation
Radiated Emission Below 1GHz	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK
		622, 634.5, 647	10MHz Single Carrier	QPSK
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK
		627, 634.5, 642	20MHz Single Carrier	QPSK
		624.5+642	15MHz+20MHz CA Contiguous	QPSK
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK
Radiated Emission Above 1GHz	619.5 to 649.5	619.5, 634.5, 649.5	5MHz Single Carrier	QPSK
		622, 634.5, 647	10MHz Single Carrier	QPSK
		624.5, 634.5, 644.5	15MHz Single Carrier	QPSK
		627, 634.5, 642	20MHz Single Carrier	QPSK
		624.5+642	15MHz+20MHz CA Contiguous	QPSK
		624.5+644.5	15MHz+15MHz CA-NC Non-Contiguous	QPSK

NOTE:

- The conducted output power for QPSK and 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, the Frequency Stability and Radiated Emission were performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power (System)	Tested By
Output Power	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Modulation characteristics	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Frequency Stability	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Emission Bandwidth	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Band Edge	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Peak To Average Ratio	25deg. C, 63%RH	120Vac, 60Hz	Allen Chuang
Conducted Emission	25deg. C, 75%RH	120Vac, 60Hz	Nelson Teng
Radiated Emission	25deg. C, 75%RH	120Vac, 60Hz	Nelson Teng

Note: Above input power with the AC/DC PSU used during testing.

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

FCC 47 CFR Part 2

FCC 47 CFR Part 27, Subpart N

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

All test items have been performed and recorded as per the above standards and KDB test guidance.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

The radiated peak output power shall be according to the specific rule Part 27.50(c)(3) that are limited to ERP of 1000 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.

4.1.2 Test Procedures

EIRP / ERP Measurement:

Conducted Power Measurement:

- A spectrum analyzer was used on the output port of the EUT and recorded output power from the spectrum analyzer.
- The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\text{ERP or EIRP} = \text{PMeas} + \text{GT}$$

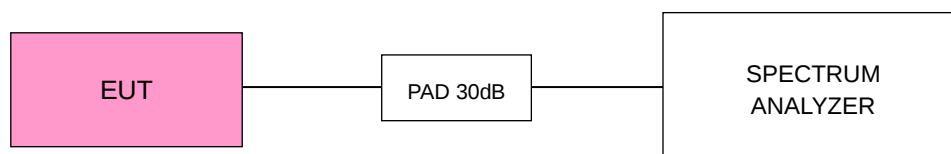
Where ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, e.g., dBm or dBW)

PMeas : measured transmitter output power or PSD, in dBm or dBW

GT : gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

4.1.3 Test Setup

CONDUCTED POWER MEASUREMENT:



4.1.4 Test Results

Single Carrier

5MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611	619.5	46.04	46.13	18.00	61.89	61.98	1545254.44	1577611.27	66.99	PASS	46
68761	634.5	46.21	46.12	18.00	62.06	61.97	1606941.25	1573982.86	66.99	PASS	46
68911	649.5	45.96	45.93	18.00	61.81	61.78	1517050.37	1506607.07	66.99	PASS	46

10MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636	622	46.12	46.03	18.00	61.97	61.88	1573982.86	1541700.45	70.00	PASS	46
68761	634.5	46.23	46.12	18.00	62.08	61.97	1614358.56	1573982.86	70.00	PASS	46
68886	647	46.17	46.13	18.00	62.02	61.98	1592208.73	1577611.27	70.00	PASS	46

15MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661	624.5	46.21	46.05	18.00	62.06	61.90	1606941.25	1548816.62	71.76	PASS	46
68761	634.5	46.28	46.10	18.00	62.13	61.95	1633051.95	1566751.07	71.76	PASS	46
68861	644.5	46.19	46.14	18.00	62.04	61.99	1599558.03	1581248.04	71.76	PASS	46

20MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68686	627	46.25	46.15	18.00	62.10	62.00	1621810.10	1584893.19	73.01	PASS	46
68761	634.5	46.29	46.16	18.00	62.14	62.01	1636816.52	1588546.75	73.01	PASS	46
68836	642	46.30	46.19	18.00	62.15	62.04	1640589.77	1599558.03	73.01	PASS	46

5MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
					CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611	619.5	46.15	46.02	18.00	62.00	61.87	1584893.19	1538154.64	66.99	PASS	46
68761	634.5	46.21	46.12	18.00	62.06	61.97	1606941.25	1573982.86	66.99	PASS	46
68911	649.5	46.03	45.98	18.00	61.88	61.83	1541700.45	1524052.75	66.99	PASS	46

10MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
					CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636	622	46.14	45.98	18.00	61.99	61.83	1581248.04	1524052.75	70.00	PASS	46
68761	634.5	46.22	46.07	18.00	62.07	61.92	1610645.64	1555965.63	70.00	PASS	46
68886	647	46.19	46.09	18.00	62.04	61.94	1599558.03	1563147.64	70.00	PASS	46

15MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
					CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661	624.5	46.16	46.07	18.00	62.01	61.92	1588546.75	1555965.63	71.76	PASS	46
68761	634.5	46.23	46.10	18.00	62.08	61.95	1614358.56	1566751.07	71.76	PASS	46
68861	644.5	46.21	46.15	18.00	62.06	62.00	1606941.25	1584893.19	71.76	PASS	46

20MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
					CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68686	627	46.18	46.10	18.00	62.03	61.95	1595879.15	1566751.07	73.01	PASS	46
68761	634.5	46.26	46.12	18.00	62.11	61.97	1625548.76	1573982.86	73.01	PASS	46
68836	642	46.27	46.16	18.00	62.12	62.01	1629296.03	1588546.75	73.01	PASS	46

5MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611	619.5	46.17	46.04	18.00	62.02	61.89	1592208.73	1545254.44	66.99	PASS	46
68761	634.5	46.21	46.09	18.00	62.06	61.94	1606941.25	1563147.64	66.99	PASS	46
68911	649.5	46.01	45.96	18.00	61.86	61.81	1534616.98	1517050.37	66.99	PASS	46

10MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636	622	46.12	45.98	18.00	61.97	61.83	1573982.86	1524052.75	70.00	PASS	46
68761	634.5	46.20	46.05	18.00	62.05	61.90	1603245.39	1548816.62	70.00	PASS	46
68886	647	46.13	46.09	18.00	61.98	61.94	1577611.27	1563147.64	70.00	PASS	46

15MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661	624.5	46.15	46.02	18.00	62.00	61.87	1573982.86	1524052.75	71.76	PASS	46
68761	634.5	46.24	46.09	18.00	62.09	61.94	1603245.39	1548816.62	71.76	PASS	46
68861	644.5	46.23	46.10	18.00	62.08	61.95	1577611.27	1563147.64	71.76	PASS	46

20MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68686	627	46.18	46.05	18.00	62.03	61.90	1595879.15	1548816.62	73.01	PASS	46
68761	634.5	46.27	46.10	18.00	62.12	61.95	1629296.03	1566751.07	73.01	PASS	46
68836	642	46.28	46.12	18.00	62.13	61.97	1633051.95	1573982.86	73.01	PASS	46

5MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611	619.5	46.13	46.01	18.00	61.98	61.86	1577611.27	1534616.98	66.99	PASS	46
68761	634.5	46.22	46.08	18.00	62.07	61.93	1610645.64	1559552.50	66.99	PASS	46
68911	649.5	46.12	45.97	18.00	61.97	61.82	1573982.86	1520547.53	66.99	PASS	46

10MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636	622	46.16	45.98	18.00	62.01	61.83	1588546.75	1524052.75	70.00	PASS	46
68761	634.5	46.25	46.12	18.00	62.10	61.97	1621810.10	1573982.86	70.00	PASS	46
68886	647	46.22	46.03	18.00	62.07	61.88	1610645.64	1541700.45	70.00	PASS	46

15MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661	624.5	46.18	46.02	18.00	62.03	61.87	1595879.15	1538154.64	71.76	PASS	46
68761	634.5	46.26	46.08	18.00	62.11	61.93	1625548.76	1559552.50	71.76	PASS	46
68861	644.5	46.23	46.12	18.00	62.08	61.97	1614358.56	1573982.86	71.76	PASS	46

20MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68686	627	46.19	46.05	18.00	62.04	61.90	1599558.03	1548816.62	73.01	PASS	46
68761	634.5	46.28	46.14	18.00	62.13	61.99	1633051.95	1581248.04	73.01	PASS	46
68836	642	46.24	46.13	18.00	62.09	61.98	1618080.04	1577611.27	73.01	PASS	46

CA Contiguous

5MHz+5MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68661	619.5+624.5	46.02	45.92	18.00	61.87	61.77	1538154.64	1503141.97	70.0	PASS	43
68736+68786	632+637	46.04	46.01	18.00	61.89	61.86	1545254.44	1534616.98	70.0	PASS	43
68861+68911	644.5+649.5	45.95	45.97	18.00	61.80	61.82	1513561.25	1520547.53	70.0	PASS	43

5MHz+10MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68686	619.5+627	46.03	45.92	18.00	61.88	61.77	1541700.45	1503141.97	71.8	PASS	43
68711+68786	629.5+637	46.15	45.97	18.00	62.00	61.82	1584893.19	1520547.53	71.8	PASS	43
68836+68911	642+649.5	45.97	45.92	18.00	61.82	61.77	1520547.53	1503141.97	71.8	PASS	43

5MHz+15MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68711	619.5+629.5	46.07	45.93	18.00	61.92	61.78	1555965.63	1506607.07	73.0	PASS	43
68686+68786	627+637	46.13	45.97	18.00	61.98	61.82	1577611.27	1520547.53	73.0	PASS	43
68811+68911	639.5+649.5	45.93	45.83	18.00	61.78	61.68	1506607.07	1472312.50	73.0	PASS	43

5MHz+20MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68736	619.5+632	46.03	45.95	18.00	61.88	61.80	1541700.45	1513561.25	74.0	PASS	43
68661+68786	624.5+637	46.14	46.01	18.00	61.99	61.86	1581248.04	1534616.98	74.0	PASS	43
68786+68911	637+649.5	45.93	45.83	18.00	61.78	61.68	1506607.07	1472312.50	74.0	PASS	43

10MHz+10MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68736	622+632	46.06	45.97	18.00	61.91	61.82	1552387.01	1520547.53	73.0	PASS	43
68711+68811	629.5+639.5	46.14	45.93	18.00	61.99	61.78	1581248.04	1506607.07	73.0	PASS	43
68786+68886	637+647	46.10	45.95	18.00	61.95	61.80	1566751.07	1513561.25	73.0	PASS	43

10MHz+15MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68761	622+634.5	46.08	45.93	18.00	61.93	61.78	1559552.50	1506607.07	74.0	PASS	43
68686+68811	627+639.5	46.13	45.97	18.00	61.98	61.82	1577611.27	1520547.53	74.0	PASS	43
68761+68886	634.5+647	46.03	45.91	18.00	61.88	61.76	1541700.45	1499684.84	74.0	PASS	43

10MHz+20MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68786	622+637	46.04	45.94	18.00	61.89	61.79	1545254.44	1510080.15	74.8	PASS	43
68661+68811	624.5+639.5	46.12	45.93	18.00	61.97	61.78	1573982.86	1506607.07	74.8	PASS	43
68736+68886	632+647	45.95	45.81	18.00	61.80	61.66	1513561.25	1465547.84	74.8	PASS	43

15MHz+15MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68811	624.5+639.5	45.98	45.83	18.00	61.83	61.68	1524052.75	1472312.50	74.8	PASS	43
68686+68836	627+642	46.08	45.89	18.00	61.93	61.74	1559552.50	1492794.41	74.8	PASS	43
68711+68861	629.5+644.5	46.07	45.87	18.00	61.92	61.72	1555965.63	1485935.64	74.8	PASS	43

15MHz+20MHz

Channel Number	Freq. (MHz)	QPSK								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68836	624.5+642	46.23	46.12	18.00	62.08	61.97	1614358.56	1573982.86	75.4	PASS	43

5MHz+5MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68661	619.5+624.5	46.05	45.85	18.00	61.90	61.70	1548816.62	1479108.39	70.0	PASS	43
68736+68786	632+637	46.14	45.91	18.00	61.99	61.76	1581248.04	1499684.84	70.0	PASS	43
68861+68911	644.5+649.5	46.08	45.95	18.00	61.93	61.80	1559552.50	1513561.25	70.0	PASS	43

5MHz+10MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68686	619.5+627	46.12	45.91	18.00	61.97	61.76	1573982.86	1499684.84	71.8	PASS	43
68711+68786	629.5+637	46.15	45.99	18.00	62.00	61.84	1584893.19	1527566.06	71.8	PASS	43
68836+68911	642+649.5	46.07	45.98	18.00	61.92	61.83	1555965.63	1524052.75	71.8	PASS	43

5MHz+15MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68711	619.5+629.5	46.11	45.91	18.00	61.96	61.76	1570362.80	1499684.84	73.01	PASS	43
68686+68786	627+637	46.12	46.01	18.00	61.97	61.86	1573982.86	1534616.98	73.01	PASS	43
68811+68911	639.5+649.5	46.03	45.90	18.00	61.88	61.75	1541700.45	1496235.66	73.01	PASS	43

5MHz+20MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68736	619.5+632	46.11	46.01	18.00	61.96	61.86	1570362.80	1534616.98	73.98	PASS	43
68661+68786	624.5+637	46.13	46.02	18.00	61.98	61.87	1577611.27	1538154.64	73.98	PASS	43
68786+68911	637+649.5	45.99	45.85	18.00	61.84	61.70	1527566.06	1479108.39	73.98	PASS	43

10MHz+10MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68736	622+632	46.08	45.97	18.00	61.93	61.82	1559552.50	1520547.53	73.01	PASS	43
68711+68811	629.5+639.5	46.10	46.01	18.00	61.95	61.86	1566751.07	1534616.98	73.01	PASS	43
68786+68886	637+647	46.11	46.03	18.00	61.96	61.88	1570362.80	1541700.45	73.01	PASS	43

10MHz+15MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68761	622+634.5	46.04	45.97	18.00	61.89	61.82	1545254.44	1520547.53	73.98	PASS	43
68686+68811	627+639.5	46.09	46.02	18.00	61.94	61.87	1563147.64	1538154.64	73.98	PASS	43
68761+68886	634.5+647	46.11	45.95	18.00	61.96	61.80	1570362.80	1513561.25	73.98	PASS	43

10MHz+20MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68786	622+637	46.02	45.98	18.00	61.87	61.83	1538154.64	1524052.75	74.77	PASS	43
68661+68811	624.5+639.5	46.10	45.97	18.00	61.95	61.82	1566751.07	1520547.53	74.77	PASS	43
68736+68886	632+647	45.98	45.86	18.00	61.83	61.71	1524052.75	1482518.09	74.77	PASS	43

15MHz+15MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68811	624.5+639.5	46.01	45.91	18.00	61.86	61.76	1534616.98	1499684.84	74.77	PASS	43
68686+68836	627+642	46.06	45.97	18.00	61.91	61.82	1552387.01	1520547.53	74.77	PASS	43
68711+68861	629.5+644.5	46.05	45.93	18.00	61.90	61.78	1548816.62	1506607.07	74.77	PASS	43

15MHz+20MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68836	624.5+642	46.16	46.05	18.00	62.01	61.90	1588546.75	1548816.62	75.44	PASS	43

5MHz+5MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68661	619.5+624.5	46.04	45.91	18.00	61.89	61.76	1545254.44	1499684.84	70.0	PASS	43
68736+68786	632+637	46.10	45.98	18.00	61.95	61.83	1566751.07	1524052.75	70.0	PASS	43
68861+68911	644.5+649.5	46.01	45.97	18.00	61.86	61.82	1534616.98	1520547.53	70.0	PASS	43

5MHz+10MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68686	619.5+627	46.12	45.94	18.00	61.97	61.79	1573982.86	1510080.15	71.8	PASS	43
68711+68786	629.5+637	46.13	46.01	18.00	61.98	61.86	1577611.27	1534616.98	71.8	PASS	43
68836+68911	642+649.5	46.02	45.97	18.00	61.87	61.82	1538154.64	1520547.53	71.8	PASS	43

5MHz+15MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68711	619.5+629.5	46.12	45.93	18.00	61.97	61.78	1573982.86	1510080.15	73.01	PASS	43
68686+68786	627+637	46.14	45.97	18.00	61.99	61.82	1577611.27	1534616.98	73.01	PASS	43
68811+68911	639.5+649.5	46.01	45.91	18.00	61.86	61.76	1538154.64	1520547.53	73.01	PASS	43

5MHz+20MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68736	619.5+632	46.13	45.97	18.00	61.98	61.82	1577611.27	1520547.53	73.98	PASS	43
68661+68786	624.5+637	46.16	45.98	18.00	62.01	61.83	1588546.75	1524052.75	73.98	PASS	43
68786+68911	637+649.5	45.97	45.85	18.00	61.82	61.70	1520547.53	1479108.39	73.98	PASS	43

10MHz+10MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68736	622+632	46.09	45.98	18.00	61.94	61.83	1563147.64	1524052.75	73.01	PASS	43
68711+68811	629.5+639.5	46.16	46.01	18.00	62.01	61.86	1588546.75	1534616.98	73.01	PASS	43
68786+68886	637+647	46.12	46.02	18.00	61.97	61.87	1573982.86	1538154.64	73.01	PASS	43

10MHz+15MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68761	622+634.5	46.11	45.98	18.00	61.96	61.83	1570362.80	1524052.75	73.98	PASS	43
68686+68811	627+639.5	46.14	46.01	18.00	61.99	61.86	1581248.04	1534616.98	73.98	PASS	43
68761+68886	634.5+647	46.13	45.93	18.00	61.98	61.78	1577611.27	1506607.07	73.98	PASS	43

10MHz+20MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68786	622+637	46.03	46.04	18.00	61.88	61.89	1541700.45	1545254.44	74.77	PASS	43
68661+68811	624.5+639.5	46.12	46.01	18.00	61.97	61.86	1573982.86	1534616.98	74.77	PASS	43
68736+68886	632+647	45.97	45.93	18.00	61.82	61.78	1520547.53	1506607.07	74.77	PASS	43

15MHz+15MHz

Channel Number	Freq. (MHz)	64QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68811	624.5+639.5	46.07	45.99	18.00	61.92	61.84	1555965.63	1527566.06	74.77	PASS	43
68686+68836	627+642	46.13	46.02	18.00	61.98	61.87	1577611.27	1538154.64	74.77	PASS	43
68711+68861	629.5+644.5	46.12	45.96	18.00	61.97	61.81	1573982.86	1517050.37	74.77	PASS	43

15MHz+20MHz

Channel Number	Freq. (MHz)	16QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68836	624.5+642	46.18	46.06	18.00	62.03	61.91	1595879.15	1552387.01	75.44	PASS	43

5MHz+5MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68661	619.5+624.5	46.01	45.93	18.00	61.86	61.78	1534616.98	1506607.07	70.0	PASS	43
68736+68786	632+637	46.15	45.96	18.00	62.00	61.81	1584893.19	1517050.37	70.0	PASS	43
68861+68911	644.5+649.5	46.03	46.01	18.00	61.88	61.86	1541700.45	1534616.98	70.0	PASS	43

5MHz+10MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68686	619.5+627	46.04	45.95	18.00	61.89	61.80	1545254.44	1513561.25	71.8	PASS	43
68711+68786	629.5+637	46.11	46.01	18.00	61.96	61.86	1570362.80	1534616.98	71.8	PASS	43
68836+68911	642+649.5	46.02	45.94	18.00	61.87	61.79	1538154.64	1510080.15	71.8	PASS	43

5MHz+15MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68711	619.5+629.5	46.08	45.94	18.00	61.93	61.79	1559552.50	1510080.15	73.01	PASS	43
68686+68786	627+637	46.13	45.99	18.00	61.98	61.84	1577611.27	1527566.06	73.01	PASS	43
68811+68911	639.5+649.5	45.94	45.91	18.00	61.79	61.76	1510080.15	1499684.84	73.01	PASS	43

5MHz+20MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68611+68736	619.5+632	46.06	45.89	18.00	61.91	61.74	1552387.01	1492794.41	73.98	PASS	43
68661+68786	624.5+637	46.11	45.96	18.00	61.96	61.81	1570362.80	1517050.37	73.98	PASS	43
68786+68911	637+649.5	45.94	45.78	18.00	61.79	61.63	1510080.15	1455459.08	73.98	PASS	43

10MHz+10MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68736	622+632	46.08	45.97	18.00	61.93	61.82	1559552.50	1520547.53	73.01	PASS	43
68711+68811	629.5+639.5	46.16	46.02	18.00	62.01	61.87	1588546.75	1538154.64	73.01	PASS	43
68786+68886	637+647	46.13	46.01	18.00	61.98	61.86	1577611.27	1534616.98	73.01	PASS	43

10MHz+15MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68761	622+634.5	46.10	45.98	18.00	61.95	61.83	1566751.07	1524052.75	73.98	PASS	43
68686+68811	627+639.5	46.13	46.01	18.00	61.98	61.86	1577611.27	1534616.98	73.98	PASS	43
68761+68886	634.5+647	46.12	45.97	18.00	61.97	61.82	1573982.86	1520547.53	73.98	PASS	43

10MHz+20MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68636+68786	622+637	46.02	46.01	18.00	61.87	61.86	1538154.64	1534616.98	74.77	PASS	43
68661+68811	624.5+639.5	46.15	46.02	18.00	62.00	61.87	1584893.19	1538154.64	74.77	PASS	43
68736+68886	632+647	46.04	45.89	18.00	61.89	61.74	1545254.44	1492794.41	74.77	PASS	43

15MHz+15MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68811	624.5+639.5	46.10	45.98	18.00	61.95	61.83	1566751.07	1524052.75	74.77	PASS	43
68686+68836	627+642	46.15	45.95	18.00	62.00	61.80	1584893.19	1513561.25	74.77	PASS	43
68711+68861	629.5+644.5	46.12	45.95	18.00	61.97	61.80	1573982.86	1513561.25	74.77	PASS	43

15MHz+20MHz

Channel Number	Freq. (MHz)	256QAM								PASS /FAIL	Setting
		Conducted Average Power (dBm)		Gain	ERP(dBm)		ERP(mW)		Limit(dBm)		
		CHAIN0	CHAIN1		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum		
68661+68836	624.5+642	46.17	46.05	18.00	62.02	61.90	1592208.73	1548816.62	75.44	PASS	43

CA-NC Non-Contiguous

5MHz+5MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68911	619.5+649.5	43.35	42.25	43.20	42.49	45.85	45.87	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68911	619.5+649.5	61.70	61.72	1479108.39	1485935.64	70.0

5MHz+10MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68886	619.5+647	43.30	42.52	43.16	42.60	45.94	45.90	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68886	619.5+647	61.79	61.75	1510080.15	1496235.66	71.8

5MHz+15MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68861	619.5+644.5	43.24	42.71	43.12	42.65	45.99	45.90	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68861	619.5+644.5	61.84	61.75	1527566.06	1496235.66	73.0

5MHz+20MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68836	619.5+642	43.28	42.65	43.02	42.70	45.99	45.87	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68836	619.5+642	61.84	61.72	1527566.06	1485935.64	74.0

10MHz+10MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68886	622+647	43.32	42.51	43.04	42.50	45.94	45.79	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68886	622+647	61.79	61.64	1510080.15	1458814.26	73.0

10MHz+15MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68861	622+644.5	43.30	42.85	42.99	42.65	46.09	45.83	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68861	622+644.5	61.94	61.68	1563147.64	1472312.50	74.0

10MHz+20MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68836	622+642	43.29	42.63	42.99	42.69	45.98	45.85	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68636+68836	622+642	61.83	61.70	1524052.75	1479108.39	74.8

15MHz+15MHz

Channel Number	Freq. (MHz)	QPSK							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68661+68861	624.5+644.5	43.36	42.86	43.08	42.79	46.13	45.95	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68661+68861	624.5+644.5	61.98	61.80	1577611.27	1513561.25	74.8

5MHz+5MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68911	619.5+649.5	43.25	42.23	43.06	42.36	45.78	45.73	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68911	619.5+649.5	61.63	61.58	1455459.08	1438798.58	70.0

5MHz+10MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68886	619.5+647	43.16	42.45	43.04	42.49	45.83	45.78	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68886	619.5+647	61.68	61.63	1472312.50	1455459.08	71.8

5MHz+15MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68861	619.5+644.5	43.20	42.61	43.03	42.58	45.93	45.82	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	
68611+68861	619.5+644.5	61.78	61.67	1506607.07	1468926.28	73.0

5MHz+20MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68836	619.5+642	43.23	42.59	43.00	42.60	45.93	45.81	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68836	619.5+642	61.78	61.66	1506607.07	1465547.84	74.0

10MHz+10MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68886	622+647	43.19	42.49	43.03	42.45	45.86	45.76	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68886	622+647	61.71	61.61	1482518.09	1448771.85	73.0

10MHz+15MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68861	622+644.5	43.23	42.60	43.01	42.61	45.94	45.82	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68861	622+644.5	61.79	61.67	1510080.15	1468926.28	74.0

10MHz+20MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68836	622+642	43.24	42.61	43.03	42.51	45.95	45.79	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68836	622+642	61.80	61.64	1513561.25	1458814.26	74.8

15MHz+15MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68661+68861	624.5+644.5	43.24	42.73	43.04	42.67	46.00	45.87	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68661+68861	624.5+644.5	61.85	61.72	1531087.46	1485935.64	74.8

5MHz+5MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68911	619.5+649.5	43.24	42.34	43.03	42.30	45.82	45.69	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68911	619.5+649.5	61.67	61.54	1468926.28	1425607.59	70.0

5MHz+10MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68886	619.5+647	43.21	42.51	43.03	42.41	45.88	45.74	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68886	619.5+647	61.73	61.59	1489361.08	1442115.35	71.8

5MHz+15MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68861	619.5+644.5	43.16	42.69	43.02	42.60	45.94	45.83	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68861	619.5+644.5	61.79	61.68	1510080.15	1472312.50	73.0

5MHz+20MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68836	619.5+642	43.17	42.61	43.02	42.68	45.91	45.86	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68836	619.5+642	61.76	61.71	1499684.84	1482518.09	74.0

10MHz+10MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68886	622+647	43.20	42.48	43.04	42.48	45.87	45.78	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68886	622+647	61.72	61.63	1485935.64	1455459.08	73.0

10MHz+15MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68861	622+644.5	43.18	42.66	43.03	42.66	45.94	45.86	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68861	622+644.5	61.79	61.71	1510080.15	1482518.09	74.0

10MHz+20MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68836	622+642	43.16	42.70	43.01	42.72	45.95	45.88	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68836	622+642	61.80	61.73	1513561.25	1489361.08	74.8

15MHz+15MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68661+68861	624.5+644.5	43.23	42.68	43.05	42.74	45.97	45.91	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68661+68861	624.5+644.5	61.82	61.76	1520547.53	1499684.84	74.8

5MHz+5MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68911	619.5+649.5	43.29	42.36	42.96	42.13	45.86	45.58	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68911	619.5+649.5	61.71	61.43	1482518.09	1389952.63	70.0

5MHz+10MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68886	619.5+647	43.24	42.52	42.95	42.40	45.91	45.69	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68886	619.5+647	61.76	61.54	1482518.09	1389952.63	71.8

5MHz+15MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68861	619.5+644.5	43.20	42.66	42.97	42.46	45.95	45.73	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68861	619.5+644.5	61.80	61.58	1482518.09	1389952.63	73.0

5MHz+20MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68611+68836	619.5+642	43.20	42.63	42.96	42.42	45.93	45.71	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68611+68836	619.5+642	61.78	61.56	1506607.07	1432187.90	74.0

10MHz+10MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68886	622+647	43.19	42.46	43.05	42.47	45.85	45.78	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68886	622+647	61.70	61.63	1479108.39	1455459.08	73.0

10MHz+15MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68861	622+644.5	43.23	42.66	43.03	42.53	45.96	45.80	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68861	622+644.5	61.81	61.65	1517050.37	1462177.17	74.0

10MHz+20MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68636+68836	622+642	43.25	42.65	43.10	42.56	45.97	45.85	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68636+68836	622+642	61.82	61.70	1520547.53	1479108.39	74.8

15MHz+15MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL	Setting
		Conducted Average Power (dBm)						Gain		
		CHAIN0		CHAIN1		CHAIN 0 Total	CHAIN 1 Total			
68661+68861	624.5+644.5	43.26	42.74	43.13	42.64	46.02	45.90	18.00	PASS	43

Channel Number	Freq. (MHz)	ERP(dBm)		ERP(mW)		Limit(dBm)
		CHAIN0	CHAIN1	CHAIN0	CHAIN1	Maximum
68661+68861	624.5+644.5	61.87	61.75	1538154.64	1496235.66	74.8

4.2 Modulation characteristics Measurement

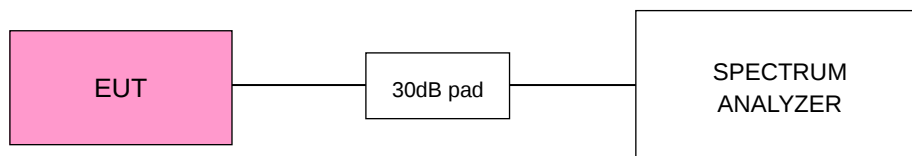
4.2.1 Limits of Modulation characteristics

N/A

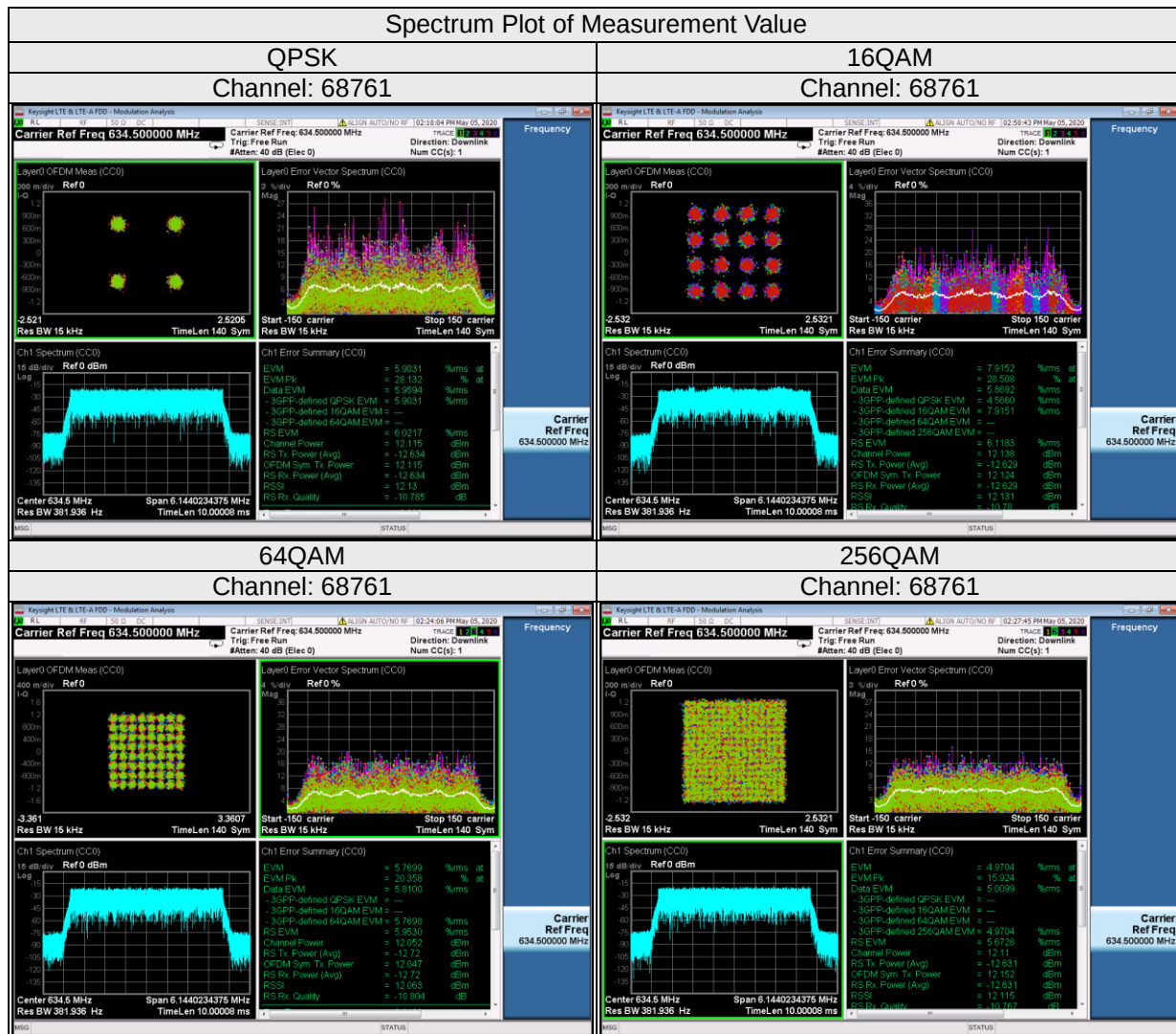
4.2.2 Test Procedure

Connect the EUT to spectrum analyzer. The frequency band is set as EUT supported modulation and channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

4.2.3 Test Setup



4.2.4 Test Results



4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

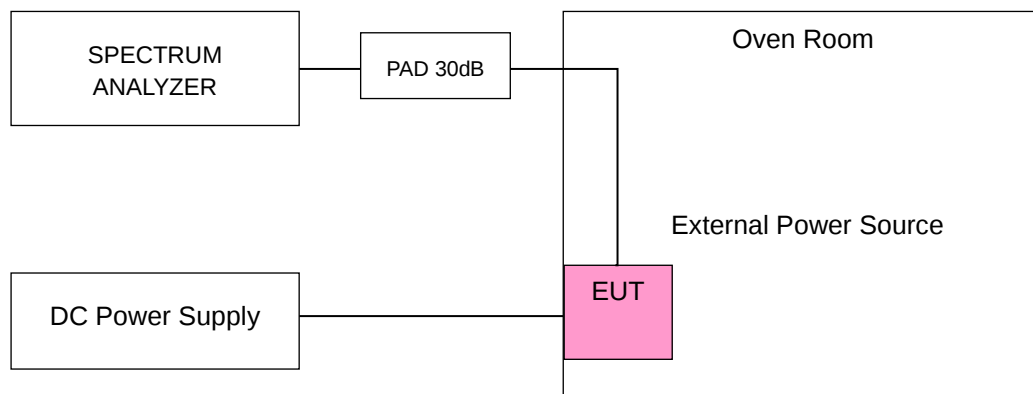
According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with specification of EUT $-40^{\circ}\text{C} \sim 55^{\circ}\text{C}$.

4.3.2 Test Procedure

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded from the spectrum analyzer.

4.3.3 Test Setup



4.3.4 Test Results

SC Mode- Chain 0

FREQUENCY ERROR vs. VOLTAGE									Limit (MHz)		PASS/FAIL
Voltage (Volts)	Test result (MHz)										
	5MHz		10MHz		15MHz		20MHz				
	619.5MHz	649.5MHz	622MHz	647MHz	624.5MHz	644.5MHz	627MHz	642MHz	Low Edge	High Edge	
40.8	617.25	651.75	617.48	651.48	617.72	651.22	618.00	651.00	617	652	PASS
55.2	617.25	651.75	617.50	651.48	617.75	651.22	618.00	650.96	617	652	PASS

FREQUENCY ERROR vs. Temperature									Limit (MHz)		PASS/FAIL
Temp. (°C)	Test result (MHz)										
	5MHz		10MHz		15MHz		20MHz				
	619.5MHz	649.5MHz	622MHz	647MHz	624.5MHz	644.5MHz	627MHz	642MHz	Low Edge	High Edge	
55	617.25	651.74	617.48	651.48	617.75	651.22	618.00	650.96	617	652	PASS
50	617.25	651.74	617.50	651.48	617.75	651.22	618.00	650.96	617	652	PASS
40	617.25	651.75	617.48	651.48	617.75	651.22	617.96	650.96	617	652	PASS
30	617.25	651.75	617.48	651.48	617.75	651.22	618.00	650.96	617	652	PASS
20	617.25	651.75	617.50	651.50	617.75	651.22	617.96	650.96	617	652	PASS
10	617.26	651.75	617.48	651.48	617.75	651.22	618.00	650.96	617	652	PASS
0	617.25	651.75	617.48	651.48	617.75	651.22	617.96	651.00	617	652	PASS
-10	617.25	651.75	617.50	651.48	617.72	651.22	617.96	650.96	617	652	PASS
-20	617.25	651.74	617.50	651.50	617.75	651.22	618.00	650.96	617	652	PASS
-30	617.25	651.74	617.50	651.50	617.75	651.22	618.00	651.00	617	652	PASS
-40	617.25	651.74	617.50	651.48	617.75	651.22	618.00	651.00	617	652	PASS

SC Mode- Chain 1

FREQUENCY ERROR vs. VOLTAGE									Limit (MHz)		PASS/FAIL
Voltage (Volts)	Test result (MHz)										
	5MHz		10MHz		15MHz		20MHz				
	619.5MHz	649.5MHz	622MHz	647MHz	624.5MHz	644.5MHz	627MHz	642MHz	Low Edge	High Edge	
40.8	617.25	651.75	617.50	651.50	617.75	651.22	618.00	650.96	617	652	PASS
55.2	617.25	651.74	617.50	651.48	617.75	651.22	617.96	650.96	617	652	PASS

FREQUENCY ERROR vs. Temperature									Limit (MHz)		PASS/FAIL
Temp. (°C)	Test result (MHz)										
	5MHz		10MHz		15MHz		20MHz				
	619.5MHz	649.5MHz	622MHz	647MHz	624.5MHz	644.5MHz	627MHz	642MHz	Low Edge	High Edge	
55	617.25	651.75	617.50	651.48	617.72	651.22	617.96	650.96	617	652	PASS
50	617.25	651.75	617.50	651.50	617.75	651.22	618.00	650.96	617	652	PASS
40	617.25	651.74	617.50	651.50	617.75	651.22	617.96	651.00	617	652	PASS
30	617.25	651.75	617.50	651.50	617.75	651.22	618.00	650.96	617	652	PASS
20	617.25	651.75	617.50	651.48	617.72	651.22	618.00	651.00	617	652	PASS
10	617.25	651.75	617.48	651.50	617.75	651.22	617.96	651.00	617	652	PASS
0	617.25	651.74	617.50	651.50	617.75	651.25	617.96	650.96	617	652	PASS
-10	617.25	651.75	617.50	651.48	617.75	651.22	618.00	650.96	617	652	PASS
-20	617.25	651.75	617.50	651.50	617.75	651.22	618.00	650.96	617	652	PASS
-30	617.25	651.75	617.50	651.50	617.75	651.25	618.00	651.00	617	652	PASS
-40	617.25	651.75	617.50	651.48	617.75	651.22	617.96	650.96	617	652	PASS

CA Mode- Non Contiguous

FREQUENCY ERROR vs. VOLTAGE					Limit (MHz)		PASS/FAIL
Voltage (Volts)	Test result (MHz)						
	15MHz+15MHz						
	Chain 0		Chain 1				
	624.5MHz	644.5 MHz	624.5MHz	644.5 MHz	Low Edge	High Edge	
40.8	617.7600	651.2000	617.7600	651.2200	617	652	PASS
55.2	617.7400	651.2200	617.7600	651.2200	617	652	PASS

FREQUENCY ERROR vs. Temperature					Limit (MHz)		PASS/FAIL
Temp. (°C)	Test result (MHz)						
	15MHz+15MHz						
	Chain 0		Chain 1				
	624.5MHz	644.5 MHz	624.5MHz	644.5 MHz	Low Edge	High Edge	
55	617.74	651.20	617.74	651.22	617	652	PASS
50	617.74	651.22	617.76	651.22	617	652	PASS
40	617.74	651.20	617.76	651.22	617	652	PASS
30	617.76	651.22	617.74	651.22	617	652	PASS
20	617.76	651.22	617.76	651.22	617	652	PASS
10	617.76	651.22	617.74	651.22	617	652	PASS
0	617.74	651.20	617.74	651.22	617	652	PASS
-10	617.74	651.22	617.76	651.22	617	652	PASS
-20	617.74	651.20	617.74	651.22	617	652	PASS
-30	617.74	651.20	617.74	651.22	617	652	PASS
-40	617.76	651.20	617.76	651.22	617	652	PASS

CA Mode- Contiguous

FREQUENCY ERROR vs. VOLTAGE					Limit (MHz)		PASS/FAIL
Voltage (Volts)	Test result (MHz)						
	15MHz+20MHz						
	Chain 0		Chain 1				
	624.5MHz	642MHz	624.5MHz	642MHz	Low Edge	High Edge	
40.8	617.70	650.88	617.70	650.81	617	652	PASS
55.2	617.70	650.81	617.70	650.88	617	652	PASS

FREQUENCY ERROR vs. Temperature					Limit (MHz)		PASS/FAIL
Temp. (°C)	Test result (MHz)						
	15MHz+20MHz						
	Chain 0		Chain 1				
	624.5MHz	642MHz	624.5MHz	642MHz	Low Edge	High Edge	
55	617.70	650.81	617.70	650.81	617	652	PASS
50	617.77	650.88	617.70	650.81	617	652	PASS
40	617.70	650.88	617.77	650.88	617	652	PASS
30	617.70	650.88	617.70	650.81	617	652	PASS
20	617.70	650.81	617.70	650.88	617	652	PASS
10	617.70	650.81	617.70	650.88	617	652	PASS
0	617.70	650.81	617.70	650.81	617	652	PASS
-10	617.70	650.88	617.70	650.88	617	652	PASS
-20	617.70	650.81	617.77	650.88	617	652	PASS
-30	617.70	650.81	617.70	650.81	617	652	PASS
-40	617.70	650.88	617.70	650.81	617	652	PASS

4.4 Emission Bandwidth Measurement

4.4.1 Limits of Emission Bandwidth Measurement

-26dBc Bandwidth

According to FCC 27.53(h)(3) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

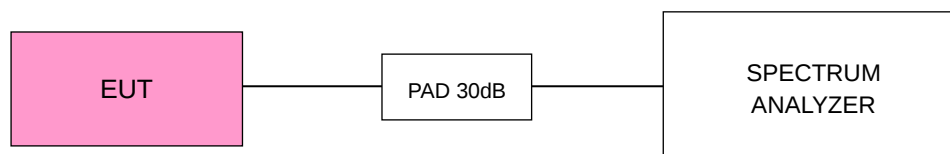
Occupied Bandwidth

All measurements were done at low, middle and high operational frequency range. EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.4.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW = 100kHz and VBW = 300kHz (Channel Bandwidth: 5MHz), RBW = 220kHz and VBW = 620kHz (Channel Bandwidth: 10MHz), RBW = 300kHz and VBW = 1MHz (Channel Bandwidth: 15MHz), RBW = 510kHz and VBW = 1.8MHz (Channel Bandwidth: 20MHz). The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.4.3 Test Setup

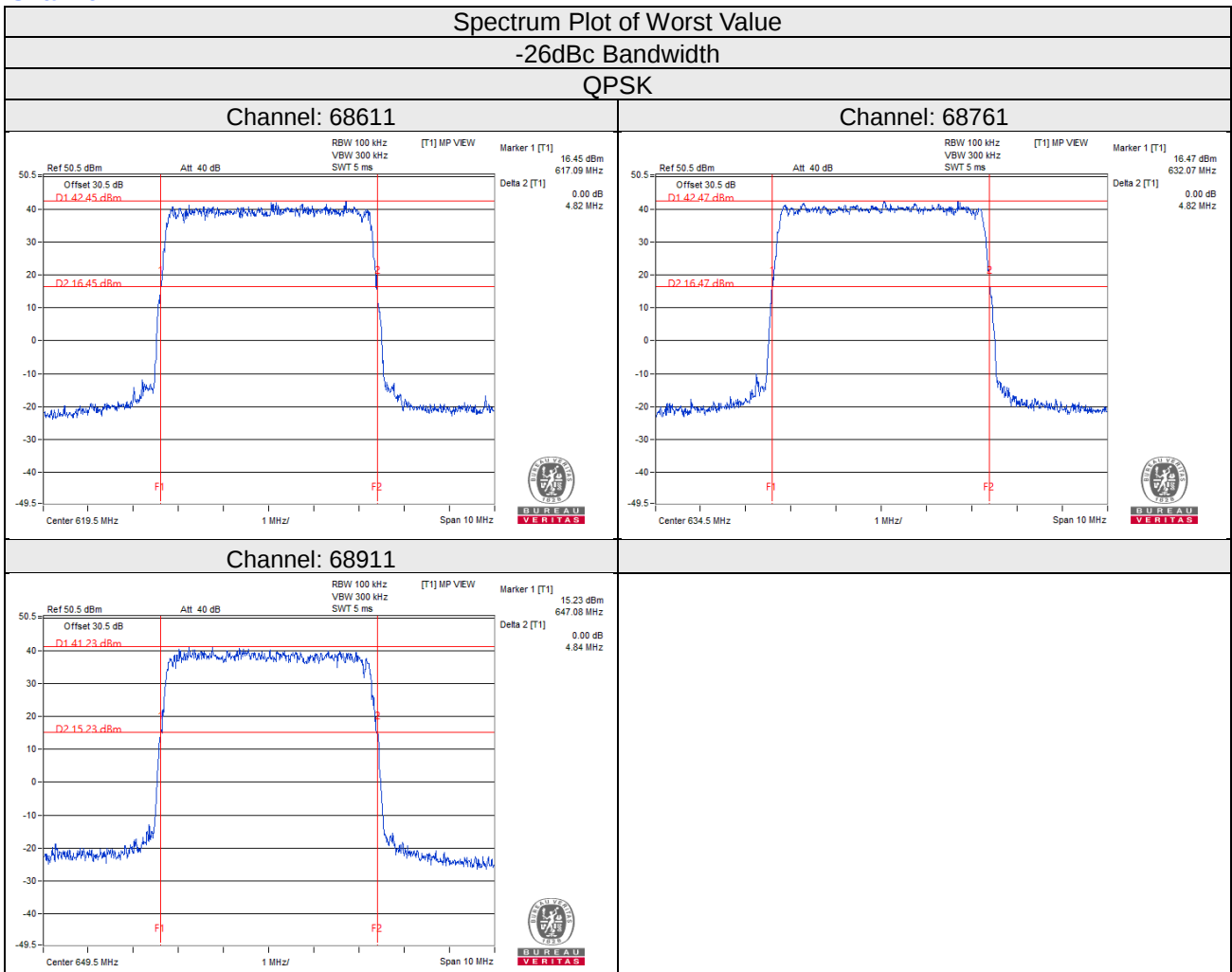


4.4.4 Test Results (-26dBc Bandwidth) Single Carrier

5MHz

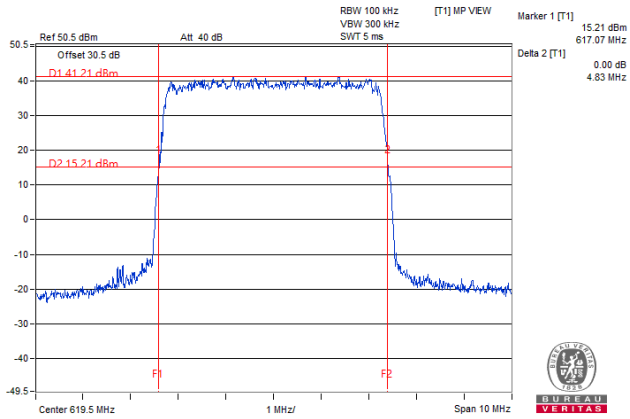
Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68611	619.5	4.82	4.83	4.89	4.85	4.83	4.85	4.86	4.87
68761	634.5	4.82	4.84	4.87	4.86	4.84	4.85	4.88	4.89
68911	649.5	4.84	4.82	4.86	4.87	4.84	4.85	4.84	4.89

Chain 0

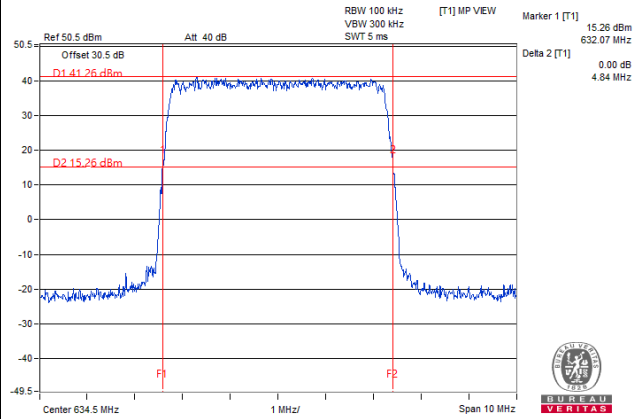


16QAM

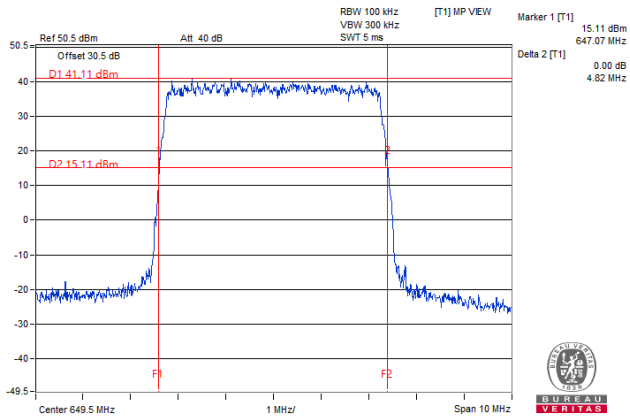
Channel: 68611



Channel: 68761

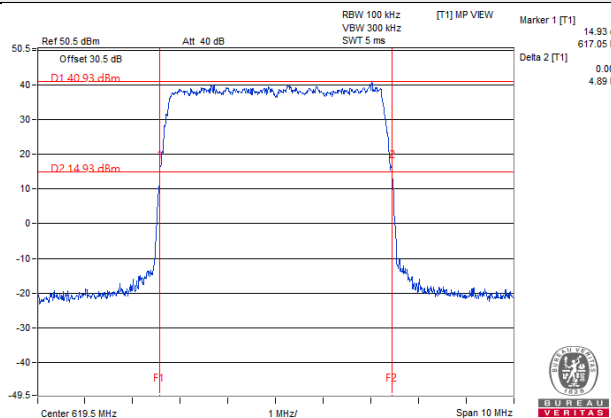


Channel: 68911

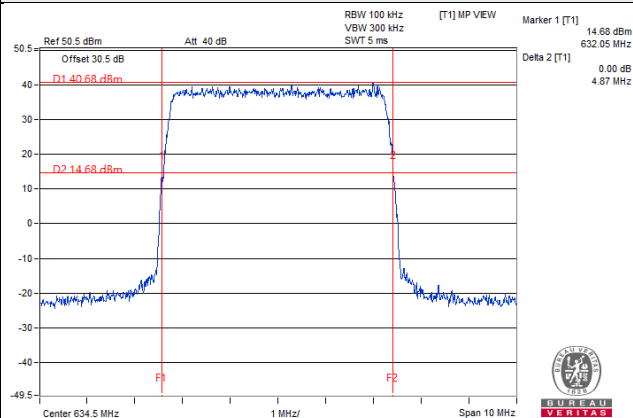


64QAM

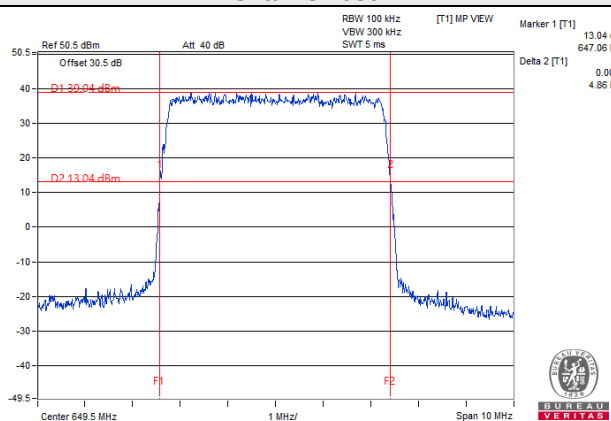
Channel: 68611



Channel: 68761

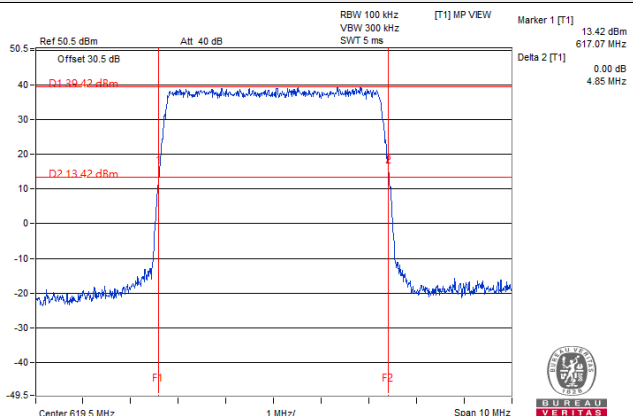


Channel: 68911

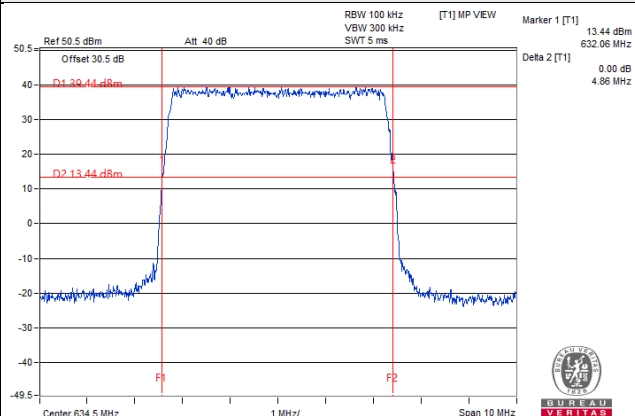


256QAM

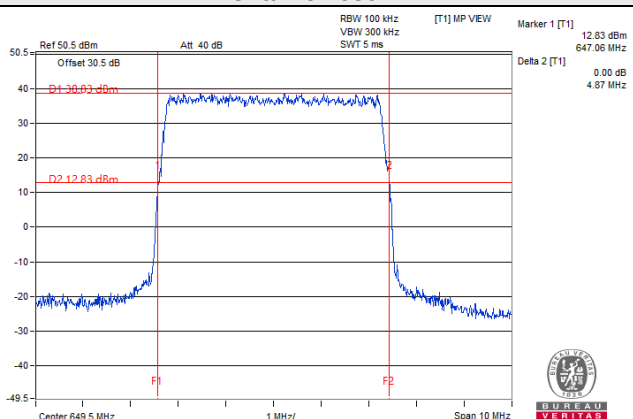
Channel: 68611



Channel: 68761



Channel: 68911



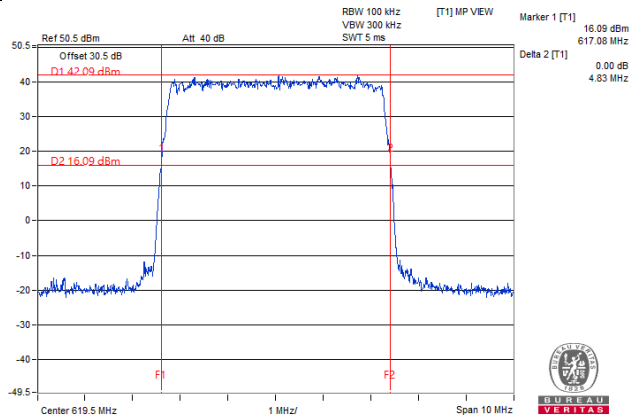
Chain 1

Spectrum Plot of Worst Value

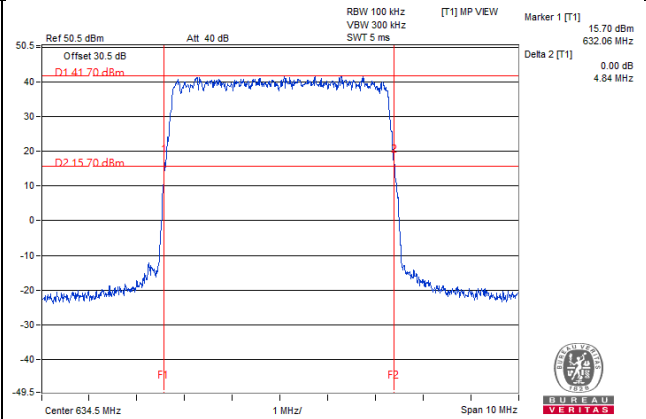
-26dBc Bandwidth

QPSK

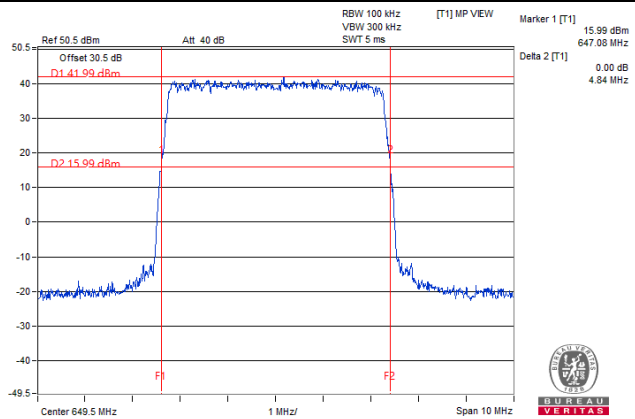
Channel: 68611



Channel: 68761

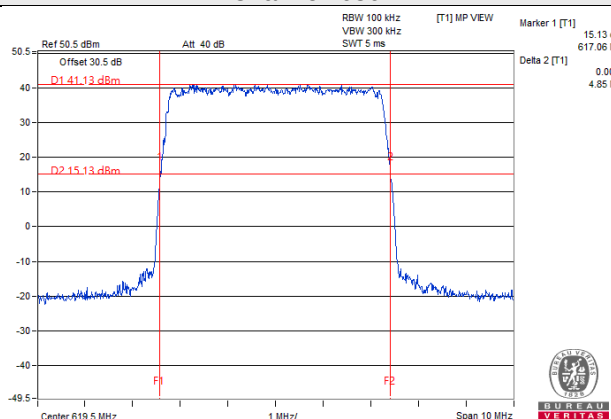


Channel: 68911

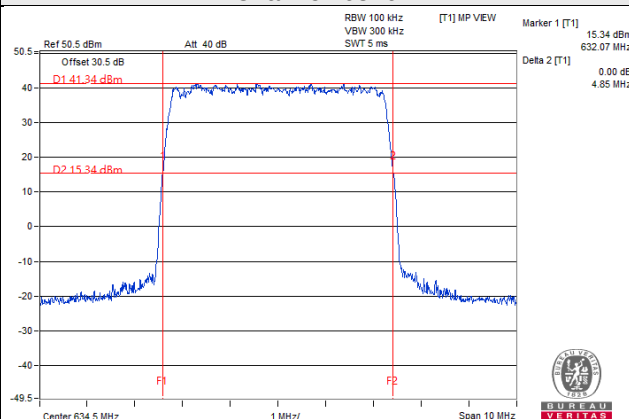


16QAM

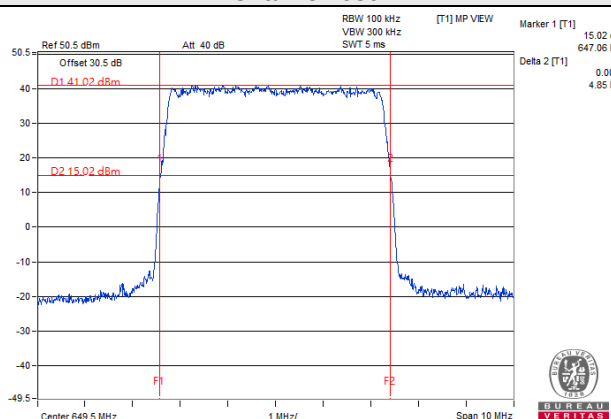
Channel: 68611



Channel: 68761

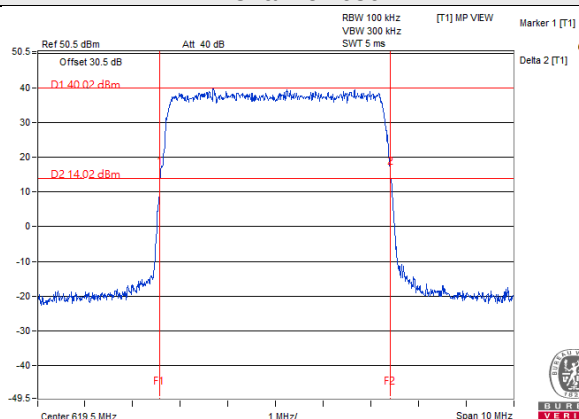


Channel: 68911

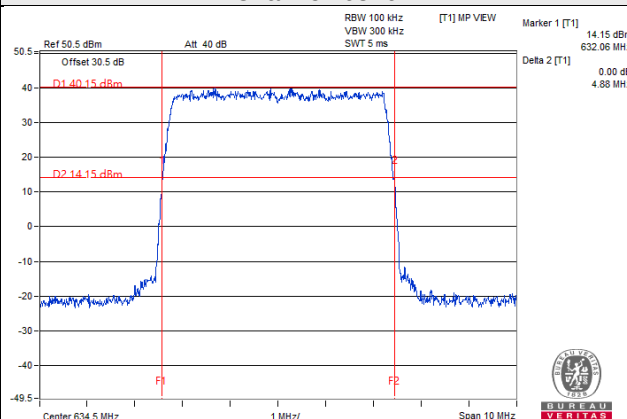


64QAM

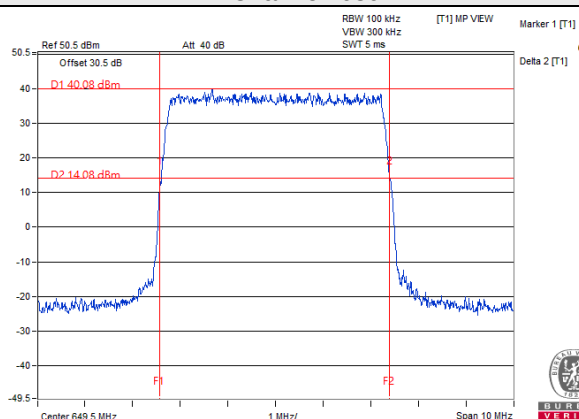
Channel: 68611



Channel: 68761

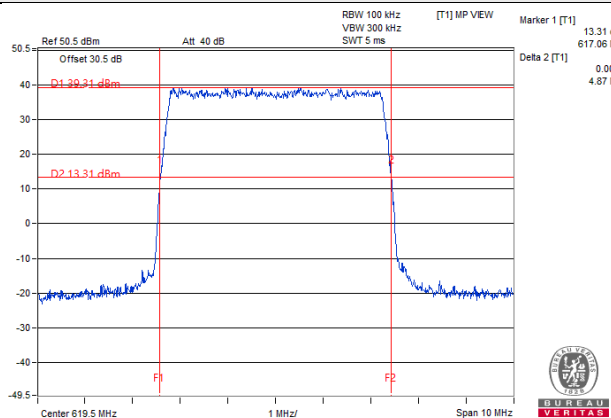


Channel: 68911

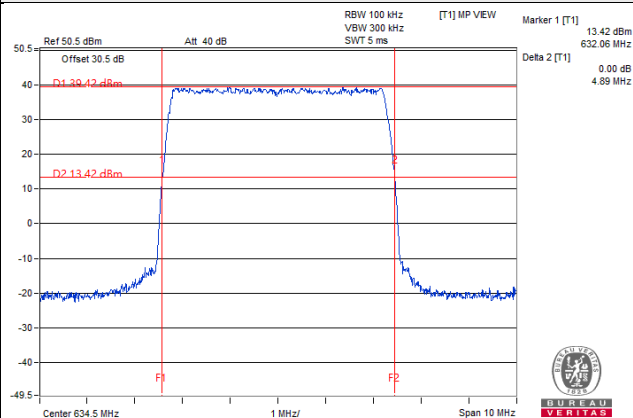


256QAM

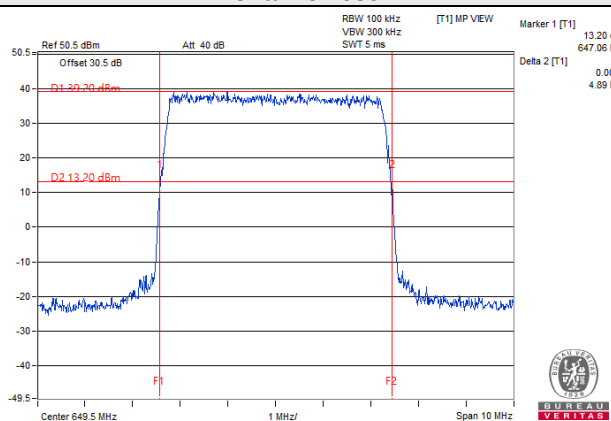
Channel: 68611



Channel: 68761



Channel: 68911



10MHz

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68636	622	9.74	9.74	9.75	9.72	9.68	9.70	9.75	9.75
68761	634.5	9.74	9.76	9.79	9.75	9.78	9.76	9.73	9.74
68886	647	9.69	9.68	9.75	9.73	9.63	9.72	9.79	9.73

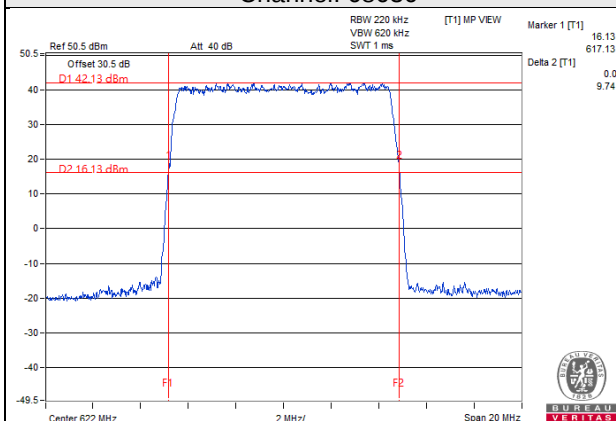
Chain 0

Spectrum Plot of Worst Value

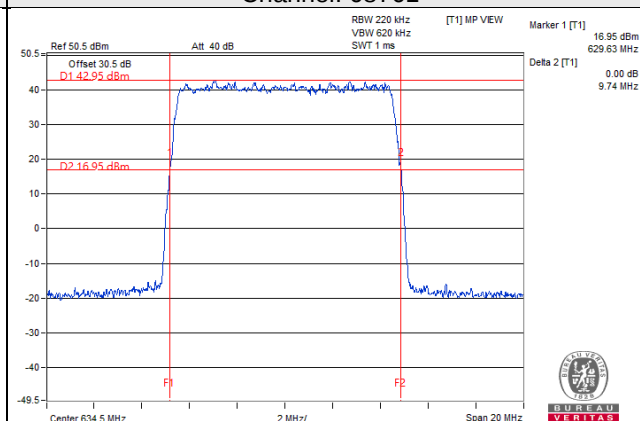
-26dBc Bandwidth

QPSK

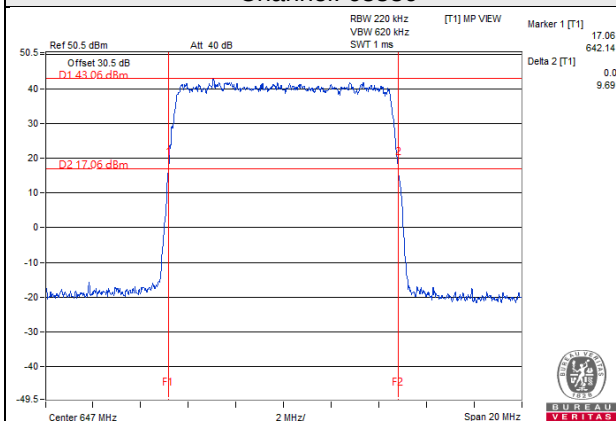
Channel: 68636



Channel: 68761

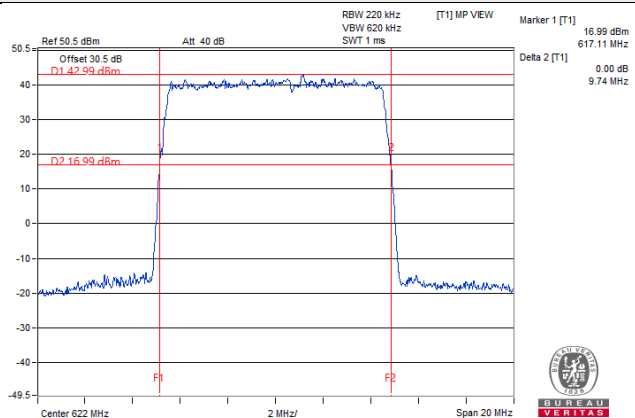


Channel: 68886

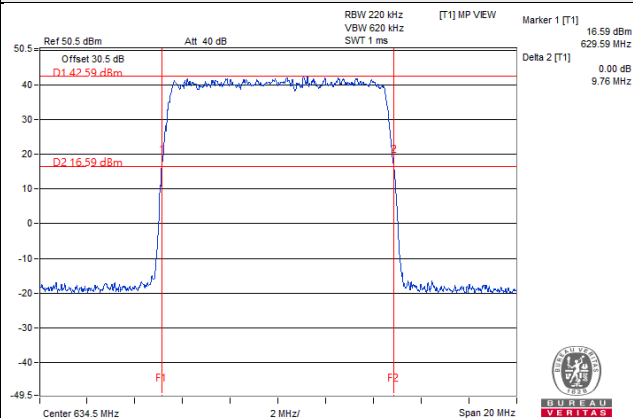


16QAM

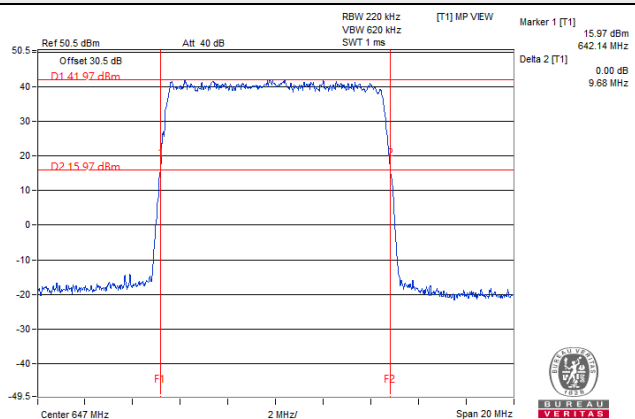
Channel: 68636



Channel: 68761

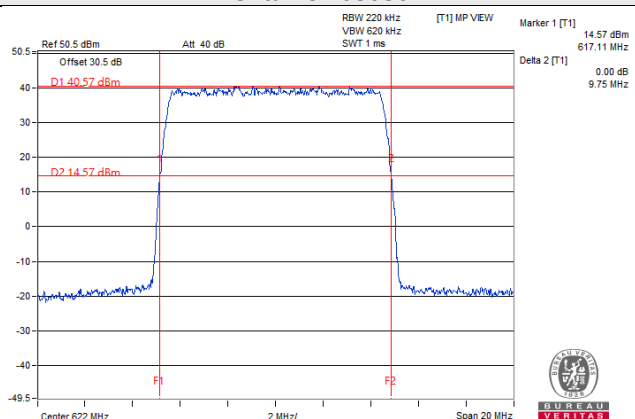


Channel: 68886

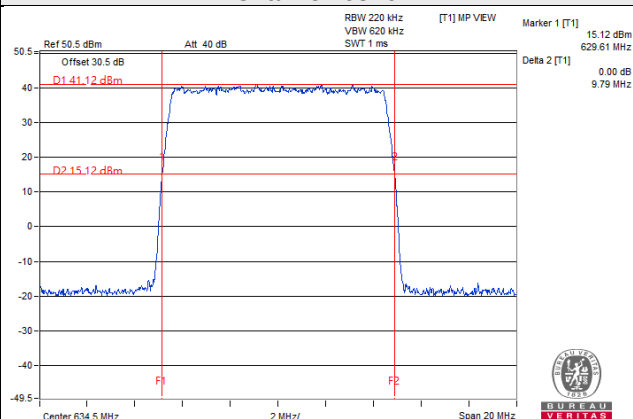


64QAM

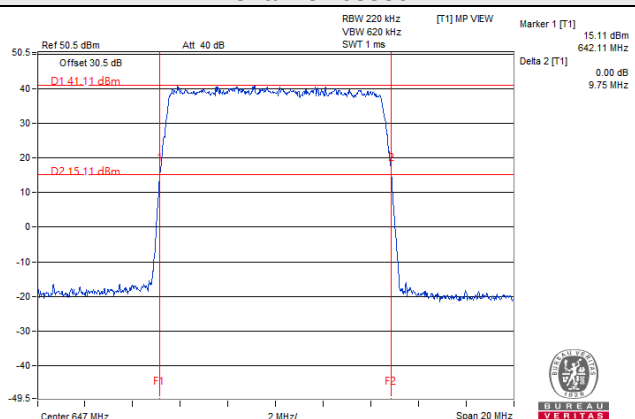
Channel: 68636



Channel: 68761

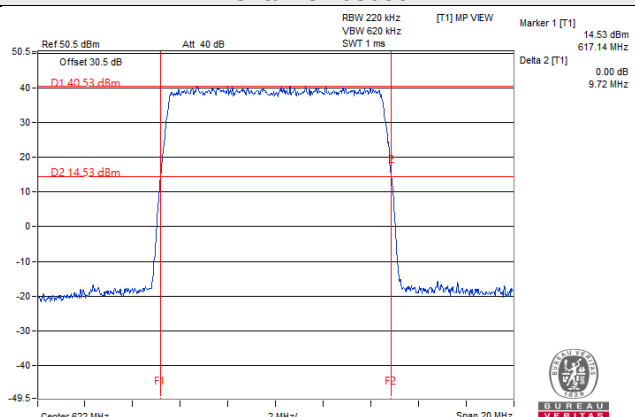


Channel: 68886

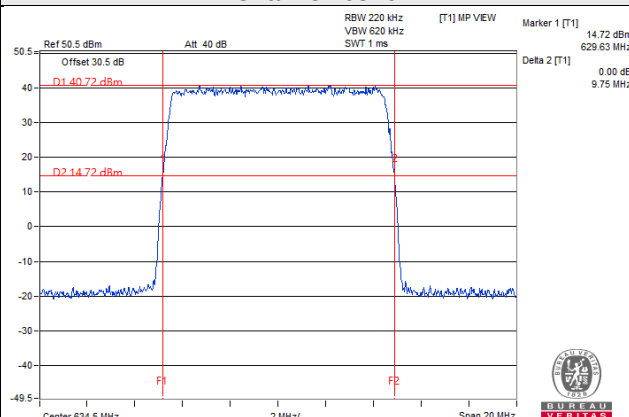


256QAM

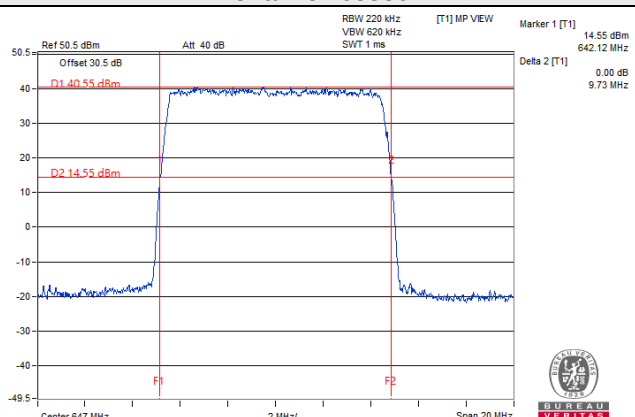
Channel: 68636



Channel: 68761



Channel: 68886



Chain 1

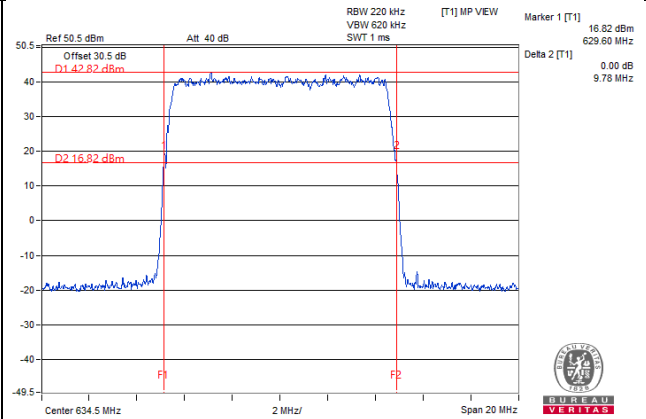
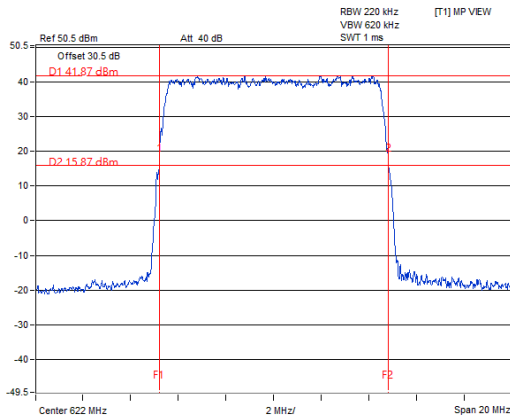
Spectrum Plot of Worst Value

-26dBc Bandwidth

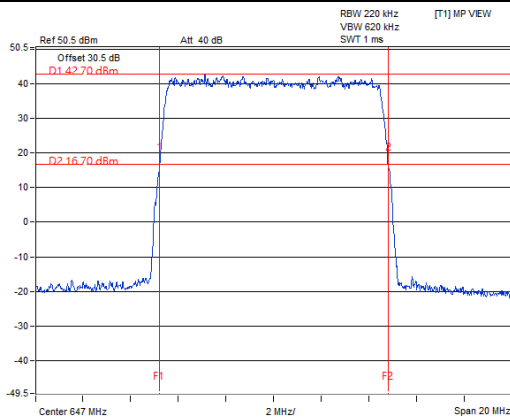
QPSK

Channel: 68636

Channel: 68761

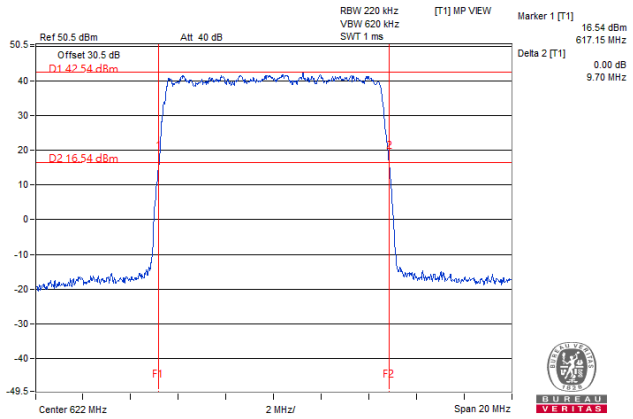


Channel: 68886

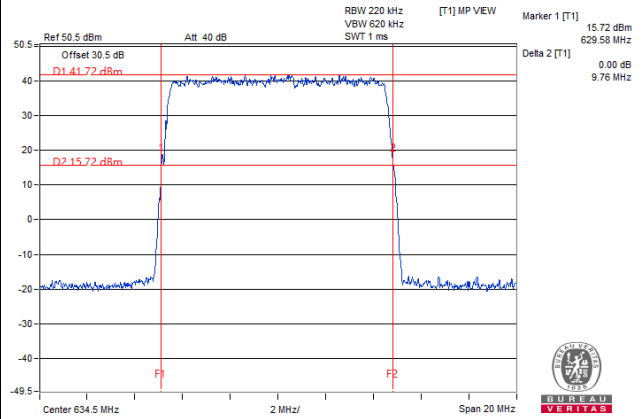


16QAM

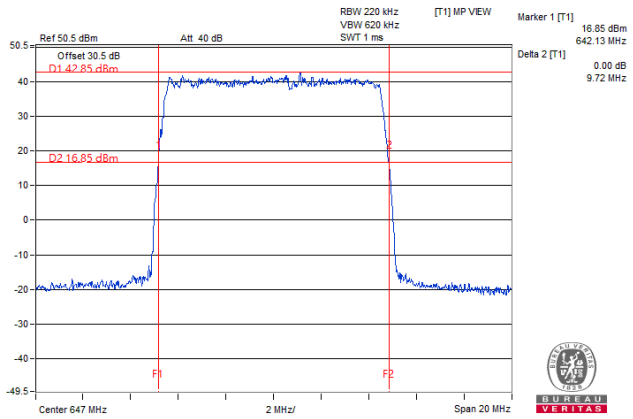
Channel: 68636



Channel: 68761

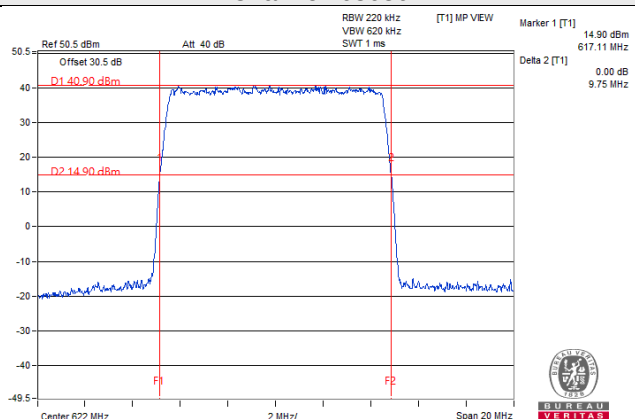


Channel: 68886

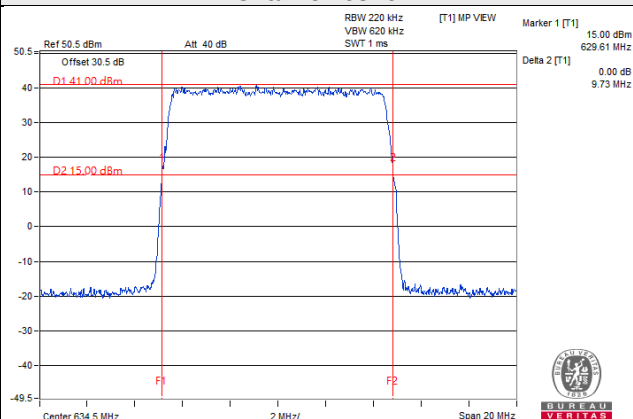


64QAM

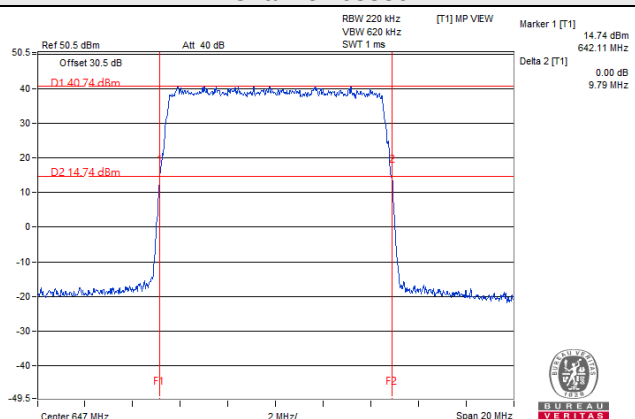
Channel: 68636



Channel: 68761

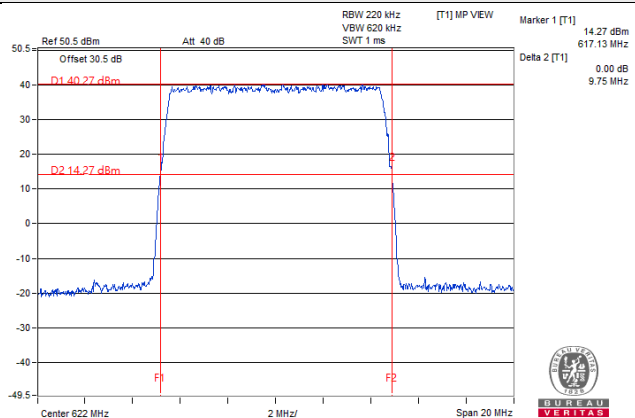


Channel: 68886

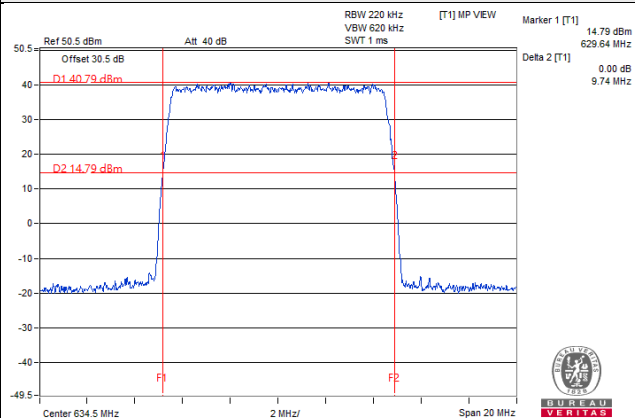


256QAM

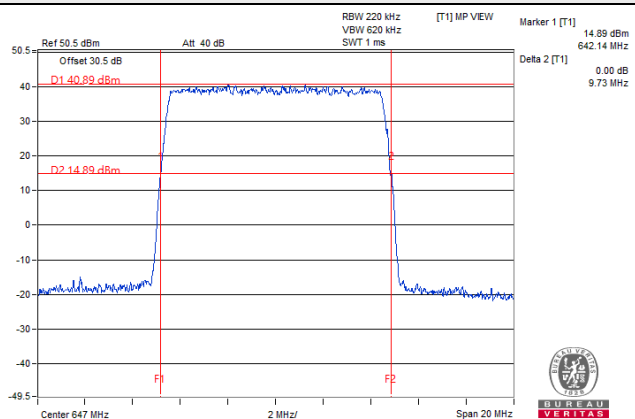
Channel: 68636



Channel: 68761



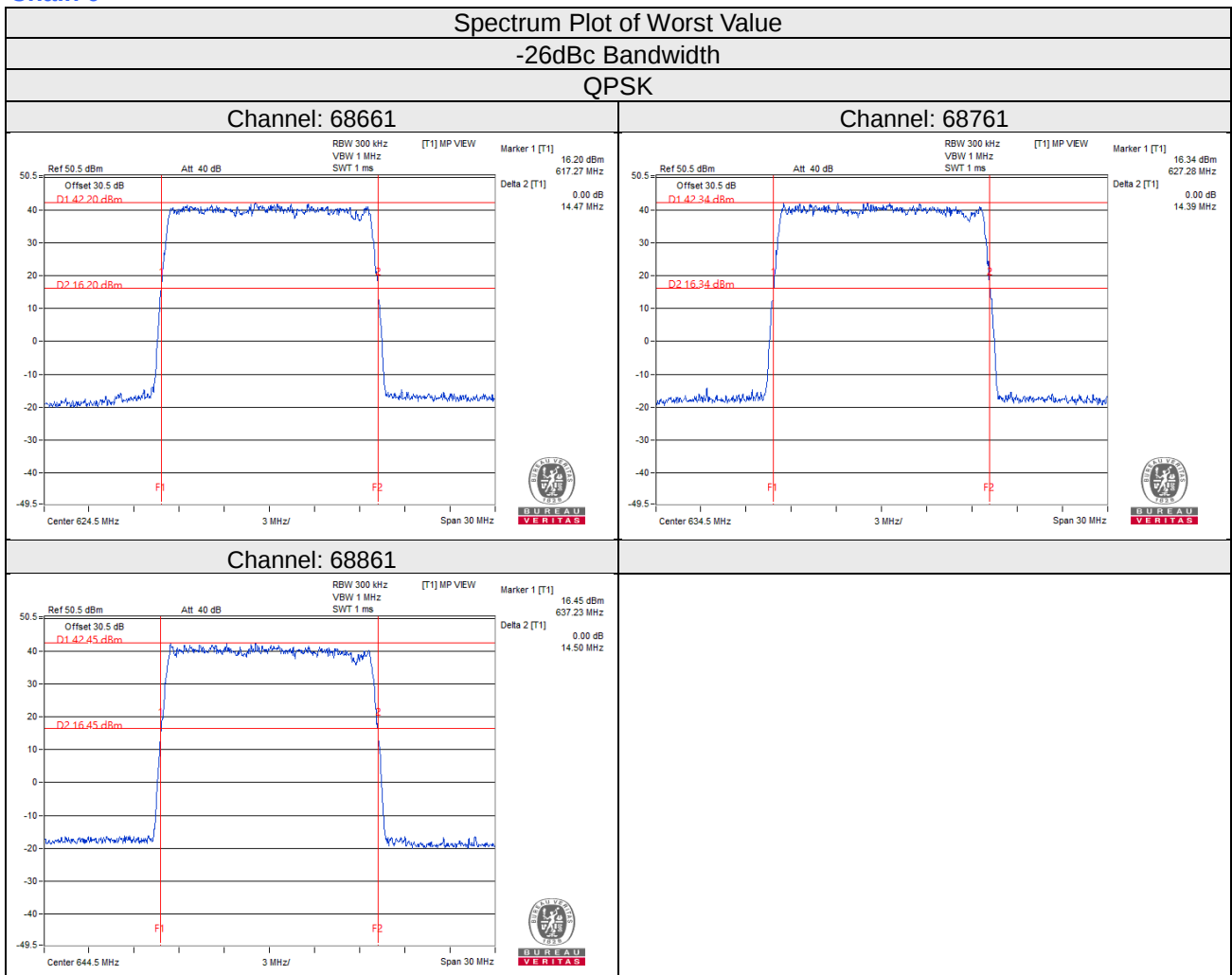
Channel: 68886



15MHz

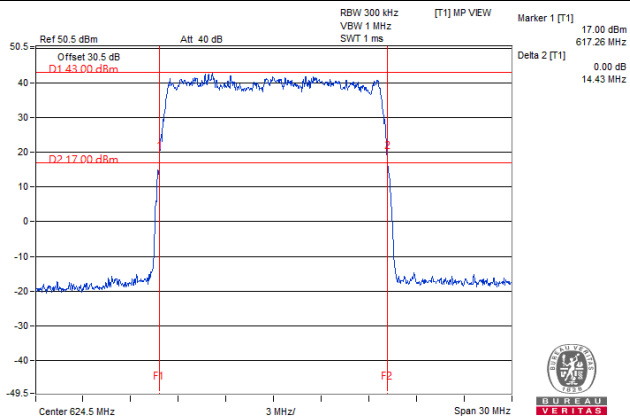
Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68661	624.5	14.47	14.43	14.47	14.55	14.52	14.55	14.49	14.51
68761	634.5	14.39	14.52	14.50	14.48	14.45	14.40	14.58	14.50
68861	644.5	14.50	14.51	14.56	14.48	14.50	14.48	14.49	14.46

Chain 0

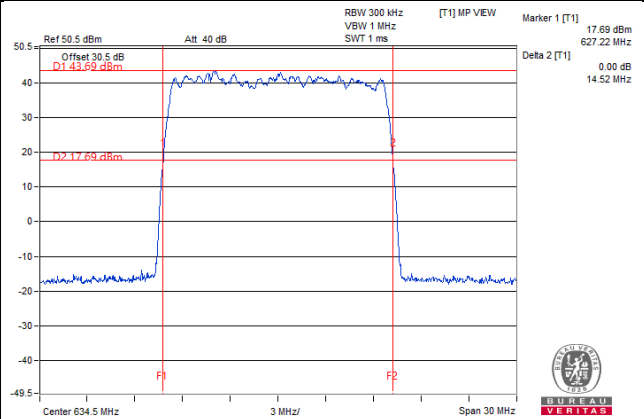


16QAM

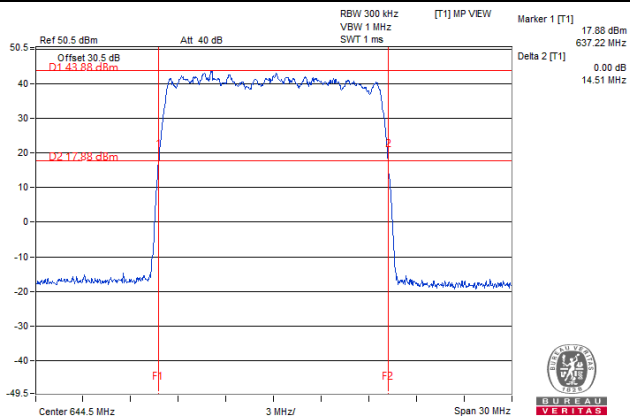
Channel: 68661



Channel: 68761

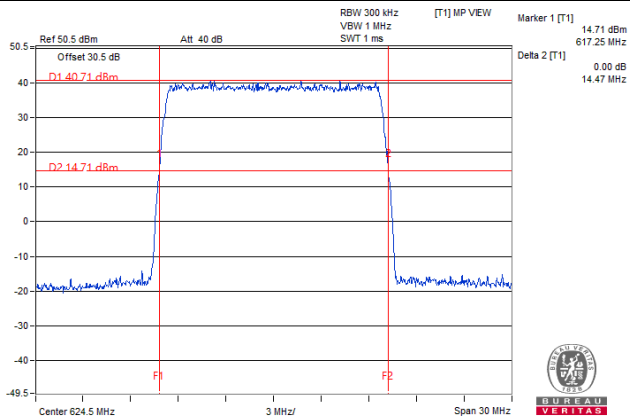


Channel: 68861

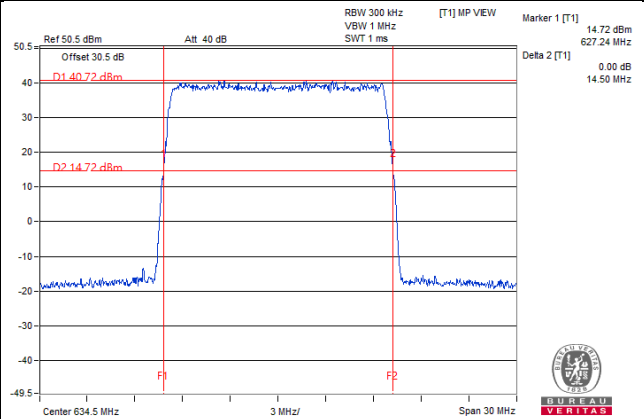


64QAM

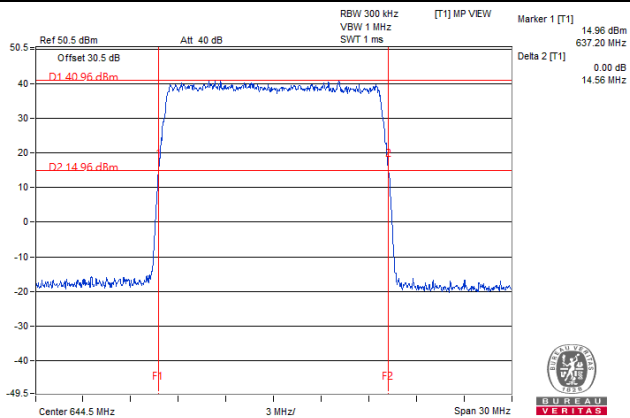
Channel: 68661



Channel: 68761

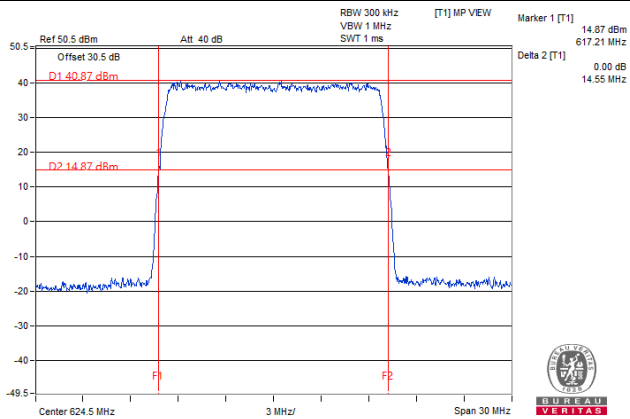


Channel: 68861

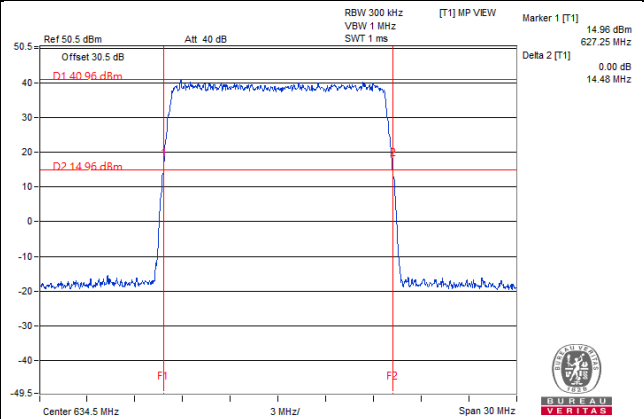


256QAM

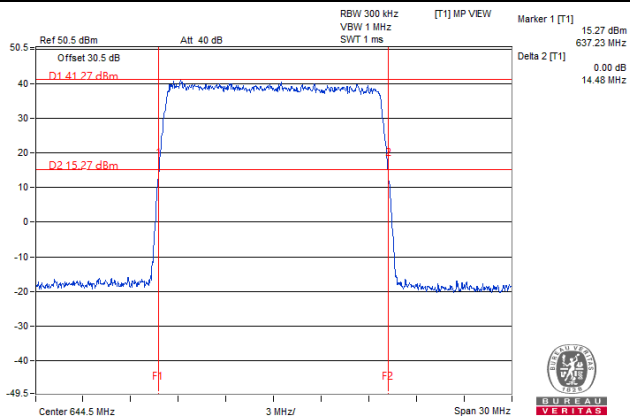
Channel: 68661



Channel: 68761



Channel: 68861



Chain 1

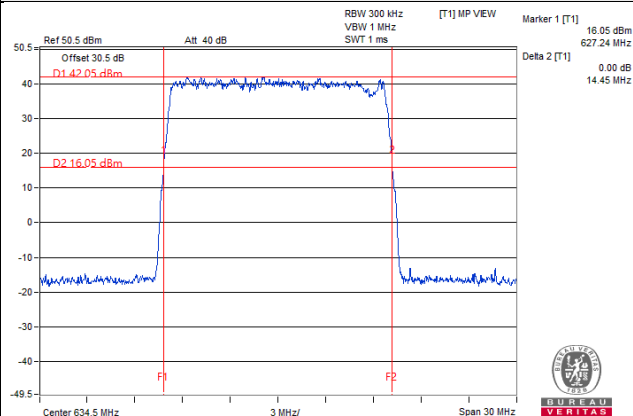
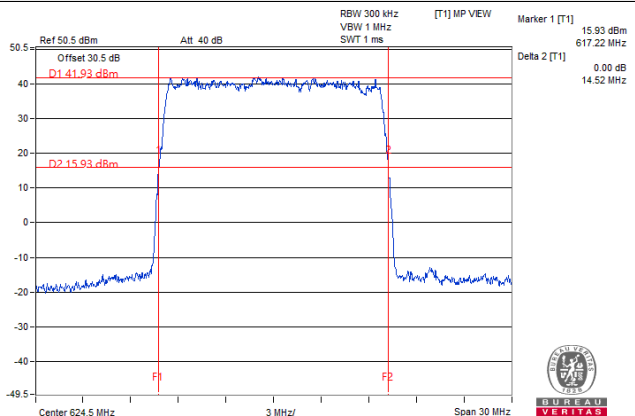
Spectrum Plot of Worst Value

-26dBc Bandwidth

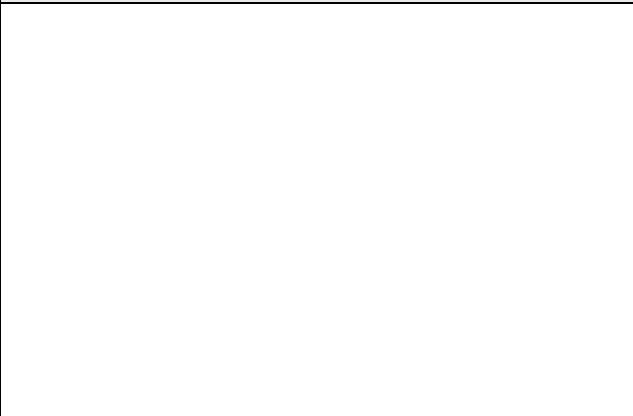
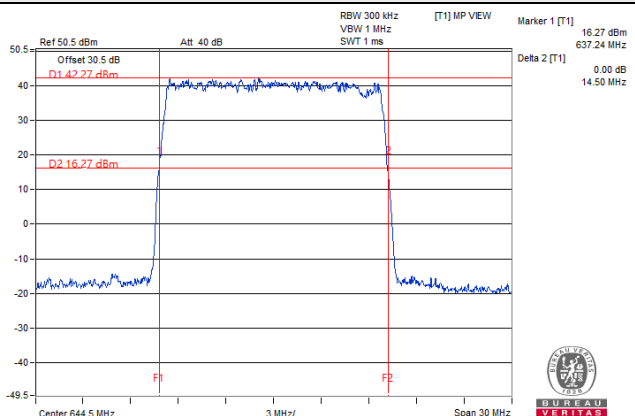
QPSK

Channel: 68661

Channel: 68761

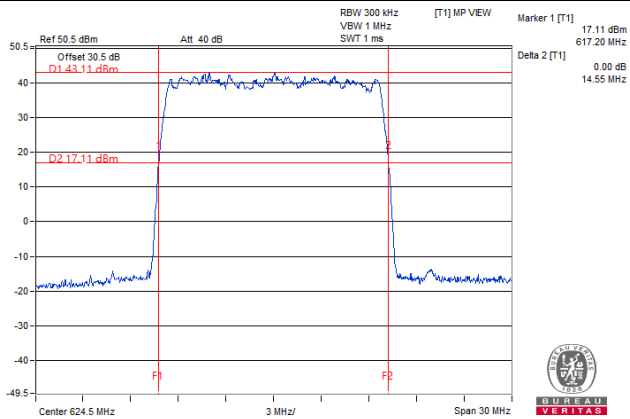


Channel: 68861

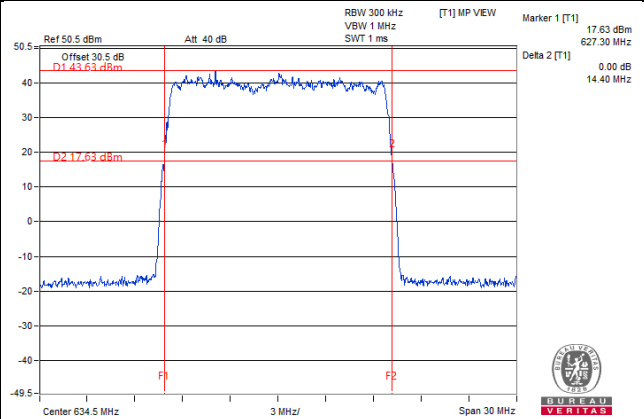


16QAM

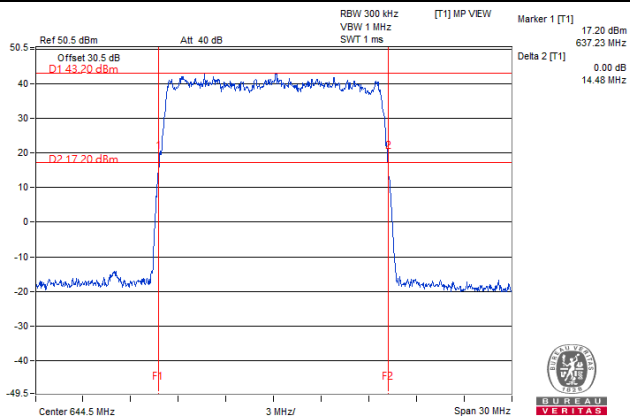
Channel: 68661



Channel: 68761

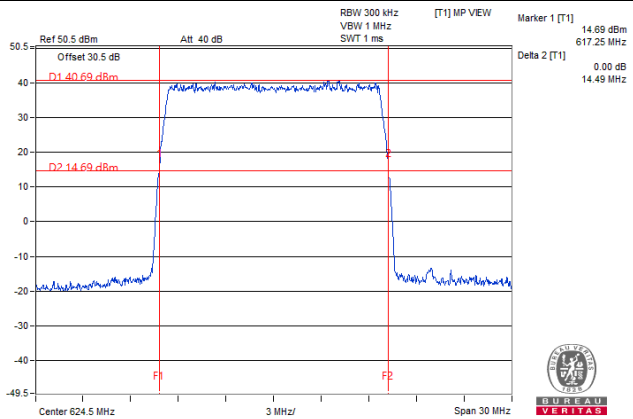


Channel: 68861

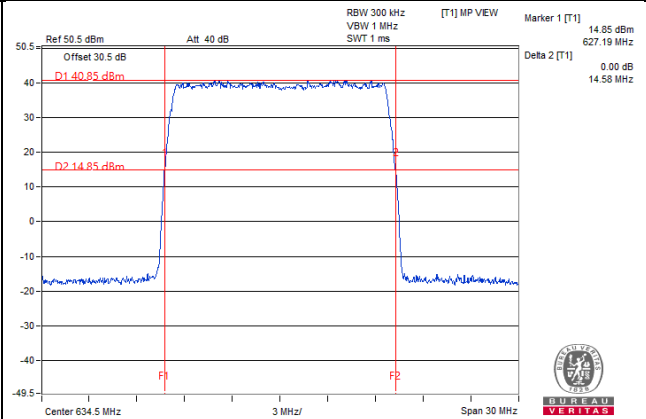


64QAM

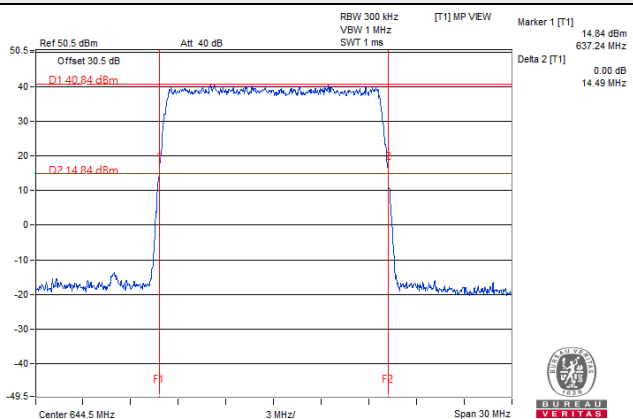
Channel: 68661



Channel: 68761

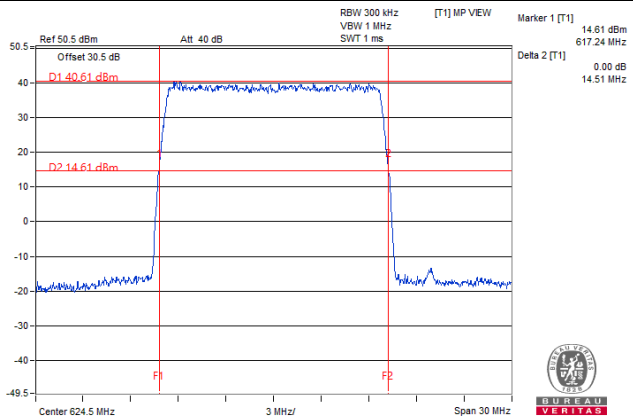


Channel: 68861

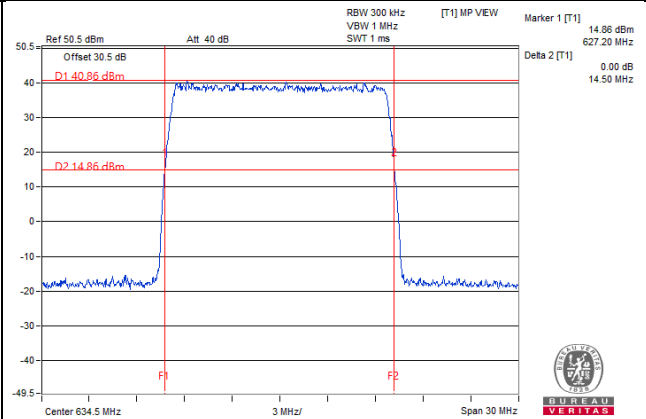


256QAM

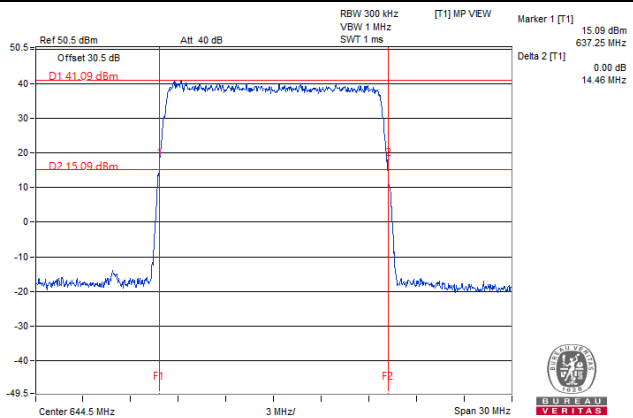
Channel: 68661



Channel: 68761



Channel: 68861



Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68686	627	19.42	19.36	19.52	19.54	19.45	19.35	19.55	19.54
68761	634.5	19.36	19.48	19.49	19.57	19.45	19.45	19.54	19.60
68836	642	19.39	19.44	19.54	19.57	19.44	19.47	19.51	19.63

Spectrum Plot of Worst Value
-26dBc Bandwidth
QPSK

Channel: 68686

Ref 50.5 dBm Att 40 dB RBW 510 kHz [T1] MP VIEW Marker 1 [T1] 17.35 dBm
Offset 30.5 dB VBW 1.8 MHz Delta 2 [T1] 0.00 dB
D1 43.35 dBm SWT 1 ms 617.28 MHz 19.42 MHz

D2 17.35 dBm

Center 627 MHz 4 MHz/ Span 40 MHz

Channel: 68761

Ref 50.5 dBm Att 40 dB RBW 510 kHz [T1] MP VIEW Marker 1 [T1] 17.86 dBm
Offset 30.5 dB VBW 1.8 MHz Delta 2 [T1] 0.00 dB
D1 43.56 dBm SWT 1 ms 624.82 MHz 19.36 MHz

D2 17.36 dBm

Center 634.5 MHz 4 MHz/ Span 40 MHz

Channel: 68836

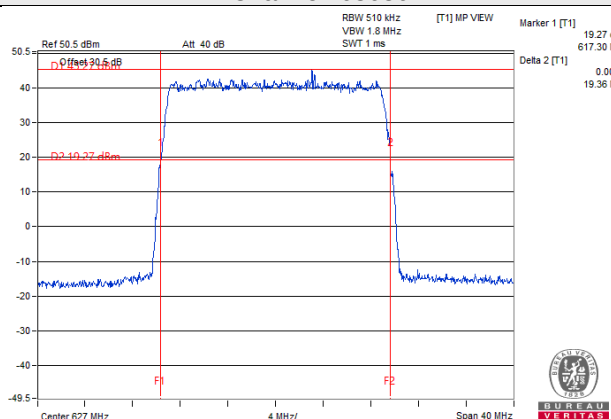
Ref 50.5 dBm Att 40 dB RBW 510 kHz [T1] MP VIEW Marker 1 [T1] 17.70 dBm
Offset 30.5 dB VBW 1.8 MHz Delta 2 [T1] 0.00 dB
D1 43.70 dBm SWT 1 ms 632.25 MHz 19.39 MHz

D2 17.70 dBm

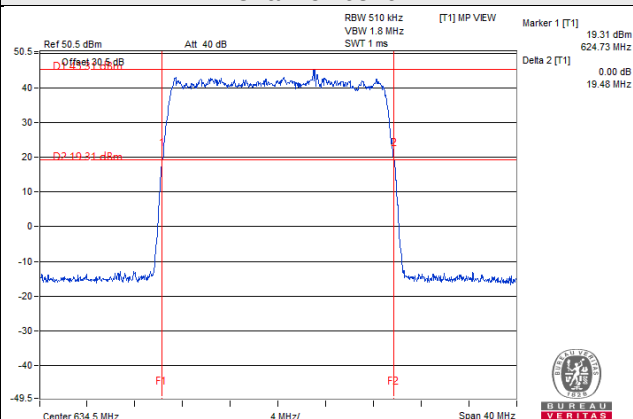
Center 642 MHz 4 MHz/ Span 40 MHz

16QAM

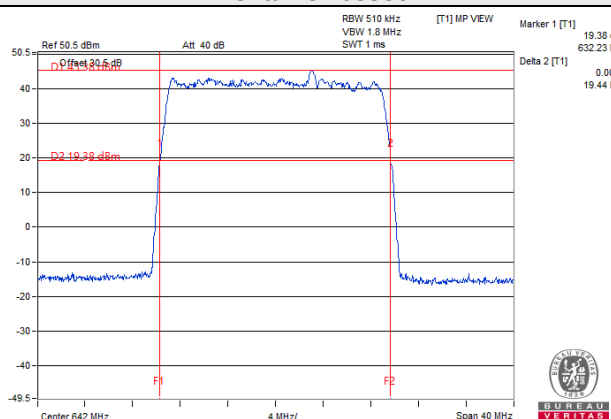
Channel: 68686



Channel: 68761

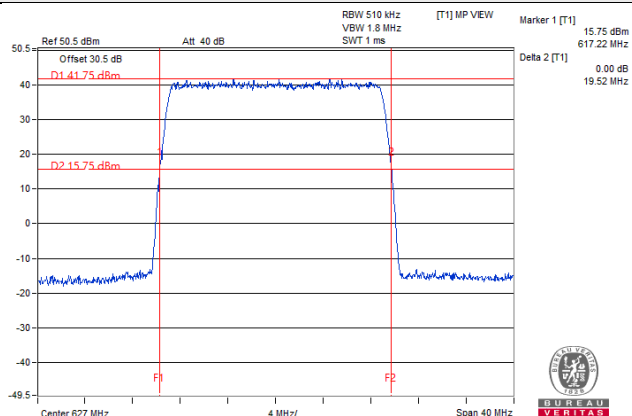


Channel: 68836

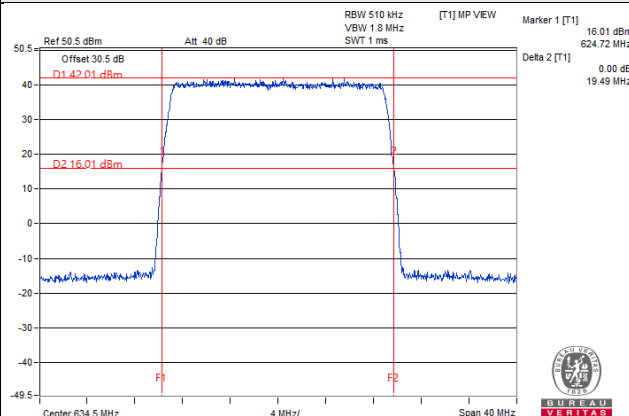


64QAM

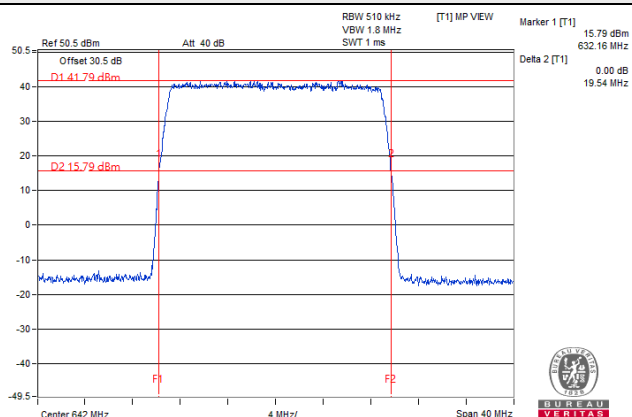
Channel: 68686



Channel: 68761

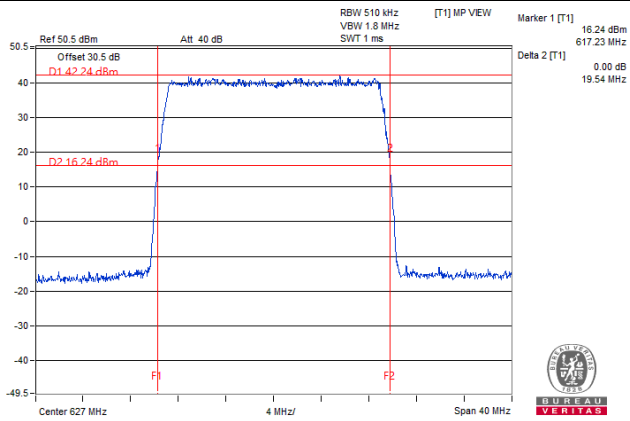


Channel: 68836

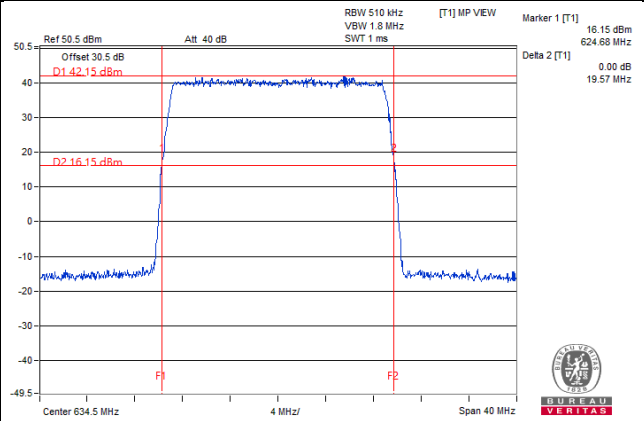


256QAM

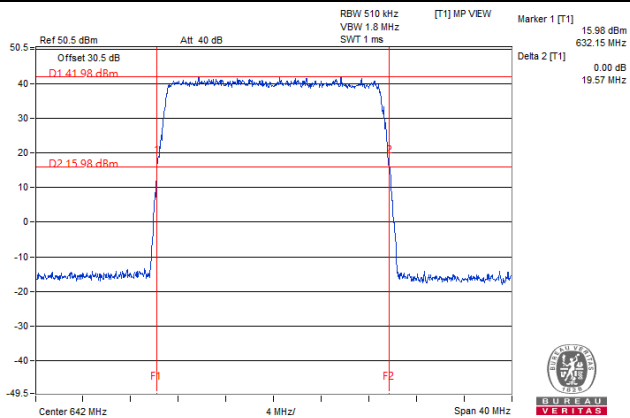
Channel: 68686



Channel: 68761



Channel: 68836



Chain 1

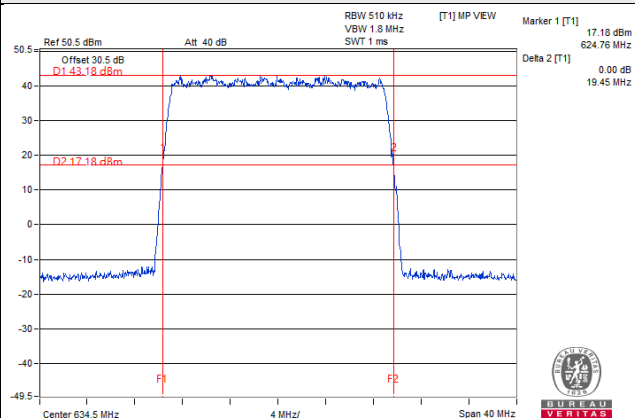
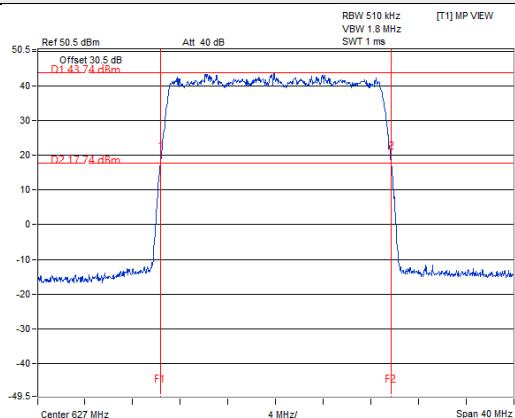
Spectrum Plot of Worst Value

-26dBc Bandwidth

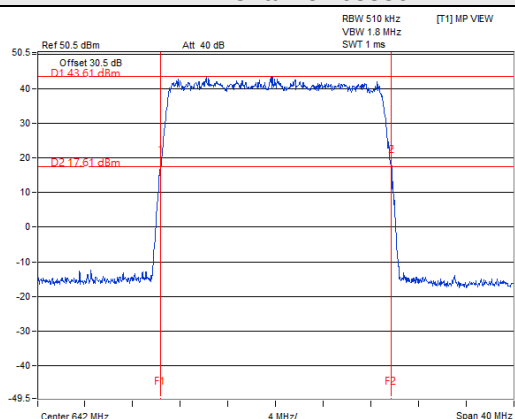
QPSK

Channel: 68686

Channel: 68761

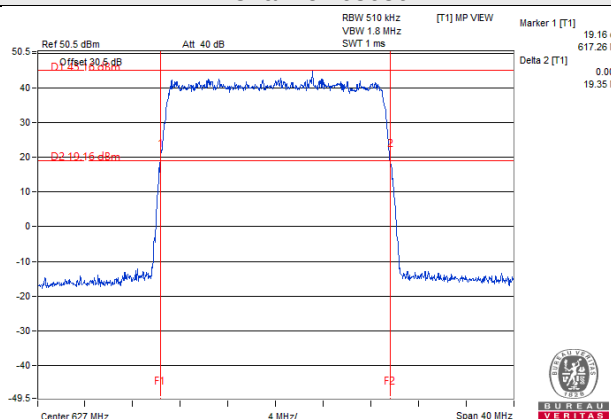


Channel: 68836

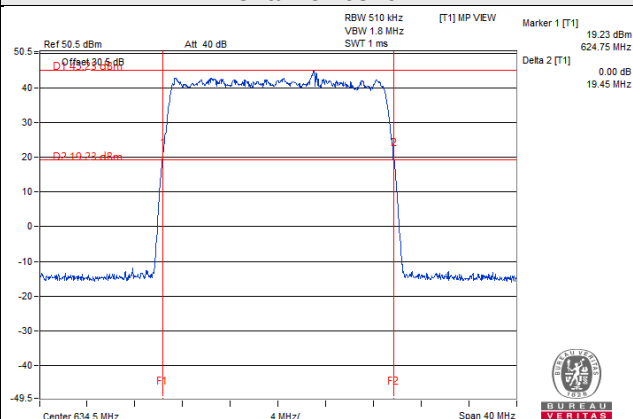


16QAM

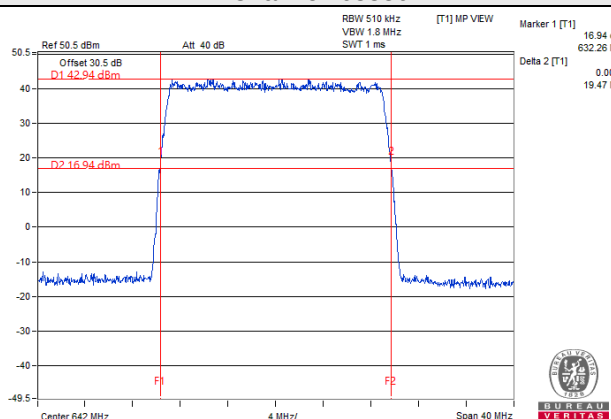
Channel: 68686



Channel: 68761

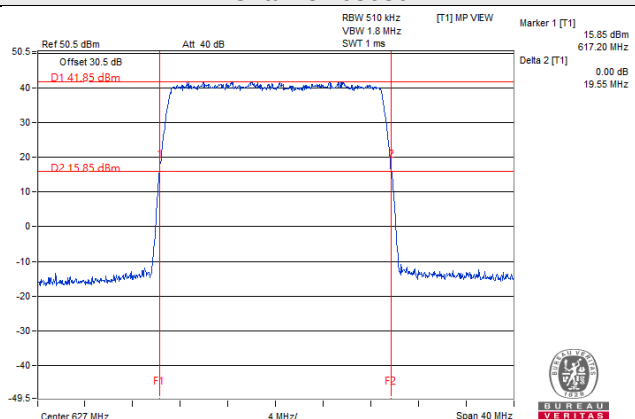


Channel: 68836

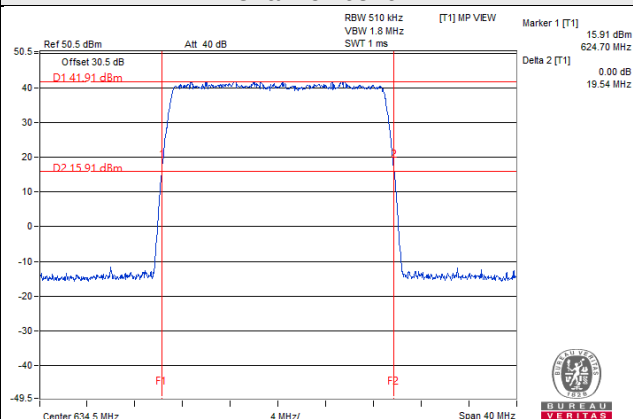


64QAM

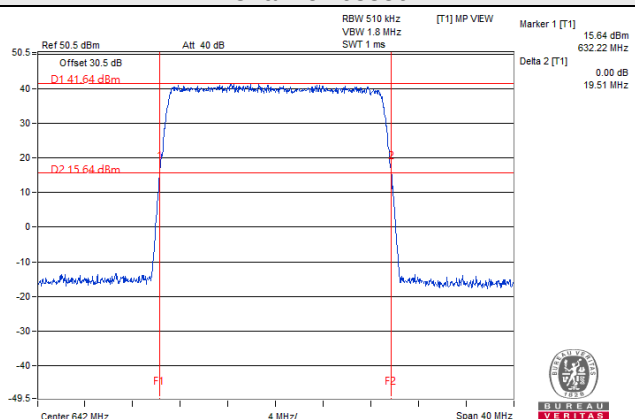
Channel: 68686



Channel: 68761

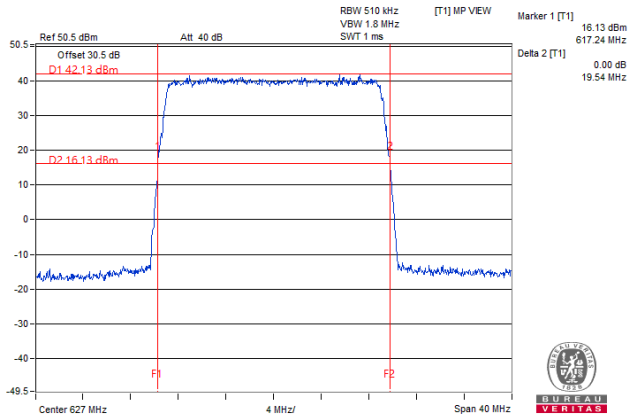


Channel: 68836

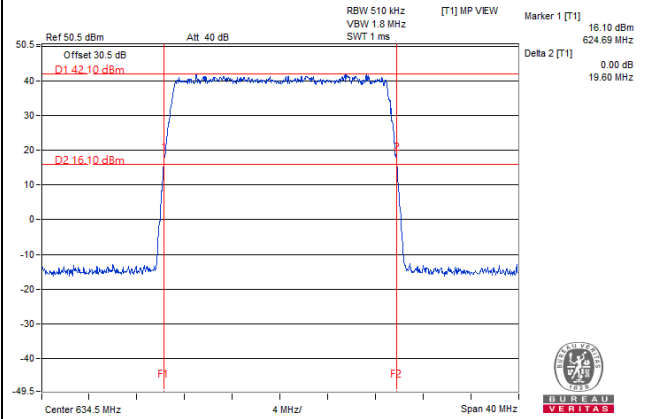


256QAM

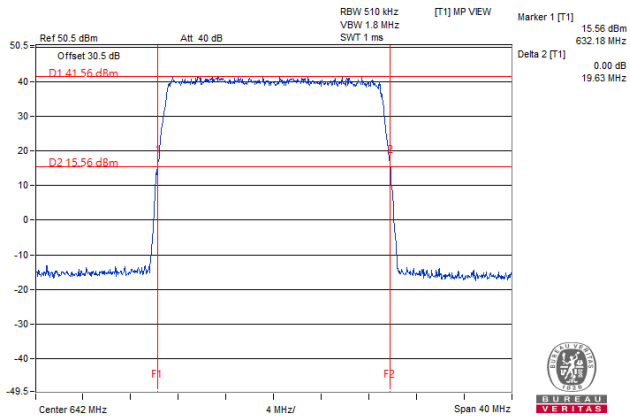
Channel: 68686



Channel: 68761



Channel: 68836

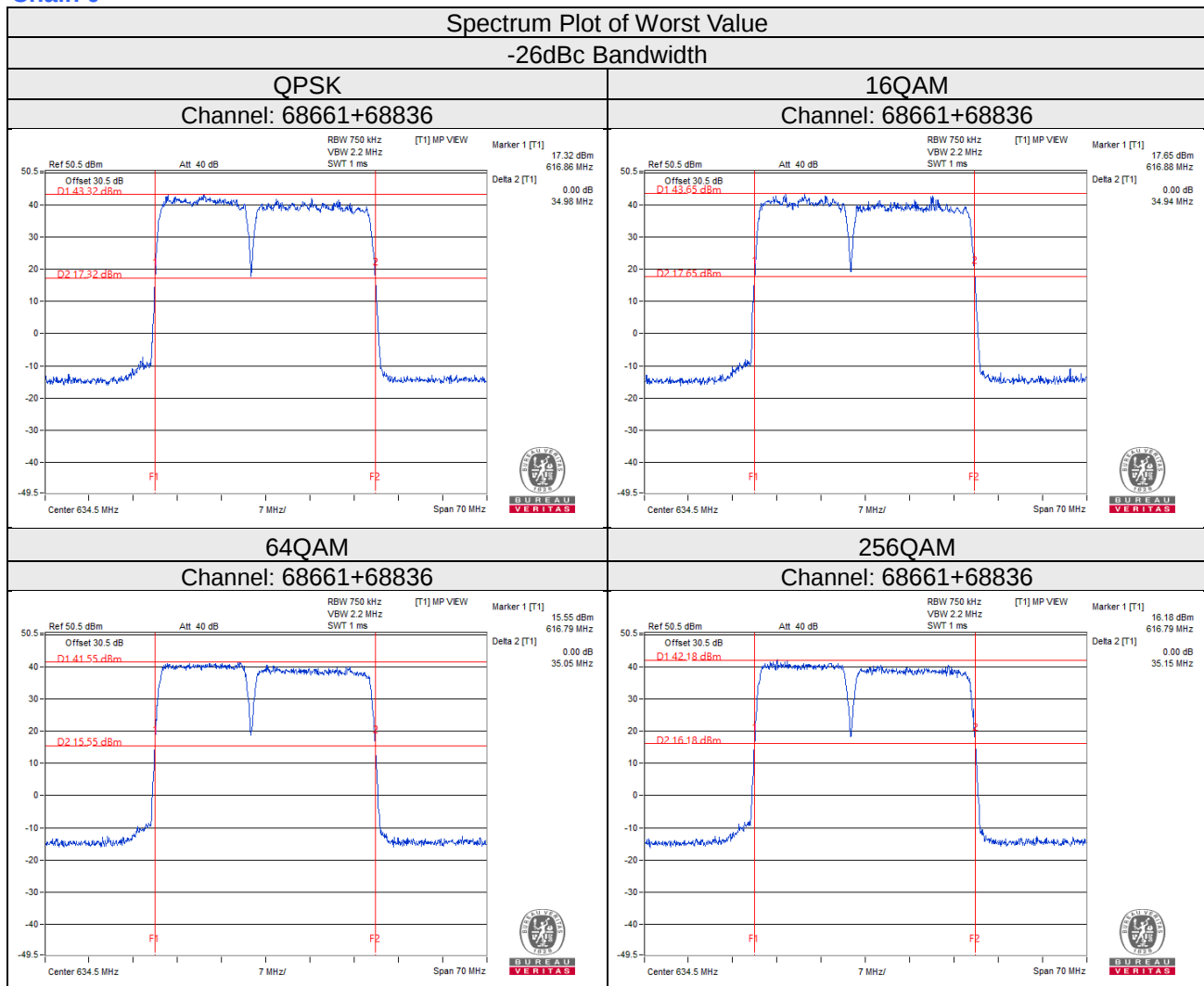


CA Contiguous

15MHz+20MHz

Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68661+68836	624.5+642	34.96	34.94	35.05	35.15	34.93	34.98	35.08	34.96

Chain 0

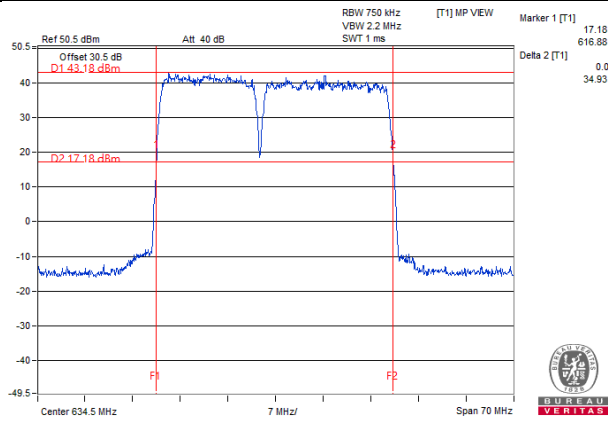


Chain 1

Spectrum Plot of Worst Value -26dBc Bandwidth

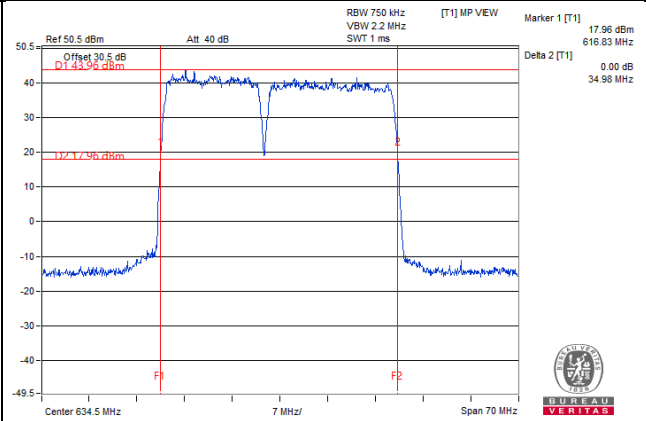
QPSK

Channel: 68661+68836



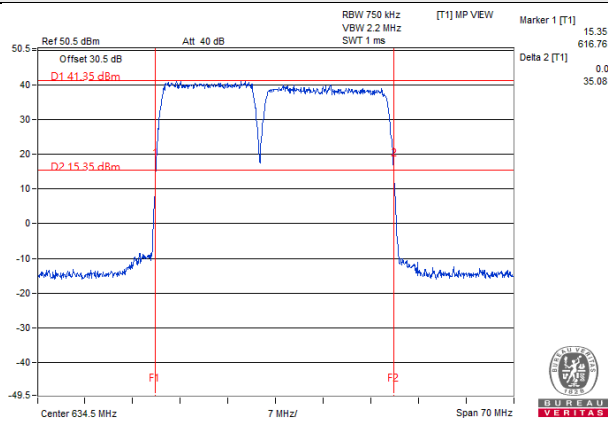
16QAM

Channel: 68661+68836



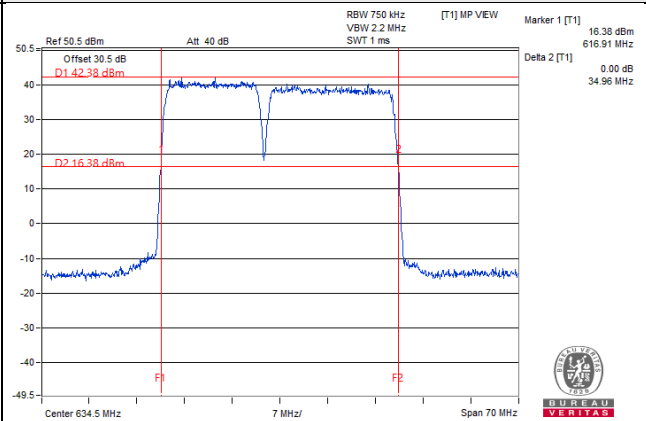
64QAM

Channel: 68661+68836



256QAM

Channel: 68661+68836

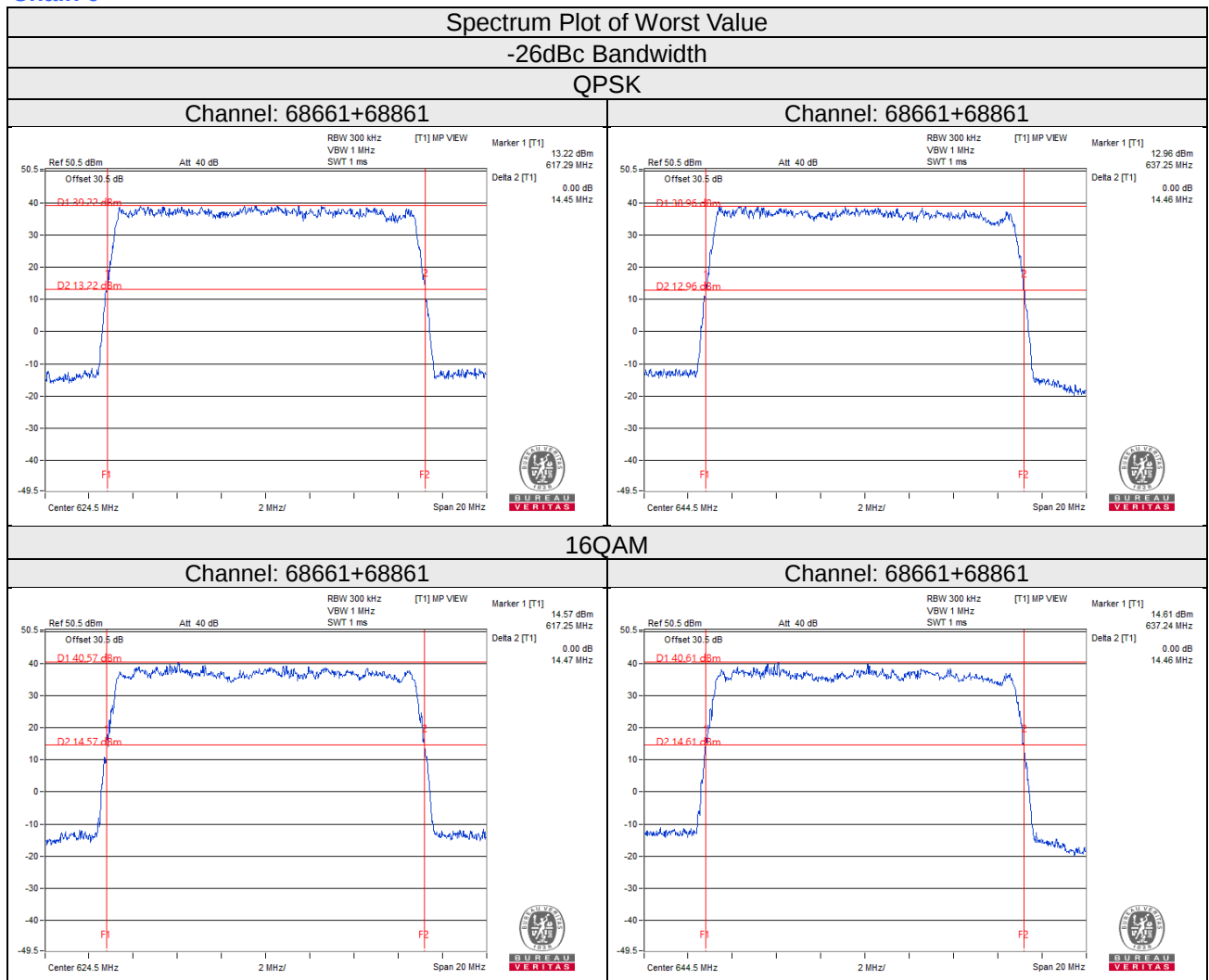


CA-NC Non-Contiguous

15MHz+15MHz

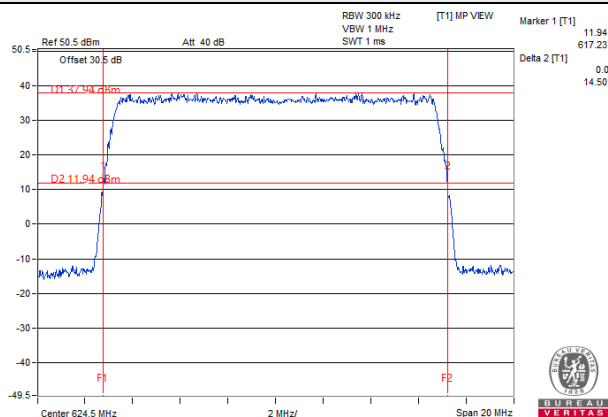
Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain0							
		CC0				CC1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68661+68861	624.5+644.5	14.45	14.47	14.50	14.49	14.46	14.46	14.55	14.48
Channel Number	Freq. (MHz)	CC0+CC1 Total							
		QPSK		16QAM		64QAM		256QAM	
68661+68861	624.5+644.5	28.91		28.93		29.05		28.97	

Chain 0

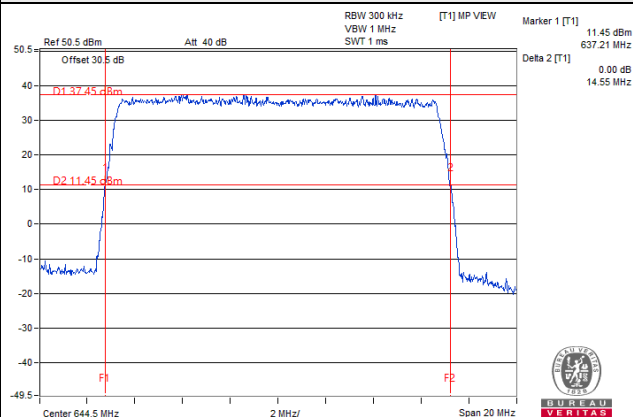


64QAM

Channel: 68661+68861

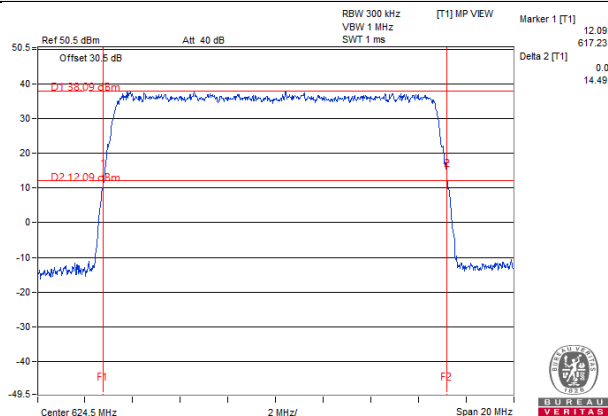


Channel: 68661+68861

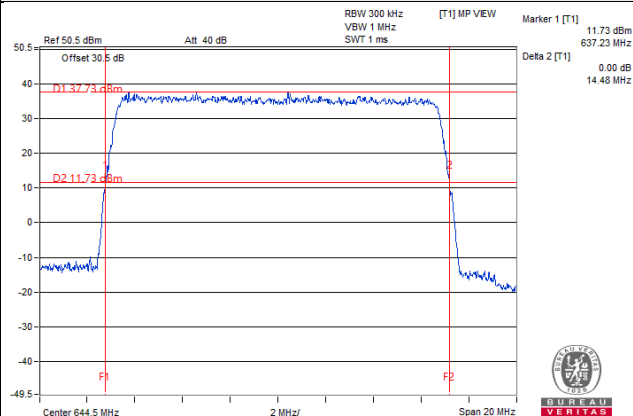


256QAM

Channel: 68661+68861



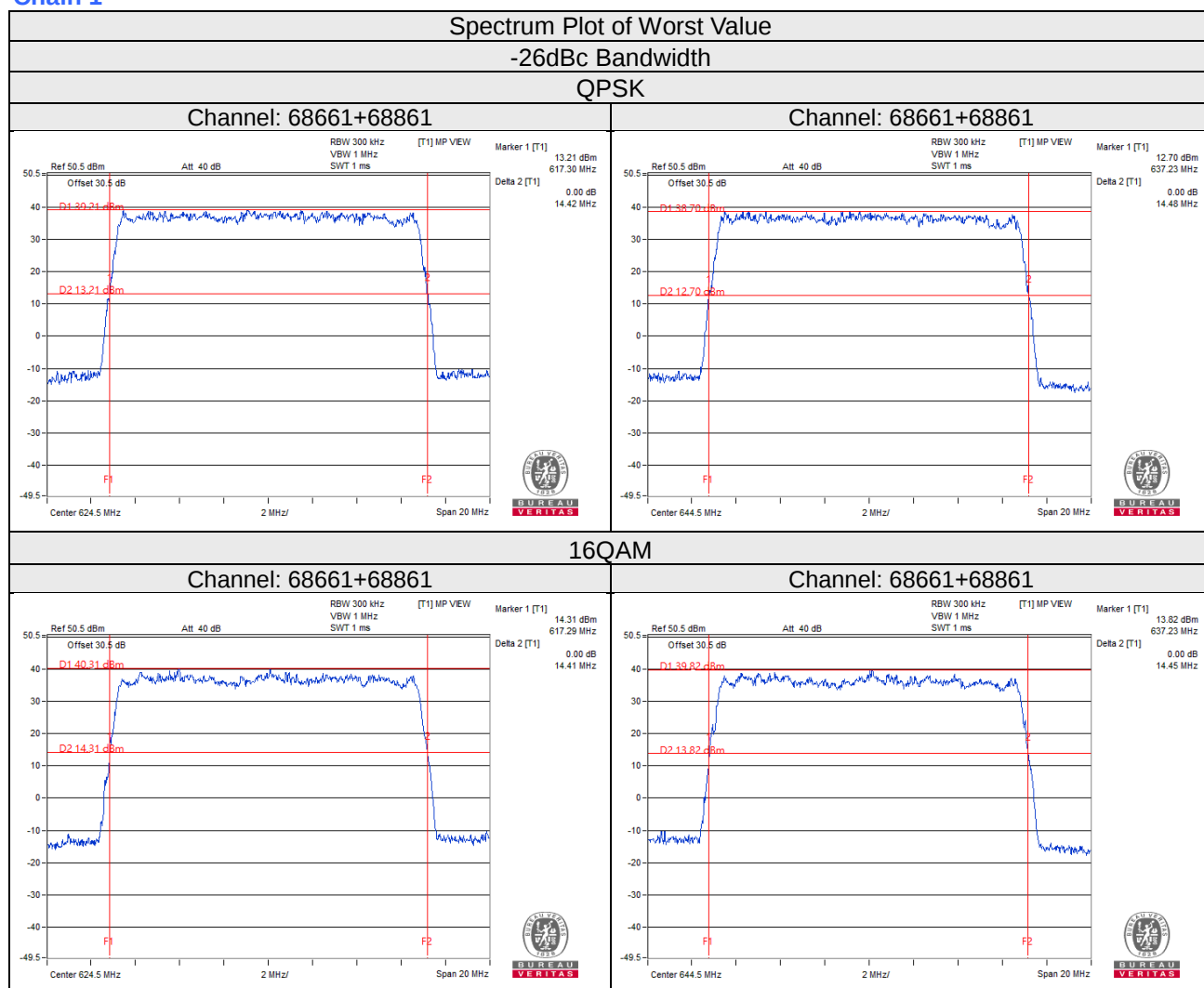
Channel: 68661+68861



15MHz+15MHz

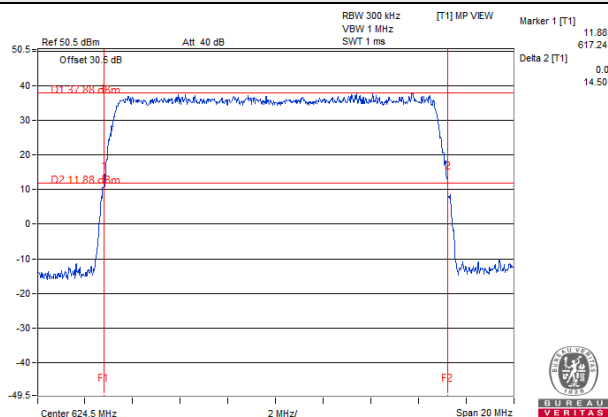
Channel Number	Freq. (MHz)	26dB DOWN BANDWIDTH (MHz)							
		Chain1							
		CC0				CC1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68661+68861	624.5+644.5	14.42	14.41	14.50	14.47	14.48	14.45	14.52	14.52
Channel Number	Freq. (MHz)	CC0+CC1 Total							
		QPSK		16QAM		64QAM		256QAM	
68661+68861	624.5+644.5	28.90		28.86		29.02		28.99	

Chain 1

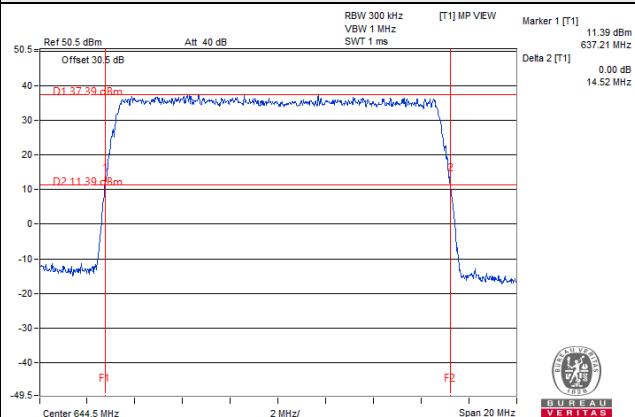


64QAM

Channel: 68661+68861

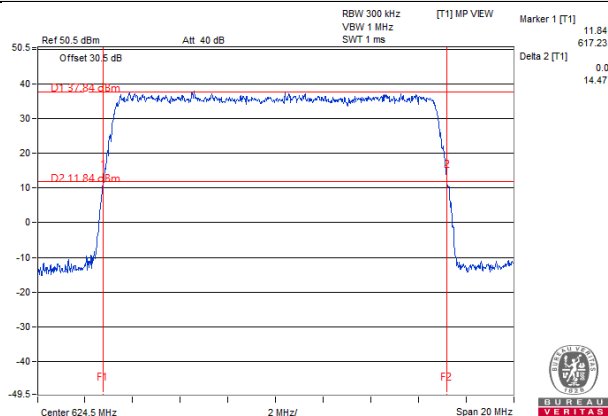


Channel: 68661+68861

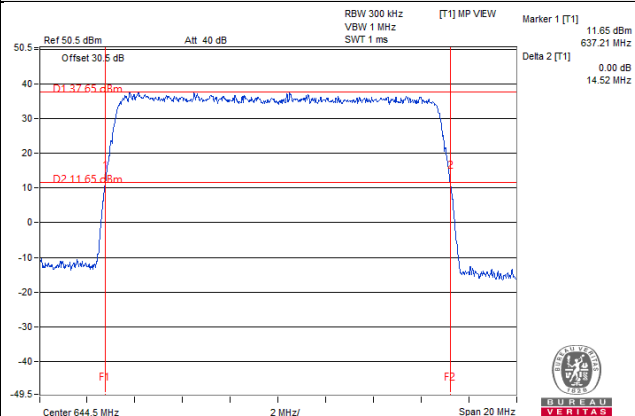


256QAM

Channel: 68661+68861



Channel: 68661+68861



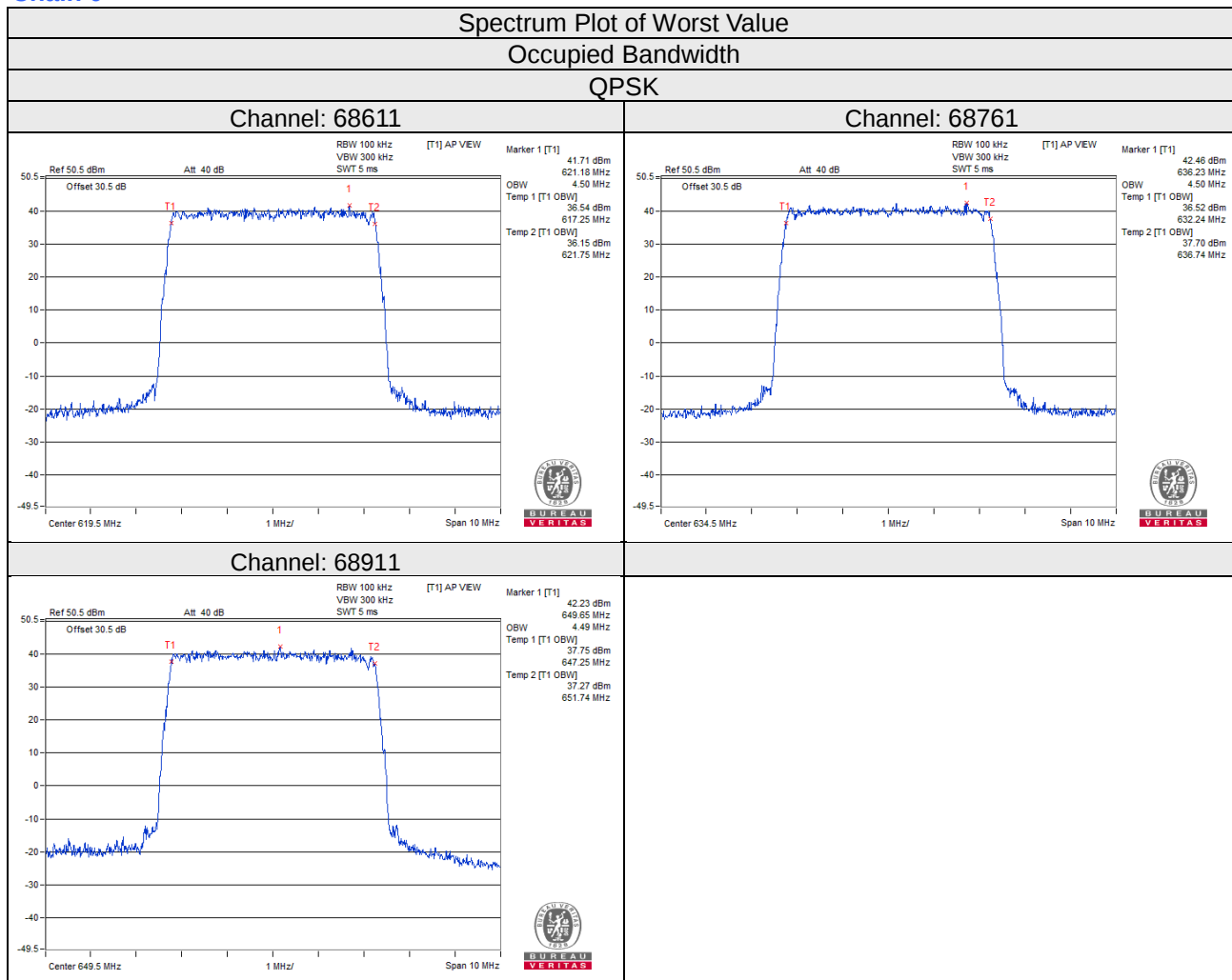
4.4.5 Test Results (Occupied Bandwidth)

Single Carrier

5MHz

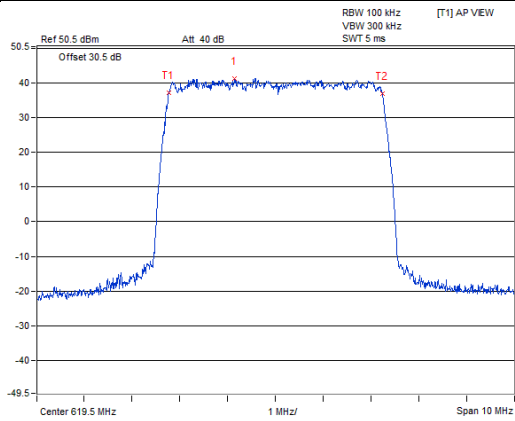
Channel Number	Freq. (MHz)	OCP 99 BAND WIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68611	619.5	4.50	4.49	4.52	4.50	4.50	4.50	4.50	4.51
68761	634.5	4.50	4.49	4.51	4.50	4.51	4.50	4.50	4.50
68911	649.5	4.49	4.47	4.50	4.50	4.50	4.49	4.51	4.50

Chain 0

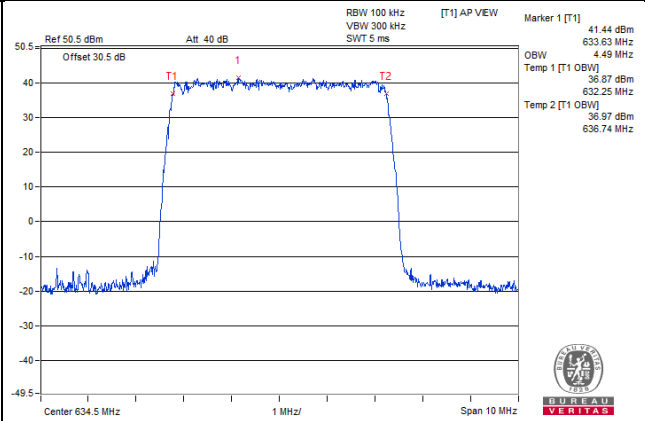


16QAM

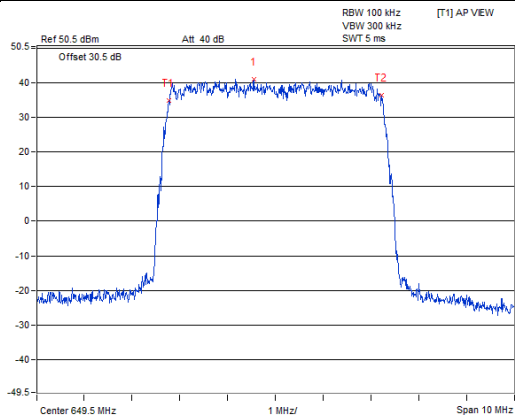
Channel: 68611



Channel: 68761

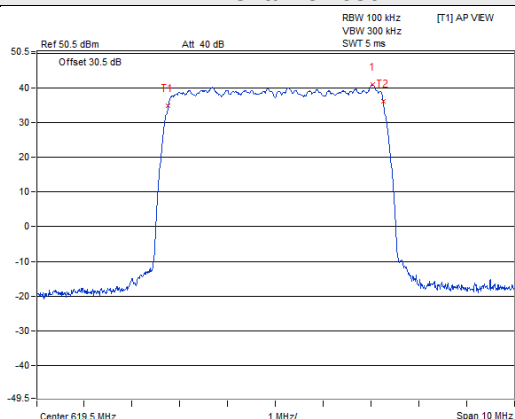


Channel: 68911

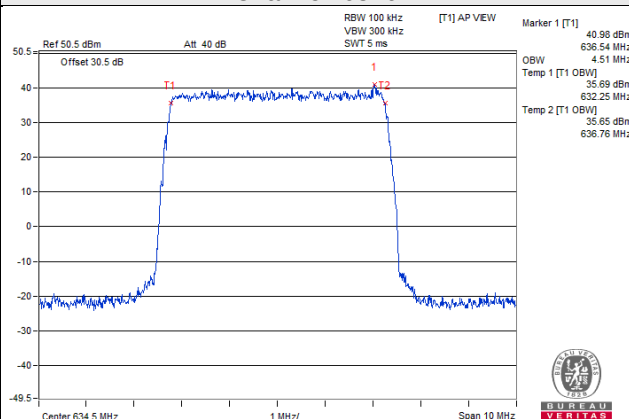


64QAM

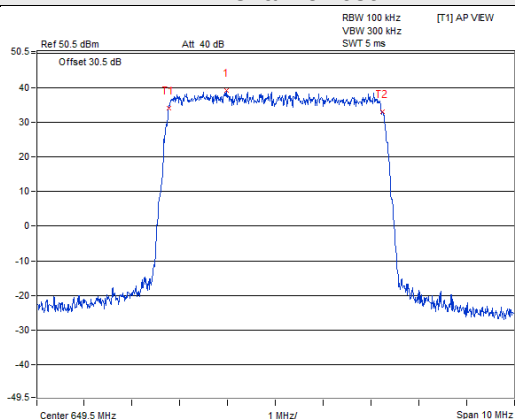
Channel: 68611



Channel: 68761

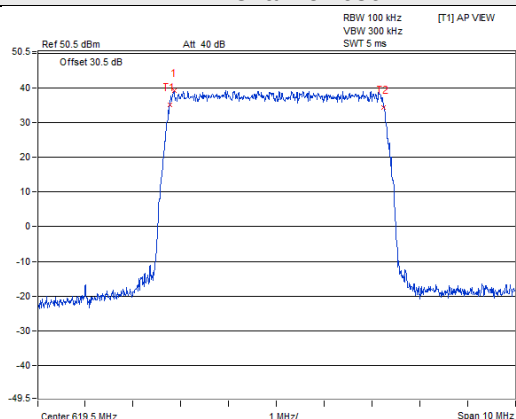


Channel: 68911

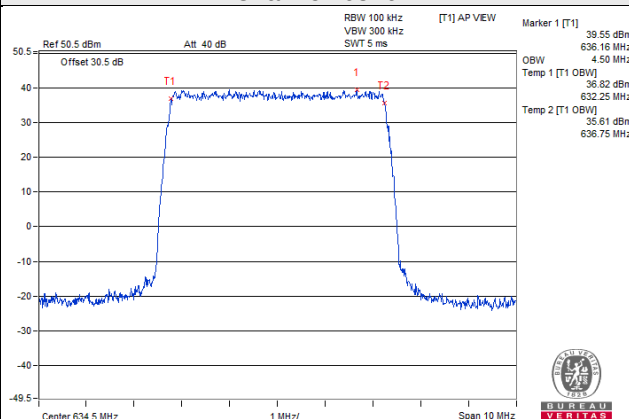


256QAM

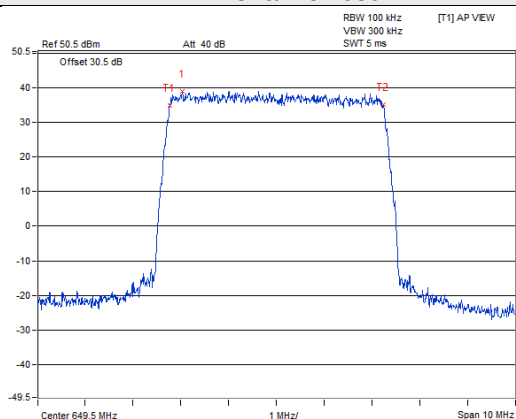
Channel: 68611



Channel: 68761



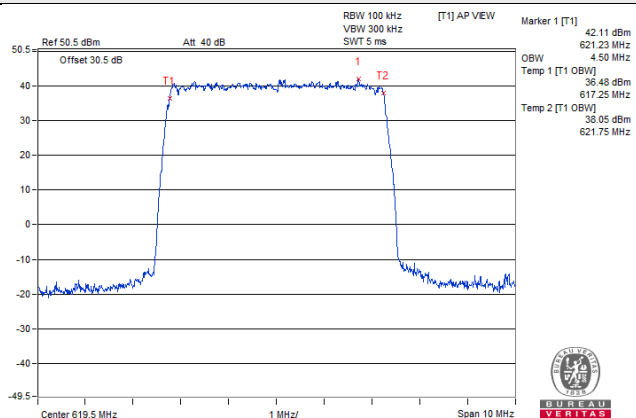
Channel: 68911



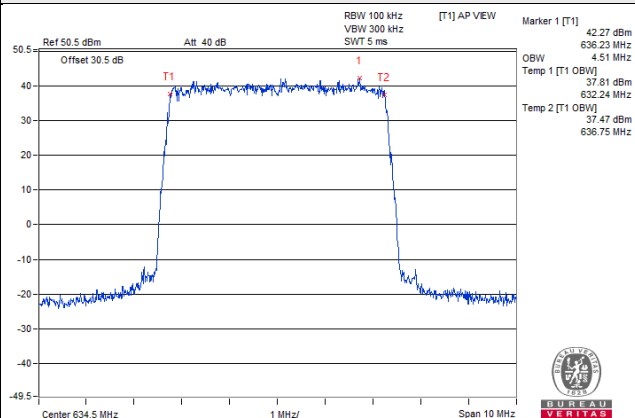
Chain 1

Spectrum Plot of Worst Value Occupied Bandwidth QPSK

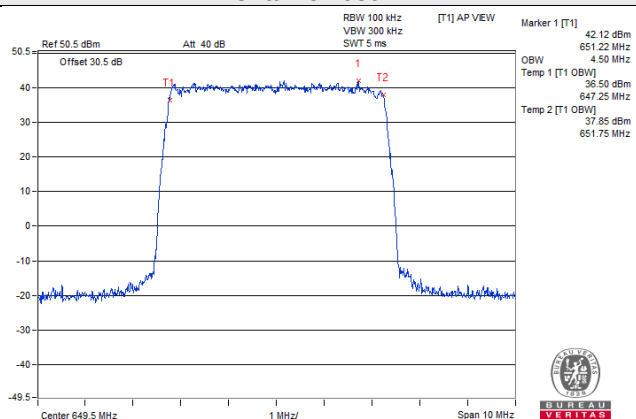
Channel: 68611



Channel: 68761

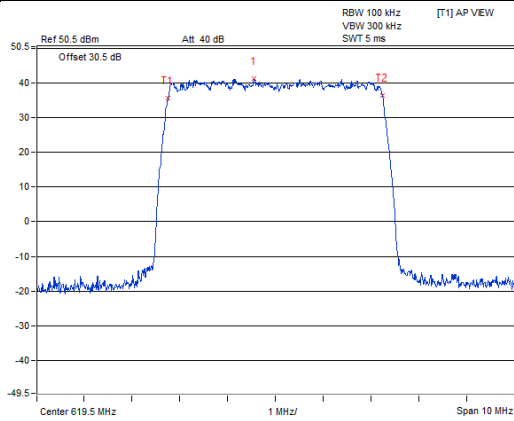


Channel: 68911

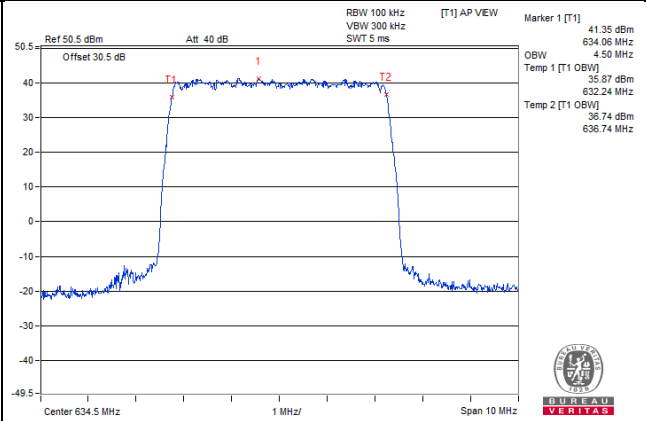


16QAM

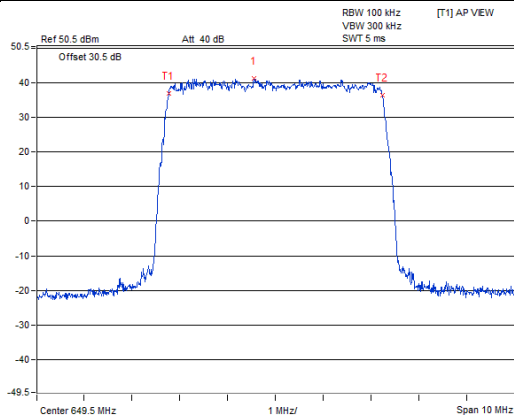
Channel: 68611



Channel: 68761

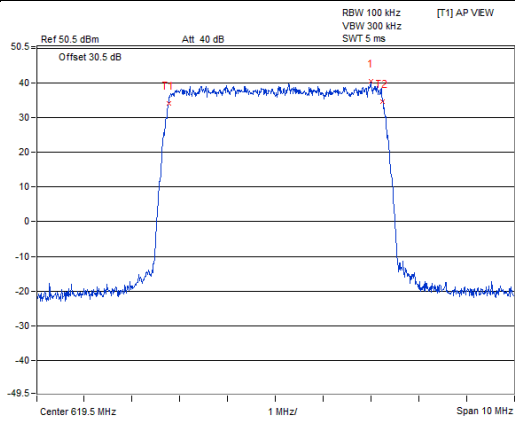


Channel: 68911

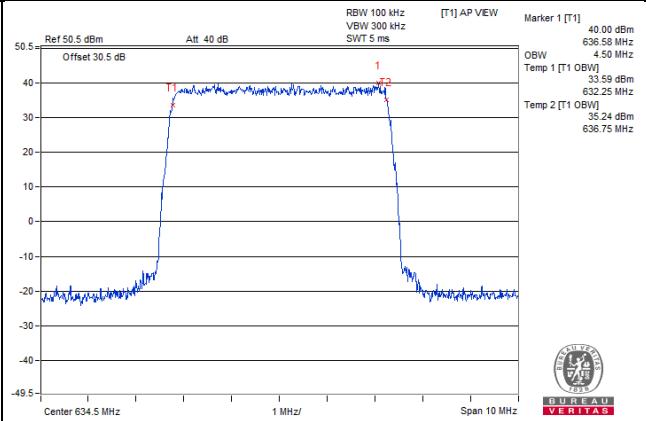


64QAM

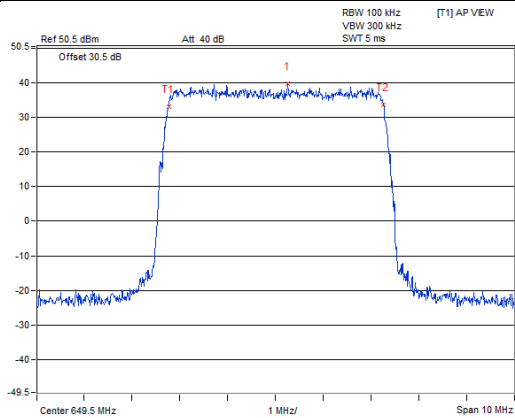
Channel: 68611



Channel: 68761

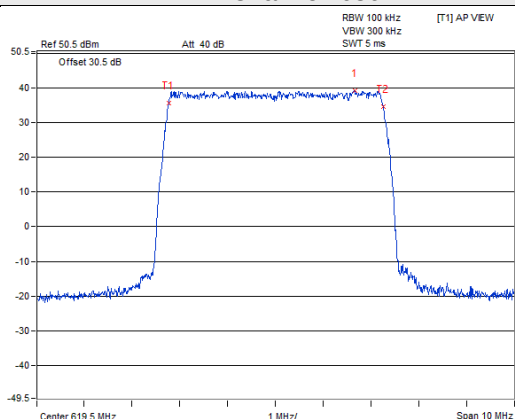


Channel: 68911

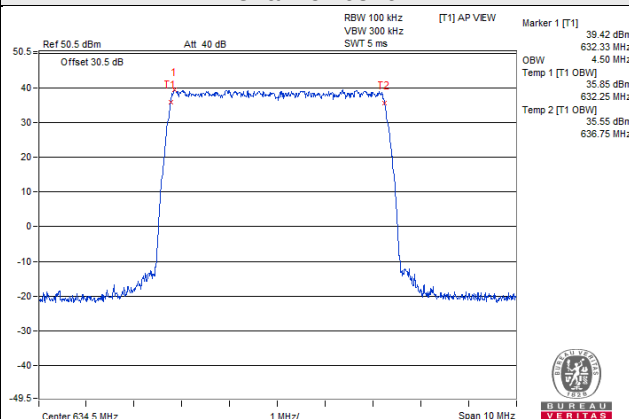


256QAM

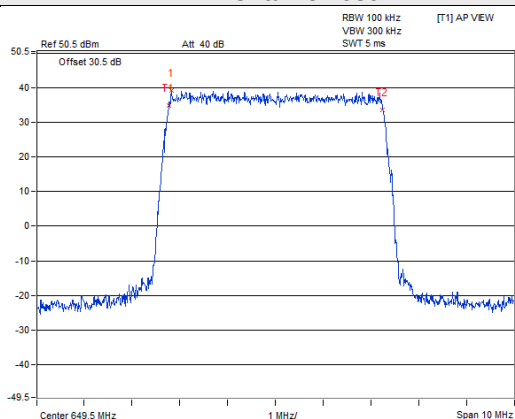
Channel: 68611



Channel: 68761



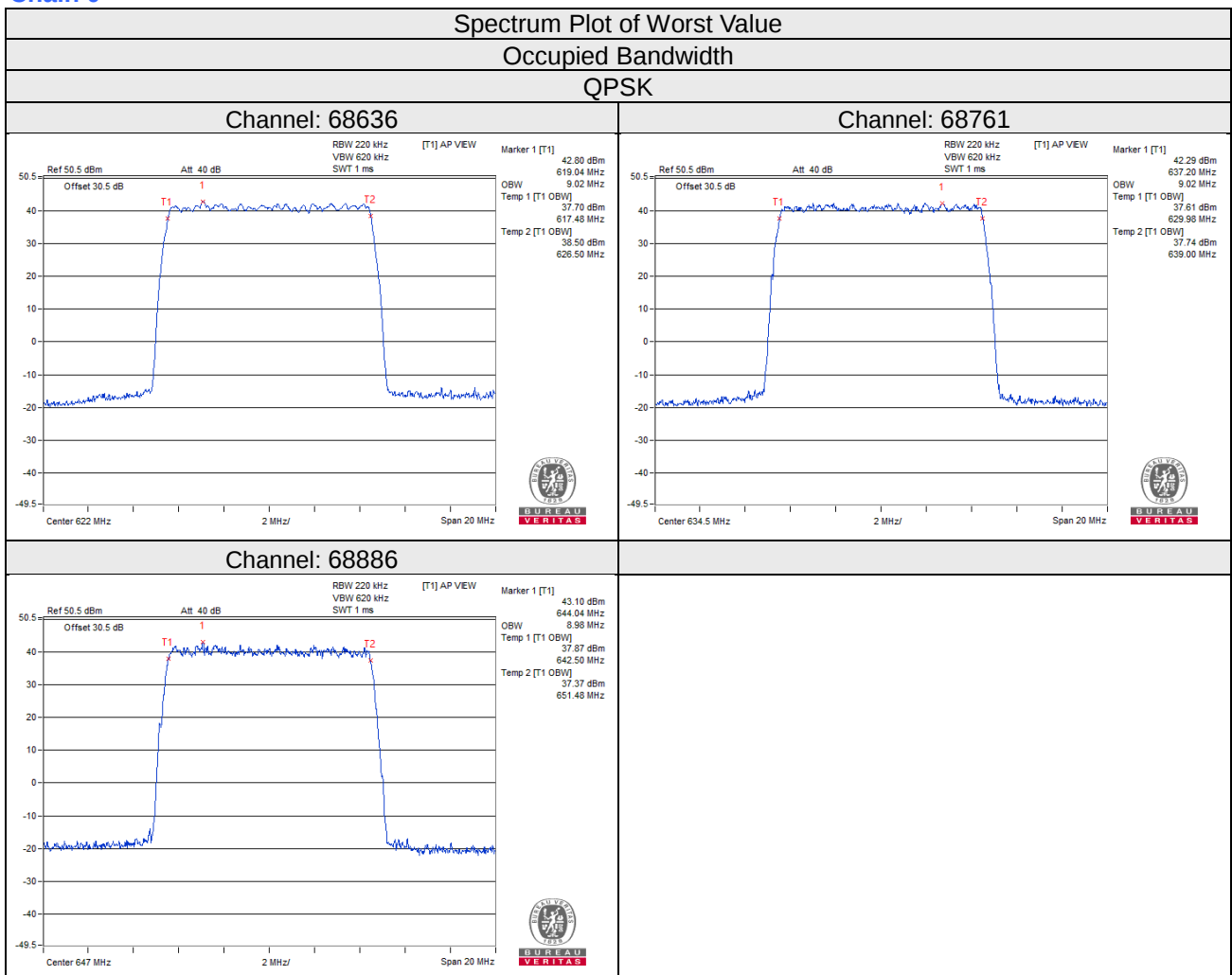
Channel: 68911



10MHz

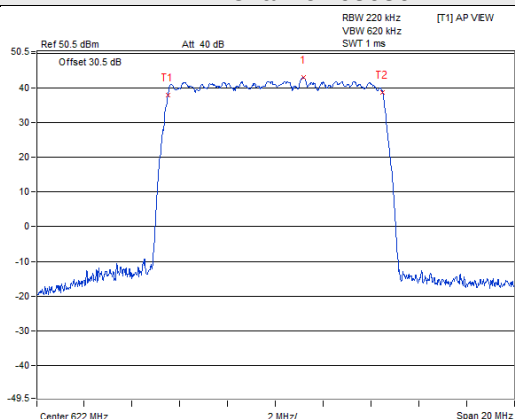
Channel Number	Freq. (MHz)	OCP 99 BAND WIDTH (MHz)							
		Chain0				Chain1			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
68636	622	9.02	9.04	9.02	9.00	9.02	9.06	9.04	9.00
68761	634.5	9.02	9.02	9.04	9.00	9.00	9.02	9.02	9.00
68886	647	8.98	9.04	9.02	8.98	9.02	9.04	9.02	9.00

Chain 0

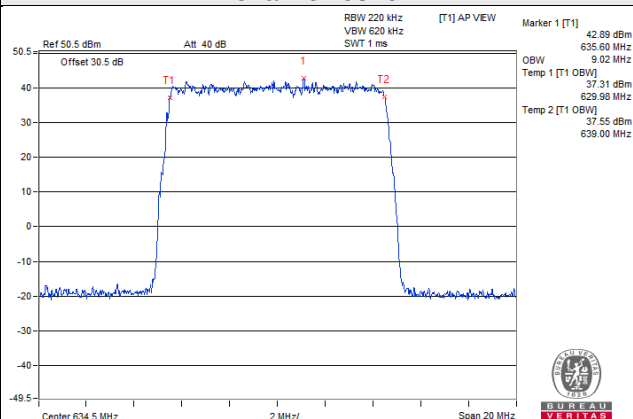


16QAM

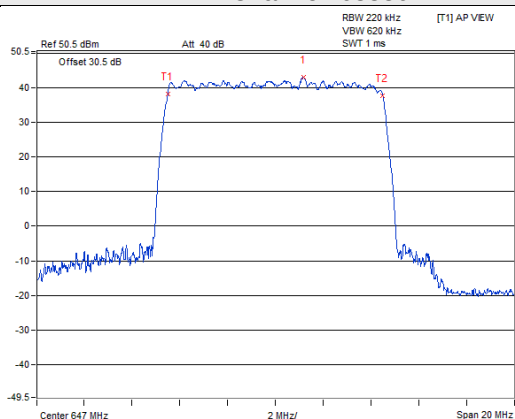
Channel: 68636



Channel: 68761

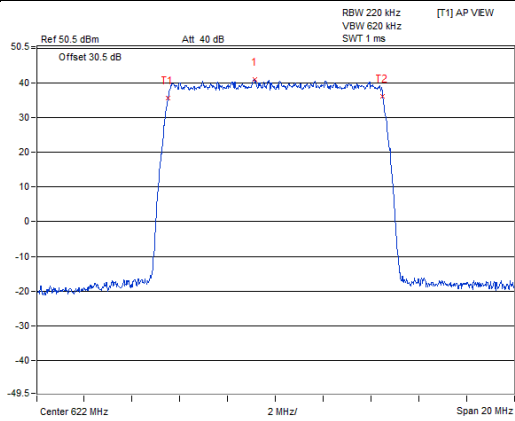


Channel: 68886

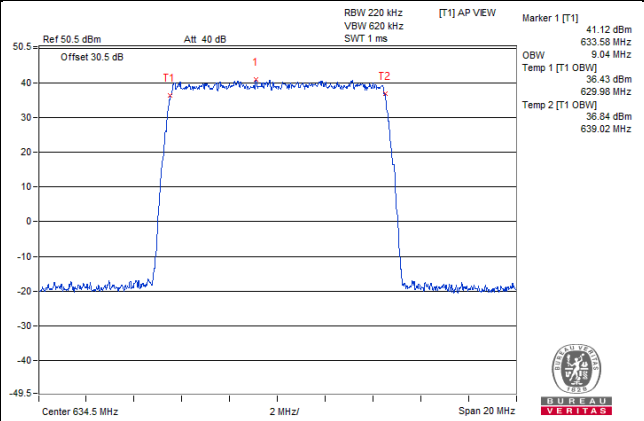


64QAM

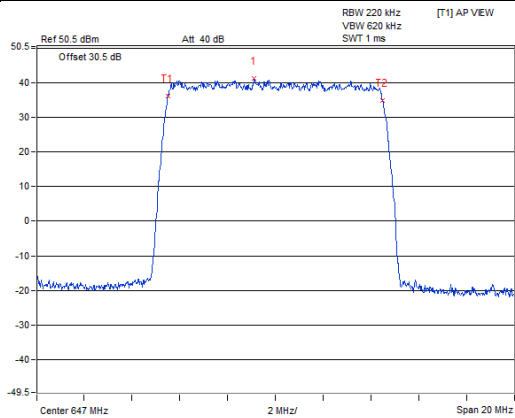
Channel: 68636



Channel: 68761

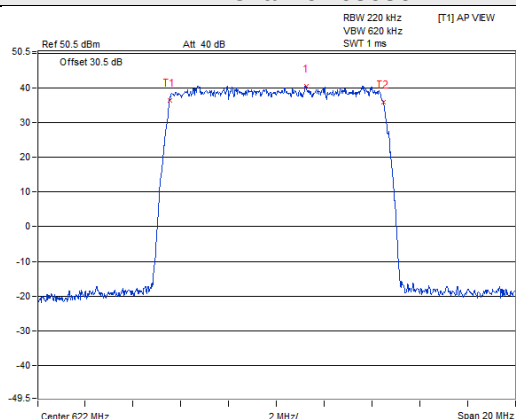


Channel: 68886

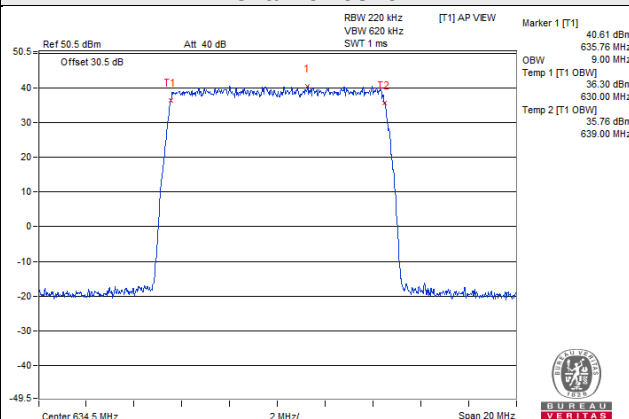


256QAM

Channel: 68636



Channel: 68761



Channel: 68886

