FCC TEST REPORT
(PART 96)

Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Product:	Mobile phone
Brand Name:	HMD
Model Name:	H1702V
FCC ID:	2AJOTTA-1702
Date of tests:	Jan. 13, 2025 ~ Mar. 13, 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
Simon Wang	Luke Lu
Date: Mar. 13, 2025	Date: Mar. 13, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	DESCRIPTION	DATE ISSUED
PSU-NQN2412090110RF06	Original release	Mar. 13, 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	B
2.1046 96.41(e)	Conducted Band Edge	Compliance	B
2.1049	Occupied Bandwidth	Compliance	B
2.1055	Frequency Stability	Compliance	B
2.1051 96.41(e)	Conducted Spurious Emissions	Compliance	B
2.1053 96.41(e)	Radiated Spurious Emissions	Compliance	B
96.41(g)	Peak-to-Average Power Ratio	Compliance	B

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

Lab B:
BV 7Layers Communications Technology (Shenzhen) Co. Ltd
Lab Address:
Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China
Accredited Test Lab Cert 3939.01

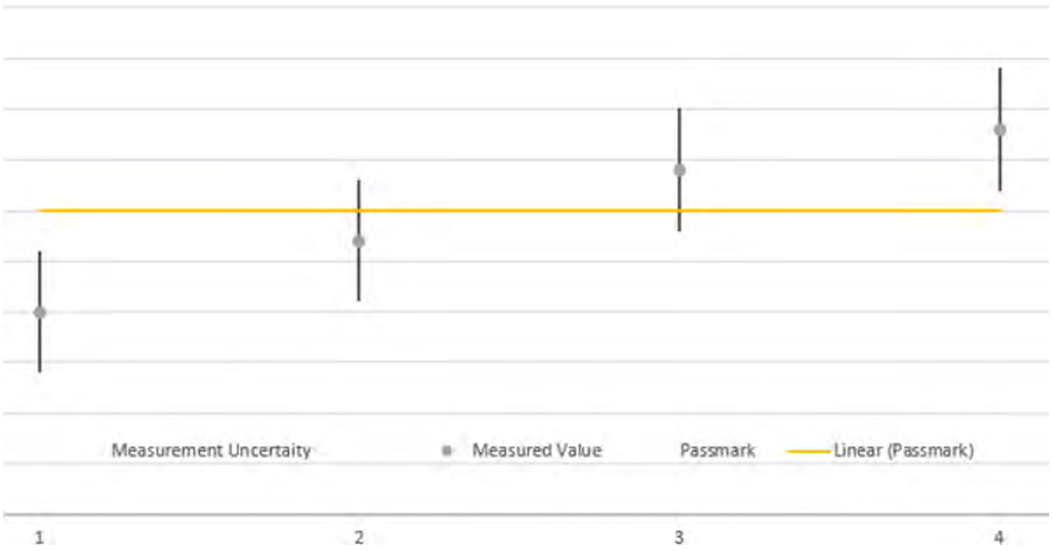
The FCC Site Registration No. is 525120; The Designation No. is CN1171.

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
Effective Radiated Power	±1.48dB
Frequency Stability	±39.27Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01 dB
Occupied Channel Bandwidth	±21.7KHz
Band Edge Measurements	±1.48dB
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.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.09,24	May.08,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.08,25	May.07,26
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.01,24	Aut.31,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 17,24	Feb. 16,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 16,25	Feb. 15,26
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 17,24	Feb. 16,25
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 16,25	Feb. 15,26
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.02, 24	Sep.01, 25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 13,24	Feb. 12,25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 12,25	Feb. 11,26
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 05,24	May. 04,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.09,24	May.08,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 16,24	Feb.15,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb.15,25	Feb.14,26
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Nov. 14,23	Nov. 13,26
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010-SMA	May. 05,24	May. 04,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 13,24	Feb. 12,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 12,25	Feb. 11,26
Power Sensor	Anritsu	MA2411B	1339352	Feb. 13,24	Feb. 12,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 12,25	Feb. 11,26
Temperature Chamber	ESPEC	SH-242	93000855	May. 05,24	May. 04,25
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 13,24	Feb. 12,25
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 12,25	Feb. 11,26
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.09,24	May.08,25
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 10,24	Aug. 09,25
Power Divider	COM-MW	ZPD8-2M0-40G-1942	04223131	Oct.08.24	Oct.07.25

NOTE:

1. The calibration interval of the above test instruments is 12 /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. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile phone	
BRAND NAME*	HMD	
MODEL NAME*	H1702V	
NOMINAL VOLTAGE*	3.87Vdc (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: 8M75G7D
		16QAM: 8M71W7D
		64QAM: 8M72W7D
		256QAM: 8M76W7D
		Pi/2BPSK: 8M75G7D
	NR Band n48 Channel Bandwidth: 20MHz	QPSK: 18M2G7D
		16QAM: 18M2W7D
		64QAM: 18M2W7D
		256QAM: 18M1W7D
		Pi/2BPSK: 18M2G7D
	NR Band n48 Channel Bandwidth: 40MHz	QPSK:36M1G7D
		16QAM: 36M1W7D
		64QAM: 36M1W7D
		256QAM: 36M0W7D
		Pi/2BPSK: 36M2G7D
MAX. EIRP POWER	**NR Band n48 Channel Bandwidth: 10MHz**	181.13mW
	NR Band n48 Channel Bandwidth: 20MHz	179.89mW
	NR Band n48 Channel Bandwidth: 40MHz	184.50mW

ANTENNA GAIN*	ANT4: -1.5dBi
ANTENNA TYPE*	PIFA Antenna
HW VERSION*	V1.0
SW VERSION*	000T_0_310
I/O PORTS*	Refer to user's manual
DATA CABLE*	USB cable: non-shielded cable, with w/o ferrite core, 1.0meter
EXTREME TEMPERATURE*	-10℃ ~ 55℃
EXTREME VOLTAGE*	3.6V ~ 4.5V

NOTE:

1. ***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
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receivers.

MODULATION MODE	TX FUNCTION
NR	1TX/1RX

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

5. The differences between the sample 1 and sample 2 as Listings below, others are the same. And only the worst case was shown in the test report.

Raptor 5G(H1702V)

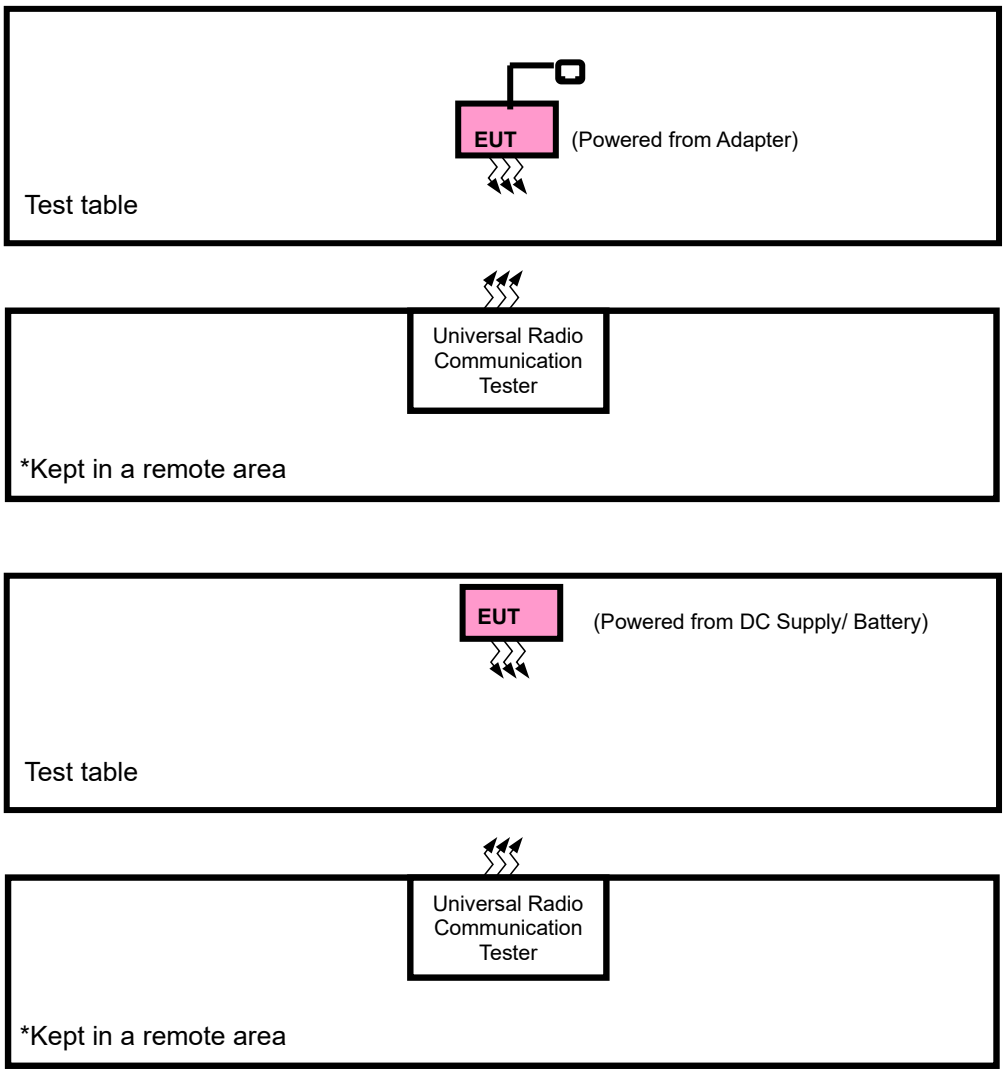
Object	Sample 1 1st source		Sample 2 2nd source	
	Specifications	Supplier	Specifications	Supplier
Display	Y92232	DZX	TD-TCHJ6615-5D	CDOT
Memory	LPDDR4X 6GB FLXC4006G-49	Longsys	BWCC4X32N2A-48G-X	Biwin
	128GB eMMC5.1 MEMDNN128G-M1D03	Longsys	MEMDNN128G-M1D03	Biwin
Motor	C0830H-C138ZN-021	KunWang	CY0830-05-FPC-182	Chaoying
Mic	SM2718B381YR2-01	Rayking	S150B381-155	Goertek
Charger IC	UPM6720	Unisemi	SC8541CFFR	Southchip

6. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	HMD	HuiZhou GanFeng LiEnergy Battery Technology Co., Ltd.	HBA-5033AA	Capacity：3.87Vdc, 4900mAh
USB Cable	Saibao	Saibao (Jiangxi) Industry Co.,Ltd.	SZN-A047A	Signal Line,1.0meter

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	Adapter	N/A	N/A	N/A	N/A
2	DC Source	HYELEC	HY3010B	551016	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB Line: Shielded, Detachable 1.0m;
2	DC Line: Unshielded, Detachable, 1.0m;

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 / Battery 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
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	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	637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	Outer_ Full
A	PEAK TO AVERAGE RATIO	637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	QPSK	Outer_ Full
A	OCCUPIED BANDWIDTH	637000 to 646332	637000 to 646332	Middle	10MHz	Pi/2BPSK,QPSK, 16QAM, 64QAM, 256QAM	Outer_ Full
		637334 to 646000	637334 to 646000	Middle	20MHz	Pi/2BPSK,QPSK, 16QAM, 64QAM, 256QAM	Outer_ Full

		638000 to 645332	638000 to 645332	Middle	40MHz	Pi/2BPSK,QPSK, 16QAM, 64QAM, 256QAM	Outer_ Full
A	BAND EDGE	637000 to 646332	637000 to 646332	Low	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	10MHz	QPSK	1RB/ max Offset
							Outer_ Full
		637334 to 646000	637334 to 646000	Low	20MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	20MHz	QPSK	1RB/ max Offset
							Outer_ Full
		638000 to 645332	638000 to 645332	Low	40MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	40MHz	QPSK	1RB/ max Offset
							Outer_ Full
A	CONDUCTED EMISSION	637000 to 646332	637000 to 646332	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		637334 to 646000	637334 to 646000	Low, Middle, High	20MHz	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	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		637334 to 646000	637334 to 646000	Middle	20MHz	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
							Outer_ Full
				High	10MHz	QPSK	1RB/ max Offset
							Outer_ Full
		637334 to 646000	637334 to 646000	Low	20MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	20MHz	QPSK	1RB/ max Offset
							Outer_ Full
		638000 to 645332	638000 to 645332	Low	40MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	40MHz	QPSK	1RB/ max Offset
							Outer_ Full

Note:

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

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

TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 5V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.6V/ 3.87V/ 4.45V By DC Source	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 5V By Adapter	James Fu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5V By Adapter	James Fu

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.

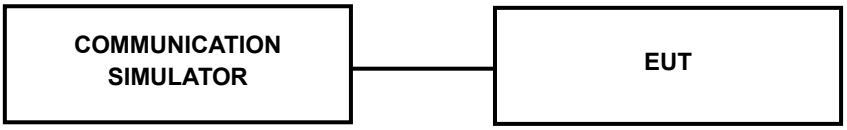
3 TEST TYPES AND RESULTS

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 determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T - L_C$

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

CONDUCTED OUTPUT POWER (dBm)

n48 (SCS 30 kHz) (Ant4)						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequence (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	23.47	23.83	24.05
		1	53	23.56	23.91	24.04
		1	104	23.70	24.11	24.09
		50	0	23.63	23.93	24.10
		50	28	23.63	23.95	24.09
		50	56	23.70	23.98	24.13
		100	0	23.61	23.91	24.09
	DFT-s-OFDM QPSK	1	1	23.71	24.12	24.16
		1	53	23.52	23.86	24.03
		1	104	23.68	23.97	24.05
		50	0	23.62	23.96	24.11
		50	28	23.57	23.93	24.04
		50	56	23.61	23.92	24.07
		100	0	23.59	23.92	23.96
	DFT-s-OFDM 16QAM	1	53	23.58	23.86	24.02
	DFT-s-OFDM 64QAM	1	53	23.36	23.59	23.60
	DFT-s-OFDM 256QAM	1	53	22.05	22.20	22.35
BW	MCS Index	Channel		637334	641666	646000
		Frequence (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	23.60	24.05	24.01
BW	MCS Index	Channel		637000	641666	646332
		Frequence (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	23.63	24.00	24.08

SRS POWER

n48_ANT3

n48 (SCS 30 kHz) (Ant3)						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		638000	641666	645332
		Frequence (MHz)		3570	3624.99	3679.98
40M	DFT-s-OFDM Pi/2 BPSK	1	1	22.99	23.45	23.65
		1	53	23.18	23.49	23.55
		1	104	23.31	23.71	23.73
		50	0	23.24	23.46	23.60
		50	28	23.27	23.48	23.72
		50	56	23.23	23.60	23.68
		100	0	23.15	23.54	23.61
	DFT-s-OFDM QPSK	1	1	23.34	23.66	**23.87**
		1	53	23.03	23.41	23.63
		1	104	23.18	23.53	23.62
		50	0	23.19	23.49	23.71
		50	28	23.12	23.47	23.54
		50	56	23.13	23.48	23.70
		100	0	23.09	23.56	23.59
	DFT-s-OFDM 16QAM	1	53	23.08	23.38	23.59
	DFT-s-OFDM 64QAM	1	53	22.97	23.13	23.11
	DFT-s-OFDM 256QAM	1	53	21.59	21.83	21.97
BW	MCS Index	Channel		637334	641666	646000
		Frequence (MHz)		3560.01	3624.99	3690
20M	DFT-s-OFDM QPSK	1	1	23.26	23.64	23.74
BW	MCS Index	Channel		637000	641666	646332
		Frequence (MHz)		3555	3624.99	3694.98
10M	DFT-s-OFDM QPSK	1	1	23.24	23.62	23.84

n48_ANT6

n48 (SCS 30 kHz) (Ant6)						
BW	**MCS Index**	**RB Size**	**RB Offset**	**Low**	**Mid**	**High**
	/	**Channel**		**638000**	**641666**	**645332**
	/	**Frequence (MHz)**		**3570**	**3624.99**	**3679.98**
40M	DFT-s-OFDM Pi/2 BPSK	1	1	22.19	22.51	22.71
		1	53	22.08	22.43	22.64
		1	104	22.20	22.62	22.60
		50	0	22.22	22.49	22.74
		50	28	22.19	22.53	22.71
		50	56	22.31	22.62	22.70
		100	0	22.18	22.55	22.73
	DFT-s-OFDM QPSK	1	1	22.53	22.66	**22.75**
		1	53	22.16	22.48	22.59
		1	104	22.25	22.56	22.55
		50	0	22.43	22.60	22.64
		50	28	22.10	22.56	22.56
		50	56	22.22	22.43	22.58
		100	0	22.21	22.43	22.46
	DFT-s-OFDM 16QAM	1	53	22.13	22.47	22.66
	DFT-s-OFDM 64QAM	1	53	21.92	22.21	22.16
	DFT-s-OFDM 256QAM	1	53	20.61	20.82	20.87
BW	**MCS Index**	**Channel**		**637334**	**641666**	**646000**
		Frequence (MHz)		**3560.01**	**3624.99**	**3690**
20M	DFT-s-OFDM QPSK	1	1	22.27	22.52	22.64
BW	**MCS Index**	**Channel**		**637000**	**641666**	**646332**
		Frequence (MHz)		**3555**	**3624.99**	**3694.98**
10M	DFT-s-OFDM QPSK	1	1	22.25	22.58	22.60

n48_ANT8

n48 (SCS 30 kHz) (Ant8)						
BW	**MCS Index**	**RB Size**	**RB Offset**	**Low**	**Mid**	**High**
		Channel		**638000**	**641666**	**645332**
		Frequence (MHz)		**3570**	**3624.99**	**3679.98**
40M	DFT-s-OFDM Pi/2 BPSK	1	1	20.32	20.63	20.77
		1	53	20.18	20.42	20.63
		1	104	20.25	20.62	20.60
		50	0	20.17	20.45	20.61
		50	28	20.20	20.53	20.63
		50	56	20.21	20.51	20.72
		100	0	20.18	20.46	20.73
	DFT-s-OFDM QPSK	1	1	20.35	20.71	**20.78**
		1	53	20.07	20.43	20.61
		1	104	20.32	20.52	20.66
		50	0	20.29	20.60	20.67
		50	28	20.16	20.52	20.60
		50	56	20.25	20.42	20.59
		100	0	20.12	20.55	20.57
	DFT-s-OFDM 16QAM	1	53	20.22	20.37	20.62
	DFT-s-OFDM 64QAM	1	53	19.96	20.11	20.22
	DFT-s-OFDM 256QAM	1	53	18.55	18.80	18.98
BW	**MCS Index**	**Channel**		**637334**	**641666**	**646000**
		Frequence (MHz)		**3560.01**	**3624.99**	**3690**
20M	DFT-s-OFDM QPSK	1	1	20.33	20.67	20.63
BW	**MCS Index**	**Channel**		**637000**	**641666**	**646332**
		Frequence (MHz)		**3555**	**3624.99**	**3694.98**
10M	DFT-s-OFDM QPSK	1	1	20.31	20.57	20.66

EIRP

40M DFT-s-OFDM Pi/2 BPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	23.70	-1.5	22.20	165.96	23
641666	3624.99	24.11	-1.5	22.61	182.39	23
645332	3679.98	24.13	-1.5	22.63	183.23	23

40M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	23.71	-1.5	22.21	166.34	23
641666	3624.99	24.12	-1.5	22.62	182.81	23
645332	3679.98	24.16	-1.5	22.66	184.50	23

40M DFT-s-OFDM 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	23.58	-1.5	22.08	161.44	23
641666	3624.99	23.86	-1.5	22.36	172.19	23
645332	3679.98	24.02	-1.5	22.52	178.65	23

40M DFT-s-OFDM 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	23.36	-1.5	21.86	153.46	23
641666	3624.99	23.59	-1.5	22.09	161.81	23
645332	3679.98	23.60	-1.5	22.10	162.18	23

40M DFT-s-OFDM 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	22.05	-1.5	20.55	113.50	23
641666	3624.99	22.20	-1.5	20.70	117.49	23
645332	3679.98	22.35	-1.5	20.85	121.62	23

20M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637334	3560.01	23.60	-1.5	22.10	162.18	23
641666	3624.99	24.05	-1.5	22.55	179.89	23
646000	3690	24.01	-1.5	22.51	178.24	23

10M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637000	3555	23.63	-1.5	22.13	163.31	23
641666	3624.99	24.00	-1.5	22.50	177.83	23
646332	3694.98	24.08	-1.5	22.58	181.13	23

SRS EIRP

ANT3:

40M DFT-s-OFDM Pi/2 BPSK						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	23.31	-1.5	21.81	151.71	23
641666	3624.99	23.71	-1.5	22.21	166.34	23
645332	3679.98	23.73	-1.5	22.23	167.11	23

40M DFT-s-OFDM QPSK						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	23.34	-1.5	21.84	152.76	23
641666	3624.99	23.66	-1.5	22.16	164.44	23
645332	3679.98	23.87	-1.5	22.37	172.58	23

40M DFT-s-OFDM 16QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	EIRP (mW)	**Limit (dBm/10MHz)**
638000	3570	23.08	-1.5	21.58	143.88	23
641666	3624.99	23.38	-1.5	21.88	154.17	23
645332	3679.98	23.59	-1.5	22.09	161.81	23

40M DFT-s-OFDM 64QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	22.97	-1.5	21.47	140.28	23
641666	3624.99	23.13	-1.5	21.63	145.55	23
645332	3679.98	23.11	-1.5	21.61	144.88	23

40M DFT-s-OFDM 256QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	21.59	-1.5	20.09	102.09	23
641666	3624.99	21.83	-1.5	20.33	107.89	23
645332	3679.98	21.97	-1.5	20.47	111.43	23

20M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637334	3560.01	23.26	-1.5	21.76	149.97	23
641666	3624.99	23.64	-1.5	22.14	163.68	23
646000	3690	23.74	-1.5	22.24	167.49	23

10M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637000	3555	23.24	-1.5	21.74	149.28	23
641666	3624.99	23.62	-1.5	22.12	162.93	23
646332	3694.98	23.84	-1.5	22.34	171.40	23

ANT6:

40M DFT-s-OFDM Pi/2 BPSK						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	22.31	-1.5	20.81	120.50	23
641666	3624.99	22.62	-1.5	21.12	129.42	23
645332	3679.98	22.74	-1.5	21.24	133.05	23

40M DFT-s-OFDM QPSK						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	22.53	-1.5	21.03	126.77	23
641666	3624.99	22.66	-1.5	21.16	130.62	23
645332	3679.98	22.75	-1.5	21.25	133.35	23

40M DFT-s-OFDM 16QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	EIRP (mW)	**Limit (dBm/10MHz)**
638000	3570	22.13	-1.5	20.63	115.61	23
641666	3624.99	22.47	-1.5	20.97	125.03	23
645332	3679.98	22.66	-1.5	21.16	130.62	23

40M DFT-s-OFDM 64QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	21.92	-1.5	20.42	110.15	23
641666	3624.99	22.21	-1.5	20.71	117.76	23
645332	3679.98	22.16	-1.5	20.66	116.41	23

40M DFT-s-OFDM 256QAM						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Limit (dBm/10MHz)**
638000	3570	20.61	-1.5	19.11	81.47	23
641666	3624.99	20.82	-1.5	19.32	85.51	23
645332	3679.98	20.87	-1.5	19.37	86.50	23

20M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637334	3560.01	22.27	-1.5	20.77	119.40	23
641666	3624.99	22.52	-1.5	21.02	126.47	23
646000	3690	22.64	-1.5	21.14	130.02	23

10M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637000	3555	22.25	-1.5	20.75	118.85	23
641666	3624.99	22.58	-1.5	21.08	128.23	23
646332	3694.98	22.60	-1.5	21.10	128.82	23

ANT8:

40M DFT-s-OFDM Pi/2 BPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	20.32	-1.5	18.82	76.21	23
641666	3624.99	20.63	-1.5	19.13	81.85	23
645332	3679.98	20.77	-1.5	19.27	84.53	23

40M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	20.35	-1.5	18.85	76.74	23
641666	3624.99	20.71	-1.5	19.21	83.37	23
645332	3679.98	20.78	-1.5	19.28	84.72	23

40M DFT-s-OFDM 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	20.22	-1.5	18.72	74.47	23
641666	3624.99	20.37	-1.5	18.87	77.09	23
645332	3679.98	20.62	-1.5	19.12	81.66	23

40M DFT-s-OFDM 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	19.96	-1.5	18.46	70.15	23
641666	3624.99	20.11	-1.5	18.61	72.61	23
645332	3679.98	20.22	-1.5	18.72	74.47	23

40M DFT-s-OFDM 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
638000	3570	18.55	-1.5	17.05	50.70	23
641666	3624.99	18.80	-1.5	17.30	53.70	23
645332	3679.98	18.98	-1.5	17.48	55.98	23

20M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637334	3560.01	20.33	-1.5	18.83	76.38	23
641666	3624.99	20.67	-1.5	19.17	82.60	23
646000	3690	20.63	-1.5	19.13	81.85	23

10M DFT-s-OFDM QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
637000	3555	20.31	-1.5	18.81	76.03	23
641666	3624.99	20.57	-1.5	19.07	80.72	23
646332	3694.98	20.66	-1.5	19.16	82.41	23

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

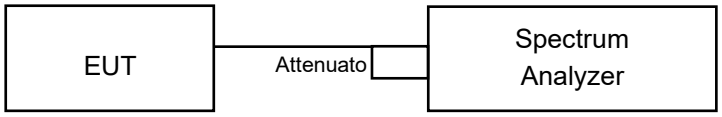
Note: The worst case EIRP shown in this section is found with NR operating onty using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 10, 20,40MHz).

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 O 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) ≧ 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 ≧3 x 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

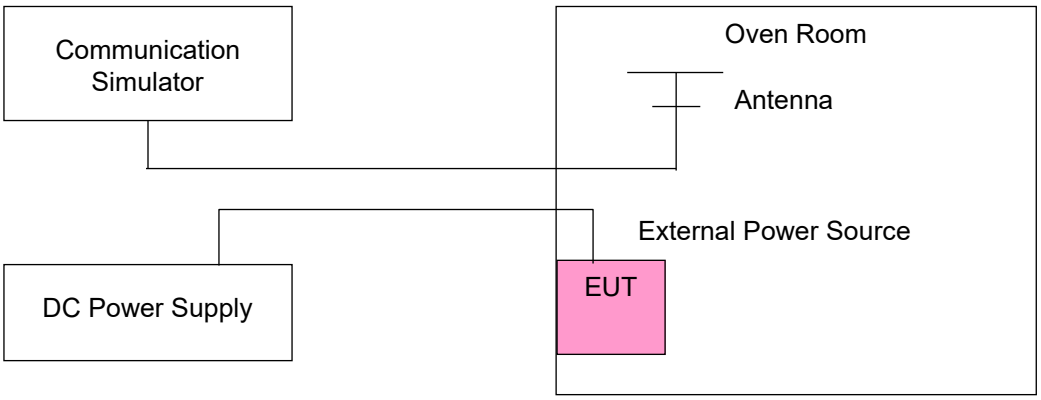
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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 ±0.5℃ 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



3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

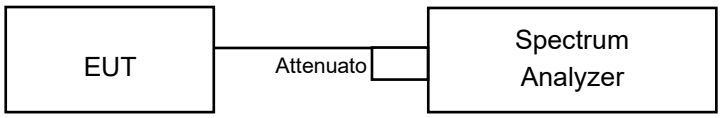
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.87V); VH = High voltage(4.45V);
NT = Normal temperature (25℃)

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

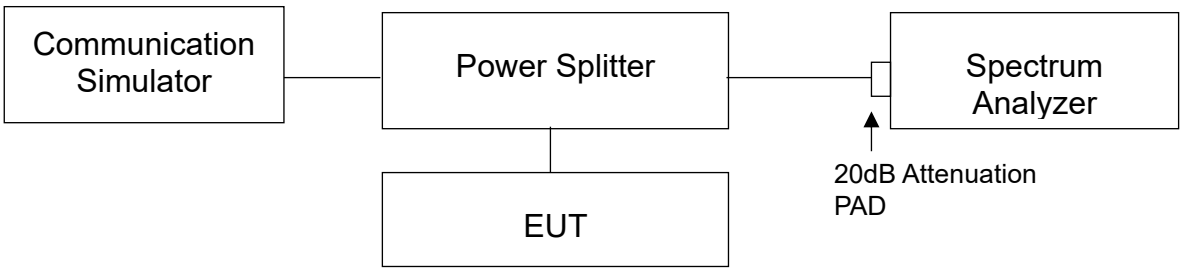
Please Refer to Appendix Of this test report.

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 = Output power level of S.G – TX cable loss + 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 power = E.I.P.R power - 2.15dBi.

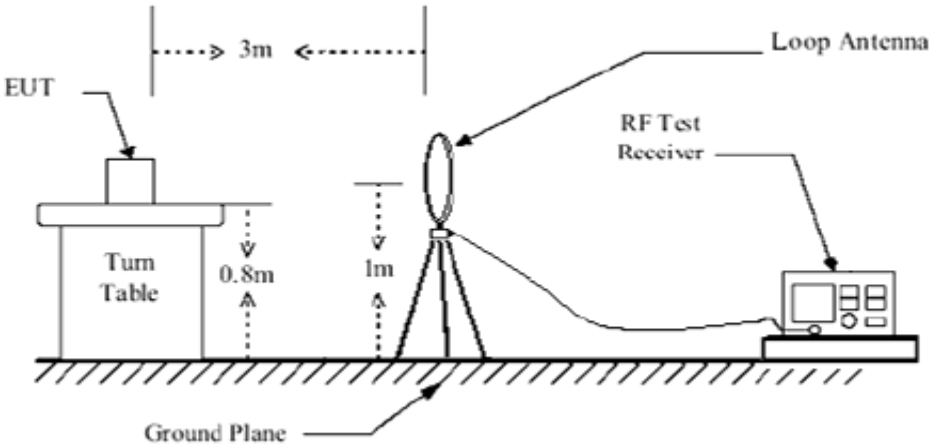
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

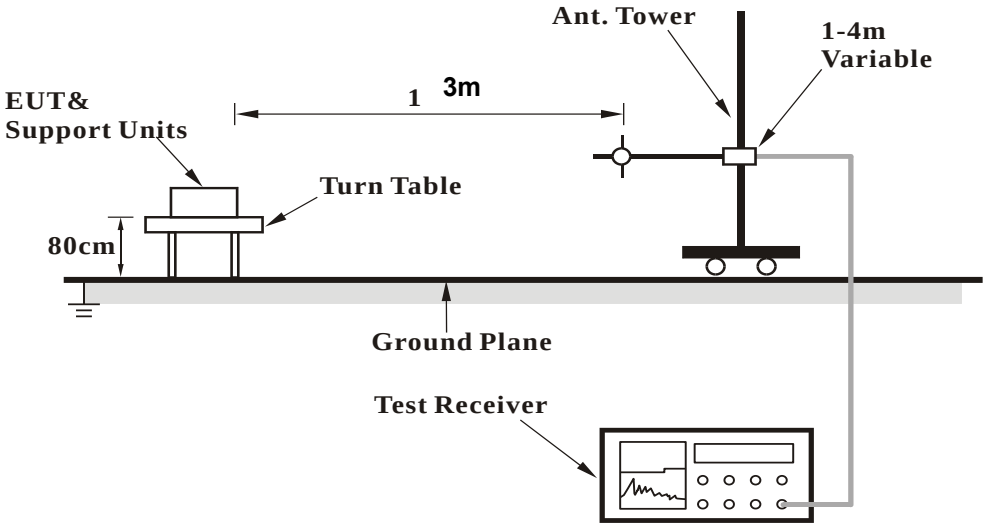
No deviation.

3.6.4 TEST SET UP

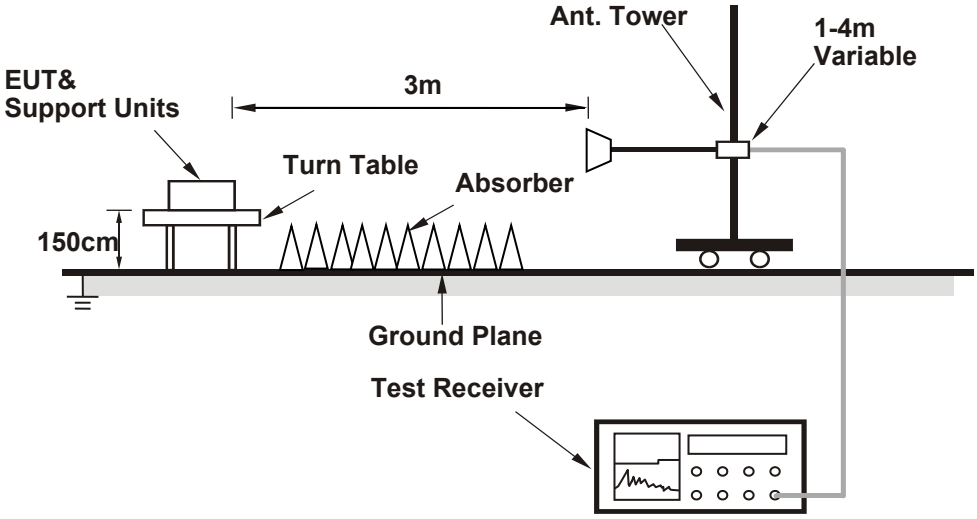
< Frequency Range below 30MHz >



<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

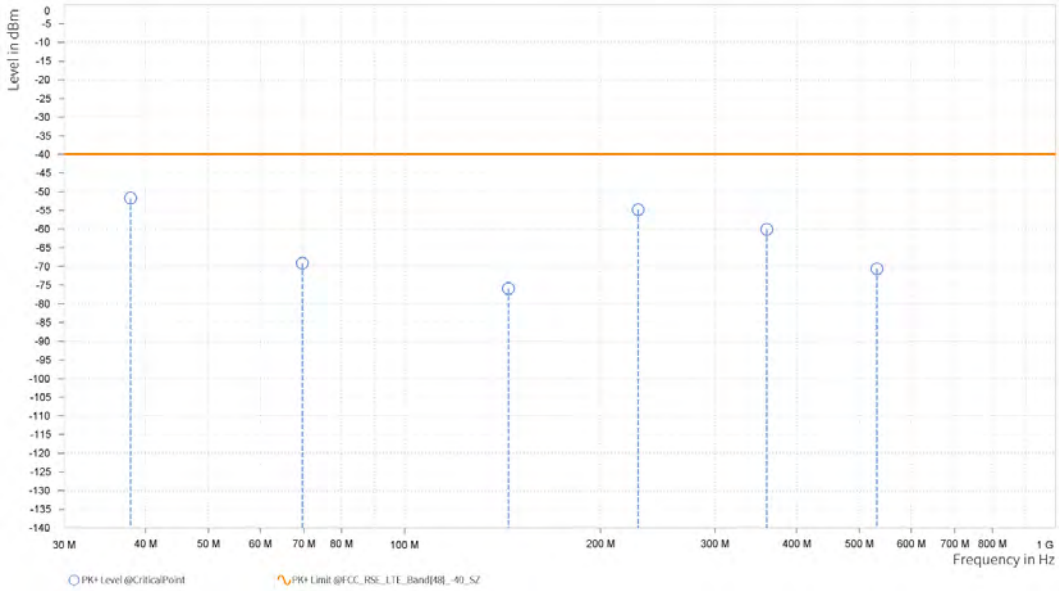
NOTE ： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

:

BELOW 1GHz WORST-CASE DATA			
CHANNEL BANDWIDTH	10MHz / QPSK	**MODE**	TX channel 641666
FREQUENCY RANGE	30 MHz – 1GHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu

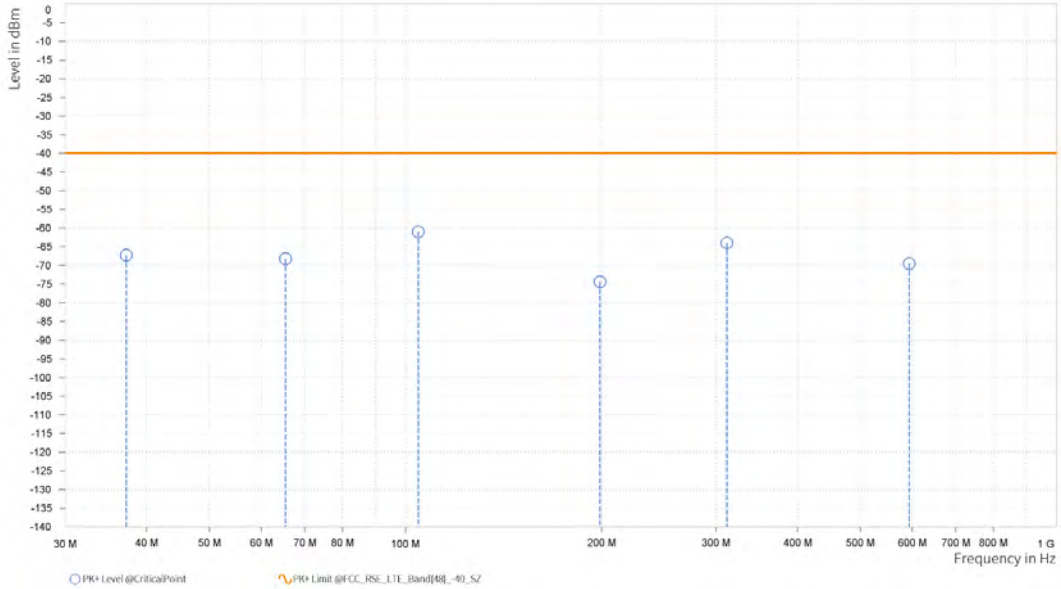
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.950	-51.72	-40.00	11.72	6.03	H	139.1	1.00
1	69.700	-69.12	-40.00	29.12	-4.75	H	27.2	2.00
1	144.450	-75.92	-40.00	35.92	-8.99	H	27.2	2.00
1	228.550	-54.84	-40.00	14.84	6.71	H	4.9	1.00
1	360.200	-60.07	-40.00	20.07	4.12	H	27.2	2.00
2	531.675	-70.62	-40.00	30.62	4.96	H	70.2	2.00



CHANNEL BANDWIDTH	10MHz / QPSK	**MODE**	TX channel 641666
FREQUENCY RANGE	30 MHz – 1GHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu
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	37.250	-67.30	-40.00	27.30	-2.25	V	1	1.00
1	65.400	-68.24	-40.00	28.24	-1.36	V	221.6	1.00
1	104.550	-60.98	-40.00	20.98	9.67	V	269.9	2.00
1	198.900	-74.37	-40.00	34.37	-0.74	V	355.3	1.00
1	311.550	-63.96	-40.00	23.96	3.58	V	355.1	2.00
2	594.008	-69.50	-40.00	29.50	6.51	V	325.6	1.00



ABOVE 1GHz

Note:

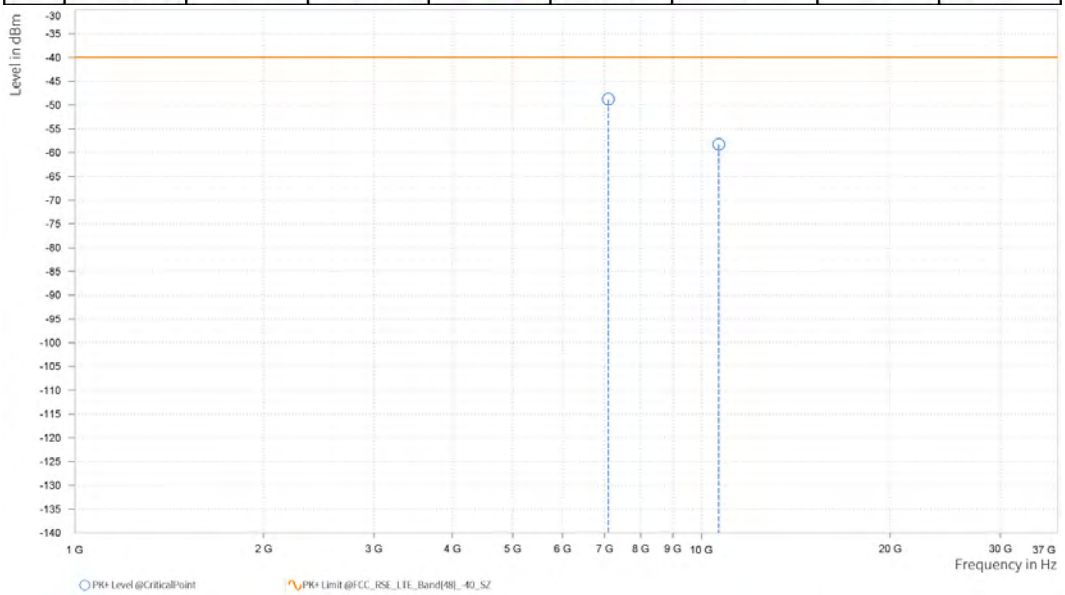
1 For higher frequency, the emission is too low to be detected.

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 637000
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

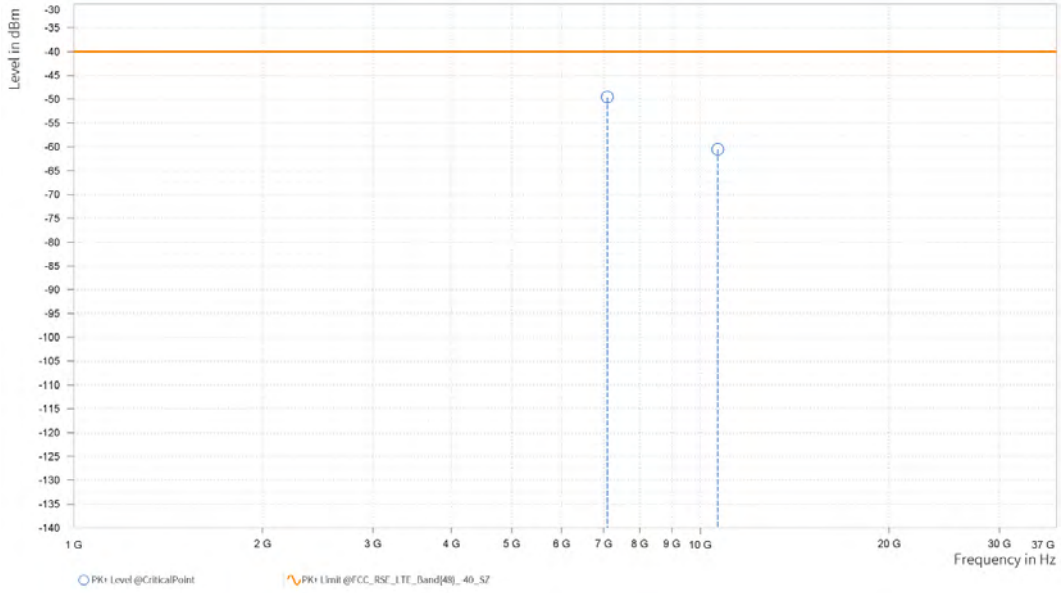
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,101.000	-48.75	-40.00	8.75	24.35	H	1	2.00
6	10,651.500	-58.24	-40.00	18.24	11.67	H	1	2.00



CHANNEL BANDWIDTH	10MHz / QPSK	**MODE**	TX channel 637000
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

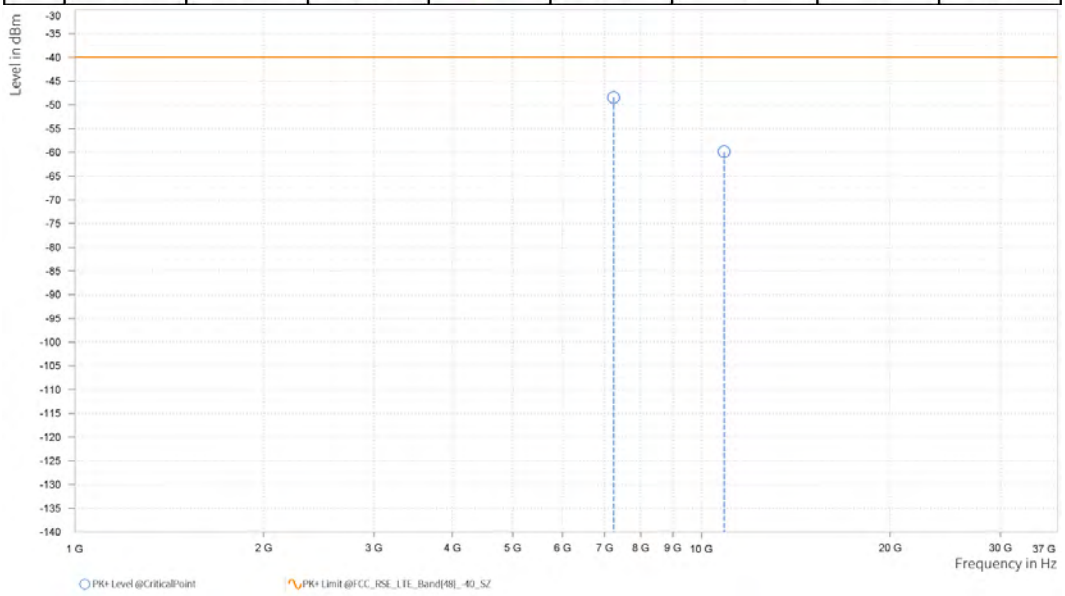
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,101.000	-49.56	-40.00	9.56	24.35	V	359	2.00
6	10,651.500	-60.54	-40.00	20.54	11.67	V	1	1.00



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**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

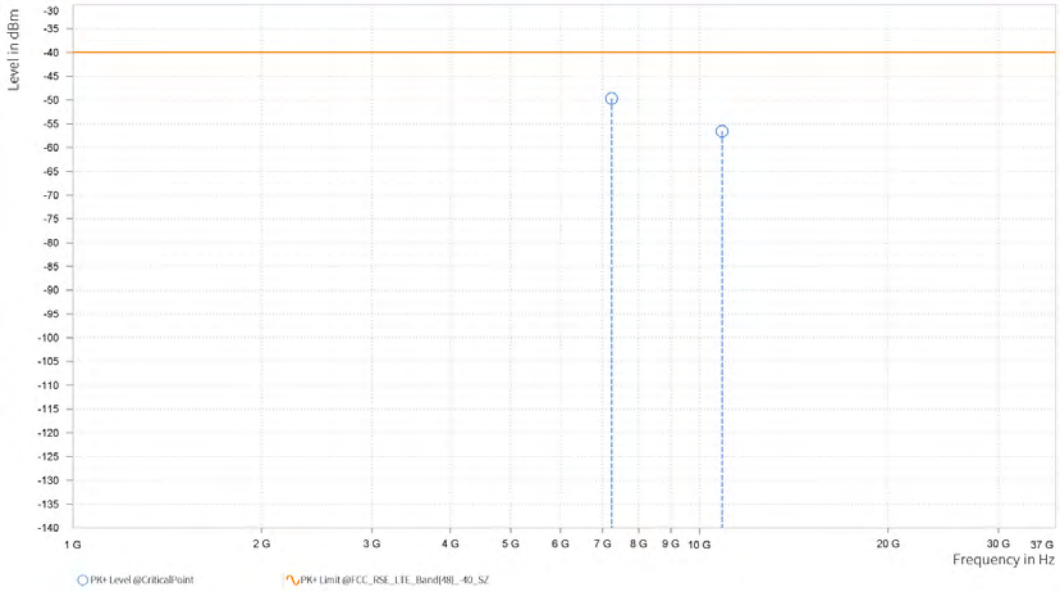
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,240.980	-48.41	-40.00	8.41	24.57	H	151	1.00
6	10,861.470	-59.87	-40.00	19.87	11.56	H	1	1.00



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**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

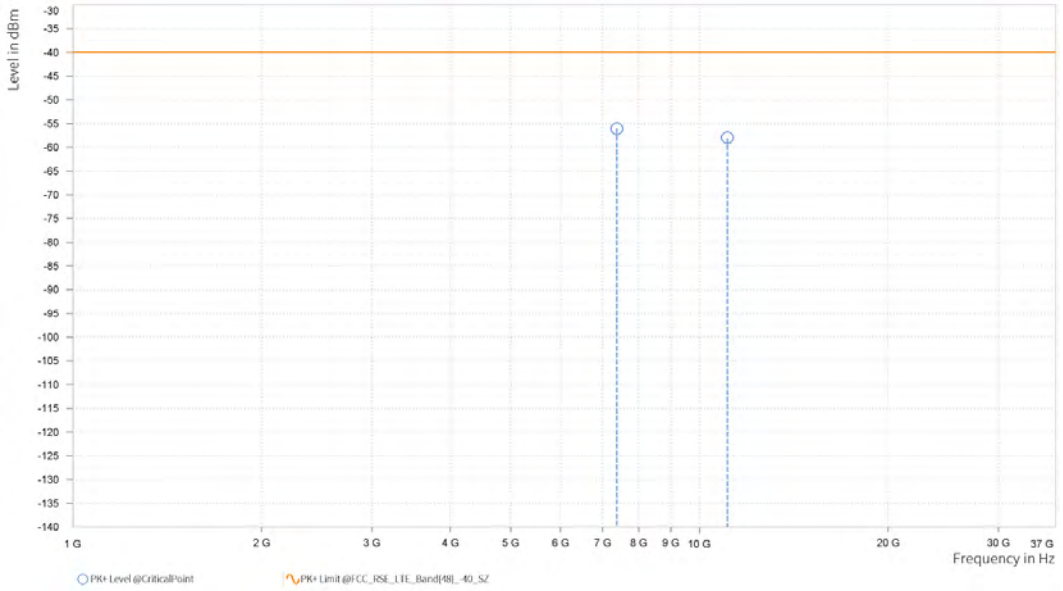
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,240.980	-49.66	-40.00	9.66	24.57	V	359	2.00
6	10,861.470	-56.54	-40.00	16.54	11.56	V	359.1	1.00



CHANNEL BANDWIDTH	10MHz / QPSK	**MODE**	TX channel 646332
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

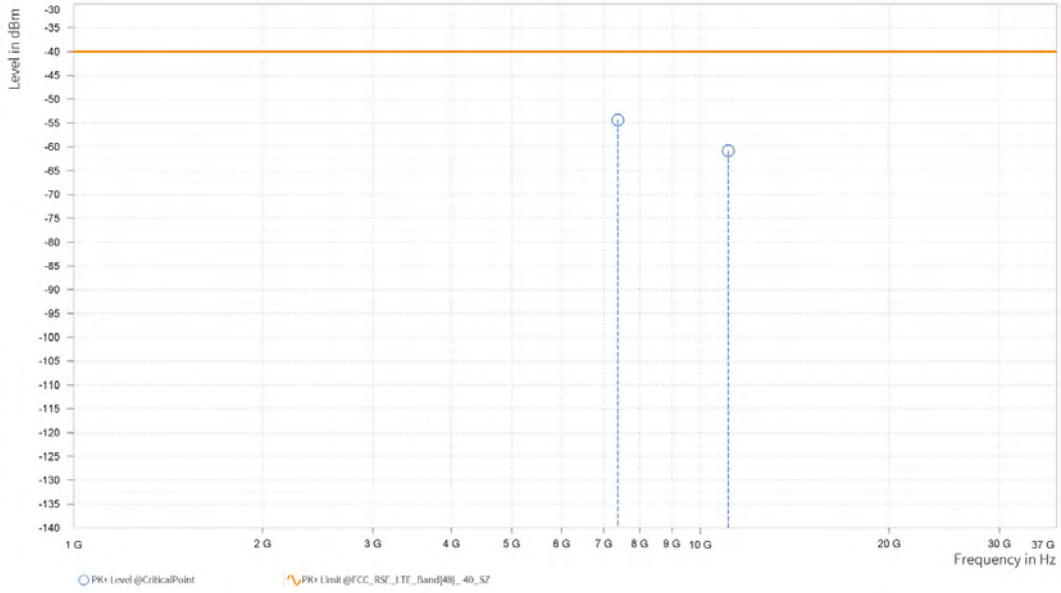
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,380.960	-56.05	-40.00	16.05	18.99	H	206.5	2.00
6	11,071.440	-57.97	-40.00	17.97	11.94	H	1	2.00



CHANNEL BANDWIDTH	10MHz / QPSK	**MODE**	TX channel 646332
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	AC 120V 60HZ	**TESTED BY**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

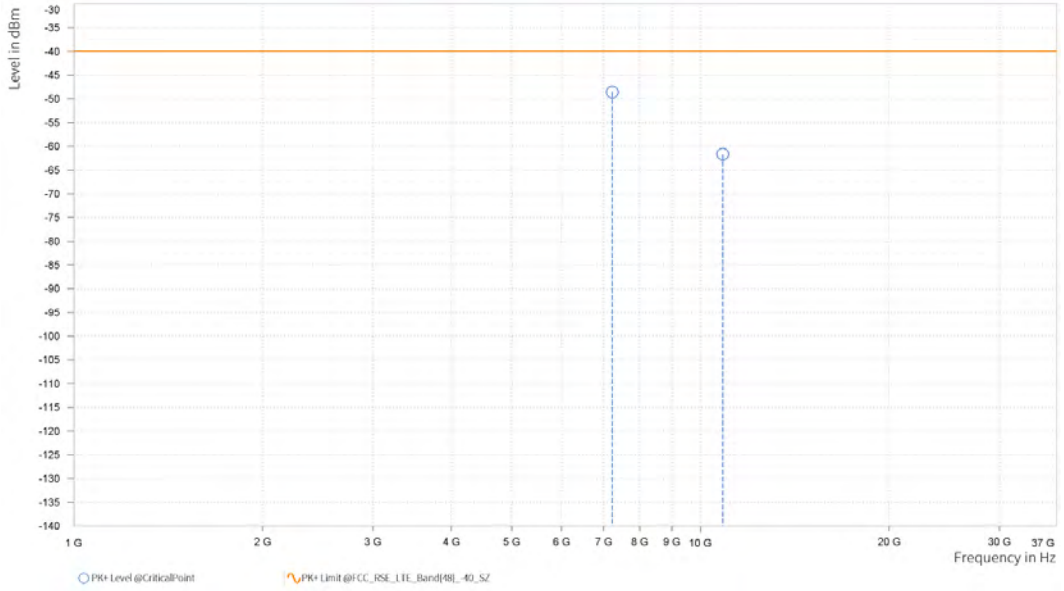
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,380.960	-54.38	-40.00	14.38	18.99	V	153.4	1.00
6	11,071.440	-60.85	-40.00	20.85	11.94	V	359	1.00



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**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

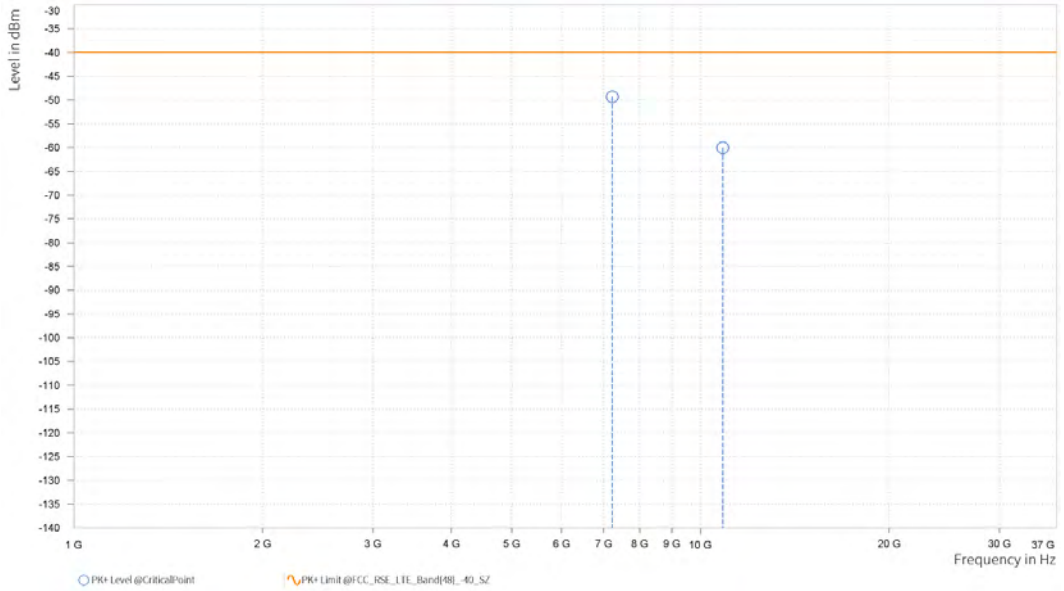
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,231.980	-48.55	-40.00	8.55	24.53	H	207.7	2.00
6	10,847.970	-61.66	-40.00	21.66	11.50	H	359	1.00



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**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

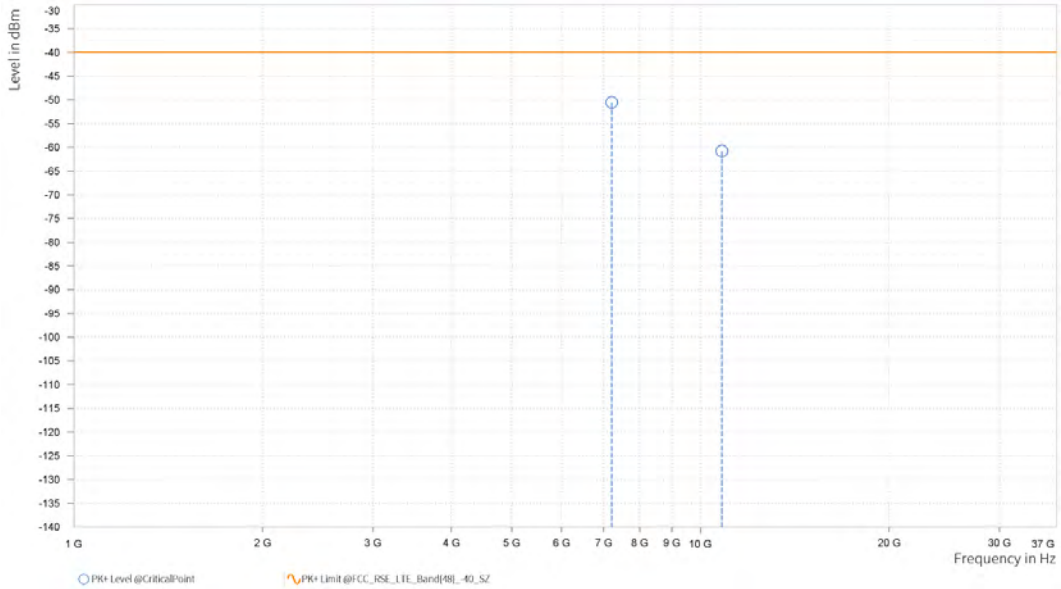
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,231.980	-49.27	-40.00	9.27	24.53	V	2.2	2.00
6	10,847.970	-60.03	-40.00	20.03	11.50	V	359	2.00



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**	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

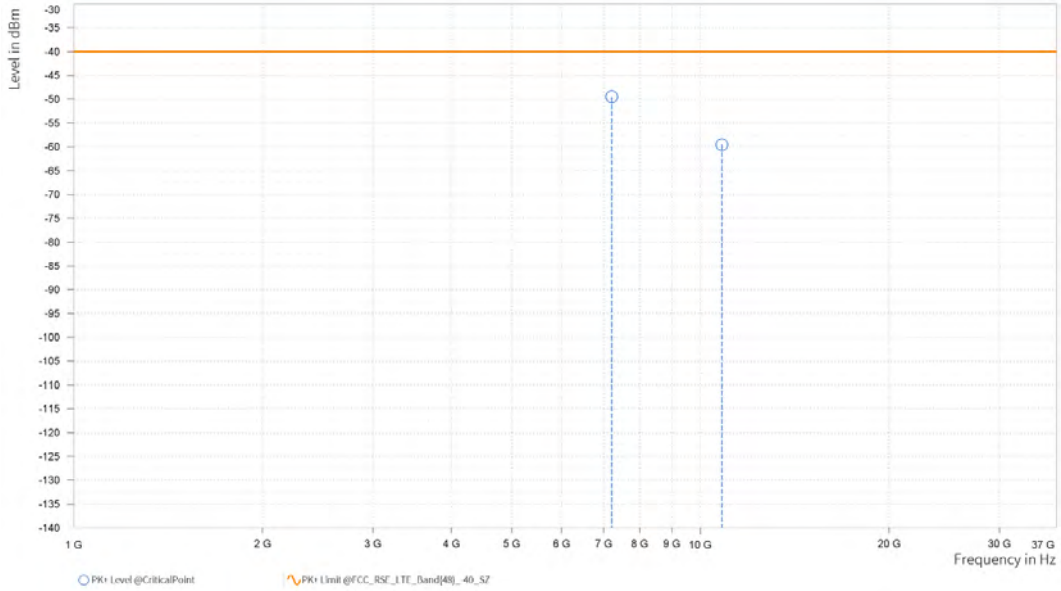
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,213.980	-50.53	-40.00	10.53	24.48	H	355.7	1.00
6	10,820.970	-60.81	-40.00	20.81	11.53	H	0.9	2.00



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**	Jace Hu

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	-49.50	-40.00	9.50	24.48	V	357	1.00
6	10,820.970	-59.55	-40.00	19.55	11.53	V	295.8	1.00

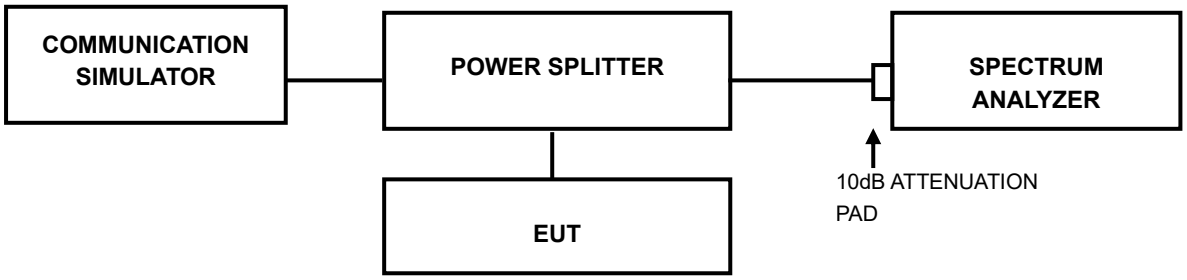


3.7 PEAK TO AVERAGE RATIO

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 ≥ 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.

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

Shenzhen EMC/RF Lab:
Tel: +86-755-88696566
Fax: +86-755-88696577

Email: customerservice.sw@cn.bureauveritas.com
Web Site: www.adt.com.tw

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

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.

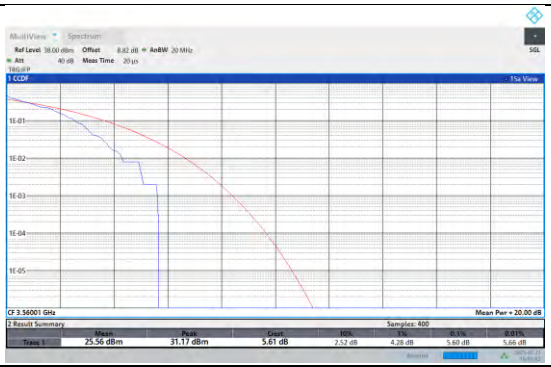
6 APPENDIX

N48

PEAK-TO-AVERAGE RATIO(CCDF) TEST RESULT

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Limit	Verdict
N48	30	20	DFT-QPSK	L	Outer_Full	5.60	≤13	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Left	3.86	≤13	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	5.88	≤13	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	2.50	≤13	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	4.84	≤13	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	3.46	≤13	PASS

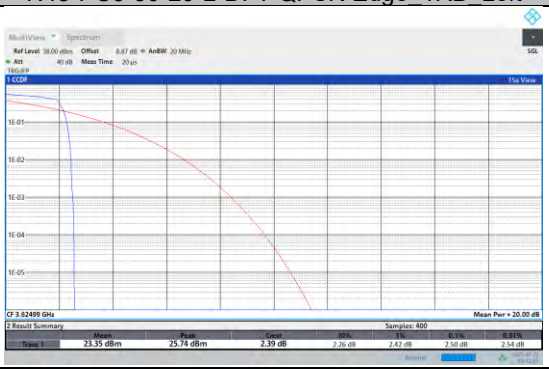
TEST GRAPHS



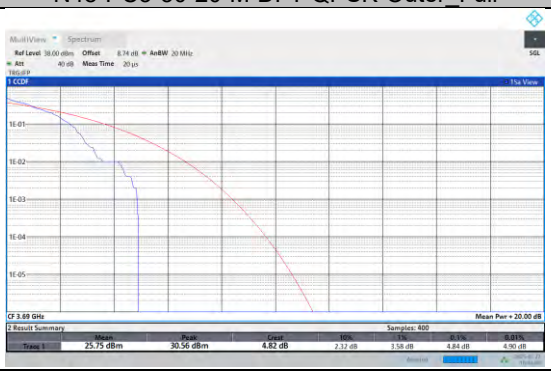
N48-PC3-30-20-L-DFT-QPSK-Outer_Full

N48-PC3-30-20-L-DFT-QPSK-Edge_1RB_Left

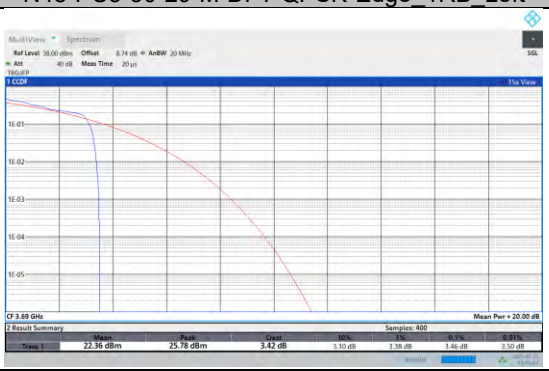
N48-PC3-30-20-M-DFT-QPSK-Outer_Full



N48-PC3-30-20-M-DFT-QPSK-Edge_1RB_Left



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



N48-PC3-30-20-H-DFT-QPSK-Edge_1RB_Left

26DB BANDWIDTH AND OCCUPIED BANDWIDTH FOR SA TEST RESULT

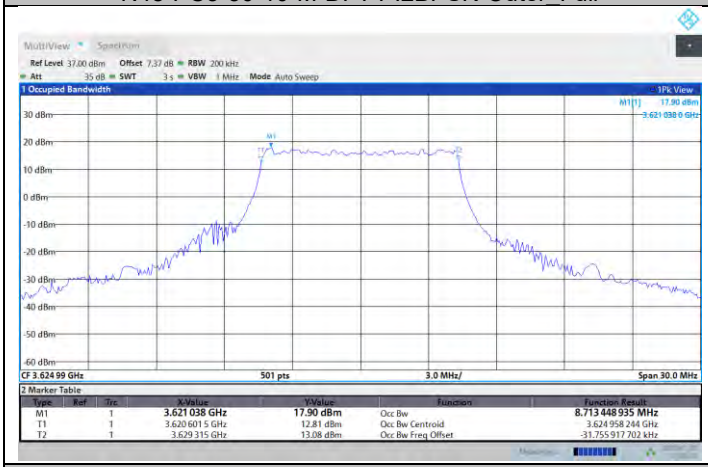
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result (99%)	Result (26dB)	Verdict
N48	30	10	DFT-PI2BPSK	M	Outer_Full	8.750	10.10	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	8.754	10.22	PASS
N48	30	10	DFT-16QAM	M	Outer_Full	8.713	10.25	PASS
N48	30	10	DFT-64QAM	M	Outer_Full	8.716	10.04	PASS
N48	30	10	DFT-256QAM	M	Outer_Full	8.758	10.19	PASS
N48	30	20	DFT-PI2BPSK	M	Outer_Full	18.156	20.14	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	18.150	20.02	PASS
N48	30	20	DFT-16QAM	M	Outer_Full	18.152	19.96	PASS
N48	30	20	DFT-64QAM	M	Outer_Full	18.163	20.02	PASS
N48	30	20	DFT-256QAM	M	Outer_Full	18.099	20.26	PASS
N48	30	40	DFT-PI2BPSK	M	Outer_Full	36.166	38.96	PASS
N48	30	40	DFT-QPSK	M	Outer_Full	36.119	39.08	PASS
N48	30	40	DFT-16QAM	M	Outer_Full	36.051	28.95	PASS
N48	30	40	DFT-64QAM	M	Outer_Full	36.129	39.08	PASS
N48	30	40	DFT-256QAM	M	Outer_Full	36.030	39.20	PASS

TEST GRAPHS

Occupied Bandwidth

N48-PC3-30-10-M-DFT-PI2BPSK-Outer_Full

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



N48-PC3-30-10-M-DFT-16QAM-Outer_Full

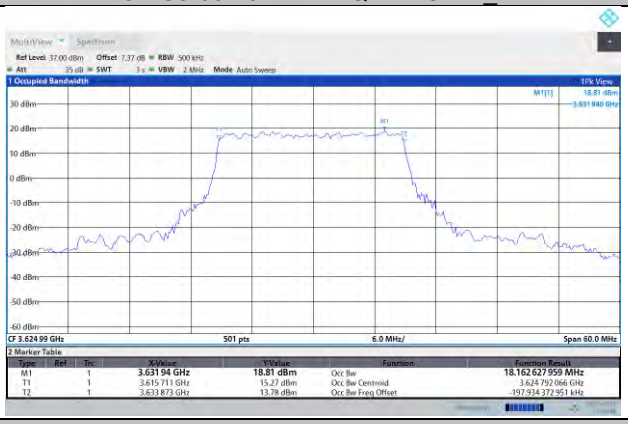
N48-PC3-30-10-M-DFT-64QAM-Outer_Full

N48-PC3-30-10-M-DFT-256QAM-Outer_Full

N48-PC3-30-20-M-DFT-PI2BPSK-Outer_Full

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

N48-PC3-30-20-M-DFT-16QAM-Outer_Full



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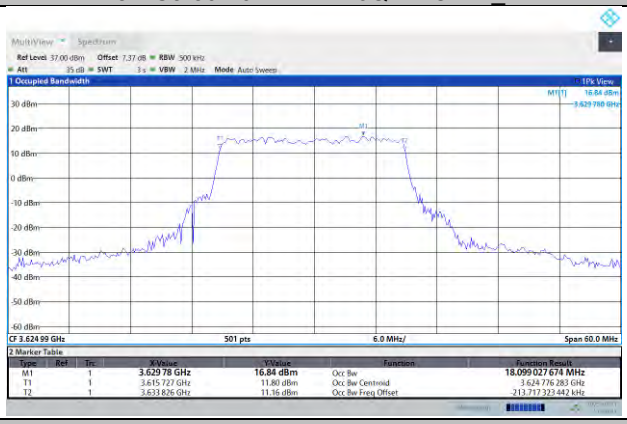
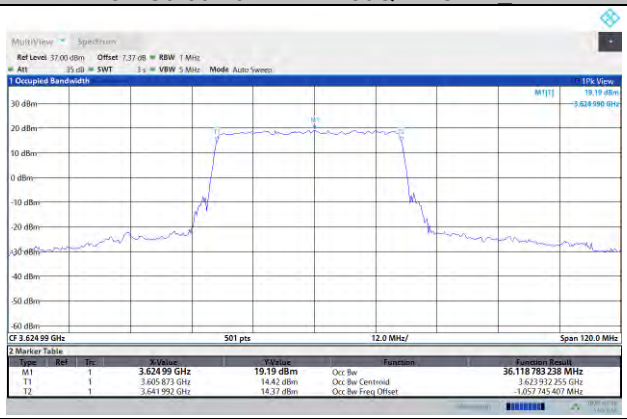
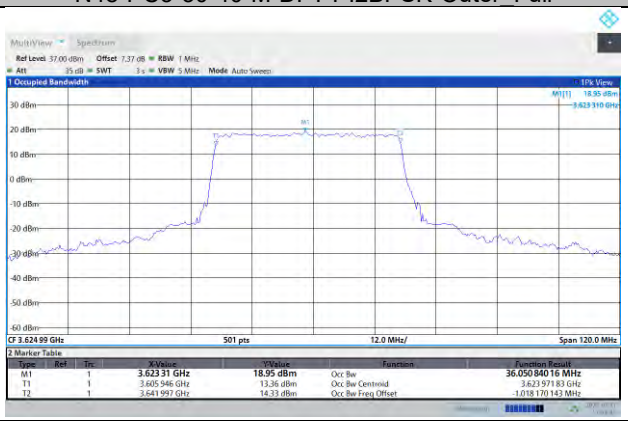


N48-PC3-30-20-M-DFT-256QAM-Outer_Full

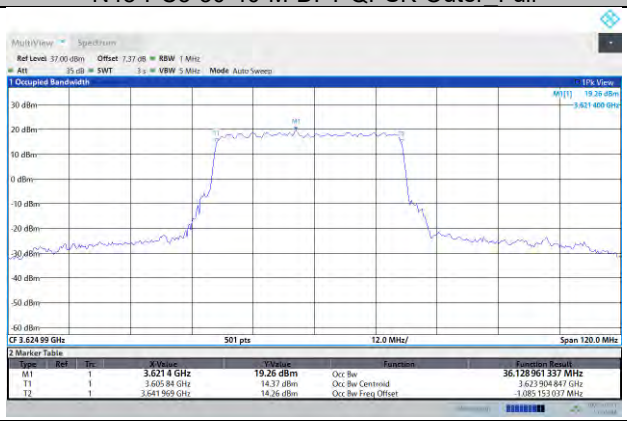
N48-PC3-30-40-M-DFT-PI2BPSK-Outer_Full



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



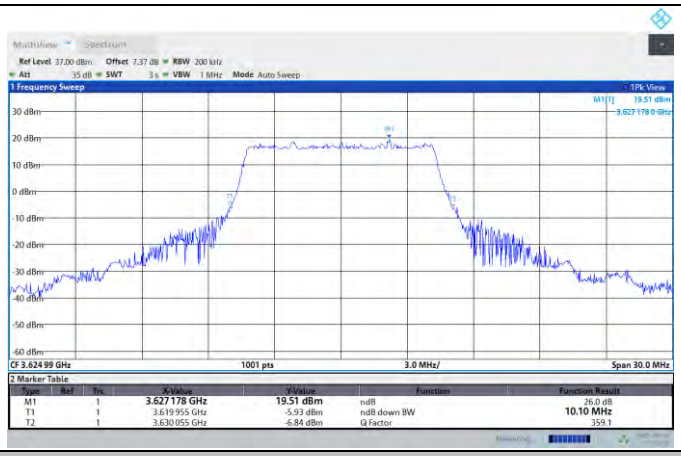
N48-PC3-30-40-M-DFT-16QAM-Outer_Full



N48-PC3-30-40-M-DFT-64QAM-Outer_Full

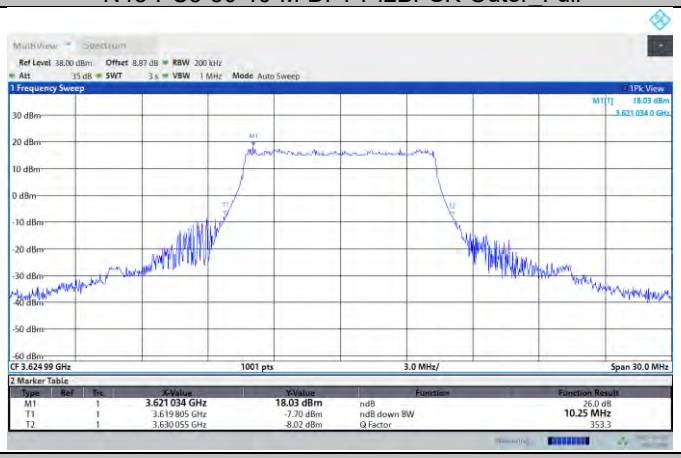
N48-PC3-30-40-M-DFT-256QAM-Outer_Full

26dB Bandwidth

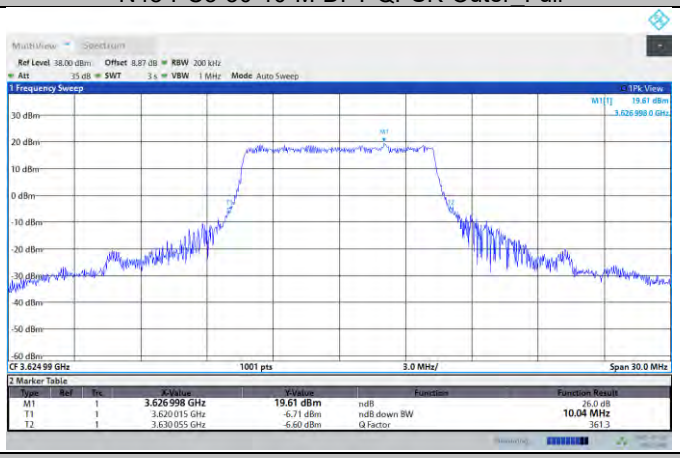


N48-PC3-30-10-M-DFT-PI2BPSK-Outer_Full

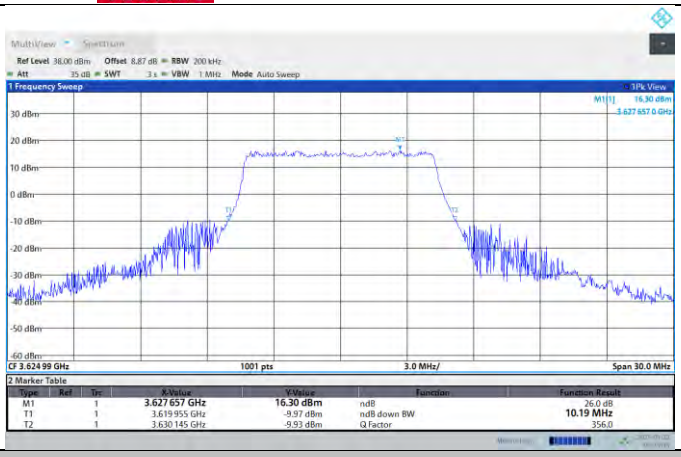
N48-PC3-30-10-M-DFT-QPSK-Outer_Full



N48-PC3-30-10-M-DFT-16QAM-Outer_Full

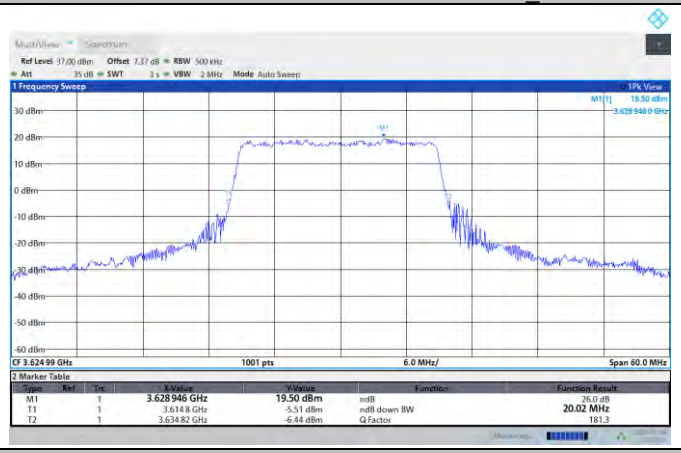


N48-PC3-30-10-M-DFT-64QAM-Outer_Full



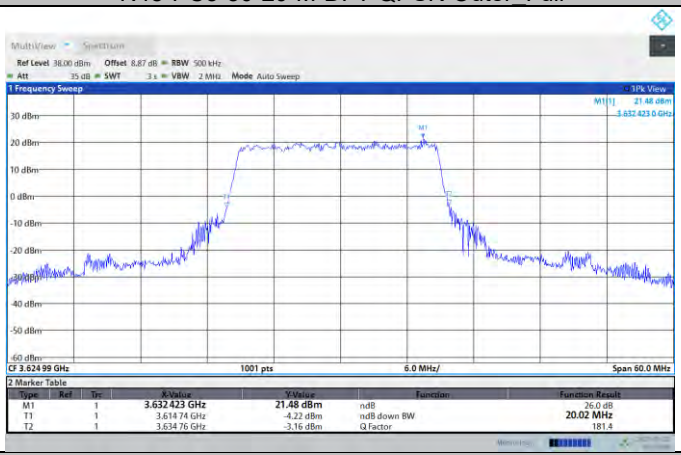
N48-PC3-30-10-M-DFT-256QAM-Outer_Full

N48-PC3-30-20-M-DFT-PI2BPSK-Outer_Full



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

N48-PC3-30-20-M-DFT-16QAM-Outer_Full



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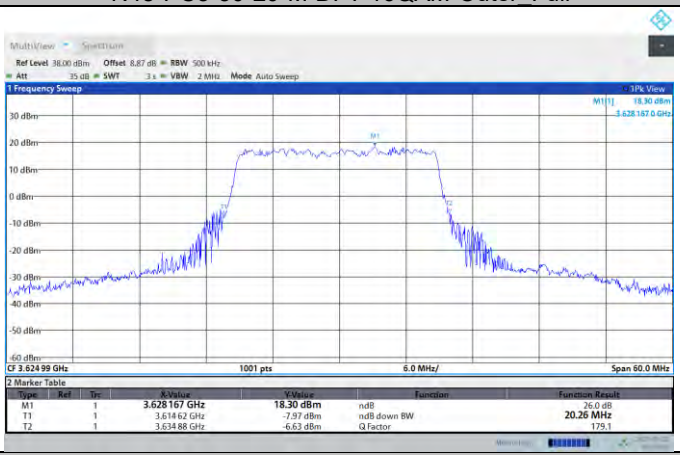
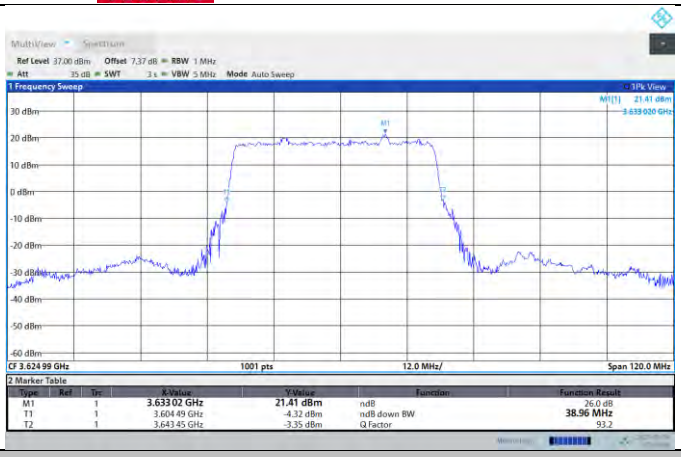
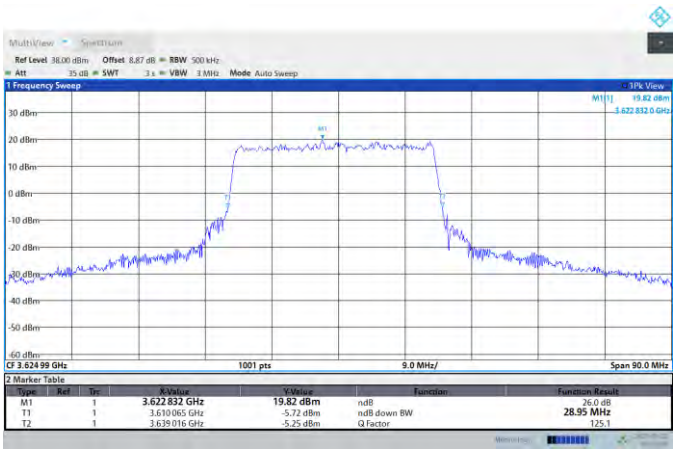


N48-PC3-30-20-M-DFT-256QAM-Outer_Full



N48-PC3-30-40-M-DFT-PI2BPSK-Outer_Full

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



N48-PC3-30-40-M-DFT-16QAM-Outer_Full

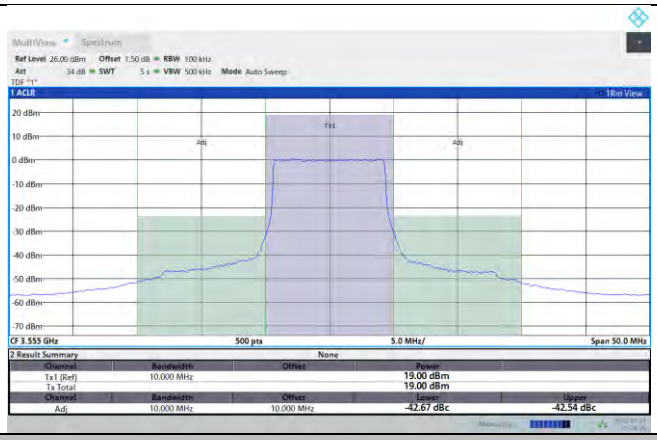
N48-PC3-30-40-M-DFT-64QAM-Outer_Full

N48-PC3-30-40-M-DFT-256QAM-Outer_Full

ACLR FOR SA
TEST RESULT

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Verdict
N48	30	10	DFT-QPSK	L	Outer_Full	≤-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	M	Outer_Full	≤-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	H	Outer_Full	≤-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	20	DFT-QPSK	L	Outer_Full	≤-30	PASS
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	M	Outer_Full	≤-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	H	Outer_Full	≤-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	40	DFT-QPSK	L	Outer_Full	≤-30	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Left	≤-30	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Right	≤-30	PASS
N48	30	40	DFT-QPSK	M	Outer_Full	≤-30	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Left	≤-30	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Right	≤-30	PASS
N48	30	40	DFT-QPSK	H	Outer_Full	≤-30	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Left	≤-30	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Right	≤-30	PASS

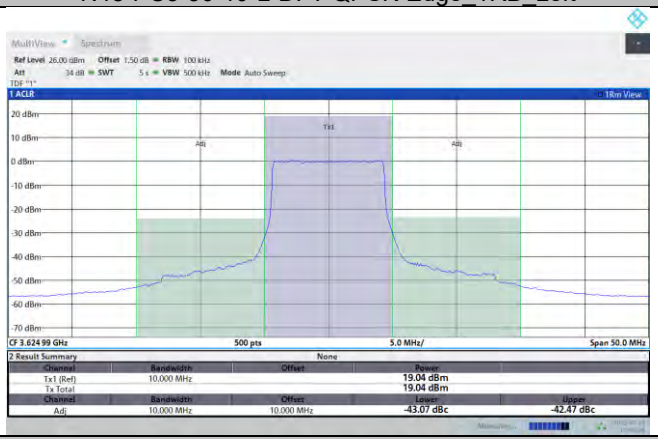
TEST GRAPHS



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

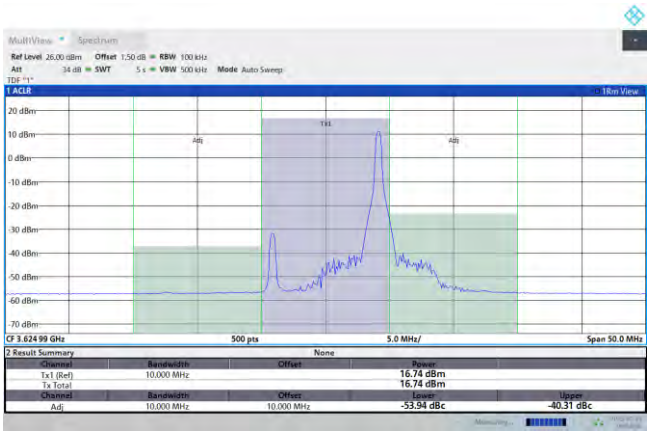
N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Left

N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Right



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

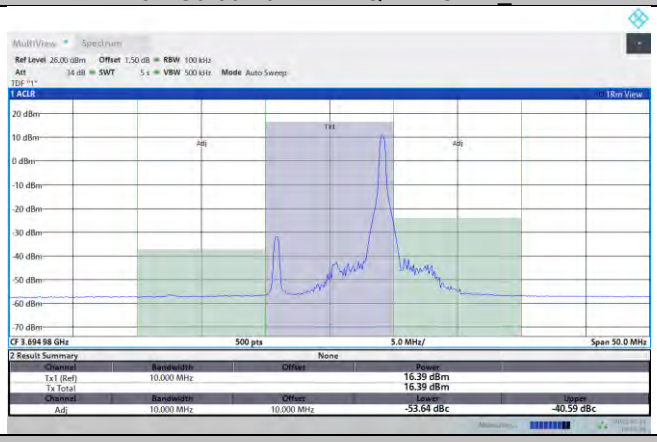
N48-PC3-30-10-M-DFT-QPSK-Edge_1RB_Left



N48-PC3-30-10-M-DFT-QPSK-Edge_1RB_Right

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

N48-PC3-30-10-H-DFT-QPSK-Edge_1RB_Left



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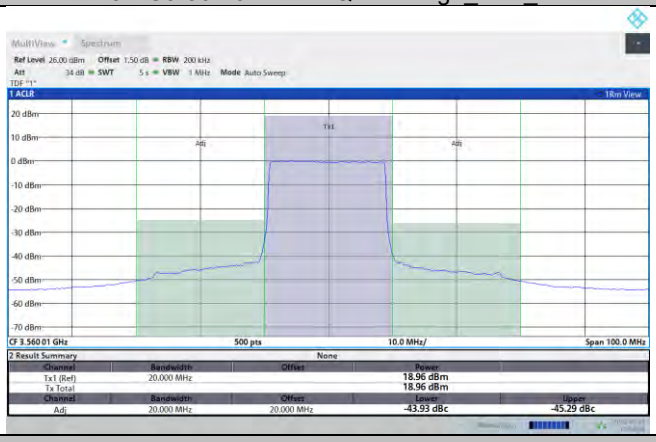
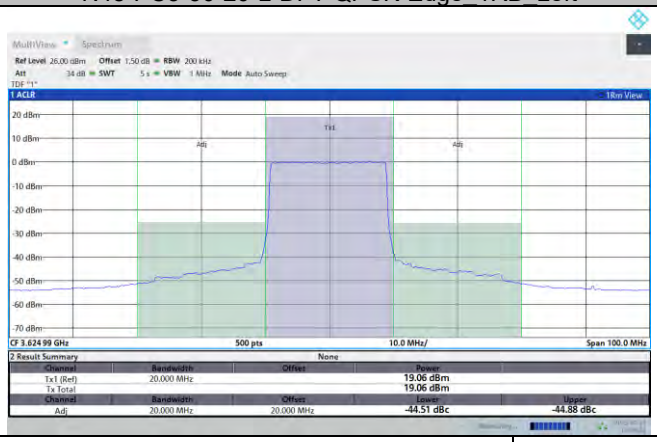


N48-PC3-30-20-L-DFT-QPSK-Outer_Full

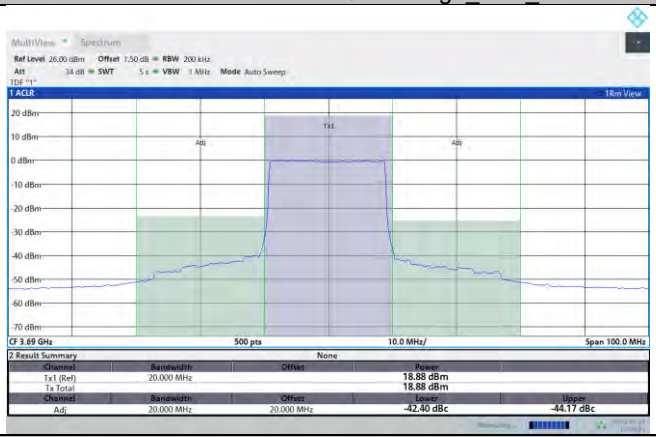
N48-PC3-30-20-L-DFT-QPSK-Edge_1RB_Left

N48-PC3-30-20-L-DFT-QPSK-Edge_1RB_Right



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

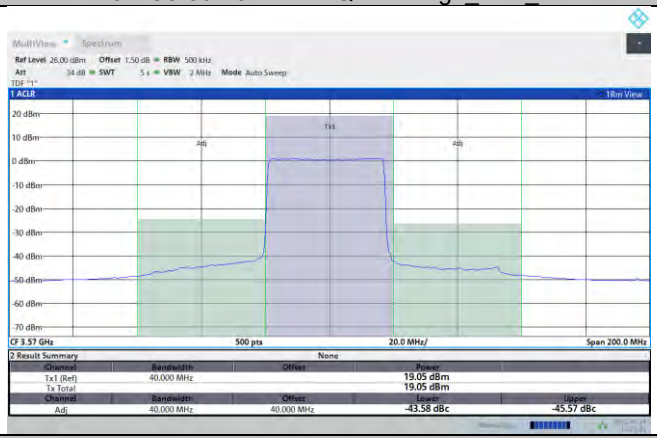
N48-PC3-30-20-M-DFT-QPSK-Edge_1RB_Left



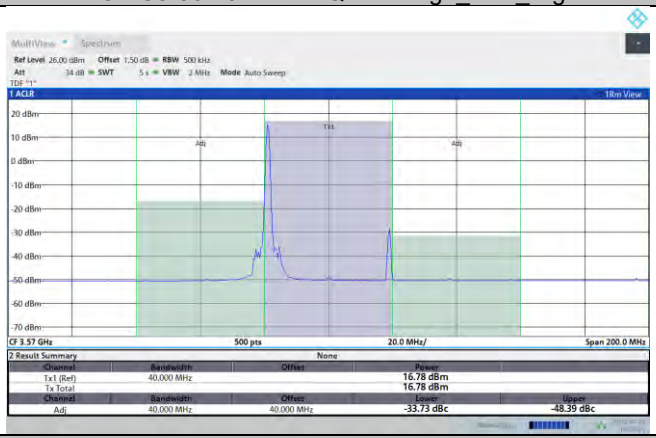
N48-PC3-30-20-M-DFT-QPSK-Edge_1RB_Right

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

N48-PC3-30-20-H-DFT-QPSK-Edge_1RB_Left



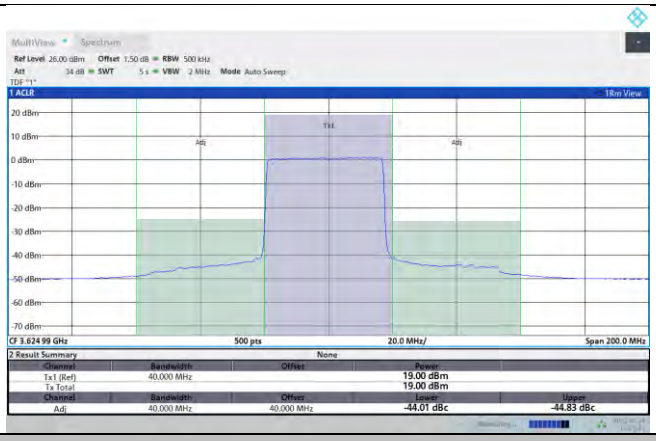
N48-PC3-30-20-H-DFT-QPSK-Edge_1RB_Right



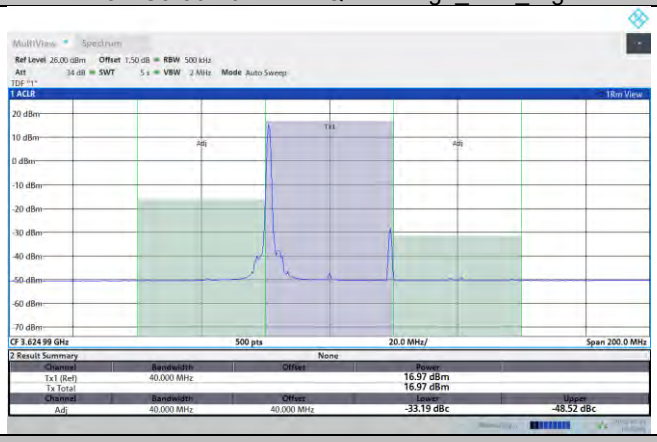
N48-PC3-30-40-L-DFT-QPSK-Outer_Full

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

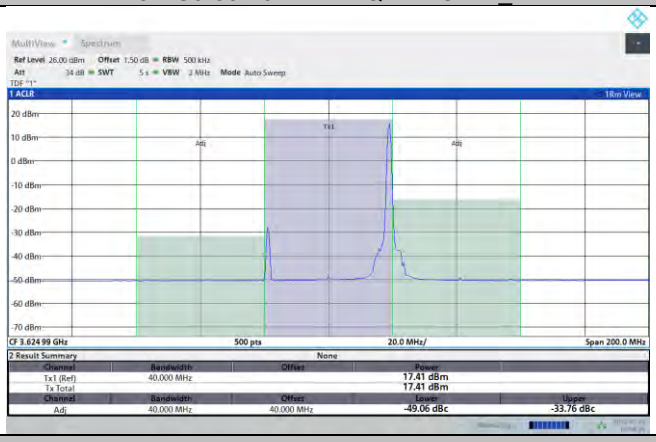
N48-PC3-30-40-L-DFT-QPSK-Edge_1RB_Right



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

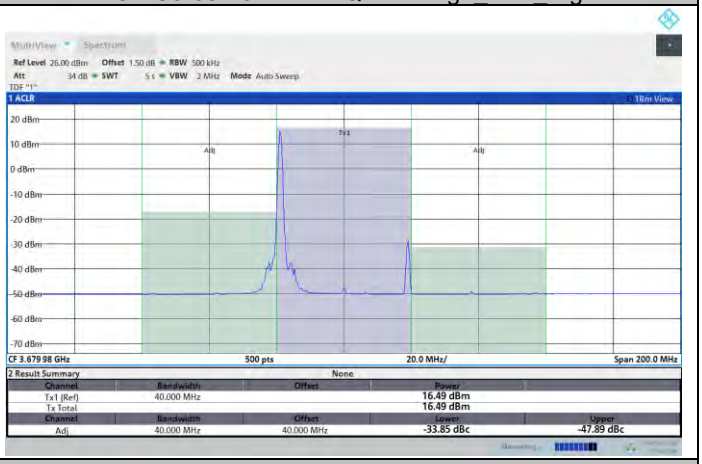


N48-PC3-30-40-M-DFT-QPSK-Edge_1RB_Left



N48-PC3-30-40-M-DFT-QPSK-Edge_1RB_Right

N48-PC3-30-40-H-DFT-QPSK-Outer_Full



N48-PC3-30-40-H-DFT-QPSK-Edge_1RB_Left

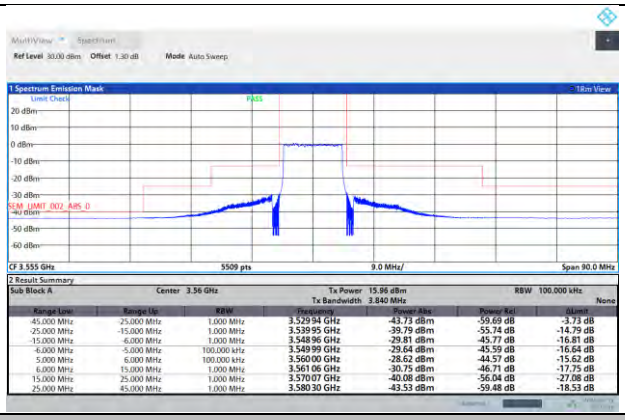
N48-PC3-30-40-H-DFT-QPSK-Edge_1RB_Right

BAND EDGE FOR SA
TEST RESULT

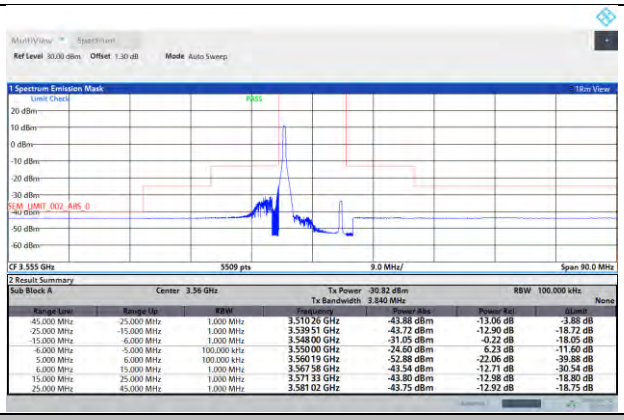
NOTE: Pre-scan QPSK,16QAM,64QAM, 256QAM four modulations modes, only the worst mode and data reflected in the report.

Band	SCS	Bandwidth	Modulation	Channel	RB Config	Result	Verdict
N48	30	10	DFT-QPSK	L	Outer_Full	See Graph	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Left	See Graph	PASS
N48	30	10	DFT-QPSK	L	Edge_1RB_Right	See Graph	PASS
N48	30	10	DFT-QPSK	M	Outer_Full	See Graph	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Left	See Graph	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Right	See Graph	PASS
N48	30	10	DFT-QPSK	H	Outer_Full	See Graph	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Left	See Graph	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Right	See Graph	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	See Graph	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Left	See Graph	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Right	See Graph	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	See Graph	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	See Graph	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Right	See Graph	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	See Graph	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	See Graph	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Right	See Graph	PASS
N48	30	40	DFT-QPSK	L	Outer_Full	See Graph	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Left	See Graph	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Right	See Graph	PASS
N48	30	40	DFT-QPSK	M	Outer_Full	See Graph	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Left	See Graph	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Right	See Graph	PASS
N48	30	40	DFT-QPSK	H	Outer_Full	See Graph	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Left	See Graph	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Right	See Graph	PASS

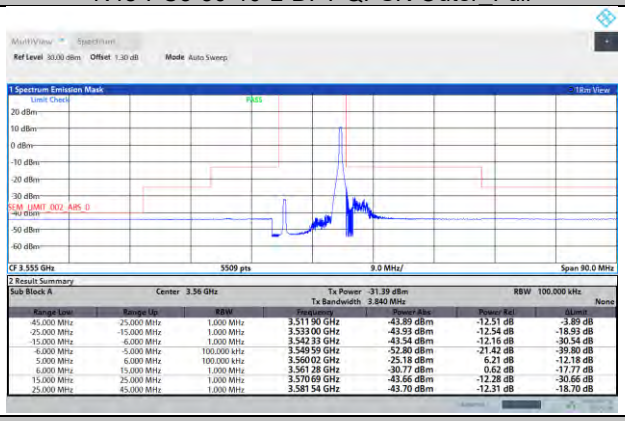
TEST GRAPHS



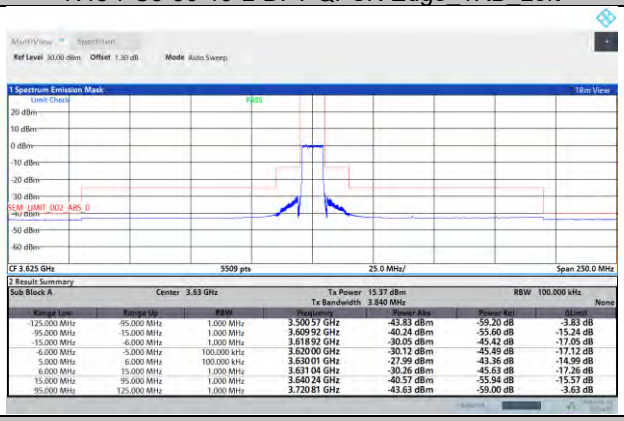
N48-PC3-30-10-L-DFT-QPSK-Outer_Full



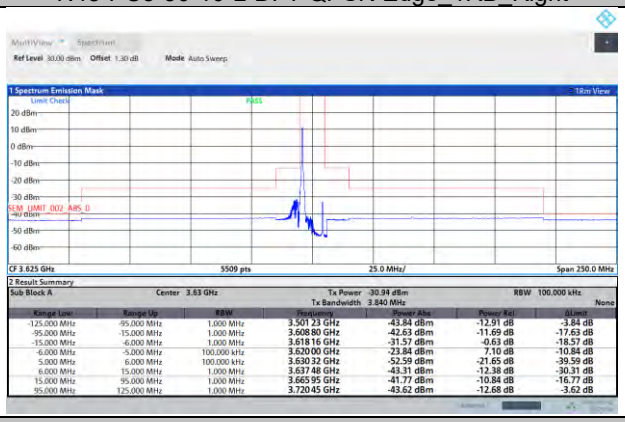
N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Left



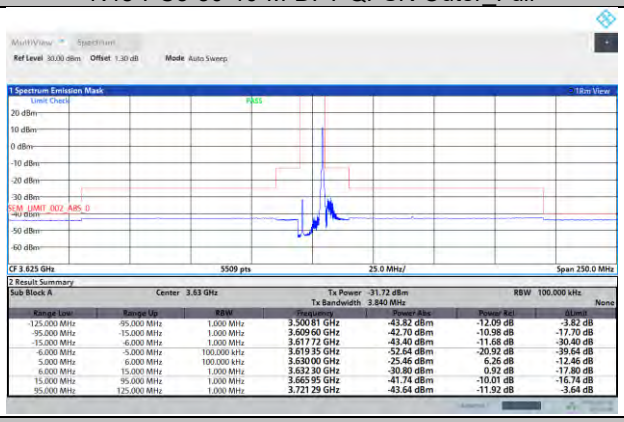
N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Right



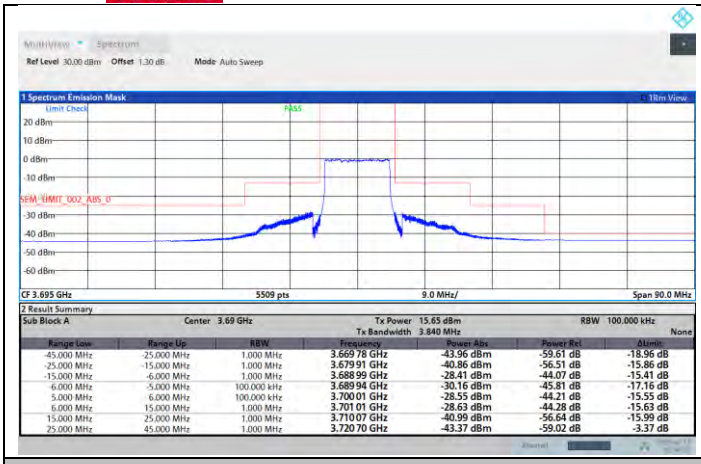
N48-PC3-30-10-M-DFT-QPSK-Outer_Full



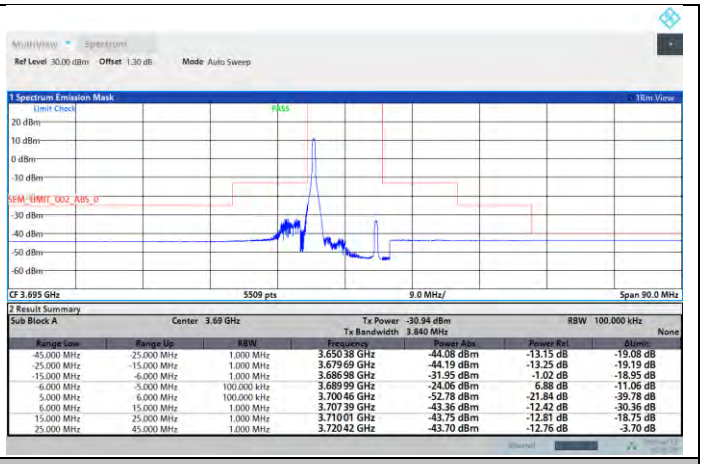
N48-PC3-30-10-M-DFT-QPSK-Edge_1RB_Left



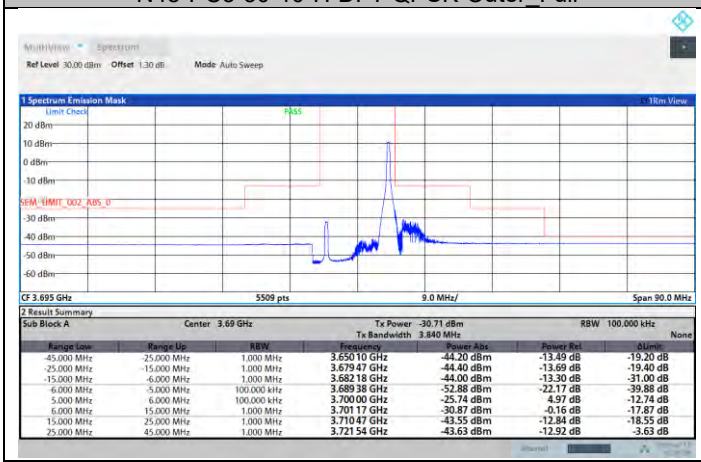
N48-PC3-30-10-M-DFT-QPSK-Edge_1RB_Right



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



N48-PC3-30-10-H-DFT-QPSK-Edge_1RB_Left



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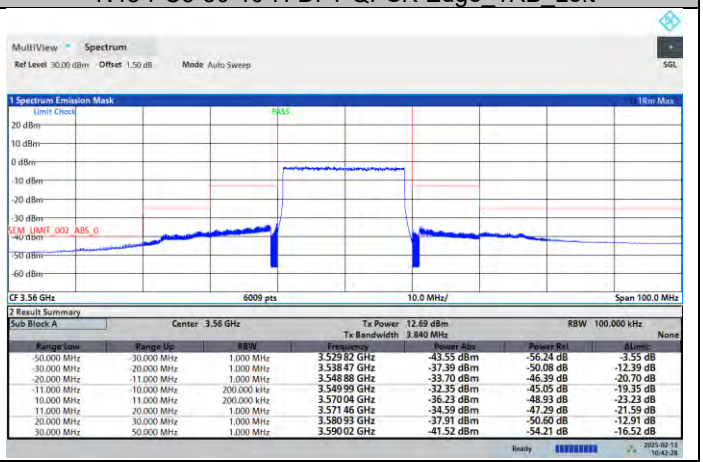
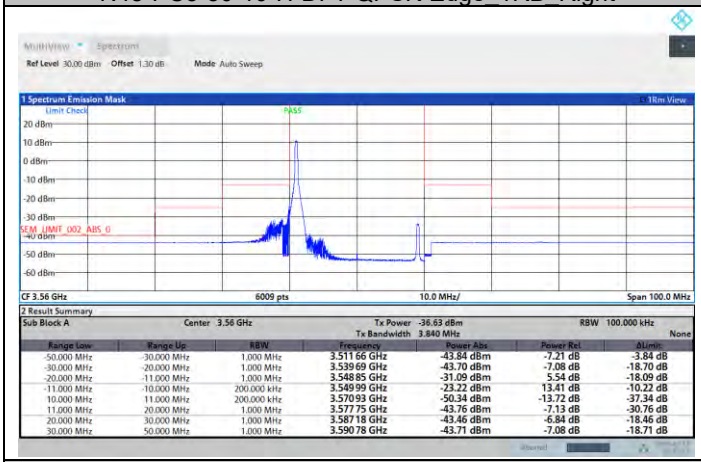


N48-PC3-30-20-L-DFT-QPSK-Outer_Full



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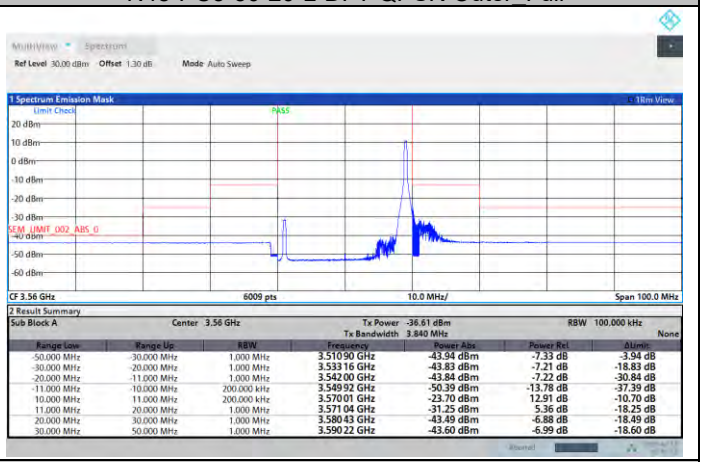

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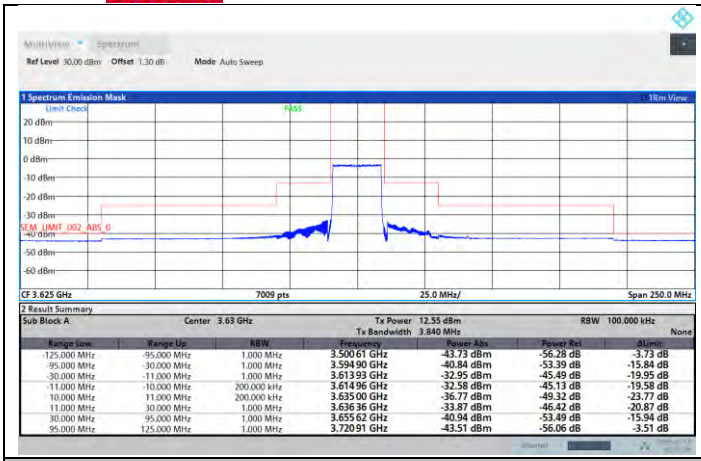

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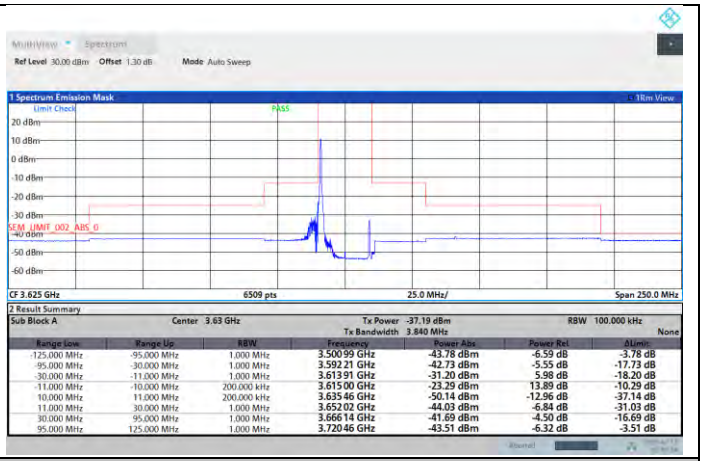

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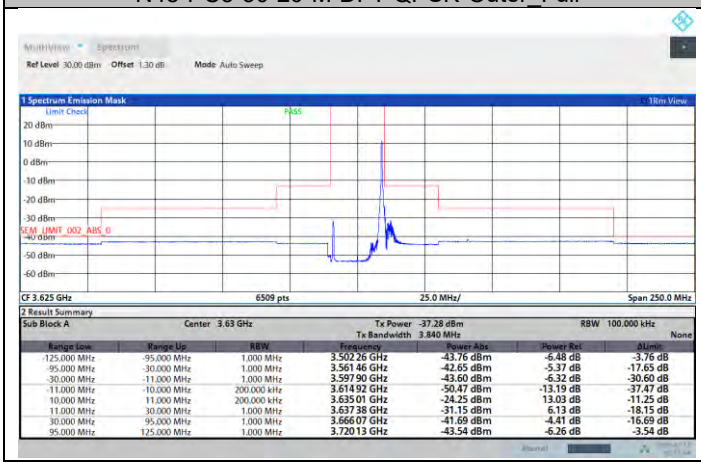

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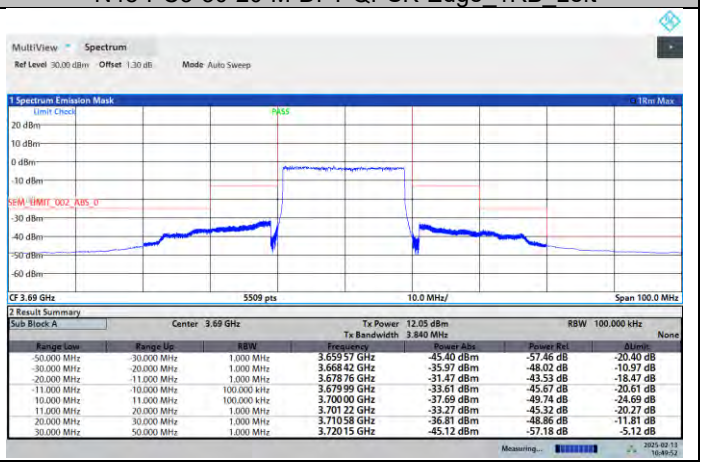

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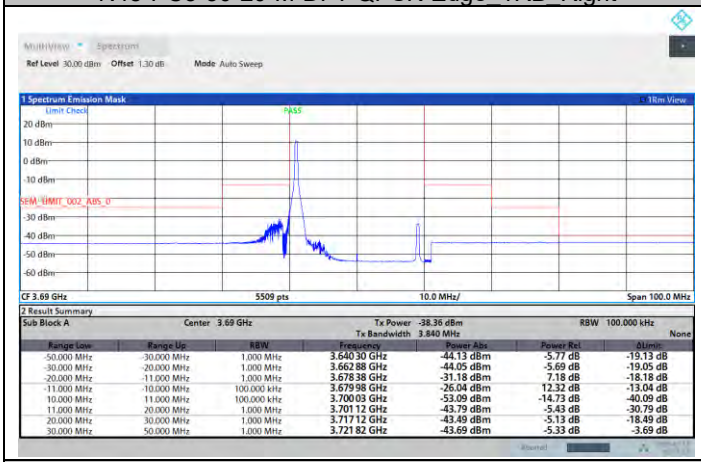

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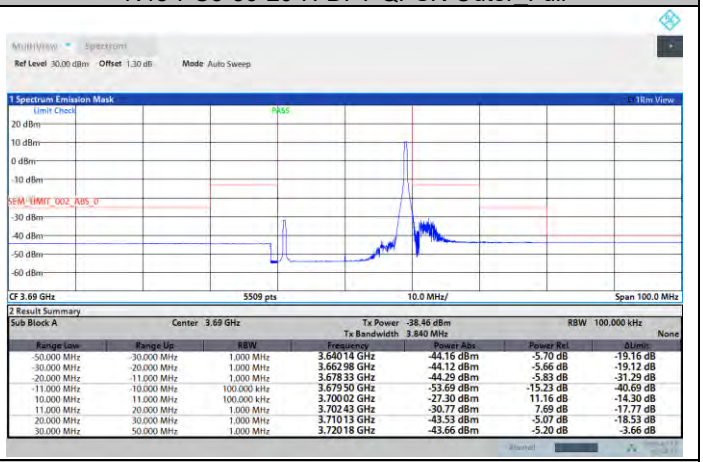

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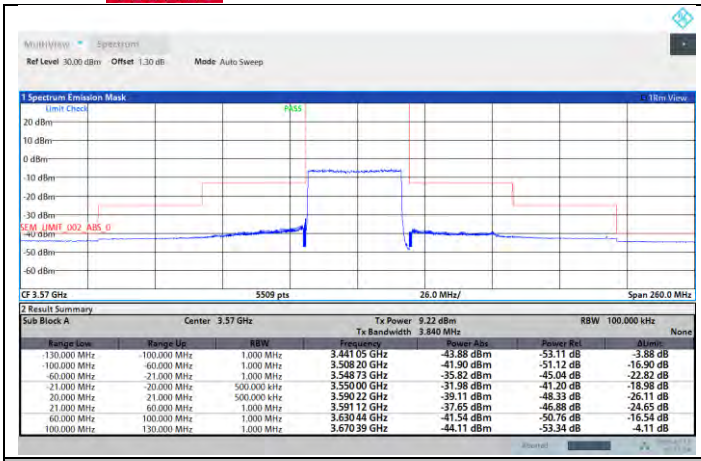
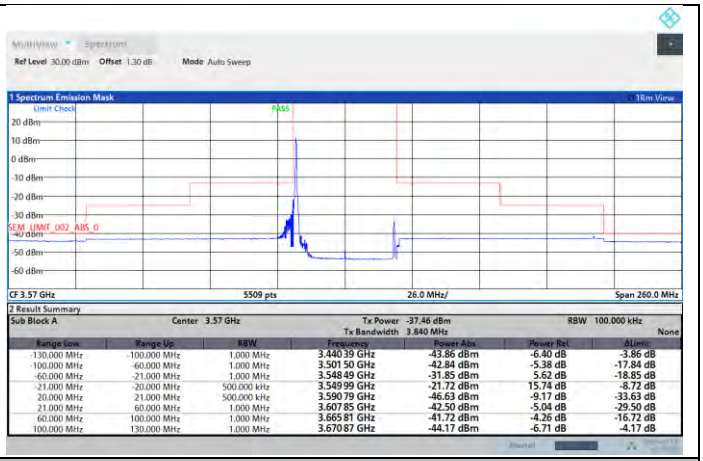


N48-PC3-30-40-L-DFT-QPSK-Outer_Full



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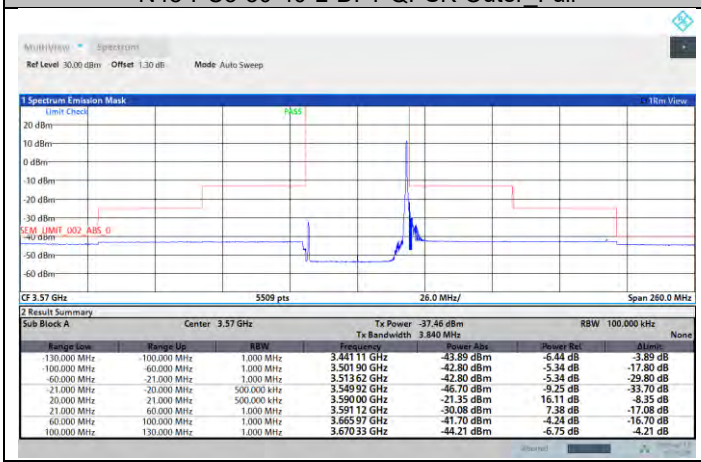

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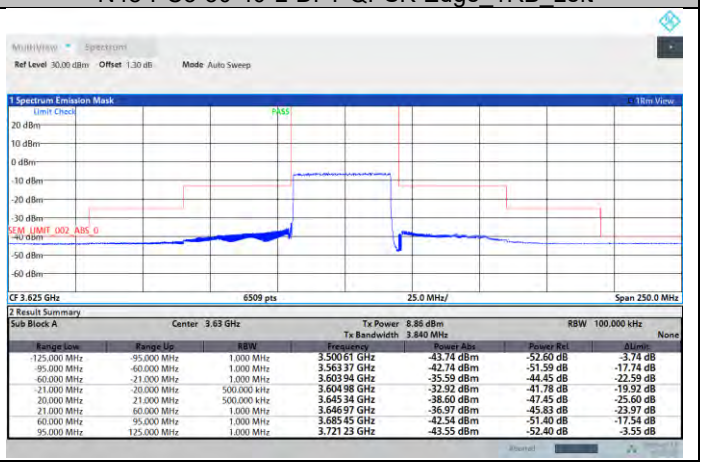
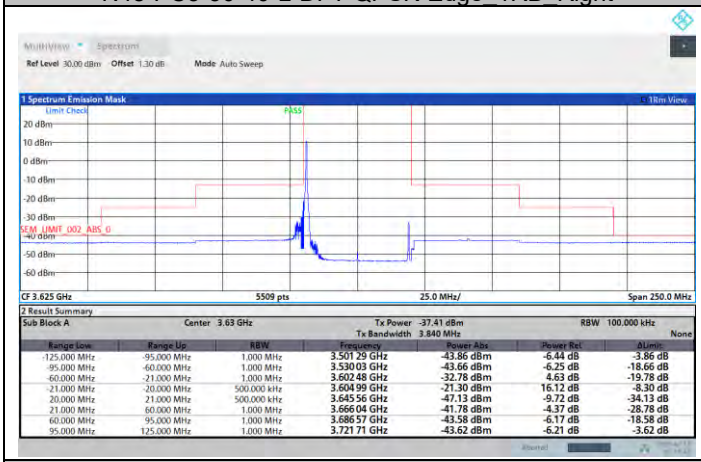
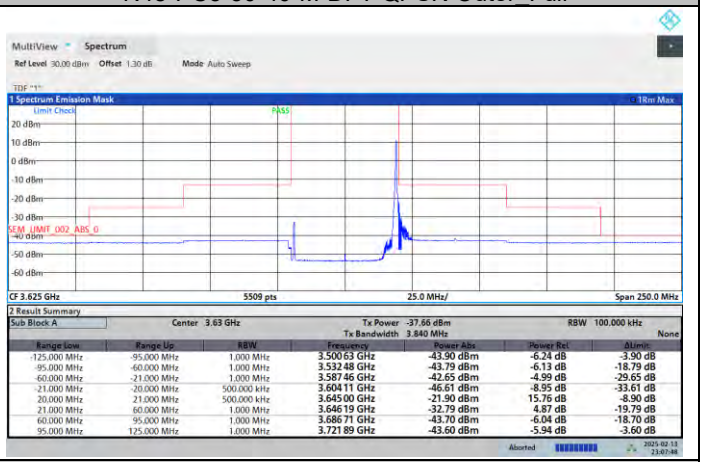


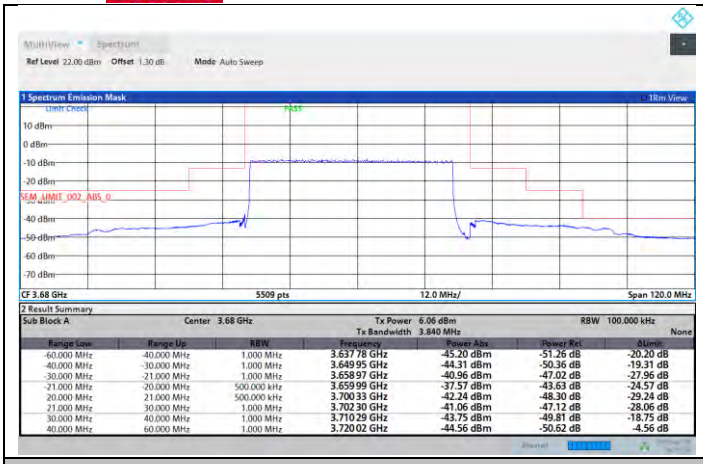
N48-PC3-30-40-M-DFT-QPSK-Outer_Full



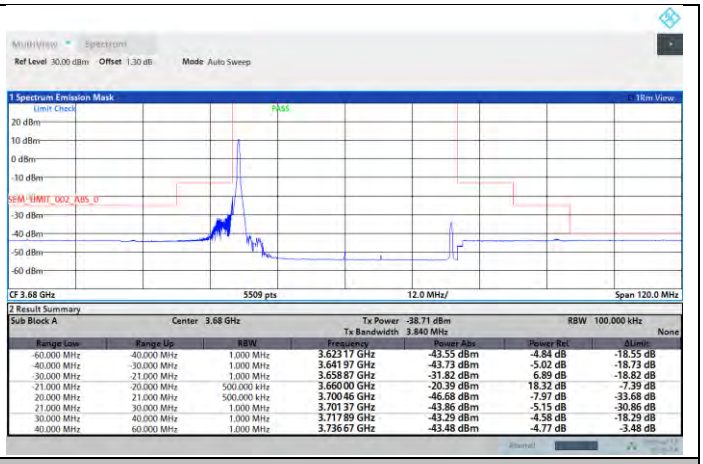
N48-PC3-30-40-M-DFT-QPSK-Edge_1RB_Left



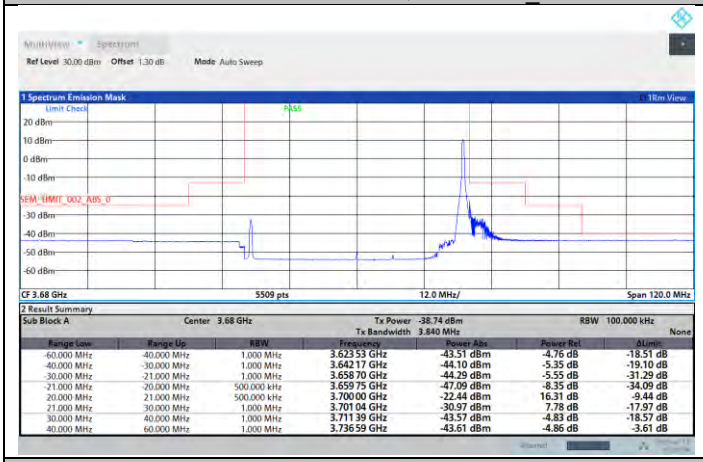
N48-PC3-30-40-M-DFT-QPSK-Edge_1RB_Right



N48-PC3-30-40-H-DFT-QPSK-Outer_Full



N48-PC3-30-40-H-DFT-QPSK-Edge_1RB_Left



N48-PC3-30-40-H-DFT-QPSK-Edge_1RB_Right

CONDUCTED SPURIOUS EMISSION FOR SA
TEST RESULT

Band	SCS	Band width	Modulation	Channel	RB Config	Frequency Range	Result	Limit	Verdict
N48	30	10	DFT-QPSK	L	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	10	DFT-QPSK	M	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	10	DFT-QPSK	H	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	20	DFT-QPSK	L	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	20	DFT-QPSK	M	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	20	DFT-QPSK	H	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	40	DFT-QPSK	L	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	40	DFT-QPSK	M	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS
N48	30	40	DFT-QPSK	H	Edge_1RB_Left	30M~40000M	See Graph	-40	PASS

TEST GRAPHS

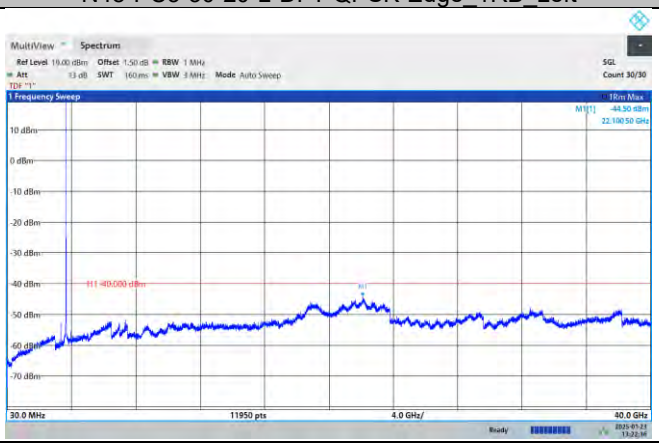
N48-PC3-30-10-L-DFT-QPSK-Edge_1RB_Left

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

N48-PC3-30-10-H-DFT-QPSK-Edge_1RB_Left

N48-PC3-30-20-L-DFT-QPSK-Edge_1RB_Left

N48-PC3-30-20-M-DFT-QPSK-Edge_1RB_Left



N48-PC3-30-20-H-DFT-QPSK-Edge_1RB_Left

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

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

N48-PC3-30-40-H-DFT-QPSK-Edge_1RB_Left

FREQUENCY STABILITY FOR SA
TEST RESULT

Frequency Error VS. Voltage

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
N48	30	20	DFT-QPSK	L	Outer_Full	VL	NT	7.80	0.0042	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	VN	NT	-4.30	-0.0023	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	VH	NT	-15.90	-0.0085	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	VL	NT	4.00	0.0021	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	VN	NT	-23.10	-0.0123	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	VH	NT	2.00	0.0011	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	VL	NT	24.40	0.0128	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	VN	NT	-23.80	-0.0125	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	VH	NT	10.60	0.0056	PASS

Frequency Error VS. Temperature

Temperature										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
N48	30	20	DFT-QPSK	L	Outer_Full	NV	-30	25.90	0.0139	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	-20	3.80	0.0020	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	-10	-15.30	-0.0082	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	0	21.70	0.0117	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	10	-28.80	-0.0155	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	20	26.80	0.0144	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	30	31.40	0.0169	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	40	-12.80	-0.0069	PASS
N48	30	20	DFT-QPSK	L	Outer_Full	NV	50	-10.10	-0.0054	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	-30	27.80	0.0148	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	-20	-15.30	-0.0081	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	-10	-15.50	-0.0082	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	0	-32.50	-0.0173	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	10	-16.70	-0.0089	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	20	-8.80	-0.0047	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	30	8.00	0.0043	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	40	-16.40	-0.0087	PASS
N48	30	20	DFT-QPSK	M	Outer_Full	NV	50	20.20	0.0107	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	-30	-24.90	-0.0131	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	-20	-22.70	-0.0119	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	-10	18.80	0.0099	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	0	-4.60	-0.0024	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	10	-12.80	-0.0067	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	20	3.30	0.0017	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	30	13.90	0.0073	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	40	28.40	0.0149	PASS
N48	30	20	DFT-QPSK	H	Outer_Full	NV	50	-9.40	-0.0049	PASS

---END---