



BUREAU VERITAS

Test Report No.: PSZ-QBJ2501200112RF08



FCC TEST REPORT (PART 96)

Applicant:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

Manufacturer or Supplier:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Product:	Mobile Phone
Brand Name:	POCO
Model Name:	25053PC47G
FCC ID:	2AFZZPC47G
Date of tests:	Feb. 13, 2025-Mar. 26, 2025

The tests have been carried out according to the requirements of the following standard:

47 CFR FCC Part 96

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Date: Mar. 26, 2025	Date: Mar. 26, 2025

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



TABLE OF CONTENTS

RELEASE CONTROL RECORD4

1 SUMMARY OF TEST RESULTS5

1.1 MEASUREMENT UNCERTAINTY 6

1.2 TEST SITE AND INSTRUMENTS 7

2 GENERAL INFORMATION8

2.1 GENERAL DESCRIPTION OF EUT 8

2.2 CONFIGURATION OF SYSTEM UNDER TEST11

2.3 DESCRIPTION OF SUPPORT UNITS12

2.4 TEST ITEM AND TEST CONFIGURATION.....12

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS17

3 TEST TYPES AND RESULTS 18

3.1 MAXIMUM EIRP MEASUREMENT 18

3.1.1 LIMITS OF MAXIMUM EIRP MEASUREMENT 18

3.1.2 TEST SETUP 18

3.1.3 TEST PROCEDURES 19

3.1.4 DEVIATION FROM TEST STANDARD 19

3.1.5 TEST RESULTS 20

3.2 CONDUCTED BAND EDGE 31

3.2.1 LIMITS OF CONDUCTED BAND EDGE MEASUREMENT 31

3.2.2 TEST SETUP 31

3.2.3 TEST INSTRUMENTS 31

3.2.4 TEST PROCEDURE 32

3.2.5 DEVIATION FROM TEST STANDARD 33

3.2.6 TEST RESULTS 33

3.3 FREQUENCY STABILITY MEASUREMENT 34

3.3.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT 34

3.3.2 TEST PROCEDURE 34

3.3.3 TEST SETUP 34

3.3.4 TEST RESULTS 35

3.4 OCCUPIED BANDWIDTH MEASUREMENT 36

3.4.1 OCCUPIED BANDWIDTH MEASUREMENT 36

3.4.2 TEST SETUP 36

3.4.3 TEST INSTRUMENTS 36

3.4.4 TEST PROCEDURE 36

3.4.5 DEVIATION FROM TEST STANDARD 36

3.4.6 TEST RESULT 36

3.5 CONDUCTED SPURIOUS EMISSIONS 37

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT 37

3.5.2 TEST SETUP 37

3.5.3 TEST PROCEDURE 37

3.5.4 TEST RESULTS 37

3.6 RADIATED EMISSION MEASUREMENT 38

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT 38

3.6.2 TEST PROCEDURES 38

3.6.3 DEVIATION FROM TEST STANDARD 38

3.6.4 TEST SET UP 39

3.6.5 TEST RESULTS 41

3.7 PEAK TO AVERAGE RATIO 57



3.7.1	LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT	57
3.7.2	TEST SETUP	57
3.7.3	TEST PROCEDURES	57
3.7.4	TEST RESULTS	57
4	INFORMATION ON THE TESTING LABORATORIES.....	58
5	MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	59
6	APPENDIX	60
	PEAK-TO-AVERAGE RATIO FOR SA.....	60
	PEAK-TO-AVERAGE RATIO(CCDF).....	60
	TEST RESULT	60
	TEST GRAPHS.....	61
	26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA	68
	TEST RESULT	68
	TEST GRAPHS.....	69
	ACLR FOR SA	74
	TEST RESULT	74
	TEST GRAPHS.....	78
	BAND EDGE FOR SA	98
	TEST RESULT	98
	TEST GRAPHS.....	99
	CONDUCTED SPURIOUS EMISSION FOR SA.....	109
	TEST RESULT	109
	TEST GRAPHS.....	111
	FREQUENCY STABILITY FOR SA	124
	TEST RESULT	124



BUREAU
VERITAS

Test Report No.: PSZ-QBJ2501200112RF08

RELEASE CONTROL RECORD

ISSUE NO.	DESCRIPTION	DATE ISSUED
PSZ-QBJ2501200112RF08	Original release	Mar. 26, 2025



1 SUMMARY OF TEST RESULTS

47 CFR FCC PART 96			
FCC CLAUSE	TEST ITEM	RESULT	LAB
2.1046 96.41(b)	Maximum Peak Output Power and Maximum EIRP	Compliance	A
2.1046 96.41(e)	Conducted Band Edge	Compliance	A
2.1049	Occupied Bandwidth	Compliance	A
2.1055	Frequency Stability	Compliance	A
2.1051 96.41(e)	Conducted Spurious Emissions	Compliance	A
2.1053 96.41(e)	Radiated Spurious Emissions	Compliance	A
96.41(g)	Peak-to-Average Power Ratio	Compliance	A

Note:

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



1.1 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	UNCERTAINTY
Maximum Peak Output Power	±2.06dB
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Band Edge Measurements	±4.70dB
Peak to average ratio	±0.76dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Vector Signal Generator	R&S	SMBV100B	102176	Feb.15,24	Feb.14,26
Signal Generator	R&S	SMB100A	182185	Feb.15,24	Feb.14,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.24,24	Feb.23,26
EMI TEST Receiver	R&S	ESW44	101973	Feb.24,24	Feb.23,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.27,24	Feb.26,26
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.22,24	Feb.21,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.26,24	Jun.25,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Sep.30,24	Sep.39,26
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.26,24	Oct.25,25
CABLE	R&S	W12.14	N/A	Apr.26,24	Oct.25,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.26,24	Oct.25,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.26,24	Oct.25,25
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26

NOTE:

1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile Phone	
BRAND NAME*	POCO	
MODEL NAME*	25053PC47G	
NOMINAL VOLTAGE*	5/3.6-20V dc (adapter or host equipment) 3.93Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY*	5G NR	DFT-s-OFDM (Pi/2BPSK,QPSK,16QAM,64QAM,256QAM); CP-OFDM (QPSK,16QAM,64QAM,256QAM);
FREQUENCY RANGE	NR Band n48	3555 MHz ~ 3694.98MHz
EMISSION DESIGNATOR	NR Band n48 Channel Bandwidth: 10MHz	QPSK: 8M57G7D
		16QAM: 8M57W7D
		64QAM: 8M57W7D
		256QAM: 8M54W7D
		Pi/2BPSK: 8M57G7D
	NR Band n48 Channel Bandwidth: 15MHz	QPSK: 12M8G7D
		16QAM: 12M8W7D
		64QAM: 12M8W7D
		256QAM: 12M9W7D
		Pi/2BPSK: 12M8G7D
	NR Band n48 Channel Bandwidth: 20MHz	QPSK: 17M8G7D
		16QAM: 17M9W7D
		64QAM: 17M8W7D
		256QAM: 17M8W7D
		Pi/2BPSK: 17M8G7D
	NR Band n48 Channel Bandwidth: 30MHz	QPSK: 26M7G7D
		16QAM: 26M8W7D
		64QAM: 26M8W7D
		256QAM: 26M8W7D
		Pi/2BPSK: 26M8G7D
NR Band n48 Channel Bandwidth:	QPSK: 35M7G7D	
	16QAM: 35M8W7D	



	40MHz	64QAM: 35M8W7D	
		256QAM: 35M8W7D	
		Pi/2BPSK: 35M7G7D	
MAX. EIRP POWER	NR Band n48 Channel Bandwidth: 10MHz	192.75mW	
	NR Band n48 Channel Bandwidth: 15MHz	196.34mW	
	NR Band n48 Channel Bandwidth: 20MHz	193.20mW	
	NR Band n48 Channel Bandwidth: 30MHz	192.31mW	
	NR Band n48 Channel Bandwidth: 40MHz	199.07mW	
ANTENNA GAIN*	N48	ANT1	-1.48dBi
		ANT2	-1.72dBi
		ANT3	0.98dBi
		ANT7	-1.4dBi
ANTENNA TYPE*	PIFA		
HW VERSION*	13510O10U		
SW VERSION*	Xiaomi HyperOS 2.0		
I/O PORTS*	Refer to user's manual		
DATA CABLE*	USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter		
EXTREME TEMPERATURE*	0°C-40°C		
EXTREME VOLTAGE*	3.8V-4.3V		

NOTE:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides four completed transmitter



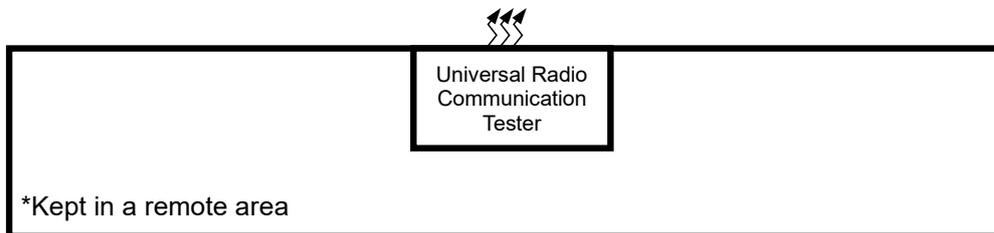
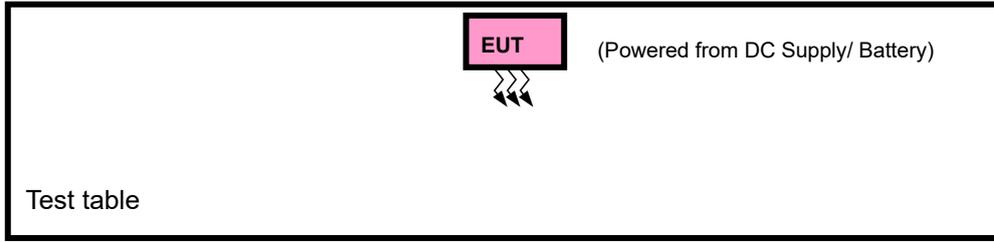
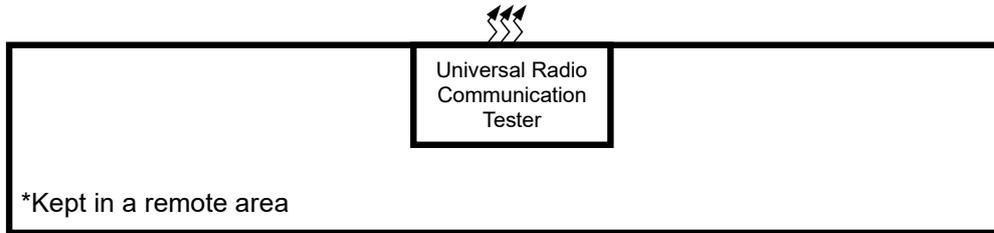
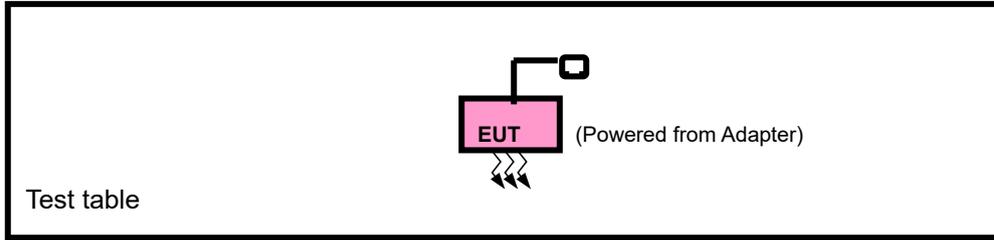
and four receivers.

MODULATION MODE	TX FUNCTION
NR	4TX/4RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.



2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION TEST





2.3 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
1	Laptop	Lenovo	ThinkPad E14	HRSW00024	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter
2	USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with 5G NR link
B	EUT + DC Supply with 5G NR link

5G NR n48 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CP-OFDM CHANNEL	AVAILABLE DFT-S-OFDM CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(DFT-S-OFDM) (INCLUDE CP-OFDM)
A	EIRP	637000 to 646332	637000 to 646332	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		637168 to 646166	637168 to 646166	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset
		637668 to 645666	637668 to 645666	Low, Middle, High	30MHz	QPSK	1RB/ 0RB Offset
		638000 to 645332	638000 to 645332	Low, Middle, High	40MHz	Pi/2BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB/ 0RB Offset
B	FREQUENCY STABILITY	637000 to 646332	637000 to 646332	Low, Middle, High	10MHz	QPSK	Outer_ Full
		637168 to 646166	637168 to 646166	Low, Middle, High	15MHz	QPSK	Outer_ Full
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	Outer_ Full
		637668 to 645666	637668 to 645666	Low, Middle, High	30MHz	QPSK	Outer_ Full



BUREAU VERITAS Test Report No.: **PSZ-QBJ2501200112RF08**

		638000 to 645332	638000 to 645332	Low, Middle, High	40MHz	QPSK	Outer_Full		
A	PEAK TO AVERAGE RATIO	637000 to 646332	637000 to 646332	Low, Middle, High	10MHz	QPSK	1RB Offset Outer_Full		
		637168 to 646166	637168 to 646166	Low, Middle, High	15MHz	QPSK	1RB Offset Outer_Full		
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	1RB Offset Outer_Full		
		637668 to 645666	637668 to 645666	Low, Middle, High	30MHz	QPSK	1RB Offset Outer_Full		
		638000 to 645332	638000 to 645332	Low, Middle, High	40MHz	QPSK	1RB Offset Outer_Full		
		637000 to 646332	637000 to 646332	Middle	10MHz	QPSK	Outer_Full		
A	OCCUPIED BANDWIDTH	637168 to 646166	637168 to 646166	Middle	15MHz	QPSK	Outer_Full		
		637334 to 646000	637334 to 646000	Middle	20MHz	QPSK	Outer_Full		
		637668 to 645666	637668 to 645666	Middle	30MHz	QPSK	Outer_Full		
		638000 to 645332	638000 to 645332	Middle	40MHz	QPSK	Outer_Full		
		637000 to 646332	637000 to 646332	Low	10MHz	QPSK	1RB/ ORB Offset Outer_Full		
A	BAND EDGE	637000 to 646332	637000 to 646332	High	10MHz	QPSK	1RB/ max Offset Outer_Full		
				Low	15MHz	QPSK	1RB/ max Offset Outer_Full		
		637168 to 646166	637168 to 646166	High	15MHz	QPSK	1RB/ max Offset Outer_Full		
				Low	20MHz	QPSK	1RB/ ORB Offset Outer_Full		
		637334 to 646000	637334 to 646000	High	20MHz	QPSK	1RB/ max Offset Outer_Full		
				Low	30MHz	QPSK	1RB/ max Offset Outer_Full		
		637668 to 645666	637668 to 645666	High	30MHz	QPSK	1RB/ max Offset Outer_Full		
				Low	40MHz	QPSK	1RB/ ORB Offset Outer_Full		
		638000 to 645332	638000 to 645332	High	40MHz	QPSK	1RB/ max Offset Outer_Full		
				Low	40MHz	QPSK	1RB/ max Offset Outer_Full		
		A	CONDUCTED EMISSION	637000 to 646332	637000 to 646332	Low, Middle, High	10MHz	QPSK	1RB/ ORB Offset



BUREAU VERITAS Test Report No.: **PSZ-QBJ2501200112RF08**

		637168 to 646166	637168 to 646166	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset	
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset	
		637668 to 645666	637668 to 645666	Low, Middle, High	30MHz	QPSK	1RB/ 0RB Offset	
		638000 to 645332	638000 to 645332	Low, Middle, High	40MHz	QPSK	1RB/ 0RB Offset	
A	RADIATED EMISSION	637000 to 646332	637000 to 646332	Middle	10MHz	QPSK	1RB/ 0RB Offset	
		637168 to 646166	637168 to 646166	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset	
		637334 to 646000	637334 to 646000	Middle	20MHz	QPSK	1RB/ 0RB Offset	
		637668 to 645666	637668 to 645666	Middle	30MHz	QPSK	1RB/ 0RB Offset	
		638000 to 645332	638000 to 645332	Middle,	40MHz	QPSK	1RB/ 0RB Offset	
A	ACLR	637000 to 646332	637000 to 646332	Low	10MHz	QPSK	1RB/ 0RB Offset	
				High	10MHz	QPSK	1RB/ max Offset	
		637168 to 646166	637168 to 646166	Low	15MHz	QPSK	1RB/ max Offset	
				High	15MHz	QPSK	1RB/ max Offset	
		637334 to 646000	637334 to 646000	Low	20MHz	QPSK	1RB/ 0RB Offset	
				High	20MHz	QPSK	1RB/ max Offset	
		637668 to 645666	637668 to 645666	Low	30MHz	QPSK	1RB/ max Offset	
				High	30MHz	QPSK	1RB/ max Offset	
		638000 to 645332	638000 to 645332	Low	40MHz	QPSK	1RB/ 0RB Offset	
				High	40MHz	QPSK	1RB/ max Offset	
								Outer_Full
								Outer_Full
						Outer_Full		
						Outer_Full		
						Outer_Full		
						Outer_Full		
						Outer_Full		

Note:

- 1 This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



BUREAU VERITAS Test Report No.: **PSZ-QBJ2501200112RF08**

2 The test data presented in the report is from SA_n48 test case.



BUREAU
VERITAS

Test Report No.: PSZ-QBJ2501200112RF08

TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
ACLR for SA	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.93V By Adapter	Hanwen Xu



BUREAU VERITAS Test Report No.: PSZ-QBJ2501200112RF08

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 96

KDB 971168 D02 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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



3 TEST TYPES AND RESULTS

3.1 MAXIMUM EIRP MEASUREMENT

3.1.1 LIMITS OF MAXIMUM EIRP MEASUREMENT

Device	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

3.1.2 TEST SETUP



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



3.1.3 TEST PROCEDURES

EIRP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_{T} = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_{C} = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

- a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
- b. Set the EUT to transmit under low, middle, and high channel and record the power level shown on simulator.

Note: The worst case EIRP shown in this section is found with SA operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 10, 15, 20, 40MHz).

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.



3.1.5 TEST RESULTS

N48 (SCS 30 KHZ) ANT1

BW [MHz]	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequency (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	21.37	21.13	21.27
		1	53	21.25	21.22	21.30
		1	104	21.04	21.02	21.03
		50	0	20.49	20.35	20.32
		50	28	21.27	21.34	21.40
		50	56	20.31	20.25	20.23
		100	0	20.39	20.32	20.22
	DFT-s-OFDM QPSK	1	1	21.41	21.24	21.36
		1	53	21.30	21.15	21.32
		1	104	21.08	21.10	21.04
		50	0	20.43	20.37	20.29
		50	28	21.39	21.35	21.27
		50	56	20.27	20.35	20.29
		100	0	20.38	20.31	20.33
	DFT-s-OFDM 16QAM	1	1	20.27	20.30	20.30
	DFT-s-OFDM 64QAM	1	1	18.33	18.35	18.33
	DFT-s-OFDM 256QAM	1	1	16.85	16.80	16.74
	BW [MHz]	MCS Index	Channel		637668	641666
		Frequency (MHz)		3565.02	3624.99	3684.99
30M	DFT-s-OFDM QPSK	1	1	21.28	21.15	21.27
BW [MHz]	MCS Index	Channel		637334	641666	646000
		Frequency (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	21.29	21.07	21.21
BW [MHz]	MCS Index	Channel		637168	641666	646166
		Frequency (MHz)		3557.52	3624.99	3692.49
15M	DFT-s-OFDM QPSK	1	1	21.35	21.21	21.33
BW [MHz]	MCS Index	Channel		637000	641666	646332
		Frequency (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	21.31	21.36	21.18



Test Report No.: PSZ-QBJ2501200112RF08

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



N48 (SCS 30 KHZ)_ANT2

BW [MHz]	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequency (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	22.79	22.41	22.62
		1	53	22.66	22.53	22.57
		1	104	22.54	22.34	22.51
		50	0	21.83	21.76	21.79
		50	28	22.76	22.71	22.75
		50	56	21.78	21.58	21.62
		100	0	21.82	21.63	21.68
	DFT-s-OFDM QPSK	1	1	22.81	22.55	22.67
		1	53	22.67	22.49	22.66
		1	104	22.53	22.33	22.52
		50	0	21.85	21.77	21.81
		50	28	22.77	22.72	22.75
		50	56	21.80	21.61	21.63
		100	0	21.86	21.65	21.73
	DFT-s-OFDM 16QAM	1	1	21.65	21.57	21.59
	DFT-s-OFDM 64QAM	1	1	19.72	19.61	19.65
	DFT-s-OFDM 256QAM	1	1	18.27	18.16	18.21
	BW [MHz]	MCS Index	Channel		637668	641666
Frequency (MHz)			3565.02	3624.99	3684.99	
30M	DFT-s-OFDM QPSK	1	1	22.65	22.51	22.54
BW [MHz]	MCS Index	Channel		637334	641666	646000
		Frequency (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	22.68	22.63	22.61
BW [MHz]	MCS Index	Channel		637168	641666	646166
		Frequency (MHz)		3557.52	3624.99	3692.49
15M	DFT-s-OFDM QPSK	1	1	22.78	22.52	22.59
BW [MHz]	MCS Index	Channel		637000	641666	646332
		Frequency (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	22.64	22.53	22.62



N48 (SCS 30 KHZ)_ANT3

BW [MHz]	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequency (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	22.00	21.63	21.74
		1	53	21.76	21.58	21.62
		1	104	21.62	21.54	21.59
		50	0	21.06	21.15	21.03
		50	28	21.91	21.82	21.75
		50	56	21.10	21.02	21.09
	DFT-s-OFDM QPSK	100	0	21.01	21.11	21.02
		1	1	22.01	21.70	21.77
		1	53	21.81	21.63	21.65
		1	104	21.66	21.63	21.67
		50	0	21.11	20.85	20.77
		50	28	21.92	21.77	21.86
	DFT-s-OFDM 16QAM	50	56	20.96	20.78	20.65
		100	0	20.98	20.87	20.73
	DFT-s-OFDM 64QAM	1	1	21.07	20.87	20.68
	DFT-s-OFDM 256QAM	1	1	19.28	19.09	19.09
	DFT-s-OFDM 256QAM	1	1	17.25	17.15	17.12
	BW [MHz]	MCS Index	Channel		637668	641666
Frequency (MHz)			3565.02	3624.99	3684.99	
30M	DFT-s-OFDM QPSK	1	1	21.86	21.75	21.76
BW [MHz]	MCS Index	Channel		637334	641666	646000
		Frequency (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	21.88	21.66	21.74
BW [MHz]	MCS Index	Channel		637168	641666	646166
		Frequency (MHz)		3557.52	3624.99	3692.49
15M	DFT-s-OFDM QPSK	1	1	21.95	21.70	21.75
BW [MHz]	MCS Index	Channel		637000	641666	646332
		Frequency (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	21.87	21.75	21.81



N48 (SCS 30 KHZ)_ANT7

BW [MHz]	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequency (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	22.29	22.38	22.44
		1	53	22.28	22.44	22.30
		1	104	22.03	22.26	22.25
		50	0	21.48	21.60	21.43
		50	28	22.39	22.23	22.41
		50	56	21.43	21.43	21.31
		100	0	21.48	21.45	21.40
	DFT-s-OFDM QPSK	1	1	22.43	22.49	22.38
		1	53	22.32	22.36	22.30
		1	104	22.08	22.23	22.27
		50	0	21.41	21.60	21.47
		50	28	22.37	22.45	22.41
		50	56	21.46	21.46	21.33
		100	0	21.48	21.54	21.43
	DFT-s-OFDM 16QAM	1	1	21.40	21.43	21.49
	DFT-s-OFDM 64QAM	1	1	19.60	19.67	19.45
	DFT-s-OFDM 256QAM	1	1	17.73	17.78	17.67
BW [MHz]	MCS Index	Channel		637668	641666	645666
		Frequency (MHz)		3565.02	3624.99	3684.99
30M	DFT-s-OFDM QPSK	1	1	22.21	22.34	22.27
BW [MHz]	MCS Index	Channel		637334	641666	646000
		Frequency (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	22.26	22.42	22.36
BW [MHz]	MCS Index	Channel		637168	641666	646166
		Frequency (MHz)		3557.52	3624.99	3692.49
15M	DFT-s-OFDM QPSK	1	1	22.22	22.45	22.31
BW [MHz]	MCS Index	Channel		637000	641666	646332
		Frequency (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	22.32	22.43	22.28



EIRP

PART96_N48 (SCS 30KHZ)_ANT1

BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40M-Pi/2 BPSK	638000	3190	21.37	-1.48	19.89	97.50	23
	641666	3208.33	21.34	-1.48	19.86	96.83	23
	645332	3226.66	21.40	-1.48	19.92	98.17	23
40M-QPSK	638000	3190	21.41	-1.48	19.93	98.40	23
	641666	3208.33	21.35	-1.48	19.87	97.05	23
	645332	3226.66	21.36	-1.48	19.88	97.27	23
40M- 16QAM	638000	3190	20.27	-1.48	18.79	75.68	23
	641666	3208.33	20.30	-1.48	18.82	76.21	23
	645332	3226.66	20.30	-1.48	18.82	76.21	23
40M- 64QAM	638000	3190	18.33	-1.48	16.85	48.42	23
	641666	3208.33	18.35	-1.48	16.87	48.64	23
	645332	3226.66	18.33	-1.48	16.85	48.42	23
40M- 256QAM	638000	3190	16.85	-1.48	15.37	34.43	23
	641666	3208.33	16.80	-1.48	15.32	34.04	23
	645332	3226.66	16.74	-1.48	15.26	33.57	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
30M-QPSK	637668	3565.02	21.28	-1.48	19.80	95.50	23
	641666	3624.99	21.15	-1.48	19.67	92.68	23
	645666	3684.99	21.27	-1.48	19.79	95.28	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-QPSK	637334	3560.01	21.29	-1.48	19.81	95.72	23
	641666	3624.99	21.07	-1.48	19.59	90.99	23
	646000	3690	21.21	-1.48	19.73	93.97	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	637168	3557.52	21.35	-1.48	19.87	97.05	23
	641666	3624.99	21.21	-1.48	19.73	93.97	23
	646166	3692.49	21.33	-1.48	19.85	96.61	23



BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
10M-QPSK	637000	3555	21.31	-1.48	19.83	96.16	23
	641666	3624.99	21.36	-1.48	19.88	97.27	23
	646332	3694.98	21.18	-1.48	19.70	93.33	23



BUREAU VERITAS Test Report No.: PSZ-QBJ2501200112RF08

PART96_N48 (SCS 30KHZ)_ANT2

BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40M-Pi/2 BPSK	638000	3190	22.79	-1.72	21.07	127.94	23
	641666	3208.33	22.71	-1.72	20.99	125.60	23
	645332	3226.66	22.75	-1.72	21.03	126.77	23
40M-QPSK	638000	3190	22.81	-1.72	21.09	128.53	23
	641666	3208.33	22.72	-1.72	21.00	125.89	23
	645332	3226.66	22.75	-1.72	21.03	126.77	23
40M- 16QAM	638000	3190	21.65	-1.72	19.93	98.40	23
	641666	3208.33	21.57	-1.72	19.85	96.61	23
	645332	3226.66	21.59	-1.72	19.87	97.05	23
40M- 64QAM	638000	3190	19.72	-1.72	18.00	63.10	23
	641666	3208.33	19.61	-1.72	17.89	61.52	23
	645332	3226.66	19.65	-1.72	17.93	62.09	23
40M- 256QAM	638000	3190	18.27	-1.72	16.55	45.19	23
	641666	3208.33	18.16	-1.72	16.44	44.06	23
	645332	3226.66	18.21	-1.72	16.49	44.57	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
30M-QPSK	637668	3565.02	22.65	-1.72	20.93	123.88	23
	641666	3624.99	22.51	-1.72	20.79	119.95	23
	645666	3684.99	22.54	-1.72	20.82	120.78	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-QPSK	637334	3560.01	22.68	-1.72	20.96	124.74	23
	641666	3624.99	22.63	-1.72	20.91	123.31	23
	646000	3690	22.61	-1.72	20.89	122.74	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	637168	3557.52	22.78	-1.72	21.06	127.64	23
	641666	3624.99	22.52	-1.72	20.80	120.23	23
	646166	3692.49	22.59	-1.72	20.87	122.18	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
10M-QPSK	637000	3555	22.64	-1.72	20.92	123.59	23
	641666	3624.99	22.53	-1.72	20.81	120.50	23

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



	646332	3694.98	22.62	-1.72	20.90	123.03	23
--	--------	---------	-------	-------	-------	--------	----

PART96_N48 (SCS 30KHZ)_ANT3

BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40M-Pi/2 BPSK	638000	3190	22.00	0.98	22.98	198.61	23
	641666	3208.33	21.82	0.98	22.80	190.55	23
	645332	3226.66	21.75	0.98	22.73	187.50	23
40M-QPSK	638000	3190	22.01	0.98	22.99	199.07	23
	641666	3208.33	21.77	0.98	22.75	188.36	23
	645332	3226.66	21.86	0.98	22.84	192.31	23
40M-16QAM	638000	3190	21.07	0.98	22.05	160.32	23
	641666	3208.33	20.87	0.98	21.85	153.11	23
	645332	3226.66	20.68	0.98	21.66	146.55	23
40M-64QAM	638000	3190	19.28	0.98	20.26	106.17	23
	641666	3208.33	19.09	0.98	20.07	101.62	23
	645332	3226.66	19.09	0.98	20.07	101.62	23
40M-256QAM	638000	3190	17.25	0.98	18.23	66.53	23
	641666	3208.33	17.15	0.98	18.13	65.01	23
	645332	3226.66	17.12	0.98	18.10	64.57	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
30M-QPSK	637668	3565.02	21.86	0.98	22.84	192.31	23
	641666	3624.99	21.75	0.98	22.73	187.50	23
	645666	3684.99	21.76	0.98	22.74	187.93	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-QPSK	637334	3560.01	21.88	0.98	22.86	193.20	23
	641666	3624.99	21.66	0.98	22.64	183.65	23
	646000	3690	21.74	0.98	22.72	187.07	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	637168	3557.52	21.95	0.98	22.93	196.34	23
	641666	3624.99	21.70	0.98	22.68	185.35	23
	646166	3692.49	21.75	0.98	22.73	187.50	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)



			(dBm)				
10M-QPSK	637000	3555	21.87	0.98	22.85	192.75	23
	641666	3624.99	21.75	0.98	22.73	187.50	23
	646332	3694.98	21.81	0.98	22.79	190.11	23

PART96_N48 (SCS 30KHZ)_ANT7

BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40M-Pi/2 BPSK	638000	3190	22.39	-1.4	20.99	125.60	23
	641666	3208.33	22.44	-1.4	21.04	127.06	23
	645332	3226.66	22.44	-1.4	21.04	127.06	23
40M-QPSK	638000	3190	22.43	-1.4	21.03	126.77	23
	641666	3208.33	22.49	-1.4	21.09	128.53	23
	645332	3226.66	22.41	-1.4	21.01	126.18	23
40M- 16QAM	638000	3190	21.40	-1.4	20.00	100.00	23
	641666	3208.33	21.43	-1.4	20.03	100.69	23
	645332	3226.66	21.49	-1.4	20.09	102.09	23
40M- 64QAM	638000	3190	19.60	-1.4	18.20	66.07	23
	641666	3208.33	19.67	-1.4	18.27	67.14	23
	645332	3226.66	19.45	-1.4	18.05	63.83	23
40M- 256QAM	638000	3190	17.73	-1.4	16.33	42.95	23
	641666	3208.33	17.78	-1.4	16.38	43.45	23
	645332	3226.66	17.67	-1.4	16.27	42.36	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
30M-QPSK	637668	3565.02	22.21	-1.4	20.81	120.50	23
	641666	3624.99	22.34	-1.4	20.94	124.17	23
	645666	3684.99	22.27	-1.4	20.87	122.18	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-QPSK	637334	3560.01	22.26	-1.4	20.86	121.90	23
	641666	3624.99	22.42	-1.4	21.02	126.47	23
	646000	3690	22.36	-1.4	20.96	124.74	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	637168	3557.52	22.22	-1.4	20.82	120.78	23
	641666	3624.99	22.45	-1.4	21.05	127.35	23

**BUREAU VERITAS Test Report No.: PSZ-QBJ2501200112RF08**

	646166	3692.49	22.31	-1.4	20.91	123.31	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
10M-QPSK	637000	3555	22.32	-1.4	20.92	123.59	23
	641666	3624.99	22.43	-1.4	21.03	126.77	23
	646332	3694.98	22.28	-1.4	20.88	122.46	23

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

Note: The worst case EIRP shown in this section is found with NR operating onty using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 10, 15, 20,40MHz).

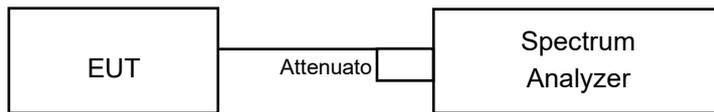


3.2 CONDUCTED BAND EDGE

3.2.1 LIMITS OF CONDUCTED BAND EDGE MEASUREMENT

The conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

3.2.2 TEST SETUP



3.2.3 TEST INSTRUMENTS

Refer to section 1.2 to get information about the above instrument.



3.2.4 TEST PROCEDURE

For the Conducted Band Edge

- a. Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- b. Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).
- c. Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- d. Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- e. Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- f. Select the average power (RMS) display detector.
- g. Set the number of measurement points to ≥ 1001 .
- h. Use auto-coupled sweep time.
- i. Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- j. The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- k. Record the max trace plot into the test report.

For Adjacent Channel Leakage Ratio (ACLR) measurement

- a. The Adjacent Channel Leakage Ratio (ACLR) is the ratio of the average power in the assigned aggregated channel bandwidth to the average power over the equivalent adjacent channel bandwidth.
- b. The option ACLR of spectrum analyzer is used and measures the ACLR ratio by setting equivalent channel bandwidth.
- c. The measured ACLR ratio shall be at least 30 dB.



3.2.5 DEVIATION FROM TEST STANDARD

No deviation.

3.2.6 TEST RESULTS

Please Refer to Appendix Of this test report.



3.3 FREQUENCY STABILITY MEASUREMENT

3.3.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

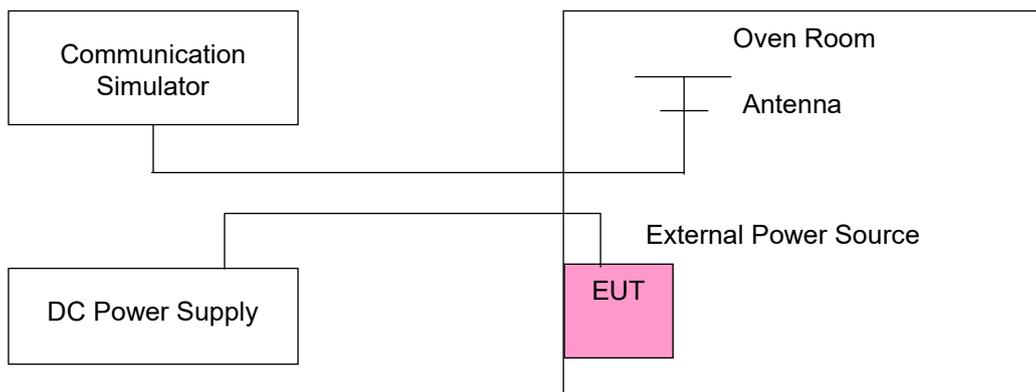
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band.

3.3.2 TEST PROCEDURE

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

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.3.3 TEST SETUP





BUREAU VERITAS Test Report No.: **PSZ-QBJ2501200112RF08**

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.7V); VH = High voltage(4.2V);
NT = Normal temperature (25°C)

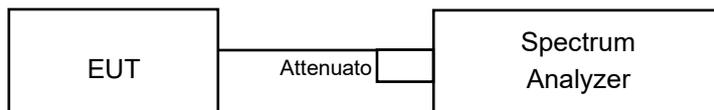


3.4 OCCUPIED BANDWIDTH MEASUREMENT

3.4.1 OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 1.2 to get information of above instrument.

3.4.4 TEST PROCEDURE

- a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 TEST RESULT

Please Refer to Appendix Of this test report.

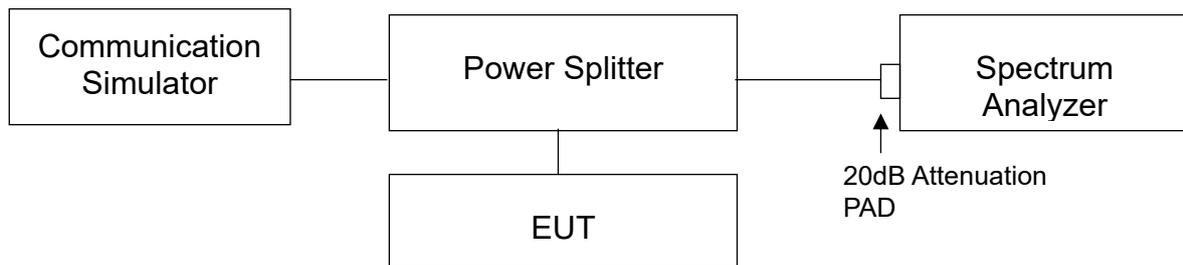


3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.5.2 TEST SETUP



3.5.3 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9 kHz to 40 GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.4 TEST RESULTS

Please Refer to Appendix Of this test report.



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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 spectrum reading the maximum power value.
- b. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- c. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15dBi.$

Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

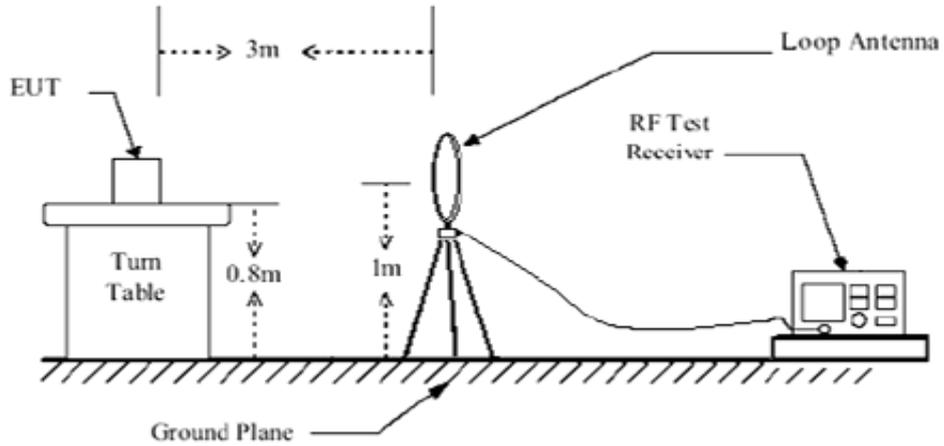
3.6.3 DEVIATION FROM TEST STANDARD

No deviation.

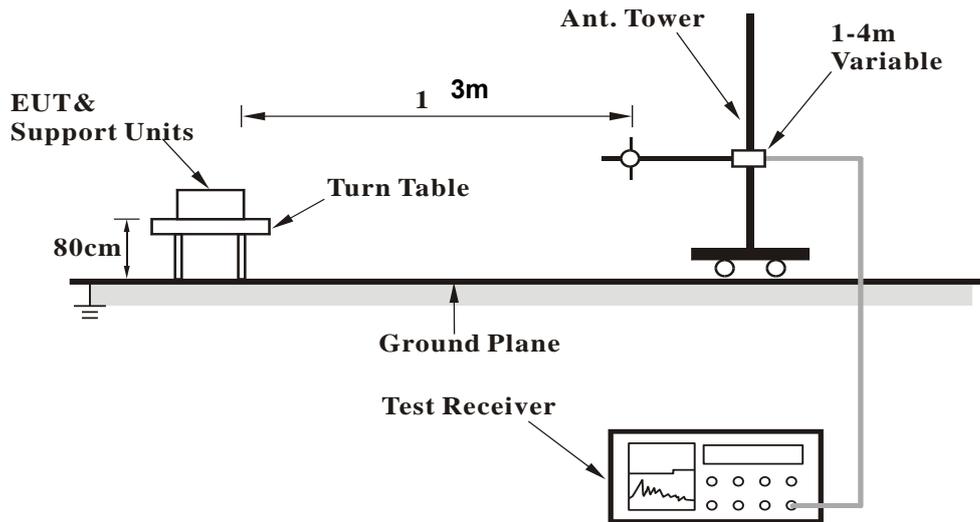


3.6.4 TEST SET UP

< Frequency Range below 30MHz >

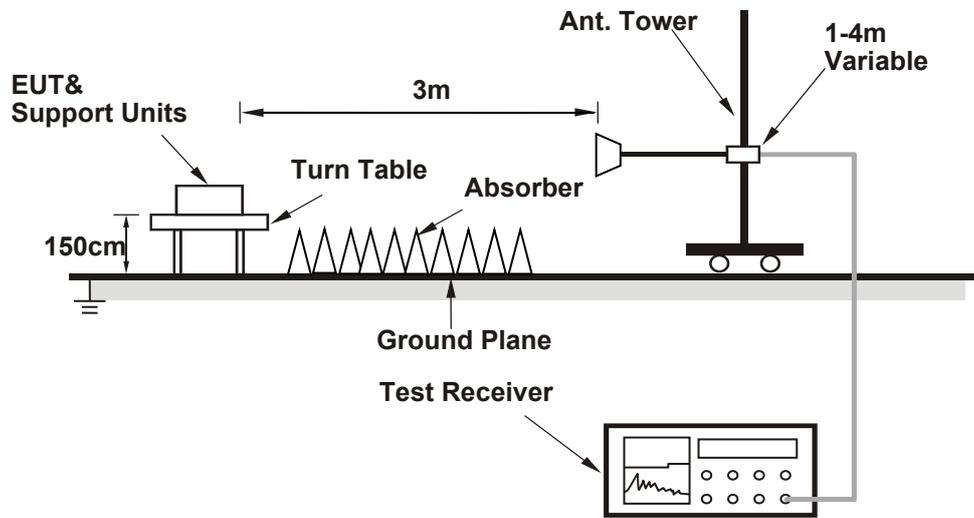


<Frequency Range below 1GHz>





<Frequency Range above 1GHz>



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



3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

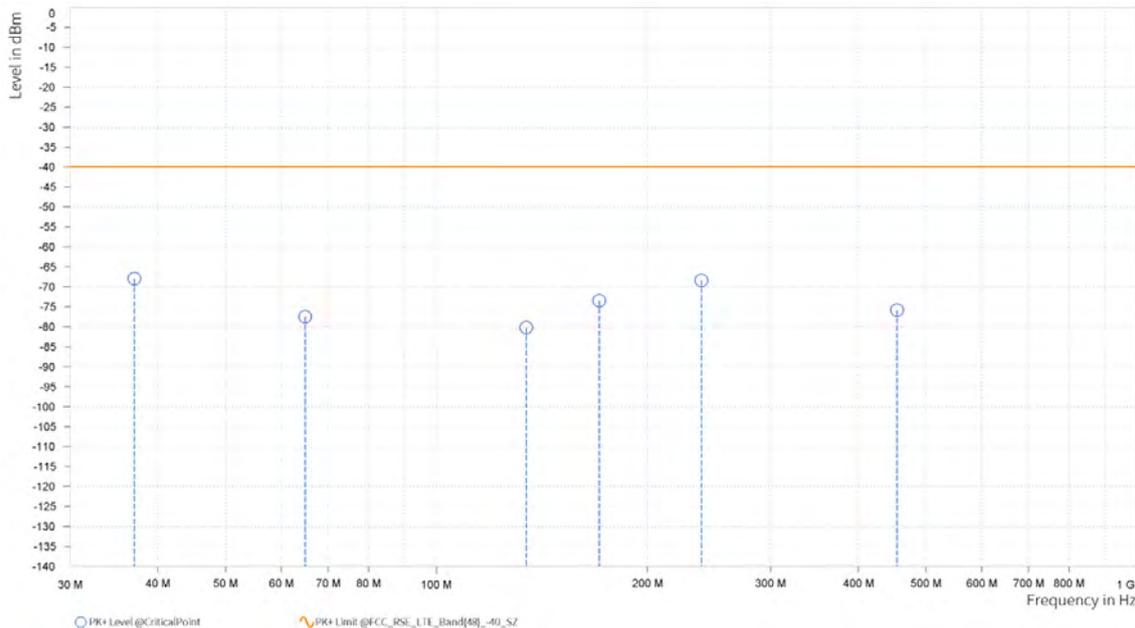
:

BELOW 1GHz WORST-CASE DATA

CHANNEL BANDWIDTH	MHz / QPSK	MODE	TX channel
FREQUENCY RANGE	30 MHz – 1GHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.050	-67.89	-40.00	27.89	0.11	H	163	1.00
1	64.950	-77.43	-40.00	37.43	-6.23	H	199.4	2.00
1	134.350	-80.17	-40.00	40.17	-13.63	H	196.6	1.00
1	170.700	-73.40	-40.00	33.40	-9.92	H	132.4	2.00
1	238.900	-68.35	-40.00	28.35	-0.15	H	228.8	1.00
2	454.217	-75.82	-40.00	35.82	0.79	H	88.1	2.00

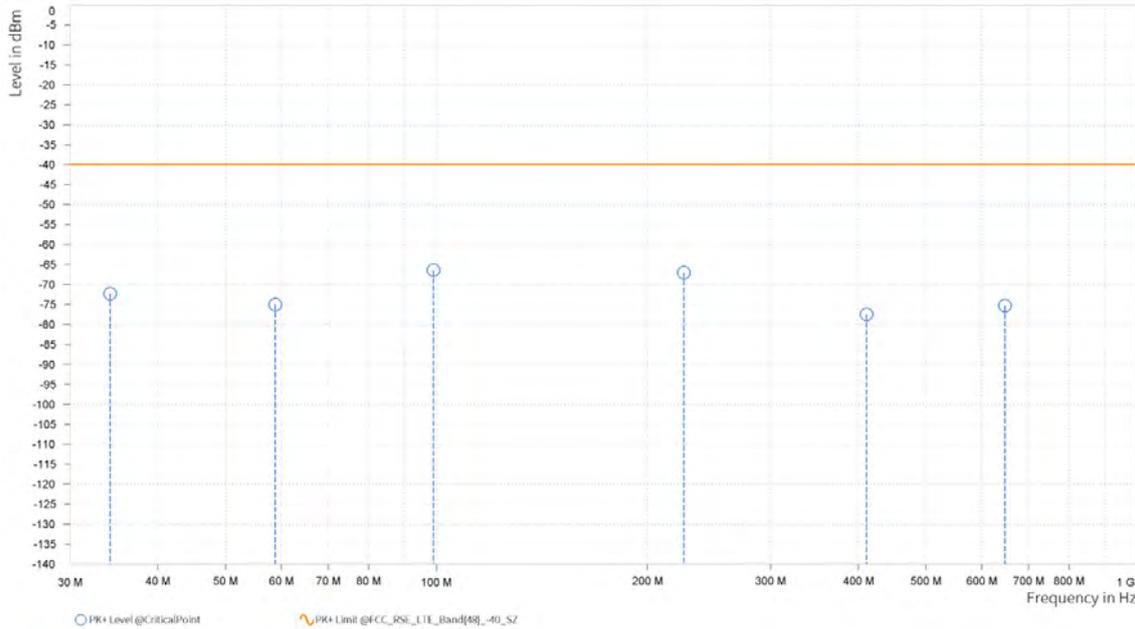




CHANNEL BANDWIDTH	MHz / QPSK	MODE	TX channel
FREQUENCY RANGE	30 MHz – 1GHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	34.200	-72.24	-40.00	32.24	-10.08	V	262.7	2.00
1	58.850	-75.01	-40.00	35.01	-3.93	V	4.9	1.00
1	99.000	-66.44	-40.00	26.44	5.05	V	228.8	1.00
1	225.450	-67.00	-40.00	27.00	-6.65	V	89.4	2.00
1	411.000	-77.44	-40.00	37.44	-0.38	V	359.1	1.00
2	647.771	-75.27	-40.00	35.27	-0.42	V	182.6	2.00





ABOVE 1GHz

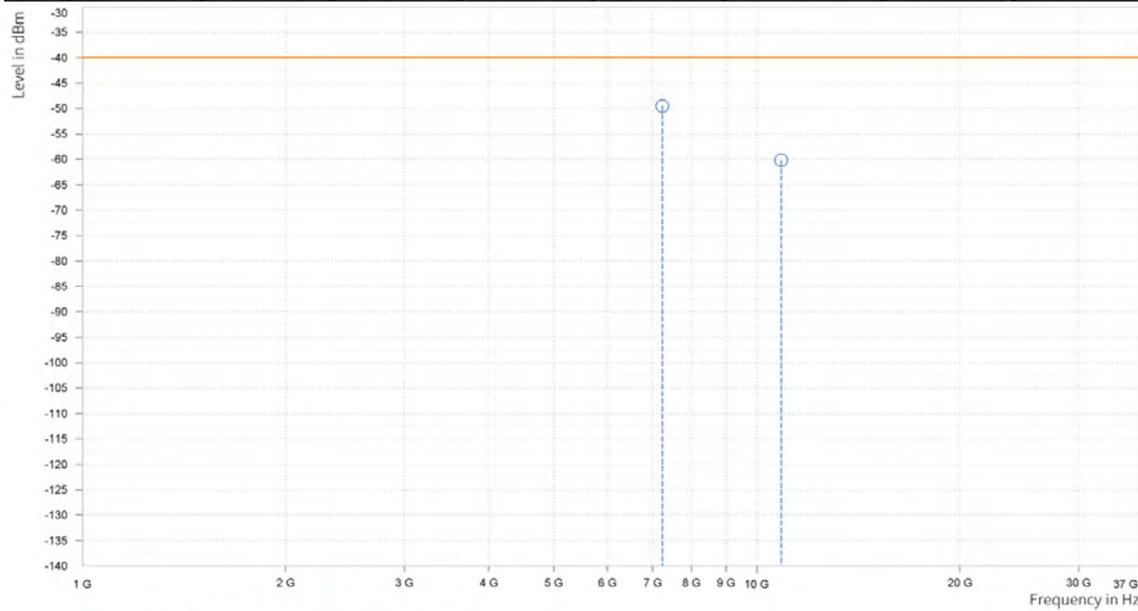
Note:

- 1 For higher frequency, the emission is too low to be detected.
- 2 For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,240.980	-49.52	-40.00	9.52	24.57	H	148.6	1.00
6	10,861.470	-60.17	-40.00	20.17	11.56	H	359.1	1.00

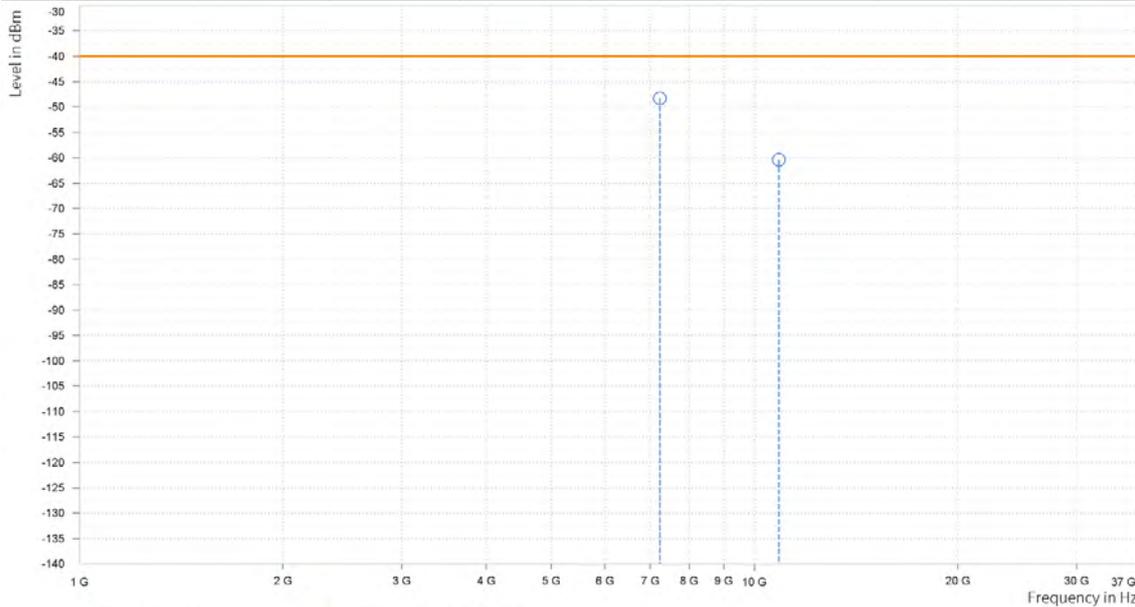




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,240.980	-48.30	-40.00	8.30	24.57	V	359	2.00
6	10,861.470	-60.41	-40.00	20.41	11.56	V	201.3	1.00



○ PK+ Level @CriticalPoint ○ PK+ Limit @ECC_RSE_LTE_Band(48) -40_SZ

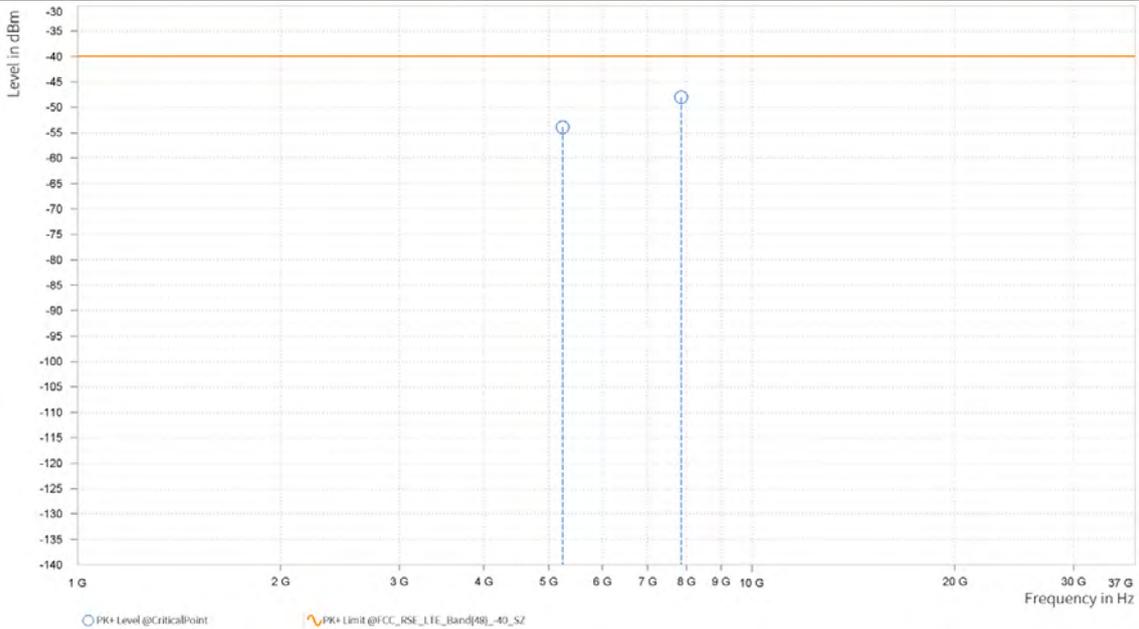


BUREAU VERITAS Test Report No.: PSZ-QBJ2501200112RF08

CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	5,236.500	-53.89	-40.00	13.89	20.66	H	181	1.00
5	7,854.720	-48.03	-40.00	8.03	25.63	H	1	1.00

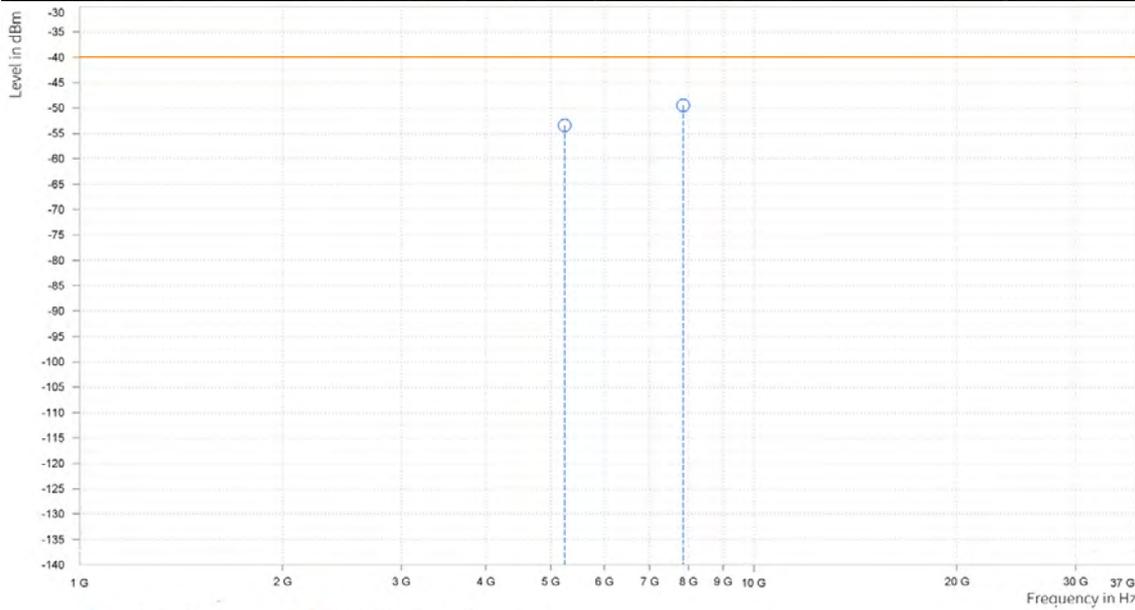




CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	5,236.500	-53.43	-40.00	13.43	20.66	V	1	1.00
5	7,854.720	-49.50	-40.00	9.50	25.63	V	1	1.00

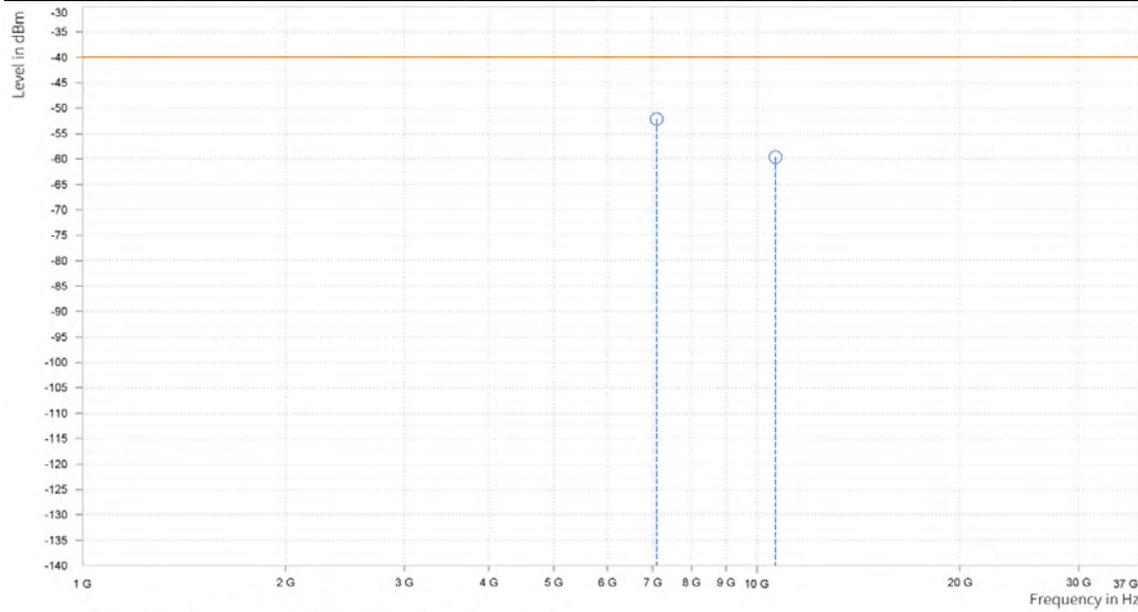




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 637334
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.020	-52.10	-40.00	12.10	24.36	H	1	1.00
6	10,653.030	-59.61	-40.00	19.61	11.67	H	75	2.00



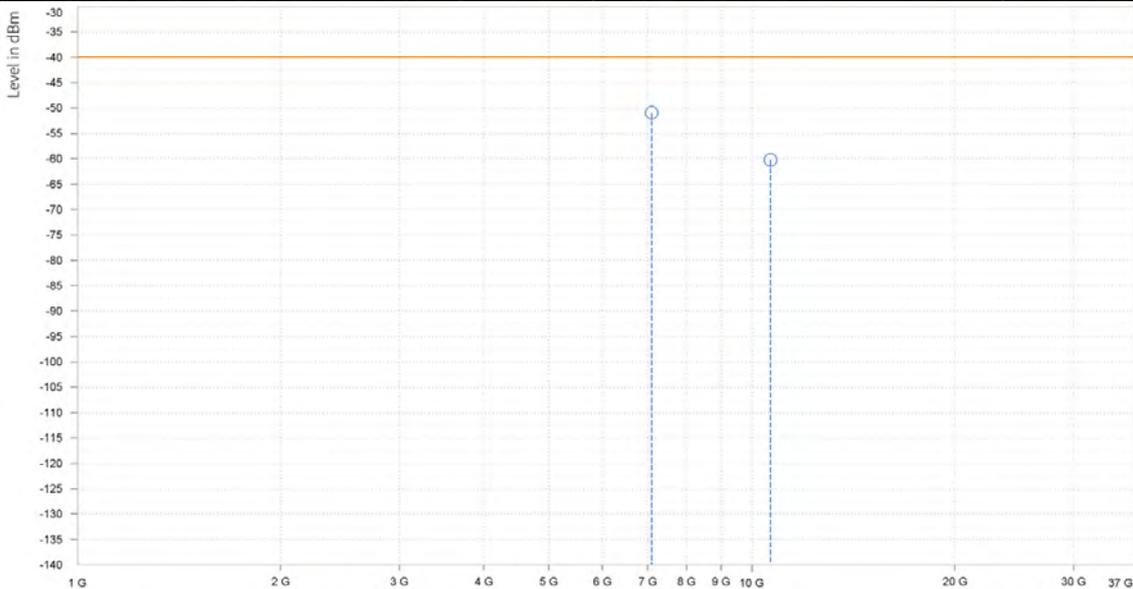
○ PK+ Level @CriticalPoint ○ PK+ Limit @FCC_RSE_LTE_Band48_40_SZ



CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 637334
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.020	-50.96	-40.00	10.96	24.36	V	72.6	2.00
6	10,653.030	-60.26	-40.00	20.26	11.67	V	1.8	2.00

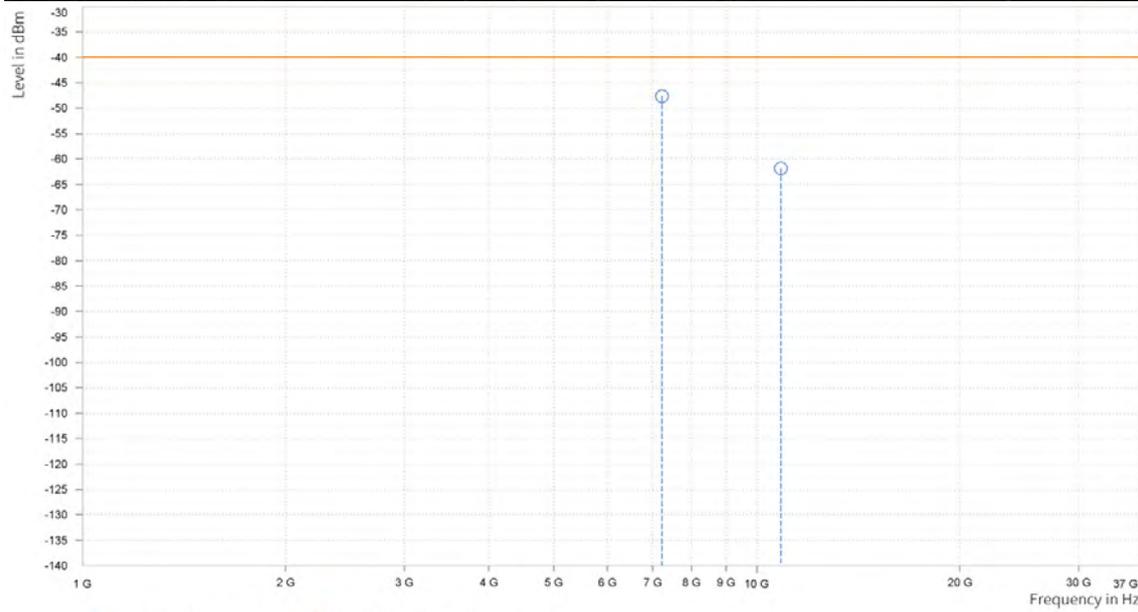




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,231.980	-47.63	-40.00	7.63	24.53	H	359	2.00
6	10,847.970	-61.80	-40.00	21.80	11.50	H	1	1.00

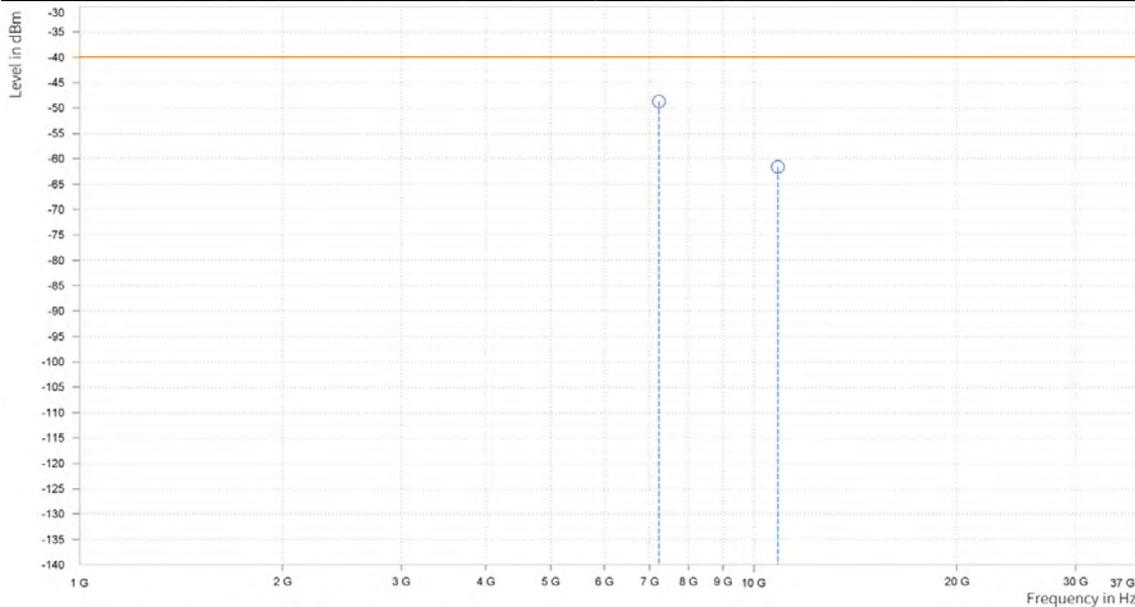




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,231.980	-48.72	-40.00	8.72	24.53	V	1	1.00
6	10,847.970	-61.61	-40.00	21.61	11.50	V	1	2.00

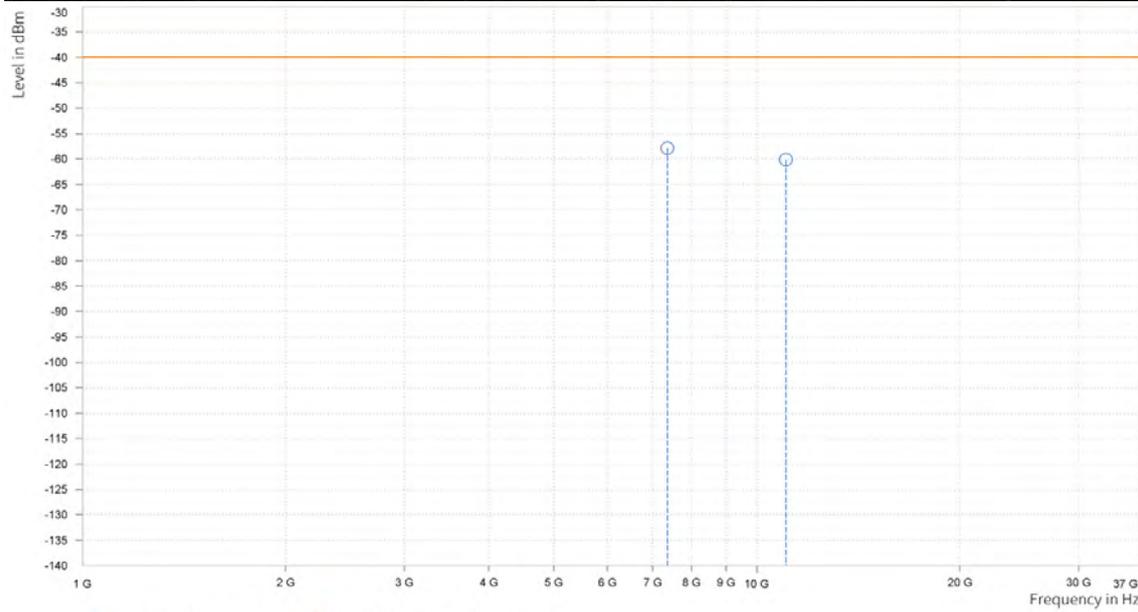




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 646000
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,362.000	-57.82	-40.00	17.82	17.07	H	271.8	1.00
6	11,043.000	-60.14	-40.00	20.14	11.97	H	1	1.00



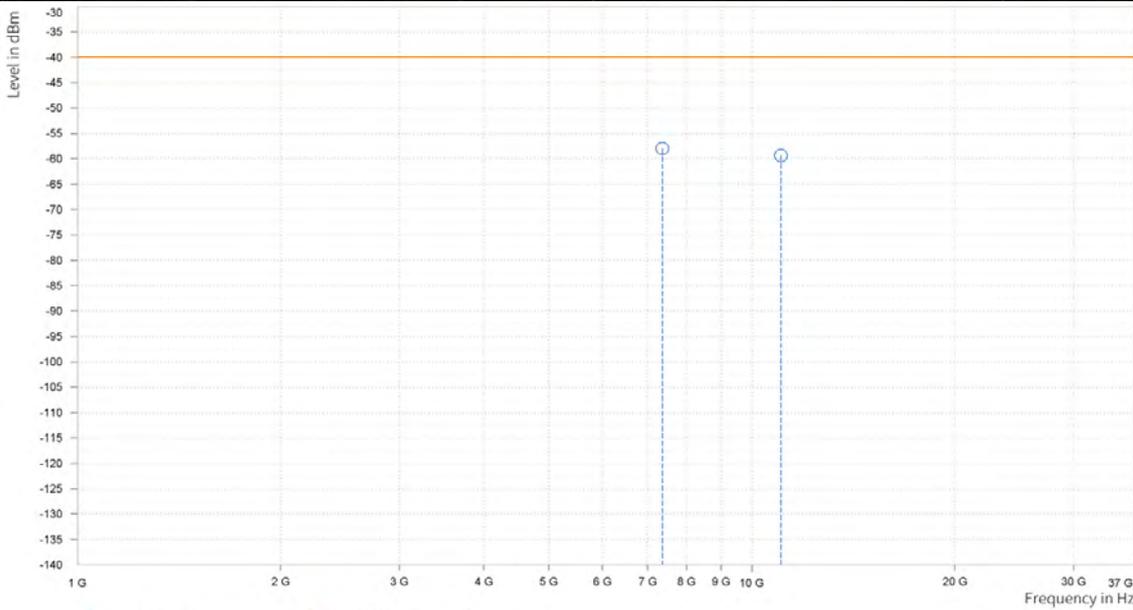
○ PK+ Level @CriticalPoint ○ PK+ Limit @FCC_RSE_LTE_Band48_40_SZ



CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 646000
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,362.000	-57.99	-40.00	17.99	17.07	V	85.8	2.00
6	11,043.000	-59.37	-40.00	19.37	11.97	V	71.5	2.00

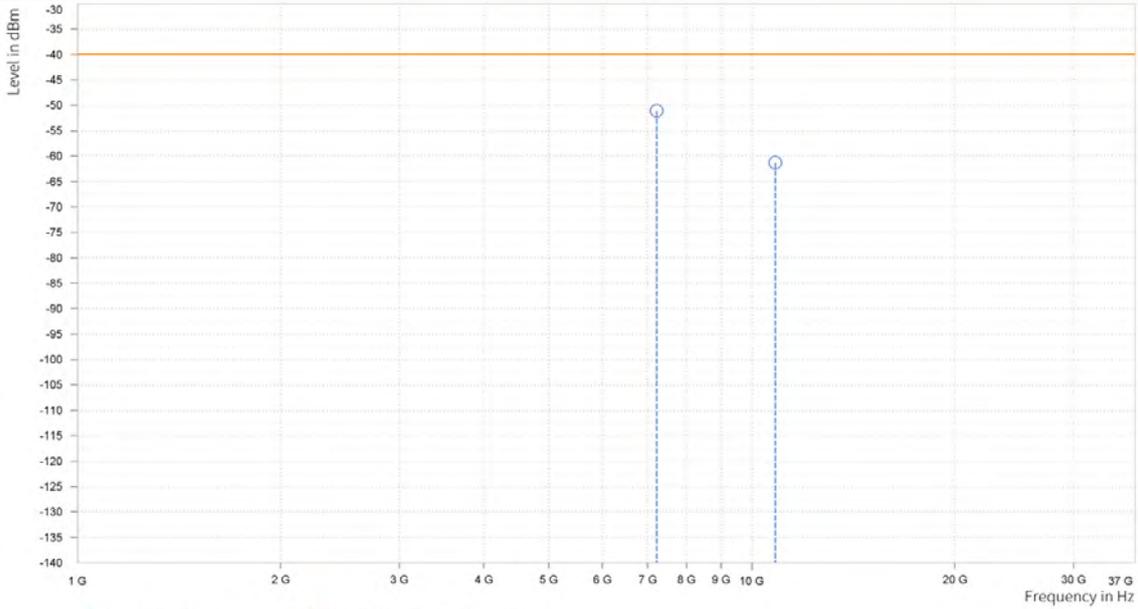




CHANNEL BANDWIDTH	30MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,222.980	-51.08	-40.00	11.08	24.48	H	2.4	2.00
6	10,834.470	-61.31	-40.00	21.31	11.51	H	155	2.00

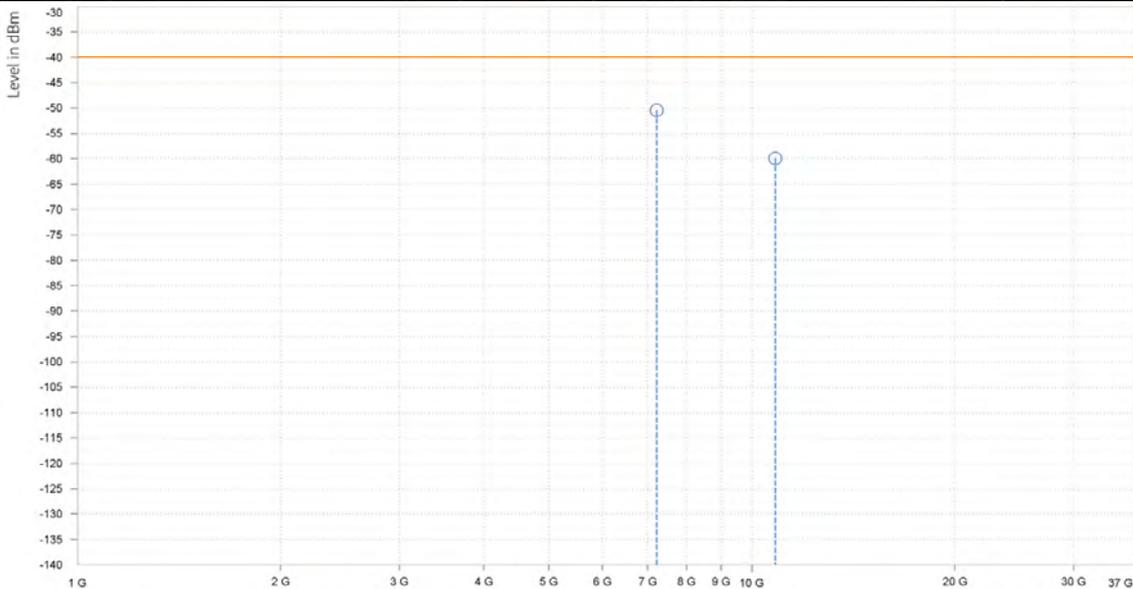




CHANNEL BANDWIDTH	30MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,222.980	-50.45	-40.00	10.45	24.48	V	1	1.00
6	10,834.470	-59.90	-40.00	19.90	11.51	V	204.8	1.00

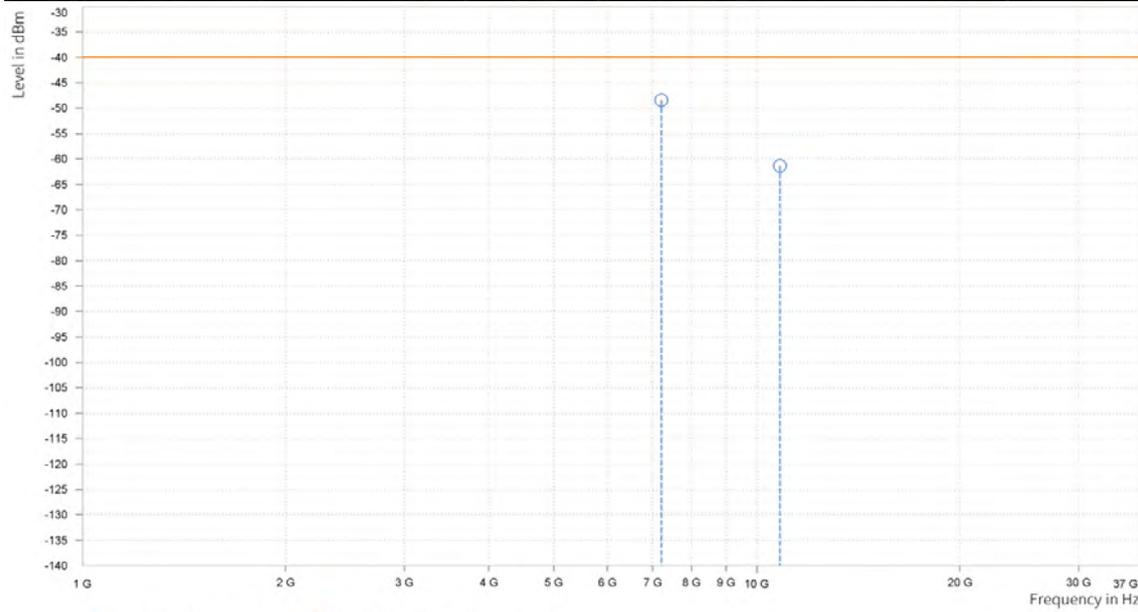




CHANNEL BANDWIDTH	40MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,213.980	-48.41	-40.00	8.41	24.48	H	1	1.00
6	10,820.970	-61.34	-40.00	21.34	11.53	H	356.5	1.00

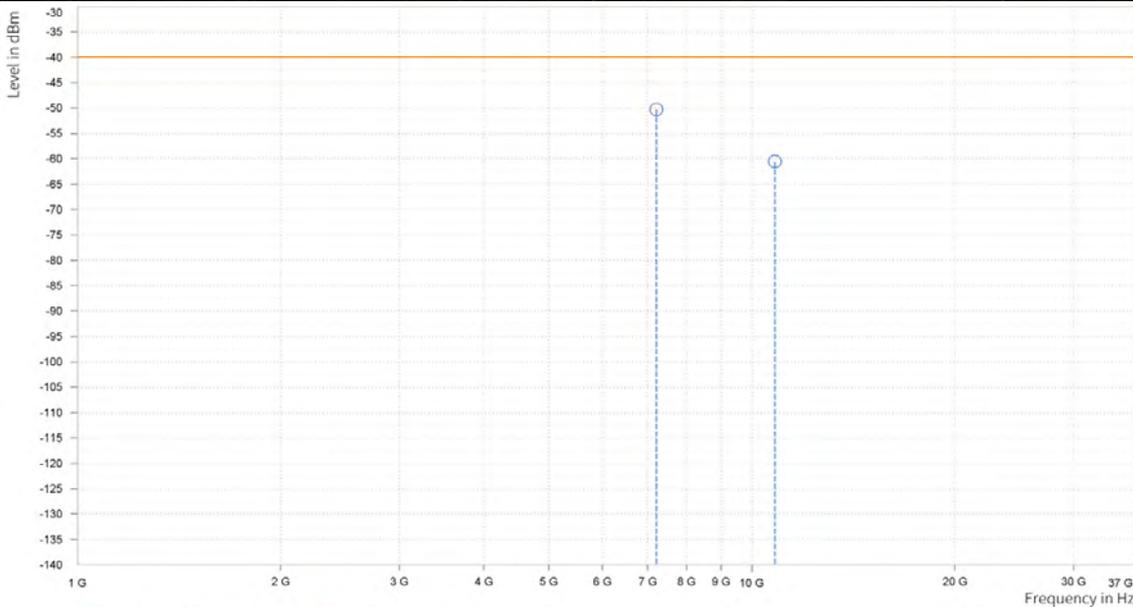




CHANNEL BANDWIDTH	40MHz / QPSK	MODE	TX channel 641666
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,213.980	-50.27	-40.00	10.27	24.48	V	1	2.00
6	10,820.970	-60.55	-40.00	20.55	11.53	V	359	2.00



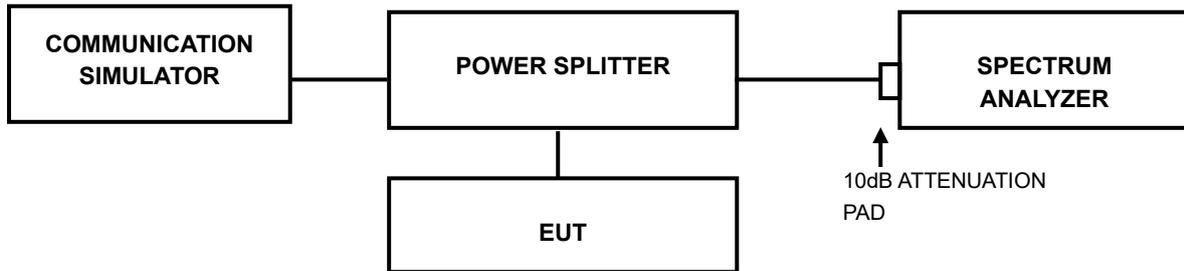


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.



BUREAU Test Report No.: PSZ-QBJ2501200112RF08
VERITAS

4 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

If you have any comments, please feel free to contact us at the following:

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008



BUREAU Test Report No.: PSZ-QBJ2501200112RF08
VERITAS

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



6 APPENDIX

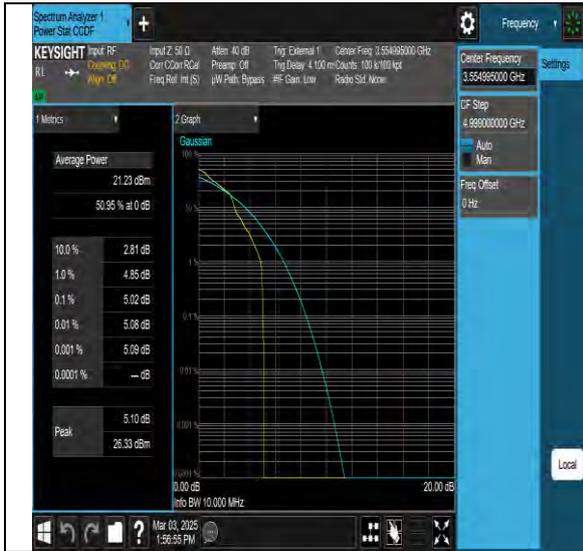
PEAK-TO-AVERAGE RATIO FOR SA PEAK-TO-AVERAGE RATIO(CCDF)

TEST RESULT

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Limit	Verdict
N48	30	10	DFT-QPSK	L	Edge_1RB_Left	5.02	≤13	PASS
N48	30	10	DFT-QPSK	L	Outer_Full	4.92	≤13	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Left	5.23	≤13	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	4.90	≤13	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Left	5.03	≤13	PASS
N48	30	10	DFT-QPSK	H	Outer_Full	4.98	≤13	PASS
N48	30	15	DFT-QPSK	L	Edge_1RB_Left	4.90	≤13	PASS
N48	30	15	DFT-QPSK	L	Outer_Full	4.81	≤13	PASS
N48	30	15	DFT-QPSK	M	Edge_1RB_Left	4.99	≤13	PASS
N48	30	15	DFT-QPSK	M	Outer_Full	4.81	≤13	PASS
N48	30	15	DFT-QPSK	H	Edge_1RB_Left	5.09	≤13	PASS
N48	30	15	DFT-QPSK	H	Outer_Full	4.85	≤13	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Left	4.89	≤13	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	4.85	≤13	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	4.89	≤13	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	4.86	≤13	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	4.90	≤13	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	4.89	≤13	PASS
N48	30	30	DFT-QPSK	L	Edge_1RB_Left	4.82	≤13	PASS
N48	30	30	DFT-QPSK	L	Outer_Full	4.69	≤13	PASS
N48	30	30	DFT-QPSK	M	Edge_1RB_Left	4.83	≤13	PASS
N48	30	30	DFT-QPSK	M	Outer_Full	4.73	≤13	PASS
N48	30	30	DFT-QPSK	H	Edge_1RB_Left	5.02	≤13	PASS
N48	30	30	DFT-QPSK	H	Outer_Full	4.71	≤13	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Left	4.95	≤13	PASS
N48	30	40	DFT-QPSK	L	Outer_Full	4.87	≤13	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Left	4.94	≤13	PASS
N48	30	40	DFT-QPSK	M	Outer_Full	4.89	≤13	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Left	5.07	≤13	PASS
N48	30	40	DFT-QPSK	H	Outer_Full	4.86	≤13	PASS



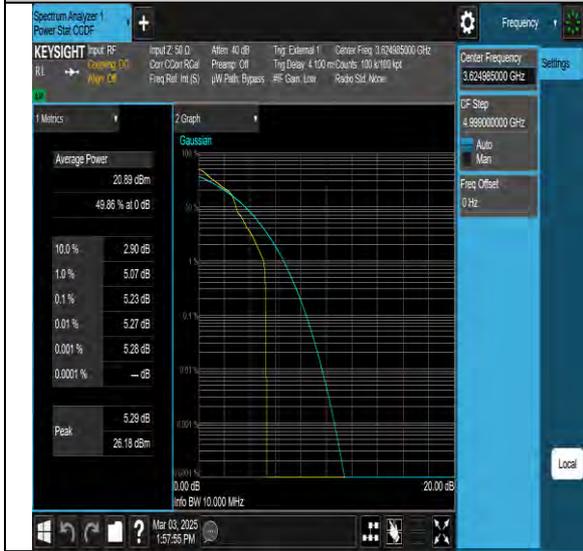
TEST GRAPHS



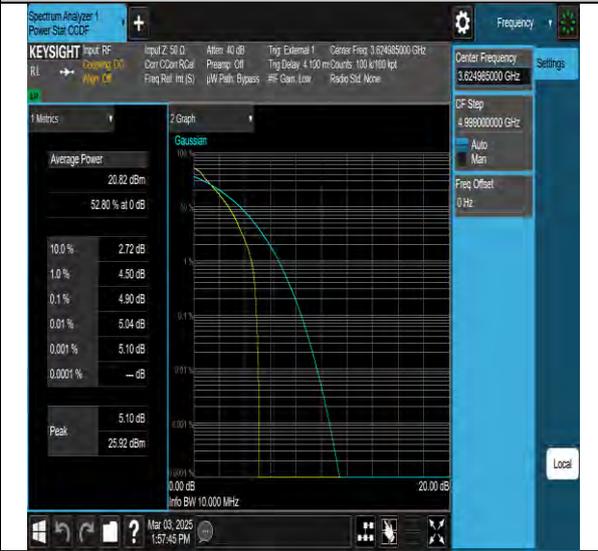
NTNV-N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-10-L-DFT-QPSK-Outer_Full-PASS



NTNV-N48-PC3-30-10-M-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-10-M-DFT-QPSK-Outer_Full-PASS



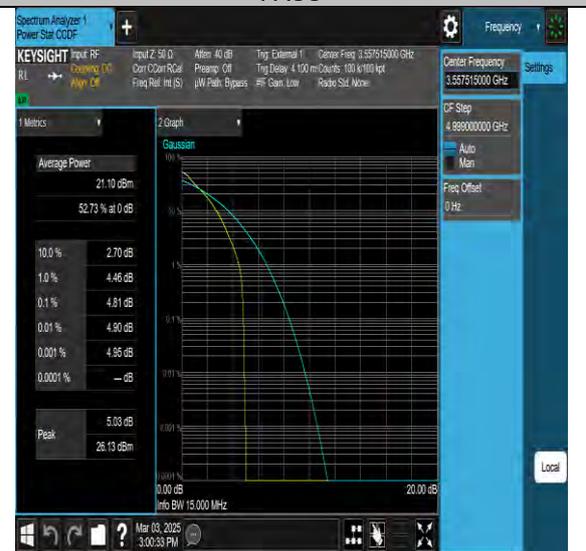
NTNV-N48-PC3-30-10-H-DFT-QPSK-Edge 1RB Left-PASS



NTNV-N48-PC3-30-10-H-DFT-QPSK-Outer_Full-PASS

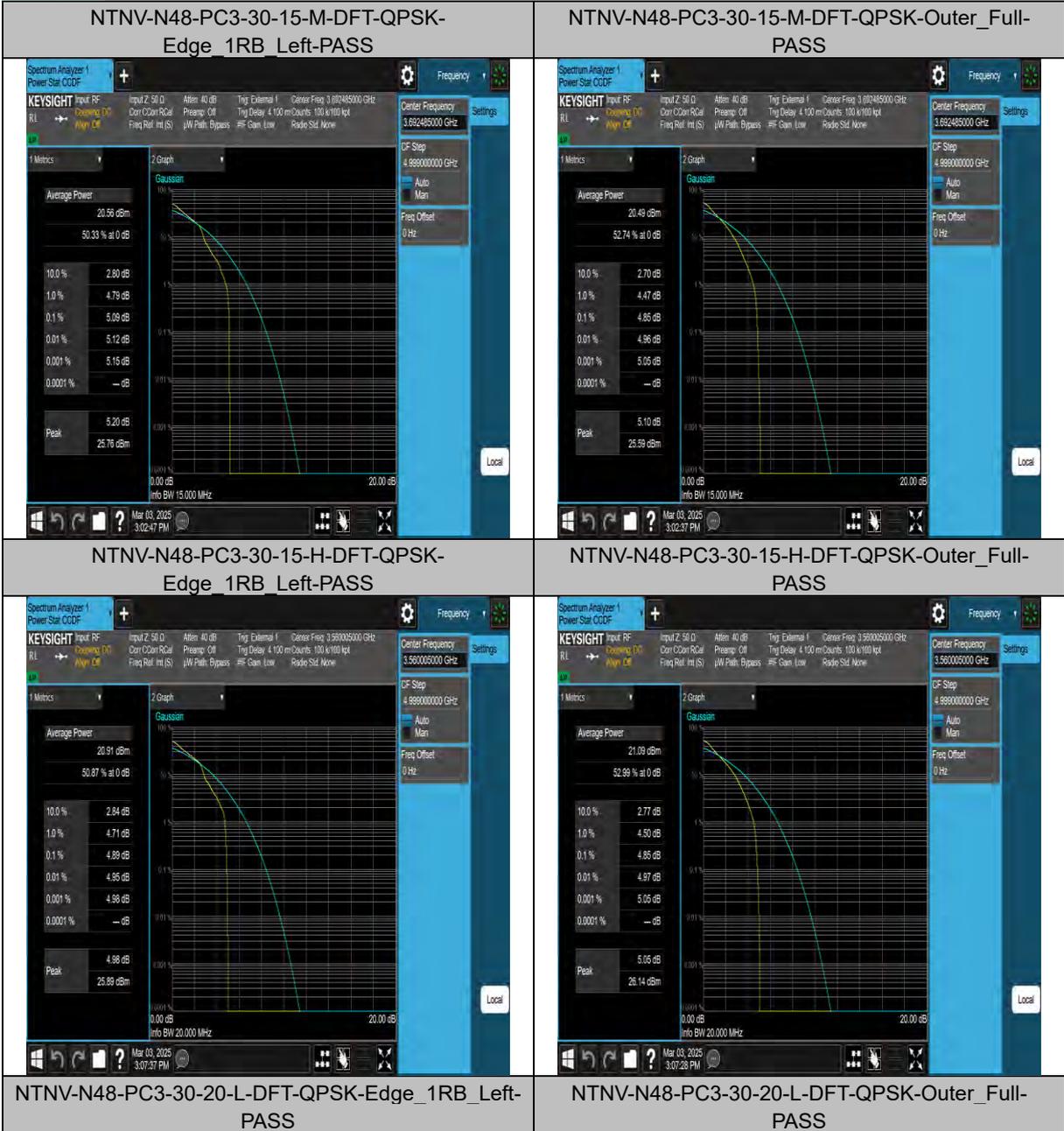


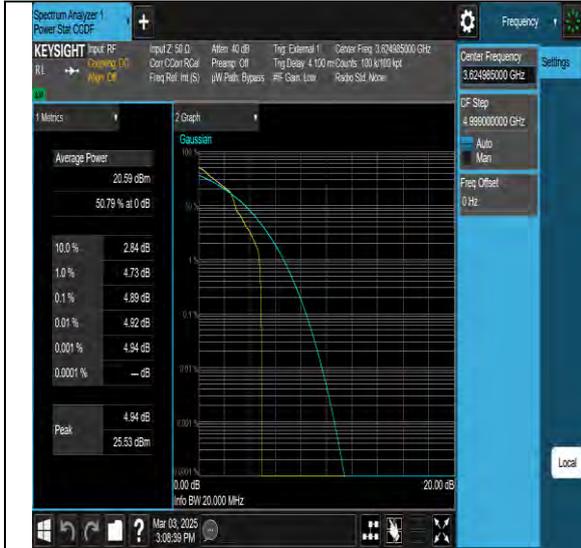
NTNV-N48-PC3-30-15-L-DFT-QPSK-Edge_1RB_Left-PASS



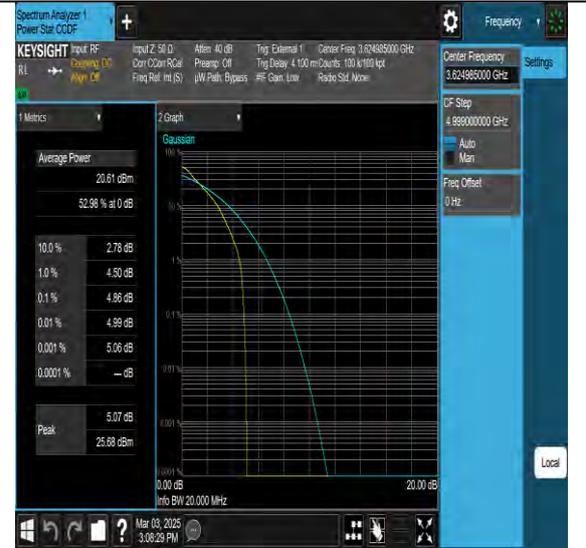
NTNV-N48-PC3-30-15-L-DFT-QPSK-Outer_Full-PASS







NTNV-N48-PC3-30-20-M-DFT-QPSK-Edge 1RB Left-PASS



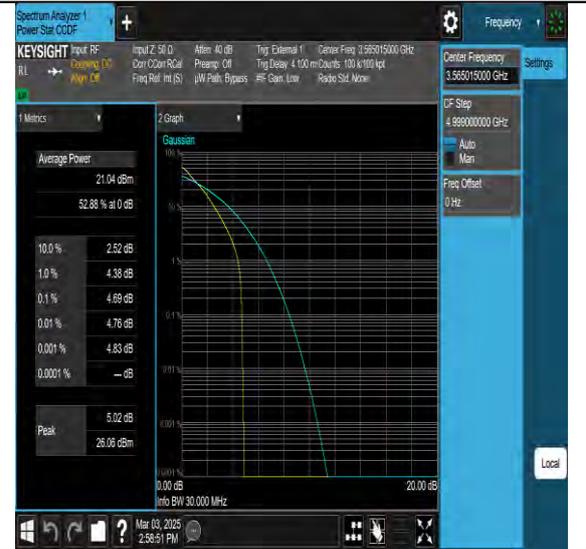
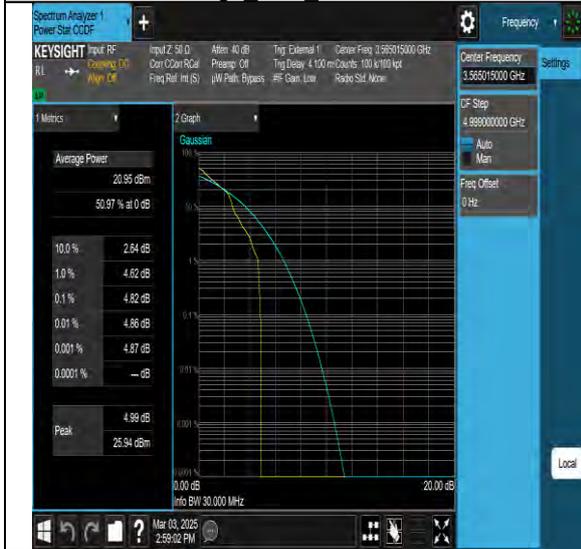
NTNV-N48-PC3-30-20-M-DFT-QPSK-Outer_Full-PASS



NTNV-N48-PC3-30-20-H-DFT-QPSK-Edge 1RB Left-PASS



NTNV-N48-PC3-30-20-H-DFT-QPSK-Outer_Full-PASS





NTNV-N48-PC3-30-30-L-DFT-QPSK-Edge_1RB_Left-PASS



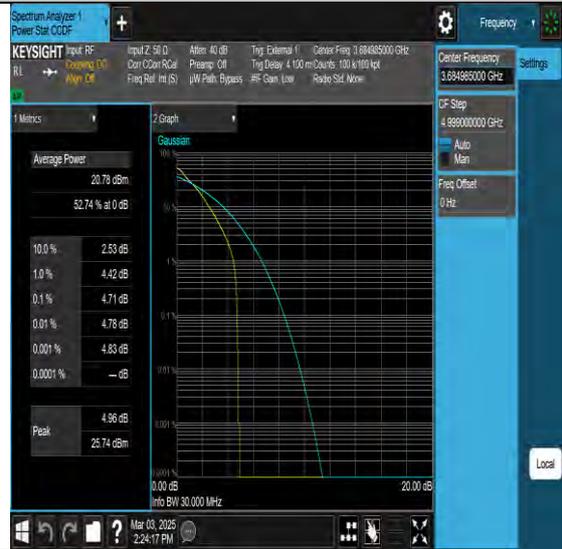
NTNV-N48-PC3-30-30-L-DFT-QPSK-Outer_Full-PASS



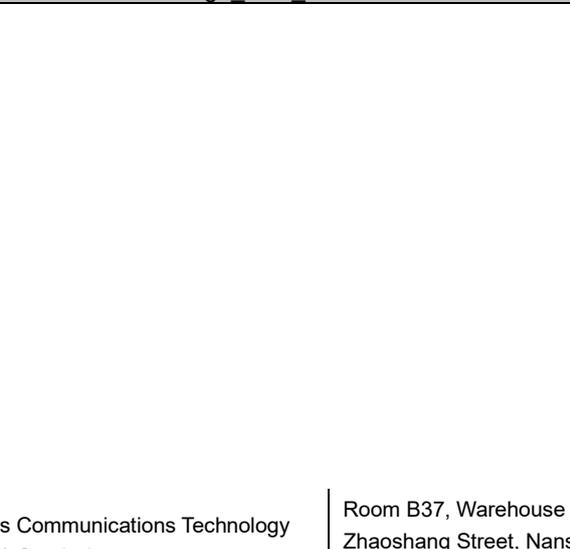
NTNV-N48-PC3-30-30-M-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-30-M-DFT-QPSK-Outer_Full-PASS



NTNV-N48-PC3-30-30-H-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-30-H-DFT-QPSK-Outer_Full-PASS





NTNV-N48-PC3-30-40-L-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-40-L-DFT-QPSK-Outer_Full-PASS



NTNV-N48-PC3-30-40-M-DFT-QPSK-Edge_1RB_Left-PASS



NTNV-N48-PC3-30-40-M-DFT-QPSK-Outer_Full-PASS





BUREAU
VERITAS

Test Report No.: PSZ-QBJ2501200112RF08

NTNV-N48-PC3-30-40-H-DFT-QPSK- Edge_1RB_Left-PASS	NTNV-N48-PC3-30-40-H-DFT-QPSK-Outer_Full- PASS
------------------------------------------------------	---------------------------------------------------

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

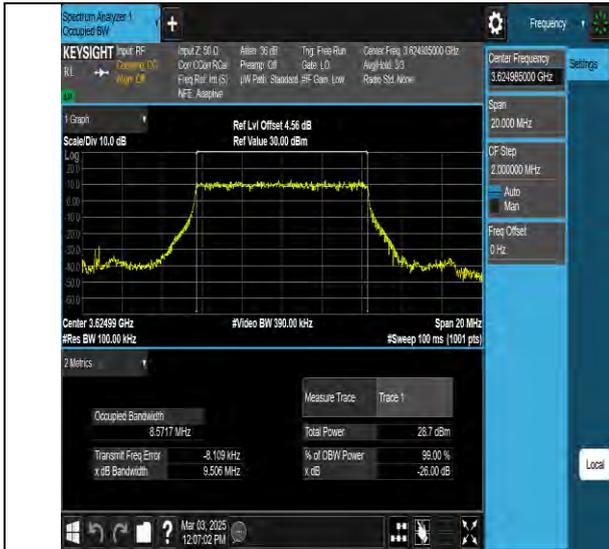
Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



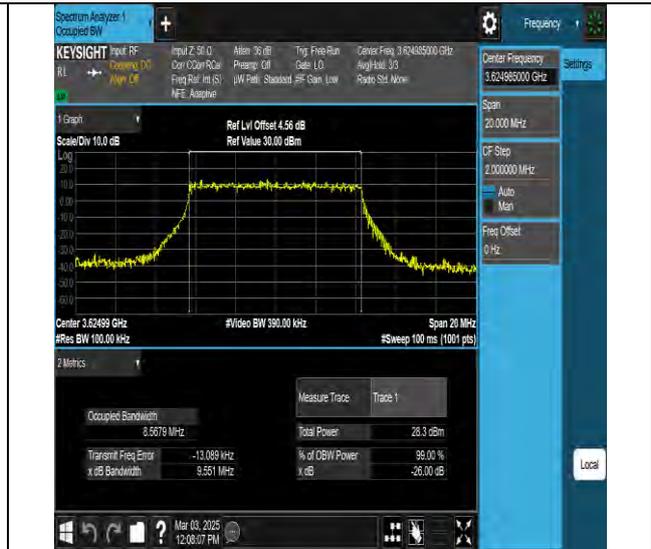
BUREAU VERITAS Test Report No.: PSZ-QBJ2501200112RF08

26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA TEST RESULT

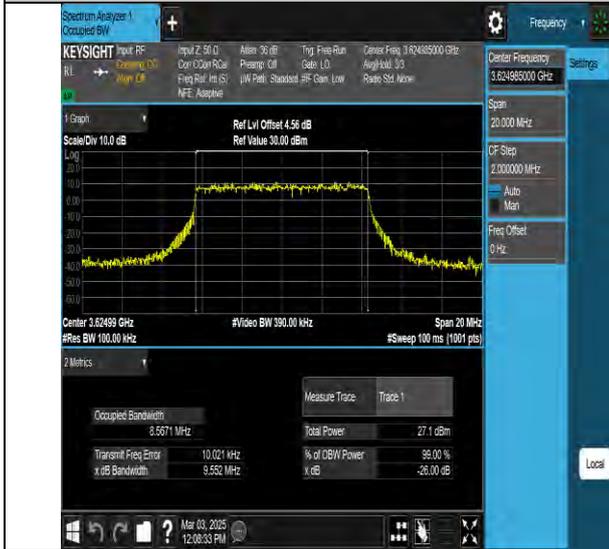
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N48	30	10	DFT-PI2BPSK	M	Outer_Full	8.5717	9.506	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	8.5679	9.551	PASS
N48	30	10	DFT-16QAM	M	Outer_Full	8.5671	9.552	PASS
N48	30	10	DFT-64QAM	M	Outer_Full	8.5681	9.667	PASS
N48	30	10	DFT-256QAM	M	Outer_Full	8.5428	9.492	PASS
N48	30	15	DFT-PI2BPSK	M	Outer_Full	12.831	14.03	PASS
N48	30	15	DFT-QPSK	M	Outer_Full	12.820	13.80	PASS
N48	30	15	DFT-16QAM	M	Outer_Full	12.816	14.05	PASS
N48	30	15	DFT-64QAM	M	Outer_Full	12.844	14.14	PASS
N48	30	15	DFT-256QAM	M	Outer_Full	12.850	14.08	PASS
N48	30	20	DFT-PI2BPSK	M	Outer_Full	17.802	18.98	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	17.773	19.24	PASS
N48	30	20	DFT-16QAM	M	Outer_Full	17.874	19.24	PASS
N48	30	20	DFT-64QAM	M	Outer_Full	17.816	19.35	PASS
N48	30	20	DFT-256QAM	M	Outer_Full	17.827	19.23	PASS
N48	30	30	DFT-PI2BPSK	M	Outer_Full	26.783	28.41	PASS
N48	30	30	DFT-QPSK	M	Outer_Full	26.738	28.31	PASS
N48	30	30	DFT-16QAM	M	Outer_Full	26.754	28.45	PASS
N48	30	30	DFT-64QAM	M	Outer_Full	26.763	28.51	PASS
N48	30	30	DFT-256QAM	M	Outer_Full	26.775	28.39	PASS
N48	30	40	DFT-PI2BPSK	M	Outer_Full	35.706	37.73	PASS
N48	30	40	DFT-QPSK	M	Outer_Full	35.717	37.35	PASS
N48	30	40	DFT-16QAM	M	Outer_Full	35.798	37.54	PASS
N48	30	40	DFT-64QAM	M	Outer_Full	35.787	37.54	PASS
N48	30	40	DFT-256QAM	M	Outer_Full	35.774	37.68	PASS



NTNV-N48-PC3-30-10-M-DFT-PI2BPSK-Outer_Full-Ant1-PASS



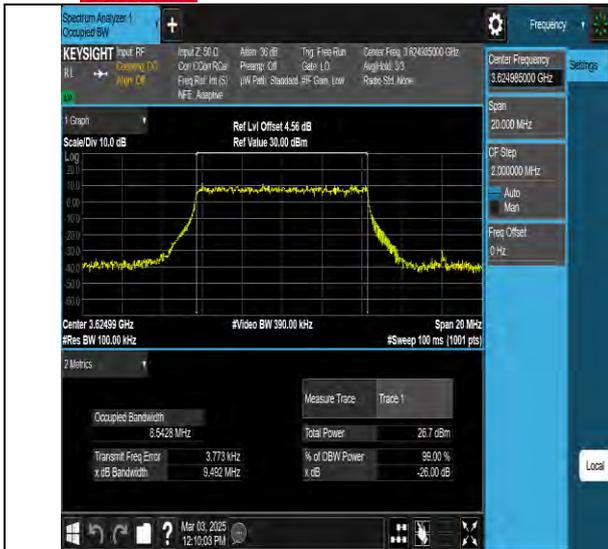
NTNV-N48-PC3-30-10-M-DFT-QPSK-Outer_Full-Ant1-PASS



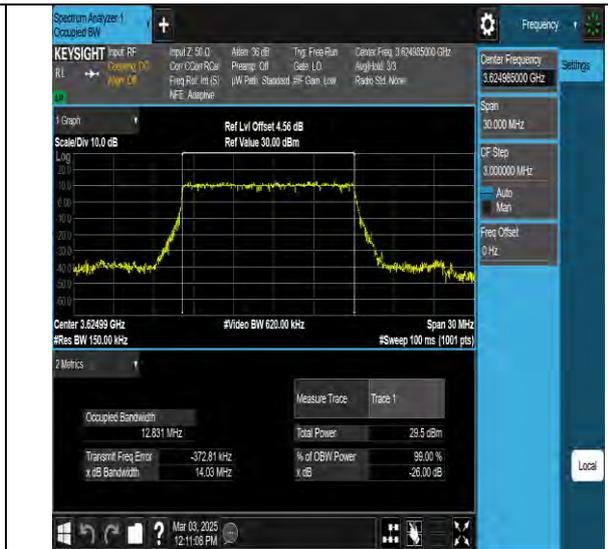
NTNV-N48-PC3-30-10-M-DFT-16QAM-Outer_Full-Ant1-PASS



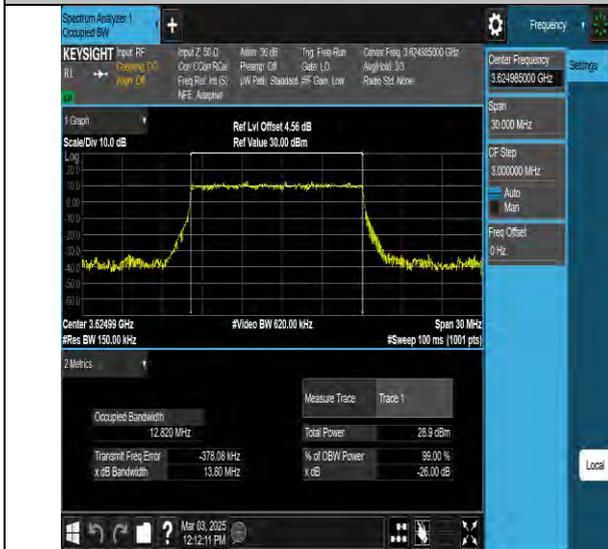
NTNV-N48-PC3-30-10-M-DFT-64QAM-Outer_Full-Ant1-PASS



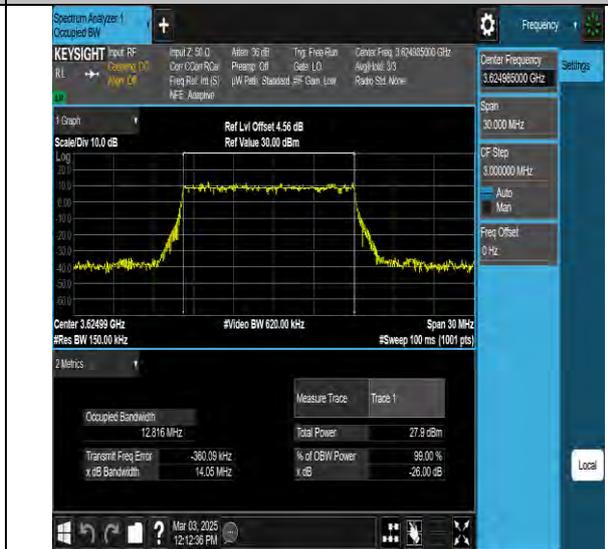
NTNV-N48-PC3-30-10-M-DFT-256QAM-Outer_Full-Ant1-PASS



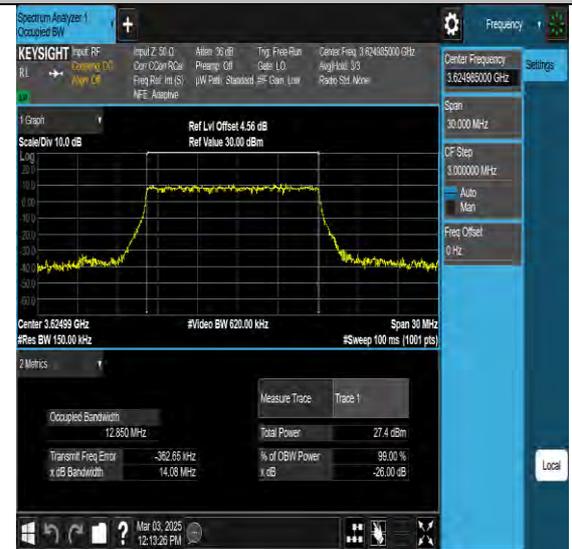
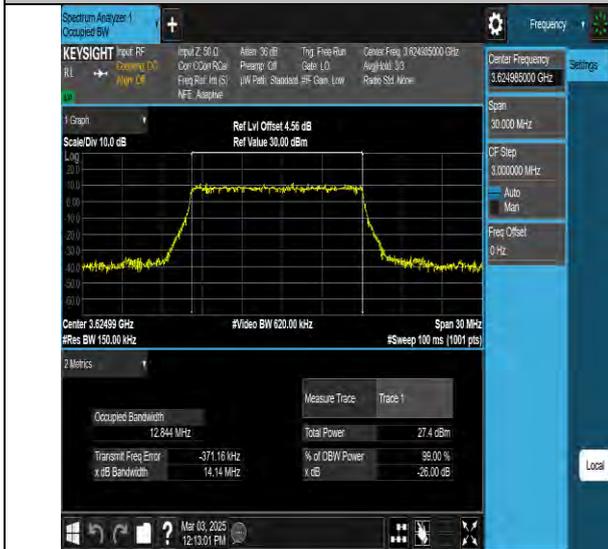
NTNV-N48-PC3-30-15-M-DFT-PI2BPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-15-M-DFT-QPSK-Outer_Full-Ant1-PASS

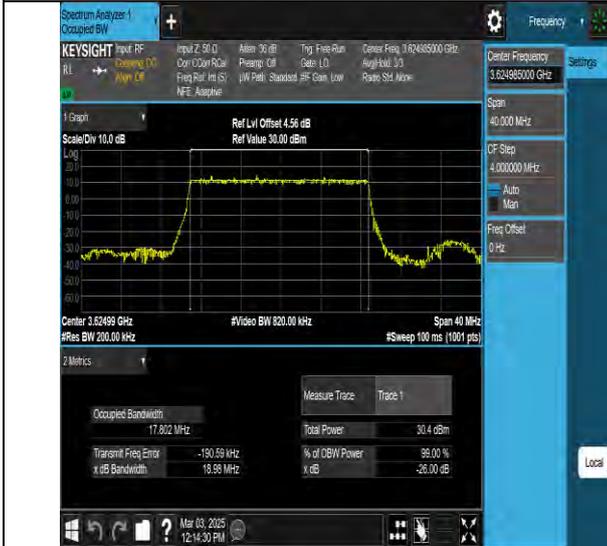


NTNV-N48-PC3-30-15-M-DFT-16QAM-Outer_Full-Ant1-PASS

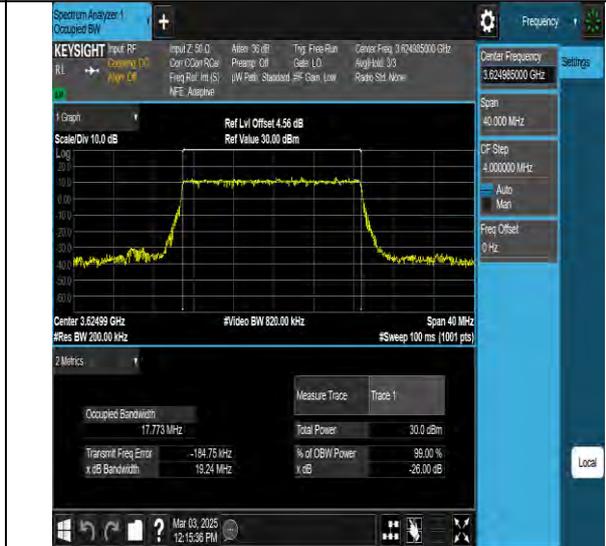




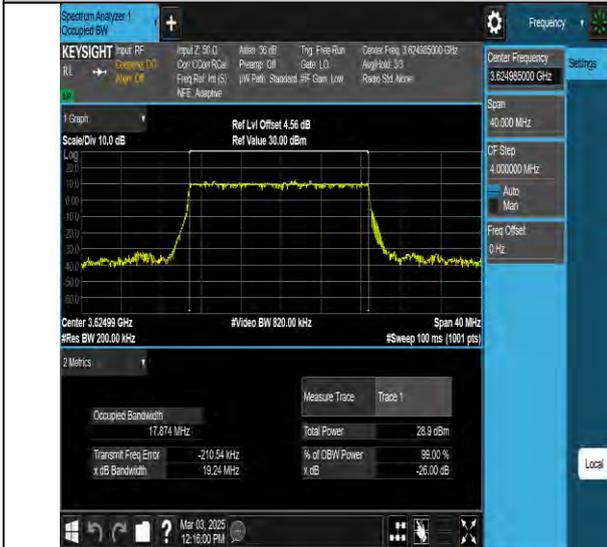
NTNV-N48-PC3-30-15-M-DFT-64QAM-Outer_Full-Ant1-PASS



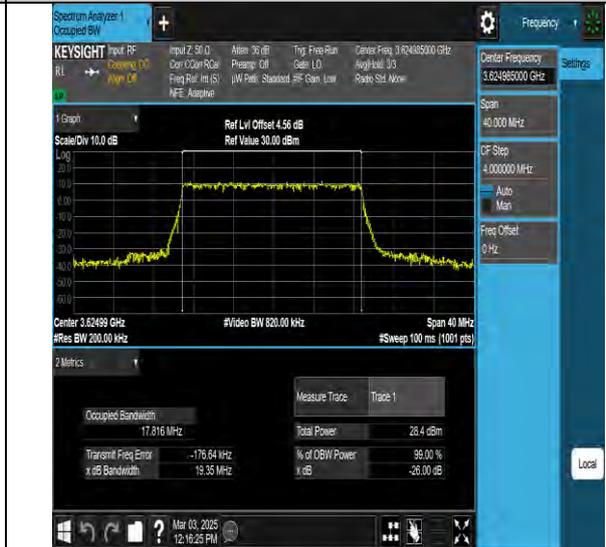
NTNV-N48-PC3-30-15-M-DFT-256QAM-Outer_Full-Ant1-PASS



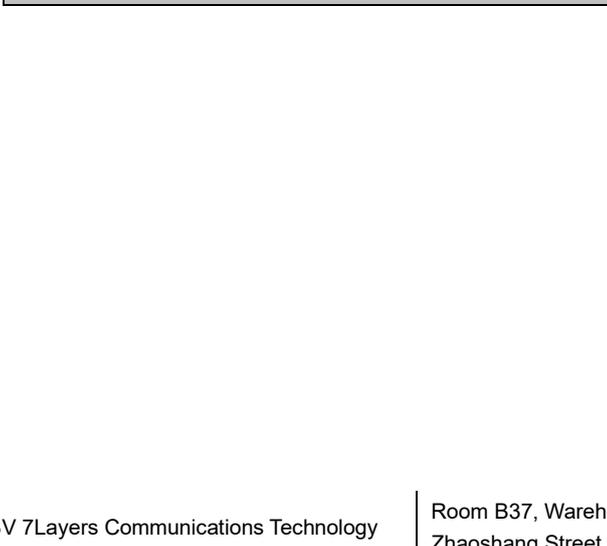
NTNV-N48-PC3-30-20-M-DFT-PI2BPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-20-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-20-M-DFT-16QAM-Outer_Full-Ant1-PASS



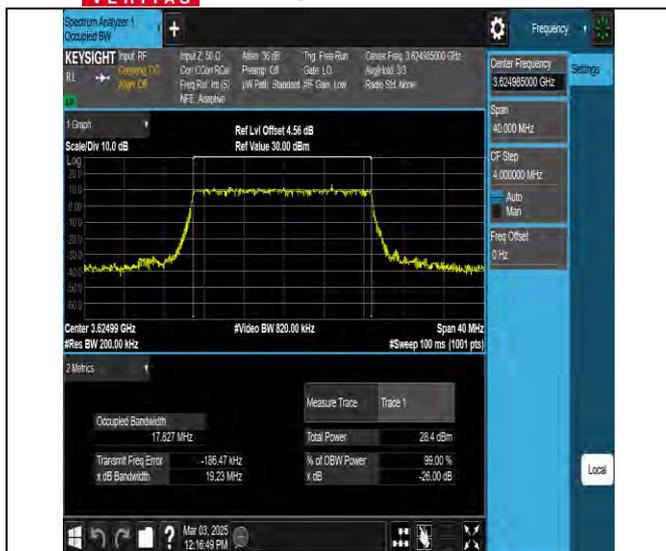
NTNV-N48-PC3-30-20-M-DFT-64QAM-Outer_Full-Ant1-PASS



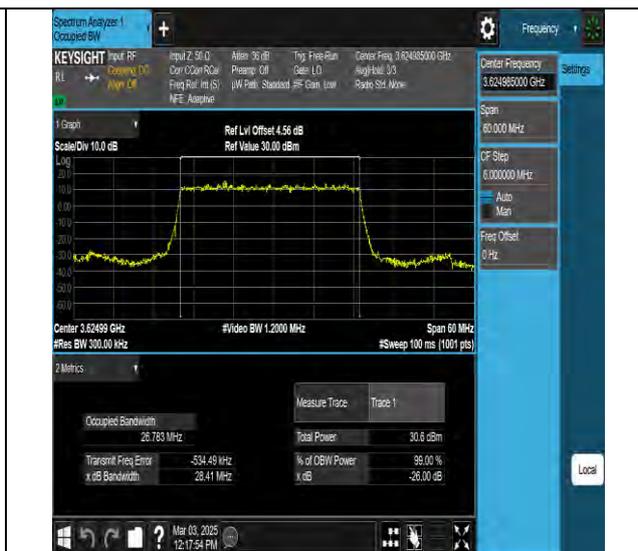


BUREAU VERITAS

Test Report No.: PSZ-QBJ2501200112RF08



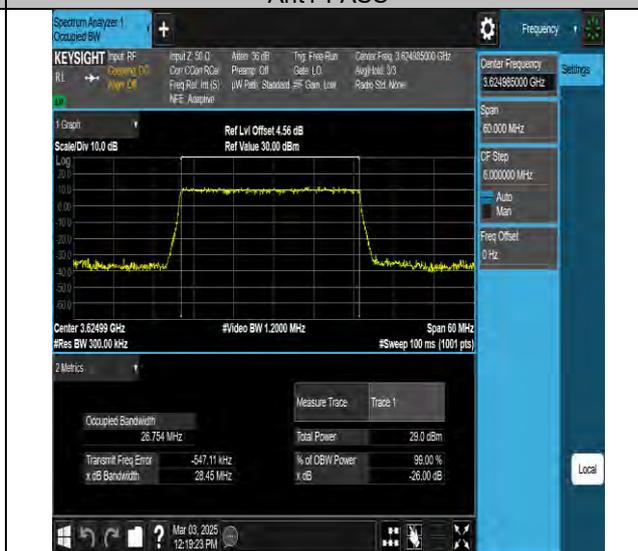
NTNV-N48-PC3-30-20-M-DFT-256QAM-Outer_Full-Ant1-PASS



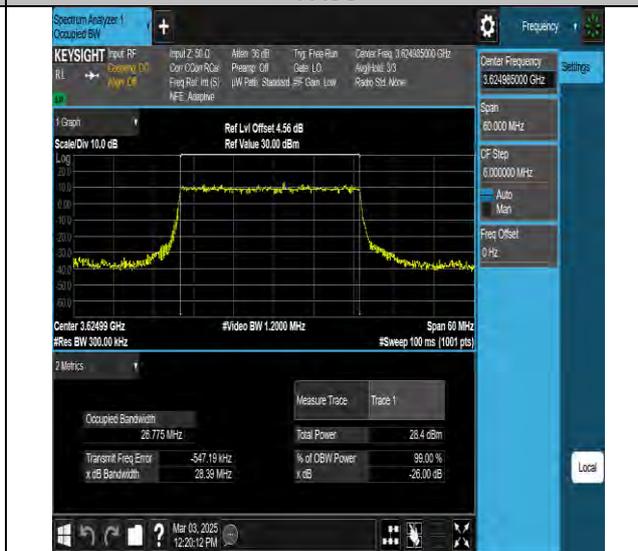
NTNV-N48-PC3-30-30-M-DFT-PI2BPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-30-M-DFT-QPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-30-M-DFT-16QAM-Outer_Full-Ant1-PASS



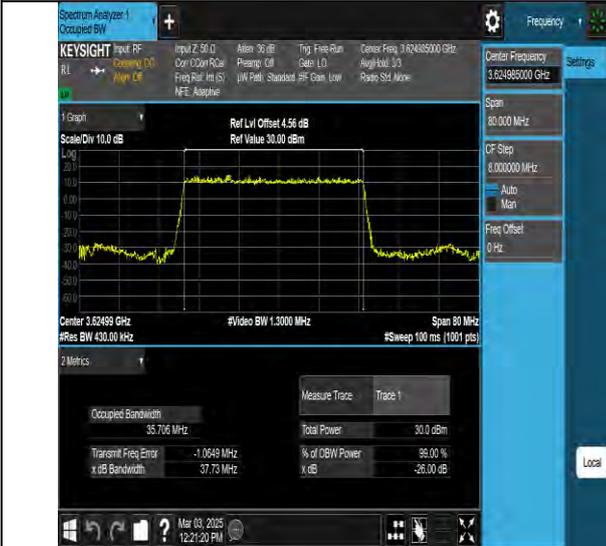
BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

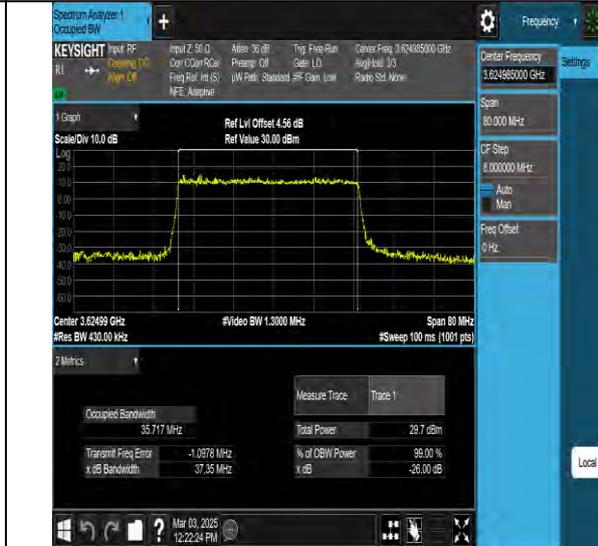
Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com



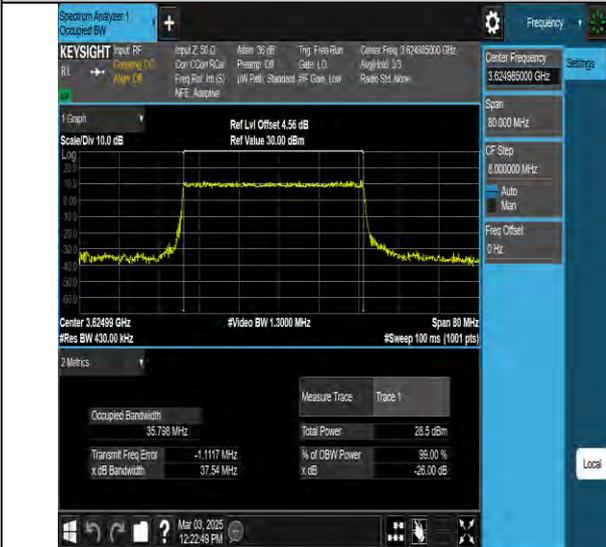
NTNV-N48-PC3-30-30-M-DFT-64QAM-Outer_Full-Ant1-PASS



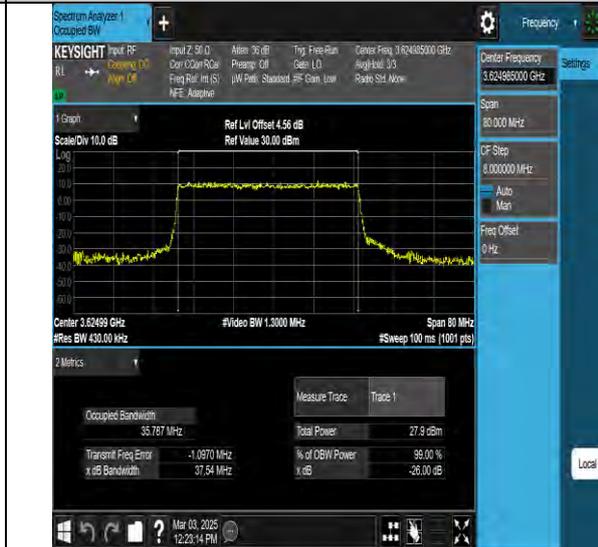
NTNV-N48-PC3-30-30-M-DFT-256QAM-Outer_Full-Ant1-PASS



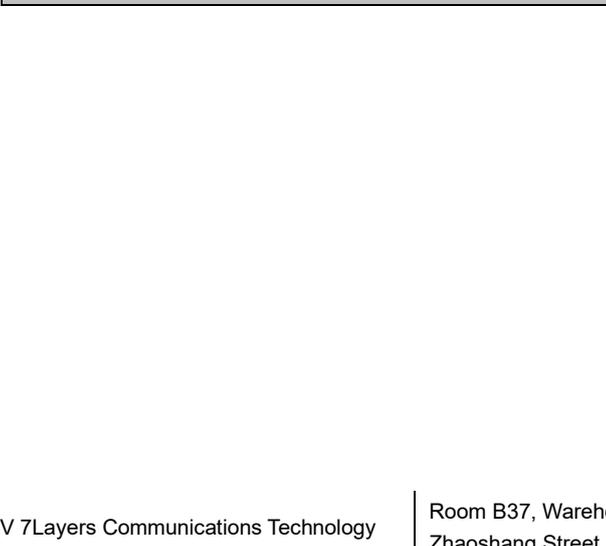
NTNV-N48-PC3-30-40-M-DFT-PI2BPSK-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-40-M-DFT-QPSK-Outer_Full-Ant1-PASS

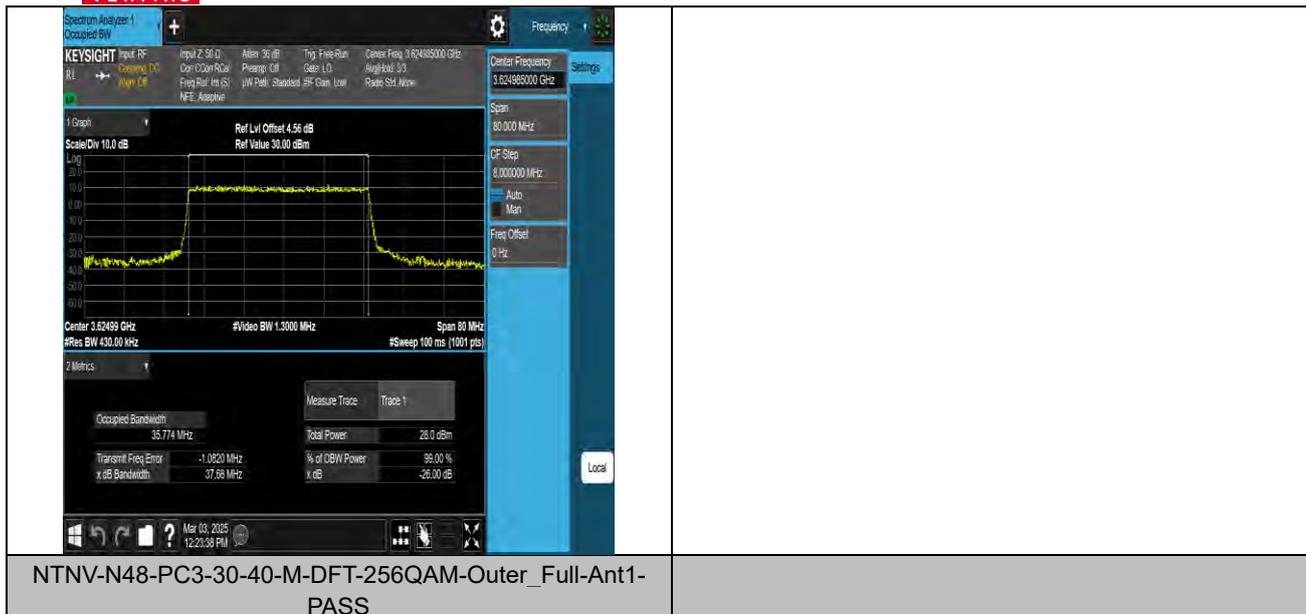


NTNV-N48-PC3-30-40-M-DFT-16QAM-Outer_Full-Ant1-PASS



NTNV-N48-PC3-30-40-M-DFT-64QAM-Outer_Full-Ant1-PASS





ACLR FOR SA TEST RESULT

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Verdict
N48	30	10	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	10	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	10	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	10	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS



N48	30	10	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	10	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	10	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	10	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	15	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	15	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	15	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	15	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS



BUREAU VERITAS

Test Report No.: PSZ-QBJ2501200112RF08

N48	30	20	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	20	DFT-PI2BPSK	H	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	30	DFT-PI2BPSK	L	Outer_Full	≤-30	PASS
N48	30	30	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	30	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	30	DFT-PI2BPSK	M	Outer_Full	≤-30	PASS
N48	30	30	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	30	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	30	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	30	DFT-QPSK	M	Outer_Full	≤-30	PASS

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566 Fax: +86 755 8869 6577

Email: customerservice.sw@bureauveritas.com