

## FCC Test Report (PART 27)

**Report No.:** RFBEOO-WTW-P22041058

**FCC ID:** MADG060708-50-02B

**Test Model:** G060708-50-02B

**Received Date:** 2022/4/29

**Test Date:** 2022/6/5 ~ 2022/6/22

**Issued Date:** 2022/7/15

**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



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## Table of Contents

<b>Release Control Record</b> .....	<b>4</b>
<b>1 Certificate of Conformity</b> .....	<b>5</b>
<b>2 Summary of Test Results</b> .....	<b>6</b>
2.1 Measurement Uncertainty .....	6
2.2 Test Site and Instruments .....	7
<b>3 General Information</b> .....	<b>9</b>
3.1 General Description of EUT .....	9
3.2 Configuration of System under Test .....	13
3.2.1 Description of Support Units .....	14
3.3 Test Mode Applicability and Tested Channel Detail .....	15
3.4 General Description of Applied Standards .....	18
<b>4 Test Types and Results</b> .....	<b>19</b>
4.1 Output Power Measurement .....	19
4.1.1 Limits of Output Power Measurement .....	19
4.1.2 Test Procedures .....	19
4.1.3 Test Setup .....	19
4.1.4 Test Results .....	20
4.2 Modulation characteristics Measurement .....	42
4.2.1 Limits of Modulation characteristics .....	42
4.2.2 Test Procedure .....	42
4.2.3 Test Setup .....	42
4.2.4 Test Results .....	43
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 .....	59
4.4.1 Limits of Emission Bandwidth Measurement .....	59
4.4.2 Test Procedure .....	59
4.4.3 Test Setup .....	59
4.4.4 Test Results (-26dBc Bandwidth) .....	60
4.4.5 Test Results (Occupied Bandwidth) .....	156
4.5 Channel Edge Measurement .....	252
4.5.1 Limits of Band Edge Measurement .....	252
4.5.2 Test Setup .....	252
4.5.3 Test Procedures .....	252
4.5.4 Test Results .....	253
4.6 Peak to Average Ratio .....	268
4.6.1 Limits of Peak to Average Ratio Measurement .....	268
4.6.2 Test Setup .....	268
4.6.3 Test Procedures .....	268
4.6.4 Test Results .....	269
4.7 Conducted Spurious Emissions .....	278
4.7.1 Limits of Conducted Spurious Emissions Measurement .....	278
4.7.2 Test Setup .....	278
4.7.3 Test Procedure .....	278
4.7.4 Test Results .....	279
4.8 Radiated Emission Measurement .....	304
4.8.1 Limits of Radiated Emission Measurement .....	304
4.8.2 Test Procedure .....	304
4.8.3 Deviation from Test Standard .....	304
4.8.4 Test Setup .....	305

4.8.5 Test Results .....	306
<b>5 Pictures of Test Arrangements.....</b>	<b>351</b>
<b>Appendix – Information of the Testing Laboratories .....</b>	<b>352</b>

### Release Control Record

Issue No.	Description	Date Issued
RFBEOO-WTW-P22041058	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:** 2022/6/5 ~ 2022/6/22

**Standards:** FCC Part 27, Subpart N / H  
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 :** Vivian Huang , **Date:** 2022/7/15  
Vivian Huang / Specialist

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

## 2 Summary of Test Results

Applied Standard: FCC Part 27, Subpart N / H & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50(c)(3)	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	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 -47.81dB at 1548.75MHz.

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) (±)
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. (\*)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: 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 to -58.5V			
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM			
Modulation Technology	5G NR FDD			
Operating Frequency	Band n29	Channel Bandwidth: 5MHz	ANT0 ANT1	719.5MHz ~725.5MHz
		Channel Bandwidth: 10MHz	ANT0 ANT1	722MHz ~723MHz
	Band n71	Channel Bandwidth: 5MHz	ANT0	619.5MHz ~649.5MHz
			ANT1	
			ANT2	
			ANT3	
	Band n71	Channel Bandwidth: 10MHz	ANT0	622MHz ~647MHz
			ANT1	
			ANT2	
			ANT3	
	Band n71	Channel Bandwidth: 15MHz	ANT0	624.5MHz ~644.5MHz
			ANT1	
ANT2				
ANT3				
Band n71	Channel Bandwidth: 20MHz	ANT0	627MHz ~642MHz	
		ANT1		
		ANT2		
		ANT3		

Max. ERP Power	Band n29	ANT0	Channel Bandwidth: 5MHz	857.04 W/MHz (QPSK)
		ANT1		
		ANT0	Channel Bandwidth: 10MHz	597.04 W/MHz (QPSK)
		ANT1		
		ANT0	Channel Bandwidth: 5MHz+5MHz CA-NC Non-Contiguous	437.52 W/MHz (QPSK)
		ANT1		
	Band n71	ANT0	Channel Bandwidth: 5MHz	895.58 W/MHz (QPSK)
		ANT1		
		ANT2		
		ANT3		
		ANT0	Channel Bandwidth: 10MHz	622.66 W/MHz (QPSK)
		ANT1		
		ANT2		
		ANT3		
		ANT0	Channel Bandwidth: 15MHz	386.25 W/MHz (16QAM)
		ANT1		
		ANT2		
		ANT3		
		ANT0	Channel Bandwidth: 20MHz	305.06 W/MHz (QPSK)
		ANT1		
ANT2				
ANT3				
ANT0	Channel Bandwidth: 5MHz+5MHz CA-NC Non-Contiguous	478.45 W/MHz (QPSK)		
ANT1				
ANT2				
ANT3				
ANT0	Channel Bandwidth: 15MHz+20MHz CA Contiguous	178.54 W/MHz (16QAM)		
ANT1				
ANT2				
ANT3				

Emission Designator	Band	BW combination	ANT NO.	QPSK	16QAM	64QAM	256QAM	
	Band n29	Channel Bandwidth: 5MHz		ANT0	4M49G7D	4M50D7W	4M48D7W	4M47D7W
ANT1				4M49G7D	4M49D7W	4M47D7W	4M47D7W	
Channel Bandwidth: 10MHz			ANT0	9M12G7D	9M22D7W	9M28D7W	9M28D7W	
			ANT1	9M12G7D	9M22D7W	9M28D7W	9M28D7W	
Channel Bandwidth: 5MHz+5MHz CA-NC Non-Contiguous			ANT0	4M48G7D	4M50D7W	4M47D7W	4M47D7W	
			ANT1	4M49G7D	4M51D7W	4M48D7W	4M47D7W	
Band n71	Channel Bandwidth: 5MHz		ANT0	4M49G7D	4M50D7W	4M48D7W	4M47D7W	
			ANT1	4M49G7D	4M50D7W	4M48D7W	4M47D7W	
			ANT2	4M50G7D	4M50D7W	4M48D7W	4M47D7W	
			ANT3	4M49G7D	4M50D7W	4M48D7W	4M47D7W	
	Channel Bandwidth: 10MHz			ANT0	9M12G7D	9M22D7W	9M30D7W	9M26D7W
				ANT1	9M12G7D	9M22D7W	9M28D7W	9M28D7W
				ANT2	9M12G7D	9M22D7W	9M30D7W	9M28D7W
				ANT3	9M12G7D	9M22D7W	9M30D7W	9M28D7W
	Channel Bandwidth: 15MHz			ANT0	14M1G7D	14M1D7W	14M1D7W	14M1D7W
				ANT1	14M2G7D	14M2D7W	14M1D7W	14M1D7W
				ANT2	14M2G7D	14M1D7W	14M1D7W	14M1D7W
				ANT3	14M1G7D	14M1D7W	14M1D7W	14M1D7W
	Channel Bandwidth: 20MHz			ANT0	19M0G7D	19M0D7W	18M9D7W	19M0D7W
				ANT1	19M0G7D	19M0D7W	18M9D7W	19M0D7W
				ANT2	19M0G7D	19M0D7W	18M9D7W	19M0D7W
				ANT3	19M0G7D	19M0D7W	18M9D7W	19M0D7W
	Channel Bandwidth: 5MHz+5MHz CA-NC Non-Contiguous			ANT0	4M49G7D	4M50D7W	4M48D7W	4M47D7W
				ANT1	4M50G7D	4M50D7W	4M48D7W	4M47D7W
				ANT2	4M50G7D	4M50D7W	4M49D7W	4M47D7W
				ANT3	4M50G7D	4M50D7W	4M48D7W	4M47D7W
	Channel Bandwidth: 15MHz+20MHz CA Contiguous			ANT0	34M0G7D	34M0D7W	33M8D7W	33M9D7W
				ANT1	34M0G7D	34M0D7W	33M8D7W	33M7D7W
				ANT2	34M0G7D	34M0D7W	33M8D7W	33M8D7W
				ANT3	34M0G7D	34M0D7W	33M8D7W	33M8D7W
	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						

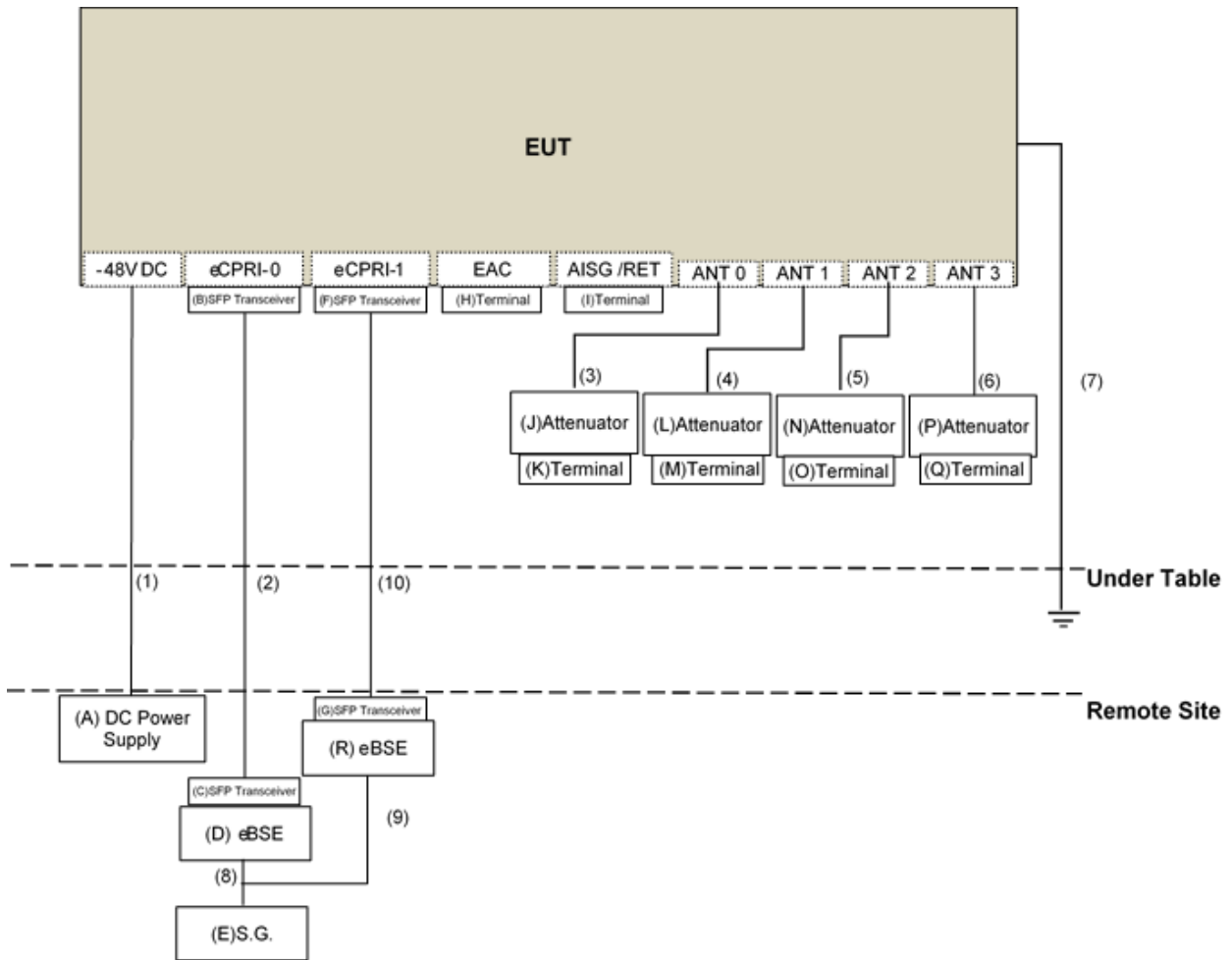
Note:

1. The EUT incorporates a MIMO function.

Band 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

#### Band n29:

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

Test Item	Available Frequency (MHz)	Tested Channel	Channel Bandwidth	Modulation
Output Power	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Frequency Stability	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK
		Ch 144400 (722.0 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK
Emission Bandwidth	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Channel Edge	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK
		Ch 144400 (722.0 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK
Peak To Average Ratio	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Conducted Emission	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK
Radiated Emission Below 1GHz	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK
Radiated Emission Above 1GHz	719.5 to 725.5	Ch 143900 (719.5 MHz), Ch 144500 (722.5 MHz), Ch 145100 (725.5 MHz)	5MHz(60W) Single Carrier	QPSK
		Ch 144400 (722.0 MHz), Ch 144500 (722.5 MHz), Ch 144600 (723.0 MHz)	10MHz(60W) Single Carrier	QPSK
		Ch 143900 (719.5 MHz)+ Ch 145100 (725.5 MHz)	5MHz(30W)+5MHz(30W) CA-NC Non-Contiguous	QPSK

**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 Frequency Stability, Conducted Emission and Radiated Emission were performed under QPSK mode only.

**Band n71:**

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

Test Item	Available Frequency (MHz)	Tested Channel	Channel Bandwidth	Modulation
Output Power	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124400 (622.0MHz), Ch 126900 (634.5MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz), Ch 126900 (634.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Frequency Stability	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK
		Ch 124400 (622.0MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK
		Ch 124900 (624.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK
		Ch 125400 (627.0MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK
Emission Bandwidth	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124400 (622.0MHz), Ch 126900 (634.5MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz), Ch 126900 (634.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Channel Edge	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK
		Ch 124400 (622.0MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK
		Ch 124900 (624.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK
		Ch 125400 (627.0MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK



Test Item	Available Frequency (MHz)	Tested Frequency (MHz)	Channel Bandwidth	Modulation
Peak To Average Ratio	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124400 (622.0MHz), Ch 126900 (634.5MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz), Ch 126900 (634.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK, 16QAM, 64QAM, 256QAM
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK, 16QAM, 64QAM, 256QAM
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK, 16QAM, 64QAM, 256QAM
Conducted Emission	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK
		Ch 124400 (622.0MHz), Ch 126900 (634.5MHz), Ch 129400 (647.0MHz)	10MHz(30W) Single Carrier	QPSK
		Ch 124900 (624.5MHz), Ch 126900 (634.5MHz), Ch 128900 (644.5MHz)	15MHz(30W) Single Carrier	QPSK
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK
Radiated Emission Below 1GHz	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK
Radiated Emission Above 1GHz	619.5 to 649.5	Ch 123900 (619.5MHz), Ch 126900 (634.5MHz), Ch 129900 (649.5MHz)	5MHz(30W) Single Carrier	QPSK
		Ch 125400 (627.0MHz), Ch 126900 (634.5MHz), Ch 128400 (642.0MHz)	20MHz(30W) Single Carrier	QPSK
		Ch 123900 (619.5MHz)+ Ch 129900 (649.5MHz)	5MHz(15W)+5MHz(15W) CA-NC Non-Contiguous	QPSK
		Ch 124900 (624.5MHz)+ Ch 128400 (642.0MHz)	15MHz(12.9W)+20MHz(17.1W) CA Contiguous	QPSK

**NOTE:**

1. 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 Frequency Stability, Conducted Emission 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	Kevin Ko
Modulation characteristics	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Frequency Stability	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Emission Bandwidth	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Band Edge	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Peak To Average Ratio	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Conducted Emission	25deg. C, 63%RH	120Vac, 60Hz	Kevin Ko
Radiated Emission	20deg. C, 70%RH	120Vac, 60Hz	Ryan Du

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 and references:

**Test Standard:**

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 27, Subpart N / H**

**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

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

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

$$\text{ERP} = \text{PMeas} + \text{GT} - 2.15$$

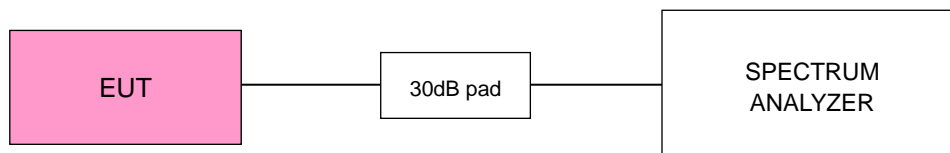
Where ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, e.g., dBm or dBW)

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

### Band n29 Single Carrier

#### 5MHz

Channel Number	Freq. (MHz)	QPSK						PASS /FAIL	
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)		Limit (W/MHz)
		ANT0	ANT1	Total					
143900	719.5	41.45	41.49	44.48	17.00	59.33	857.04	1000.00	PASS
144500	722.5	41.38	41.48	44.44	17.00	59.29	849.18	1000.00	PASS
145100	725.5	41.23	41.43	44.34	17.00	59.19	829.85	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900	719.5	46.90	47.06	49.99	17.00	64.84	3047.89	-	-
144500	722.5	46.82	47.01	49.93	17.00	64.78	3006.08	-	-
145100	725.5	46.95	46.92	49.95	17.00	64.80	3019.95	-	-

#### 10MHz

Channel Number	Freq. (MHz)	QPSK						PASS /FAIL	
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)		Limit (W/MHz)
		ANT0	ANT1	Total					
144400	722	40.04	39.76	42.91	17.00	57.76	597.04	1000.00	PASS
144500	722.5	39.80	39.82	42.82	17.00	57.67	584.79	1000.00	PASS
144600	723	39.98	39.62	42.81	17.00	57.66	583.45	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
144400	722	47.46	47.15	50.32	17.00	65.17	3288.52	-	-
144500	722.5	47.12	47.25	50.20	17.00	65.05	3198.90	-	-
144600	723	47.20	46.97	50.10	17.00	64.95	3126.08	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 5MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
143900	719.5	40.69	40.86	43.79	17.00	58.64	731.14	1000.00	PASS
144500	722.5	40.72	40.76	43.75	17.00	58.60	724.44	1000.00	PASS
145100	725.5	40.68	40.78	43.74	17.00	58.59	722.77	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900	719.5	46.34	46.40	49.38	17.00	64.23	2648.50	-	-
144500	722.5	46.26	46.58	49.43	17.00	64.28	2679.17	-	-
145100	725.5	46.49	46.42	49.47	17.00	64.32	2703.96	-	-

### 10MHz

Channel Number	Freq. (MHz)	16QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
144400	722	39.11	38.98	42.06	17.00	56.91	490.91	1000.00	PASS
144500	722.5	39.09	39.05	42.08	17.00	56.93	493.17	1000.00	PASS
144600	723	39.30	38.80	42.07	17.00	56.92	492.04	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
144400	722	47.17	47.16	50.18	17.00	65.03	3184.20	-	-
144500	722.5	47.28	47.14	50.22	17.00	65.07	3213.66	-	-
144600	723	47.44	46.91	50.19	17.00	65.04	3191.54	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 5MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
143900	719.5	40.53	40.72	43.64	17.00	58.49	706.32	1000.00	PASS
144500	722.5	40.44	40.57	43.52	17.00	58.37	687.07	1000.00	PASS
145100	725.5	40.34	40.45	43.41	17.00	58.26	669.88	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900	719.5	47.06	47.14	50.11	17.00	64.96	3133.29	-	-
144500	722.5	46.88	47.02	49.96	17.00	64.81	3026.91	-	-
145100	725.5	46.86	46.89	49.89	17.00	64.74	2978.52	-	-

### 10MHz

Channel Number	Freq. (MHz)	64QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
144400	722	38.02	37.92	40.98	17.00	55.83	382.82	1000.00	PASS
144500	722.5	38.01	37.92	40.98	17.00	55.83	382.82	1000.00	PASS
144600	723	38.01	38.08	41.06	17.00	55.91	389.94	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
144400	722	47.52	47.59	50.57	17.00	65.42	3483.37	-	-
144500	722.5	47.46	47.51	50.50	17.00	65.35	3427.68	-	-
144600	723	47.71	47.54	50.64	17.00	65.49	3539.97	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 5MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
143900	719.5	40.56	40.51	43.55	17.00	58.40	691.83	1000.00	PASS
144500	722.5	40.37	40.44	43.42	17.00	58.27	671.43	1000.00	PASS
145100	725.5	40.25	40.41	43.34	17.00	58.19	659.17	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900	719.5	46.85	46.89	49.88	17.00	64.73	2971.67	-	-
144500	722.5	46.65	46.79	49.73	17.00	64.58	2870.78	-	-
145100	725.5	46.51	46.71	49.62	17.00	64.47	2798.98	-	-

### 10MHz

Channel Number	Freq. (MHz)	256QAM							PASS /FAIL
		Conducted Average Power(dBm/MHz)			Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	Total					
144400	722	38.18	37.87	41.04	17.00	55.89	388.15	1000.00	PASS
144500	722.5	38.36	37.86	41.13	17.00	55.98	396.28	1000.00	PASS
144600	723	38.17	37.95	41.07	17.00	55.92	390.84	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
144400	722	47.61	47.31	50.47	17.00	65.32	3404.08	-	-
144500	722.5	47.98	47.31	50.67	17.00	65.52	3564.51	-	-
144600	723	47.58	47.49	50.55	17.00	65.40	3467.37	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### Spectrum Plot of Worst Value

**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT** Input: RF    Input Z: 50 Ω    #Atten: 36 dB    PNO: Best Wide    Avg Type: Power (RMS) 1 2 3 4 5 6  
 Coupling: DC    Corr CCorr    μW Path: Standard    Gate: Off    Avg|Hold: 100/100  
 Align: Auto    Freq Ref: Int (S)    IF Gain: Low    Trig: Free Run  
 NFE: Adaptive    Sig Track: Off

Marker

Select Marker  
Marker 2

Marker Frequency  
720.900000 MHz

Settings

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Minimum Peak

Pk-Pk Search

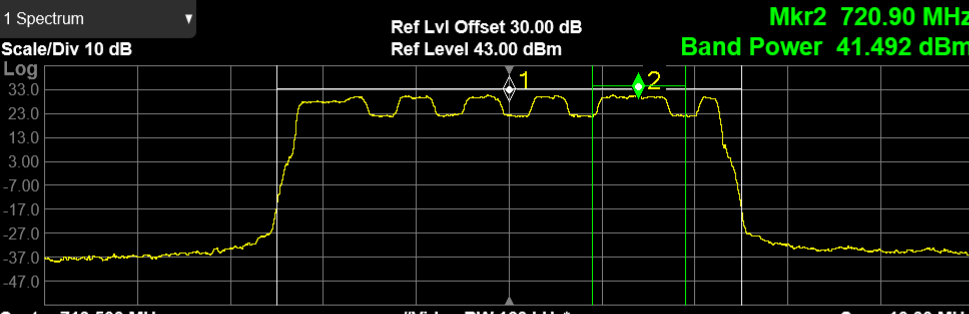
Marker Delta

Mkr→CF

Mkr→Ref Lvl

Continuous Peak Search  
 On  
 Off

1 Spectrum    Ref Lvl Offset 30.00 dB    **Mkr2 720.90 MHz**  
 Scale/Div 10 dB    Ref Level 43.00 dBm    **Band Power 41.492 dBm**



Center 719.500 MHz    #Video BW 160 kHz\*    Span 10.00 MHz  
 #Res BW 51 kHz    Sweep ~17.5 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	
1	N	1	f	719.50 MHz	22.66 dBm	Band Power	5.000 MHz	47.058 dBm
2	N	1	f	720.90 MHz	30.05 dBm	Band Power	1.000 MHz	41.492 dBm
3								
4								
5								
6								

Windows taskbar: Jun 20, 2022 2:15:21 PM



## CA-NC Non-Contiguous

### 5MHz+5MHz

Channel Number	Freq. (MHz)	Conducted Average Power(dBm/MHz)			QPSK				PASS /FAIL
		ANT0	ANT1	Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
143900 + 145100	719.5 + 725.5	38.37	38.73	41.56	17.00	56.41	437.52	1000.00	PASS
		38.28	38.48						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900 + 145100	719.5 + 725.5	44.06	44.35	50.15	17.00	65.00	3162.28	-	-
		43.91	44.18						

Channel Number	Freq. (MHz)	Conducted Average Power(dBm/MHz)			16QAM				PASS /FAIL
		ANT0	ANT1	Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
143900 + 145100	719.5 + 725.5	37.75	37.93	40.85	17.00	55.70	371.54	1000.00	PASS
		37.63	37.78						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900 + 145100	719.5 + 725.5	43.50	43.61	49.48	17.00	64.33	2710.19	-	-
		43.27	43.45						

Channel Number	Freq. (MHz)	Conducted Average Power(dBm/MHz)			64QAM				PASS /FAIL
		ANT0	ANT1	Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
143900 + 145100	719.5 + 725.5	37.52	37.70	40.62	17.00	55.47	352.37	1000.00	PASS
		37.52	37.61						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900 + 145100	719.5 + 725.5	44.08	44.24	50.15	17.00	65.00	3162.28	-	-
		43.99	44.20						

Channel Number	Freq. (MHz)	Conducted Average Power(dBm/MHz)			256QAM				PASS /FAIL
		ANT0	ANT1	Total	Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
143900 + 145100	719.5 + 725.5	37.42	37.50	40.47	17.00	55.32	340.41	1000.00	PASS
		37.42	37.48						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)			Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (dBm)	PASS /FAIL
		ANT0	ANT1	Total					
143900 + 145100	719.5 + 725.5	43.92	43.99	49.88	17.00	64.73	2971.67	-	-
		43.70	43.81						

\*EIRP = Conducted + Directional gain (17dBi)


\*The antenna gain was declared by client.

### Spectrum Plot of Worst Value

**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT** Input: RF    Input Z: 50 Ω    #Atten: 36 dB    PNO: Best Wide    Avg Type: Power (RMS)    1 2 3 4 5 6  
 Coupling: DC    Corr CCorr    μW Path: Standard    Gate: Off    Avg|Hold: 100/100  
 Align: Auto    Freq Ref: Int (S)    IF Gain: Low    Trig: Free Run  
 NFE: Adaptive    Sig Track: Off

1 Spectrum    **Ref Lvl Offset 30.00 dB**    **Mkr3 720.830 MHz**  
**Scale/Div 10 dB**    **Ref Level 43.00 dBm**    **Band Power 38.726 dBm**



Center 722.50 MHz    Video BW 300 kHz\*    Span 22.00 MHz  
 #Res BW 100 kHz    Sweep 1.07 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	
1	N	1	f	722.500 MHz	-28.78 dBm	Band Power	11.00 MHz	47.274 dBm
2	N	1	f	719.500 MHz	22.87 dBm	Band Power	5.000 MHz	44.348 dBm
3	N	1	f	720.830 MHz	30.43 dBm	Band Power	1.000 MHz	38.726 dBm
4	N	1	f	725.500 MHz	22.39 dBm	Band Power	5.000 MHz	44.177 dBm
5	N	1	f	726.900 MHz	29.67 dBm	Band Power	1.000 MHz	38.481 dBm
6								

Settings

Center Frequency  
722.500000 MHz

Span  
22.000000 MHz

Swept Span  
Zero Span

Full Span

Start Freq  
711.500000 MHz

Stop Freq  
733.500000 MHz

AUTO TUNE

CF Step  
2.200000 MHz

Auto  
Man

Freq Offset  
0 Hz

X Axis Scale  
Log  
Lin

Signal Track  
(Span Zoom)

Windows icons: [Start] [Back] [Forward] [Home] [Search] [Help] [Refresh] [Close]

Jun 20, 2022 2:34:12 PM

**Band n71**  
**Single Carrier**

**5MHz**

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	38.74	38.64	38.57	38.65	44.67	17	59.52	895.58	1000.00	PASS
126900	634.5	38.68	38.56	38.65	38.62	44.65	17	59.50	890.91	1000.00	PASS
129900	649.5	38.31	38.24	38.46	38.34	44.36	17	59.21	833.46	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	44.40	44.36	44.17	44.30	50.33	17	65.18	3294.93	-	-
126900	634.5	44.33	44.14	44.37	44.27	50.30	17	65.15	3272.63	-	-
129900	649.5	44.11	43.89	44.08	44.95	50.30	17	65.15	3271.84	-	-

**10MHz**

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	37.36	36.91	36.76	36.90	43.01	17	57.86	610.81	1000.00	PASS
126900	634.5	37.21	36.79	37.29	36.98	43.09	17	57.94	622.66	1000.00	PASS
129400	647	37.08	36.83	37.01	36.75	42.94	17	57.79	601.19	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	44.79	44.31	43.99	44.16	50.34	17	65.19	3306.34	-	-
126900	634.5	44.45	44.14	44.54	44.37	50.40	17	65.25	3348.20	-	-
129400	647	44.24	44.21	44.45	43.99	50.25	17	65.10	3233.07	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 15MHz

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	34.80	34.79	34.72	35.00	40.85	17	55.70	371.48	1000.00	PASS
126900	634.5	35.06	34.67	34.73	34.73	40.82	17	55.67	369.05	1000.00	PASS
128900	644.5	34.79	34.92	35.01	34.84	40.91	17	55.76	376.83	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	44.62	44.55	44.30	44.75	50.58	17	65.43	3490.33	-	-
126900	634.5	44.77	44.21	44.30	44.42	50.45	17	65.30	3389.12	-	-
128900	644.5	44.49	44.51	44.79	44.45	50.58	17	65.43	3493.58	-	-

### 20MHz

Channel Number	Freq. (MHz)	QPSK									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	34.01	33.81	33.94	33.96	39.95	17	54.80	302.08	1000.00	PASS
126900	634.5	33.83	34.01	33.96	33.77	39.91	17	54.76	299.51	1000.00	PASS
128400	642	34.06	33.84	33.98	34.01	39.99	17	54.84	305.06	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	44.69	44.51	44.59	44.61	50.62	17	65.47	3524.58	-	-
126900	634.5	44.55	44.70	44.58	44.51	50.61	17	65.46	3512.51	-	-
128400	642	44.66	44.33	44.48	44.62	50.55	17	65.40	3463.40	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 5MHz

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	37.97	38.00	38.03	38.03	44.03	17	58.88	772.36	1000.00	PASS
126900	634.5	37.99	38.14	38.15	38.18	44.14	17	58.99	791.81	1000.00	PASS
129900	649.5	37.89	37.88	37.91	37.85	43.90	17	58.75	750.44	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	43.63	43.57	43.60	43.79	49.67	17	64.52	2830.70	-	-
126900	634.5	43.64	43.90	43.81	43.72	49.79	17	64.64	2910.17	-	-
129900	649.5	43.56	43.54	43.51	43.56	49.56	17	64.41	2762.58	-	-

### 10MHz

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	36.24	36.29	36.36	36.13	42.28	17	57.13	515.99	1000.00	PASS
126900	634.5	36.44	36.53	36.15	36.27	42.37	17	57.22	527.30	1000.00	PASS
128400	647	36.32	36.59	36.47	36.31	42.44	17	57.29	536.37	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	44.51	44.52	44.60	44.37	50.52	17	65.37	3444.60	-	-
126900	634.5	44.68	44.71	44.37	44.25	50.53	17	65.38	3449.51	-	-
128400	647	44.35	44.61	44.51	44.31	50.47	17	65.32	3401.96	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 15MHz

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	34.82	34.97	34.61	35.10	40.90	17	55.75	375.79	1000.00	PASS
126900	634.5	34.94	34.86	35.07	34.85	40.95	17	55.80	380.32	1000.00	PASS
128900	644.5	35.08	34.99	35.03	34.89	41.02	17	55.87	386.25	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	44.12	44.47	44.11	44.50	50.32	17	65.17	3291.97	-	-
126900	634.5	44.45	44.23	44.52	44.30	50.40	17	65.25	3347.44	-	-
128900	644.5	44.49	44.40	44.40	44.21	50.40	17	65.25	3347.18	-	-

### 20MHz

Channel Number	Freq. (MHz)	16QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	33.76	33.59	33.56	33.99	39.75	17	54.60	288.34	1000.00	PASS
126900	634.5	33.68	34.03	34.12	33.93	39.96	17	54.81	302.95	1000.00	PASS
128400	642	34.03	34.00	33.95	33.67	39.94	17	54.79	300.98	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	44.50	44.36	44.15	44.60	50.43	17	65.28	3370.05	-	-
126900	634.5	44.26	44.83	44.85	44.61	50.66	17	65.51	3560.00	-	-
128400	642	44.67	44.52	44.63	44.27	50.55	17	65.40	3464.07	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 5MHz

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	37.80	37.73	37.72	37.86	43.80	17	58.65	732.57	1000.00	PASS
126900	634.5	37.86	37.90	37.77	37.70	43.83	17	58.68	737.70	1000.00	PASS
129900	649.5	37.55	37.73	37.51	37.41	43.57	17	58.42	695.37	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	44.29	44.31	44.07	44.46	50.31	17	65.16	3277.42	-	-
126900	634.5	44.44	44.42	44.13	44.06	50.29	17	65.14	3263.17	-	-
129900	649.5	43.93	44.26	43.92	43.86	50.02	17	64.87	3066.17	-	-

### 10MHz

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	35.46	35.00	34.93	35.24	41.18	17	56.03	401.16	1000.00	PASS
126900	634.5	35.31	35.20	35.18	35.08	41.21	17	56.06	404.01	1000.00	PASS
128400	647	35.47	35.26	35.20	35.42	41.36	17	56.21	417.78	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	45.06	44.71	44.57	44.87	50.83	17	65.68	3695.69	-	-
126900	634.5	44.80	44.71	44.86	44.80	50.81	17	65.66	3684.20	-	-
128400	647	44.94	44.71	44.75	44.94	50.86	17	65.71	3721.25	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 15MHz

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	33.35	33.27	33.34	33.42	39.37	17	54.22	263.99	1000.00	PASS
126900	634.5	33.39	33.47	33.42	33.44	39.45	17	54.30	269.20	1000.00	PASS
128900	644.5	33.50	33.58	33.56	33.43	39.54	17	54.39	274.69	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	44.46	44.49	44.39	44.55	50.49	17	65.34	3422.54	-	-
126900	634.5	44.49	44.58	44.49	44.37	50.50	17	65.35	3430.63	-	-
128900	644.5	44.49	44.74	44.56	44.39	50.57	17	65.42	3481.36	-	-

### 20MHz

Channel Number	Freq. (MHz)	64QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	32.28	31.99	32.20	32.12	38.17	17	53.02	200.42	1000.00	PASS
126900	634.5	32.00	32.15	31.94	32.13	38.08	17	52.93	196.18	1000.00	PASS
128400	642	32.24	32.16	32.49	32.12	38.28	17	53.13	205.38	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	44.64	44.42	44.67	44.33	50.54	17	65.39	3457.79	-	-
126900	634.5	44.41	44.58	44.29	44.35	50.43	17	65.28	3372.45	-	-
128400	642	44.48	44.66	44.81	44.43	50.62	17	65.47	3522.27	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.



### 5MHz

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	37.70	37.63	37.62	37.89	43.73	17	58.58	721.43	1000.00	PASS
126900	634.5	37.70	37.66	37.78	37.57	43.70	17	58.55	715.94	1000.00	PASS
129900	649.5	37.49	37.59	37.49	37.50	43.54	17	58.39	689.97	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900	619.5	44.04	43.89	44.08	44.20	50.07	17	64.92	3107.79	-	-
126900	634.5	44.01	44.12	44.27	44.06	50.14	17	64.99	3152.61	-	-
129900	649.5	43.93	43.92	43.92	43.81	49.92	17	64.77	2996.32	-	-

### 10MHz

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	35.23	34.98	34.90	35.24	41.11	17	55.96	394.52	1000.00	PASS
126900	634.5	35.18	35.11	35.14	35.02	41.13	17	55.98	396.60	1000.00	PASS
128400	647	35.40	35.40	35.25	35.03	41.29	17	56.14	411.45	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124400	622	44.65	44.43	44.35	44.74	50.57	17	65.42	3480.16	-	-
126900	634.5	44.69	44.54	44.77	44.54	50.66	17	65.51	3553.64	-	-
128400	647	44.91	44.85	44.77	44.52	50.79	17	65.64	3660.68	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### 15MHz

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	33.27	33.28	33.15	33.52	39.33	17	54.18	261.68	1000.00	PASS
126900	634.5	33.35	33.35	33.43	33.20	39.35	17	54.20	263.26	1000.00	PASS
128900	644.5	33.55	33.59	33.82	33.16	39.56	17	54.41	275.87	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
124900	624.5	44.31	44.44	44.14	44.66	50.41	17	65.26	3359.13	-	-
126900	634.5	44.53	44.32	44.44	44.27	50.41	17	65.26	3358.76	-	-
128900	644.5	44.76	44.61	44.93	44.13	50.64	17	65.49	3538.48	-	-

### 20MHz

Channel Number	Freq. (MHz)	256QAM									PASS /FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	32.01	32.13	32.05	31.92	38.05	17	52.90	194.93	1000.00	PASS
126900	634.5	32.37	32.20	32.44	32.01	38.28	17	53.13	205.53	1000.00	PASS
128400	642	32.09	32.41	32.46	31.99	38.26	17	53.11	204.77	1000.00	PASS
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
125400	627	44.59	44.74	44.73	44.71	50.71	17	65.56	3600.41	-	-
126900	634.5	45.16	44.88	44.96	44.55	50.91	17	65.76	3770.19	-	-
128400	642	44.86	45.08	45.17	44.54	50.94	17	65.79	3792.99	-	-

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### Spectrum Plot of Worst Value

**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT** Input: RF    Input Z: 50 Ω    #Atten: 30 dB    PNO: Best Wide    Avg Type: Power (RMS)    1 2 3 4 5 6  
 Coupling: DC    Corr CCorr    μW Path: Standard    Gate: Off    Avg|Hold: 100/100  
 Align: Auto    Freq Ref: Int (S)    IF Gain: Low    Trig: Free Run  
 NFE: Adaptive    Sig Track: Off

Marker

Select Marker  
Marker 2

Marker Frequency  
620.890000 MHz

Settings

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Minimum Peak

Pk-Pk Search

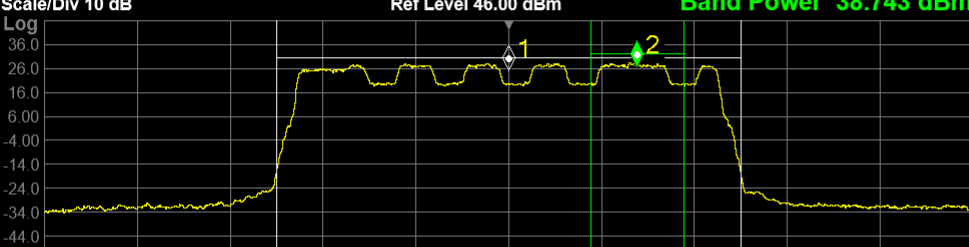
Marker Delta

Mkr→CF

Mkr→Ref Lvl

Continuous Peak Search  
 On  
 Off

1 Spectrum    Ref Lvl Offset 30.00 dB    **Mkr2 620.89 MHz**  
 Scale/Div 10 dB    Ref Level 46.00 dBm    **Band Power 38.743 dBm**



Center 619.50 MHz    #Video BW 160 kHz\*    Span 10.00 MHz  
 #Res BW 51 kHz    Sweep ~17.5 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	
1	N	1	f	619.50 MHz	19.69 dBm	Band Power	5.000 MHz	44.398 dBm
2	N	1	f	620.89 MHz	26.72 dBm	Band Power	1.000 MHz	38.743 dBm
3								
4								
5								
6								

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## CA Contiguous

### 15MHz+20MHz

Channel Number	Freq. (MHz)	QPSK									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900 + 128400	624.5 + 642	31.48	31.30	31.50	31.56	37.48	17	52.33	171.07	1000.00	PASS
		31.41	31.07	31.28	31.39						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
ANT0	ANT1	ANT2	ANT3	Total							
124900 + 128400	624.5 + 642	41.15	41.10	41.14	41.20	50.57	17	65.42	3487.00	-	-
		42.17	41.68	41.79	41.97						

### 15MHz+20MHz

Channel Number	Freq. (MHz)	16QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900 + 128400	624.5 + 642	31.57	31.48	31.74	31.79	37.67	17	52.52	178.54	1000.00	PASS
		31.40	31.31	31.28	31.28						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
ANT0	ANT1	ANT2	ANT3	Total							
124900 + 128400	624.5 + 642	41.02	40.72	41.09	41.31	50.56	17	65.41	3471.81	-	-
		42.07	41.92	41.89	41.96						

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

**15MHz+20MHz**

Channel Number	Freq. (MHz)	64QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900 + 128400	624.5 + 642	29.75	29.72	30.19	29.99	36.01	17	50.86	121.90	1000.00	PASS
		29.96	29.81	29.47	29.50						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
		124900 + 128400	624.5 + 642	40.86	40.83	41.18	41.21	50.58	17	65.43	3490.11
42.20	42.11			41.89	41.85						

**15MHz+20MHz**

Channel Number	Freq. (MHz)	256QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
124900 + 128400	624.5 + 642	29.93	29.64	29.84	29.88	35.84	17	50.69	117.34	1000.00	PASS
		29.64	29.59	29.48	29.75						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
		124900 + 128400	624.5 + 642	41.09	40.62	41.09	41.03	50.72	17	65.57	3605.96
42.42	42.10			42.27	42.45						

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

### Spectrum Plot of Worst Value


**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT** Input: RF    Input Z: 50 Ω    #Atten: 36 dB    PNO: Fast    Avg Type: Power (RMS) 1 2 3 4 5 6  
 Coupling: DC    Corr CCorr    μW Path: Standard    Gate: Off    Avg|Hold: 100/100  
 Align: Auto    Freq Ref: Int (S)    IF Gain: Low    Trig: Free Run  
 NFE: Adaptive    Sig Track: Off

Marker

Select Marker  
Marker 3

1 Spectrum    Ref Lvl Offset 30.00 dB    **Mkr3 621.20 MHz**  
 Scale/Div 10 dB    Ref Level 43.00 dBm    **Band Power 31.791 dBm**



Center 634.50 MHz    Video BW 1.1 MHz\*    Span 70.00 MHz  
 #Res BW 360 kHz    Sweep 1.00 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	
1	N	1	f	634.50 MHz	22.13 dBm	Band Power	35.00 MHz	44.657 dBm
2	N	1	f	624.50 MHz	25.62 dBm	Band Power	15.00 MHz	41.312 dBm
3	N	1	f	621.20 MHz	26.98 dBm	Band Power	1.000 MHz	31.791 dBm
4	N	1	f	642.00 MHz	26.47 dBm	Band Power	20.00 MHz	41.958 dBm
5	N	1	f	641.99 MHz	26.47 dBm	Band Power	1.000 MHz	31.281 dBm
6								

Marker Frequency: 621.200000 MHz

Settings

- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Minimum Peak
- Pk-Pk Search
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl

Continuous Peak Search  
 On  
 Off

## CA-NC Non-Contiguous

### 5MHz+5MHz

Channel Number	Freq. (MHz)	QPSK									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	35.90	35.86	35.97	35.98	41.95	17	56.80	478.45	1000.00	PASS
		35.05	34.95	34.91	34.95						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	41.52	41.58	41.71	41.59	50.17	17	65.02	3180.33	-	-
		40.88	40.69	40.44	40.51						

### 5MHz+5MHz

Channel Number	Freq. (MHz)	16QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	35.25	35.54	35.28	35.46	41.40	17	56.25	422.16	1000.00	PASS
		34.51	34.43	34.40	34.45						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	41.01	41.28	40.91	41.19	49.68	17	64.53	2837.30	-	-
		40.24	39.97	40.13	40.23						

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.

**5MHz+5MHz**

Channel Number	Freq. (MHz)	64QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	35.03	34.96	35.04	35.16	41.07	17	55.92	390.72	1000.00	PASS
		34.37	34.23	34.20	34.24						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	41.56	41.33	41.50	41.65	50.15	17	65.00	3163.75	-	-
		40.90	40.59	40.56	40.71						

**5MHz+5MHz**

Channel Number	Freq. (MHz)	256QAM									PASS / FAIL
		Conducted Average Power(dBm/MHz)					Directional Gain (dBi)	ERP(dBm/MHz)	ERP(W/MHz)	Limit (W/MHz)	
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	34.93	34.84	34.98	34.96	40.95	17	55.80	380.05	1000.00	PASS
		34.36	34.22	34.16	34.23						
Channel Number	Freq. (MHz)	Conducted Average Power(dBm)					Directional Gain (dBi)	ERP(dBm)	ERP(W)	Limit (W)	PASS /FAIL
		ANT0	ANT1	ANT2	ANT3	Total					
123900 + 129900	619.5 + 649.5	41.43	41.29	41.37	41.28	50.04	17	64.89	3086.66	-	-
		40.75	40.55	40.66	40.67						

\*EIRP = Conducted + Directional gain (17dBi)

\*The antenna gain was declared by client.



### Spectrum Plot of Worst Value

**Spectrum Analyzer 1**  
Swept SA

**KEYSIGHT** Input: RF    Input Z: 50 Ω    #Atten: 36 dB    PNO: Best Wide    Avg Type: Power (RMS) 1 2 3 4 5 6  
 Coupling: DC    Corr CCorr    μW Path: Standard    Gate: Off    Avg/Hold: 100/100  
 Align: Auto    Freq Ref: Int (S)    IF Gain: Low    Trig: Free Run  
 NFE: Adaptive    Sig Track: Off

Frequency

Center Frequency  
634.500000 MHz

Span  
70.000000 MHz

Start Freq  
599.500000 MHz

Stop Freq  
669.500000 MHz

AUTO TUNE

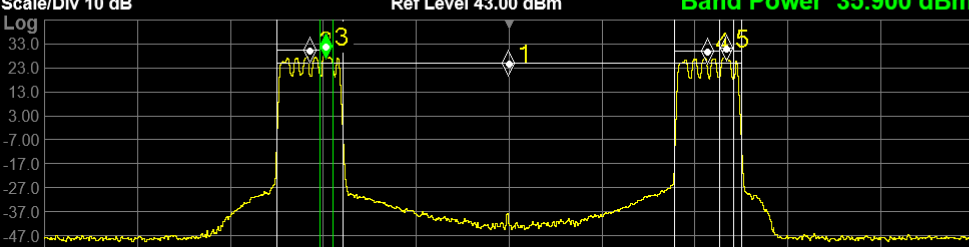
CF Step  
7.000000 MHz

Freq Offset  
0 Hz

X Axis Scale  
Log

Signal Track  
(Span Zoom)

1 Spectrum    Ref Lvl Offset 30.00 dB    **Mkr3 620.75 MHz**  
 Scale/Div 10 dB    Ref Level 43.00 dBm    **Band Power 35.900 dBm**



Center 634.50 MHz    Video BW 300 kHz\*    Span 70.00 MHz  
 #Res BW 100 kHz    Sweep 3.33 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	
1	N	1	f	634.50 MHz	-41.83 dBm	Band Power	35.00 MHz	44.226 dBm
2	N	1	f	619.50 MHz	20.37 dBm	Band Power	5.000 MHz	41.523 dBm
3	N	1	f	620.75 MHz	27.02 dBm	Band Power	1.000 MHz	35.900 dBm
4	N	1	f	649.50 MHz	20.34 dBm	Band Power	5.000 MHz	40.885 dBm
5	N	1	f	650.90 MHz	26.39 dBm	Band Power	1.000 MHz	35.053 dBm
6								

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## 4.2 Modulation characteristics Measurement

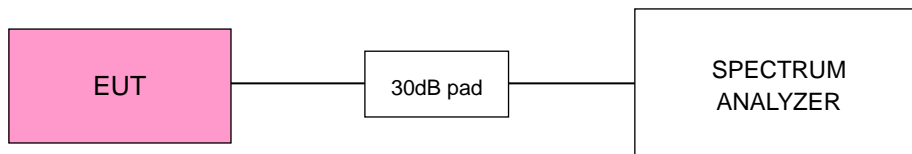
### 4.2.1 Limits of Modulation characteristics

N/A

### 4.2.2 Test Procedure

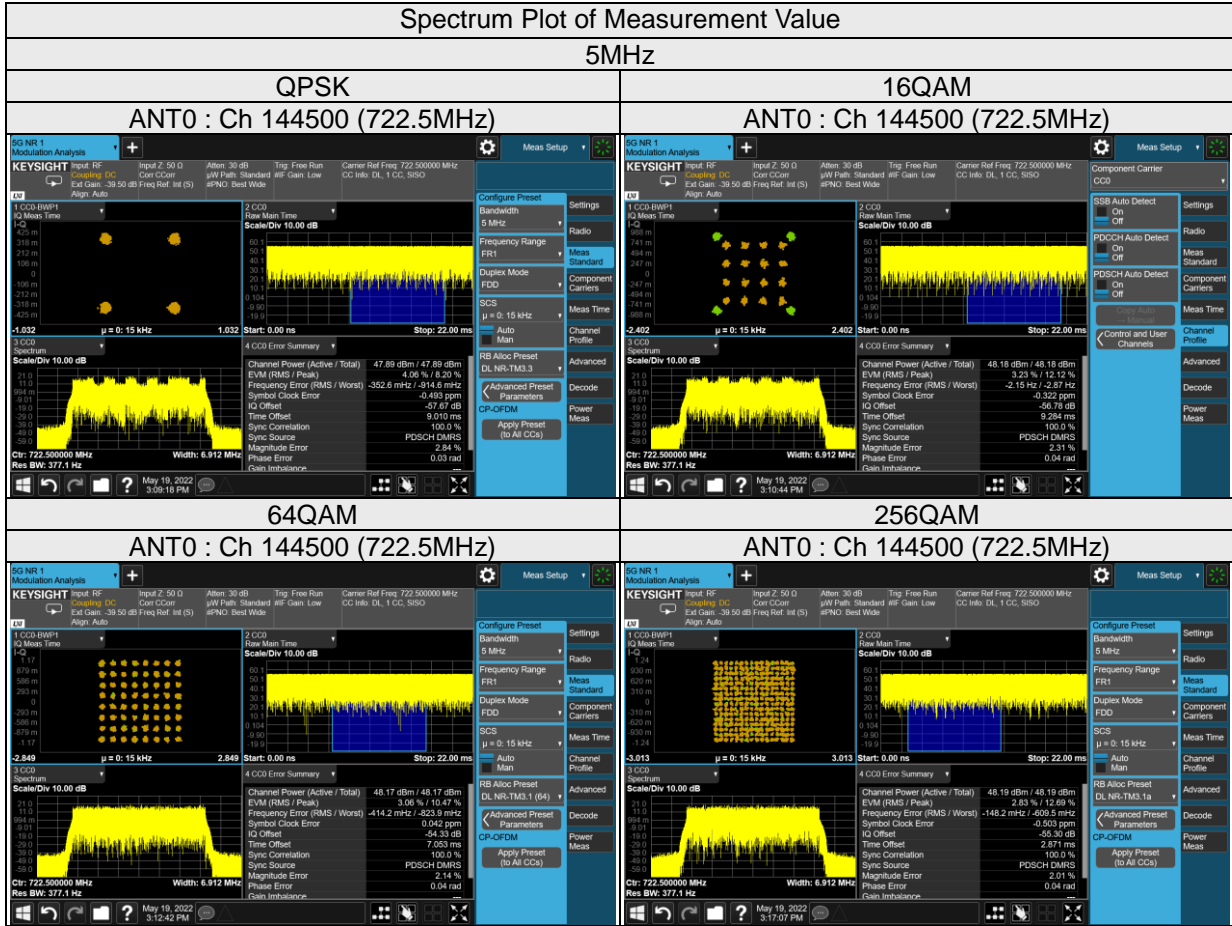
Connect the EUT to spectrum analyzer. The frequency band is set as EUT supported modulation and channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

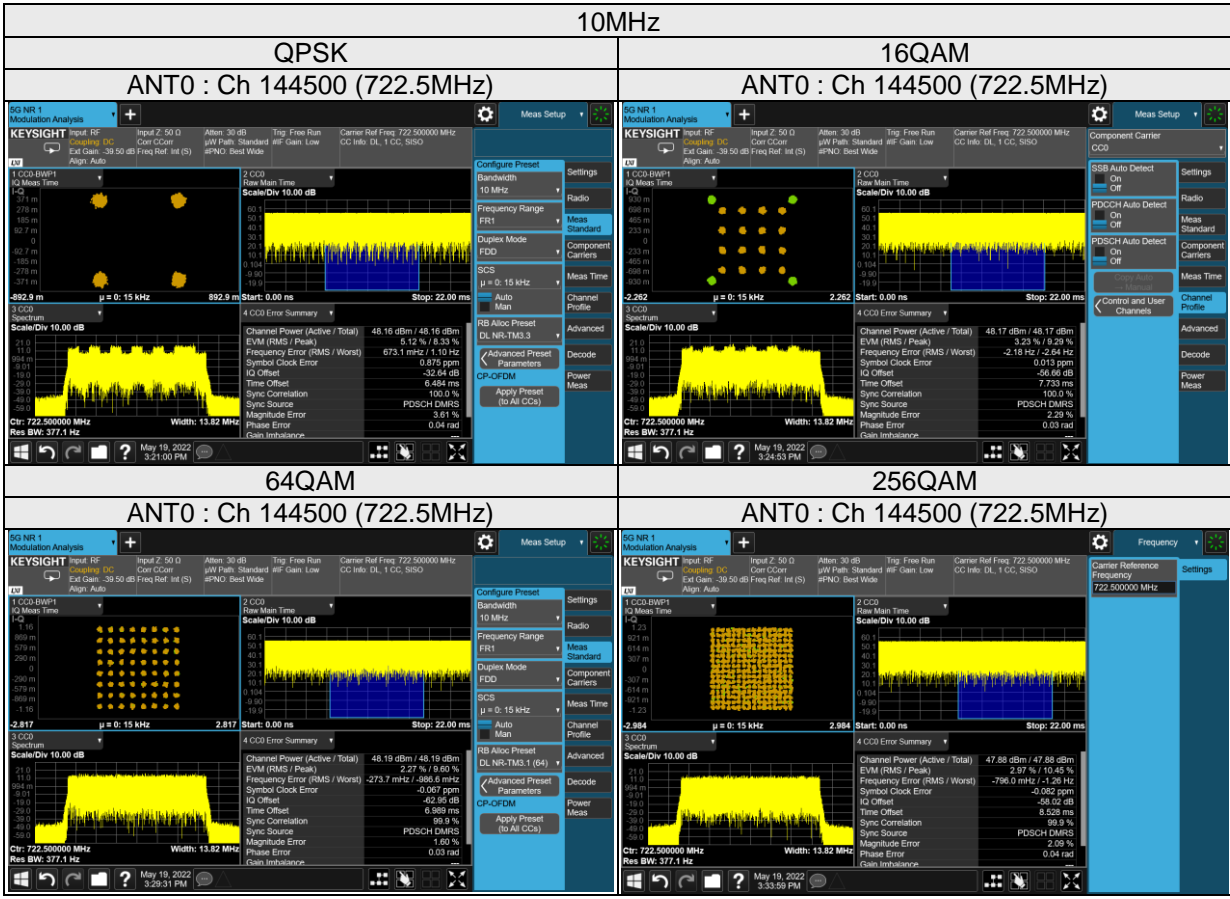
### 4.2.3 Test Setup



## 4.2.4 Test Results

### Band n29





Band n71

