IC TEST REPORT

(RSS- 132)

Product:	B Series
Model No.:	B402, B404
IC:	20127-B402
Applicant:	Particle Industries,Inc
Address:	126 Post St,4th floor, San Francisco,CA 94108 USA
Manufacturer:	Particle Industries,Inc
Address:	126 Post St,4th floor, San Francisco,CA 94108 USA
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Report No.:	ICP20120006-1
Received Date:	Jun. 06, 2019
Test Date:	Jun. 07, 2019 ~ Jul. 10, 2019
Issued Date:	Dec. 24, 2020

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
IC190606W003-1	Original release	Jul. 19, 2019
ICP20120006-1	Based on the original report IC190606W003-1 change the product name and models, which not affect RF function. So all the test data re-use from IC190606W003-1.	Dec. 24, 2020

1 CERTIFICATION

PRODUCT:	B Series
BRAND NAME:	Particle
MODEL NAME:	B402, B404
APPLICANT:	Particle Industries,Inc
TESTED:	Jun. 07, 2019 ~ Jul. 10, 2019
TEST SAMPLE:	Production Unit
STANDARDS:	**Canada RSS-132, Issue 3, January 2013** **Canada RSS-Gen, Issue 5, April 2018** **ANSI C63.26 - 2015**

The above equipment has been tested by **BV 7Layers Communications Technology (Shenzhen) Co. Ltd** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Alex **DATE :** Dec. 24, 2020

(Alex Chen / Engineer)

APPROVED BY : Luke Lu **DATE :** Dec. 24, 2020

(Luke Lu / Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: IC RSS-132, RSS-Gen			
STANDARD SECTION RSS-Gen	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
4.6	Occupied Bandwidth	N/A(see note)	Meet the requirement.
STANDARD SECTION RSS-132	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
5.3	Frequency Stability AFC Freq. Error vs. Voltage AFC Freq. Error vs. Temperature	N/A(see note)	Meet the requirement of limit.
5.4	Maximum Peak Output Power	N/A(see note)	Meet the requirement of limit.
5.4	peak-to-average power ratio	N/A(see note)	Meet the requirement of limit.
5.5	Band Edge Measurements	N/A(see note)	Meet the requirement of limit.
5.5	Conducted Spurious Emissions	N/A(see note)	Meet the requirement of limit.
5.5	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -17.40dB at 41.640MHz.

Note: more detail please refer to the original report IC190606W003-1
* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.68dB
	30MHz ~ 1GMHz	3.26dB
	1GHz ~ 18GHz	4.48dB
	18GHz ~ 40GHz	4.12dB

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

2.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 26,19	Feb. 25,20
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 26,19	Feb. 25,20
Bilog Antenna 1	ETS-LINDGREN	3143B	00161964	Feb. 26,19	Feb. 25,20
Bilog Antenna 2	ETS-LINDGREN	3143B	00161965	Feb. 26,19	Feb. 25,20
Horn Antenna 1	ETS-LINDGREN	3117	00168728	Feb. 26,19	Feb. 25,20
Horn Antenna 2	ETS-LINDGREN	3117	00168692	Nov. 30, 18	Nov. 29, 19
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Nov. 21, 18	Nov. 20, 19
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 26,19	Feb. 25,20
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jul. 09,19	Jul. 08,20
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jul. 09,19	Jul. 08,20
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Jul. 09,19	Jul. 08,20
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Feb. 26,19	Feb. 25,20
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jul. 09,19	Jul. 08,20
Power Meter	Anritsu	ML2495A	1506002	Feb. 26,19	Feb. 25,20
Power Sensor	Anritsu	MA2411B	1339352	Feb. 26,19	Feb. 25,20
Humid & Temp Programmable Tester	Juyi	ITH-120-45-CP-AR	IAA1504-001	Jul. 09,19	Jul. 08,20
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 26,19	Feb. 25,20

NOTE: 1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The IC test Site Registration No. is 21771-1; The CAB Identifier No. is CN0007.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

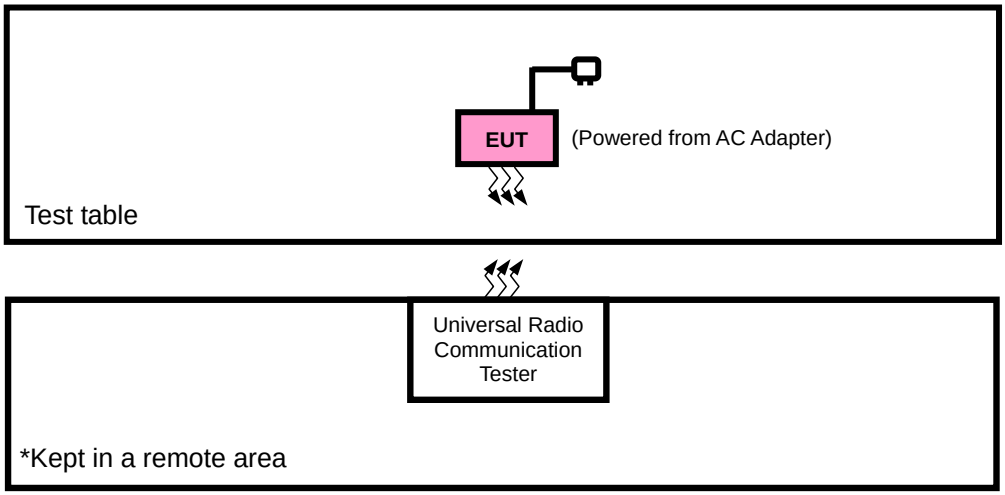
EUT	B Series	
MODEL NAME	B402, B404	
POWER SUPPLY	3.85Vdc (Li-ion, battery)	
MODULATION TYPE	**LTE**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 5 (Channel Bandwidth: 1.4MHz)**	824.7MHz ~ 848.3MHz
MAX. ERP POWER	**LTE Band 5 (Channel Bandwidth: 1.4MHz)**	218mW
EMISSION DESIGNATOR	**LTE Band 5**	QPSK: 1M12G7D
		16QAM: 1M11W7D
ANTENNA TYPE	Fixed External antenna with 1dBi gain	
HW VERSION	306A05	
SW VERSION	L0.0.00.00.05.06	
I/O PORTS	Refer to user's manual	
DATA CABLE	N/A	

NOTE:

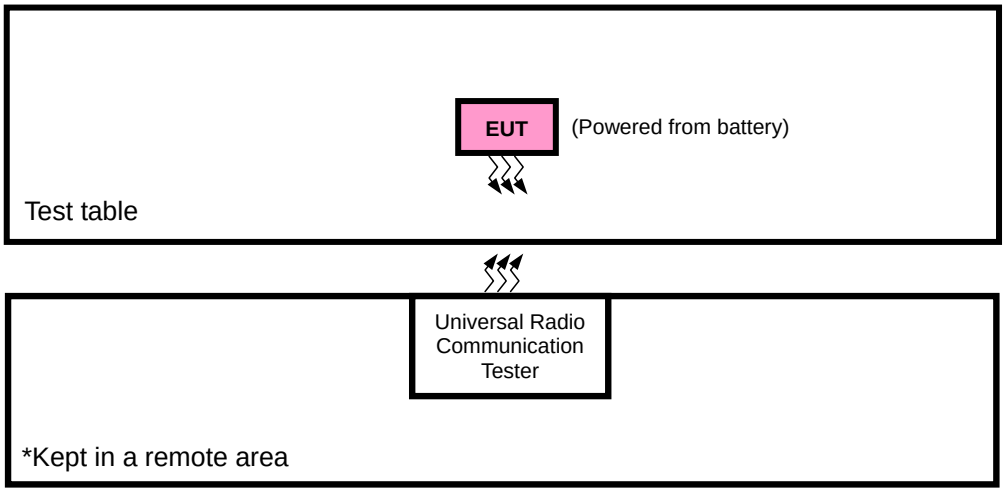
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. The differences of B402 and B404 are as follow: B402 uses eSIM of Kore.B404 uses eSIM of Twilio.

3.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST & E.R.P. TEST



FOR CONDUCTED & E.I.R.P. TEST



3.3 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	DC source	LONG WEI	PS-6403D	010934269	N/A
2	PC	HP	A6608CN	3CR83825X3	N/A
3	USB	N/A	N/A	N/A	N/A
4	Battery	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	AC Line: Unshielded, Detachable 1.5m
3	N/A
4	N/A

3.4 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 in ERP and radiated emission was found when positioned on X-plane for LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
–	EUT + Battery with **LTE link**

LTE BAND 5 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
RADIATED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 62%RH	3.8Vdc from Battery	Star Le
RADIATED EMISSION	23deg. C, 60%RH	3.8Vdc from Battery	Star Le

3.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.6 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:

Canada RSS-132, Issue 3, January 2013

Canada RSS-Gen, Issue 5, April 2018

ANSI C63.26 - 2015

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 11.5 watts e.i.r.p.

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10MHz for LTE mode.

b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m 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.

c. The substitution horn 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 b. Record the power level of S.G

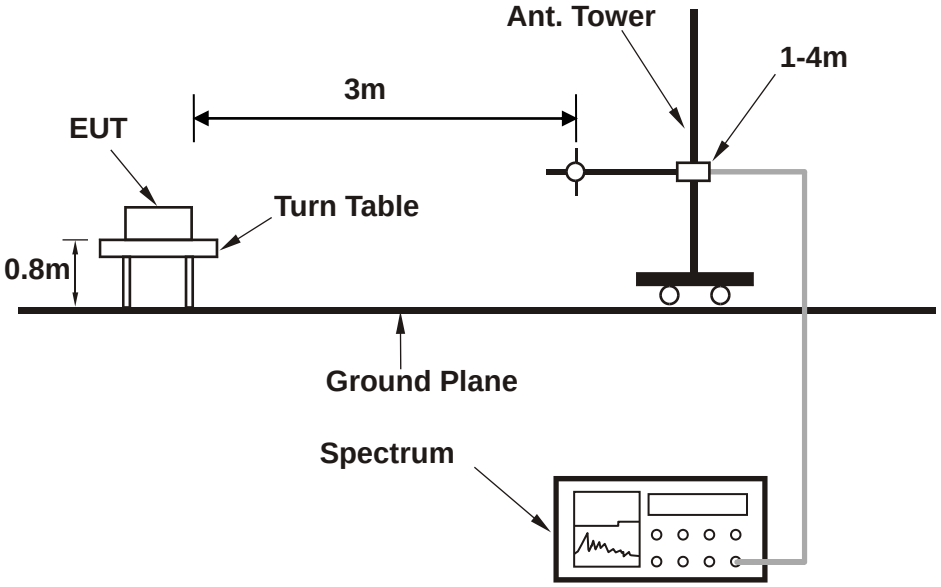
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

CONDUCTED POWER MEASUREMENT:

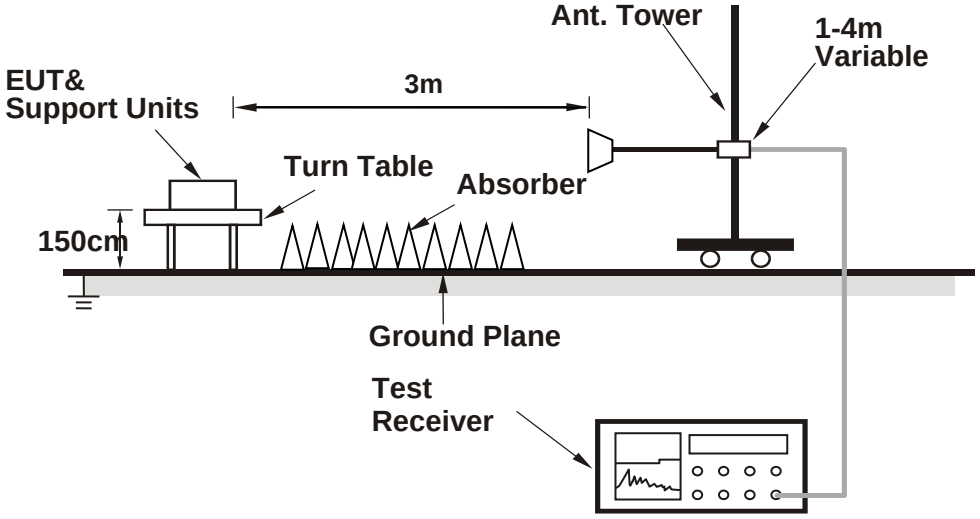
The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 TEST SETUP

EIRP / ERP Measurement:
<Radiated Emission below or equal 1 GHz>

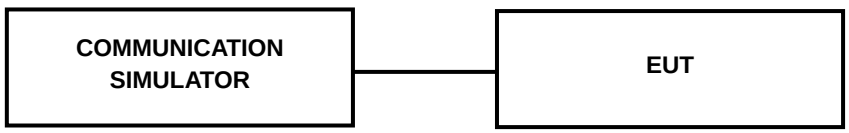


<Radiated Emission above 1 GHz>



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

CONDUCTED POWER MEASUREMENT:



4.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Base on verify the Conducted Power is the same with module test report (SD72128174-0517B) by lab, the test results please refer the module Report No.: SD72128174-0517B, and the pre-scan data as below.

LTE Band 5				
modulation	bandwidth	channels	Frequency	Tx Average (dBm)
QPSK	1.4 MHz	20407	824.7	24.93
		20525	836.5	24.82
		20643	848.3	24.54
16QAM	1.4 MHz	20407	824.7	24.94
		20525	836.5	24.93
		20643	848.3	24.65

ERP POWER (dBm)

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	SPA LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)	LIMIT (W)
20407	824.7	-8.28	33.67	23.24	211.01	H	11.5
20525	836.5	-8.08	33.62	23.39	**218.47**	H	11.5
20643	848.3	-8.60	33.65	22.90	194.76	H	11.5
20407	824.7	-16.84	34.25	15.26	33.56	V	11.5
20525	836.5	-16.59	34.60	15.86	38.53	V	11.5
20643	848.3	-17.60	34.63	14.88	30.76	V	11.5

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	SPA LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)	LIMIT (W)
20407	824.7	-9.11	33.67	22.41	174.30	H	11.5
20525	836.5	-9.10	33.62	22.37	172.74	H	11.5
20643	848.3	-9.70	33.65	21.80	151.18	H	11.5
20407	824.7	-17.67	34.25	14.43	27.72	V	11.5
20525	836.5	-17.61	34.60	14.84	30.46	V	11.5
20643	848.3	-18.70	34.63	13.78	23.88	V	11.5

REMARKS: 1. ERP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB) -2.15(dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.2.2 TEST PROCEDURE

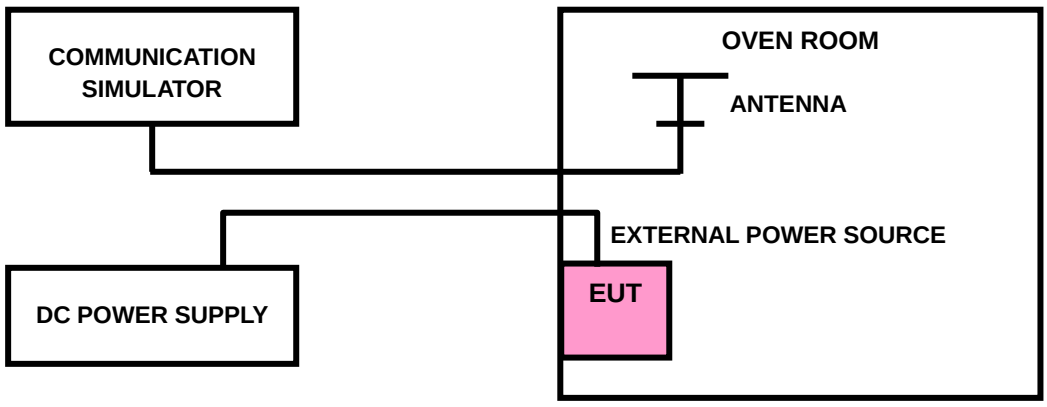
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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.

4.2.3 TEST SETUP



4.2.4 TEST RESULTS

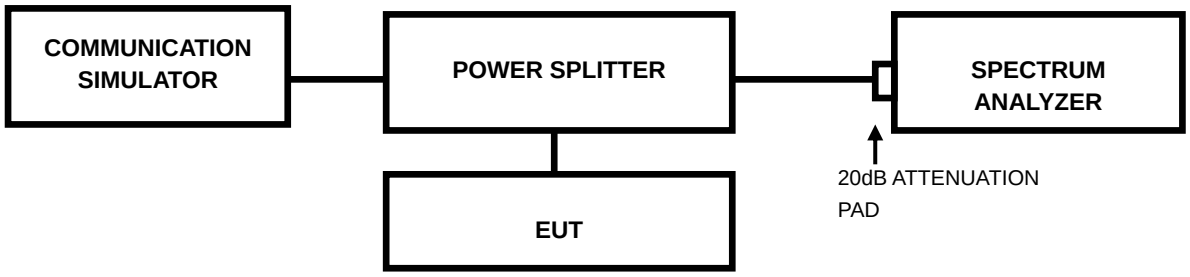
The test results was recorded in Report No.:SD72128174-0517B.

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.2 TEST SETUP



4.3.3 TEST RESULTS

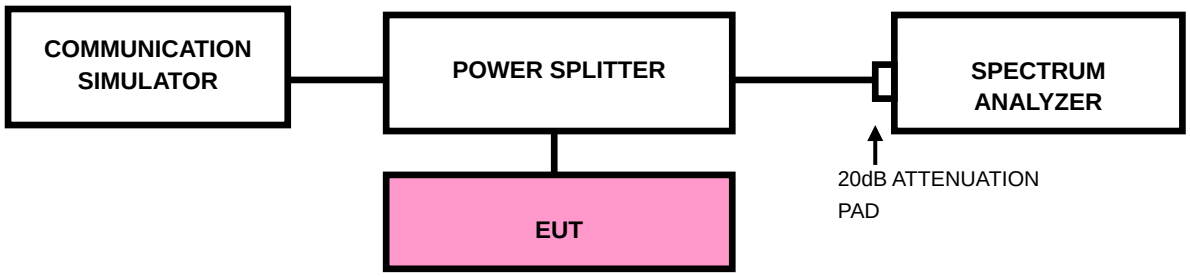
The test results was recorded in Report No.:SD72128174-0517B.

4.4 BAND EDGE MEASUREMENT

4.4.1 LIMITS OF BAND EDGE MEASUREMENT

Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4.4.2 TEST SETUP



4.4.3 TEST PROCEDURES

a. All measurements were done at low and high operational frequency range.

b. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz).

c. Record the max trace plot into the test report.

4.4.4 TEST RESULTS

The test results was recorded in Report No.:SD72128174-0517B.

4.5 Conducted Spurious Emissions

4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

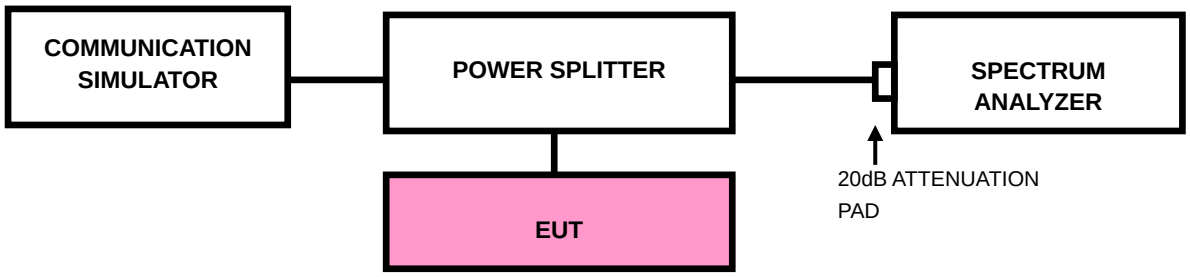
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.5.2 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 9.1GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

4.5.3 TEST SETUP



4.5.4 TEST RESULTS

The test results was recorded in Report No.:SD72128174-0517B.

4.6 RADIATED EMISSION MEASUREMENT

4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m/1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The substitution horn 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.

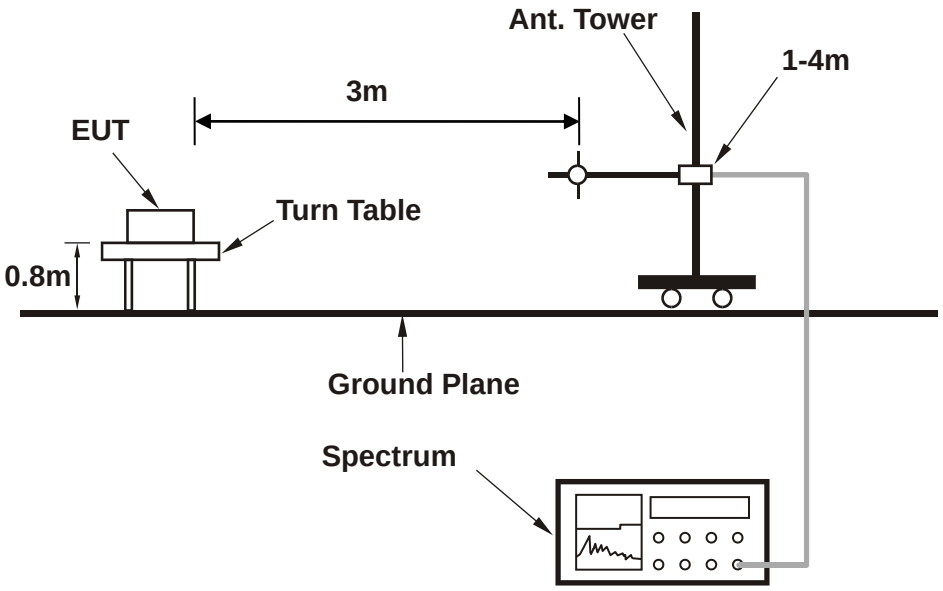
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.6.3 DEVIATION FROM TEST STANDARD

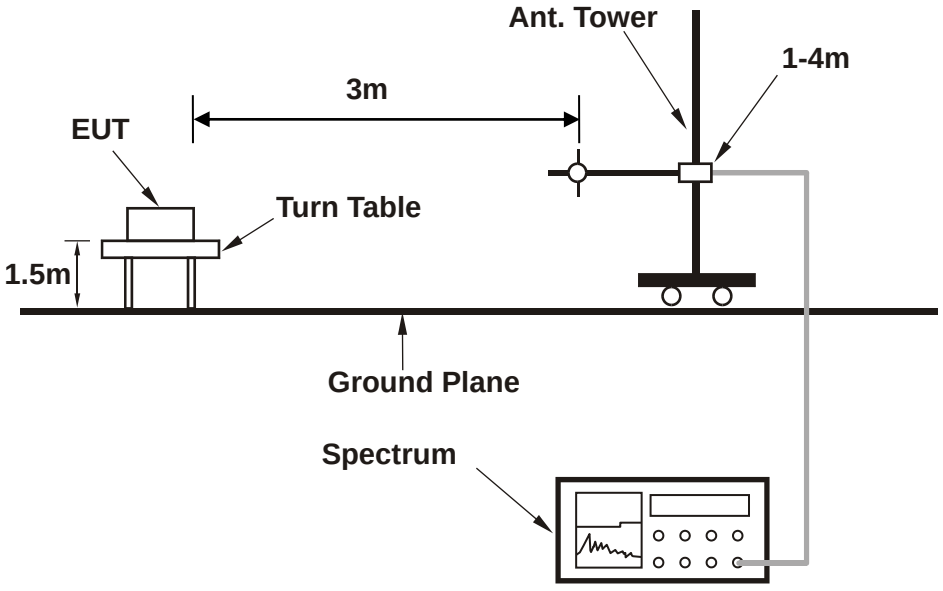
No deviation

4.6.4 TEST SETUP

< Frequency Range 30MHz~1GHz >



< Frequency Range above 1GHz >



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

4.6.5 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

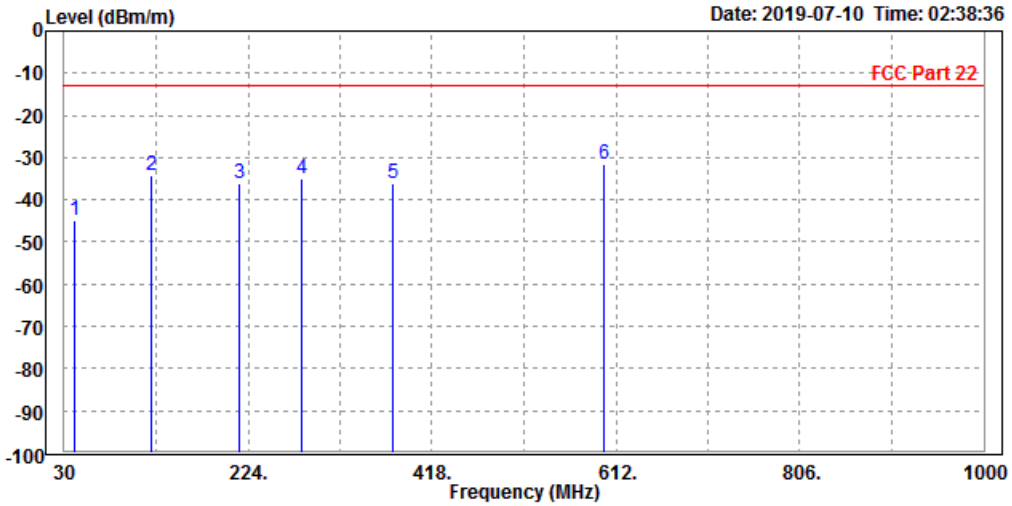
30 MHz – 1GHz data:

LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

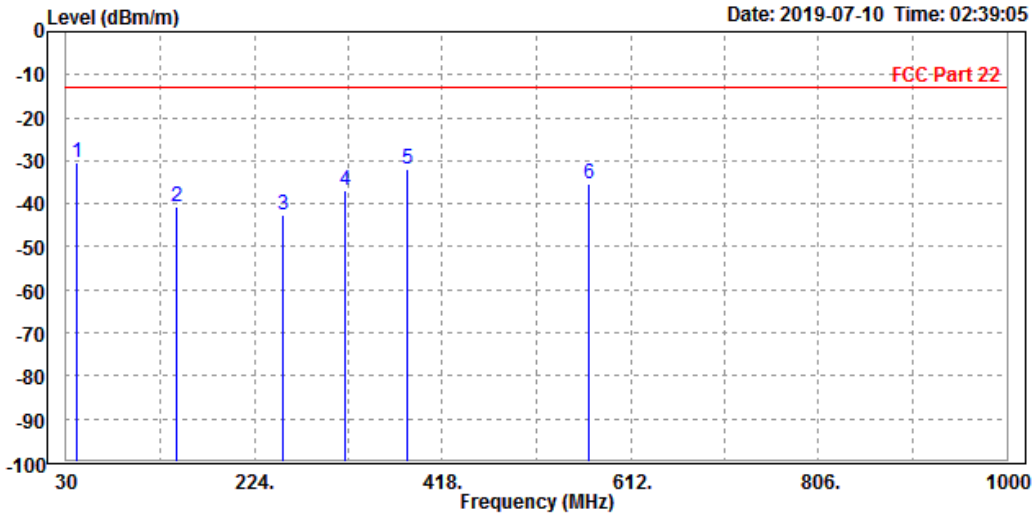
MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		40.670	-44.88	-57.58	-13.00	-31.88	12.70	Peak	Horizontal
2		121.180	-34.10	-42.64	-13.00	-21.10	8.54	Peak	Horizontal
3		214.300	-36.30	-47.73	-13.00	-23.30	11.43	Peak	Horizontal
4		280.260	-34.95	-48.62	-13.00	-21.95	13.67	Peak	Horizontal
5		377.260	-36.11	-52.61	-13.00	-23.11	16.50	Peak	Horizontal
6	PP	599.390	-31.52	-51.61	-13.00	-18.52	20.09	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	41.640	-30.40	-42.10	-13.00	-17.40	11.70	Peak	Vertical
2	144.460	-40.52	-49.72	-13.00	-27.52	9.20	Peak	Vertical
3	254.070	-42.43	-55.71	-13.00	-29.43	13.28	Peak	Vertical
4	318.090	-36.71	-51.47	-13.00	-23.71	14.76	Peak	Vertical
5	381.140	-31.85	-48.57	-13.00	-18.85	16.72	Peak	Vertical
6	569.320	-35.55	-55.22	-13.00	-22.55	19.67	Peak	Vertical



ABOVE 1GHz DATA

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

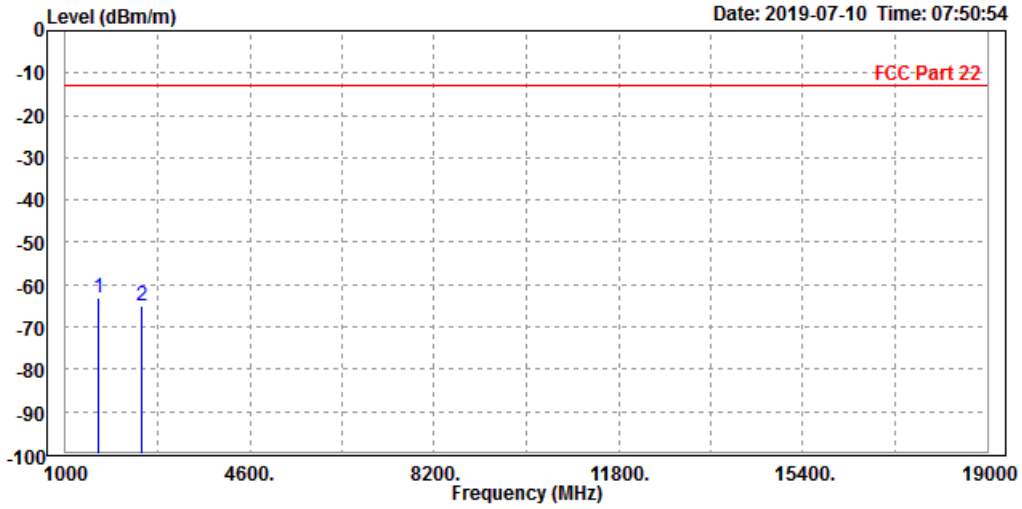
LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH 20407

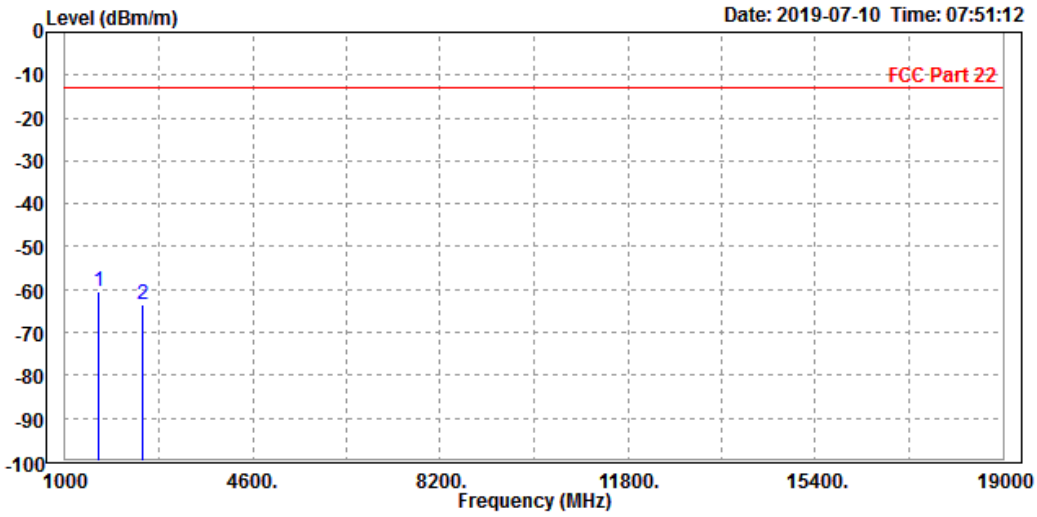
MODE	TX channel 20407	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1648.000	-62.99	-58.02	-13.00	-49.99	-4.97	Peak	Horizontal
2	2480.000	-65.03	-63.38	-13.00	-52.03	-1.65	Peak	Horizontal



MODE	TX channel 20407	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

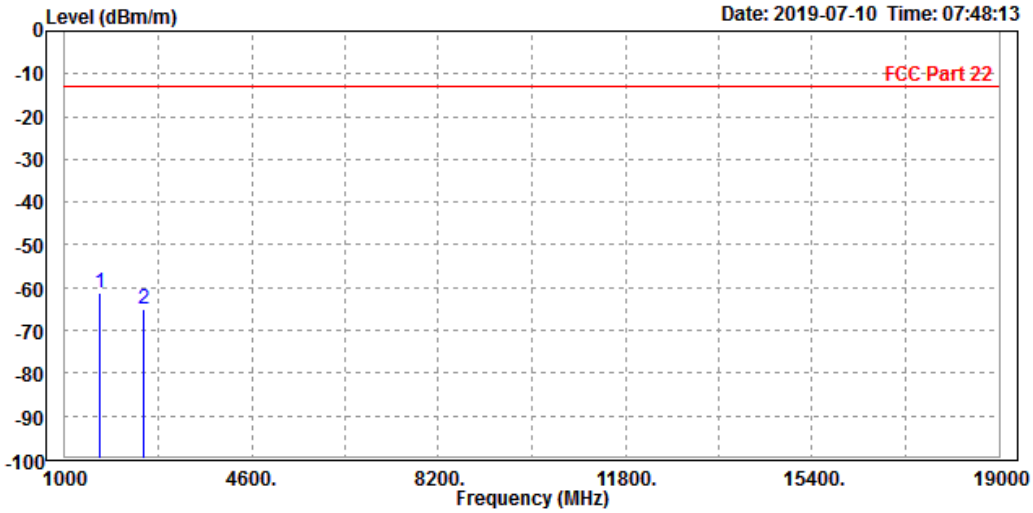
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1648.000	-60.30	-56.75	-13.00	-47.30	-3.55	Peak	Vertical
2	2480.000	-63.42	-63.25	-13.00	-50.42	-0.17	Peak	Vertical



CH 20525

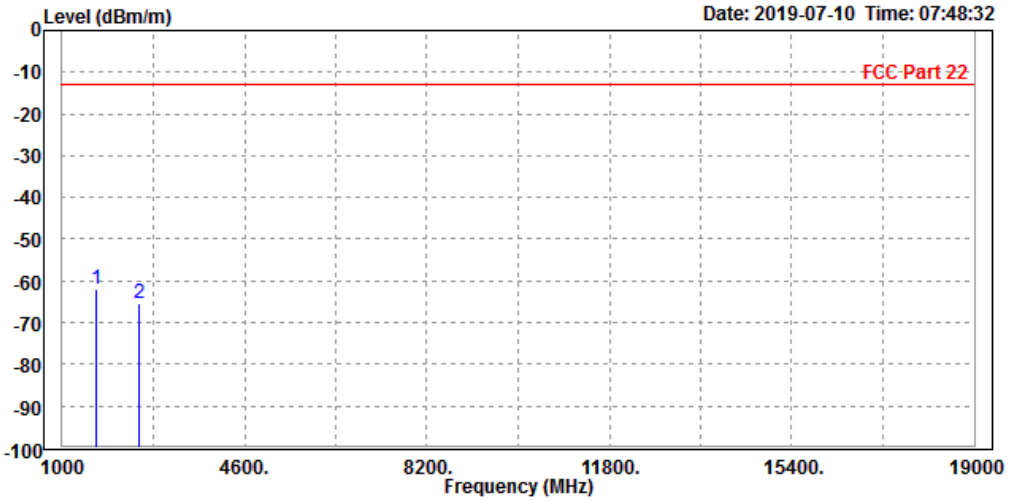
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1666.000	-61.14	-56.32	-13.00	-48.14	-4.82	Peak	Horizontal
2	2512.000	-65.00	-63.41	-13.00	-52.00	-1.59	Peak	Horizontal



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

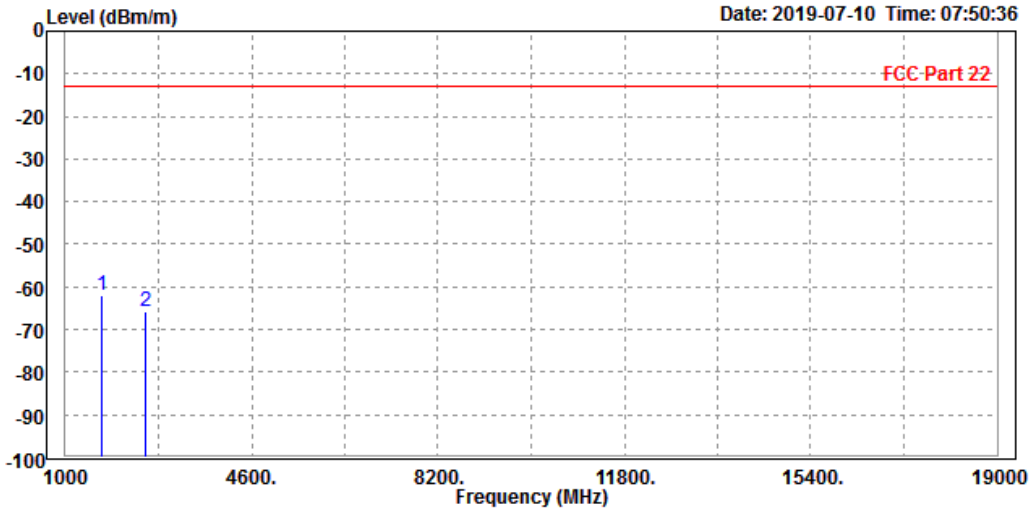
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-61.84	-58.46	-13.00	-48.84	-3.38	Peak	Vertical
2	2512.000	-65.35	-65.23	-13.00	-52.35	-0.12	Peak	Vertical



CH 20643

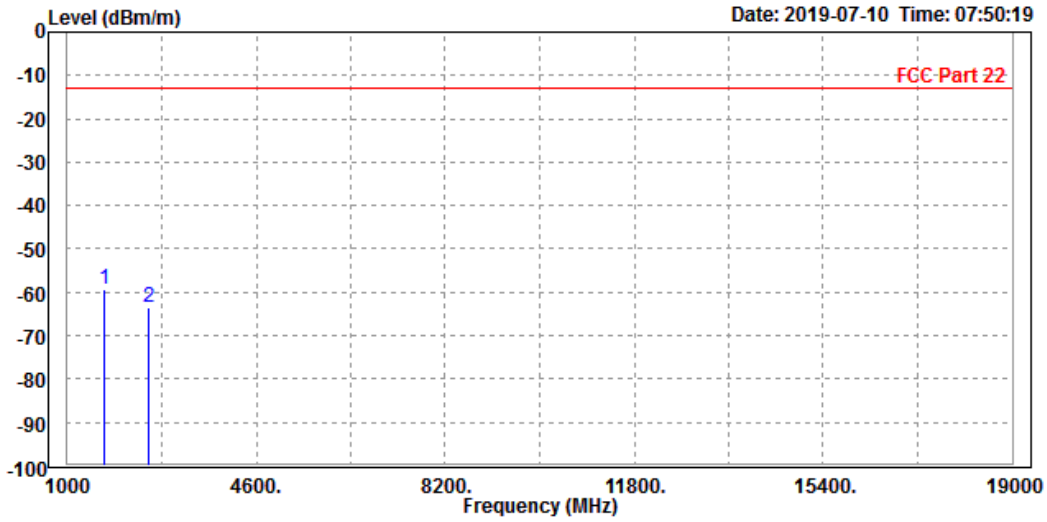
MODE	TX channel 20643	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-62.00	-57.48	-13.00	-49.00	-4.52	Peak	Horizontal
2	2548.000	-65.96	-64.51	-13.00	-52.96	-1.45	Peak	Horizontal



MODE	TX channel 20643	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.8V
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1702.000	-59.30	-56.25	-13.00	-46.30	-3.05	Peak	Vertical
2	2548.000	-63.39	-63.42	-13.00	-50.39	0.03	Peak	Vertical

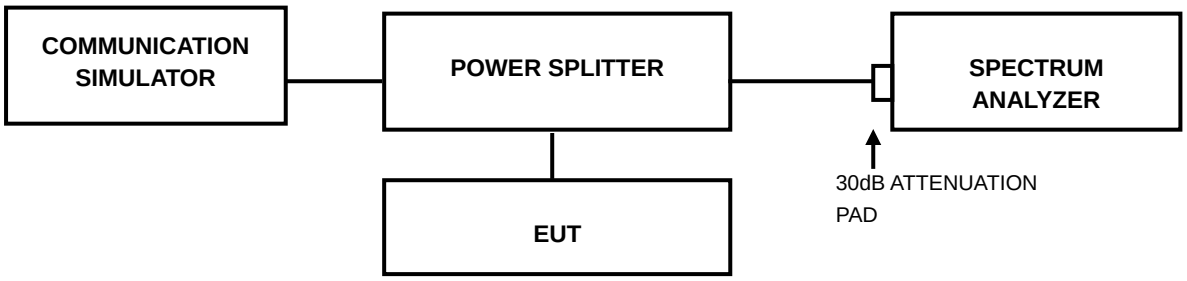


4.7 PEAK TO AVERAGE RATIO

4.7.1 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

4.7.2 TEST SETUP



4.7.3 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%.

4.7.4 TEST RESULTS

The test results was recorded in Report No.:SD72128174-0517B.

5 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, and Telecom. 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:

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

Email: customerservice.dg@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.

6 APPENDIX A – 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.

---END---