



RF TEST REPORT

Applicant	ZTE Corporation
FCC ID	SRQ-Z6750M
Product	5G NR Multi-Mode Mobile Phone
Model	Z6750M
Report No.	R2008A0534-R5V2
Issue Date	October 29, 2020

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2019)/ FCC CFR 47 Part 24E (2019)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Peng Tao

Approved by: Kai Xu

TA Technology (Shanghai) Co., Ltd.

No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000



TABLE OF CONTENT

1. Test Laboratory	5
1.1. Notes of the test report	5
1.2. Test facility	5
1.3. Testing Location	5
2. General Description of Equipment under Test	6
2.3. Applicant and Manufacturer Information	6
2.4. General information	6
3. Applied Standards	8
4. Test Configuration	9
5. Test Case Results	10
5.1. RF Power Output and Effective Isotropic Radiated Power	10
5.2. Occupied Bandwidth	23
5.3. Band Edge Compliance	29
5.4. Peak-to-Average Power Ratio (PAPR)	36
5.5. Frequency Stability	38
5.6. Spurious Emissions at Antenna Terminals	45
5.7. Radiates Spurious Emission	52
6. Main Test Instruments	56
ANNEX A: The EUT Appearance	57
ANNEX B: Test Setup Photos	57



Version	Revision description	Issue Date
Rev.0	/	October 26, 2020
Rev.1	Update data of Band Edge Compliance and OCB	October 28, 2020
Rev.2	Update description in Chapter 5.1.	October 29, 2020
Note This revised report (Report No.: R2008A0534-R5V2) supersedes and replaces the previously issued report (Report No.: R2008A0534-R5V1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	2.1051 /24.238(a)	PASS
4	Peak-to-Average Power Ratio	24.232/KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 / 24.235	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 / 24.238(a)	PASS
7	Radiates Spurious Emission	2.1053 / 24.238(a)	PASS
Date of Testing: August 14, 2020 ~ October 12, 2020			
Date of Sample Received: August 14, 2020			
Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.3. Applicant and Manufacturer Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

2.4. General information

EUT Description			
Model	Z6750M		
IMEI	865633050021551		
Hardware Version	Z6750MHW1.0		
Software Version	Z6750MV1.0.0B01		
Power Supply	Battery/AC adapter		
Antenna Type	Internal Antenna		
Antenna Gain	-0.69 dBi		
Test Mode(s)	EN-DC_5A_n2, EN-DC_13A_n2, EN-DC_66A_n2.		
Test Modulation	CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM; DFT-s OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM		
Maximum E.I.R.P	EN-DC_5A_n2:	23.11 dBm	
	EN-DC_13A_n2:	23.16 dBm	
	EN-DC_66A_n2:	23.21 dBm	
Rated Power Supply Voltage	4.0V		
Extreme Voltage	Minimum: 3.5V Maximum: 4.4V		
Extreme Temperature	Lowest: -30°C Highest: +50°C		
Operating Voltage	Minimum: 3.5V Maximum: 4.4V		
Operating Temperature	Lowest: -10°C Highest: +55°C		
Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	NR Band n2	1850 ~ 1910	1930 ~ 1990
EUT Accessory			
Battery	Manufacturer: COSMX Model: Li3939T44P8h756547		
Adapter 1	Manufacturer: SHENZHEN RUIJING INDUSTRIAL CO LTD Model: STC-A5930A1-Z		
Adapter 2	Manufacturer: Jiangsu Chenyang Electron Co., Ltd. Model: STC-A5930A1-Z		
USB Cable 1	Manufacturer: kingpower-tech		



	Model: USB-TC30-W-100-M
USB Cable 2	Manufacturer: Luxshare Precision industry Co., Ltd. Model: USB-TC30-W-100-M
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. There is more than USB cable, each one should be applied throughout the compliance test respectively, and however, only the worst case (USB cable 1) will be recorded in this report.	

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR 47 Part 24E (2019)

ANSI C63.26 (2015)

Reference standard:

FCC CFR47 Part 2 (2019)

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (X axis, vertical polarization) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in NR is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below for NR n2:

Test items	Modes	Bandwidth (MHz)				Modulation				RB			Test Channel		
		5	10	15	20	QPSK	16 QAM	64 QAM	256 QAM	1	50%	100%	L	M	H
RF Power Output and Effective Isotropic Radiated Power	EN-DC_5A_n2	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	EN-DC_13A_n2	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	EN-DC_66A_n2	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Occupied Bandwidth	EN-DC_5A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_13A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_66A_n2	O	-	-	O	O	O	O	O	-	-	O	O	O	O
Band Edge Compliance	EN-DC_5A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_13A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_66A_n2	O	-	-	O	O	O	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	EN-DC_5A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_13A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_66A_n2	O	-	-	-	O	O	O	O	-	-	O	O	O	O
Frequency Stability	EN-DC_5A_n2	O	O	O	O	O	O	O	O	-	-	O	-	O	-
	EN-DC_13A_n2	O	O	O	O	O	O	O	O	-	-	O	-	O	-
	EN-DC_66A_n2	O	O	O	O	O	O	O	O	-	-	O	-	O	-
Spurious Emissions at Antenna Terminals	EN-DC_5A_n2	O	O	O	O	O	-	-	-	-	-	O	O	O	O
	EN-DC_13A_n2	O	O	O	O	O	-	-	-	-	-	O	O	O	O
	EN-DC_66A_n2	O	O	O	O	O	-	-	-	-	-	O	O	O	O
Radiates Spurious Emission	EN-DC_5A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_13A_n2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EN-DC_66A_n2	O	-	-	O	O	-	-	-	O	-	-	-	O	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Sub 6GHz operates using 15kHz Subcarrier Spacing with both CP-OFDM and DFT-s OFDM waveforms. The band supports QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.														

5. Test Case Results

5.1.RF Power Output and Effective Isotropic Radiated Power

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

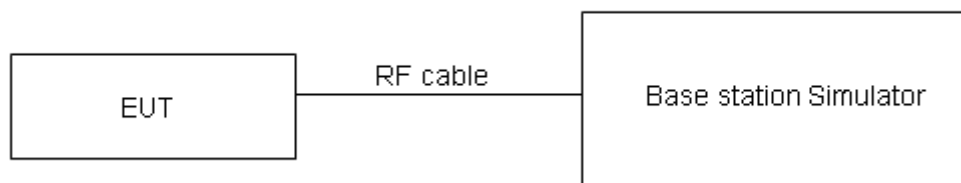
ERP can then be calculated as follows:

$$\text{EIRP (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$$

where:dBd refers to gain relative to an ideal dipole.

$$\text{EIRP (dBm)} = \text{ERP (dBm)} + 2.15 \text{ (dB.)}$$

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.

Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Limit	$\leq 2 \text{ W}$ (33 dBm)
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4 \text{ dB}$ for RF power output, $k = 2$, $U = 1.19 \text{ dB}$ for EIRP.



Test Results

Test Freq Description	EN-DC_5A_n2							Results(dBm)	
	SCS (kHz)	NR BW (MHz)	Modulation	Modulation(LTE)	RB allocation	NR Test Freq (MHz)	NR Test CH	Conducted	EIRP
High	15	5	QPSK	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1907.5	381500	23.80	23.11
Low	15	5	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1852.5	370500	23.72	23.03
Middle	15	5	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	23.80	23.11
High	15	5	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	3907.5	381500	23.77	23.08
Low	15	5	QPSK	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1852.5	370500	23.64	22.95
High	15	10	QPSK	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1905	381000	23.68	22.99
Low	15	10	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1855	371000	23.61	22.92
Middle	15	10	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	23.57	22.88
High	15	10	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1905	381000	23.69	23.00
Low	15	10	QPSK	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1855	371000	22.71	22.02
High	15	15	QPSK	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1902.5	380500	23.79	23.10
Low	15	15	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1857.5	371500	23.74	23.05
Middle	15	15	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	23.65	22.96
High	15	15	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1902.5	380500	23.66	22.97
Low	15	15	QPSK	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1857.5	371500	23.50	22.81
High	15	20	QPSK	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1900	380000	23.49	22.80
Low	15	20	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1860	372000	23.68	22.99
Middle	15	20	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	23.62	22.93
High	15	20	QPSK	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1900	380000	23.70	23.01
Low	15	20	QPSK	Band5-10MHZ-836.	Edge_1RB_Left	1860	372000	23.40	22.71



				5-QPSK-1#0					
High	15	5	16QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1907.5	381500	22.65	21.96
Low	15	5	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1852.5	370500	22.70	22.01
Middle	15	5	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.74	22.05
High	15	5	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	3907.5	381500	22.80	22.11
Low	15	5	16QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1852.5	370500	22.49	21.80
High	15	10	16QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1905	381000	23.14	22.45
Low	15	10	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1855	371000	22.62	21.93
Middle	15	10	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.58	21.89
High	15	10	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1905	381000	22.64	21.95
Low	15	10	16QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1855	371000	21.70	21.01
High	15	15	16QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1902.5	380500	22.35	21.66
Low	15	15	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1857.5	371500	22.71	22.02
Middle	15	15	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.66	21.97
High	15	15	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1902.5	380500	22.71	22.02
Low	15	15	16QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1857.5	371500	22.86	22.17
High	15	20	16QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1900	380000	22.66	21.97
Low	15	20	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1860	372000	22.75	22.06
Middle	15	20	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.61	21.92
High	15	20	16QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1900	380000	22.69	22.00
Low	15	20	16QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1860	372000	22.30	21.61
High	15	5	64QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1907.5	381500	21.41	20.72
Low	15	5	64QAM	Band5-10MHZ-836.	Inner_Full	1852.5	370500	22.29	21.60



				5-QPSK-50#0					
Middle	15	5	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.30	21.61
High	15	5	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	3907.5	381500	22.32	21.63
Low	15	5	64QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1852.5	370500	21.73	21.04
High	15	10	64QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1905	381000	21.59	20.90
Low	15	10	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1855	371000	22.12	21.43
Middle	15	10	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.11	21.42
High	15	10	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1905	381000	22.15	21.46
Low	15	10	64QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1855	371000	21.01	20.32
High	15	15	64QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1902.5	380500	21.96	21.27
Low	15	15	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1857.5	371500	22.21	21.52
Middle	15	15	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.19	21.50
High	15	15	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1902.5	380500	22.17	21.48
Low	15	15	64QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1857.5	371500	21.93	21.24
High	15	20	64QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1900	380000	21.77	21.08
Low	15	20	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1860	372000	22.13	21.44
Middle	15	20	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	22.10	21.41
High	15	20	64QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1900	380000	22.13	21.44
Low	15	20	64QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1860	372000	21.60	20.91
High	15	5	256QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1907.5	381500	19.73	19.04
Low	15	5	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1852.5	370500	20.18	19.49
Middle	15	5	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	20.20	19.51
High	15	5	256QAM	Band5-10MHZ-836.	Inner_Full	3907.5	381500	20.25	19.56



				5-QPSK-50#0					
Low	15	5	256QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1852.5	370500	20.01	19.32
High	15	10	256QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1905	381000	19.91	19.22
Low	15	10	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1855	371000	20.06	19.37
Middle	15	10	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	20.14	19.45
High	15	10	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1905	381000	20.15	19.46
Low	15	10	256QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1855	371000	19.06	18.37
High	15	15	256QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1902.5	380500	19.94	19.25
Low	15	15	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1857.5	371500	20.23	19.54
Middle	15	15	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	20.19	19.50
High	15	15	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1902.5	380500	20.18	19.49
Low	15	15	256QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1857.5	371500	19.95	19.26
High	15	20	256QAM	Band5-10MHZ-836. 5-QPSK-1#49	Edge_1RB_Right	1900	380000	19.93	19.24
Low	15	20	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1860	372000	20.15	19.46
Middle	15	20	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1880	376000	20.11	19.42
High	15	20	256QAM	Band5-10MHZ-836. 5-QPSK-50#0	Inner_Full	1900	380000	20.12	19.43
Low	15	20	256QAM	Band5-10MHZ-836. 5-QPSK-1#0	Edge_1RB_Left	1860	372000	19.67	18.98



Test Freq Description	EN-DC_13A_n2							Results(dBm)	
	SCS (kHz)	NR BW (MHz)	Modulation	Modulation(LTE)	RB allocation	NR Test Freq (MHz)	NR Test CH	Conducted	EIRP
High	15	5	QPSK	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1907.5	381500	23.84	23.15
Low	15	5	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1852.5	370500	23.85	23.16
Middle	15	5	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	23.81	23.12
High	15	5	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	3907.5	381500	23.81	23.12
Low	15	5	QPSK	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1852.5	370500	23.68	22.99
High	15	10	QPSK	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1905	381000	23.64	22.95
Low	15	10	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1855	371000	23.57	22.88
Middle	15	10	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	23.61	22.92
High	15	10	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1905	381000	23.71	23.02
Low	15	10	QPSK	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1855	371000	23.49	22.80
High	15	15	QPSK	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1902.5	380500	23.72	23.03
Low	15	15	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1857.5	371500	23.68	22.99
Middle	15	15	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	23.64	22.95
High	15	15	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1902.5	380500	23.69	23.00
Low	15	15	QPSK	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1857.5	371500	23.59	22.90
High	15	20	QPSK	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1900	380000	23.61	22.92
Low	15	20	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1860	372000	23.66	22.97
Middle	15	20	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	23.61	22.92
High	15	20	QPSK	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1900	380000	23.65	22.96
Low	15	20	QPSK	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1860	372000	23.59	22.90



High	15	5	16QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1907.5	381500	22.66	21.97
Low	15	5	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1852.5	370500	22.79	22.10
Middle	15	5	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.74	22.05
High	15	5	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	3907.5	381500	22.85	22.16
Low	15	5	16QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1852.5	370500	22.58	21.89
High	15	10	16QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1905	381000	22.85	22.16
Low	15	10	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1855	371000	22.58	21.89
Middle	15	10	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.59	21.90
High	15	10	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1905	381000	22.66	21.97
Low	15	10	16QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1855	371000	22.85	22.16
High	15	15	16QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1902.5	380500	22.89	22.20
Low	15	15	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1857.5	371500	22.74	22.05
Middle	15	15	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.63	21.94
High	15	15	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1902.5	380500	22.72	22.03
Low	15	15	16QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1857.5	371500	22.12	21.43
High	15	20	16QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1900	380000	22.91	22.22
Low	15	20	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1860	372000	22.69	22.00
Middle	15	20	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.65	21.96
High	15	20	16QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1900	380000	22.66	21.97
Low	15	20	16QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1860	372000	22.43	21.74
High	15	5	64QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1907.5	381500	21.89	21.20
Low	15	5	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1852.5	370500	22.29	21.60



Middle	15	5	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.26	21.57
High	15	5	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	3907.5	381500	22.23	21.54
Low	15	5	64QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1852.5	370500	21.83	21.14
High	15	10	64QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1905	381000	21.50	20.81
Low	15	10	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1855	371000	22.13	21.44
Middle	15	10	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.17	21.48
High	15	10	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1905	381000	22.18	21.49
Low	15	10	64QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1855	371000	21.88	21.19
High	15	15	64QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1902.5	380500	21.91	21.22
Low	15	15	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1857.5	371500	22.19	21.50
Middle	15	15	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.08	21.39
High	15	15	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1902.5	380500	22.21	21.52
Low	15	15	64QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1857.5	371500	21.77	21.08
High	15	20	64QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1900	380000	21.80	21.11
Low	15	20	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1860	372000	22.16	21.47
Middle	15	20	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	22.11	21.42
High	15	20	64QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1900	380000	22.13	21.44
Low	15	20	64QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1860	372000	21.96	21.27
High	15	5	256QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1907.5	381500	20.13	19.44
Low	15	5	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1852.5	370500	20.22	19.53
Middle	15	5	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	20.20	19.51
High	15	5	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	3907.5	381500	20.34	19.65



Low	15	5	256QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1852.5	370500	20.09	19.40
High	15	10	256QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1905	381000	19.54	18.85
Low	15	10	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1855	371000	20.12	19.43
Middle	15	10	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	20.09	19.40
High	15	10	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1905	381000	20.13	19.44
Low	15	10	256QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1855	371000	19.95	19.26
High	15	15	256QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1902.5	380500	20.02	19.33
Low	15	15	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1857.5	371500	20.21	19.52
Middle	15	15	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	20.19	19.50
High	15	15	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1902.5	380500	20.25	19.56
Low	15	15	256QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1857.5	371500	19.90	19.21
High	15	20	256QAM	Band13-10MHZ-78 2-QPSK-1#49	Edge_1RB_Right	1900	380000	19.94	19.25
Low	15	20	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1860	372000	20.17	19.48
Middle	15	20	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1880	376000	20.13	19.44
High	15	20	256QAM	Band13-10MHZ-78 2-QPSK-50#0	Inner_Full	1900	380000	20.16	19.47
Low	15	20	256QAM	Band13-10MHZ-78 2-QPSK-1#0	Edge_1RB_Left	1860	372000	20.04	19.35



Test Freq Description	EN-DC_66A_n2							Results(dBm)	
	SCS (kHz)	NR BW (MHz)	Modulation	Modulation(LTE)	RB allocation	NR Test Freq (MHz)	NR Test CH	Conducted	EIRP
High	15	5	QPSK	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1907.5	381500	23.78	23.09
Low	15	5	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1852.5	370500	23.79	23.10
Middle	15	5	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	23.79	23.10
High	15	5	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	3907.5	381500	23.90	23.21
Low	15	5	QPSK	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1852.5	370500	23.73	23.04
High	15	10	QPSK	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1905	381000	23.72	23.03
Low	15	10	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1855	371000	23.77	23.08
Middle	15	10	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	23.73	23.04
High	15	10	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1905	381000	23.79	23.10
Low	15	10	QPSK	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1855	371000	22.86	22.17
High	15	15	QPSK	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1902.5	380500	23.66	22.97
Low	15	15	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1857.5	371500	23.83	23.14
Middle	15	15	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	23.72	23.03
High	15	15	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1902.5	380500	23.77	23.08
Low	15	15	QPSK	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1857.5	371500	23.55	22.86
High	15	20	QPSK	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1900	380000	23.58	22.89
Low	15	20	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1860	372000	23.75	23.06
Middle	15	20	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	23.66	22.97
High	15	20	QPSK	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1900	380000	23.72	23.03
Low	15	20	QPSK	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1860	372000	23.64	22.95



High	15	5	16QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1907.5	381500	22.48	21.79
Low	15	5	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1852.5	370500	22.78	22.09
Middle	15	5	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.64	21.95
High	15	5	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	3907.5	381500	22.90	22.21
Low	15	5	16QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1852.5	370500	22.62	21.93
High	15	10	16QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1905	381000	22.92	22.23
Low	15	10	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1855	371000	22.76	22.07
Middle	15	10	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.64	21.95
High	15	10	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1905	381000	22.73	22.04
Low	15	10	16QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1855	371000	22.02	21.33
High	15	15	16QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1902.5	380500	22.85	22.16
Low	15	15	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1857.5	371500	22.83	22.14
Middle	15	15	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.74	22.05
High	15	15	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1902.5	380500	22.75	22.06
Low	15	15	16QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1857.5	371500	22.39	21.70
High	15	20	16QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1900	380000	22.88	22.19
Low	15	20	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1860	372000	22.78	22.09
Middle	15	20	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.76	22.07
High	15	20	16QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1900	380000	22.82	22.13
Low	15	20	16QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1860	372000	22.87	22.18
High	15	5	64QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1907.5	381500	21.47	20.78
Low	15	5	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1852.5	370500	22.32	21.63



Middle	15	5	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.33	21.64
High	15	5	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	3907.5	381500	22.40	21.71
Low	15	5	64QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1852.5	370500	22.04	21.35
High	15	10	64QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1905	381000	21.48	20.79
Low	15	10	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1855	371000	22.25	21.56
Middle	15	10	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.17	21.48
High	15	10	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1905	381000	22.22	21.53
Low	15	10	64QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1855	371000	21.52	20.83
High	15	15	64QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1902.5	380500	21.98	21.29
Low	15	15	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1857.5	371500	22.32	21.63
Middle	15	15	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.25	21.56
High	15	15	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1902.5	380500	22.29	21.60
Low	15	15	64QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1857.5	371500	21.88	21.19
High	15	20	64QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1900	380000	21.94	21.25
Low	15	20	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1860	372000	22.21	21.52
Middle	15	20	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	22.23	21.54
High	15	20	64QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1900	380000	22.27	21.58
Low	15	20	64QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1860	372000	22.04	21.35
High	15	5	256QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1907.5	381500	19.77	19.08
Low	15	5	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1852.5	370500	20.21	19.52
Middle	15	5	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	20.24	19.55
High	15	5	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	3907.5	381500	20.34	19.65



Low	15	5	256QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1852.5	370500	20.27	19.58
High	15	10	256QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1905	381000	19.54	18.85
Low	15	10	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1855	371000	22.21	21.52
Middle	15	10	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	20.20	19.51
High	15	10	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1905	381000	20.16	19.47
Low	15	10	256QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1855	371000	19.37	18.68
High	15	15	256QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1902.5	380500	20.04	19.35
Low	15	15	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1857.5	371500	20.27	19.58
Middle	15	15	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	20.23	19.54
High	15	15	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1902.5	380500	20.26	19.57
Low	15	15	256QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1857.5	371500	19.97	19.28
High	15	20	256QAM	Band66-10MHZ-17 45-QPSK-1#49	Edge_1RB_Right	1900	380000	19.95	19.26
Low	15	20	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1860	372000	20.25	19.56
Middle	15	20	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1880	376000	20.14	19.45
High	15	20	256QAM	Band66-10MHZ-17 45-QPSK-50#0	Inner_Full	1900	380000	20.24	19.55
Low	15	20	256QAM	Band66-10MHZ-17 45-QPSK-1#0	Edge_1RB_Left	1860	372000	20.13	19.44

5.2.Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

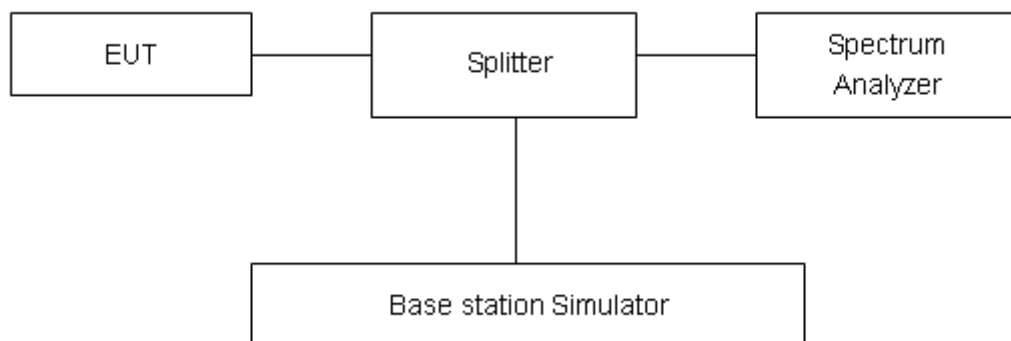
The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to 120 kHz, VBW is set to 390 kHz for EN-DC_66A_n2(5MHz),

RBW is set to 470 kHz, VBW is set to 1.5MHz for EN-DC_66A_n2(20MHz),

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 624\text{Hz}$.



Test Result

EN-DC_66A_n2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	370500	1852.5	4.5158	5.256
			376000	1880	4.4948	5.257
			381500	1907.5	4.5174	5.323
	16QAM	5	370500	1852.5	4.4959	5.180
			376000	1880	4.5073	5.296
			381500	1907.5	4.4946	5.133
	64QAM	5	370500	1852.5	4.5035	5.176
			376000	1880	4.5201	5.287
			381500	1907.5	4.5142	5.259
	256QAM	5	370500	1852.5	4.5193	5.221
			376000	1880	4.5108	5.239
			381500	1907.5	4.5245	5.358
100%	QPSK	20	372000	1860	17.8950	19.350
			176000	1880	17.9530	19.130
			380000	1900	17.9920	19.330
	16QAM	20	372000	1860	17.8980	19.070
			176000	1880	17.9750	19.420
			380000	1900	17.9840	19.210
	64QAM	20	372000	1860	17.9150	19.360
			176000	1880	17.9360	19.530
			380000	1900	17.9740	19.690
	256QAM	20	372000	1860	17.8860	19.140
			176000	1880	17.9620	19.230
			380000	1900	17.9760	19.470

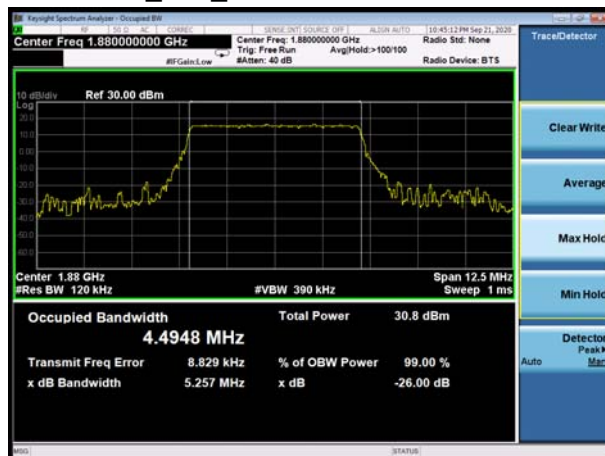
EN-DC_66A_n2 5MHz QPSK CH-Low



EN-DC_66A_n2 5MHz 16QAM CH-Low



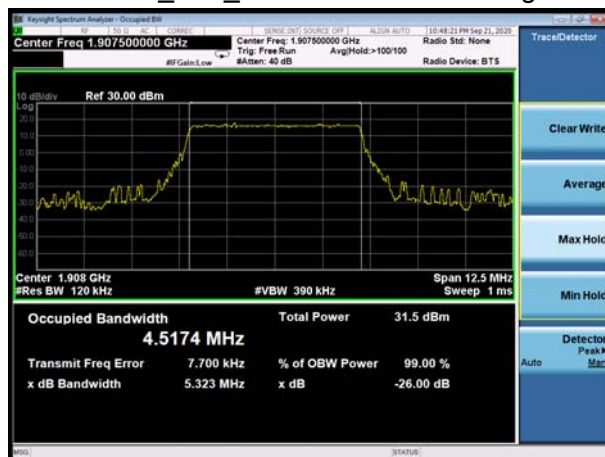
EN-DC_66A_n2 5MHz QPSK CH-Middle



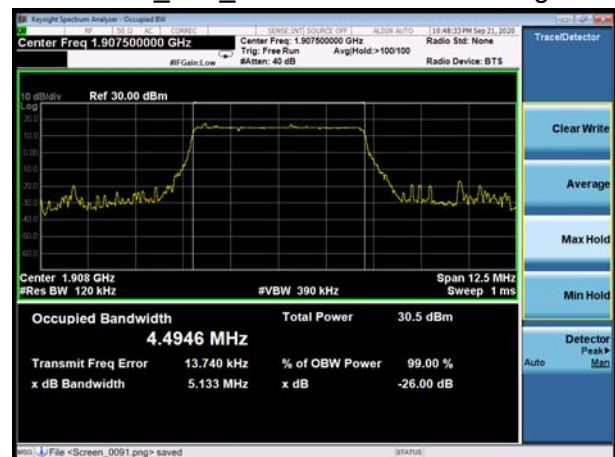
EN-DC_66A_n2 5MHz 16QAM CH-Middle



EN-DC_66A_n2 5MHz QPSK CH-High



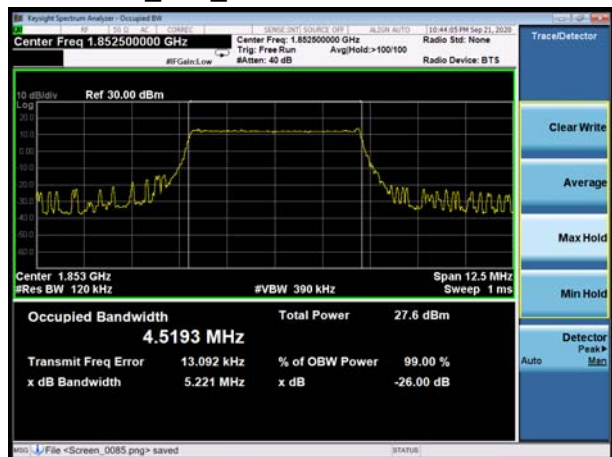
EN-DC_66A_n2 5MHz 16QAM CH-High



EN-DC_66A_n2 5MHz 64QAM CH-Low



EN-DC_66A_n2 5MHz 256QAM CH-Low



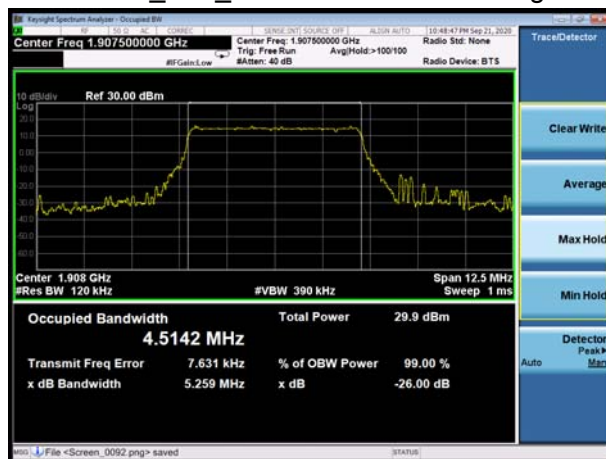
EN-DC_66A_n2 5MHz 64QAM CH-Middle



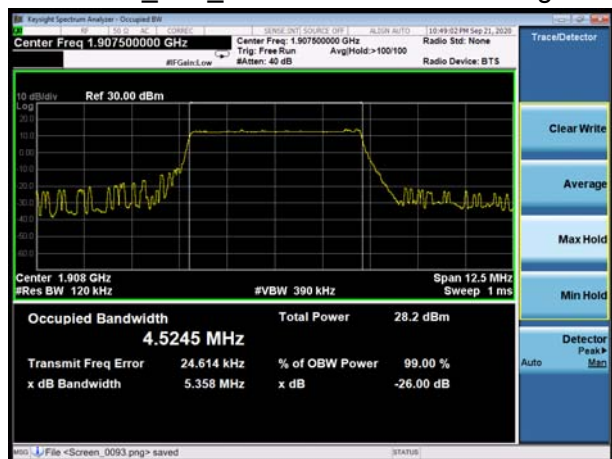
EN-DC_66A_n2 5MHz 256QAM CH-Middle



EN-DC_66A_n2 5MHz 64QAM CH-High



EN-DC_66A_n2 5MHz 256QAM CH-High



EN-DC_66A_n2 20MHz QPSK CH-Low



EN-DC_66A_n2 20MHz 16QAM CH-Low



EN-DC_66A_n2 20MHz QPSK CH-Middle



EN-DC_66A_n2 20MHz 16QAM CH-Middle



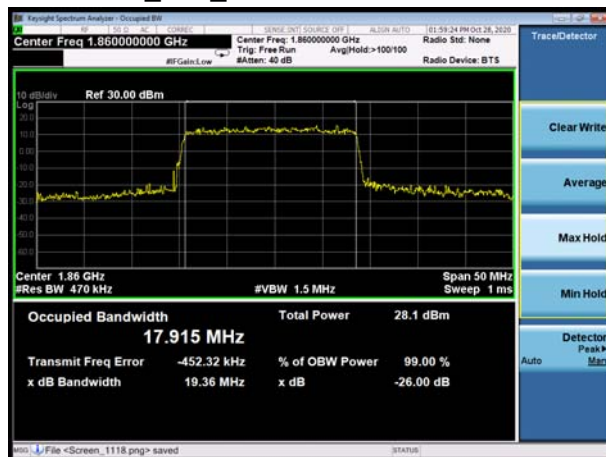
EN-DC_66A_n2 20MHz QPSK CH-High



EN-DC_66A_n2 20MHz 16QAM CH-High



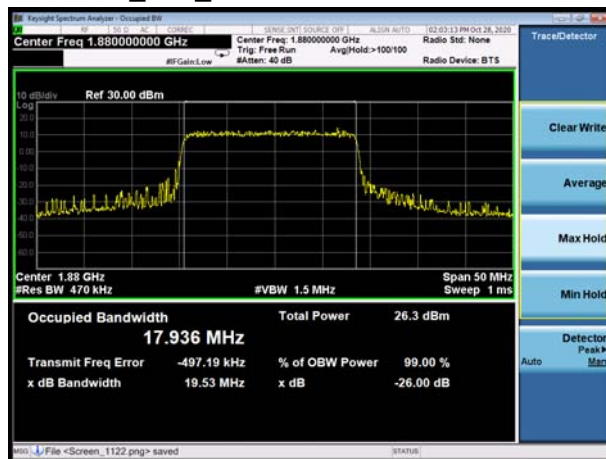
EN-DC_66A_n2 20MHz 64QAM CH-Low



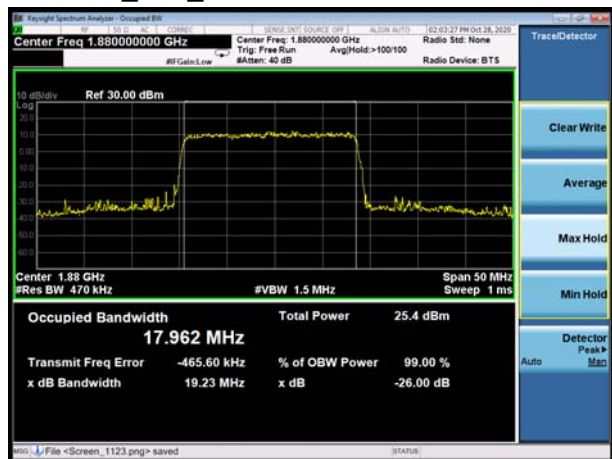
EN-DC_66A_n2 20MHz 256QAM CH-Low



EN-DC_66A_n2 20MHz 64QAM CH-Middle



EN-DC_66A_n2 20MHz 256QAM CH-Middle



EN-DC_66A_n2 20MHz 64QAM CH-High



EN-DC_66A_n2 20MHz 256QAM CH-High



5.3.Band Edge Compliance

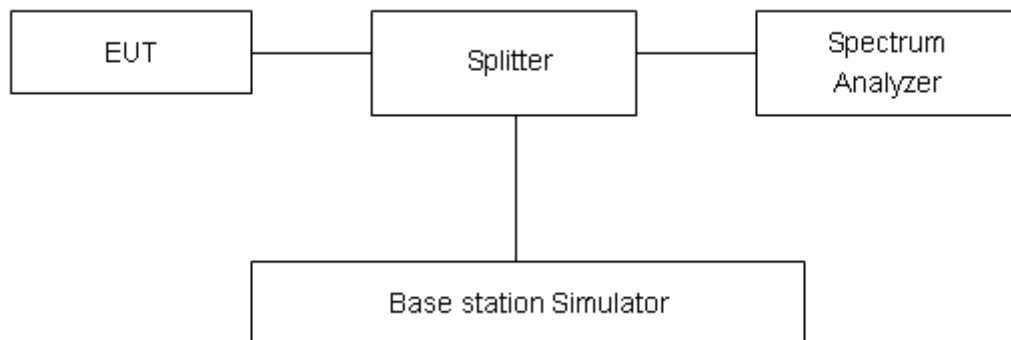
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured. The Average detector is used and RBW is set to 62kHz, VBW is set to 220kHz for EN-DC_66A_n2(5MHz), RBW is set to 240kHz, VBW is set to 820kHz for EN-DC_66A_n2(20MHz), Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

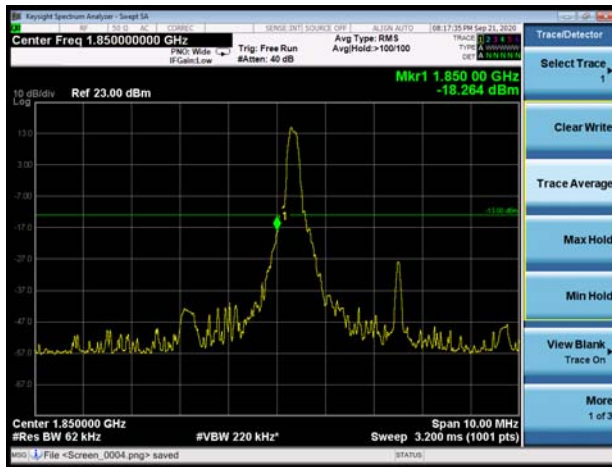
Limit	-13 dBm
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Measurement Uncertainty

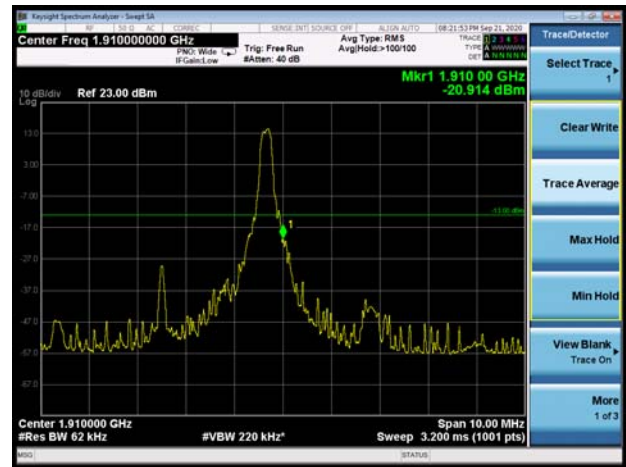
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U=0.684$ dB.

Test Result:

EN-DC_66A_n2 5MHz QPSK 1RB CH-Low



EN-DC_66A_n2 5MHz QPSK 1RB CH-High



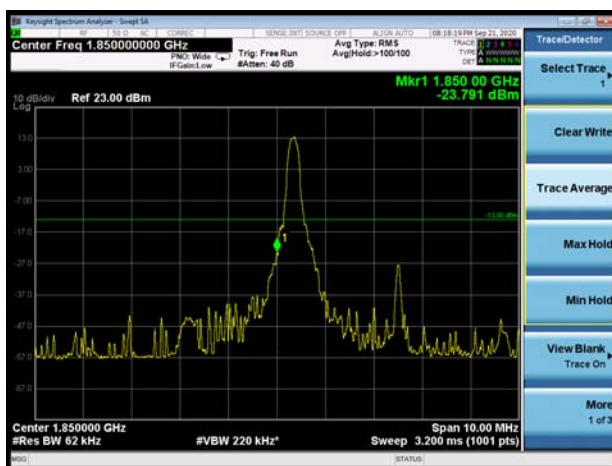
EN-DC_66A_n2 5MHz QPSK 100%RB CH-Low



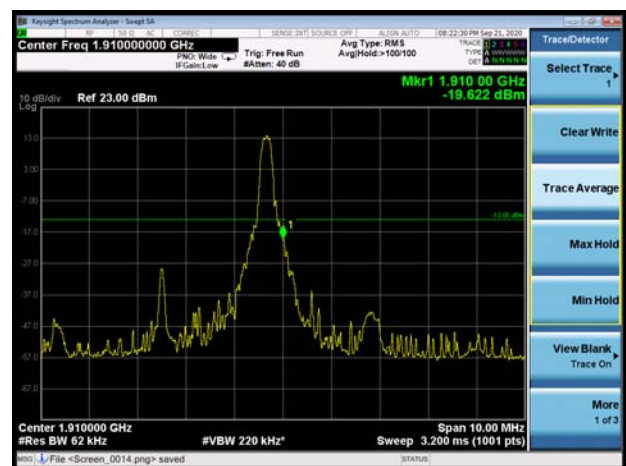
EN-DC_66A_n2 5MHz QPSK 100%RB CH-High



EN-DC_66A_n2 5MHz 16QAM 1RB CH-Low



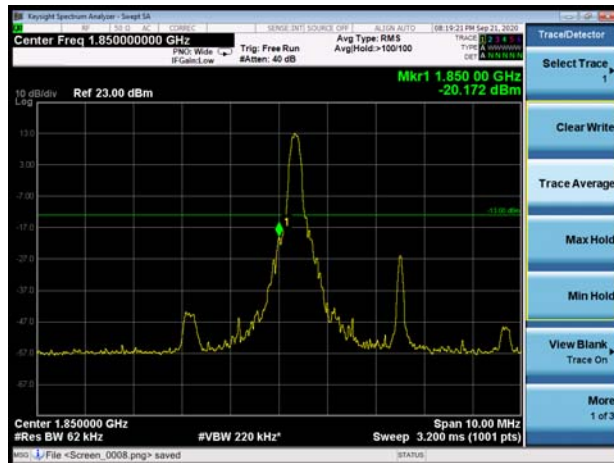
EN-DC_66A_n2 5MHz 16QAM 1RB CH-High



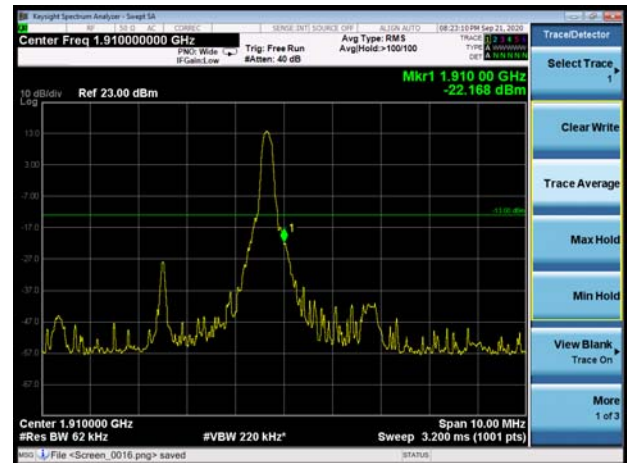
EN-DC_66A_n2 5MHz 16QAM 100%RB CH-Low


EN-DC_66A_n2 5MHz 16QAM 100%RB
CH-High


EN-DC_66A_n2 5MHz 64QAM 1RB CH-Low



EN-DC_66A_n2 5MHz 64QAM 1RB CH-High

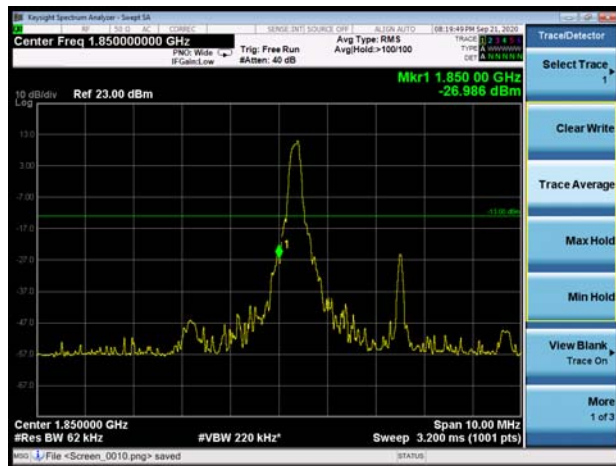


EN-DC_66A_n2 5MHz 64QAM 100%RB CH-Low

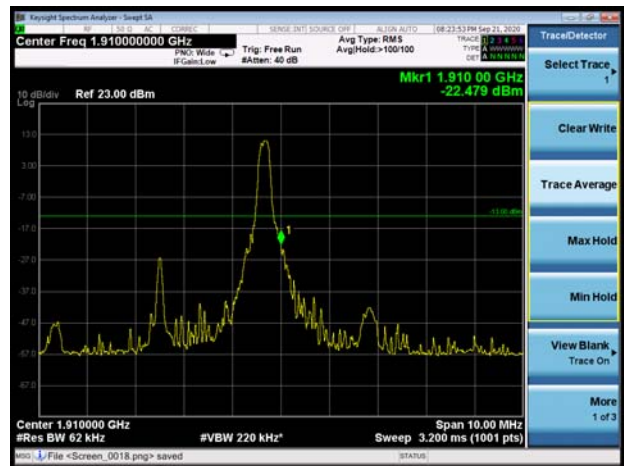

EN-DC_66A_n2 5MHz 64QAM 100%RB
CH-High




EN-DC_66A_n2 5MHz 256QAM 1RB CH-Low

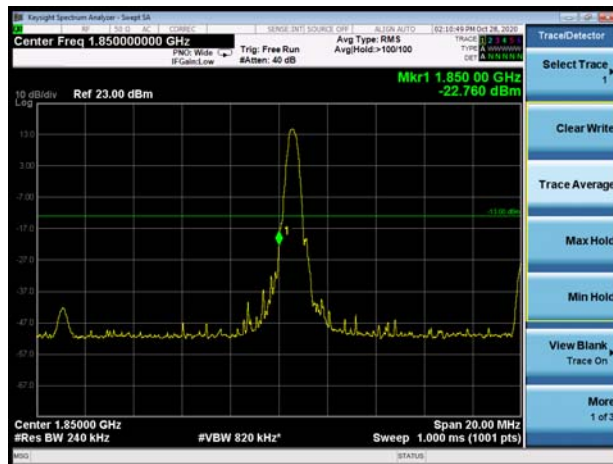


EN-DC_66A_n2 5MHz 256QAM 1RB CH-High

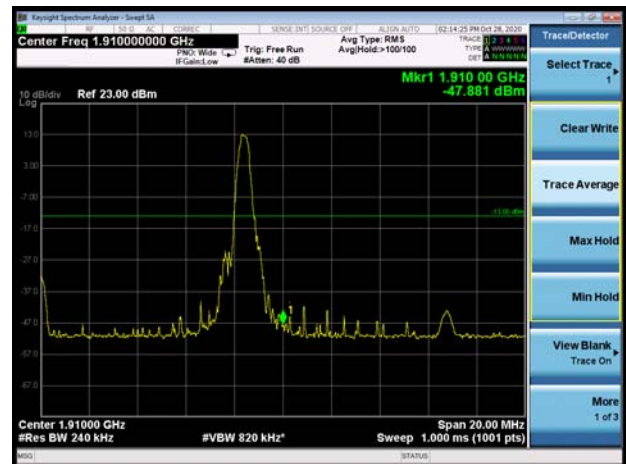
EN-DC_66A_n2 5MHz 256QAM 100%RB
CH-LowEN-DC_66A_n2 5MHz 256QAM 100%RB
CH-High



EN-DC_66A_n2 20MHz QPSK 1RB CH-Low



EN-DC_66A_n2 20MHz QPSK 1RB CH-High



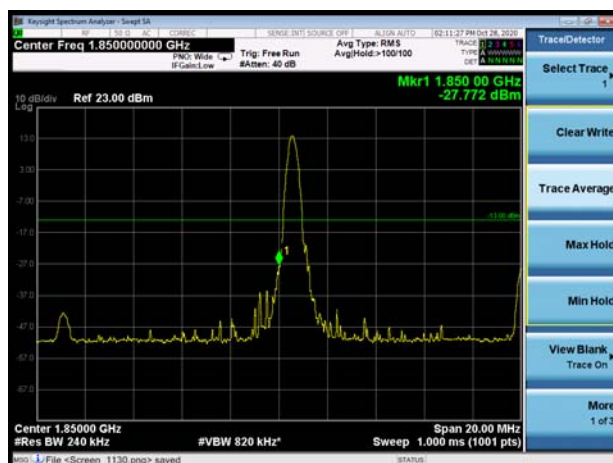
EN-DC_66A_n2 20MHz QPSK 100%RB CH-Low



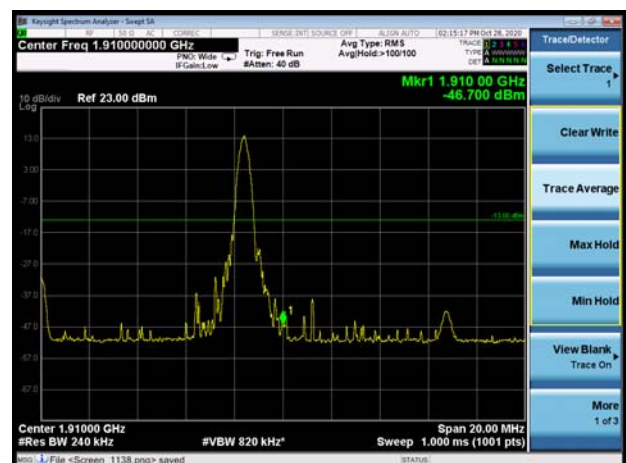
EN-DC_66A_n2 20MHz QPSK 100%RB CH-High



EN-DC_66A_n2 20MHz 16QAM 1RB CH-Low



EN-DC_66A_n2 20MHz 16QAM 1RB CH-High



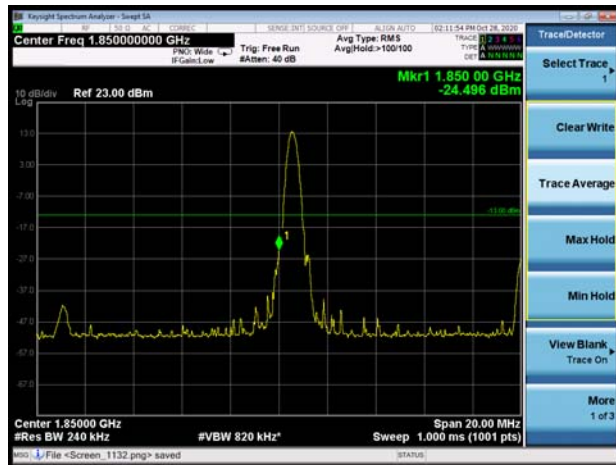
EN-DC_66A_n2 20MHz 16QAM 100%RB CH-Low



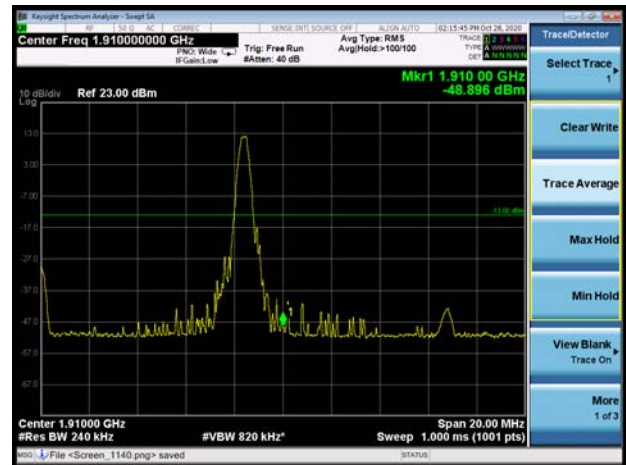
EN-DC_66A_n2 20MHz 16QAM 100%RB CH-High



EN-DC_66A_n2 20MHz 64QAM 1RB CH-Low



EN-DC_66A_n2 20MHz 64QAM 1RB CH-High



EN-DC_66A_n2 20MHz 64QAM 100%RB CH-Low

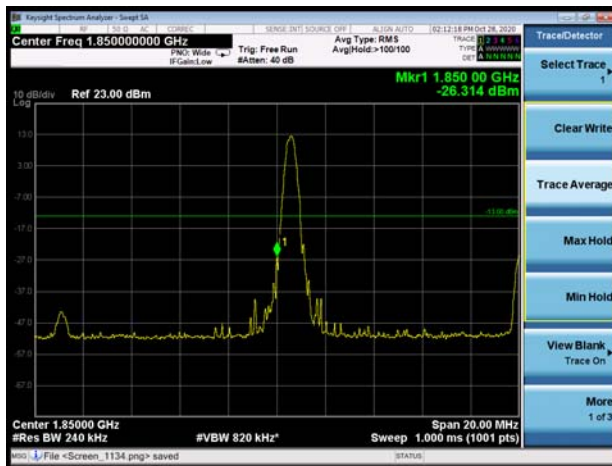


EN-DC_66A_n2 20MHz 64QAM 100%RB CH-High

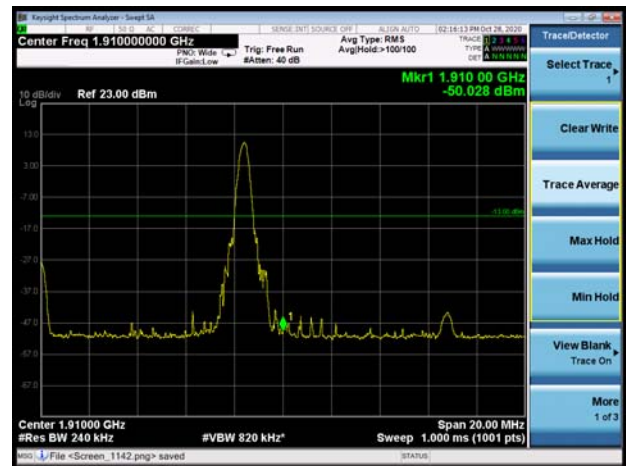




EN-DC_66A_n2 20MHz 256QAM 1RB CH-Low



EN-DC_66A_n2 20MHz 256QAM 1RB CH-High

EN-DC_66A_n2 20MHz 256QAM 100%RB
CH-LowEN-DC_66A_n2 20MHz 256QAM 100%RB
CH-High

5.4. Peak-to-Average Power Ratio (PAPR)

Ambient condition

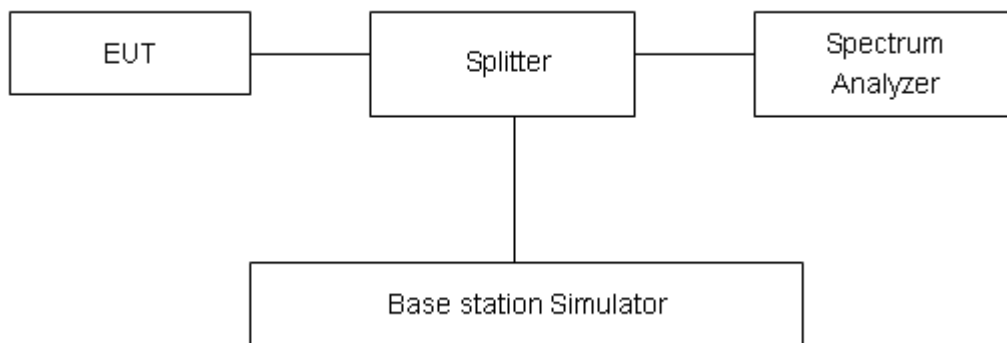
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Limits

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 in 24.232(d).

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

**Test Results**

EN-DC_66A_n2								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	370500	1852.5	27.04	17.57	9.47	≤13	PASS
		376000	1880	26.73	16.75	9.98	≤13	PASS
		381500	1907.5	27.28	17.48	9.80	≤13	PASS
16QAM	5	370500	1852.5	27.13	16.62	10.51	≤13	PASS
		376000	1880	26.77	17.11	9.66	≤13	PASS
		381500	1907.5	27.46	16.81	10.65	≤13	PASS
64QAM	5	370500	1852.5	26.92	15.67	11.25	≤13	PASS
		376000	1880	26.70	15.72	10.98	≤13	PASS
		381500	1907.5	27.18	15.59	11.59	≤13	PASS
256QAM	5	370500	1852.5	24.96	13.85	11.11	≤13	PASS
		376000	1880	24.67	13.37	11.30	≤13	PASS
		381500	1907.5	25.19	13.81	11.38	≤13	PASS

5.5.Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

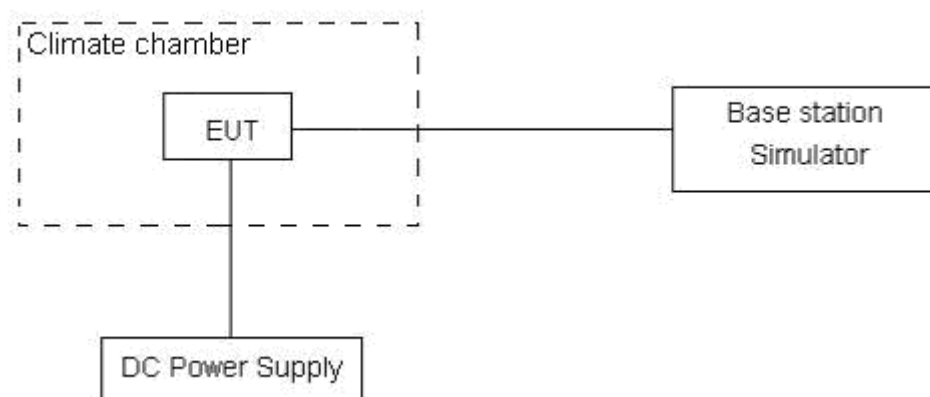
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.5 V and 4.4 V, with a nominal voltage of 4.0V.

Test setup



Limits

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

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3$, $U = 0.01\text{ppm}$.



Test Result

EN-DC_5A_n2										
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz									
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	12.03	15.78	17.79	11.03	0.00640	0.00840	0.00946	0.00587	PASS
Extreme (50℃)		3.71	11.51	14.31	5.71	0.00198	0.00612	0.00761	0.00304	PASS
Extreme (40℃)		15.22	9.00	9.53	1.22	0.00810	0.00479	0.00507	0.00065	PASS
Extreme (30℃)		9.29	16.59	8.51	3.29	0.00494	0.00883	0.00453	0.00175	PASS
Extreme (20℃)		11.14	12.44	17.44	5.14	0.00592	0.00662	0.00927	0.00273	PASS
Extreme (10℃)		10.60	4.79	16.87	13.60	0.00564	0.00255	0.00897	0.00724	PASS
Extreme (0℃)		6.20	16.33	4.54	11.20	0.00330	0.00868	0.00241	0.00596	PASS
Extreme (-10℃)		8.42	15.88	13.98	15.42	0.00448	0.00845	0.00744	0.00820	PASS
Extreme (-20℃)		7.55	4.62	9.81	8.55	0.00402	0.00246	0.00522	0.00455	PASS
Extreme (-30℃)		7.47	6.53	1.11	12.47	0.00397	0.00347	0.00059	0.00663	PASS
25℃	LV	5.80	10.40	11.11	6.80	0.00308	0.00553	0.00591	0.00361	PASS
	HV	13.79	16.82	17.57	6.79	0.00734	0.00895	0.00935	0.00361	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz									
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	14.25	11.12	6.44	6.25	0.00758	0.00592	0.00342	0.00332	PASS
Extreme (50℃)		7.55	11.16	16.46	12.55	0.00402	0.00593	0.00875	0.00668	PASS
Extreme (40℃)		2.43	11.38	17.78	1.43	0.00129	0.00606	0.00946	0.00076	PASS
Extreme (30℃)		11.03	11.47	7.33	4.03	0.00587	0.00610	0.00390	0.00214	PASS
Extreme (20℃)		2.97	12.76	9.97	3.97	0.00158	0.00678	0.00530	0.00211	PASS
Extreme (10℃)		5.86	7.99	7.27	12.86	0.00312	0.00425	0.00387	0.00684	PASS
Extreme (0℃)		17.55	15.38	3.67	8.55	0.00934	0.00818	0.00195	0.00455	PASS
Extreme (-10℃)		3.67	14.91	14.84	16.67	0.00195	0.00793	0.00789	0.00887	PASS
Extreme (-20℃)		2.04	13.57	12.29	5.04	0.00109	0.00722	0.00654	0.00268	PASS
Extreme (-30℃)		11.70	10.58	14.69	6.70	0.00623	0.00563	0.00781	0.00357	PASS
25℃	LV	16.44	15.24	15.74	16.44	0.00875	0.00811	0.00837	0.00875	PASS
	HV	9.92	11.93	17.57	7.92	0.00528	0.00635	0.00935	0.00422	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz									
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.62	1.47	15.57	8.62	0.00831	0.00078	0.00828	0.00459	PASS
Extreme (50℃)		8.05	10.12	11.38	11.05	0.00428	0.00538	0.00605	0.00588	PASS



Extreme (40℃)		14.75	4.92	16.14	4.75	0.00784	0.00262	0.00859	0.00252	PASS
Extreme (30℃)		3.91	1.83	12.52	4.91	0.00208	0.00097	0.00666	0.00261	PASS
Extreme (20℃)		17.48	8.29	4.16	4.48	0.00930	0.00441	0.00221	0.00238	PASS
Extreme (10℃)		4.37	4.31	1.51	14.37	0.00232	0.00229	0.00080	0.00764	PASS
Extreme (0℃)		2.29	1.67	16.02	10.29	0.00122	0.00089	0.00852	0.00547	PASS
Extreme (-10℃)		9.84	8.32	1.81	14.84	0.00524	0.00442	0.00096	0.00790	PASS
Extreme (-20℃)		6.54	17.05	10.96	1.54	0.00348	0.00907	0.00583	0.00082	PASS
Extreme (-30℃)		6.11	10.43	1.13	17.11	0.00325	0.00555	0.00060	0.00910	PASS
25℃	LV	17.63	13.74	11.13	14.63	0.00938	0.00731	0.00592	0.00778	PASS
	HV	12.42	7.28	8.66	15.42	0.00661	0.00387	0.00461	0.00820	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz									
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	7.52	12.92	17.12	4.52	0.00400	0.00687	0.00911	0.00241	PASS
Extreme (50℃)		16.94	1.56	9.26	12.94	0.00901	0.00083	0.00493	0.00688	PASS
Extreme (40℃)		8.70	6.64	13.62	5.70	0.00463	0.00353	0.00725	0.00303	PASS
Extreme (30℃)		7.17	2.71	2.85	7.17	0.00382	0.00144	0.00152	0.00382	PASS
Extreme (20℃)		13.01	1.75	15.20	6.01	0.00692	0.00093	0.00808	0.00320	PASS
Extreme (10℃)		10.52	8.89	2.34	16.52	0.00560	0.00473	0.00124	0.00879	PASS
Extreme (0℃)		8.33	5.24	12.19	16.33	0.00443	0.00279	0.00648	0.00869	PASS
Extreme (-10℃)		12.50	3.59	16.52	14.50	0.00665	0.00191	0.00879	0.00771	PASS
Extreme (-20℃)		14.59	4.16	15.32	13.59	0.00776	0.00222	0.00815	0.00723	PASS
Extreme (-30℃)		11.71	4.16	16.43	1.71	0.00623	0.00221	0.00874	0.00091	PASS
25℃	LV	2.77	4.58	10.89	1.77	0.00147	0.00244	0.00579	0.00094	PASS
	HV	12.34	16.84	15.94	8.34	0.00656	0.00896	0.00848	0.00443	PASS

EN-DC_13A_n2										
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz									
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	14.84	11.77	6.34	3.84	0.00789	0.00626	0.00337	0.00204	PASS
Extreme (50℃)		2.26	1.32	8.49	16.26	0.00120	0.00070	0.00452	0.00865	PASS
Extreme (40℃)		2.53	2.90	8.53	5.53	0.00135	0.00154	0.00454	0.00294	PASS
Extreme (30℃)		7.04	8.55	13.84	6.04	0.00375	0.00455	0.00736	0.00321	PASS
Extreme (20℃)		2.57	2.31	8.82	12.57	0.00137	0.00123	0.00469	0.00669	PASS
Extreme (10℃)		7.97	2.30	12.93	4.97	0.00424	0.00122	0.00688	0.00265	PASS
Extreme (0℃)		7.93	12.54	5.36	2.93	0.00422	0.00667	0.00285	0.00156	PASS
Extreme (-10℃)		1.44	4.34	3.27	17.44	0.00076	0.00231	0.00174	0.00928	PASS



Extreme (-20℃)		2.21	14.00	6.97	14.21	0.00118	0.00745	0.00371	0.00756	PASS
Extreme (-30℃)		9.90	1.75	8.97	1.90	0.00527	0.00093	0.00477	0.00101	PASS
25℃	LV	5.88	8.78	3.17	8.88	0.00313	0.00467	0.00169	0.00472	PASS
	HV	3.45	4.00	11.53	10.45	0.00184	0.00213	0.00613	0.00556	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	10MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability	Stability	Stability	Stability	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.74	6.18	6.36	6.74	0.00837	0.00329	0.00338	0.00359	PASS
Extreme (50℃)		1.69	17.33	2.44	3.69	0.00090	0.00922	0.00130	0.00196	PASS
Extreme (40℃)		5.43	5.08	6.45	7.43	0.00289	0.00270	0.00343	0.00395	PASS
Extreme (30℃)		8.01	6.10	11.16	11.01	0.00426	0.00325	0.00594	0.00586	PASS
Extreme (20℃)		13.13	9.77	17.29	11.13	0.00698	0.00520	0.00920	0.00592	PASS
Extreme (10℃)		10.09	15.32	5.65	3.09	0.00537	0.00815	0.00301	0.00164	PASS
Extreme (0℃)		2.57	16.13	16.21	6.57	0.00137	0.00858	0.00862	0.00349	PASS
Extreme (-10℃)		14.68	11.27	9.55	16.68	0.00781	0.00599	0.00508	0.00887	PASS
Extreme (-20℃)		1.39	6.62	17.10	16.39	0.00074	0.00352	0.00909	0.00872	PASS
Extreme (-30℃)		7.27	10.97	13.31	5.27	0.00387	0.00583	0.00708	0.00280	PASS
25℃	LV	5.06	14.98	12.58	16.06	0.00269	0.00797	0.00669	0.00854	PASS
	HV	6.04	13.47	13.55	11.04	0.00321	0.00716	0.00721	0.00587	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	15MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability	Stability	Stability	Stability	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	9.02	3.16	2.70	7.02	0.00480	0.00168	0.00144	0.00374	PASS
Extreme (50℃)		10.71	1.78	8.07	17.71	0.00570	0.00095	0.00429	0.00942	PASS
Extreme (40℃)		6.62	5.89	8.10	15.62	0.00352	0.00313	0.00431	0.00831	PASS
Extreme (30℃)		4.97	5.69	16.14	3.97	0.00264	0.00303	0.00858	0.00211	PASS
Extreme (20℃)		15.13	13.67	13.84	17.13	0.00805	0.00727	0.00736	0.00911	PASS
Extreme (10℃)		11.24	14.12	14.94	16.24	0.00598	0.00751	0.00795	0.00864	PASS
Extreme (0℃)		9.88	3.17	14.08	9.88	0.00525	0.00169	0.00749	0.00525	PASS
Extreme (-10℃)		1.22	14.62	17.06	4.22	0.00065	0.00777	0.00908	0.00224	PASS
Extreme (-20℃)		11.83	13.77	6.41	1.83	0.00629	0.00733	0.00341	0.00097	PASS
Extreme (-30℃)		12.76	9.96	13.22	7.76	0.00679	0.00530	0.00703	0.00413	PASS
25℃	LV	4.62	17.36	10.61	15.62	0.00246	0.00924	0.00565	0.00831	PASS
	HV	3.09	17.28	4.79	6.09	0.00164	0.00919	0.00255	0.00324	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	20MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability	Stability	Stability	Stability	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	



Normal (25℃)	Normal	10.48	17.12	7.74	1.48	0.00557	0.00911	0.00411	0.00079	PASS
Extreme (50℃)		15.69	8.98	15.81	3.69	0.00835	0.00478	0.00841	0.00196	PASS
Extreme (40℃)		7.59	17.30	5.10	9.59	0.00404	0.00920	0.00271	0.00510	PASS
Extreme (30℃)		6.15	11.87	8.84	15.15	0.00327	0.00631	0.00470	0.00806	PASS
Extreme (20℃)		5.16	5.68	13.55	1.16	0.00274	0.00302	0.00721	0.00062	PASS
Extreme (10℃)		4.69	2.22	16.05	12.69	0.00250	0.00118	0.00854	0.00675	PASS
Extreme (0℃)		4.21	14.27	16.47	4.21	0.00224	0.00759	0.00876	0.00224	PASS
Extreme (-10℃)		5.64	17.43	7.03	14.64	0.00300	0.00927	0.00374	0.00779	PASS
Extreme (-20℃)		6.56	16.95	9.61	1.56	0.00349	0.00902	0.00511	0.00083	PASS
Extreme (-30℃)		16.50	3.31	10.94	10.50	0.00878	0.00176	0.00582	0.00558	PASS
25℃	LV	3.76	15.36	10.16	6.76	0.00200	0.00817	0.00541	0.00360	PASS
	HV	6.48	17.83	14.48	3.48	0.00345	0.00948	0.00770	0.00185	PASS

EN-DC_66A_n2										
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	5MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability (ppm)	Stability (ppm)	Stability (ppm)	Stability (ppm)	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	10.46	13.48	15.70	10.46	0.00556	0.00717	0.00835	0.00556	PASS
Extreme (50℃)		7.83	17.44	7.32	1.83	0.00417	0.00928	0.00389	0.00098	PASS
Extreme (40℃)		6.46	9.75	7.29	10.46	0.00343	0.00519	0.00388	0.00556	PASS
Extreme (30℃)		2.49	10.61	4.07	14.49	0.00132	0.00564	0.00216	0.00771	PASS
Extreme (20℃)		7.49	3.79	11.36	4.49	0.00399	0.00201	0.00604	0.00239	PASS
Extreme (10℃)		15.64	13.98	12.12	3.64	0.00832	0.00744	0.00644	0.00194	PASS
Extreme (0℃)		10.78	1.27	5.90	4.78	0.00573	0.00068	0.00314	0.00254	PASS
Extreme (-10℃)		2.08	6.74	14.22	8.08	0.00110	0.00359	0.00756	0.00430	PASS
Extreme (-20℃)		1.07	2.17	12.71	14.07	0.00057	0.00116	0.00676	0.00748	PASS
Extreme (-30℃)		4.34	12.52	15.60	5.34	0.00231	0.00666	0.00830	0.00284	PASS
25℃	LV	6.78	5.36	8.70	9.78	0.00361	0.00285	0.00463	0.00520	PASS
	HV	15.00	2.07	4.18	14.00	0.00798	0.00110	0.00222	0.00745	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	10MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability (ppm)	Stability (ppm)	Stability (ppm)	Stability (ppm)	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	11.51	8.80	17.33	11.51	0.00612	0.00468	0.00922	0.00612	PASS
Extreme (50℃)		12.26	6.92	2.80	10.26	0.00652	0.00368	0.00149	0.00546	PASS
Extreme (40℃)		11.03	5.52	11.41	8.03	0.00587	0.00293	0.00607	0.00427	PASS
Extreme (30℃)		4.41	15.66	11.15	11.41	0.00235	0.00833	0.00593	0.00607	PASS
Extreme (20℃)		15.11	9.37	16.53	16.11	0.00804	0.00498	0.00879	0.00857	PASS
Extreme (10℃)		10.19	10.09	9.31	2.19	0.00542	0.00537	0.00495	0.00117	PASS



Extreme (0℃)		2.18	16.73	16.20	11.18	0.00116	0.00890	0.00862	0.00595	PASS
Extreme (-10℃)		4.00	6.49	7.91	17.00	0.00213	0.00345	0.00421	0.00904	PASS
Extreme (-20℃)		8.59	2.85	10.74	10.59	0.00457	0.00152	0.00571	0.00563	PASS
Extreme (-30℃)		9.53	12.48	15.97	3.53	0.00507	0.00664	0.00849	0.00188	PASS
25℃	LV	17.19	14.67	1.90	17.19	0.00914	0.00780	0.00101	0.00914	PASS
	HV	11.20	7.93	6.78	11.20	0.00596	0.00422	0.00361	0.00596	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	15MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability	Stability	Stability	Stability	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.05	17.06	3.85	16.05	0.00322	0.00907	0.00205	0.00854	PASS
Extreme (50℃)		2.78	16.57	2.90	16.78	0.00148	0.00882	0.00154	0.00893	PASS
Extreme (40℃)		14.78	8.72	14.82	14.78	0.00786	0.00464	0.00788	0.00786	PASS
Extreme (30℃)		2.07	17.75	12.97	6.07	0.00110	0.00944	0.00690	0.00323	PASS
Extreme (20℃)		5.93	9.35	3.96	6.93	0.00315	0.00497	0.00210	0.00369	PASS
Extreme (10℃)		14.20	9.06	16.65	8.20	0.00756	0.00482	0.00886	0.00436	PASS
Extreme (0℃)		6.47	7.96	10.13	9.47	0.00344	0.00424	0.00539	0.00504	PASS
Extreme (-10℃)		13.19	2.56	6.08	17.19	0.00701	0.00136	0.00323	0.00914	PASS
Extreme (-20℃)		4.33	15.27	4.60	15.33	0.00230	0.00812	0.00245	0.00815	PASS
Extreme (-30℃)		17.28	7.98	1.21	12.28	0.00919	0.00425	0.00064	0.00653	PASS
25℃	LV	17.17	2.50	14.32	2.17	0.00913	0.00133	0.00762	0.00115	PASS
	HV	4.54	4.79	3.01	5.54	0.00242	0.00255	0.00160	0.00295	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Frequency	Verdict
BANDWIDTH	20MHz	(Hz)	(Hz)	(Hz)	(Hz)	Stability	Stability	Stability	Stability	
Temperature	Voltage	256QAM	64QAM	16QAM	QPSK	256QAM	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	9.70	6.63	7.87	1.70	0.00516	0.00353	0.00419	0.00090	PASS
Extreme (50℃)		6.84	10.12	15.03	13.84	0.00364	0.00539	0.00799	0.00736	PASS
Extreme (40℃)		14.48	10.79	2.71	17.48	0.00770	0.00574	0.00144	0.00930	PASS
Extreme (30℃)		13.63	4.10	9.03	16.63	0.00725	0.00218	0.00480	0.00884	PASS
Extreme (20℃)		5.87	6.83	1.14	6.87	0.00312	0.00363	0.00061	0.00365	PASS
Extreme (10℃)		9.67	15.20	12.34	13.67	0.00514	0.00808	0.00656	0.00727	PASS
Extreme (0℃)		8.40	1.34	2.15	16.40	0.00447	0.00071	0.00114	0.00872	PASS
Extreme (-10℃)		12.11	6.61	12.77	4.11	0.00644	0.00351	0.00679	0.00219	PASS
Extreme (-20℃)		11.72	2.43	5.60	7.72	0.00624	0.00129	0.00298	0.00411	PASS
Extreme (-30℃)		2.35	10.89	7.23	10.35	0.00125	0.00579	0.00384	0.00551	PASS
25℃	LV	12.92	12.15	1.17	16.92	0.00687	0.00646	0.00062	0.00900	PASS
	HV	16.18	17.50	3.06	11.18	0.00861	0.00931	0.00163	0.00595	PASS

5.6. Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

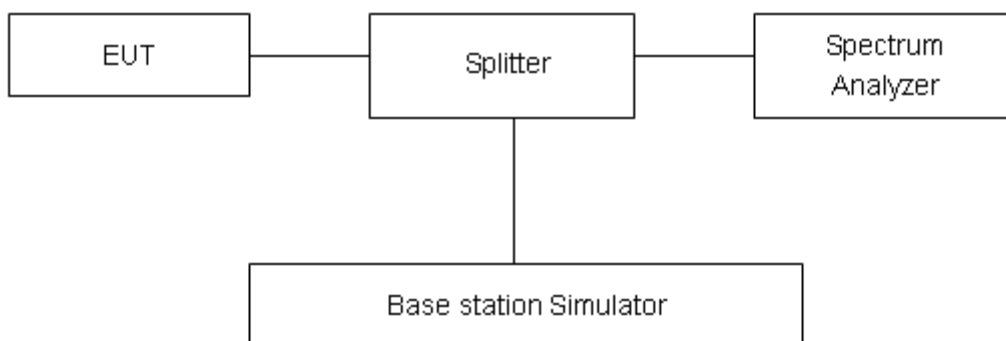
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-20GHz	1.407 dB

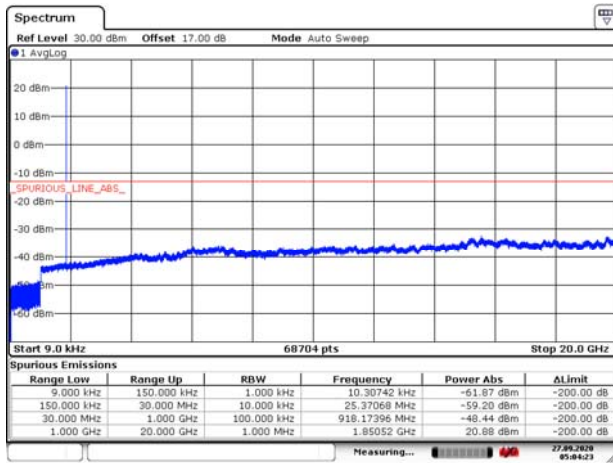


Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

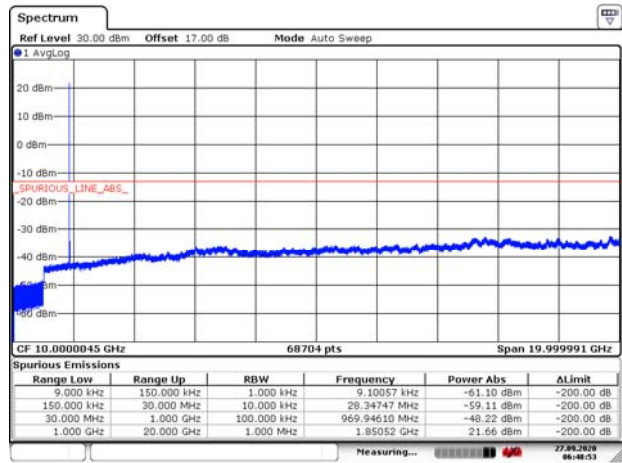
The signal beyond the limit is carrier.

EN-DC_5A_n2 5MHz CH-Low 9kHz~20GHz



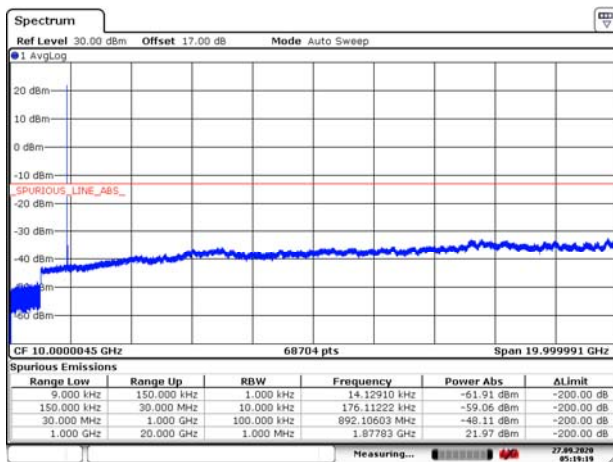
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EN-DC_5A_n2 10MHz CH-Low 9kHz~20GHz



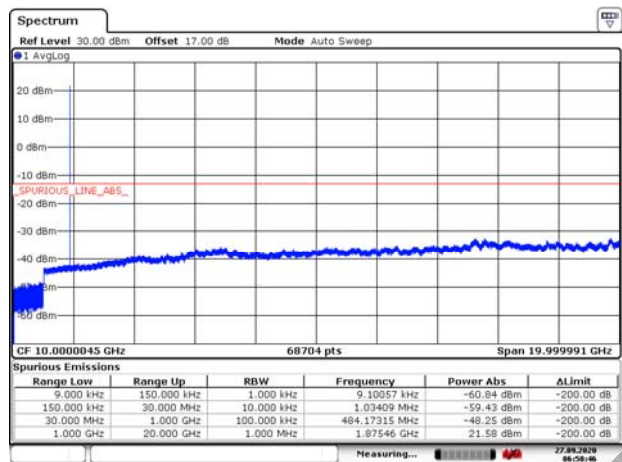
Date: 27 SEP 2020 06:48:52

EN-DC_5A_n2 5MHz CH-Middle 9kHz~20GHz



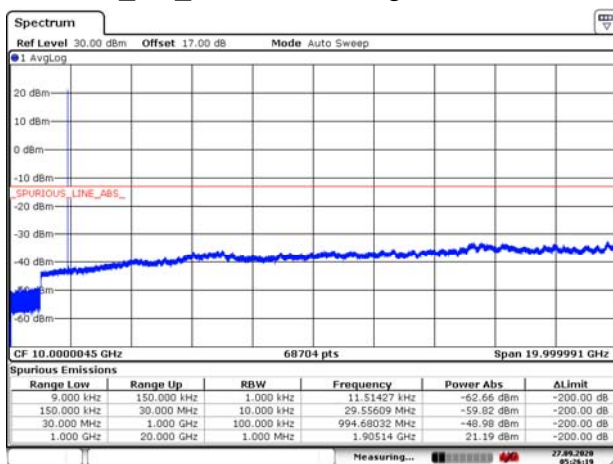
Date: 27 SEP 2020 05:19:19

EN-DC_5A_n2 10MHz CH-Middle 9kHz~20GHz



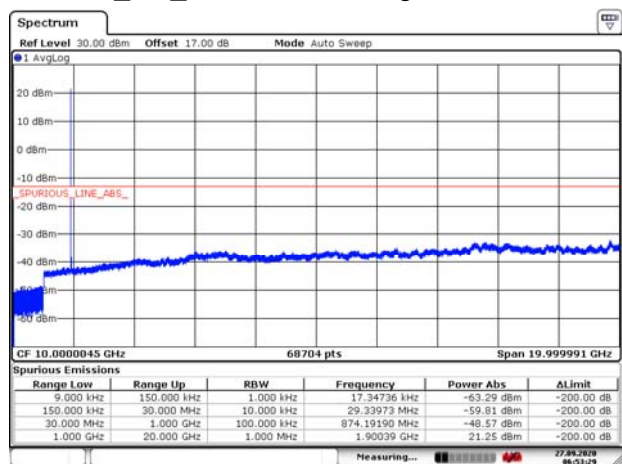
Date: 27 SEP 2020 06:50:46

EN-DC_5A_n2 5MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 05:26:19

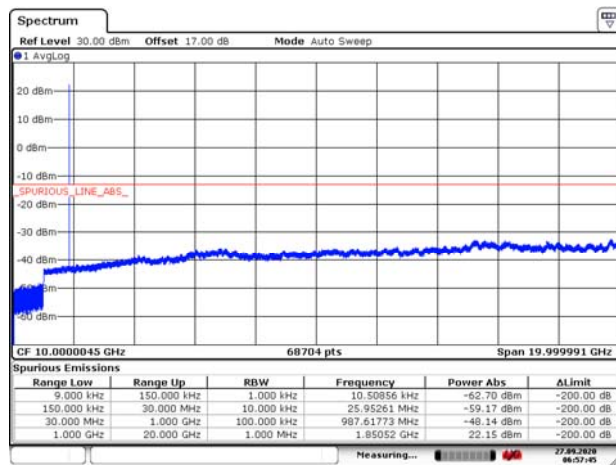
EN-DC_5A_n2 10MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 06:53:29

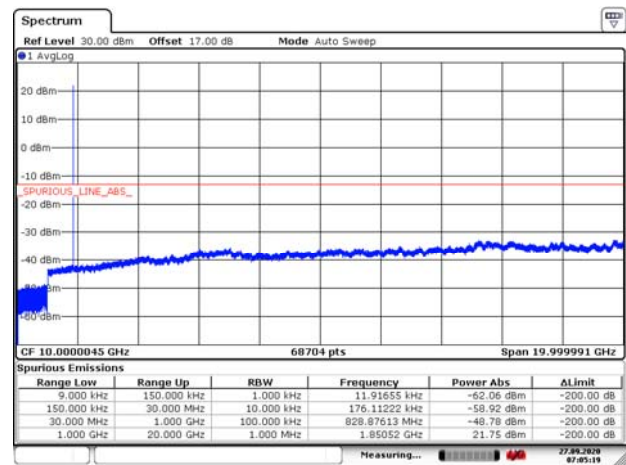


EN-DC_5A_n2 15MHz CH-Low 9kHz~20GHz



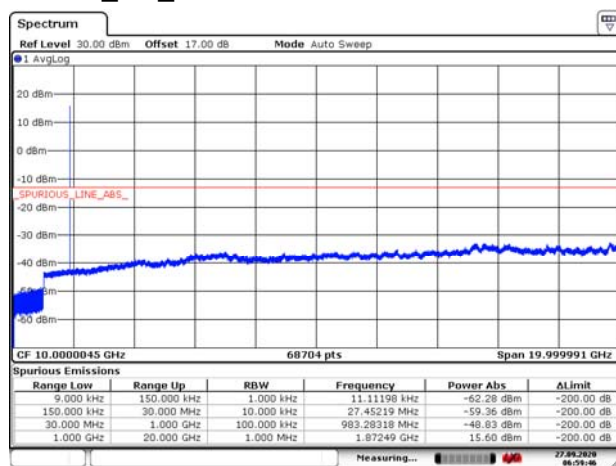
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EN-DC_5A_n2 20MHz CH-Low 9kHz~20GHz



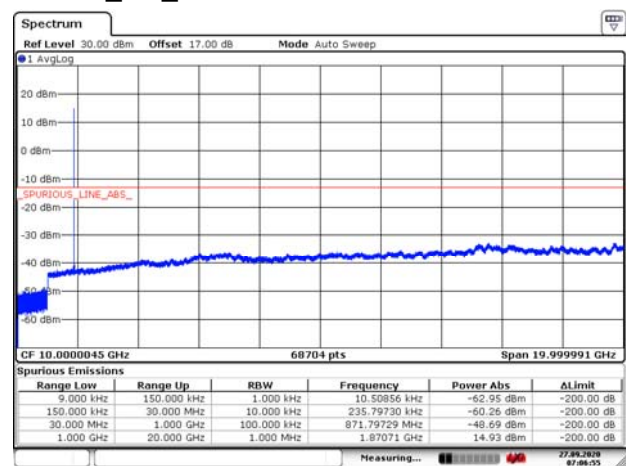
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EN-DC_5A_n2 15MHz CH-Middle 9kHz~20GHz



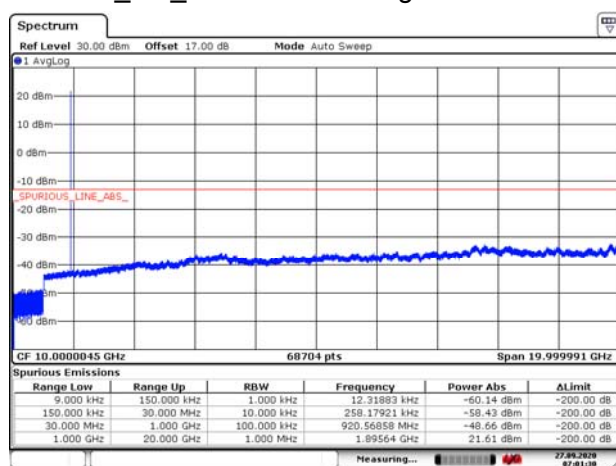
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EN-DC_5A_n2 20MHz CH-Middle 9kHz~20GHz



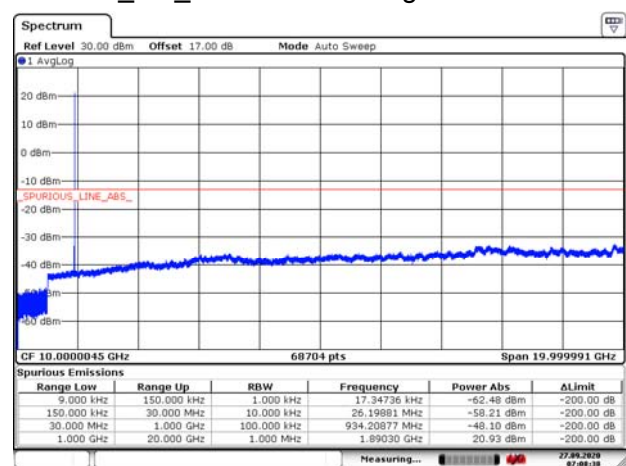
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EN-DC_5A_n2 15MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 07:01:30

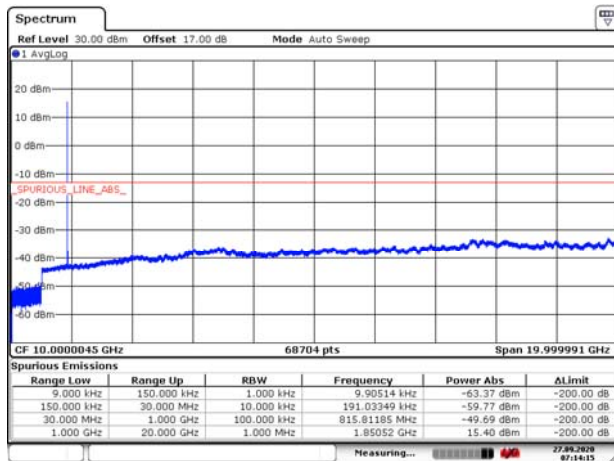
EN-DC_5A_n2 20MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 07:08:38

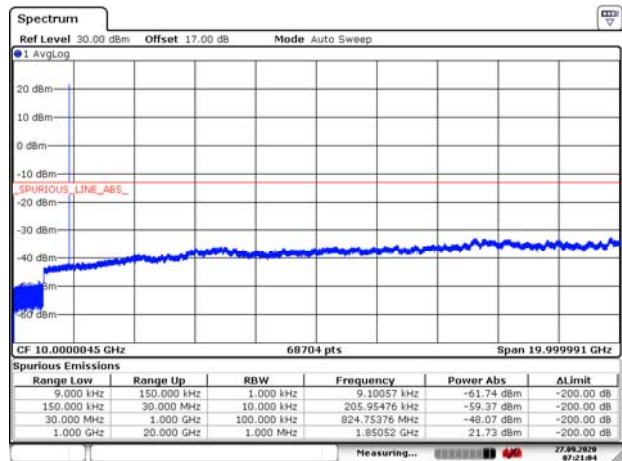


EN-DC_13A_n2 5MHz CH-Low 9kHz~20GHz



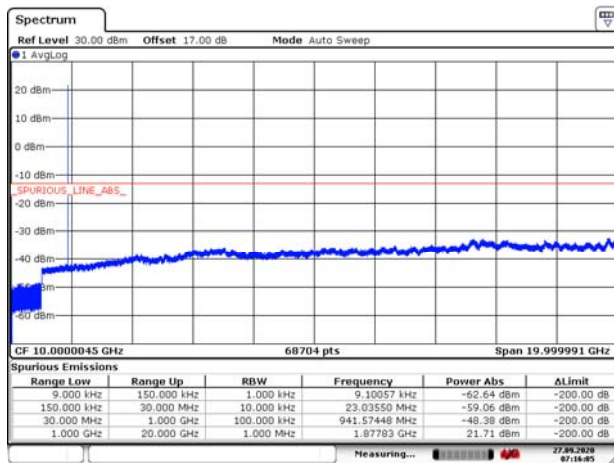
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EN-DC_13A_n2 10MHz CH-Low 9kHz~20GHz



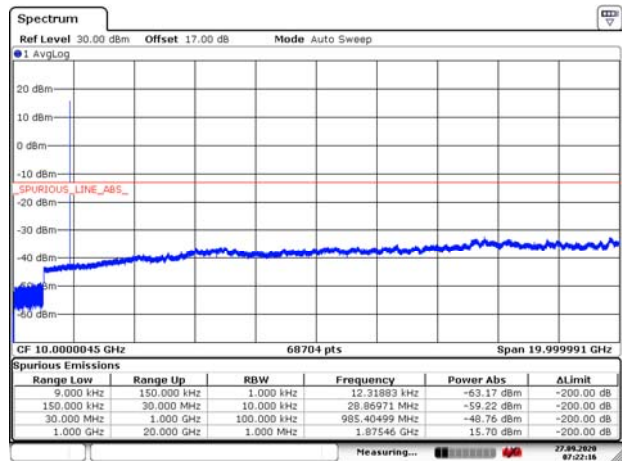
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EN-DC_13A_n2 5MHz CH-Middle 9kHz~20GHz



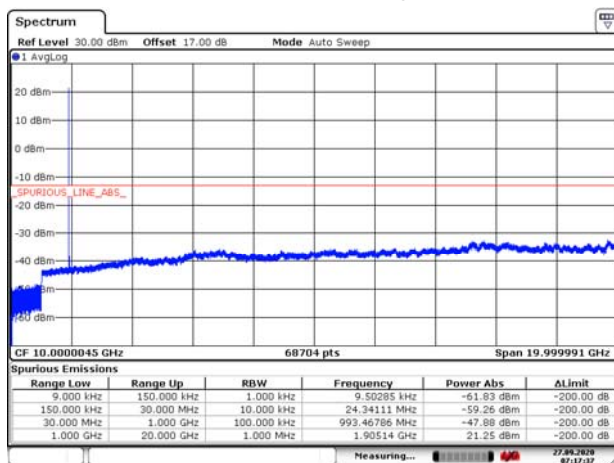
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EN-DC_13A_n2 10MHz CH-Middle 9kHz~20GHz



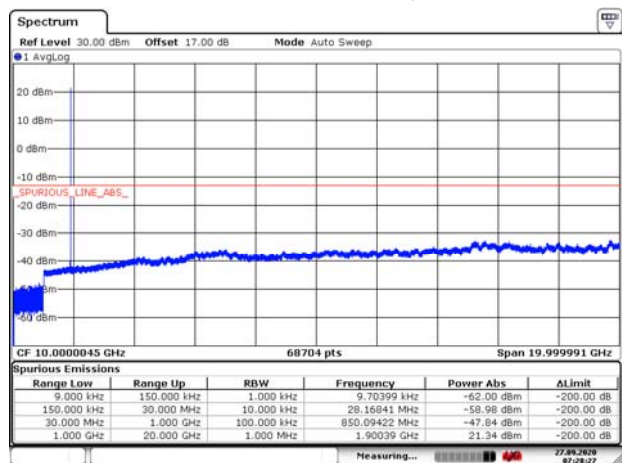
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EN-DC_13A_n2 5MHz CH-High 9kHz~20GHz



Date: 27 SEP.2020 07:17:38

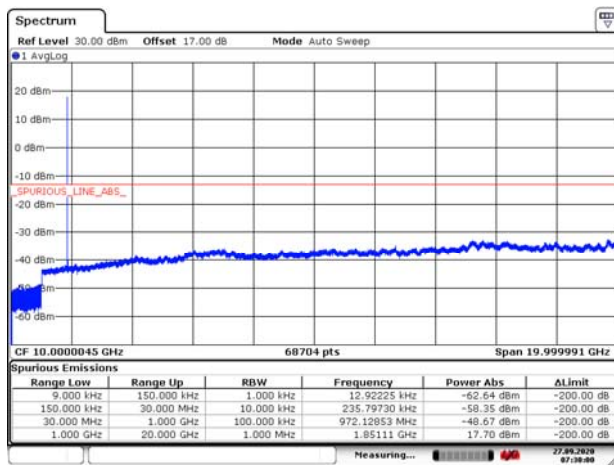
EN-DC_13A_n2 10MHz CH-High 9kHz~20GHz



Date: 27 SEP.2020 07:28:27

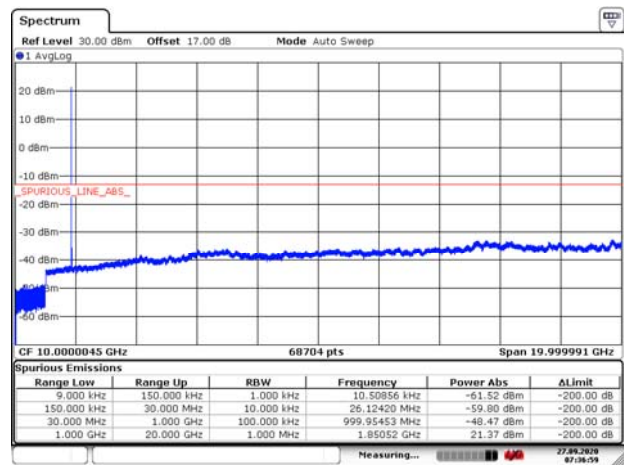


EN-DC_13A_n2 15MHz CH-Low 9kHz~20GHz



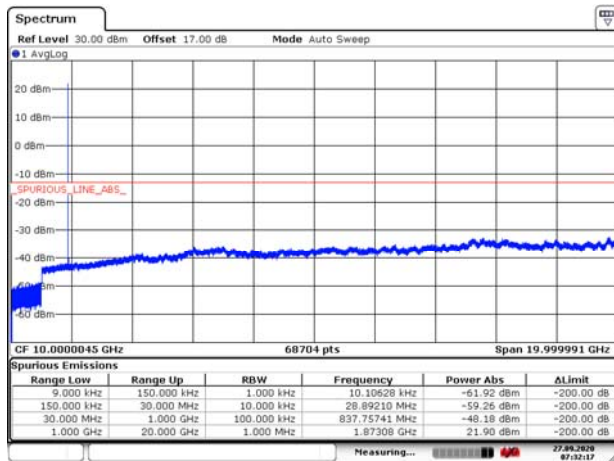
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EN-DC_13A_n2 20MHz CH-Low 9kHz~20GHz



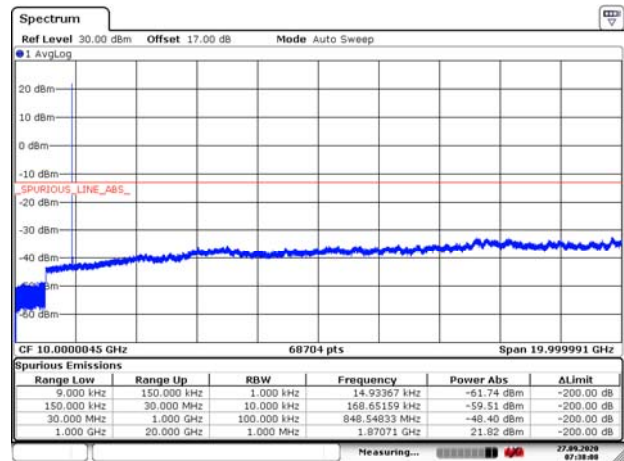
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EN-DC_13A_n2 15MHz CH-Middle 9kHz~20GHz



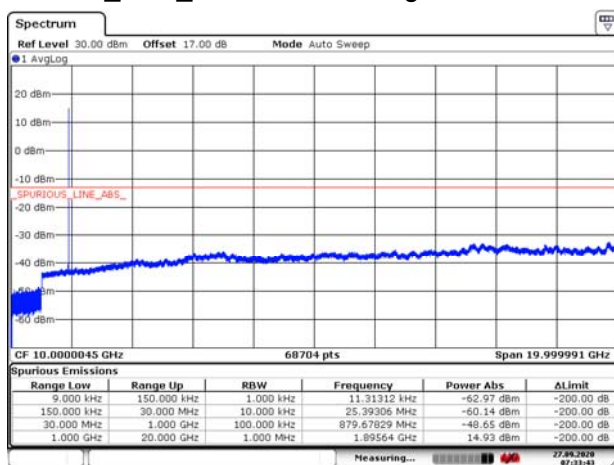
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EN-DC_13A_n2 20MHz CH-Middle 9kHz~20GHz



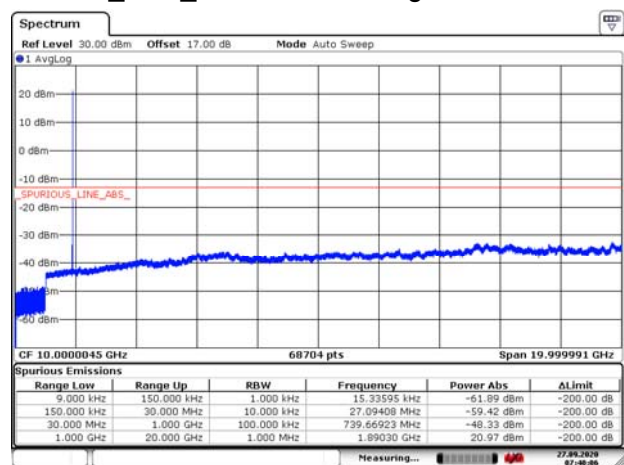
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EN-DC_13A_n2 15MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 07:33:43

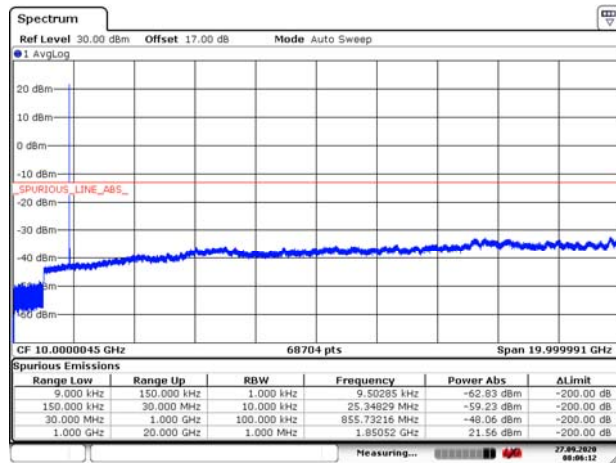
EN-DC_13A_n2 20MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 07:40:06

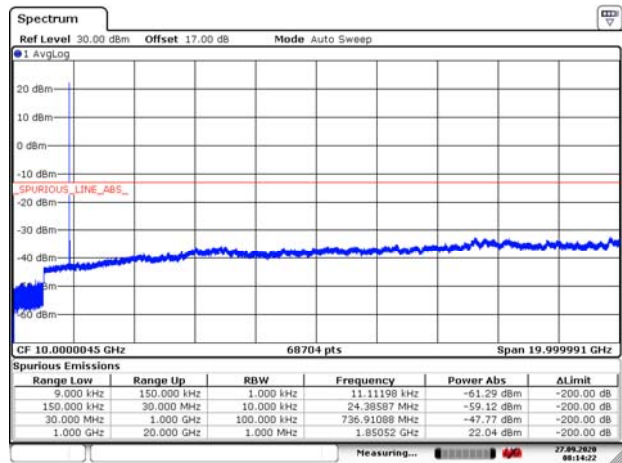


EN-DC_66A_n2 5MHz CH-Low 9kHz~20GHz



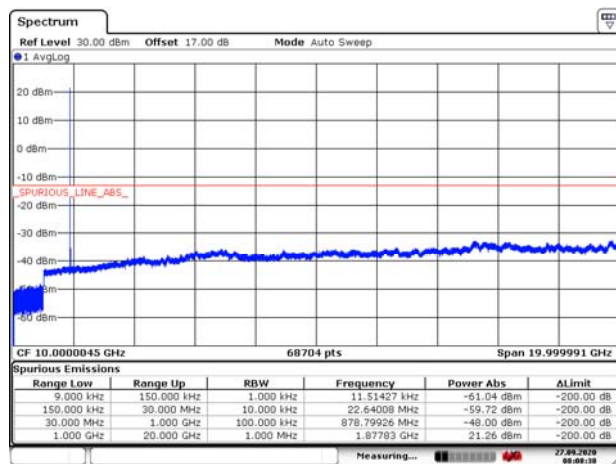
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EN-DC_66A_n2 10MHz CH-Low 9kHz~20GHz



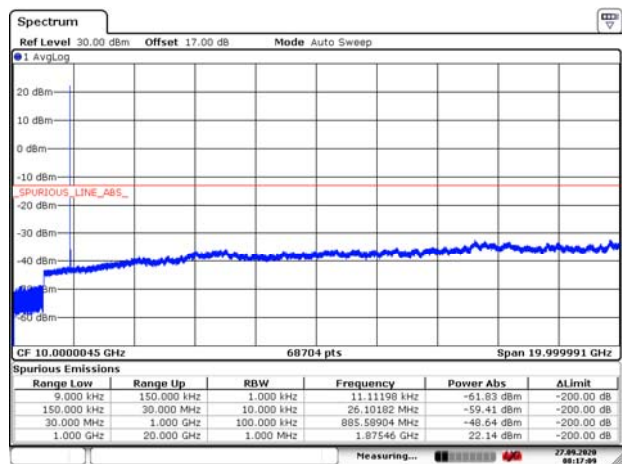
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EN-DC_66A_n2 5MHz CH-Middle 9kHz~20GHz



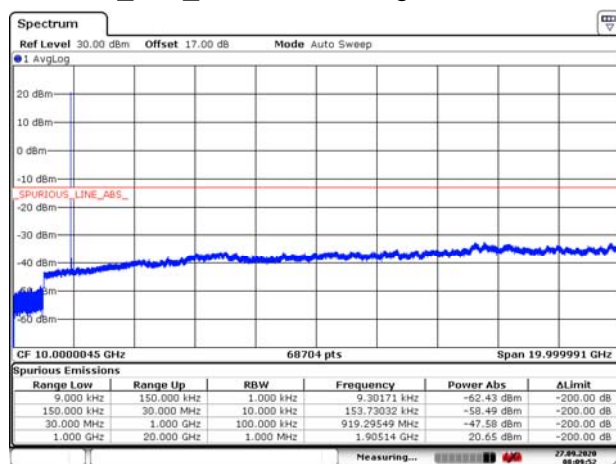
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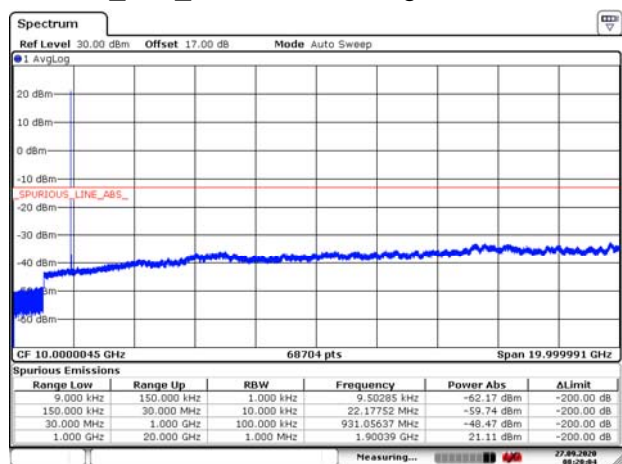
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EN-DC_66A_n2 5MHz CH-High 9kHz~20GHz



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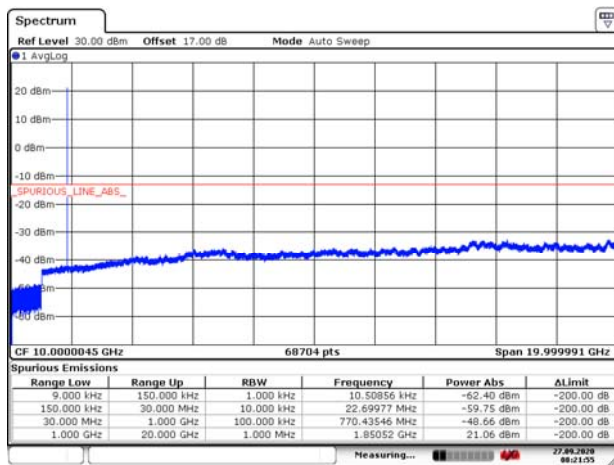
EN-DC_66A_n2 10MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 08:20:05

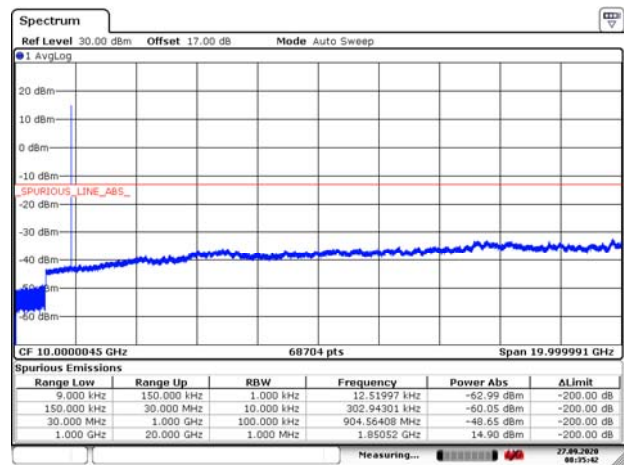


EN-DC_66A_n2 15MHz CH-Low 9kHz~20GHz



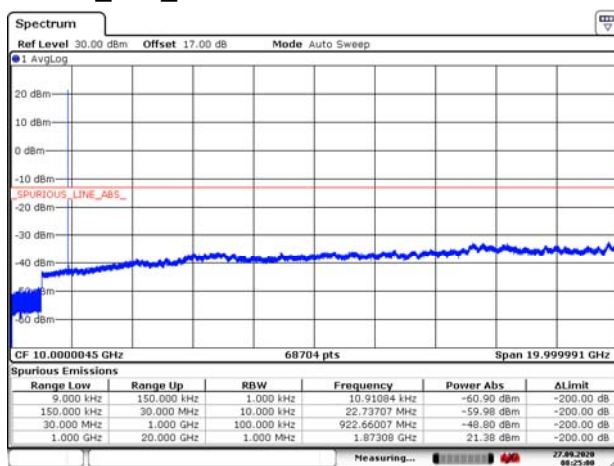
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EN-DC_66A_n2 20MHz CH-Low 9kHz~20GHz



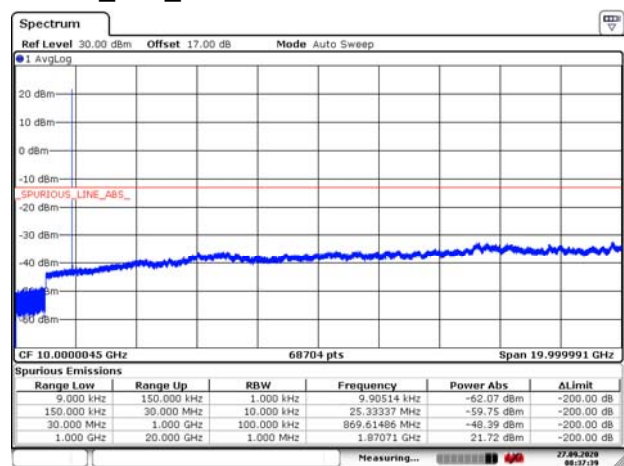
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EN-DC_66A_n2 15MHz CH-Middle 9kHz~20GHz



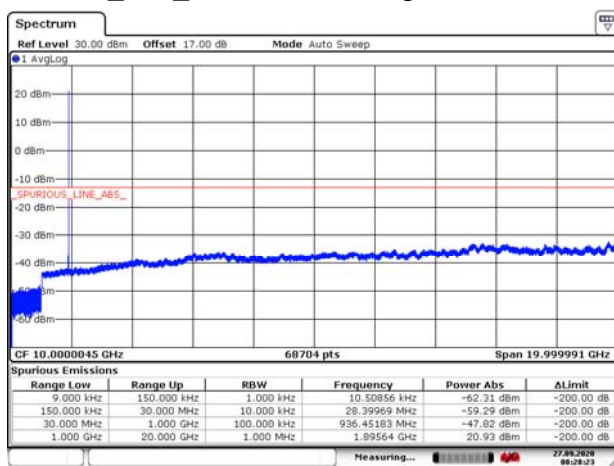
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EN-DC_66A_n2 20MHz CH-Middle 9kHz~20GHz



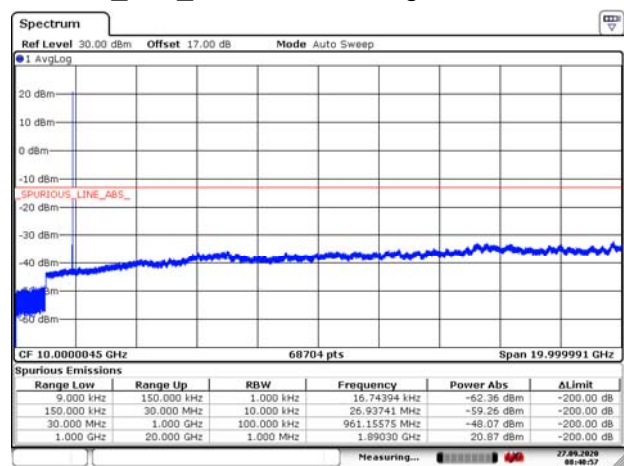
Date: 27 SEP 2020 08:37:38

EN-DC_66A_n2 15MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 08:28:24

EN-DC_66A_n2 20MHz CH-High 9kHz~20GHz



Date: 27 SEP 2020 08:40:57

5.7. Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz-150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz , RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

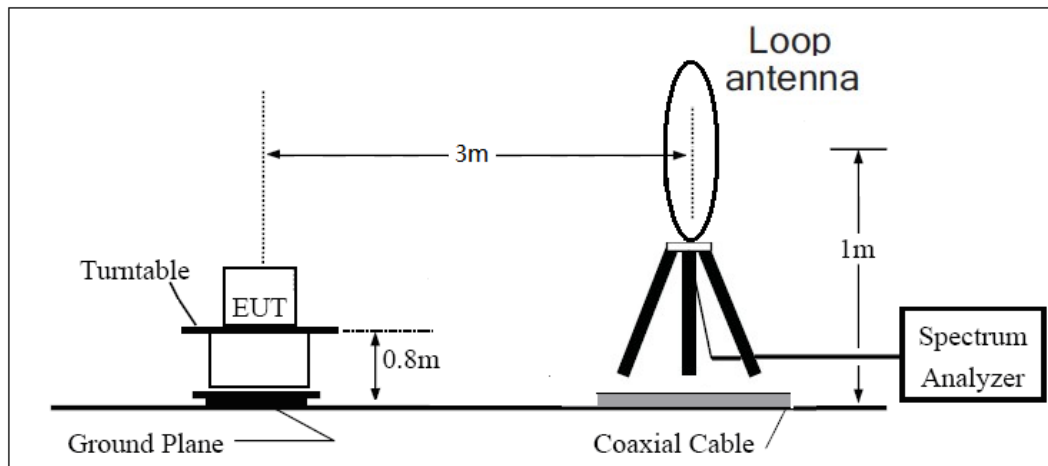
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi)

and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

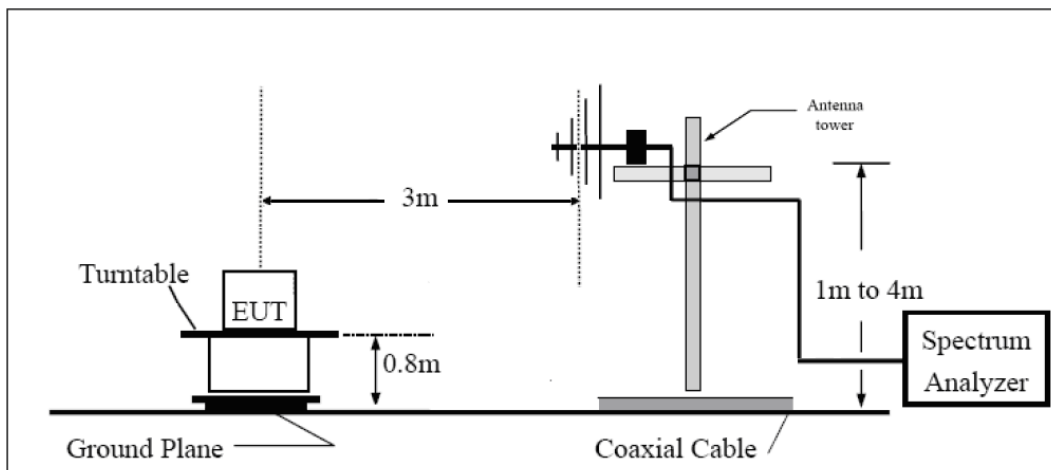
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

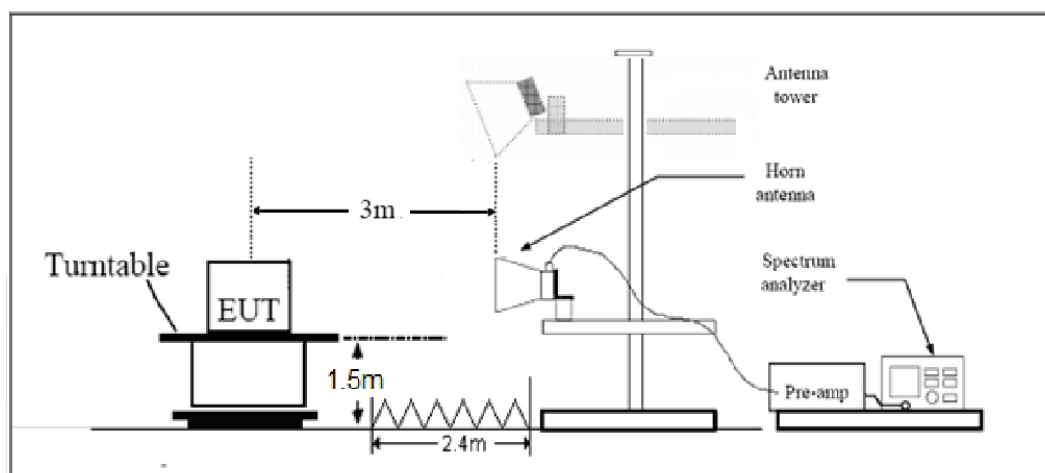
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz





Note: Area side: 2.4mX3.6m

Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55$ dB.

**Test Result**

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

EN-DC_66A_n2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.63	-62.23	5.10	11.05	Horizontal	-56.28	-13.00	43.28	90
3	5633.63	-57.77	5.42	12.65	Horizontal	-50.54	-13.00	37.54	45
4	7520.00	-57.30	6.70	13.85	Horizontal	-50.15	-13.00	37.15	180
5	9400.00	-56.05	7.01	14.75	Horizontal	-48.31	-13.00	35.31	90
6	11280.00	-54.53	7.48	15.95	Horizontal	-46.06	-13.00	33.06	90
7	13160.00	-55.98	7.51	16.55	Horizontal	-46.94	-13.00	33.94	45
8	15040.00	-52.71	8.24	15.35	Horizontal	-45.60	-13.00	32.60	315
9	16920.00	-51.09	8.41	14.95	Horizontal	-44.55	-13.00	31.55	180
10	18800.00	/	/	/	/	/	/	/	/

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

EN-DC_66A_n2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.50	-60.49	5.10	11.05	Horizontal	-54.54	-13.00	41.54	45
3	5333.25	-51.15	5.42	12.65	Horizontal	-43.92	-13.00	30.92	180
4	7520.00	-56.96	6.70	13.85	Horizontal	-49.81	-13.00	36.81	135
5	9400.00	-56.23	7.01	14.75	Horizontal	-48.49	-13.00	35.49	180
6	11280.00	-54.06	7.48	15.95	Horizontal	-45.59	-13.00	32.59	45
7	13160.00	-55.60	7.51	16.55	Horizontal	-46.56	-13.00	33.56	45
8	15040.00	-52.65	8.24	15.35	Horizontal	-45.54	-13.00	32.54	90
9	16920.00	-49.16	8.41	14.95	Horizontal	-42.62	-13.00	29.62	315
10	18800.00	/	/	/	/	/	/	/	/

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Horizontal position.

6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	ANRITSU	MT8000A	6261844783	2020-05-17	2021-05-16
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2020-05-18	2021-05-17
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2020-05-27	2021-05-26
Signal Analyzer	R&S	FSV30	100815	2019-12-15	2020-12-14
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2020-11-17
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
Signal generator	R&S	SMB 100A	102594	2020-05-18	2021-05-17
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preamplifier	R&S	SCU18	102327	2020-05-18	2021-05-17
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2020-05-18	2021-05-17
RF Cable	Agilent	SMA 15cm	0001	2020-06-12	2020-12-11
Software	R&S	EMC32	9.26.0	/	/

*****END OF REPORT *****



ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.