

Supplemental “CA Mode” Test Report

Report No.: RFBEOO-WTW-P22041058-2

FCC ID: MADG060708-50-02B

Test Model: G060708-50-02B

Received Date: 2022/4/29

Test Date: 2022/6/19 ~ 2022/6/22

Issued Date: 2022/7/15

Applicant: Microelectronics Technology Inc.

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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



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Release Control Record

Issue No.	Description	Date Issued
RFBEOO-WTW-P22041058-2	Original release.	2022/7/15

1 Certificate of Conformity

Product: Triple Low Band RU

Brand: MTI (Microelectronics Technology Inc.)

Test Model: G060708-50-02B

Sample Status: Engineering sample

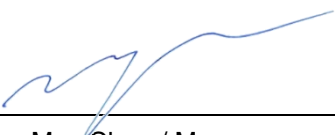
Applicant: Microelectronics Technology Inc.

Test Date: 2022/6/19 ~ 2022/6/22

Standards: FCC Part 27, Subpart N / H
FCC Part 90, Subpart S
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 :  _____, **Date:** 2022/7/15
Claire Kuan / Specialist

Approved by :  _____, **Date:** 2022/7/15
May Chen / Manager

2 Summary of Test Results

Applied Standard: FCC Part 27, FCC Part 90S			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(c)(3) 90.635 (a)	Effective radiated power	PASS	Meet the requirement of limit.
2.1053 27.53 90.691	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -47.16 dB at 2506.35 MHz.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1049 27.53 90.209	Occupied Bandwidth	PASS	Meet the requirement of limit.

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)
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
MXE EMI Receiver(20 Hz to 44 GHz) Keysight	N9038A	MY54450088	2021/7/6	2022/7/5
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-002	2022/1/6	2023/1/5
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2021/10/19	2022/10/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2021/10/26	2022/10/25
RF Coaxial Cable COMMATE/PEWC	8D	966-4-1	2022/3/8	2023/3/7
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2022/2/26	2023/2/25
RF Coaxial Cable COMMATE/PEWC	8D	966-3-3	2022/2/26	2023/2/25
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2021/9/23	2022/9/22
Horn Antenna Schwarzbeck	BBHA9120-D	9120D-406	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC12630SE	980384	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC104-SM-SM-1500	180504	2022/4/25	2023/4/24
RF Coaxial Cable EMCI	EMC104-SM-SM-2000	180601	2022/6/6	2023/6/5
RF Cable EMCI	EMC104-SM-SM-6000	210201	2022/5/10	2023/5/9
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	NA	NA
Spectrum Analyzer Keysight	N9030A	MY54490679	2021/7/9	2022/7/8
Pre_Amplifier EMCI	EMC184045SE	980387	2022/1/10	2023/1/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-739	2021/11/14	2022/11/13
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7

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. Tested Date: 2022/6/22

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA
DC POWER SUPPLY Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/1/14	2023/1/13
True RMS Clamp Meter Fluke	325	31130711WS	2022/06/09	2023/06/08

- 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. Tested Date: 2022/6/19

3 General Information

3.1 General Description of EUT

Product	Triple Low Band RU						
Brand	MTI (Microelectronics Technology Inc.)						
Test Model	G060708-50-02B						
Status of EUT	Engineering sample						
Power Supply Rating	DC -40.5V~-58.5V						
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM						
Modulation Technology	5G NR FDD						
Operating Frequency	Band n26	ANT2	Channel Bandwidth: 5MHz	866.5MHz			
		ANT3					
	Band n29	ANT0	Channel Bandwidth: 5MHz	719.5MHz ~725.5MHz			
		ANT1					
		ANT0	Channel Bandwidth: 10MHz	722MHz ~723MHz			
		ANT1					
	Band n71	ANT0	Channel Bandwidth: 5MHz	619.5MHz ~649.5MHz			
		ANT1					
		ANT2					
		ANT3					
		ANT0	Channel Bandwidth: 10MHz	622MHz ~647MHz			
		ANT1					
		ANT2					
		ANT3					
ANT0		Channel Bandwidth: 15MHz	624.5MHz ~644.5MHz				
ANT1							
ANT2							
ANT3							
ANT0	Channel Bandwidth: 20MHz	627MHz ~642MHz					
ANT1							
ANT2							
ANT3							
Emission Designato	BW combination		ANT NO.	QPSK	16QAM	64QAM	256QAM
	Singel Carrier: Band n26 5MHz(20W) Ch 172700(866.5MHz)+ Band n29 10MHz(60W) Ch 144600(723.0MHz)+ Band n71 20MHz(30W) Ch 125400(627.0MHz)		ANT0	19M0G7D	19M0D7W	18M9D7W	18M9D7W
			ANT1	19M0G7D	19M0D7W	18M9D7W	18M9D7W
			ANT2	19M0G7D	19M0D7W	18M9D7W	18M9D7W
			ANT3	19M0G7D	19M0D7W	19M0D7W	18M9D7W
	CA-Contiguous: Band n26 5MHz(20W) Ch 172700(866.5MHz) Band n29 5 MHz(30W)+5MHz(30W) Ch 144100(720.5MHz)+ Ch 145100(725.5MHz)+ Band n71 15MHz(12.9W)+20MHz(17.1W) Ch 124900(624.5MHz)+ Ch 128400(642.0MHz)		ANT0	34M0G7D	34M0D7W	33M7D7W	33M8D7W
			ANT1	34M0G7D	34M0D7W	33M8D7W	33M8D7W
			ANT2	34M0G7D	34M0D7W	33M7D7W	33M7D7W
			ANT3	34M0G7D	34M0D7W	33M8D7W	33M7D7W
	Antenna Type	Directional Cross-Polarized Sector antenna with : Band n26 Gain = 16 dBi Band n29 Gain = 17 dBi Band n71 Gain = 17 dBi					

Antenna Connector	4x4.3-10 Female
Accessory Device	NA
Data Cable Supplied	NA

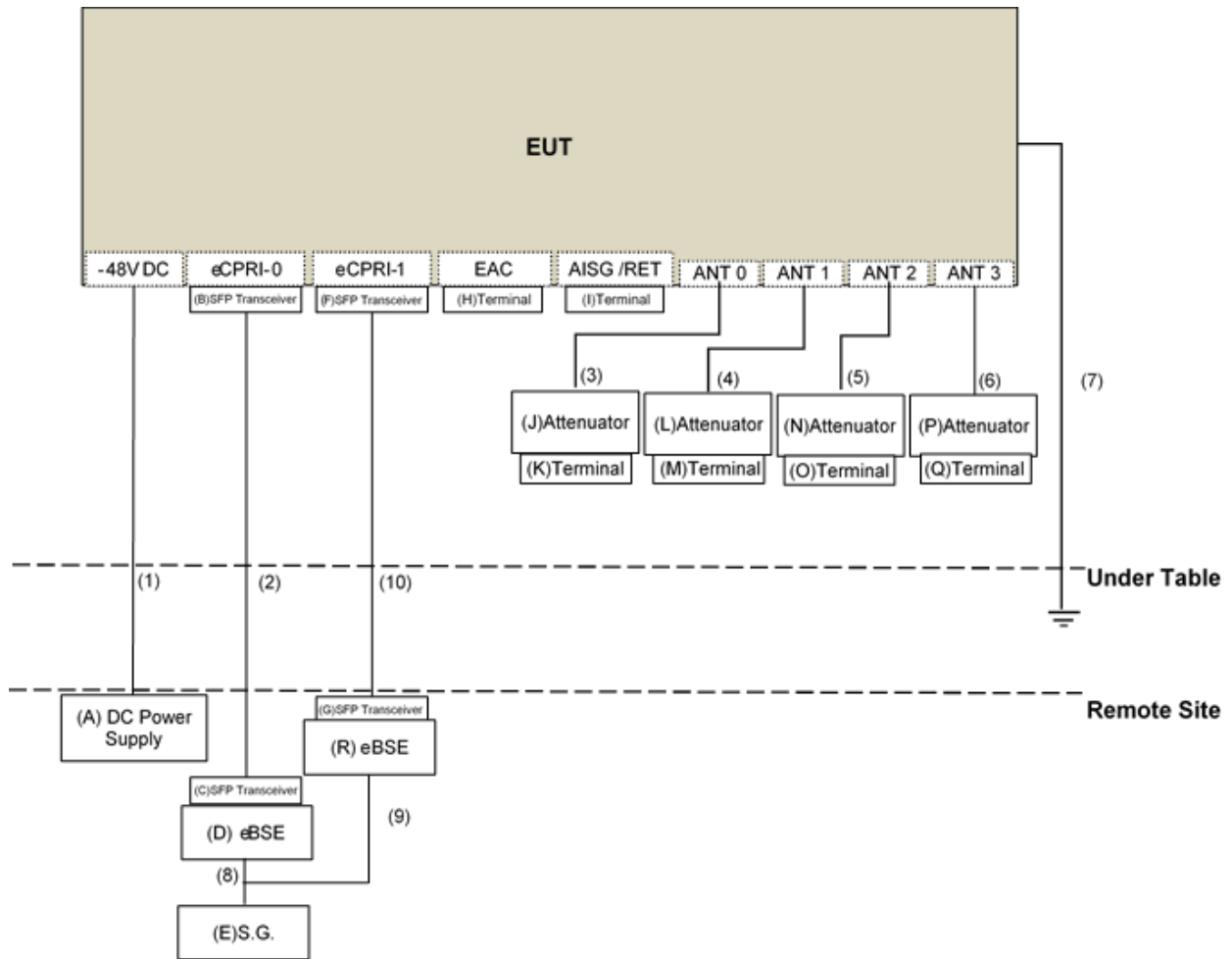
Note:

1. The EUT incorporates a MIMO function.

Band n26			
Channel Bandwidth	Modulation	TX & RX configuration	
5MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	4RX
Band n29			
Channel Bandwidth	Modulation	TX Only configuration	
5MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	NA
10MHz	QPSK, 16QAM, 64QAM, 256QAM	2TX	NA
Band n71			
Channel Bandwidth	Modulation	TX & RX configuration	
5MHz	QPSK, 16QAM, 64QAM, 256QAM	4TX	4RX
10MHz	QPSK, 16QAM, 64QAM, 256QAM	4TX	4RX
15MHz	QPSK, 16QAM, 64QAM, 256QAM	4TX	4RX
20MHz	QPSK, 16QAM, 64QAM, 256QAM	4TX	4RX

2. 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. The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
4. Based on the maximum RF power (conducted & EIRP) listed in this report, considerations pertaining to the maximum allowed EIRP (conducted power level), signal type and antenna gain should be considered for each installation.

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 applicant
B	SFP Transceiver	NA	NA	NA	NA	Supplied by applicant
C	SFP Transceiver	NA	NA	NA	NA	Supplied by applicant
D	BSE	NA	NA	NA	NA	Supplied by applicant
E	S.G	Agilent	E4438C	NA	NA	Provided by Lab
F	SFP Transceiver	NA	NA	NA	NA	Supplied by applicant
G	SFP Transceiver	NA	NA	NA	NA	Supplied by applicant
H	Terminal	NA	NA	NA	NA	Supplied by applicant
I	Terminal	NA	NA	NA	NA	Supplied by applicant
J	Attenuator	NA	NA	NA	NA	Supplied by applicant
K	Terminal	NA	NA	NA	NA	Supplied by applicant
L	Attenuator	NA	NA	NA	NA	Supplied by applicant
M	Terminal	NA	NA	NA	NA	Supplied by applicant
N	Attenuator	NA	NA	NA	NA	Supplied by applicant
O	Terminal	NA	NA	NA	NA	Supplied by applicant
P	Attenuator	NA	NA	NA	NA	Supplied by applicant
Q	Terminal	NA	NA	NA	NA	Supplied by applicant
R	BSE	NA	NA	NA	NA	Supplied by applicant

NOTE:

1. All power cords of the above support units are non-shielded (1.8 m).
2. eBSE: evolved Based Station Emulator which is to transmit/receive the waveform.

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

3.3 Test Mode Applicability and Tested Channel Detail

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

TEST ITEM	MODULATION	TEST MODE
ERP	QPSK/16QAM/64QAM/256QAM	1/ 2/ 3/ 4
Radiated Emission	QPSK	1/ 2/ 3/ 4
Channel Edge	QPSK	1/ 2
Occupied Bandwidth	QPSK/16QAM/64QAM/256QAM	2/ 3

NOTE:

The product is a base station, only test type full RB. All supported modulation types were evaluated. The Worst case of QPSK was selected. Therefore, the Radiated Emission were presented under QPSK mode only.

Test modes are presented in the report as below, detailed test mode.

Test Mode	Description
1	Singel Carrier: Band n26 5MHz(20W)_Ch 172700 (866.5MHz)+ Band n29 5MHz(60W)_Ch 145100 (725.5MHz)+ Band n71 5MHz(30W)_Ch 123900 (619.5MHz)
2	Singel Carrier: Band n26 5MHz(20W)_Ch 172700(866.5MHz)+ Band n29 10MHz(60W)_Ch 144600(723.0MHz)+ Band n71 20MHz(30W)_Ch 125400(627.0MHz)
3	CA-Contiguous: Band n26 5MHz(20W)_Ch 172700(866.5MHz)+ Band n29 5 MHz(30W)+5MHz(30W)_Ch 144100(720.5MHz) + Ch 145100(725.5MHz)+ Band n71 15MHz(12.9W)+20MHz(17.1W)_Ch 124900(624.5MHz) + Ch 128400(642.0MHz)
4	CA-Non Contiguous: Band n26 5MHz(20W)_Ch 172700(866.5MHz)+ Band n29 5MHz(30W)+5MHz(30W)_Ch 143900(719.5MHz) + Ch 145100(725.5MHz)+ Band n71 5MHz(15W)+5MHz(15W)_Ch 123900(619.5MHz) + Ch 129900(649.5MHz)

Test Condition:

Test Item	Environmental Conditions	Input Power (System)	Tested By
ERP	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Radiated Emission	20deg. C, 70%RH	120Vac, 60Hz	Ryan Du
Channel Edge	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Occupied Bandwidth	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko

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

3.4 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:

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 27, Subpart N / H

FCC 47 CFR Part 90S

ANSI/TIA/EIA-603-E 2016

ANSI C63.26-2015

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

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 and Antenna Height

For FCC Part 27:

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.

For FCC Part 90S:

According to 90.635 (a), the effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

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:

$$\begin{aligned} \text{EIRP} &= \text{PMeas} + \text{GT} \\ \text{ERP} &= \text{PMeas} + \text{GT} - 2.15 \end{aligned}$$

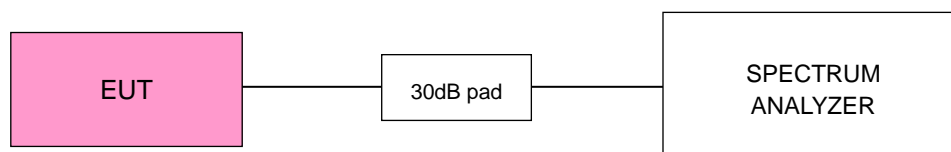
Where ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, e.g., dBm or dBW)

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 (Mode 1)

Band n26_5MHz / Band n29_5MHz / Band n71_5MHz

QPSK

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 145100	725.5	41.39	41.41	NA	NA	44.41	17	59.26	843.33	1000.00	PASS
n71 123900	619.5	38.66	38.71	38.69	38.72	44.72	17	59.57	904.83	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.54	42.49	45.53	16	59.38	866.96	1000.00	PASS
n29 145100	725.5	46.87	47.06	NA	NA	49.98	17	64.83	3040.89	-	-
n71 123900	619.5	44.21	44.28	44.12	44.19	50.22	17	65.07	3213.66	-	-

16QAM

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 145100	725.5	40.76	40.72	NA	NA	43.75	17	58.60	724.44	1000.00	PASS
n71 123900	619.5	38.03	37.92	37.86	38.31	44.05	17	58.90	776.98	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.40	42.35	45.39	16	59.24	839.46	1000.00	PASS
n29 145100	725.5	46.59	46.26	NA	NA	49.44	17	64.29	2685.34	-	-
n71 123900	619.5	43.58	43.63	43.62	43.86	49.69	17	64.54	2844.46	-	-

64QAM

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 145100	725.5	40.55	40.40	NA	NA	43.49	17	58.34	682.34	1000.00	PASS
n71 123900	619.5	37.76	37.71	37.61	37.90	43.77	17	58.62	727.25	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.35	42.32	45.35	16	59.20	831.76	1000.00	PASS
n29 145100	725.5	46.92	46.98	NA	NA	49.96	17	64.81	3026.91	-	-
n71 123900	619.5	44.16	44.14	44.20	44.31	50.22	17	65.07	3213.66	-	-

*EIRP = Conducted + Directional gain (n26 = 16 dBi , n29 and 71 = 17 dBi)

*The antenna gain was declared by client.

256QAM

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 145100	725.5	40.41	40.27	NA	NA	43.35	17	58.20	660.69	1000.00	PASS
n71 123900	619.5	37.76	37.69	37.45	37.88	43.72	17	58.57	719.19	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.29	42.27	45.29	16	59.14	820.35	1000.00	PASS
n29 145100	725.5	46.73	46.57	NA	NA	49.66	17	64.51	2824.88	-	-
n71 123900	619.5	44.09	44.08	43.82	44.23	50.08	17	64.93	3111.72	-	-

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

Spectrum Plot of Worst Value



4.1.5 Test Results (Mode 2)

Band n26_5MHz / Band n29_10MHz / Band n71_20MHz

QPSK

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144600	723	39.89	40.09	NA	NA	43.00	17	57.85	609.54	1000.00	PASS
n71 125400	627	33.86	34.23	33.65	33.82	39.92	17	54.77	299.63	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.49	42.46	45.49	16	59.34	859.01	1000.00	PASS
n29 144600	723	47.29	47.32	NA	NA	50.31	17	65.16	3280.95	-	-
n71 125400	627	44.65	44.82	44.51	44.68	50.69	17	65.54	3580.96	-	-

16QAM

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144600	723	39.32	38.92	NA	NA	42.13	17	56.98	498.88	1000.00	PASS
n71 125400	627	33.74	33.76	33.65	33.63	39.72	17	54.57	286.15	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.34	42.34	45.35	16	59.20	831.76	1000.00	PASS
n29 144600	723	47.48	47.06	NA	NA	50.29	17	65.14	3265.88	-	-
n71 125400	627	44.27	44.52	44.39	44.43	50.42	17	65.27	3365.12	-	-

64QAM

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144600	723	38.04	37.72	NA	NA	40.89	17	55.74	374.97	1000.00	PASS
n71 125400	627	32.27	32.08	31.83	32.00	38.07	17	52.92	195.82	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.23	42.23	45.24	16	59.09	810.96	1000.00	PASS
n29 144600	723	47.74	47.25	NA	NA	50.51	17	65.36	3435.58	-	-
n71 125400	627	44.49	44.38	44.19	44.24	50.35	17	65.20	3311.31	-	-

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

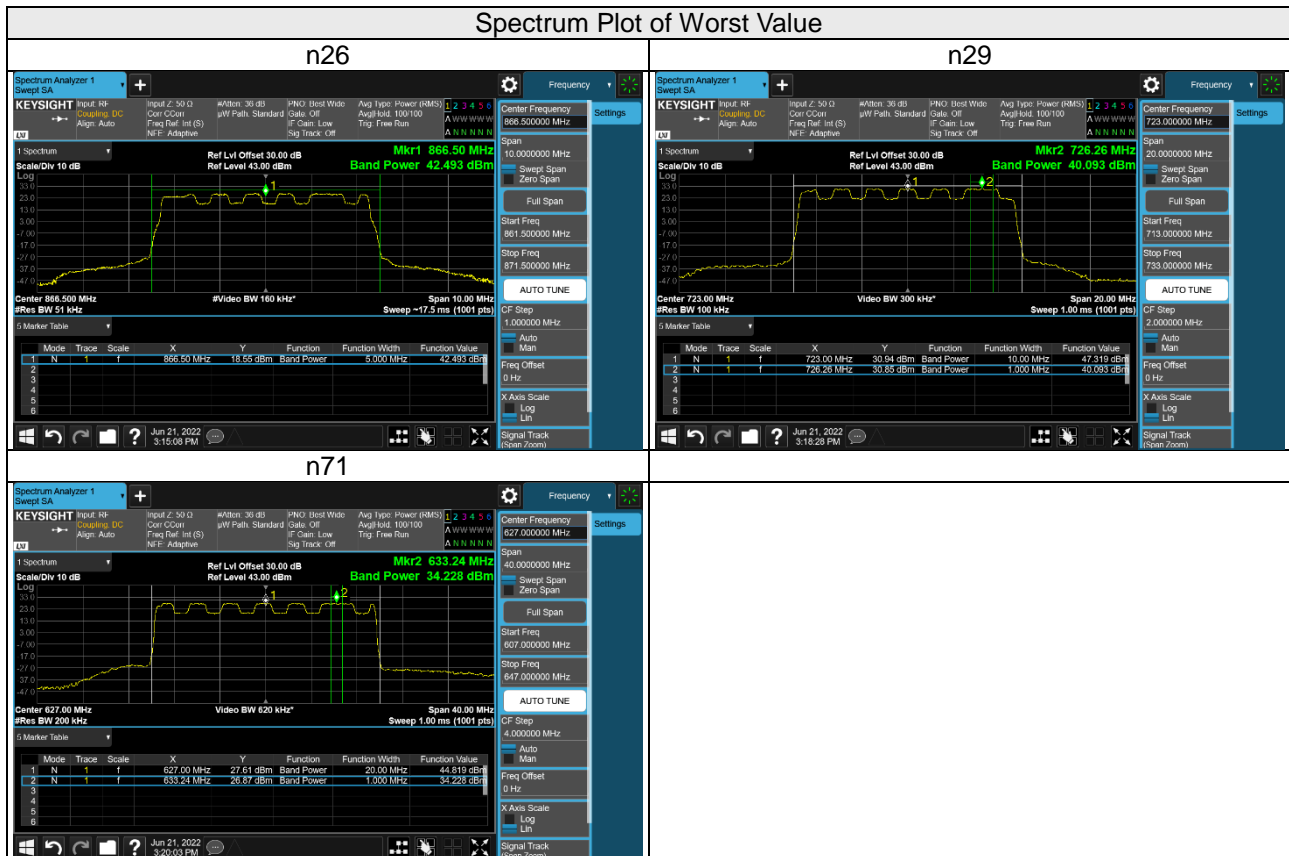
256QAM

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144600	723	37.85	37.87	NA	NA	40.87	17	55.72	373.25	1000.00	PASS
n71 125400	627	32.24	31.84	31.77	32.08	38.01	17	52.86	193.07	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.09	42.11	45.11	16	58.96	787.05	1000.00	PASS
n29 144600	723	47.24	47.37	NA	NA	50.32	17	65.17	3288.52	-	-
n71 125400	627	44.97	44.55	44.41	44.86	50.72	17	65.57	3605.79	-	-

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

Spectrum Plot of Worst Value



4.1.6 Test Results (Mode 3)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_15MHz+20MHz

QPSK

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144100+145100	720.5	38.77	38.38	NA	NA	41.59	17	56.44	440.52	1000.00	PASS
	725.5	38.53	38.36	NA	NA						
n71 124900+128400	624.5	31.41	31.32	31.54	31.65	37.50	17	52.35	171.89	1000.00	PASS
	642	31.36	31.21	31.20	31.31						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.49	42.43	45.47	16	59.32	855.07	1000.00	PASS
n29 144100+145100	720.5	44.33	44.10	NA	NA	50.19	17	65.04	3188.17	-	-
	725.5	44.17	44.05	NA	NA						
n71 124900+128400	624.5	41.10	41.06	41.15	41.21	50.60	17	65.45	3504.16	-	-
	642	41.98	41.95	41.92	41.96						

16QAM

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144100+145100	720.5	38.14	37.87	NA	NA	41.02	17	55.87	386.14	1000.00	PASS
	725.5	37.92	37.77	NA	NA						
n71 124900+128400	624.5	31.47	31.41	31.57	31.44	37.49	17	52.34	171.53	1000.00	PASS
	642	31.24	31.08	31.13	31.26						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.37	42.30	45.35	16	59.20	831.76	1000.00	PASS
n29 144100+145100	720.5	43.92	43.57	NA	NA	49.60	17	64.45	2786.76	-	-
	725.5	43.47	43.34	NA	NA						
n71 124900+128400	624.5	40.86	40.81	40.84	40.75	50.34	17	65.19	3304.90	-	-
	642	41.79	41.70	41.69	41.83						

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

64QAM

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144100+145100	720.5	37.72	37.64	NA	NA	40.75	17	55.60	362.77	1000.00	PASS
	725.5	37.83	37.56	NA	NA						
n71 124900+128400	624.5	30.01	29.80	29.79	30.07	35.94	17	50.79	119.95	1000.00	PASS
	642	29.58	29.35	29.73	29.55						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.25	42.19	45.23	16	59.08	809.10	1000.00	PASS
n29 144100+145100	720.5	44.14	44.15	NA	NA	50.22	17	65.07	3214.68	-	-
	725.5	44.34	44.17	NA	NA						
n71 124900+128400	624.5	41.01	40.78	40.80	41.01	50.37	17	65.22	3329.34	-	-
	642	41.97	41.58	42.09	41.83						

256QAM

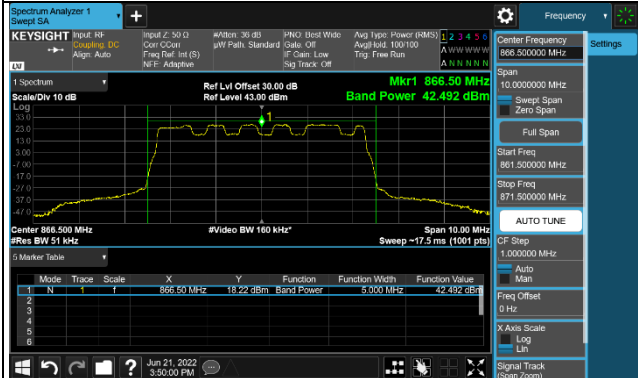
Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 144100+145100	720.5	37.70	37.47	NA	NA	40.60	17	55.94	392.23	1000.00	PASS
	725.5	37.66	37.46	NA	NA						
n71 124900+128400	624.5	30.04	29.95	30.10	30.01	36.05	17	56.37	433.03	1000.00	PASS
	642	29.50	29.52	29.23	29.44						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.13	42.07	45.11	16	58.96	787.05	1000.00	PASS
n29 144100+145100	720.5	43.97	43.95	NA	NA	49.98	17	64.83	3041.37	-	-
	725.5	44	43.92	NA	NA						
n71 124900+128400	624.5	41.26	41.13	41.28	41.20	50.78	17	65.63	3657.30	-	-
	642	42.3	42.19	41.88	42.22						

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

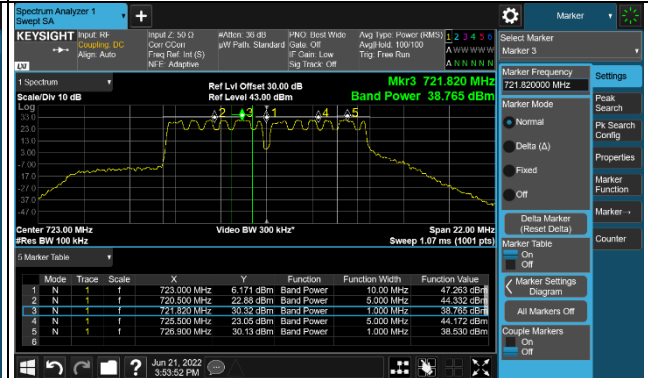
*The antenna gain was declared by client.

Spectrum Plot of Worst Value

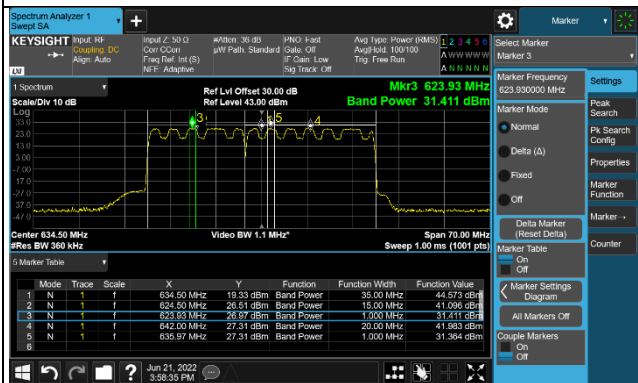
n26



n29



n71



4.1.7 Test Results (Mode 4)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_5MHz+5MHz

QPSK

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 143900+145100	719.5	38.69	38.48	NA	NA	41.62	17	56.47	443.21	1000.00	PASS
	725.5	38.56	38.52	NA	NA						
n71 123900+129900	619.5	36.14	36.01	35.99	35.92	42.04	17	56.89	488.24	1000.00	PASS
	649.5	35.14	35.07	34.90	35.12						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.49	42.43	45.47	16	59.32	855.07	1000.00	PASS
n29 143900+145100	719.5	44.20	44.18	NA	NA	50.18	17	65.03	3182.04	-	-
	725.5	44.15	44.09	NA	NA						
n71 123900+129900	619.5	41.71	41.68	41.61	41.62	50.31	17	65.16	3280.75	-	-
	649.5	40.89	40.85	40.81	40.88						

16QAM

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 143900+145100	719.5	38.01	38.04	NA	NA	41.09	17	55.94	392.23	1000.00	PASS
	725.5	38.11	37.78	NA	NA						
n71 123900+129900	619.5	35.67	35.29	35.51	35.50	41.52	17	56.37	433.03	1000.00	PASS
	649.5	34.54	34.61	34.46	34.59						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.35	42.37	45.37	16	59.22	835.60	1000.00	PASS
n29 143900+145100	719.5	43.65	43.71	NA	NA	49.65	17	64.50	2820.75	-	-
	725.5	43.65	43.52	NA	NA						
n71 123900+129900	619.5	41.33	41.00	41.14	41.21	49.80	17	64.65	2919.15	-	-
	649.5	40.19	40.42	40.24	40.29						

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

64QAM

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 143900+145100	719.5	37.60	37.72	NA	NA	40.69	17	55.54	358.14	1000.00	PASS
	725.5	37.64	37.56	NA	NA						
n71 123900+129900	619.5	35.17	35.20	35.14	35.07	41.17	17	56.02	399.56	1000.00	PASS
	649.5	34.52	34.38	34.21	34.27						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.25	42.27	45.27	16	59.12	816.58	1000.00	PASS
n29 143900+145100	719.5	44.05	44.09	NA	NA	50.05	17	64.90	3089.47	-	-
	725.5	44.08	43.89	NA	NA						
n71 123900+129900	619.5	41.71	41.66	41.48	41.48	50.31	17	65.16	3282.85	-	-
	649.5	41.13	40.96	40.56	40.77						

256QAM

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)				Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit(W/MHz)	
		ANT0	ANT1	ANT2	ANT3						
n29 143900+145100	719.5	37.60	37.47	NA	NA	40.59	17	55.44	349.63	1000.00	PASS
	725.5	37.66	37.49	NA	NA						
n71 123900+129900	619.5	34.99	34.91	34.95	34.92	40.96	17	55.81	381.35	1000.00	PASS
	649.5	34.42	34.33	34.18	34.43						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)				Total	Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit(W)	PASS /FAIL
n26 172700	866.5	NA	NA	42.18	42.21	45.21	16	59.06	805.38	1000.00	PASS
n29 143900+145100	719.5	43.87	43.83	NA	NA	49.90	17	64.75	2987.62	-	-
	725.5	43.9	43.93	NA	NA						
n71 123900+129900	619.5	41.25	41.27	41.18	41.23	50.06	17	64.91	3100.04	-	-
	649.5	40.84	40.75	40.61	40.95						

*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

Spectrum Plot of Worst Value



*EIRP = Conducted + Directional gain (n26 = 16dBi , n29 and 71 = 17dBi)

*The antenna gain was declared by client.

4.2 Emission Bandwidth Measurement

4.2.1 Limits of Occupied Bandwidth Measurement

The frequency shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 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 $RBW \geq 1\% \times OBW$ and $VBW \geq 3 \times RBW$.

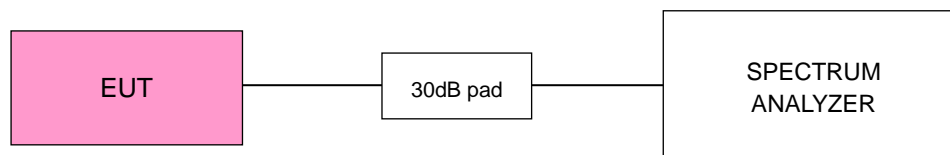
26 dB Bandwidth Measurement:

The 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 emission are attenuated at least 26dB below the transmitter power.

Occupied Bandwidth Measurement:

Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.2.3 Test Setup

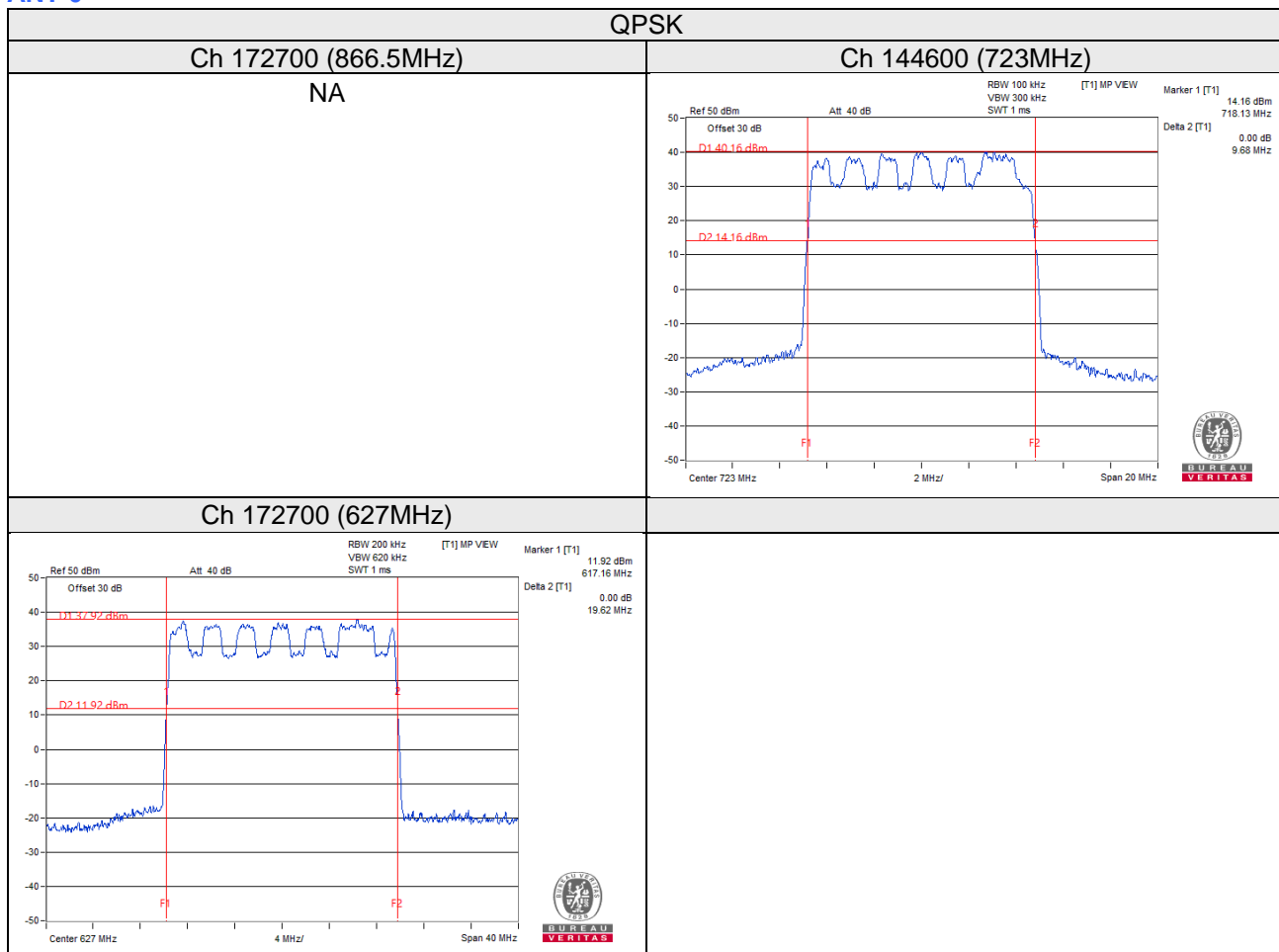


4.2.4 Test Result (-26dB Bandwidth Mode 2)

Band n26_5MHz / Band n29_10MHz / Band n71_20MHz

Channel Number	Freq. (MHz)	-26dBc Bandwidth (MHz)															
		ANT 0				ANT 1				ANT 2				ANT 3			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
n26 172700	866.5	NA	NA	NA	NA	NA	NA	NA	NA	4.82	4.82	4.83	4.83	4.83	4.81	4.81	4.84
n29 144600	723	9.68	9.69	9.74	9.78	9.66	9.72	9.75	9.75	NA	NA	NA	NA	NA	NA	NA	NA
n71 125400	627	19.62	19.69	19.69	19.71	19.65	19.63	19.73	19.70	19.62	19.69	19.72	19.71	19.64	19.65	19.73	19.72
Total		29.30	29.38	29.43	29.49	29.31	29.35	29.48	29.45	24.44	24.51	24.55	24.54	24.47	24.46	24.54	24.56

ANT 0

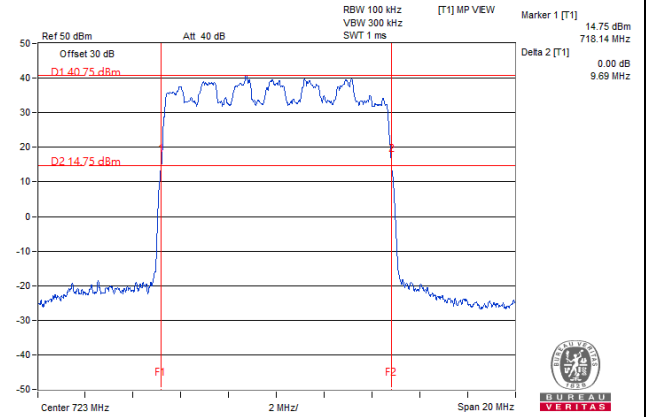


16QAM

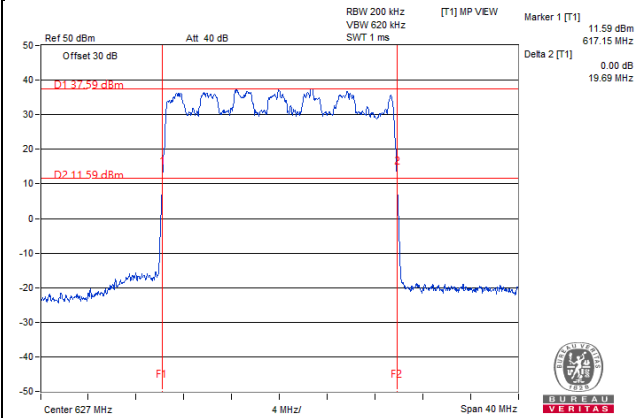
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

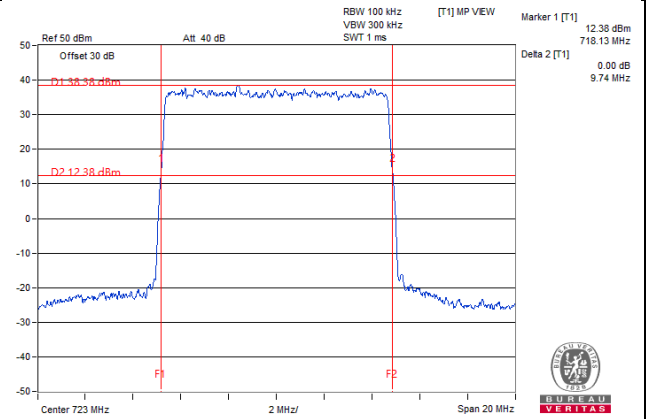


64QAM

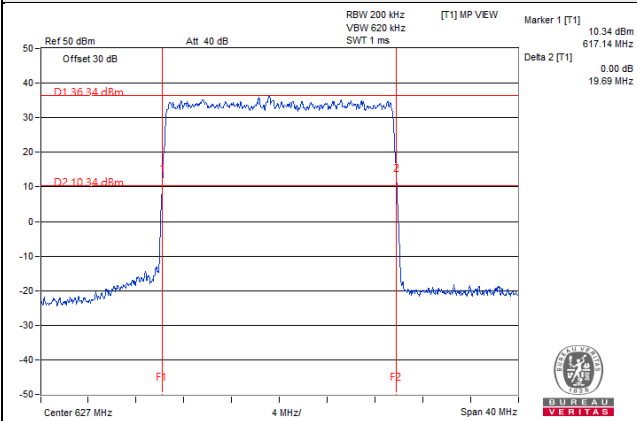
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

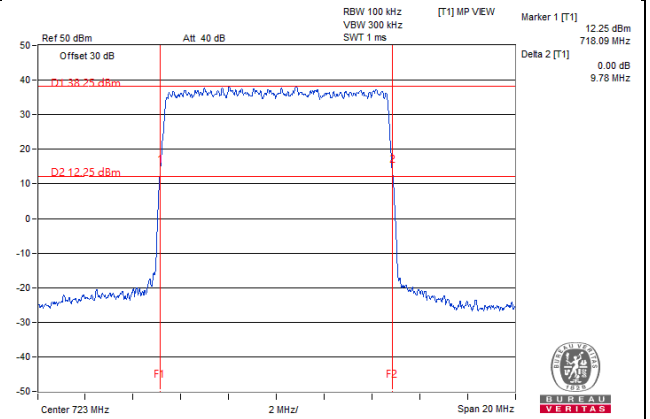


256QAM

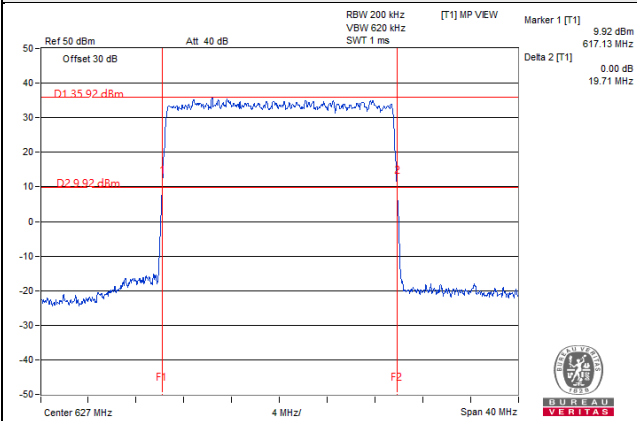
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)



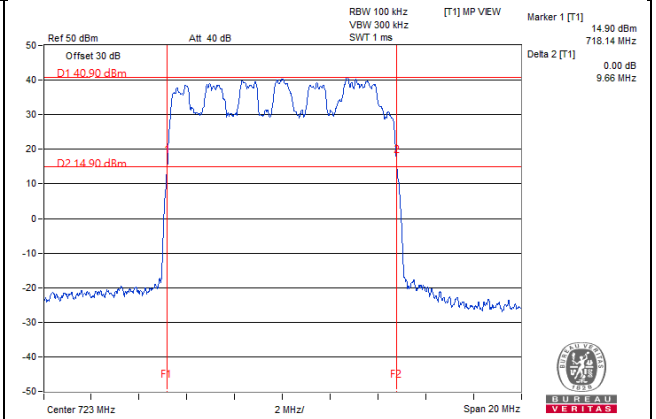
ANT 1

QPSK

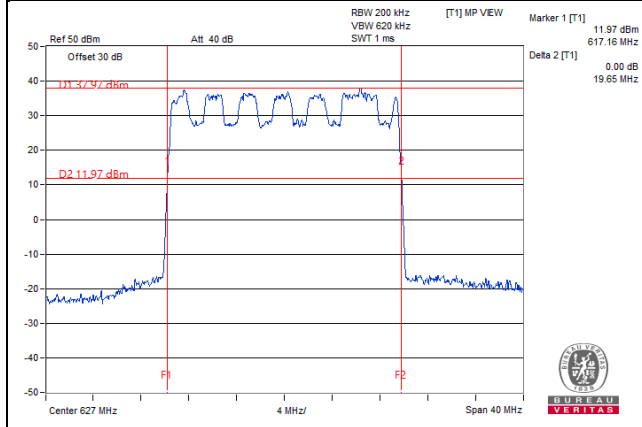
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

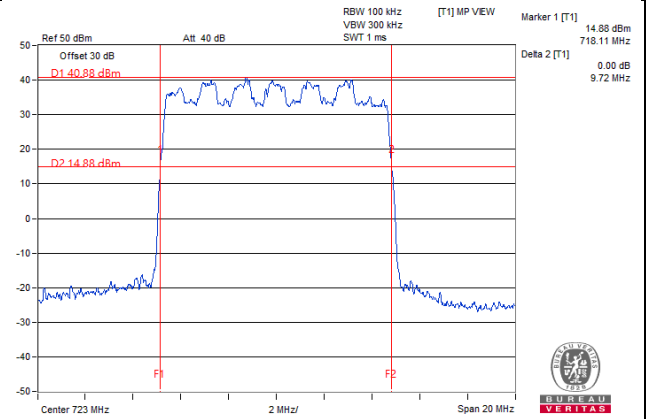


16QAM

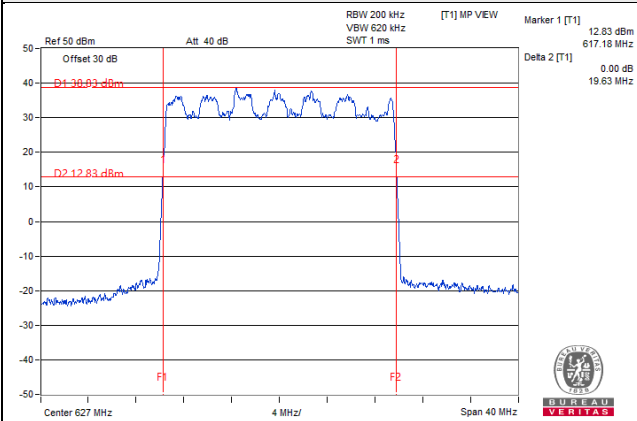
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

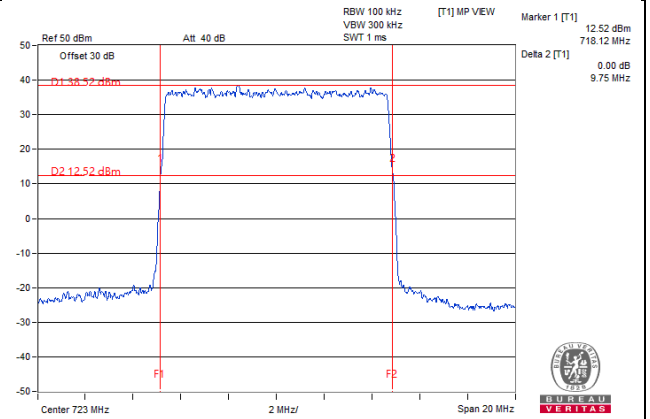


64QAM

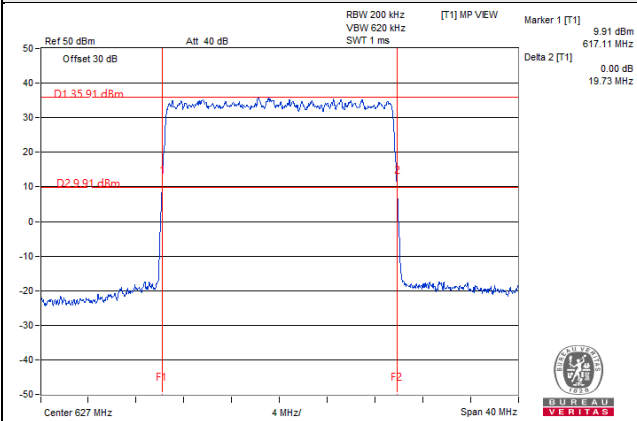
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

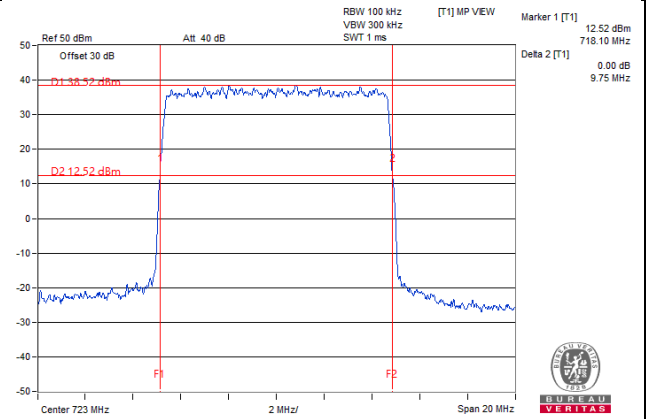


256QAM

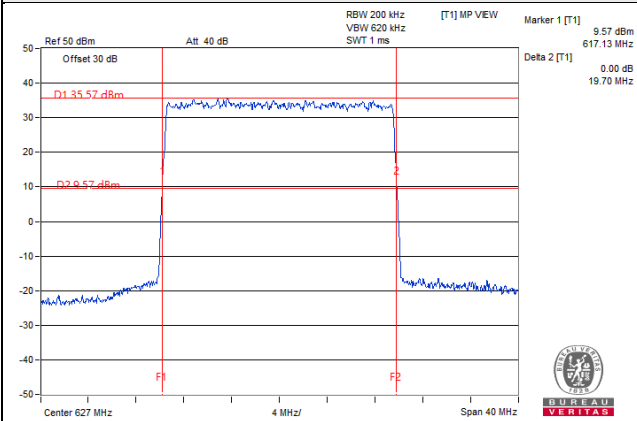
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 172700 (627MHz)

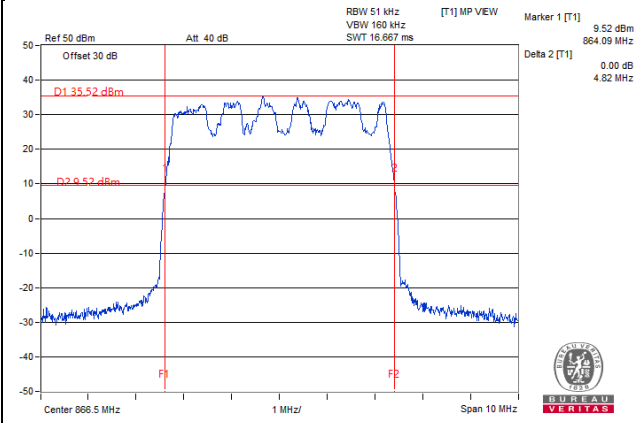


ANT 2

QPSK

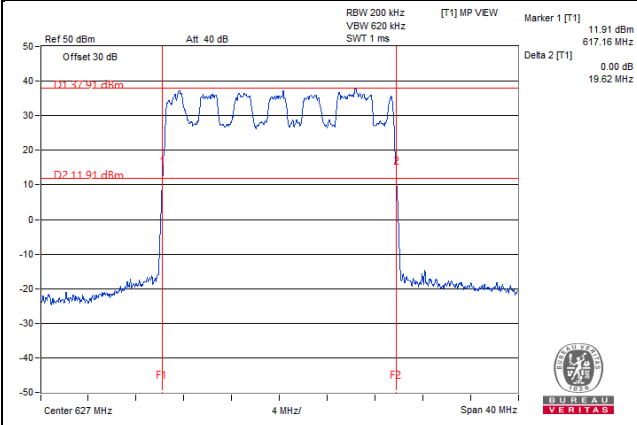
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

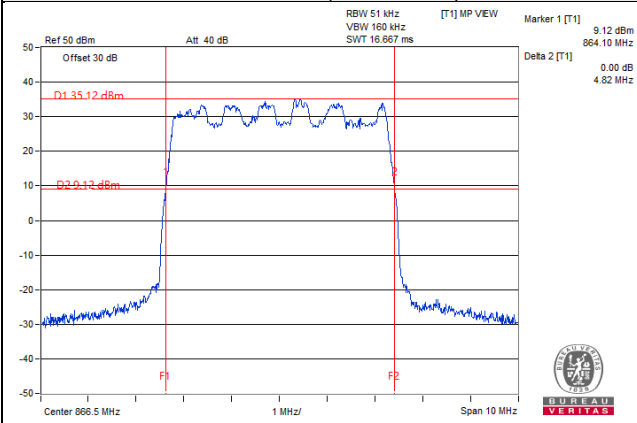
Ch 172700 (627MHz)



16QAM

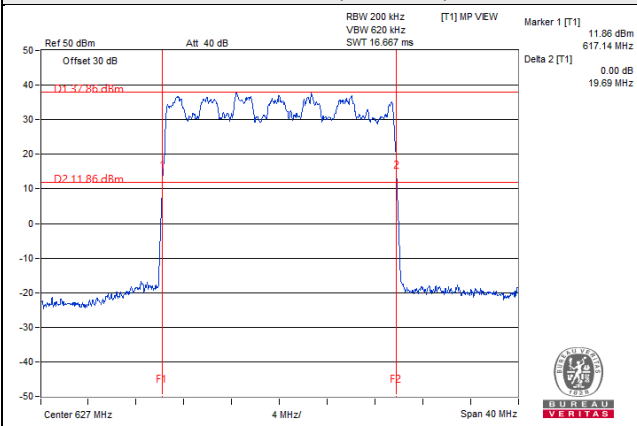
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

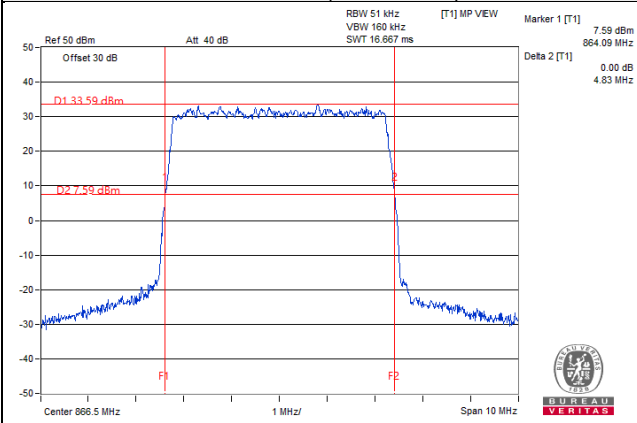
Ch 172700 (627MHz)



64QAM

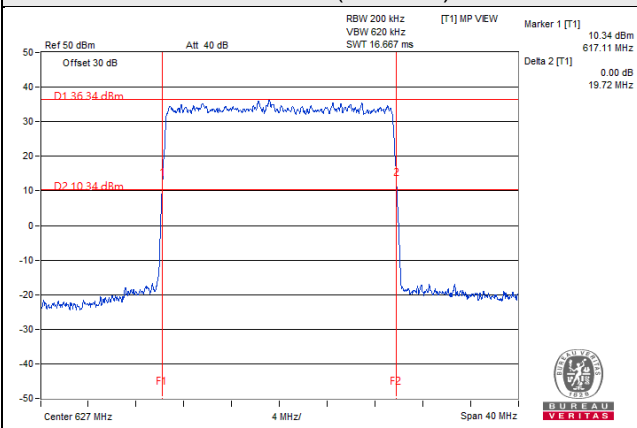
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

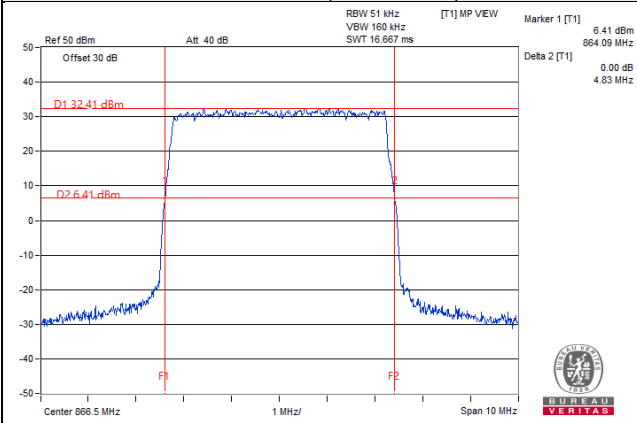
Ch 172700 (627MHz)



256QAM

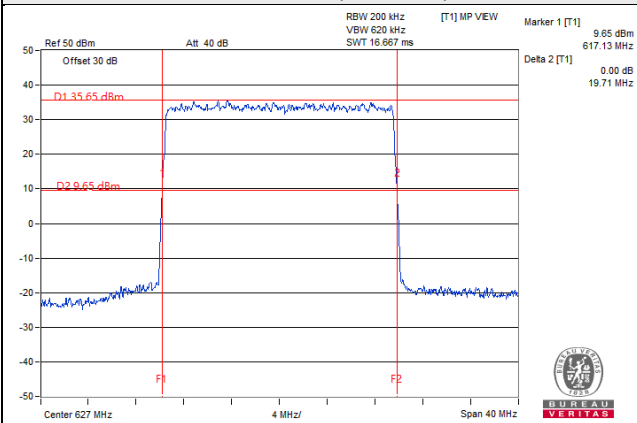
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

Ch 172700 (627MHz)

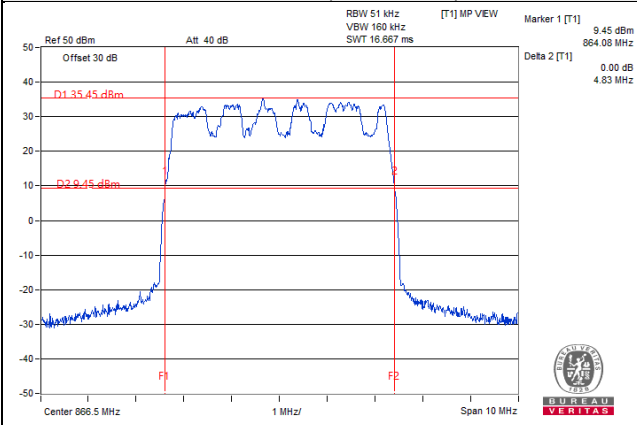


ANT 3

QPSK

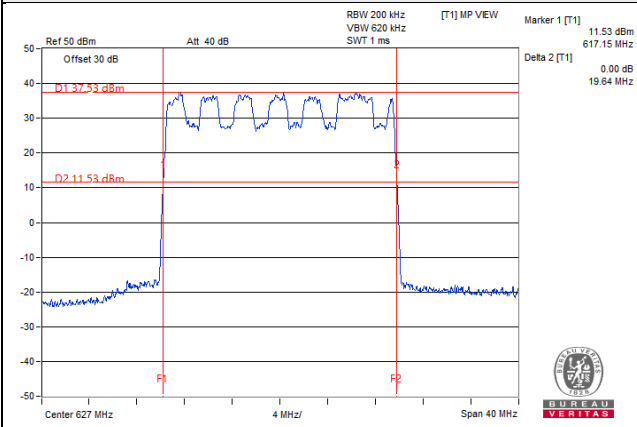
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

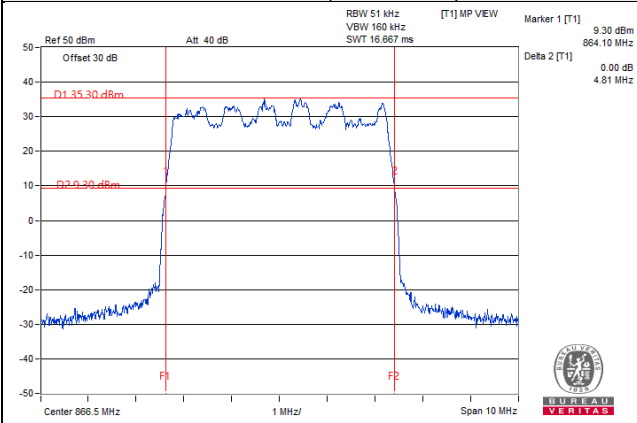
Ch 172700 (627MHz)



16QAM

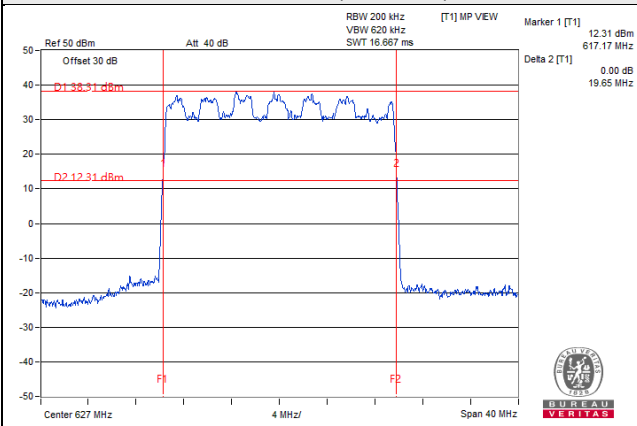
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

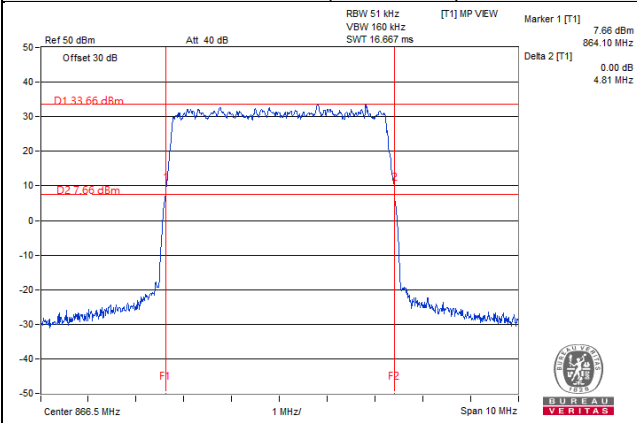
Ch 172700 (627MHz)



64QAM

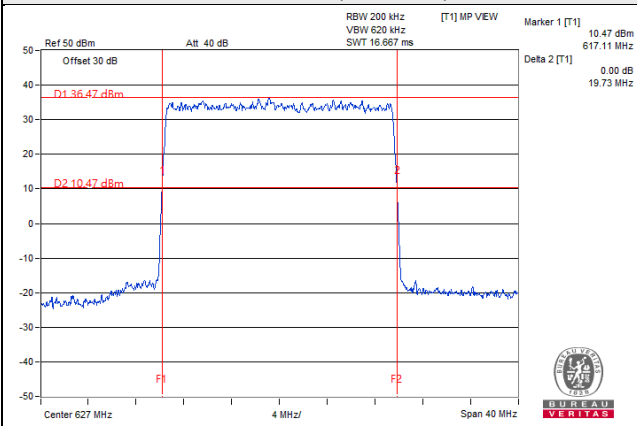
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

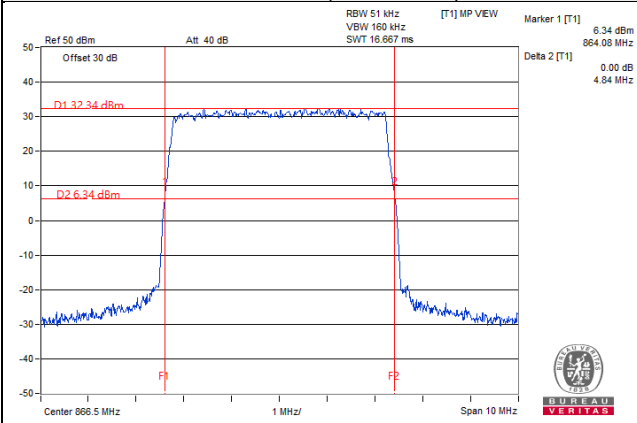
Ch 172700 (627MHz)



256QAM

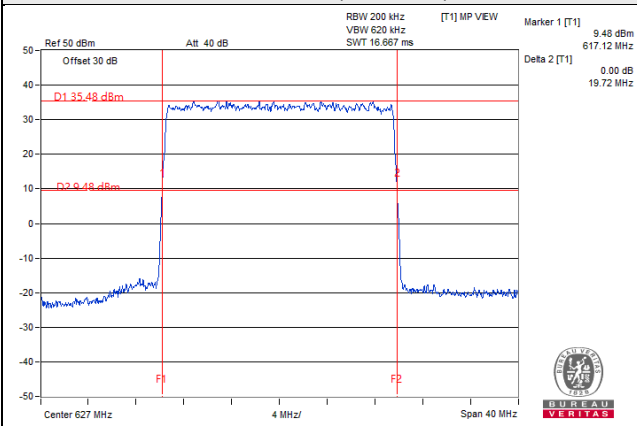
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

Ch 172700 (627MHz)

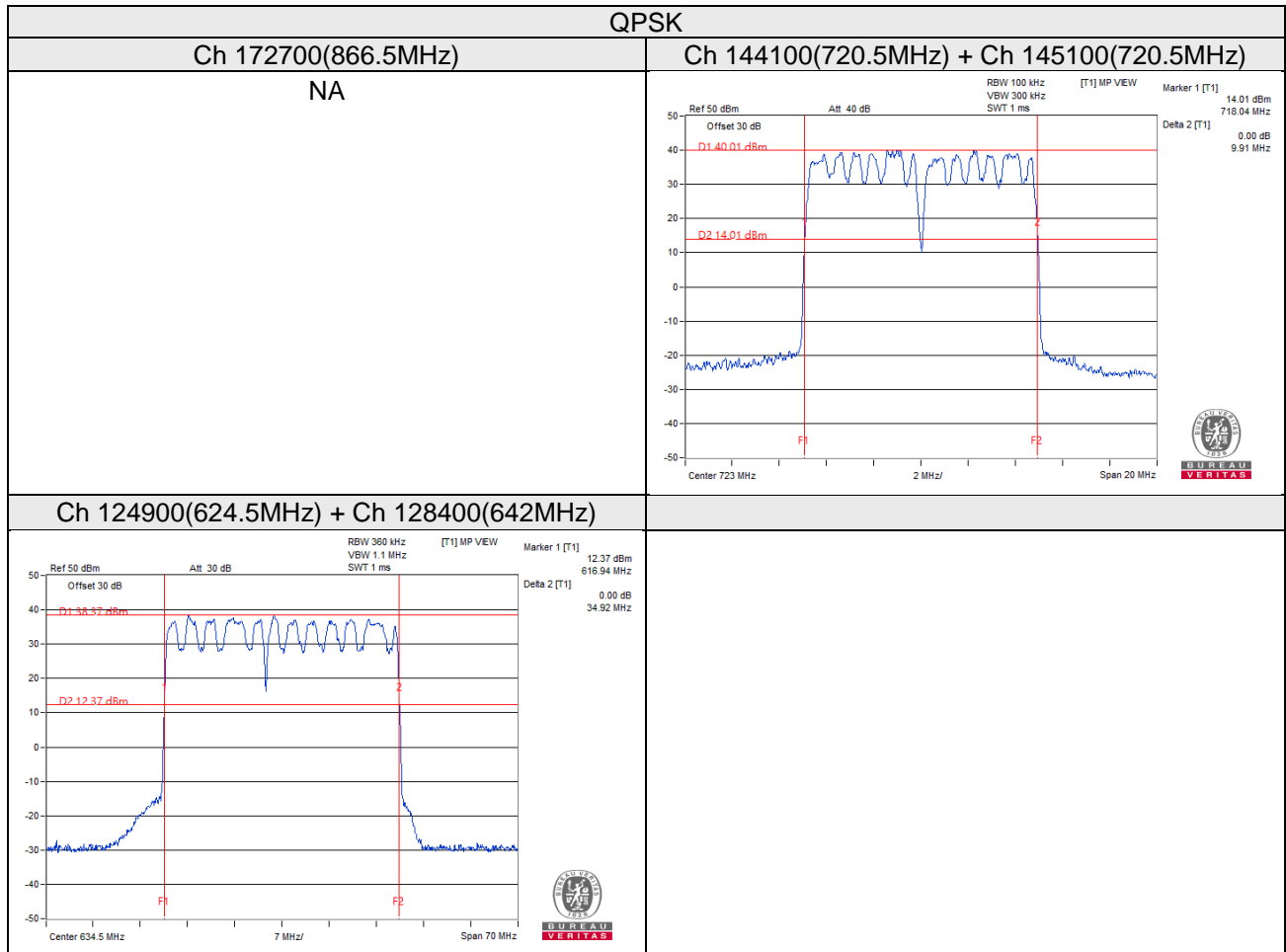


4.2.5 Test Result (-26dB Bandwidth Mode 3)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_15MHz+20MHz

Channel Number	Freq. (MHz)	-26dBc Bandwidth (MHz)															
		Ant 0				Ant 1				Ant 2				Ant 3			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
n26 172700	866.5	NA	NA	NA	NA	NA	NA	NA	NA	4.82	4.82	4.81	4.83	4.82	4.81	4.83	4.81
n29 144100+ 145100	720.5+ 725.5	9.91	9.92	9.92	9.90	9.90	9.92	9.90	9.92	NA	NA	NA	NA	NA	NA	NA	NA
n71 124900+ 128400	624.5+ 642	34.92	34.95	34.94	34.99	34.99	34.94	34.92	34.92	34.93	34.99	34.96	34.91	34.94	34.96	34.93	34.99
Total		44.83	44.87	44.86	44.89	44.89	44.86	44.82	44.84	39.75	39.81	39.77	39.74	39.76	39.77	39.76	39.80

ANT0

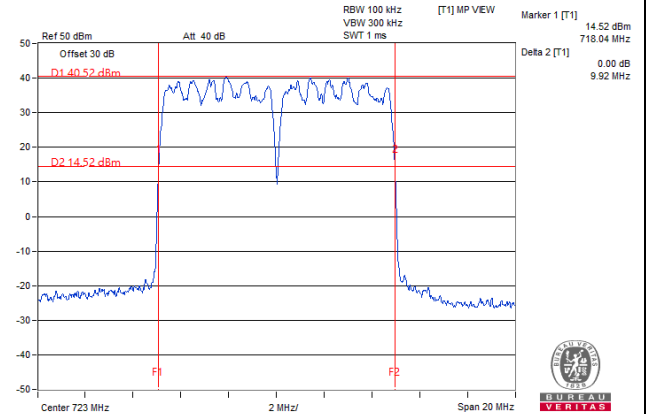


16QAM

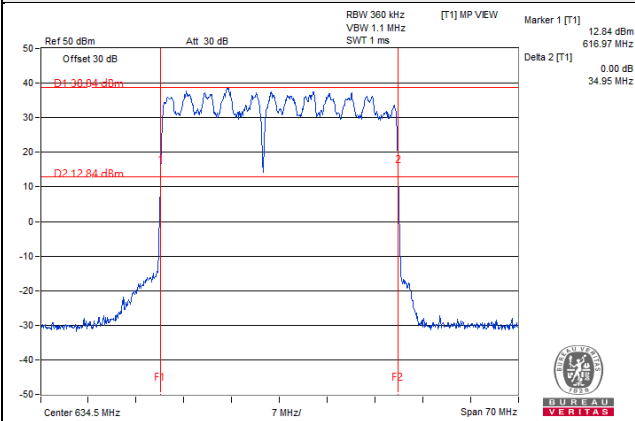
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

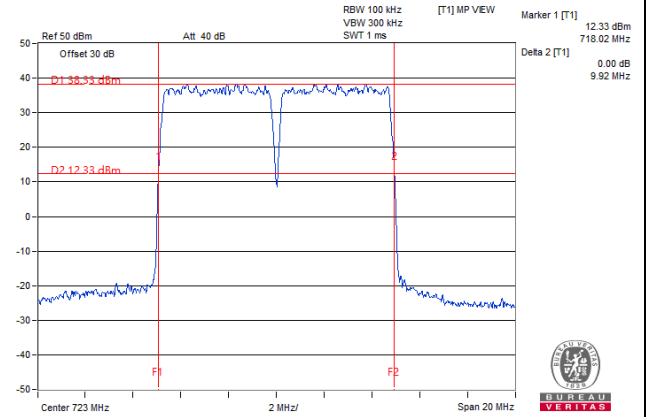


64QAM

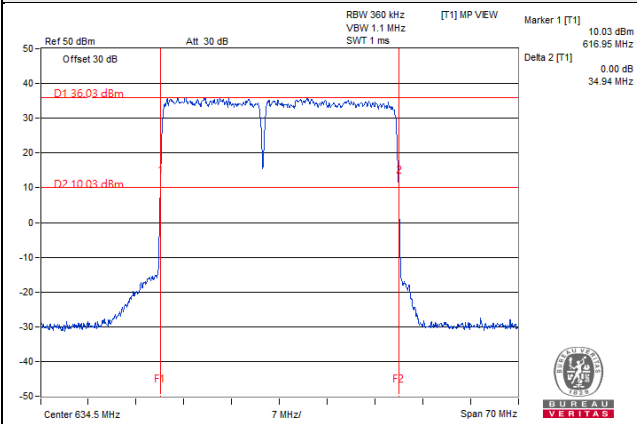
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

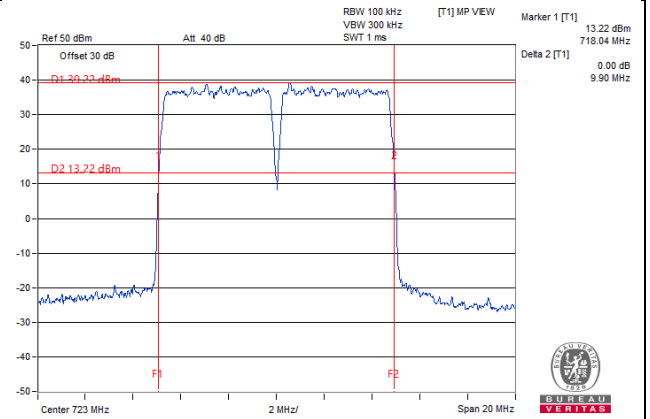


256QAM

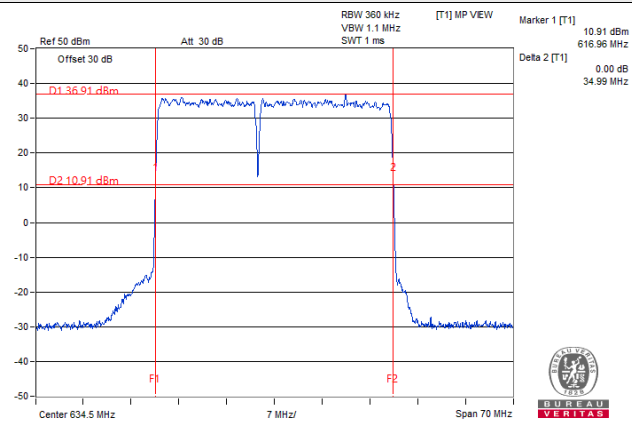
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

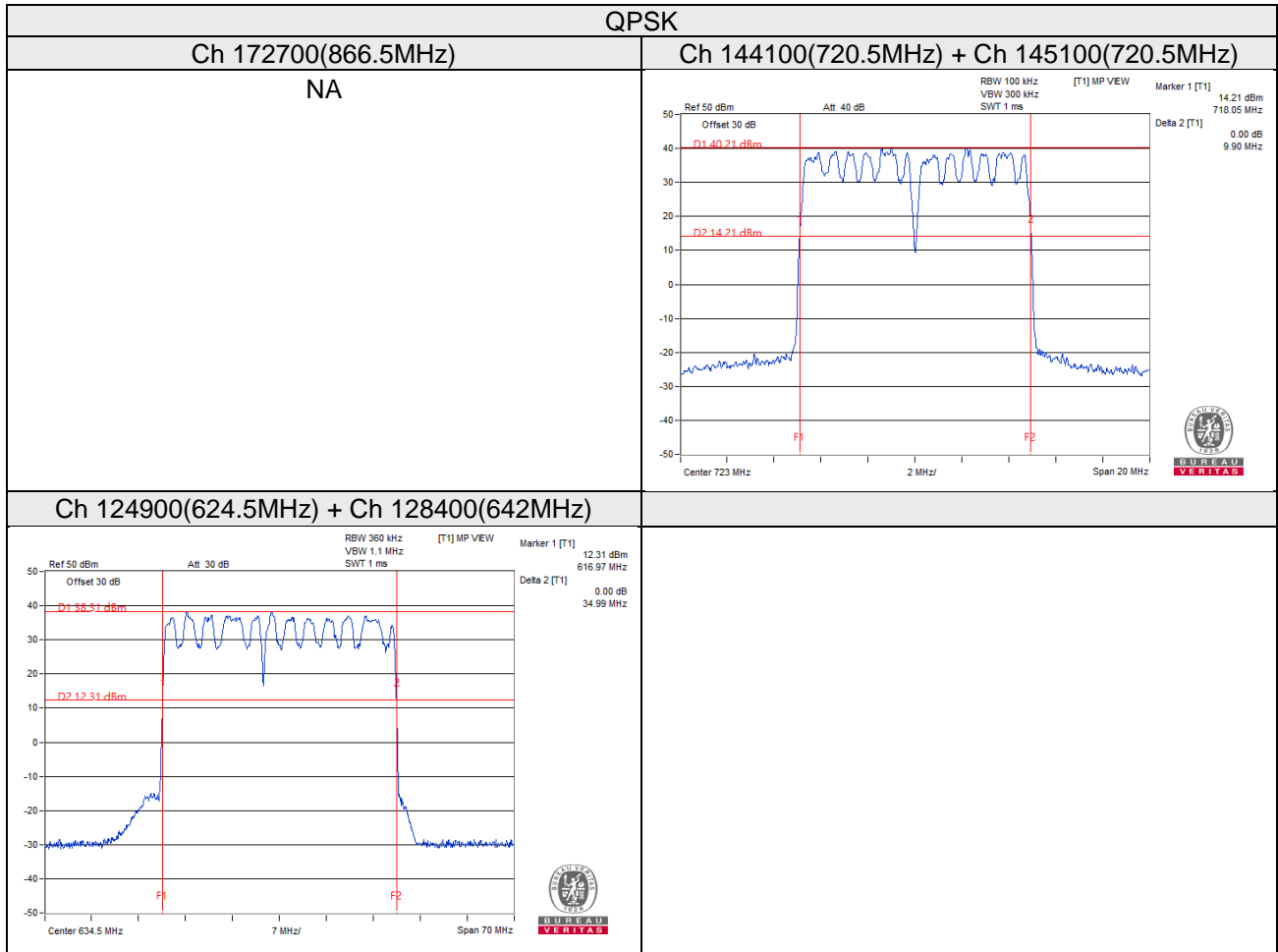
NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)



ANT1

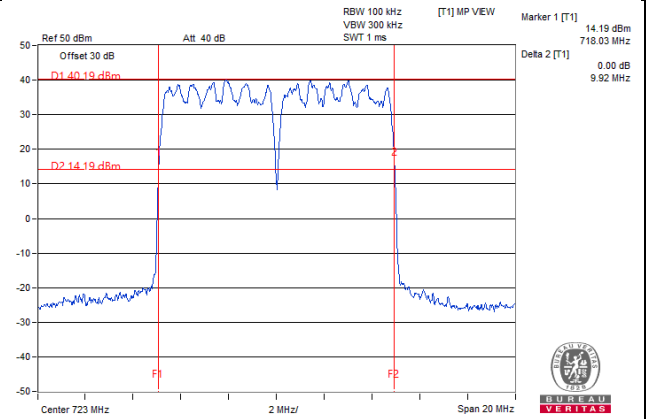


16QAM

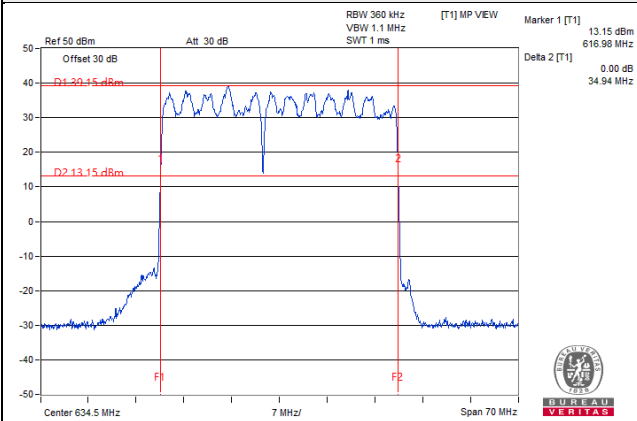
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

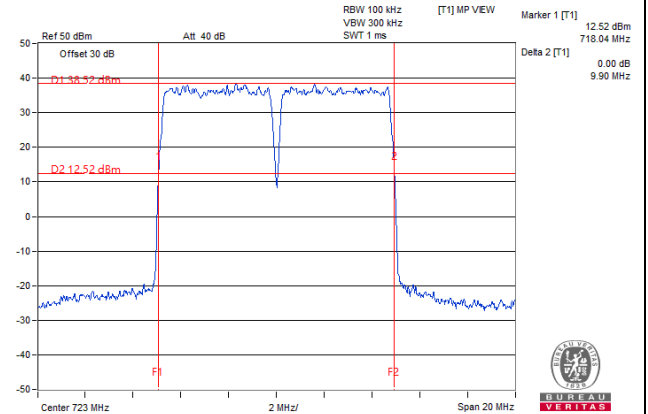


64QAM

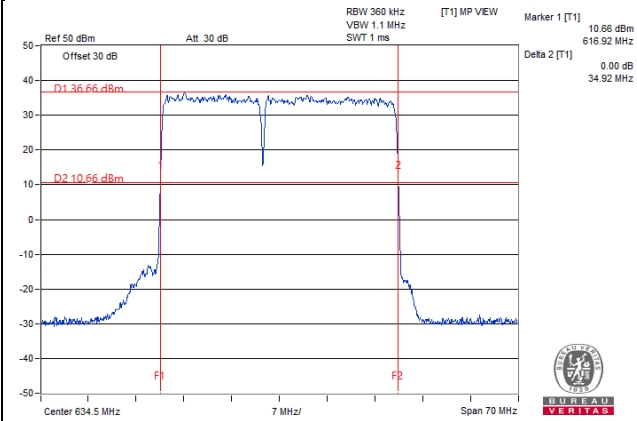
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

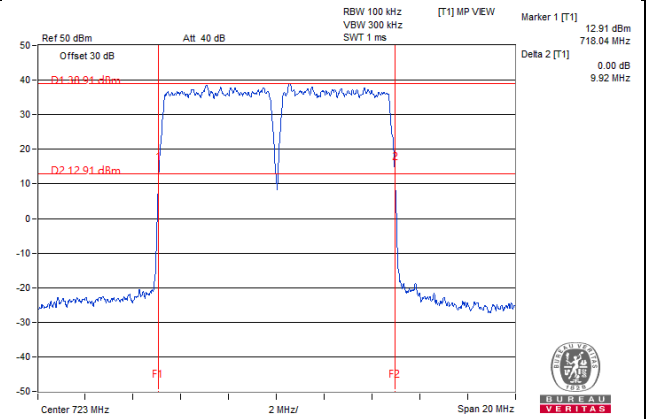


256QAM

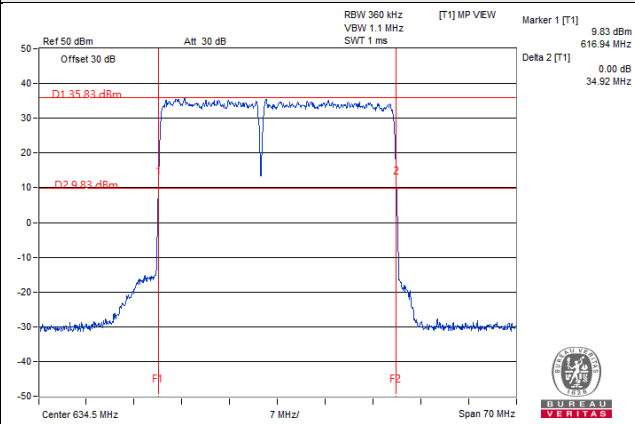
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

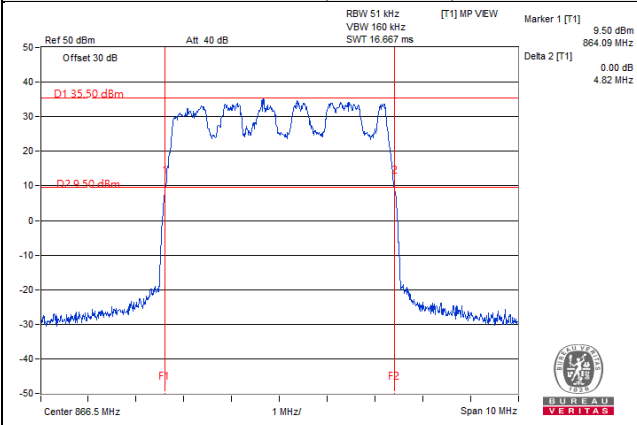


ANT2

QPSK

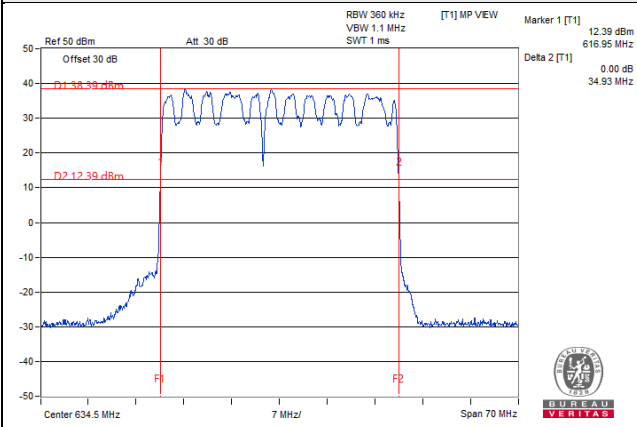
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

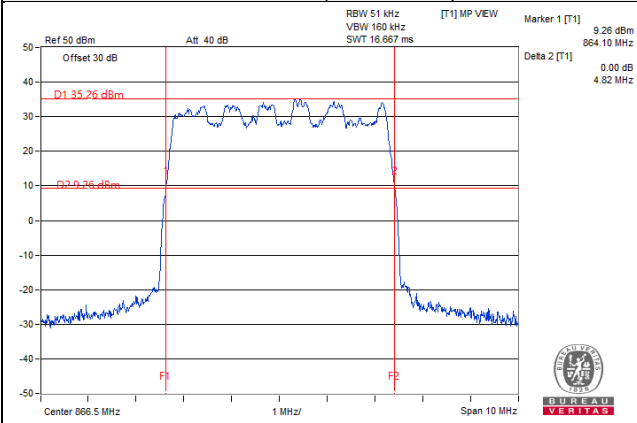
Ch 124900(624.5MHz) + Ch 128400(642MHz)



16QAM

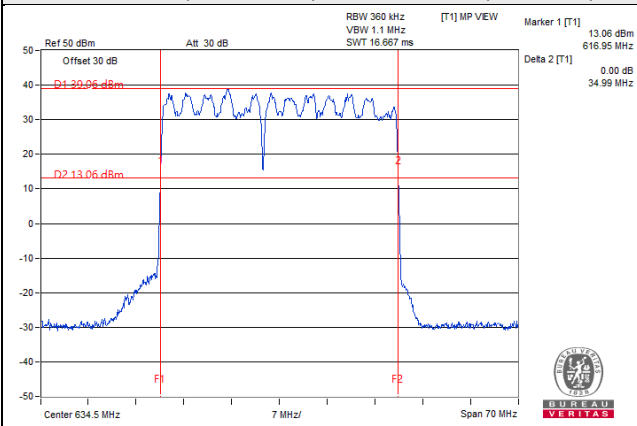
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

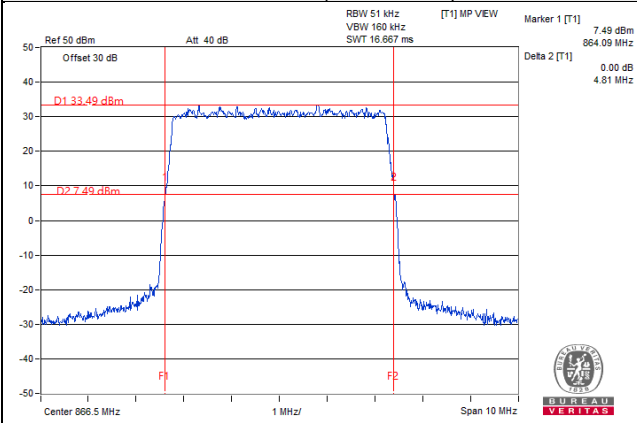
Ch 124900(624.5MHz) + Ch 128400(642MHz)



64QAM

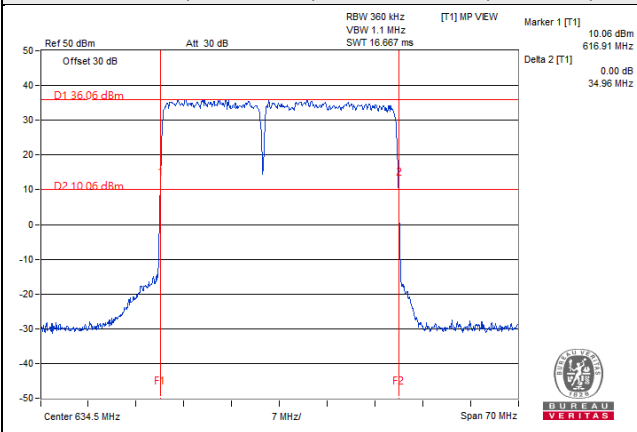
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

Ch 124900(624.5MHz) + Ch 128400(642MHz)

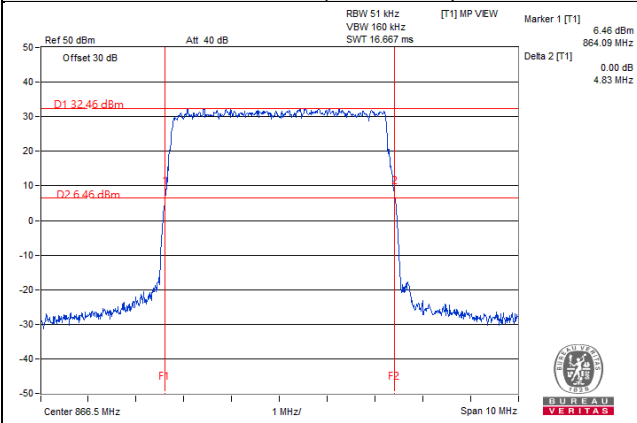


256QAM

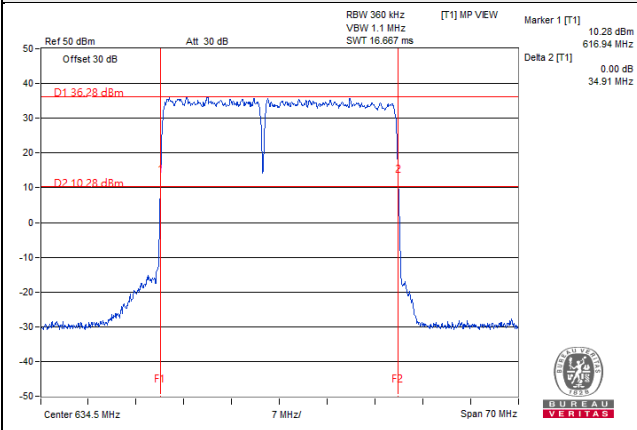
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

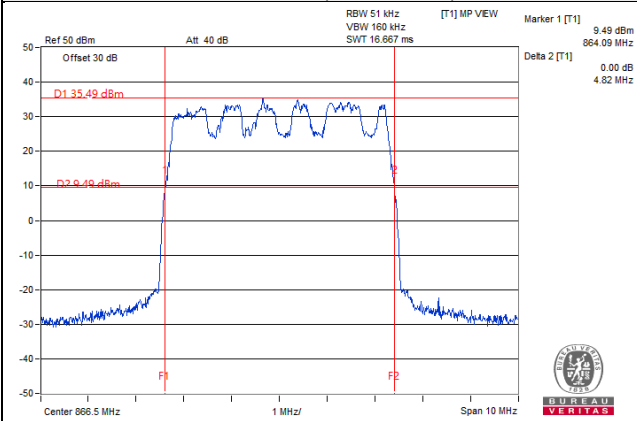


ANT3

QPSK

Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

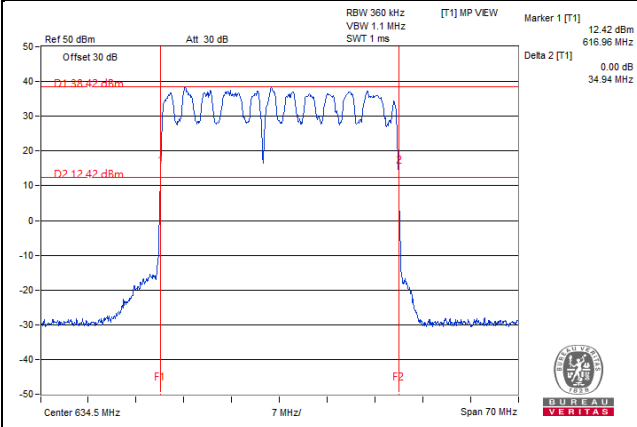


NA

Marker 1 [F1] 9.49 dBm
864.09 MHz

Delta 2 [F1] 0.00 dB
4.82 MHz

Ch 124900(624.5MHz) + Ch 128400(642MHz)



Marker 1 [F1] 12.42 dBm
616.96 MHz

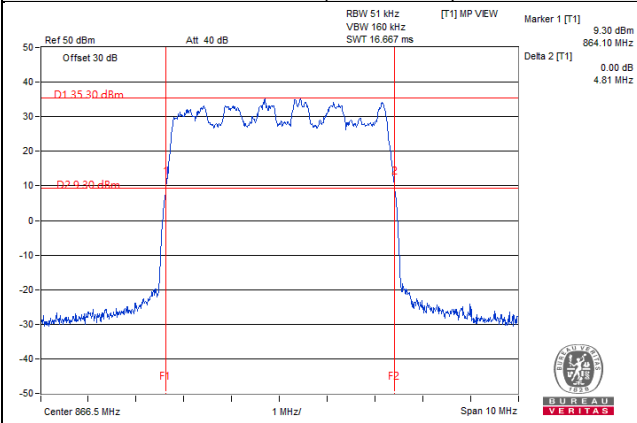
Delta 2 [F1] 0.00 dB
34.94 MHz

16QAM

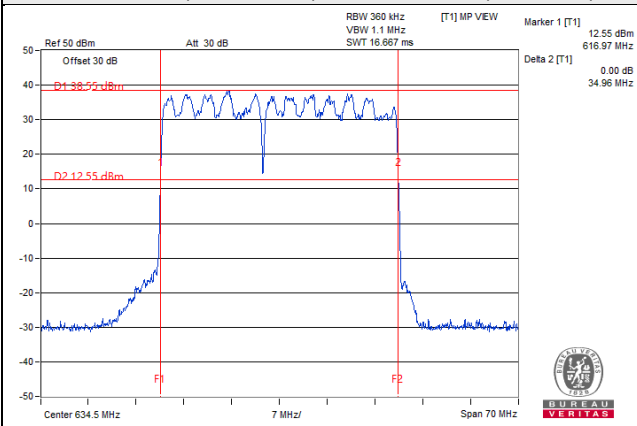
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



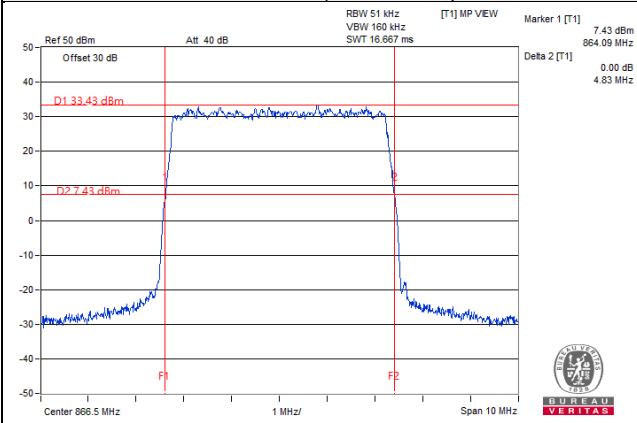
Ch 124900(624.5MHz) + Ch 128400(642MHz)



64QAM

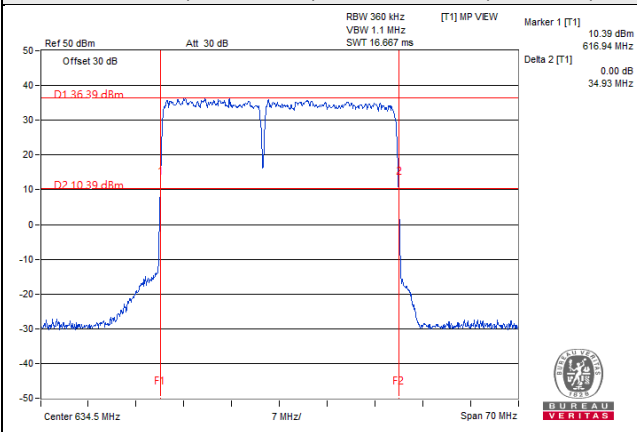
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

Ch 124900(624.5MHz) + Ch 128400(642MHz)

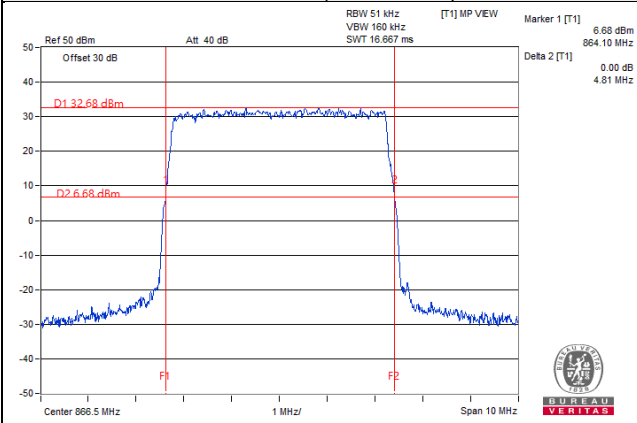


256QAM

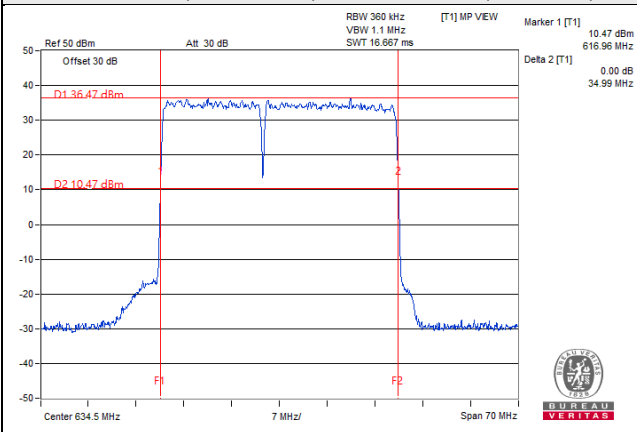
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

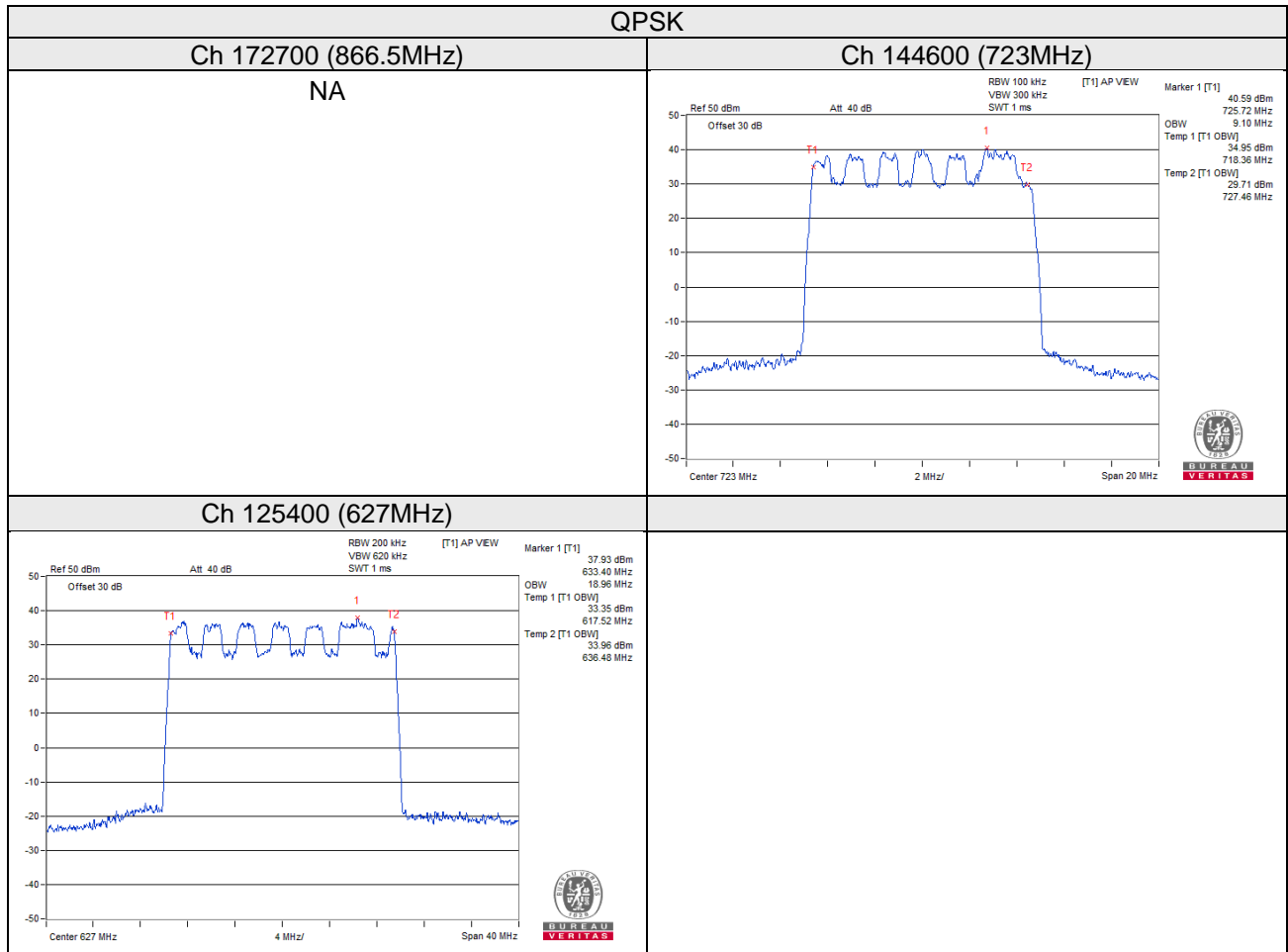


4.2.6 Test Result (Occupied Bandwidth Mode 2)

Band n26_5MHz / Band n29_10MHz / Band n71_20MHz

Channel Number	Freq. (MHz)	OCP 99 Bandwidth (MHz)															
		Ant 0				Ant 1				Ant 2				Ant 3			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
n26 172700	866.5	NA	NA	NA	NA	NA	NA	NA	NA	4.48	4.49	4.47	4.47	4.48	4.49	4.47	4.47
n29 144600	723	9.10	9.22	9.28	9.26	9.10	9.22	9.28	9.26	NA	NA	NA	NA	NA	NA	NA	NA
n71 125400	627	18.96	18.96	18.92	18.92	18.96	19.00	18.92	18.92	18.96	19.00	18.92	18.92	18.96	18.96	18.92	18.92
Total		28.06	28.18	28.20	28.18	28.06	28.22	28.20	28.18	23.44	23.49	23.39	23.39	23.44	23.45	23.39	23.39

ANT 0

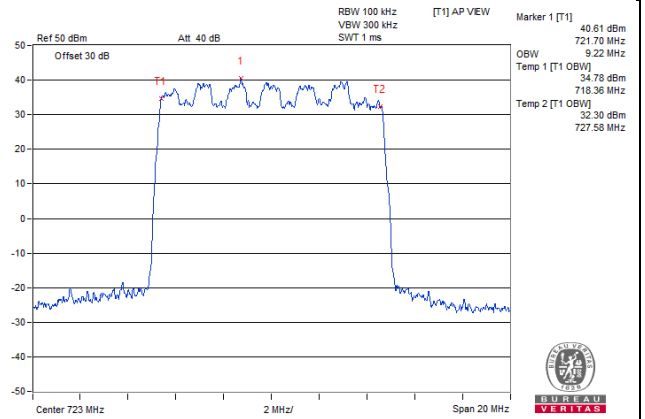


16QAM

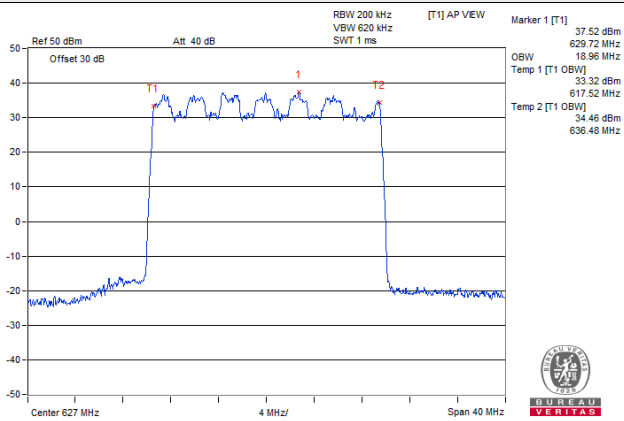
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 125400 (627MHz)

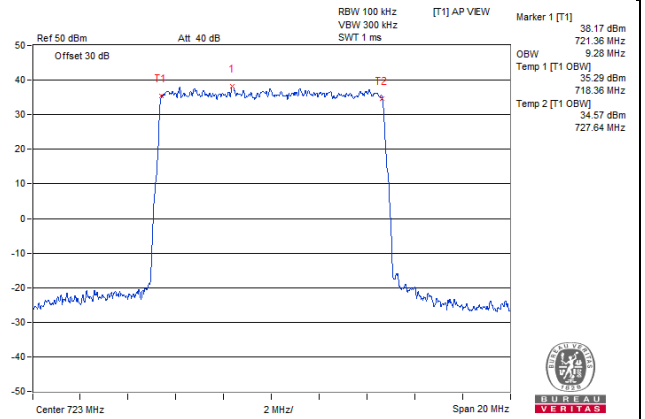


64QAM

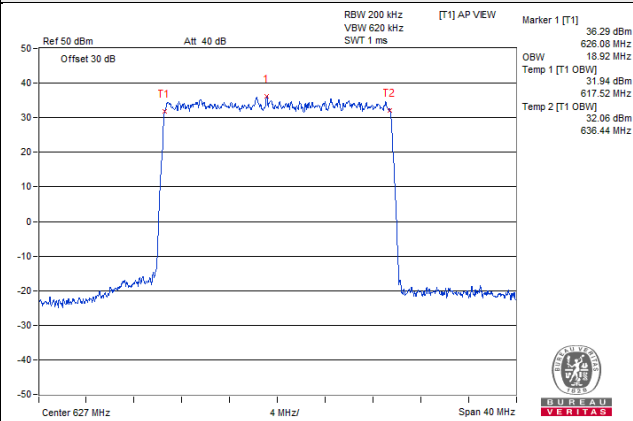
Ch 172700 (866.5MHz)

NA

Ch 144600 (723MHz)



Ch 125400 (627MHz)

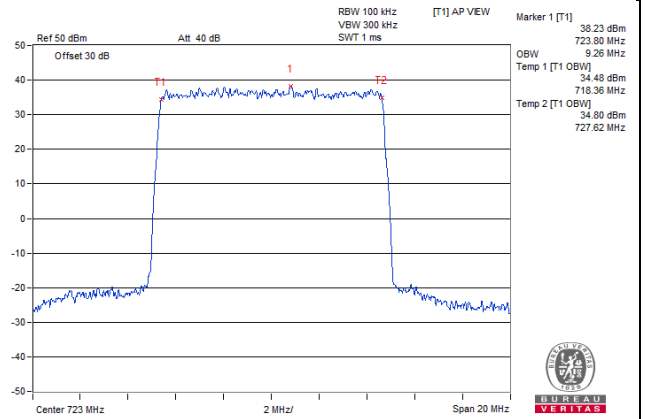


256QAM

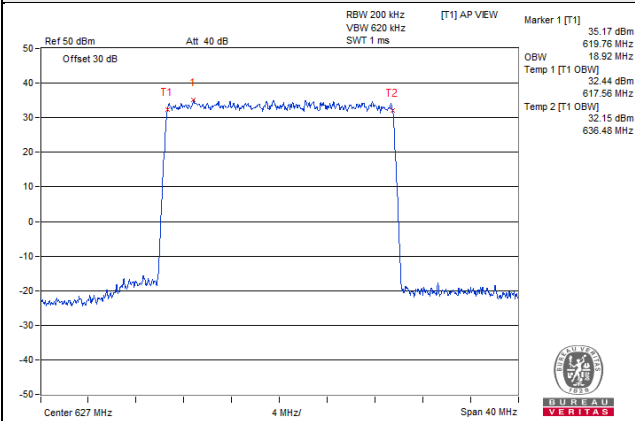
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 125400 (627MHz)



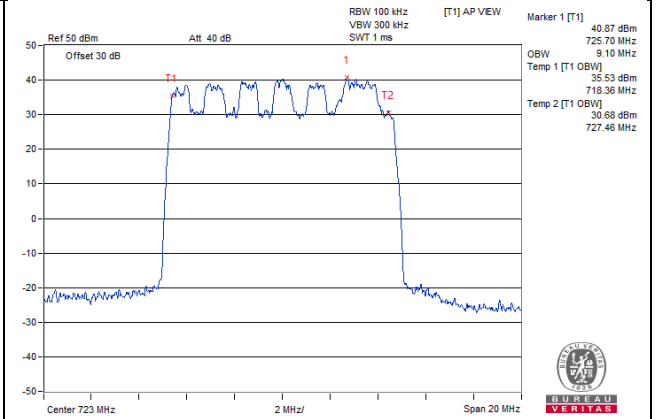
ANT 1

QPSK

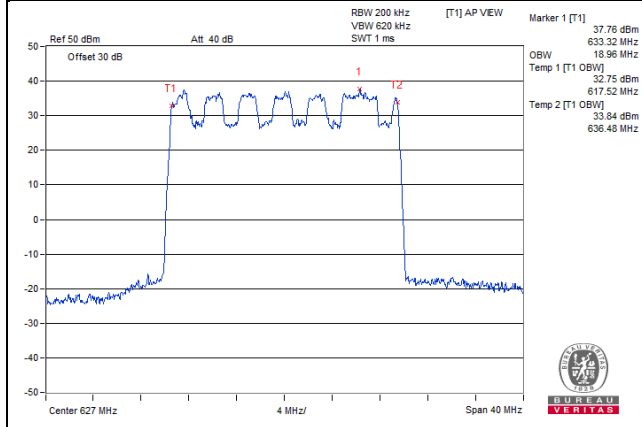
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 125400 (627MHz)

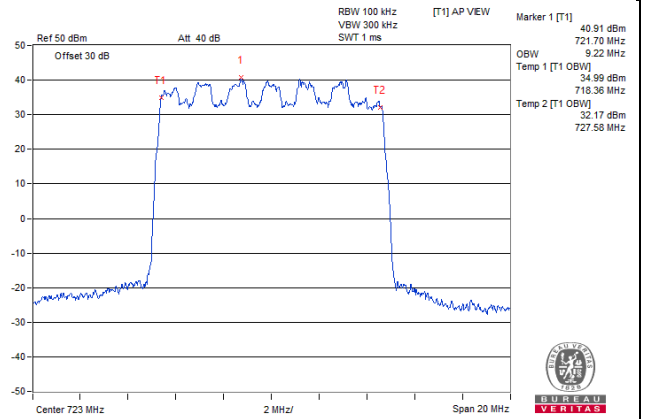


16QAM

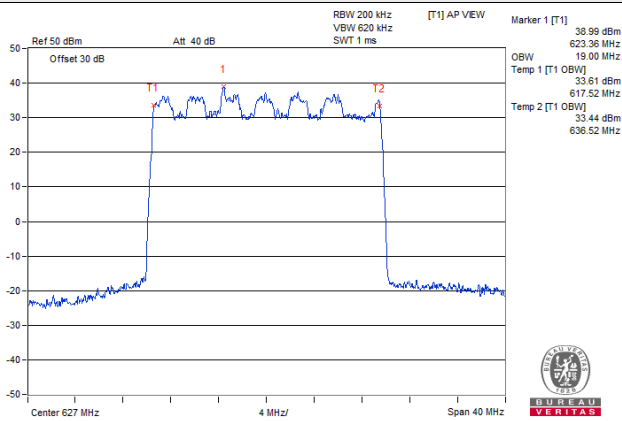
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 125400 (627MHz)

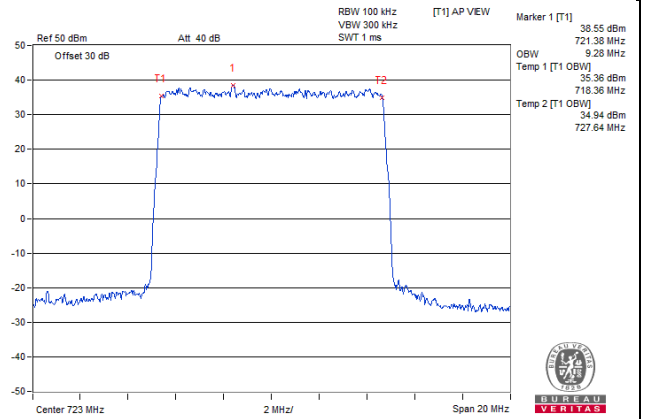


64QAM

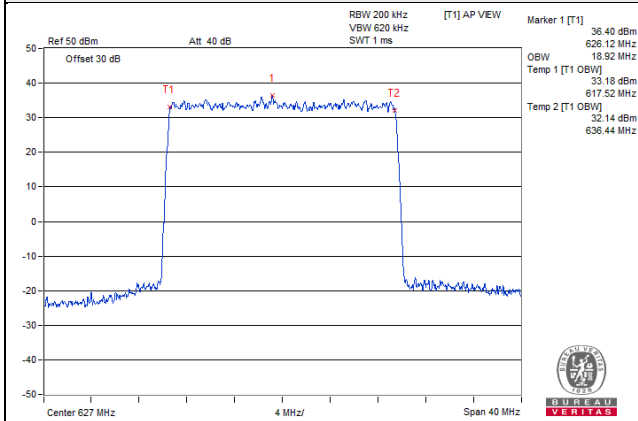
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)

NA



Ch 125400 (627MHz)

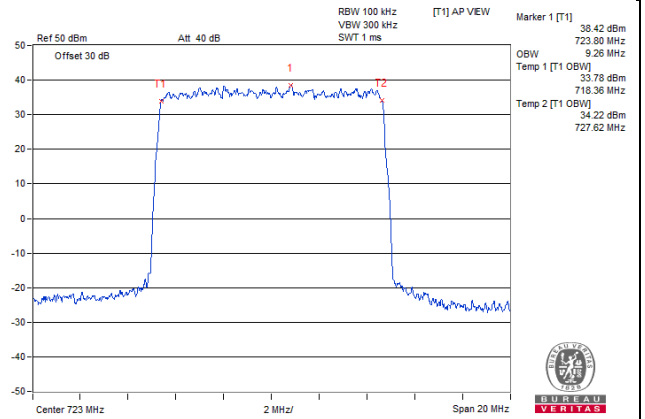


256QAM

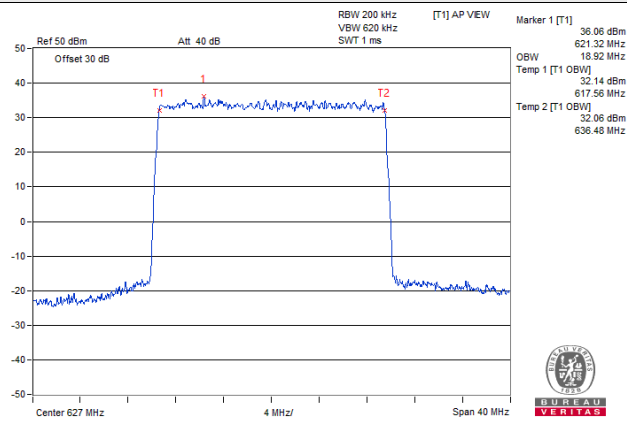
Ch 172700 (866.5MHz)

NA

Ch 144600 (723MHz)



Ch 125400 (627MHz)

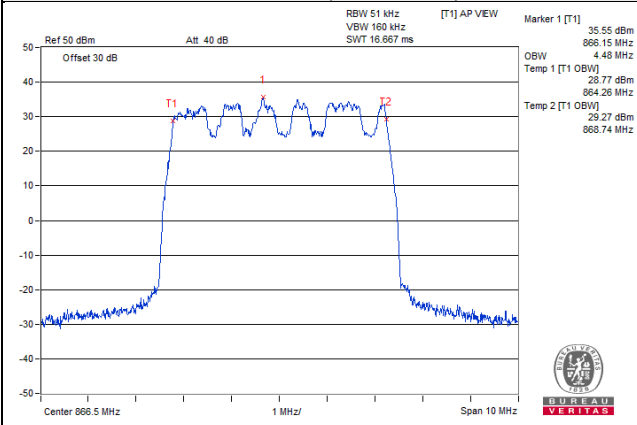


ANT 2

QPSK

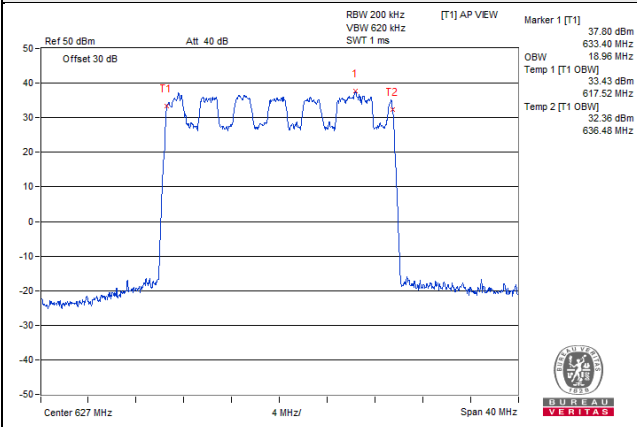
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

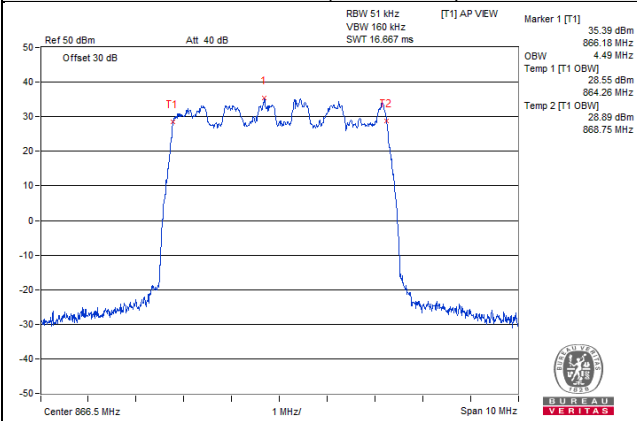
Ch 125400 (627MHz)



16QAM

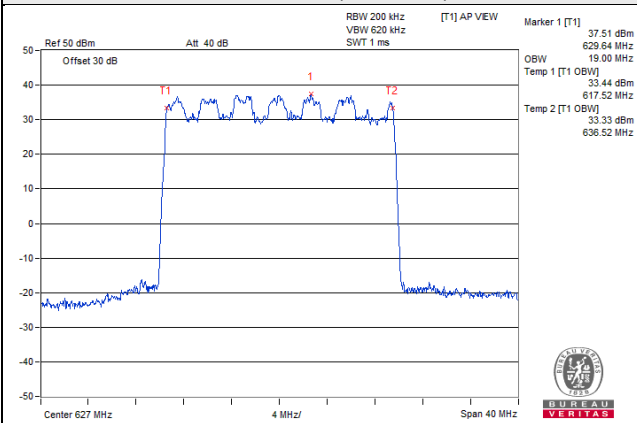
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

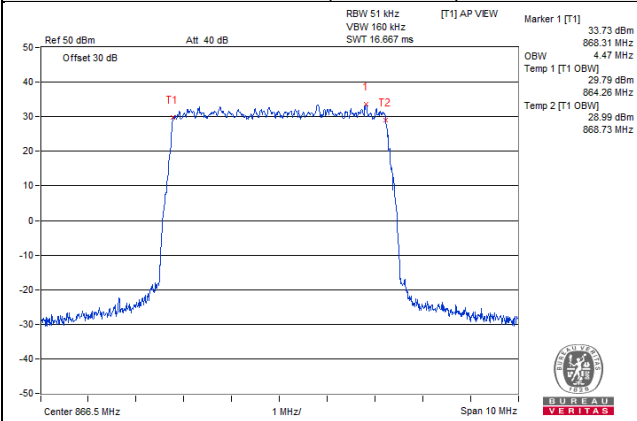
Ch 125400 (627MHz)



64QAM

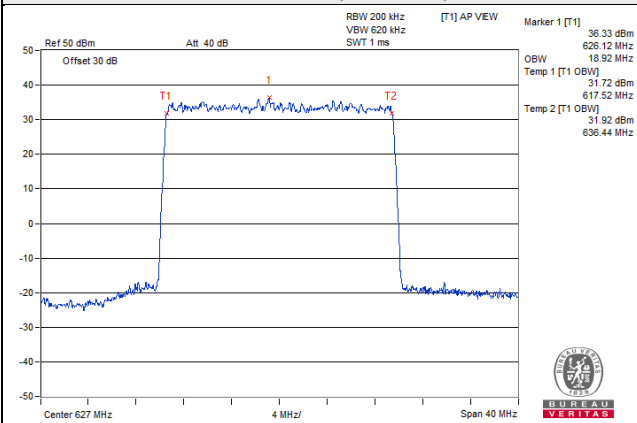
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

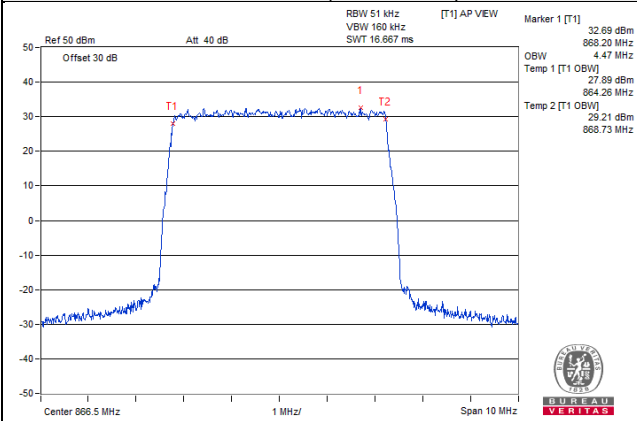
Ch 125400 (627MHz)



256QAM

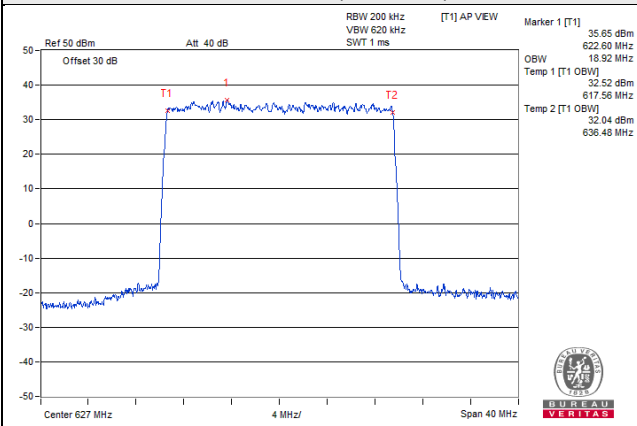
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

Ch 125400 (627MHz)

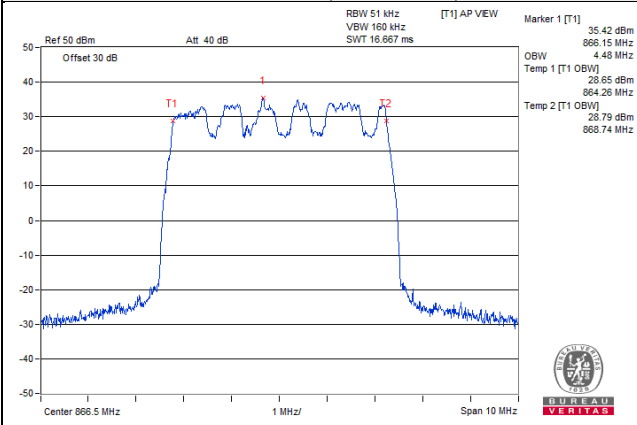


ANT 3

QPSK

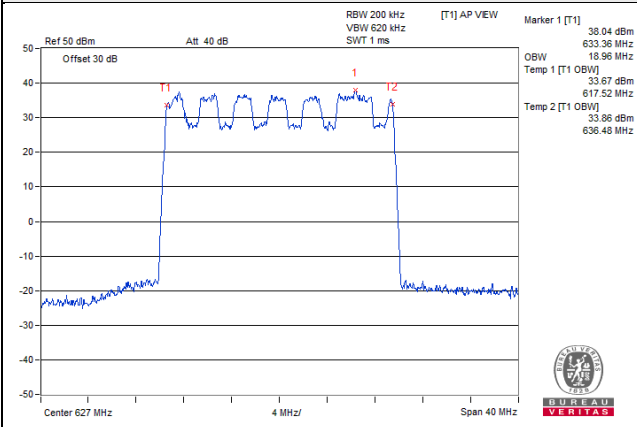
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

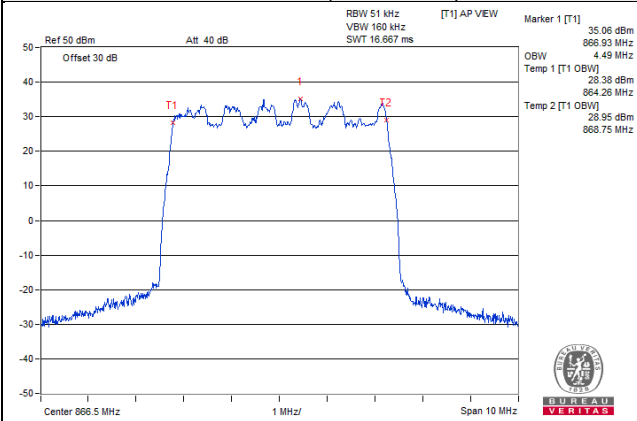
Ch 125400 (627MHz)



16QAM

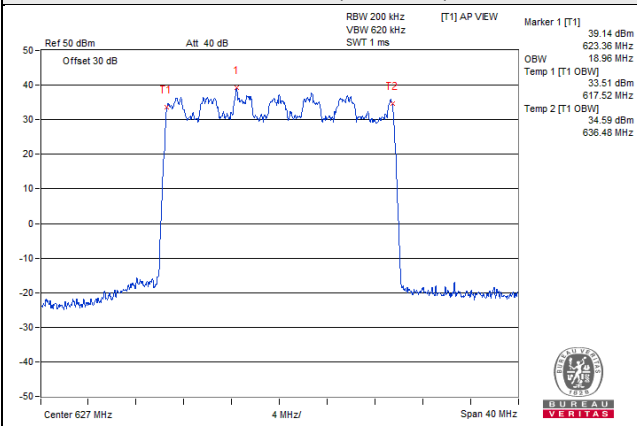
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

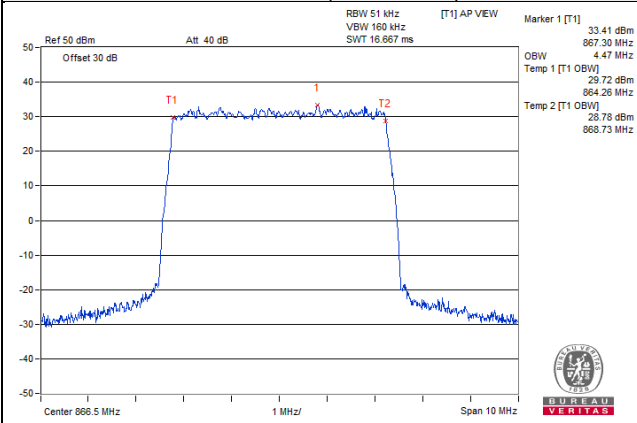
Ch 125400 (627MHz)



64QAM

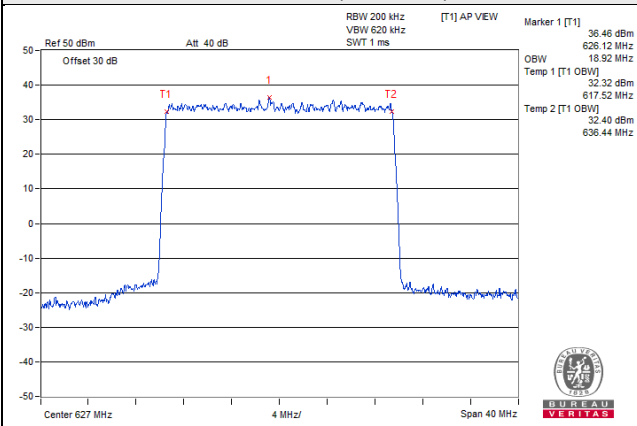
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

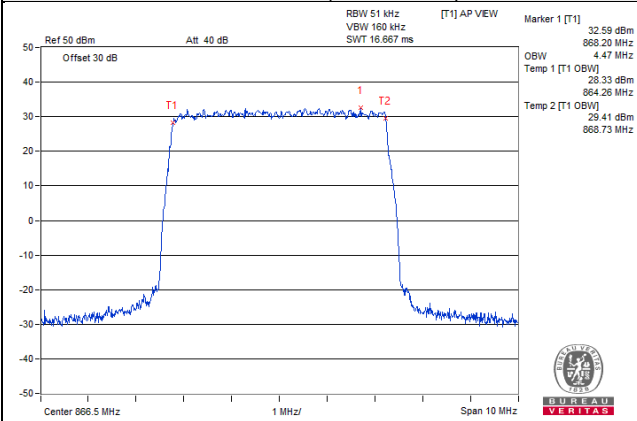
Ch 125400 (627MHz)



256QAM

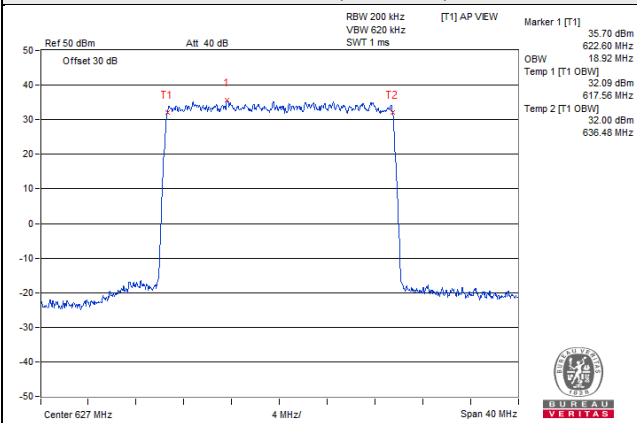
Ch 172700 (866.5MHz)

Ch 144600 (723MHz)



NA

Ch 125400 (627MHz)

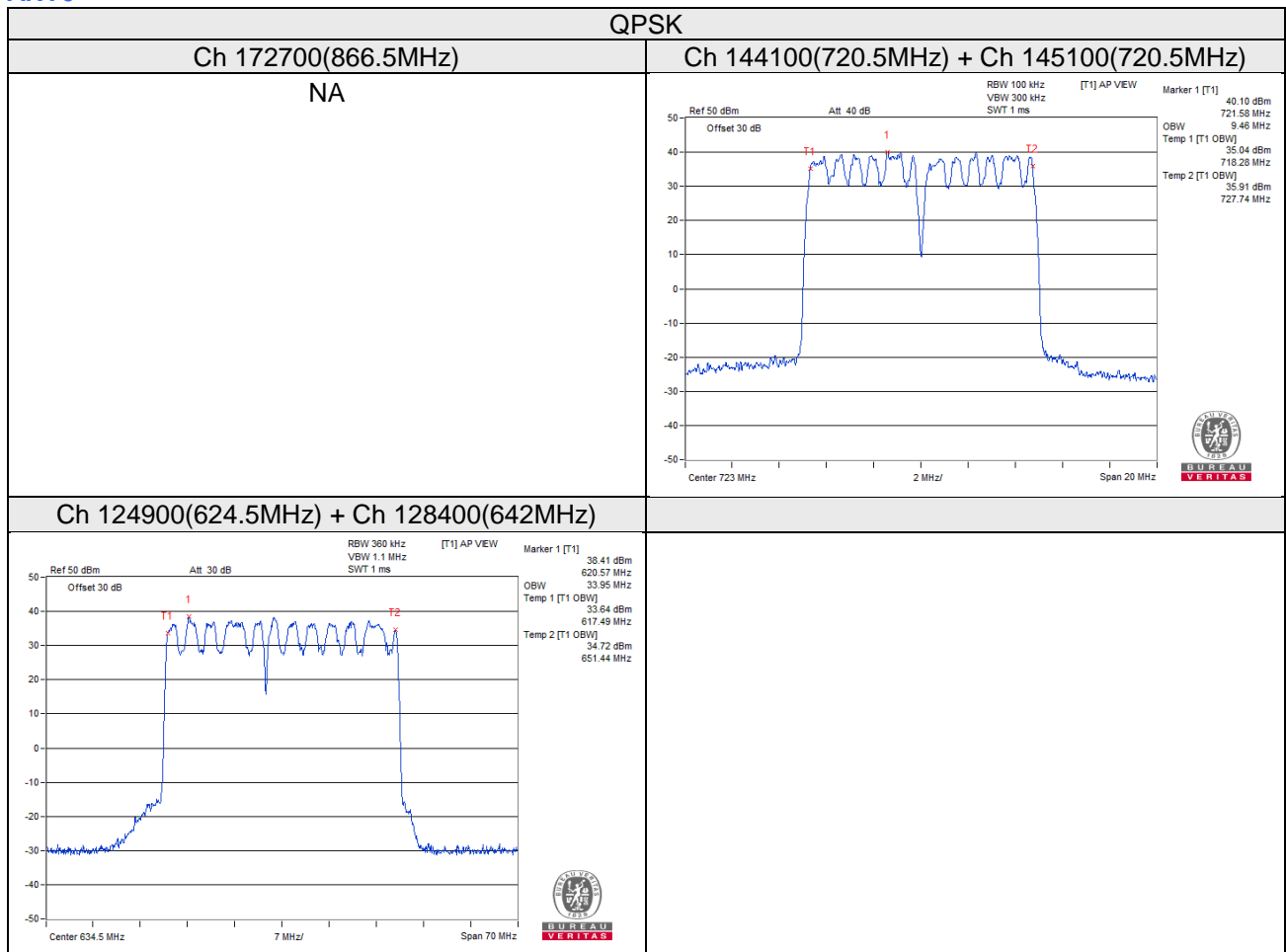


4.2.7 Test Result (Occupied Bandwidth Mode 3)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_15MHz+20MHz

Channel Number	Freq. (MHz)	OCP 99 Bandwidth (MHz)															
		Ant 0				Ant 1				Ant 2				Ant 3			
		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
n26 172700	866.5	NA	NA	NA	NA	NA	NA	NA	NA	4.48	4.49	4.47	4.47	4.48	4.49	4.47	4.47
n29 144100+ 145100	720.5+ 725.5	9.46	9.46	9.44	9.42	9.46	9.46	9.44	9.42	NA	NA	NA	NA	NA	NA	NA	NA
n71 124900+ 128400	624.5+ 642	33.95	33.95	33.74	33.81	33.95	33.95	33.81	33.81	33.95	33.95	33.74	33.74	33.95	33.95	33.81	33.74
Total		43.41	43.41	43.18	43.23	43.41	43.41	43.25	43.23	38.43	38.44	38.21	38.21	38.43	38.44	38.28	38.21

ANT0

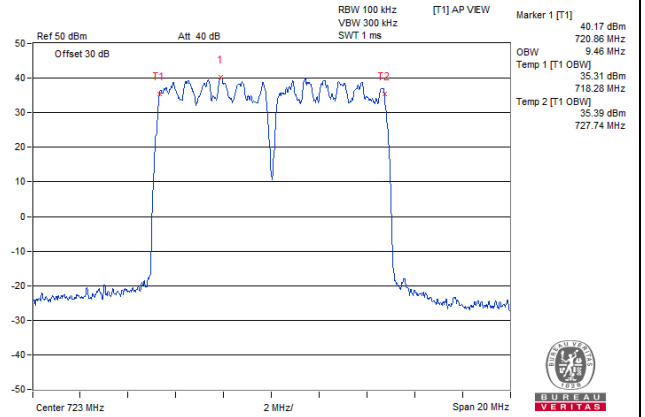


16QAM

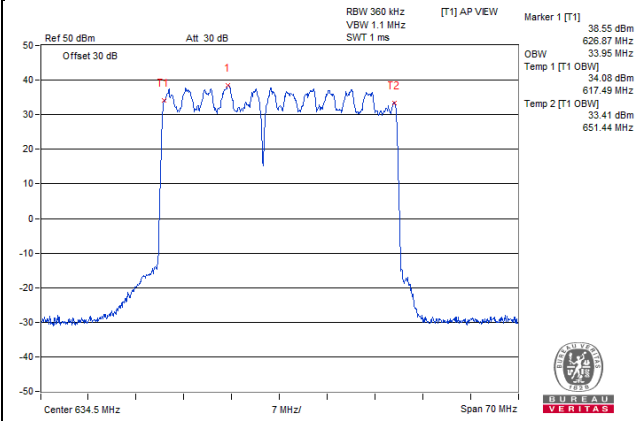
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

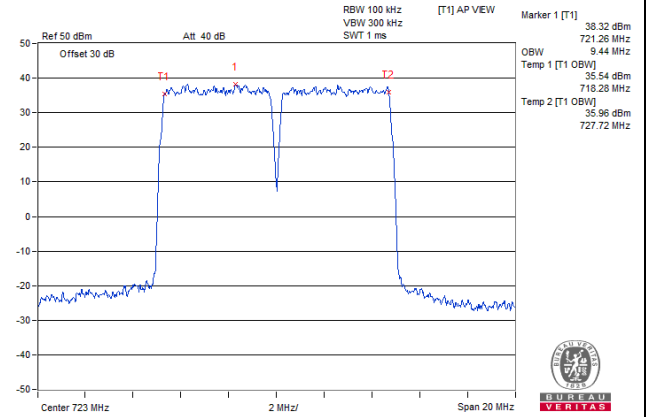


64QAM

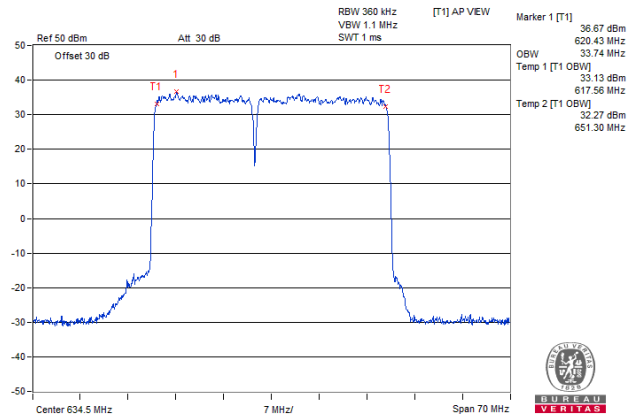
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

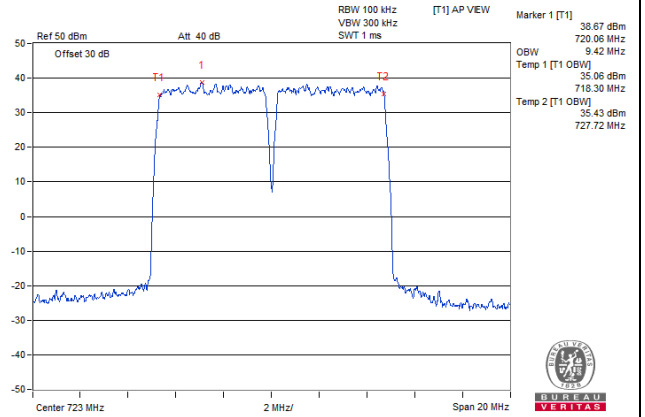


256QAM

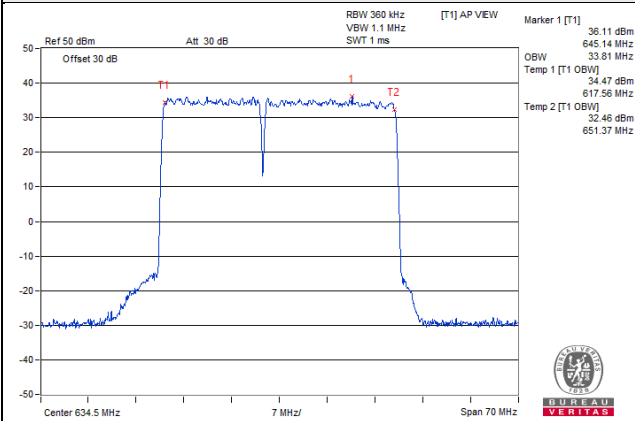
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)



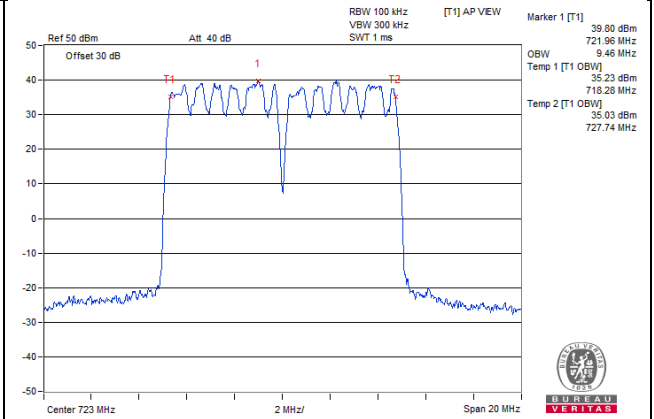
ANT1

QPSK

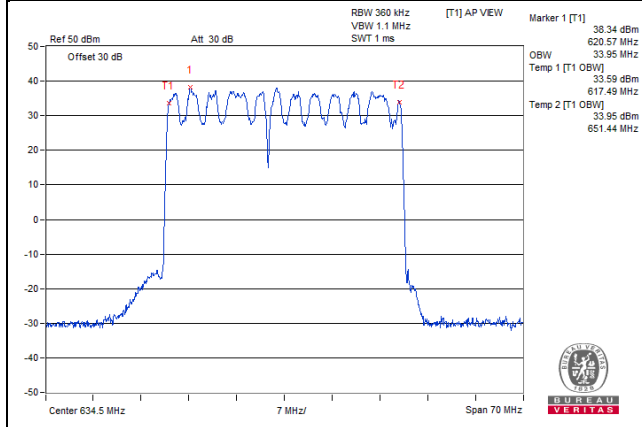
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

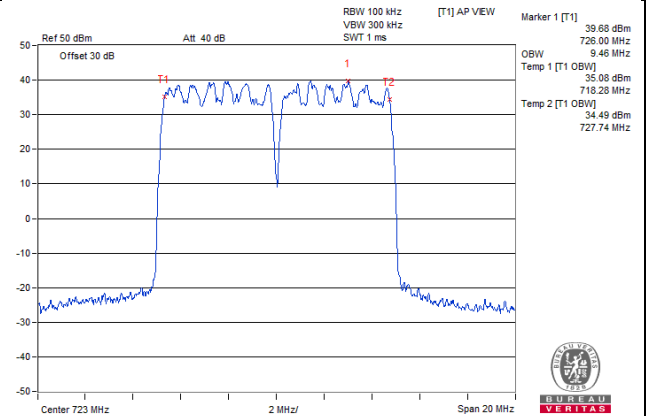


16QAM

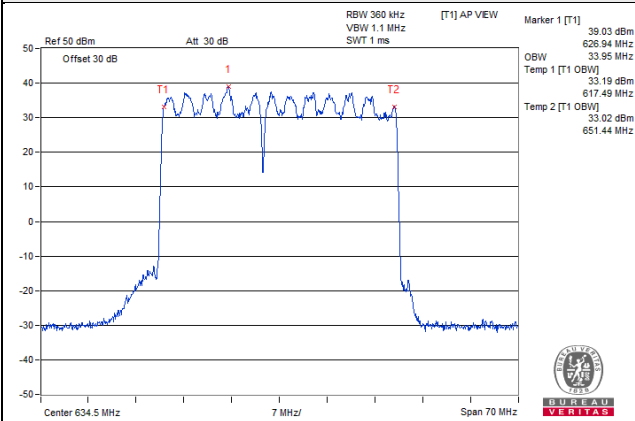
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

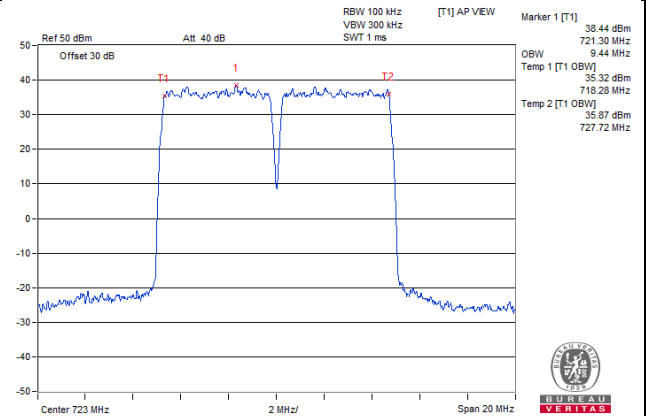


64QAM

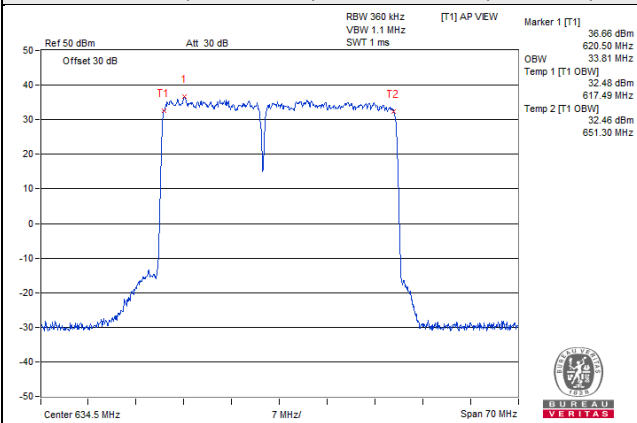
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

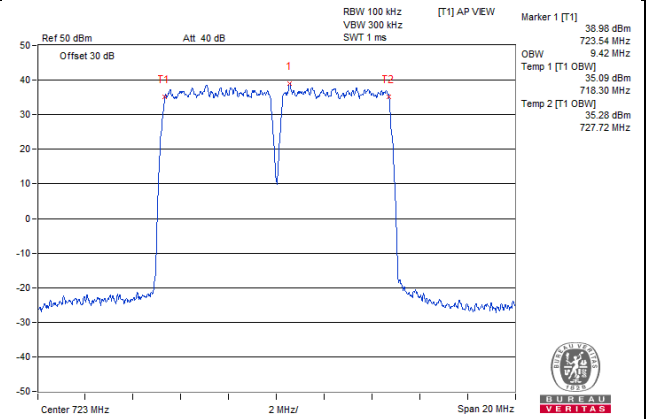


256QAM

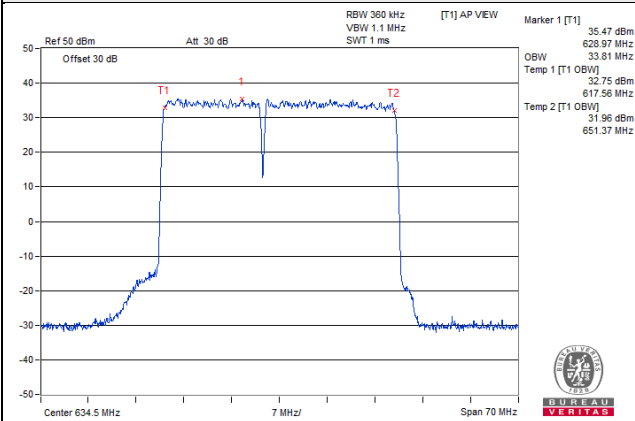
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)

NA



Ch 124900(624.5MHz) + Ch 128400(642MHz)

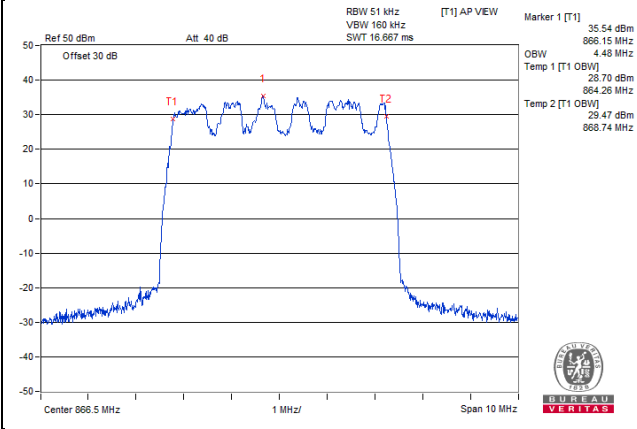


ANT2

QPSK

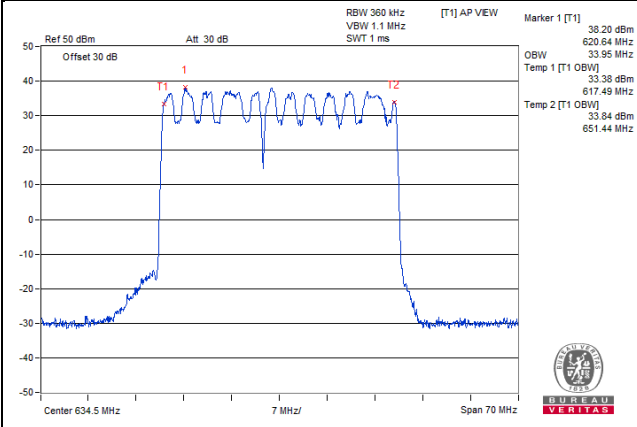
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

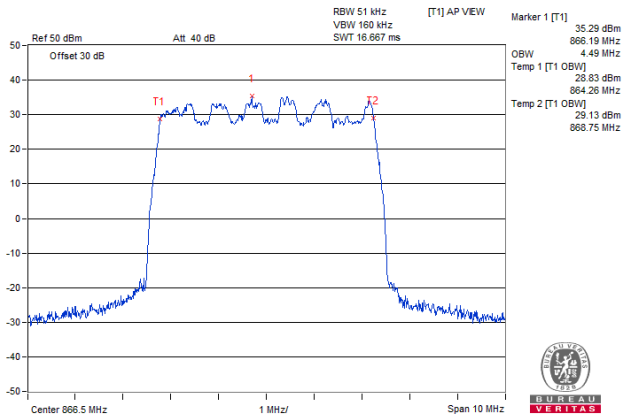
Ch 124900(624.5MHz) + Ch 128400(642MHz)



16QAM

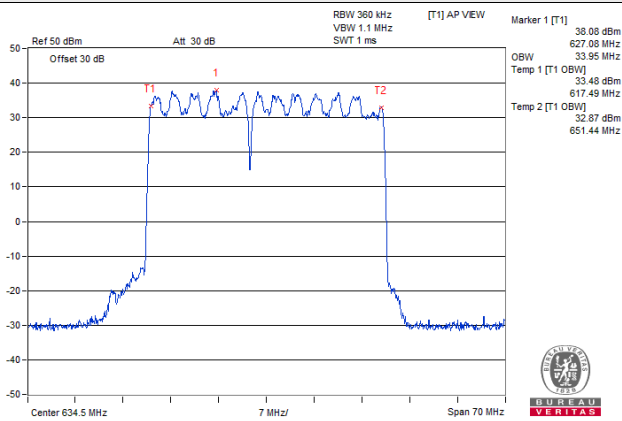
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

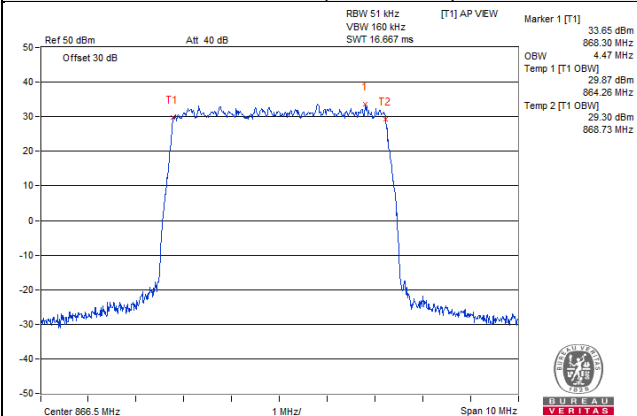
Ch 124900(624.5MHz) + Ch 128400(642MHz)



64QAM

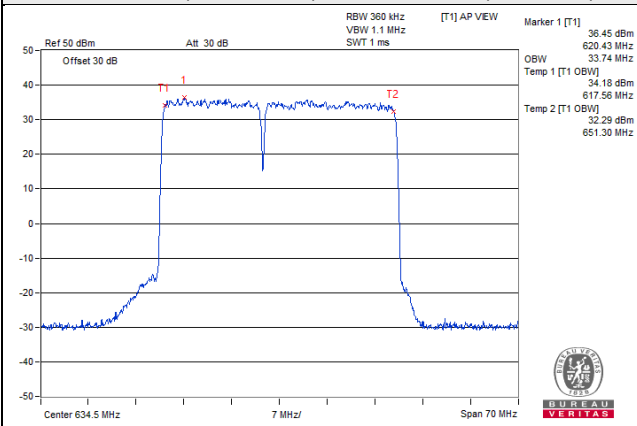
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

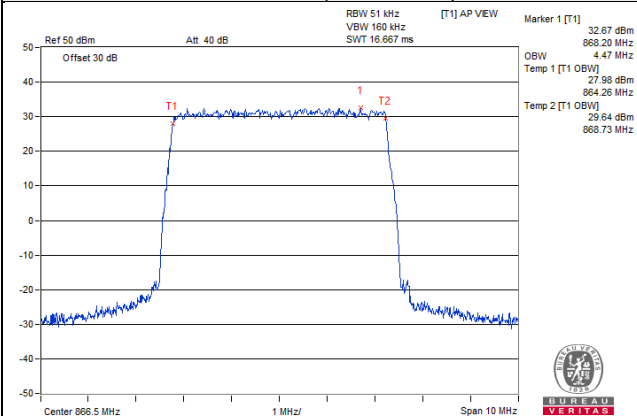
Ch 124900(624.5MHz) + Ch 128400(642MHz)



256QAM

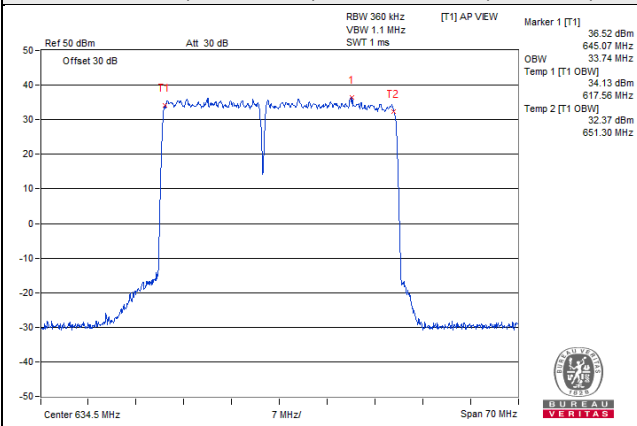
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

Ch 124900(624.5MHz) + Ch 128400(642MHz)

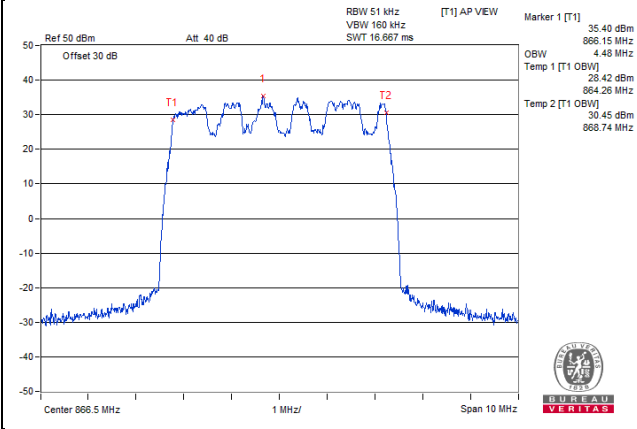


ANT3

QPSK

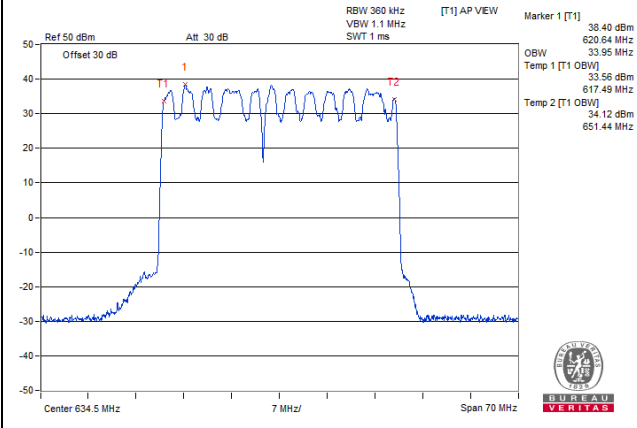
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

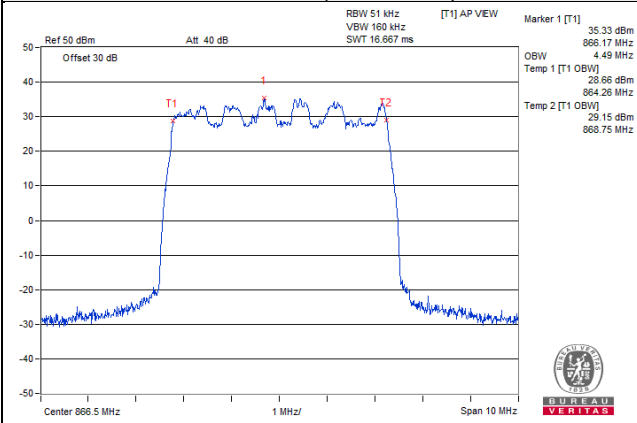
Ch 124900(624.5MHz) + Ch 128400(642MHz)



16QAM

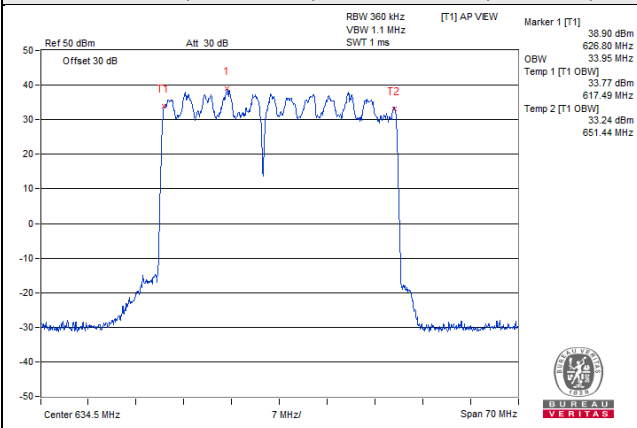
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

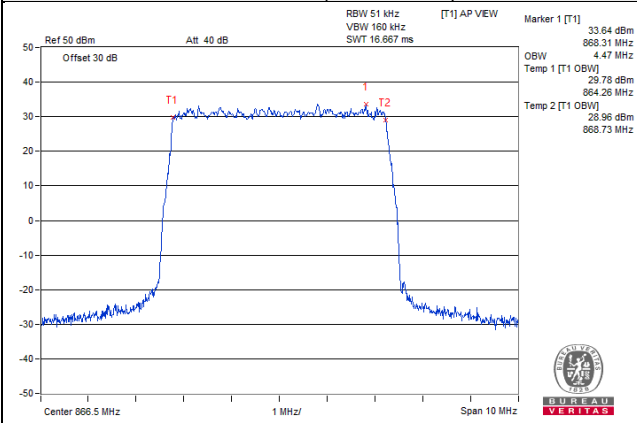
Ch 124900(624.5MHz) + Ch 128400(642MHz)



64QAM

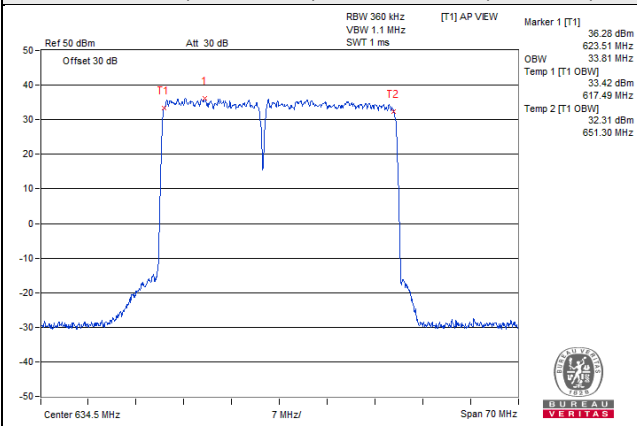
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

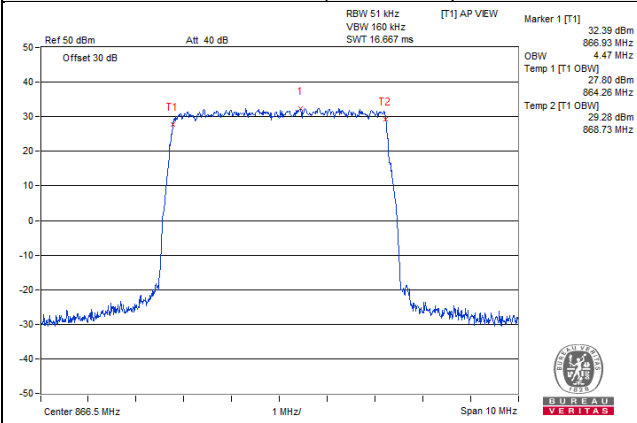
Ch 124900(624.5MHz) + Ch 128400(642MHz)



256QAM

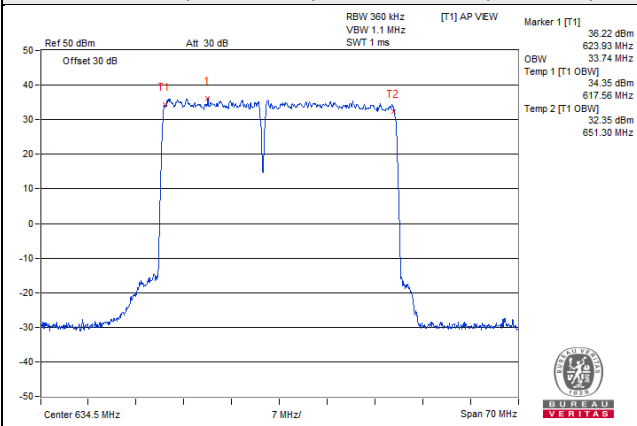
Ch 172700(866.5MHz)

Ch 144100(720.5MHz) + Ch 145100(720.5MHz)



NA

Ch 124900(624.5MHz) + Ch 128400(642MHz)



4.3 Channel Edge Measurement

4.3.1 Limits of Band Edge Measurement

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

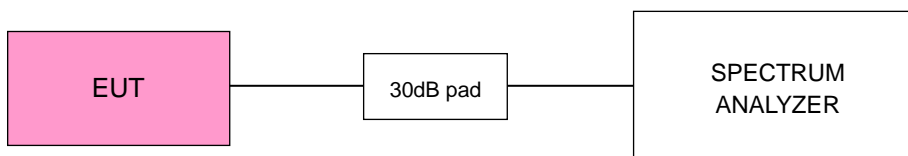
Note:

This device can be implement MIMO function, so the limit of spurious emissions needs to be reduced by $10\log(\text{NumbersAnt})$ according to FCC KDB 662911 D01 guidance.

{2TX: The limit is adjusted to $-13\text{dBm} - 10*\log(2) = -16.01\text{dBm}$.}

{4TX: The limit is adjusted to $-13\text{dBm} - 10*\log(4) = -19.02\text{dBm}$.}

4.3.2 Test Setup



4.3.3 Test Procedures

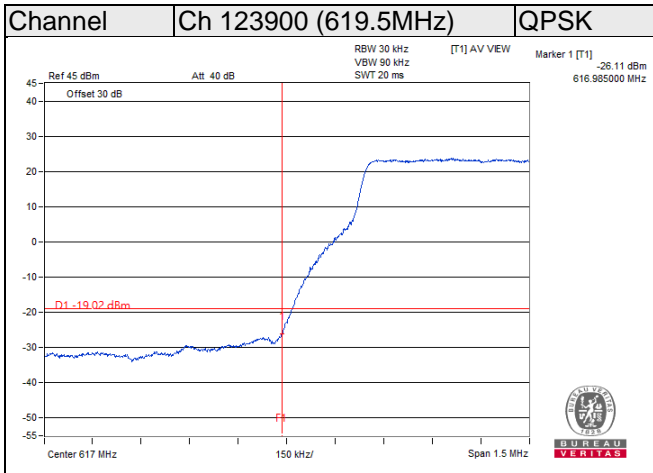
- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and s RBW = 30k and VBW=3*RBW, Detector=RMS.
- c. Record the max trace plot into the test report.

4.3.4 Test Results (Mode 1)

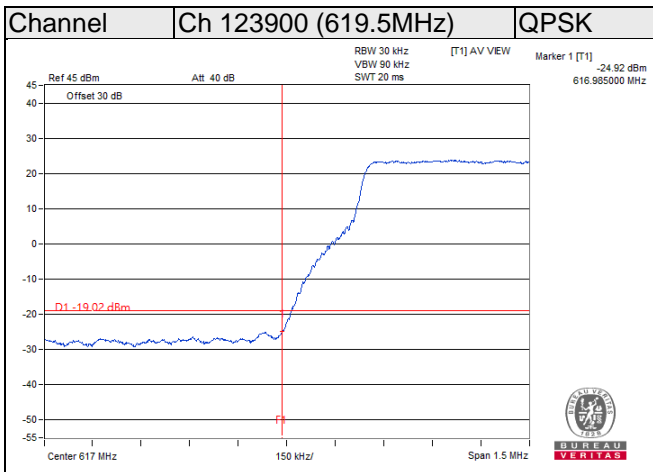
Single Carrier

Band n26 5MHz(20W)_Ch 172700 (866.5MHz)+Band n29 5MHz(60W)_Ch 145100 (725.5MHz)+
Band n71 5MHz(30W)_Ch 123900 (619.5MHz)

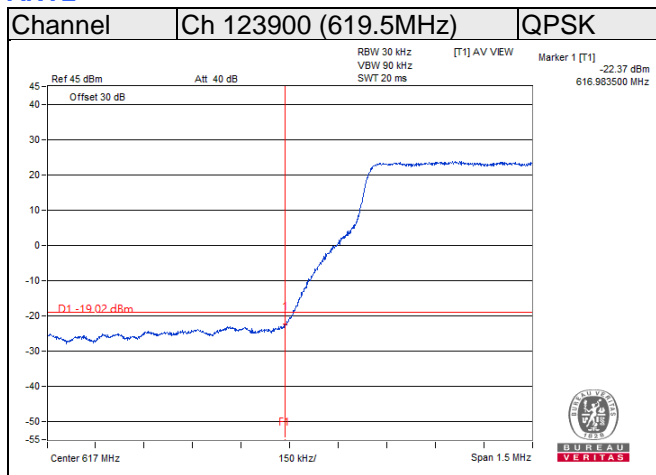
5MHz ANT0



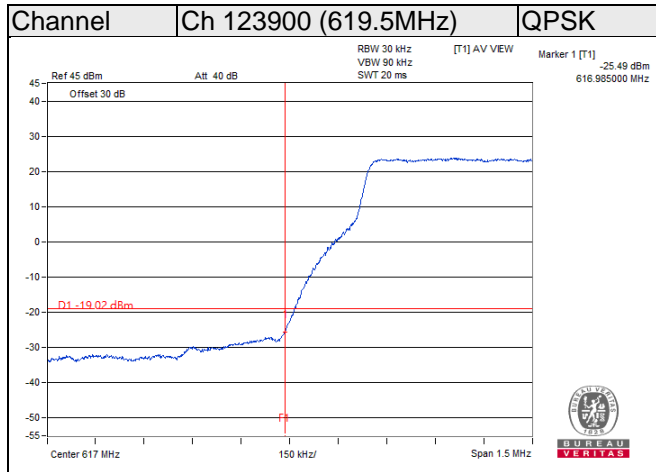
ANT1



ANT2



ANT3

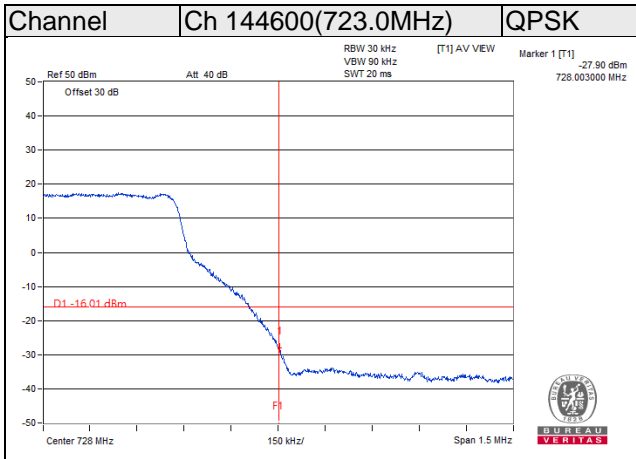


4.3.5 Test Results (Mode 2)

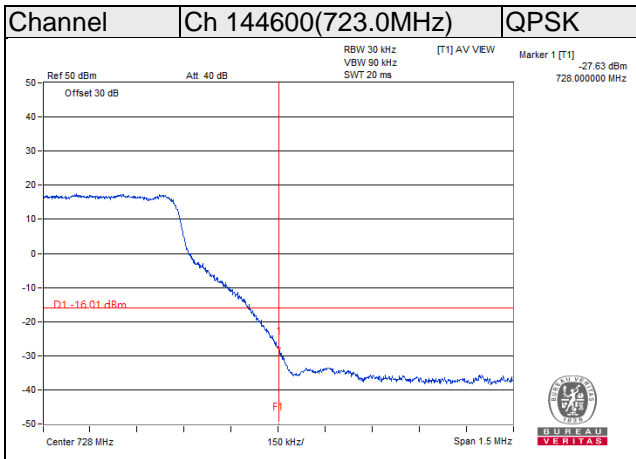
Single Carrier

Band n26 5MHz(20W)_Ch 172700(866.5MHz)+Band n29 10MHz(60W)_Ch 144600(723.0MHz)+
Band n71 20MHz(30W)_Ch 125400(627.0MHz)

10MHz ANT0



ANT1



4.4 Radiated Emission Measurement

4.4.1 Limits of Radiated Emission Measurement

For FCC Part 27:

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For FCC Part 90S:

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

4.4.2 Test Procedure

- a. The field strength was measured with Spectrum Analyzer.
- b. Measurement in the semi-anechoic chamber, EUT placed on the 0.8m/1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor.
- c. Perform a field strength measurement and then mathematically convert the measured field strength level to EIRP level.
- d. Follow ANSI C63.26 section 5.2.7 d),

$$E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$$

$$\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8; \text{ where D is the measurement distance (in the far field region) in m.}$$

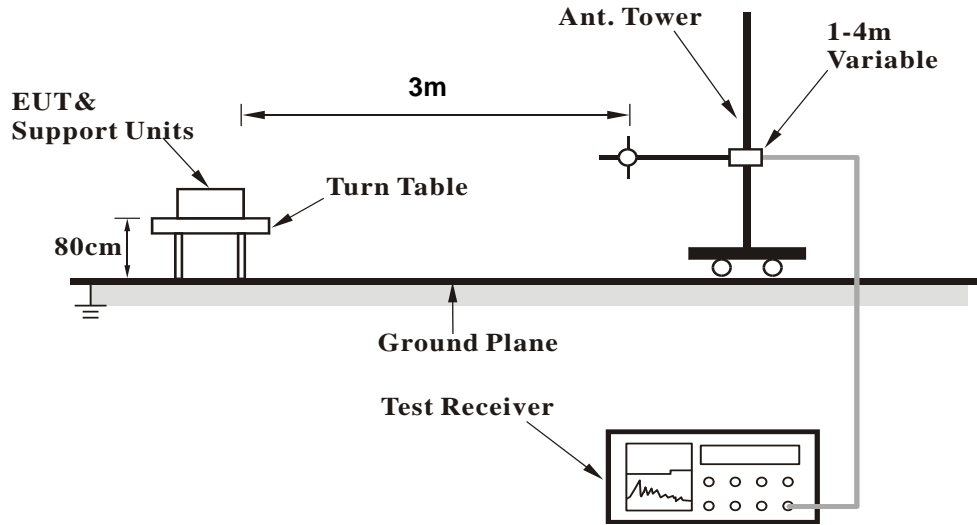
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.4.3 Deviation from Test Standard

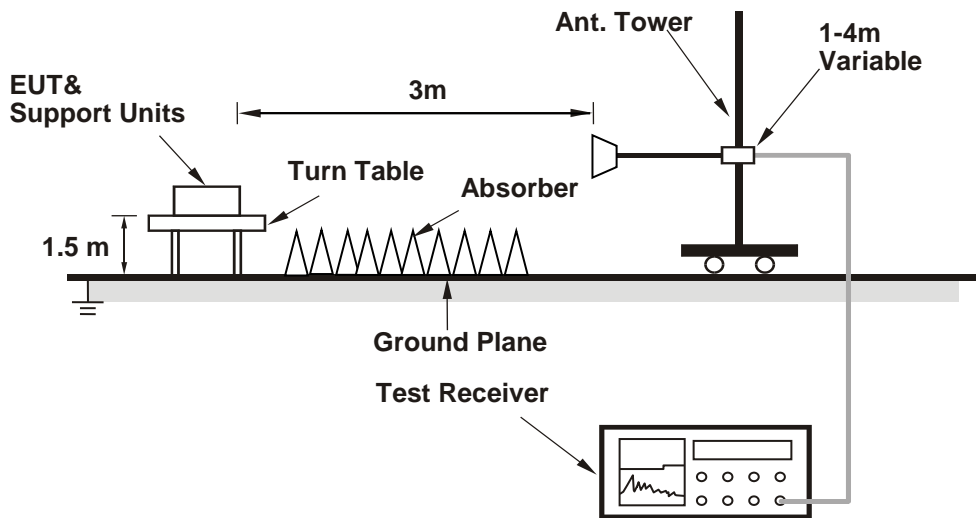
No deviation.

4.4.4 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.4.5 Test Results (Mode 1)

Single Carrier

Band n26_5MHz / Band n29_5MHz / Band n71_5MHz

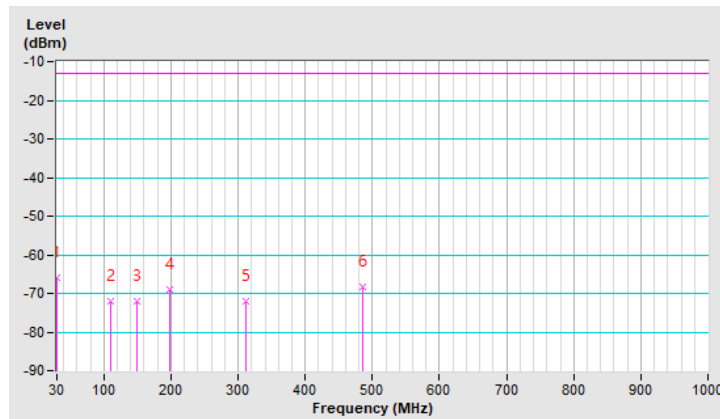
Below 1GHz

Test Frequency	172700 (866.5MHz)+ 145100 (725.5MHz)+ 123900 (619.5MHz)	Frequency Range	Below 1000 MHz
-----------------------	---	------------------------	----------------

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	30.68	-66.02	-13.00	-53.02	2.00 H	82	38.59	-104.61
2	109.73	-71.98	-13.00	-58.98	1.50 H	55	34.31	-106.29
3	149.56	-71.92	-13.00	-58.92	2.00 H	261	31.39	-103.31
4	197.51	-68.95	-13.00	-55.95	1.50 H	144	37.46	-106.41
5	310.74	-72.12	-13.00	-59.12	1.50 H	352	30.37	-102.49
6	486.42	-68.38	-13.00	-55.38	1.50 H	144	30.02	-98.40

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$

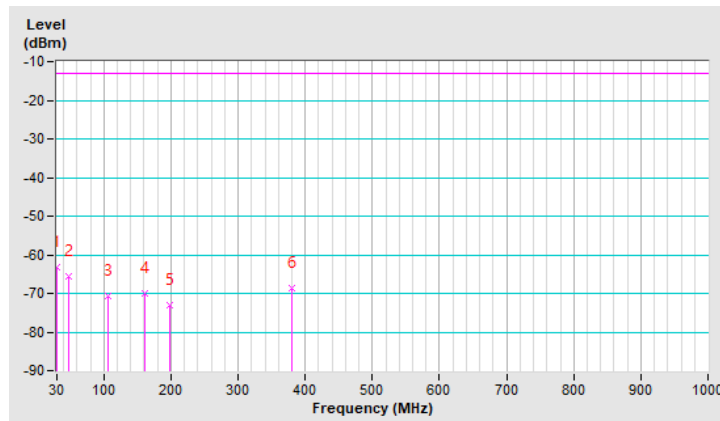


Test Frequency	172700 (866.5MHz)+ 145100 (725.5MHz)+ 123900 (619.5MHz)	Frequency Range	Below 1000 MHz
-----------------------	---	------------------------	----------------

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.82	-63.19	-13.00	-50.19	1.00 V	163	41.48	-104.67
2	48.53	-65.63	-13.00	-52.63	1.00 V	118	37.81	-103.44
3	106.89	-70.56	-13.00	-57.56	1.50 V	284	36.07	-106.63
4	160.98	-69.85	-13.00	-56.85	1.00 V	28	33.76	-103.61
5	198.13	-73.07	-13.00	-60.07	1.00 V	233	33.36	-106.43
6	379.65	-68.64	-13.00	-55.64	1.00 V	311	32.54	-101.18

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$



Above 1GHz

Test Frequency	172700 (866.5MHz)+ 145100 (725.5MHz)+ 123900 (619.5MHz)	Frequency Range	1 GHz ~ 10 GHz
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Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1474.33	-64.69	-13.00	-51.69	2.00 H	65	34.42	-99.11
2	1842.91	-60.58	-13.00	-47.58	1.50 H	203	38.18	-98.76
3	2211.50	-63.09	-13.00	-50.09	1.50 H	47	32.46	-95.55
4	2580.08	-64.15	-13.00	-51.15	1.50 H	294	31.87	-96.02

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1474.33	-63.94	-13.00	-50.94	1.50 V	169	35.17	-99.11
2	1842.91	-63.14	-13.00	-50.14	1.50 V	221	35.62	-98.76
3	2211.50	-63.17	-13.00	-50.17	1.50 V	356	32.38	-95.55
4	2580.08	-62.61	-13.00	-49.61	1.50 V	198	33.41	-96.02

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$

4.4.6 Test Results (Mode 2)

Band n26_5MHz / Band n29_10MHz / Band n71_20MHz

Below 1GHz

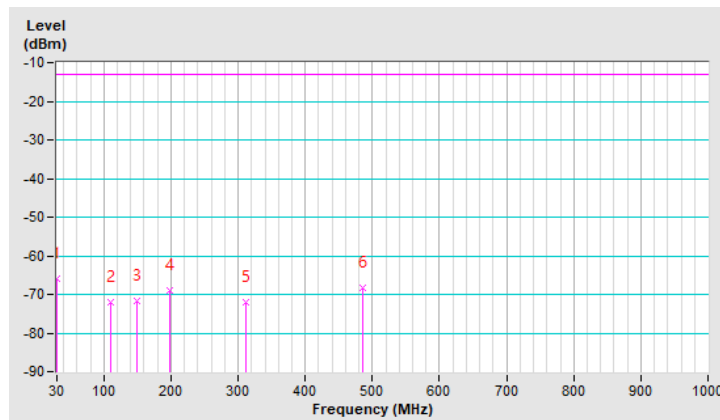
Test Frequency	172700(866.5MHz)+ 144600(723.0MHz)+ 125400(627.0MHz)	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.76	-65.93	-13.00	-52.93	2.00 H	89	38.71	-104.64
2	109.81	-71.89	-13.00	-58.89	1.50 H	63	34.39	-106.28
3	149.66	-71.83	-13.00	-58.83	2.00 H	245	31.46	-103.29
4	197.61	-68.86	-13.00	-55.86	1.50 H	163	37.55	-106.41
5	310.84	-72.05	-13.00	-59.05	1.50 H	323	30.42	-102.47
6	486.52	-68.29	-13.00	-55.29	1.50 H	157	30.10	-98.39

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$

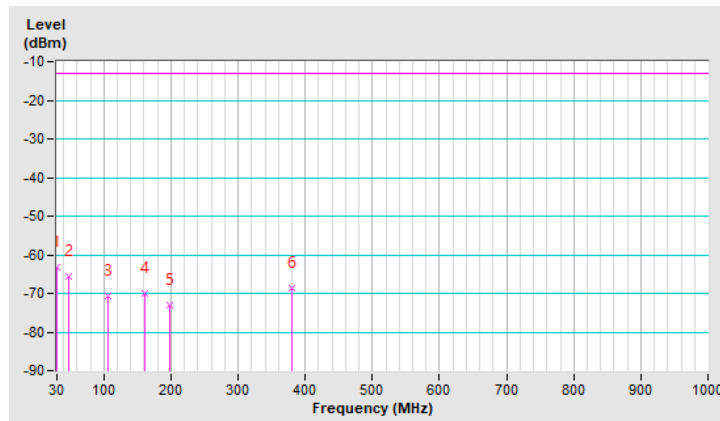


Test Frequency	172700(866.5MHz)+ 144600(723.0MHz)+ 125400(627.0MHz)	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.75	-63.26	-13.00	-50.26	1.00 V	177	41.38	-104.64
2	48.44	-65.68	-13.00	-52.68	1.00 V	132	37.75	-103.43
3	106.82	-70.61	-13.00	-57.61	1.50 V	298	36.03	-106.64
4	160.92	-69.92	-13.00	-56.92	1.00 V	35	33.68	-103.60
5	198.06	-73.13	-13.00	-60.13	1.00 V	244	33.29	-106.42
6	379.58	-68.69	-13.00	-55.69	1.00 V	299	32.49	-101.18

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8



Above 1GHz

Test Frequency	172700(866.5MHz)+ 144600(723.0MHz)+ 125400(627.0MHz)	Frequency Range	1 GHz ~ 10 GHz
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Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1477.66	-64.94	-13.00	-51.94	1.50 H	258	34.17	-99.11
2	1847.08	-61.53	-13.00	-48.53	2.00 H	65	37.23	-98.76
3	2216.50	-62.84	-13.00	-49.84	1.50 H	287	32.70	-95.54
4	2585.91	-63.98	-13.00	-50.98	1.50 H	309	32.00	-95.98

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1477.66	-63.31	-13.00	-50.31	1.50 V	83	35.80	-99.11
2	1847.08	-63.68	-13.00	-50.68	1.50 V	193	35.08	-98.76
3	2216.50	-63.52	-13.00	-50.52	1.50 V	244	32.02	-95.54
4	2585.91	-62.08	-13.00	-49.08	1.50 V	106	33.90	-95.98

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$

4.4.7 Test Results (Mode 3)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_15MHz+20MHz

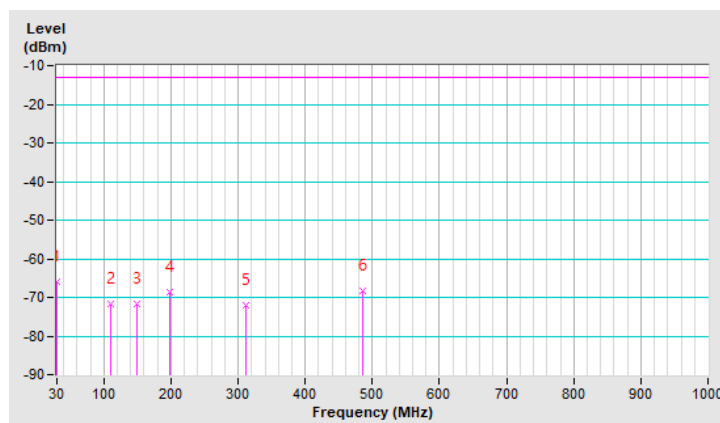
Below 1GHz

Test Frequency	172700(866.5MHz)+ (144100(720.5MHz)+145100(725.5MHz))+ (124900(624.5MHz)+128400(642.0MHz))	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.83	-65.86	-13.00	-52.86	2.00 H	94	38.81	-104.67
2	109.88	-71.80	-13.00	-58.80	1.50 H	55	34.48	-106.28
3	149.74	-71.73	-13.00	-58.73	2.00 H	268	31.55	-103.28
4	197.69	-68.78	-13.00	-55.78	1.50 H	144	37.63	-106.41
5	310.93	-71.97	-13.00	-58.97	1.50 H	352	30.50	-102.47
6	486.61	-68.19	-13.00	-55.19	1.50 H	138	30.20	-98.39

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8

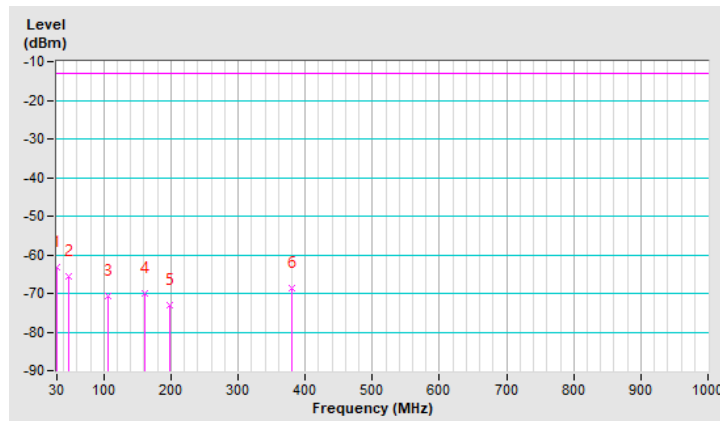


Test Frequency	172700(866.5MHz)+ (144100(720.5MHz)+145100(725.5MHz))+ (124900(624.5MHz)+128400(642.0MHz))	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.69	-63.33	-13.00	-50.33	1.00 V	167	41.29	-104.62
2	48.38	-65.73	-13.00	-52.73	1.00 V	163	37.69	-103.42
3	106.74	-70.68	-13.00	-57.68	1.50 V	303	35.98	-106.66
4	160.86	-69.95	-13.00	-56.95	1.00 V	47	33.64	-103.59
5	197.99	-73.19	-13.00	-60.19	1.00 V	262	33.23	-106.42
6	379.52	-68.76	-13.00	-55.76	1.00 V	281	32.42	-101.18

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8



Above 1GHz

Test Frequency	172700(866.5MHz)+ (144100(720.5MHz)+145100(725.5MHz))+ (124900(624.5MHz)+128400(642.0MHz))	Frequency Range	1 GHz ~ 10 GHz
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Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	1356.25	-64.05	-13.00	-51.05	1.50 H	326	34.98	-99.03
2	1695.31	-62.31	-13.00	-49.31	1.50 H	48	36.92	-99.23
3	2034.37	-62.96	-13.00	-49.96	1.50 H	147	34.63	-97.59
4	2373.43	-63.12	-13.00	-50.12	2.00 H	77	32.86	-95.98

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	1356.25	-62.99	-13.00	-49.99	1.50 V	80	36.04	-99.03
2	1695.31	-63.16	-13.00	-50.16	1.50 V	23	36.07	-99.23
3	2034.37	-63.09	-13.00	-50.09	1.50 V	355	34.50	-97.59
4	2373.43	-62.83	-13.00	-49.83	1.50 V	47	33.15	-95.98

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8

4.4.8 Test Results (Mode 4)

Band n26_5MHz / Band n29_5MHz+5MHz / Band n71_5MHz+5MHz

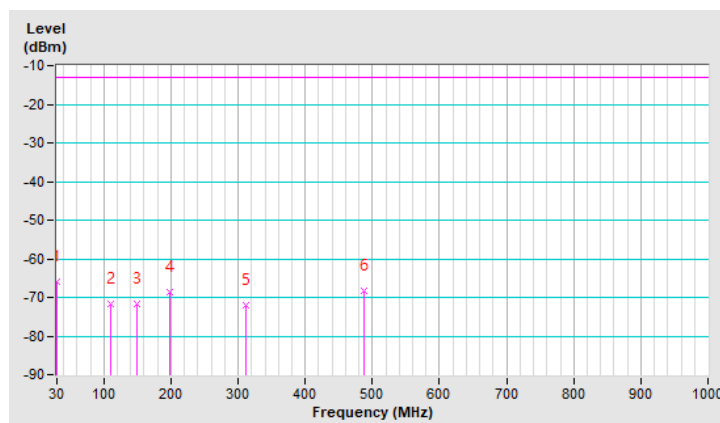
Below 1GHz

Test Frequency	172700(866.5MHz)+ (143900(719.5MHz)+145100(725.5MHz))+ (123900(619.5MHz)+129900(649.5MHz))	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	30.93	-65.81	-13.00	-52.81	2.00 H	82	38.89	-104.70
2	109.93	-71.72	-13.00	-58.72	1.50 H	63	34.55	-106.27
3	149.81	-71.66	-13.00	-58.66	2.00 H	248	31.61	-103.27
4	197.77	-68.72	-13.00	-55.72	1.50 H	129	37.70	-106.42
5	311.02	-71.89	-13.00	-58.89	1.50 H	332	30.57	-102.46
6	486.67	-68.14	-13.00	-55.14	1.50 H	152	30.25	-98.39

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8

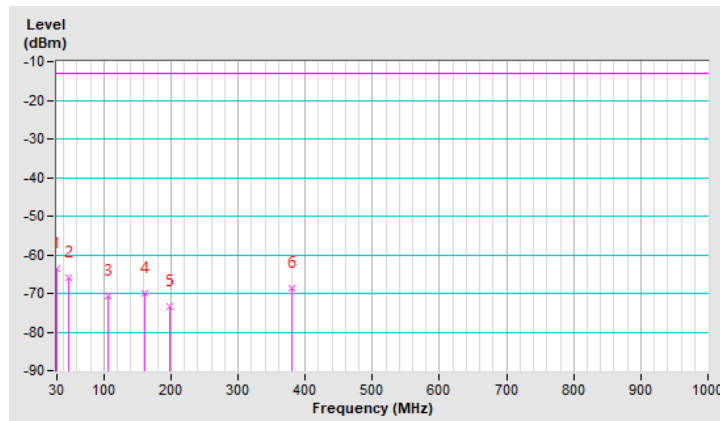


Test Frequency	172700(866.5MHz)+ (143900(719.5MHz)+145100(725.5MHz))+ (123900(619.5MHz)+129900(649.5MHz))	Frequency Range	Below 1000 MHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.63	-63.41	-13.00	-50.41	1.00 V	152	41.19	-104.60
2	48.32	-65.80	-13.00	-52.80	1.00 V	147	37.62	-103.42
3	106.66	-70.75	-13.00	-57.75	1.50 V	326	35.92	-106.67
4	160.77	-70.04	-13.00	-57.04	1.00 V	54	33.53	-103.57
5	197.91	-73.26	-13.00	-60.26	1.00 V	274	33.16	-106.42
6	379.43	-68.81	-13.00	-55.81	1.00 V	298	32.38	-101.19

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8



Above 1GHz

Test Frequency	172700(866.5MHz)+ (143900(719.5MHz)+145100(725.5MHz))+ (123900(619.5MHz)+129900(649.5MHz))	Frequency Range	1 GHz ~ 10 GHz
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Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	1432.20	-63.18	-13.00	-50.18	1.50 H	124	35.81	-98.99
2	1790.25	-60.78	-13.00	-47.78	1.50 H	235	38.14	-98.92
3	2148.30	-60.74	-13.00	-47.74	2.00 H	124	35.32	-96.06
4	2506.35	-63.80	-13.00	-50.80	1.50 H	117	32.40	-96.20

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	1432.20	-61.54	-13.00	-48.54	1.50 V	134	37.45	-98.99
2	1790.25	-61.30	-13.00	-48.30	1.50 V	277	37.62	-98.92
3	2148.32	-65.05	-13.00	-52.05	1.50 V	231	31.01	-96.06
4	2506.35	-60.16	-13.00	-47.16	1.50 V	227	36.04	-96.20

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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