

FCC Test Report

(PART 90S)

Report No.: RF180207C11-11

FCC ID: MSQZ01RD

Test Model: ASUS_Z01RD / ASUS_Z01RS

Received Date: Feb. 07, 2018

Test Date: Mar. 03, 2018 ~ Mar. 31, 2018

Issued Date: May 02, 2018

Applicant: ASUSTek COMPUTER INC.

Address: 4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)

Test Location (1): No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

Test Location (2): No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C

**FCC Registration /
Designation Number:** 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RF180207C11-11	Original Release	May 02, 2018

1 Certificate of Conformity

Product: ASUS Phone

Brand: ASUS

Test Model: ASUS_Z01RD / ASUS_Z01RS


Sample Status: Production Unit


Applicant: ASUSTek COMPUTER INC.

Test Date: Mar. 03, 2018 ~ Mar. 31, 2018

Standards: FCC Part 90, Subpart S

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** May 02, 2018
Ivonne Wu / Supervisor

Approved by : , **Date:** May 02, 2018
Dylan Chiou / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 90 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 90.635 (b)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1055 90.213	Frequency Stability	Pass	Meet the requirement of limit.
2.1049 90.209	Occupied Bandwidth (*)	Pass	Meet the requirement of limit.
2.1051 90.209	Emission Masks	Pass	Meet the requirement of limit.
2.1051 90.691	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 90.691	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -29.28 dB at 2457.00 MHz.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Jul. 05, 2017	Jul. 04, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Double Ridge Guide Horn Antenna EMCO	3115	5619	Nov. 30, 2017	Nov. 29, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-153	Dec. 06, 2017	Dec. 05, 2018
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 07, 2017	Jul. 06, 2018
MXG Vector signal generator Agilent	N5182B	MY53050430	Oct. 24, 2017	Oct. 23, 2018
Preamplifier Agilent	310N	187226	Jun. 23, 2017	Jun. 22, 2018
Preamplifier Agilent	83017A	MY39501357	Jun. 23, 2017	Jun. 22, 2018
Power Meter Anritsu	ML2495A	1012010	Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 26, 2017	Jun. 25, 2018
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 26, 2017	Jun. 25, 2018
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Communications Tester-Wireless Agilent	8960 Series 10	MY53201073	Jun. 28, 2017	Jun. 27, 2019
Radio Communication Analyzer Anritsu	MT8820C	6201010284	Dec. 28, 2017	Dec. 27, 2018
Temperature & Humidity Chamber	GTH-120-40-CP-A R	MAA1306-019	Sep. 08, 2017	Sep. 07, 2018
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	70360742	Jun. 30, 2017	Jun. 29, 2018

- Note:
1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HsinTien Chamber 1.
 3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
 4. The IC Site Registration No. is IC7450I-1.



3 General Information

3.1 General Description of EUT

Product	ASUS Phone	
Brand	ASUS	
Test Model	ASUS_Z01RD / ASUS_Z01RS	
Status of EUT	Production Unit	
Power Supply Rating	5.0 Vdc or 9.0 Vdc (adapter) 5.0 Vdc (host equipment) 3.85 Vdc (battery)	
Modulation Type	LTE	QPSK, 16QAM, 64QAM
Frequency Range	LTE Band 26 (Channel Bandwidth: 1.4 MHz)	814.7 ~ 823.3 MHz
	LTE Band 26 (Channel Bandwidth: 3 MHz)	815.5 ~ 822.5 MHz
	LTE Band 26 (Channel Bandwidth: 5 MHz)	816.5 ~ 821.5 MHz
	LTE Band 26 (Channel Bandwidth: 10 MHz)	819 MHz
Emission Designator	LTE Band 26 (Channel Bandwidth: 1.4 MHz)	1M09W7D
	LTE Band 26 (Channel Bandwidth: 3 MHz)	2M70G7D
	LTE Band 26 (Channel Bandwidth: 5 MHz)	4M50W7D
	LTE Band 26 (Channel Bandwidth: 10 MHz)	8M98W7D
Max. ERP Power	LTE Band 26 (Channel Bandwidth: 1.4 MHz)	127.00 mW
	LTE Band 26 (Channel Bandwidth: 3 MHz)	127.29 mW
	LTE Band 26 (Channel Bandwidth: 5 MHz)	128.53 mW
	LTE Band 26 (Channel Bandwidth: 10 MHz)	130.32 mW
Antenna Type	PIFA Antenna with -0.3 dBi gain (Main) PIFA Antenna with -1.9 dBi gain (Aux.)	
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

1. All models are listed as below.

Brand	SKU	Model	Difference
ASUS	WW-5CA	ASUS_Z01RD	Dual SIM
	WW Operator-5CA	ASUS_Z01RS	Single SIM

* The models have the same layout, circuit, and components, but different SIM card slot, therefore, only ASUS_Z01RD was chosen for the final test.

2. There're 2 configurations for the EUT listed as below.

Main Sample: EUT + CPU 1 + Rear Camera 1 + Front Camera 1 + UFS 3 + DDR 3

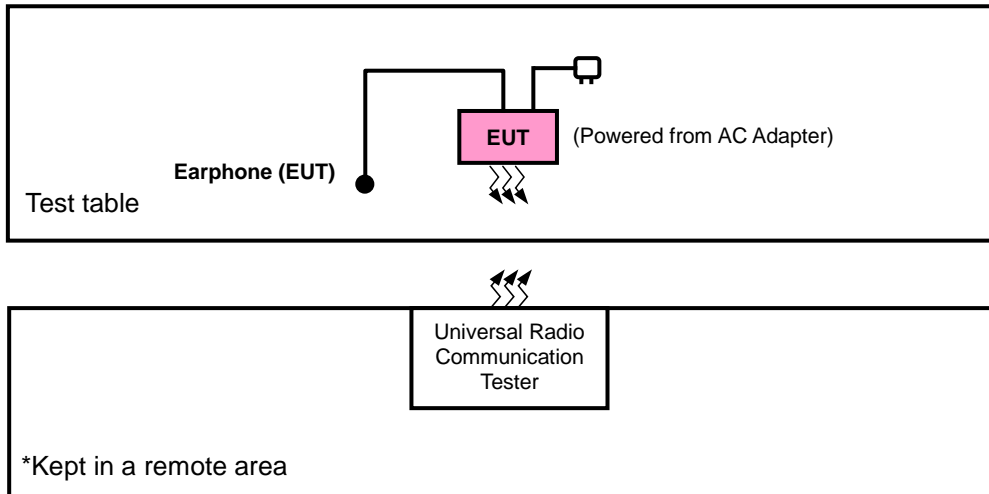
2nd Sample: EUT + CPU 2 + Rear Camera 2 + Front Camera 2 + UFS 3 + DDR 3

✧ Only the worst test data was presented in the report.

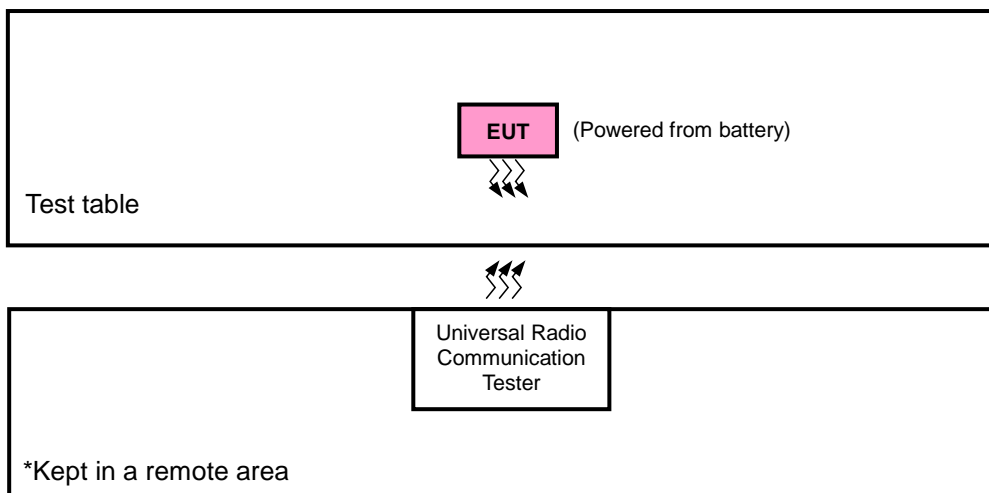
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



<E.R.P. Test>



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, and antenna ports

The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

EUT Configure Mode	Description
A	Main Sample
B	2 nd Sample

SIM	Band	ERP	Radiated Emission
1	LTE Band 26	X-plane	X-axis

LTE Band 26

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	ERP	26697 to 26783	26697, 26740, 26783	1.4 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	26697 to 26783	26697, 26783	1.4 MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26705, 26775	3 MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715, 26765	5 MHz	QPSK	1 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK	1 RB / 0 RB Offset
A	Occupied Bandwidth	26697 to 26783	26697, 26740, 26783	1.4 MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3 MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
A	Emission Mask	26697 to 26783	26697, 26740, 26783	1.4 MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3 MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Conducted Emission	26697 to 26783	26697, 26740, 26783	1.4 MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26705, 26740, 26775	3 MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5 MHz	QPSK	1 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission	26697 to 26783	26697, 26740, 26783	1.4 MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715, 26740, 26765	5 MHz	QPSK	1 RB / 0 RB Offset
		26740	26740	10 MHz	QPSK	1 RB / 0 RB Offset
B		26740	26740	10 MHz	QPSK	1 RB / 0 RB Offset

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

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	25 deg. C, 65 % RH	3.85 Vdc	Charles Hsiao
Frequency Stability	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Occupied Bandwidth	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Peak to Average Ratio	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Emission Mask	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Condcudeted Emission	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao

3.4 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

3.5 General Description of Applied Standards

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

FCC 47 CFR Part 2

FCC 47 CFR Part 90

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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 100 watts e.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 10 MHz for LTE mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) 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 1 m to 4 m 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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15 \text{ dBi}$.

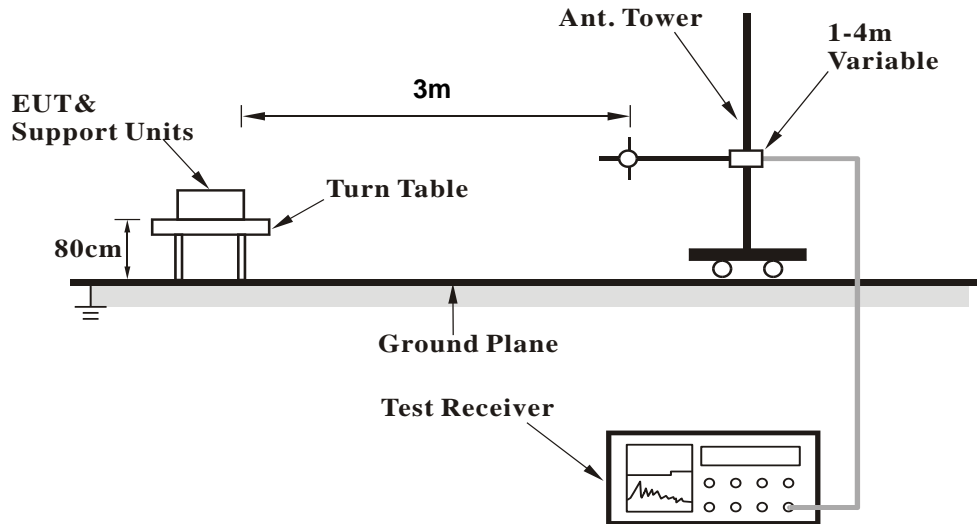
Conducted Power Measurement:

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

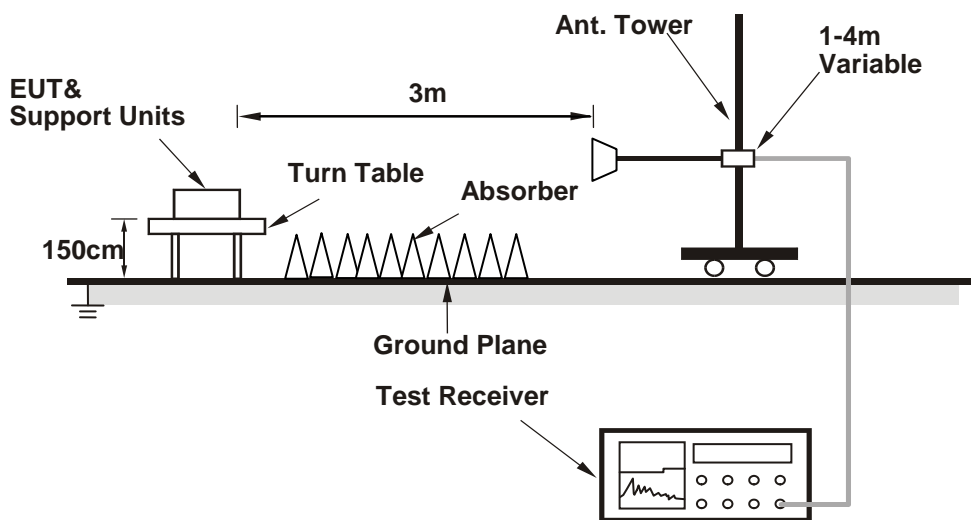
4.1.3 Test Setup

EIRP / ERP Measurement:

<Radiated Emission below or equal 1 GHz>

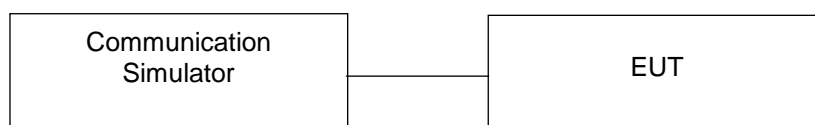


<Radiated Emission above 1 GHz>



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)

LTE Band 26																	
BW	MCS Index	RB Size	RB Offset	Mid			3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)		
				Channel								26715	26740	26765			
				Frequency (MHz)								819.0	819.0	821.5			
10M	QPSK	1	0		23.60		0	5M	QPSK	1	0	23.47	23.60	23.68	0		
		1	24		23.50		0			1	12	23.37	23.50	23.58	0		
		1	49		23.34		0			1	24	23.21	23.34	23.42	0		
		25	0		22.64		1			12	0	22.51	22.64	22.72	1		
		25	12		22.61		1			12	6	22.48	22.61	22.69	1		
		25	25		22.46		1			12	13	22.33	22.46	22.54	1		
	50	0		22.53		1	25		0	22.40	22.53	22.61	1				
	16QAM	1	0		22.62		1		16QAM	1	0		22.49	22.62	22.70	1	
		1	24		22.52		1			1	12	22.39	22.52	22.60	1		
		1	49		22.36		1			1	24	22.23	22.36	22.44	1		
		25	0		21.66		2			12	0	21.53	21.66	21.74	2		
		25	12		21.63		2			12	6	21.50	21.63	21.71	2		
		25	25		21.48		2			12	13	21.35	21.48	21.56	2		
	50	0		21.55		2	25		0	21.42	21.55	21.63	2				
	64QAM	1	0		21.57		2		64QAM	1	0		21.44	21.57	21.65	2	
		1	24		21.47		2			1	12	21.34	21.47	21.55	2		
		1	49		21.31		2			1	24	21.18	21.31	21.39	2		
		25	0		20.61		3			12	0	20.48	20.61	20.69	3		
		25	12		20.58		3			12	6	20.45	20.58	20.66	3		
		25	25		20.43		3			12	13	20.30	20.43	20.51	3		
	50	0		20.50		3	25		0	20.37	20.50	20.58	3				
	BW	MCS Index	RB Size	RB Offset	Low	Mid	High		3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
					Channel									26705	26740	26775	
					Frequency (MHz)									815.5	819.0	822.5	
3M	QPSK	1	0	23.39	23.54	23.60	0	1.4M	QPSK	1	0	23.26	23.56	23.62	0		
		1	7	23.29	23.48	23.56	0			1	2	23.16	23.47	23.58	0		
		1	14	23.13	23.20	23.38	0			1	5	23.00	23.32	23.36	0		
		8	0	22.43	22.63	22.72	1			3	0	22.92	23.52	23.58	0		
		8	3	22.40	22.50	22.58	1			3	1	22.89	23.50	23.68	0		
		8	7	22.25	22.34	22.42	1			3	3	22.74	23.32	23.42	0		
	15	0	22.32	22.51	22.53	1	6		0	22.19	22.49	22.61	1				
	16QAM	1	0	22.41	22.54	22.65	1		16QAM	1	0		22.28	22.59	22.65	1	
		1	7	22.31	22.51	22.46	1			1	2	22.18	22.43	22.60	1		
		1	14	22.15	22.35	22.41	1			1	5	22.02	22.21	22.36	1		
		8	0	21.45	21.55	21.72	2			3	0	21.94	22.53	22.68	1		
		8	3	21.42	21.49	21.60	2			3	1	21.91	22.48	22.60	1		
		8	7	21.27	21.38	21.46	2			3	3	21.76	22.42	22.43	1		
	15	0	21.34	21.55	21.60	2	6		0	21.21	21.53	21.53	2				
	64QAM	1	0	21.36	21.44	21.53	2		64QAM	1	0		21.23	21.53	21.58	2	
		1	7	21.26	21.42	21.49	2			1	2	21.13	21.34	21.50	2		
		1	14	21.10	21.24	21.30	2			1	5	20.97	21.23	21.38	2		
		8	0	20.40	20.49	20.68	3			3	0	20.89	21.61	21.61	2		
		8	3	20.37	20.44	20.66	3			3	1	20.86	21.54	21.52	2		
		8	7	20.22	20.43	20.49	3			3	3	20.71	21.31	21.38	2		
	15	0	20.29	20.36	20.47	3	6		0	20.16	20.50	20.55	3				

ERP Power (dBm)

LTE Band 26							
Channel Bandwidth: 1.4 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	26697	814.7	-8.02	31.208	21.04	127.00	H
	26740	819.0	-8.16	31.3	20.99	125.60	
	26783	823.3	-8.05	31.222	21.02	126.53	
	26697	814.7	-12.32	31.504	17.03	50.51	V
	26740	819.0	-11.92	31.117	17.05	50.66	
	26783	823.3	-12.85	31.922	16.92	49.23	
Channel Bandwidth: 1.4 MHz / 16QAM							
X	26697	814.7	-9.05	31.208	20.01	100.18	H
	26740	819.0	-9.16	31.3	19.99	99.77	
	26783	823.3	-9.07	31.222	20.00	100.05	
	26697	814.7	-13.35	31.504	16.00	39.85	V
	26740	819.0	-12.97	31.117	16.00	39.83	
	26783	823.3	-13.86	31.922	15.91	39.01	
Channel Bandwidth: 1.4 MHz / 64QAM							
X	26697	814.7	-10.02	31.208	19.04	80.13	H
	26740	819.0	-10.13	31.3	19.02	79.80	
	26783	823.3	-10.04	31.222	19.03	80.02	
	26697	814.7	-14.32	31.504	15.03	31.87	V
	26740	819.0	-13.92	31.117	15.05	31.97	
	26783	823.3	-14.89	31.922	14.88	30.78	

LTE Band 26							
Channel Bandwidth: 3 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	26705	815.5	-8.01	31.208	21.05	127.29	H
	26740	819.0	-8.12	31.3	21.03	126.77	
	26775	822.5	-8.05	31.222	21.02	126.53	
	26705	815.5	-12.30	31.504	17.05	50.75	V
	26740	819.0	-11.95	31.117	17.02	50.32	
	26775	822.5	-12.76	31.922	17.01	50.26	
Channel Bandwidth: 3 MHz / 16QAM							
X	26705	815.5	-9.03	31.208	20.03	100.65	H
	26740	819.0	-9.14	31.3	20.01	100.23	
	26775	822.5	-9.06	31.222	20.01	100.28	
	26705	815.5	-13.32	31.504	16.03	40.12	V
	26740	819.0	-12.98	31.117	15.99	39.69	
	26775	822.5	-13.77	31.922	16.00	39.83	
Channel Bandwidth: 3 MHz / 64QAM							
X	26705	815.5	-10.01	31.208	19.05	80.32	H
	26740	819.0	-10.12	31.3	19.03	79.98	
	26775	822.5	-10.03	31.222	19.04	80.20	
	26705	815.5	-14.26	31.504	15.09	32.31	V
	26740	819.0	-13.92	31.117	15.05	31.97	
	26775	822.5	-14.74	31.922	15.03	31.86	

LTE Band 26							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	26715	816.5	-8.00	31.208	21.06	127.59	H
	26740	819.0	-8.06	31.3	21.09	128.53	
	26765	821.5	-8.04	31.222	21.03	126.82	
	26715	816.5	-12.26	31.504	17.09	51.22	V
	26740	819.0	-11.95	31.117	17.02	50.32	
	26765	821.5	-12.77	31.922	17.00	50.14	
Channel Bandwidth: 5 MHz / 16QAM							
X	26715	816.5	-9.01	31.208	20.05	101.11	H
	26740	819.0	-9.04	31.3	20.11	102.57	
	26765	821.5	-9.09	31.222	19.98	99.59	
	26715	816.5	-13.25	31.504	16.10	40.78	V
	26740	819.0	-12.98	31.117	15.99	39.69	
	26765	821.5	-13.80	31.922	15.97	39.55	
Channel Bandwidth: 5 MHz / 64QAM							
X	26715	816.5	-9.92	31.208	19.14	82.00	H
	26740	819.0	-9.98	31.3	19.17	82.60	
	26765	821.5	-9.99	31.222	19.08	80.95	
	26715	816.5	-14.21	31.504	15.14	32.69	V
	26740	819.0	-13.93	31.117	15.04	31.89	
	26765	821.5	-14.75	31.922	15.02	31.78	

LTE Band 26							
Channel Bandwidth: 10 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (mW)	Polarization (H/V)
X	26740	819.0	-8.00	31.3	21.15	130.32	H
	26740	819.0	-11.86	31.117	17.11	51.37	V
Channel Bandwidth: 10 MHz / 16QAM							
X	26740	819.0	-8.97	31.3	20.18	104.23	H
	26740	819.0	-12.85	31.117	16.12	40.90	V
Channel Bandwidth: 10 MHz / 64QAM							
X	26740	819.0	-9.92	31.3	19.23	83.75	H
	26740	819.0	-13.86	31.117	15.11	32.41	V

4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stability Measurement

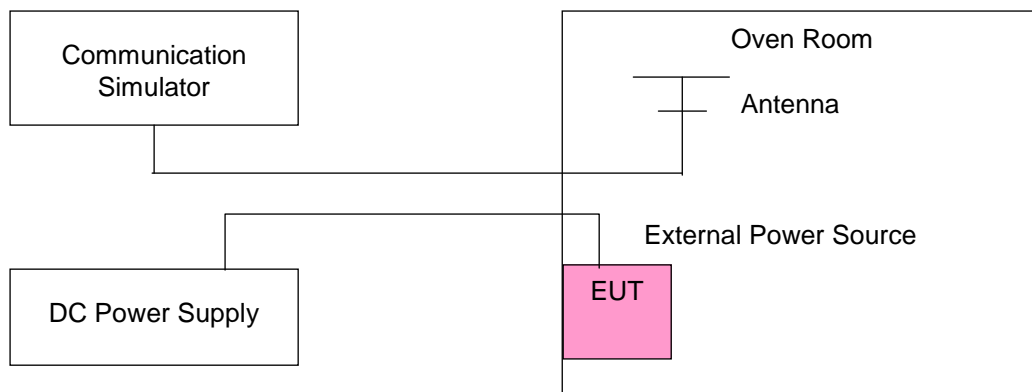
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.2.2 Test Procedure

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ± 0.5 °C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

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

4.2.3 Test Setup



4.2.4 Test Results

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 1.4 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	814.700003	0.004	823.300004	0.005	2.5
3.6	814.700003	0.003	823.300002	0.002	2.5
4.38	814.700004	0.004	823.300002	0.002	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 1.4 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	814.700002	0.002	823.300003	0.004	2.5
-20	814.700002	0.002	823.300004	0.004	2.5
-10	814.700001	0.001	823.300002	0.002	2.5
0	814.700004	0.004	823.300001	0.001	2.5
10	814.699998	-0.003	823.299998	-0.003	2.5
20	814.699999	-0.001	823.299996	-0.005	2.5
30	814.699999	-0.001	823.299998	-0.002	2.5
40	814.699997	-0.004	823.299998	-0.003	2.5
50	814.699998	-0.002	823.299996	-0.004	2.5
55	814.700004	0.005	823.300003	0.004	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 3 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	815.500002	0.003	822.500003	0.004	2.5
3.6	815.500001	0.001	822.500002	0.003	2.5
4.38	815.500001	0.001	822.500003	0.004	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 3 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	815.500003	0.004	822.500001	0.001	2.5
-20	815.500003	0.004	822.500002	0.002	2.5
-10	815.500001	0.001	822.500002	0.002	2.5
0	815.500003	0.003	822.500002	0.003	2.5
10	815.499997	-0.004	822.499996	-0.004	2.5
20	815.499998	-0.002	822.499999	-0.001	2.5
30	815.499998	-0.002	822.499996	-0.005	2.5
40	815.499998	-0.002	822.499997	-0.003	2.5
50	815.499998	-0.003	822.499998	-0.003	2.5
55	815.500003	0.003	822.500002	0.002	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	816.500003	0.004	821.500002	0.002	2.5
3.6	816.500003	0.004	821.500002	0.003	2.5
4.38	816.500004	0.005	821.500004	0.005	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	816.500004	0.005	821.500003	0.004	2.5
-20	816.500002	0.002	821.500002	0.003	2.5
-10	816.500003	0.004	821.500003	0.003	2.5
0	816.500004	0.004	821.500004	0.004	2.5
10	816.499997	-0.004	821.499996	-0.005	2.5
20	816.499999	-0.002	821.499998	-0.002	2.5
30	816.499998	-0.003	821.499996	-0.005	2.5
40	816.499997	-0.004	821.499998	-0.002	2.5
50	816.499998	-0.003	821.499996	-0.005	2.5
55	816.500004	0.004	821.500001	0.001	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26		Limit (ppm)
	Channel Bandwidth: 10 MHz		
	Frequency (MHz)	Frequency Error (ppm)	
3.85	819.000003	0.004	2.5
3.6	819.000003	0.004	2.5
4.38	819.000003	0.003	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

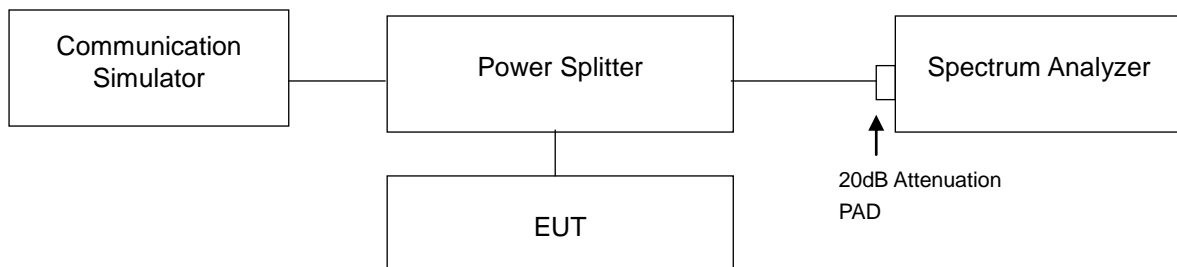
Temp. (°C)	LTE Band 26		Limit (ppm)
	Channel Bandwidth: 10 MHz		
	Frequency (MHz)	Frequency Error (ppm)	
-30	819.000004	0.004	2.5
-20	819.000002	0.002	2.5
-10	819.000002	0.003	2.5
0	819.000003	0.003	2.5
10	818.999997	-0.004	2.5
20	818.999999	-0.001	2.5
30	818.999998	-0.002	2.5
40	818.999997	-0.004	2.5
50	818.999999	-0.002	2.5
55	819.000002	0.002	2.5

4.3 Occupied Bandwidth Measurement

4.3.1 Test Procedure

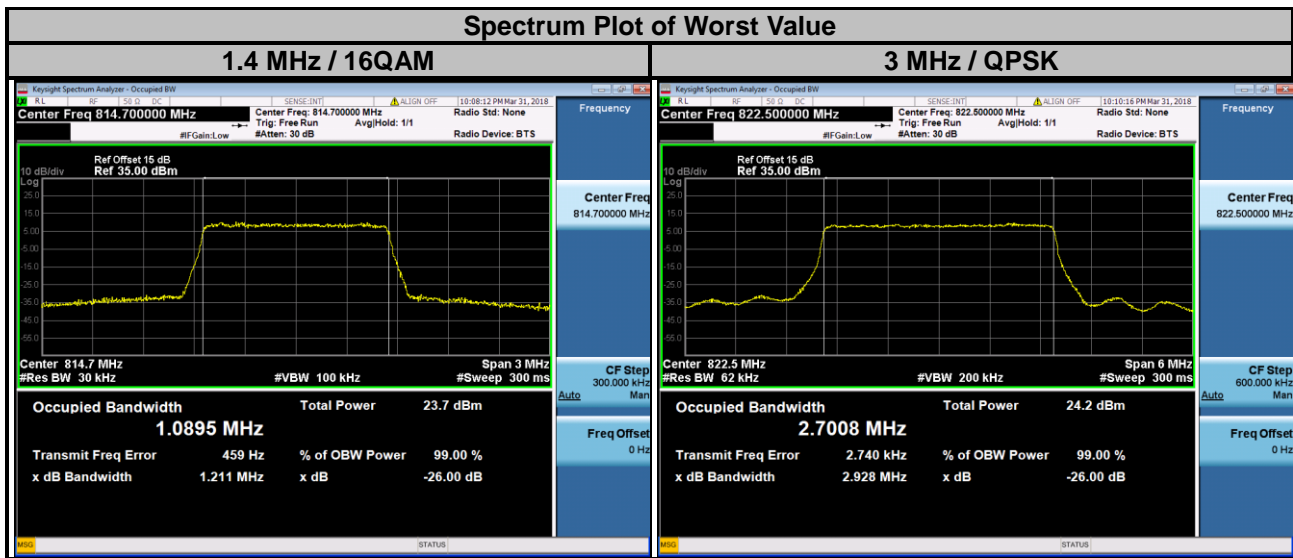
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function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

4.3.2 Test Setup

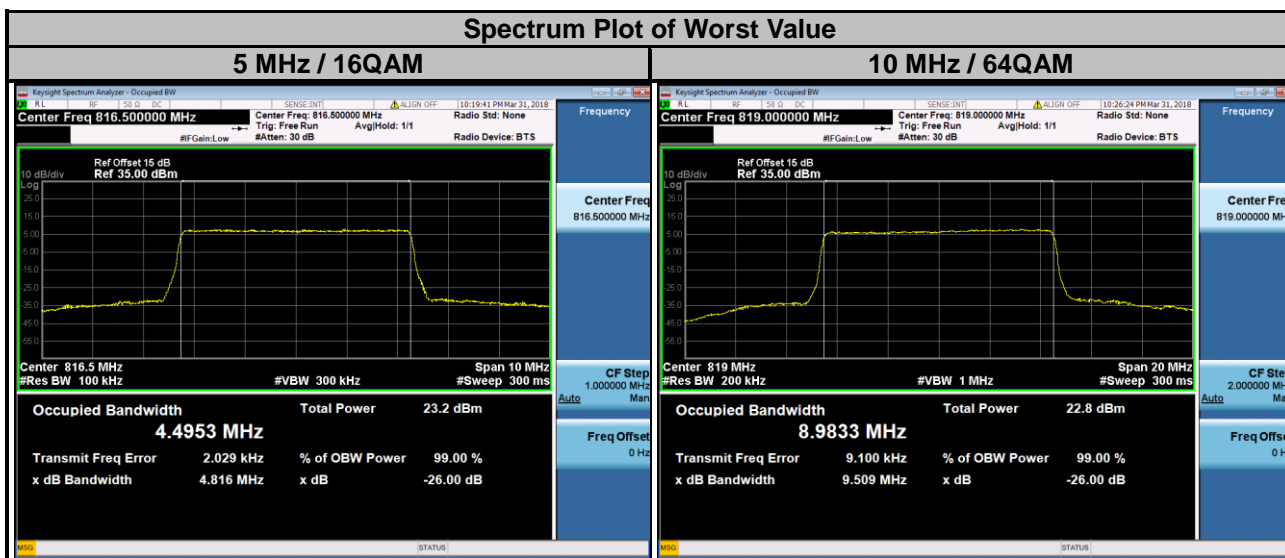


4.3.3 Test Result

LTE Band 26									
Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
26697	814.7	1.0867	1.0895	1.0886	26705	815.5	2.6997	2.6966	2.6978
26740	819.0	1.0849	1.0876	1.0884	26740	819.0	2.6984	2.6958	2.6964
26783	823.3	1.0861	1.0866	1.0858	26775	822.5	2.7008	2.6961	2.6963



LTE Band 26									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
26715	816.5	4.4921	4.4953	4.4950	26740	819.0	8.9694	8.9806	8.9833
26740	819.0	4.4877	4.4875	4.4885					
26765	821.5	4.4824	4.4856	4.4860					

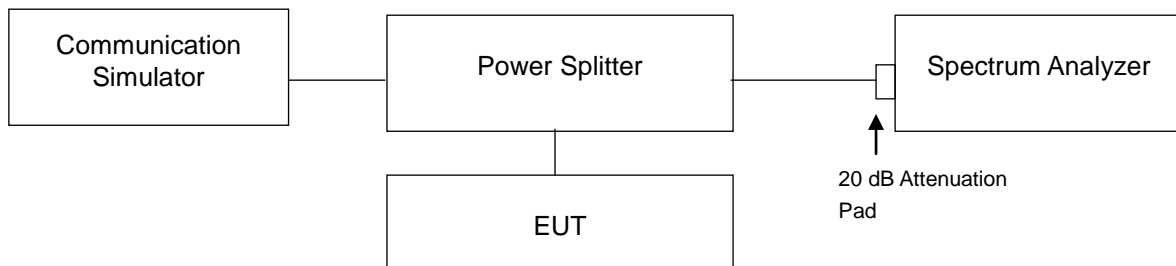


4.4 Emission Mask Measurement

4.4.1 Limits of Band Edge Measurement

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \text{ Log}_{10}(f/6.1)$ decibels or $50+10\text{Log}_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

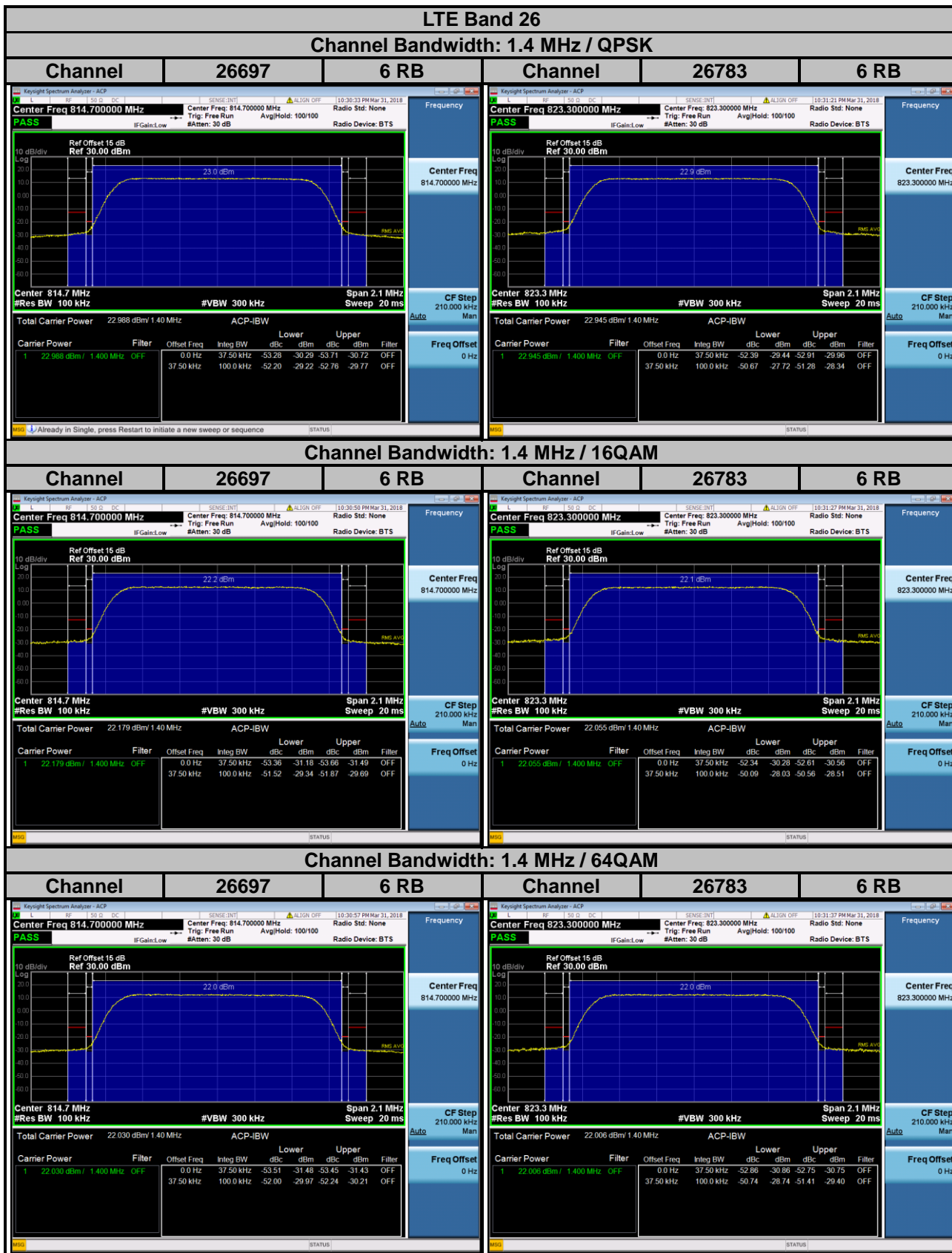
4.4.2 Test Setup



4.4.3 Test Procedures

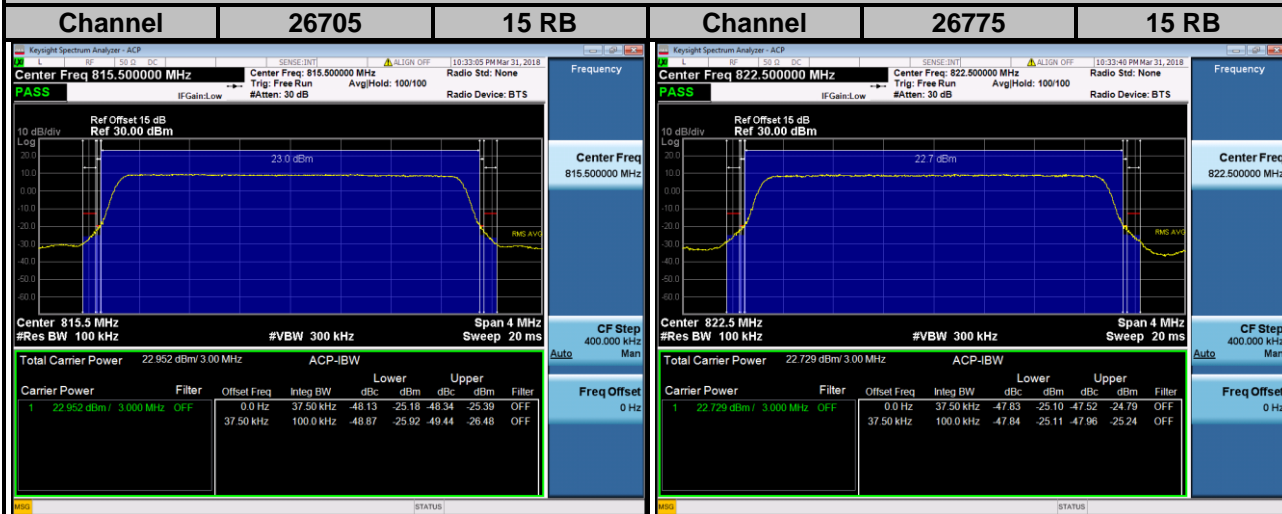
- The measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Record the test plot.

4.4.4 Test Results

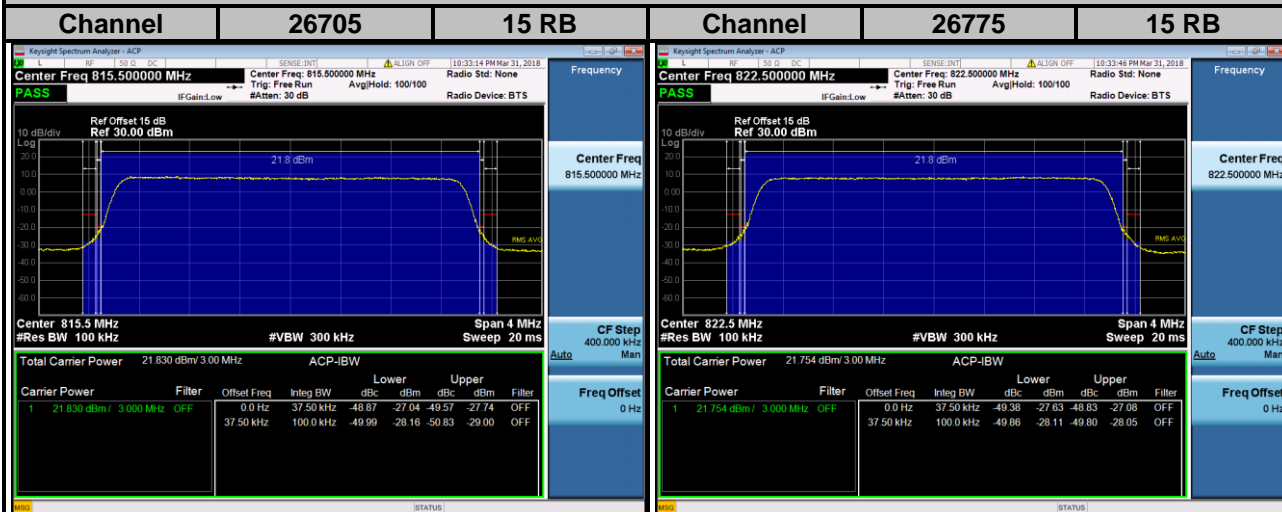


LTE Band 26

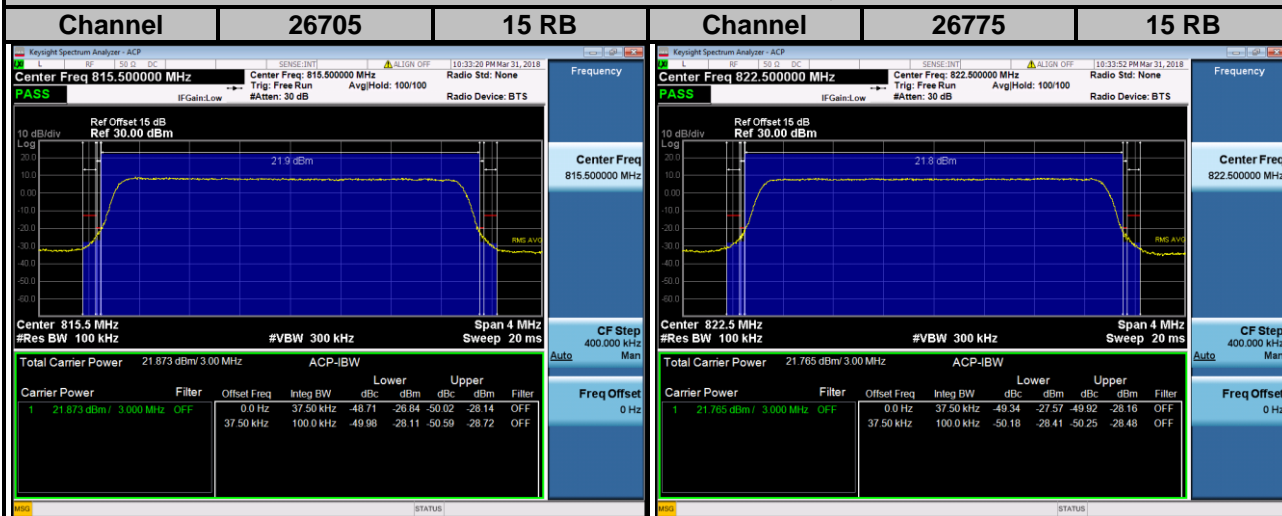
Channel Bandwidth: 3 MHz / QPSK



Channel Bandwidth: 3 MHz / 16QAM

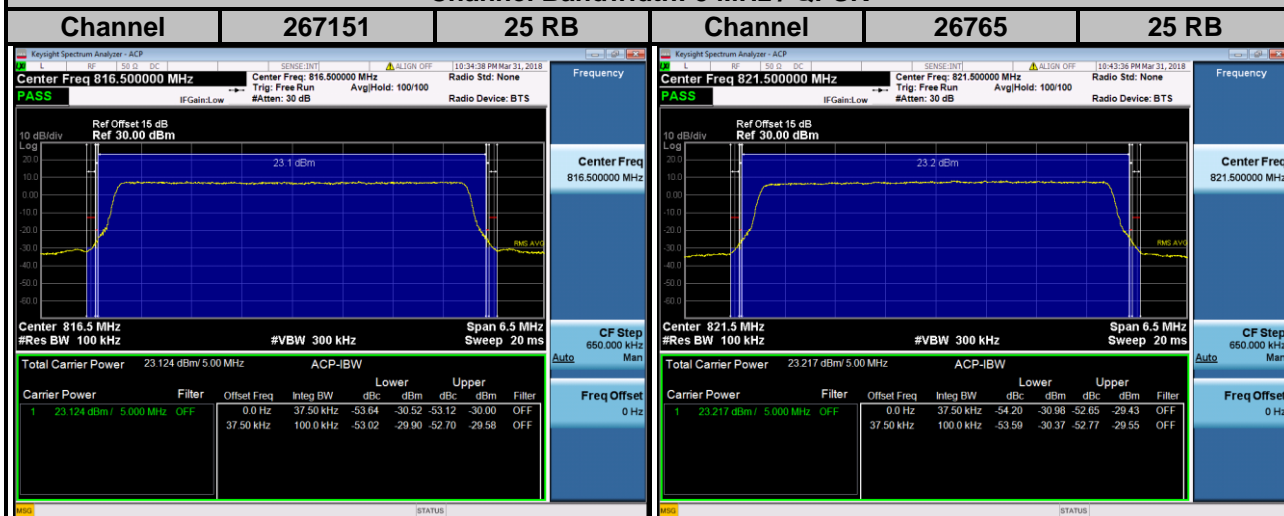


Channel Bandwidth: 3 MHz / 64QAM



LTE Band 26

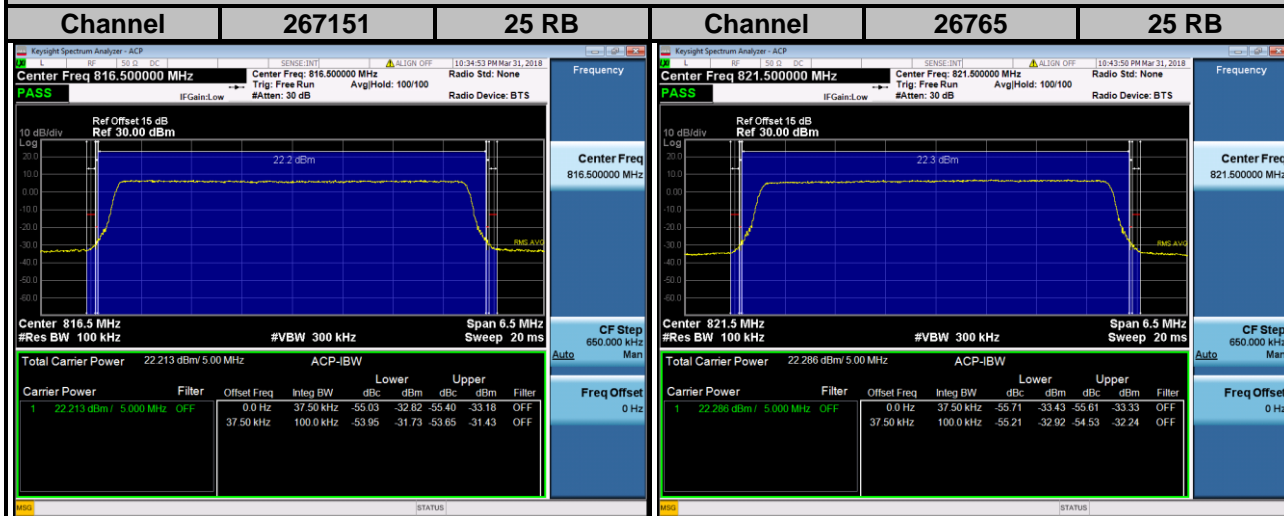
Channel Bandwidth: 5 MHz / QPSK

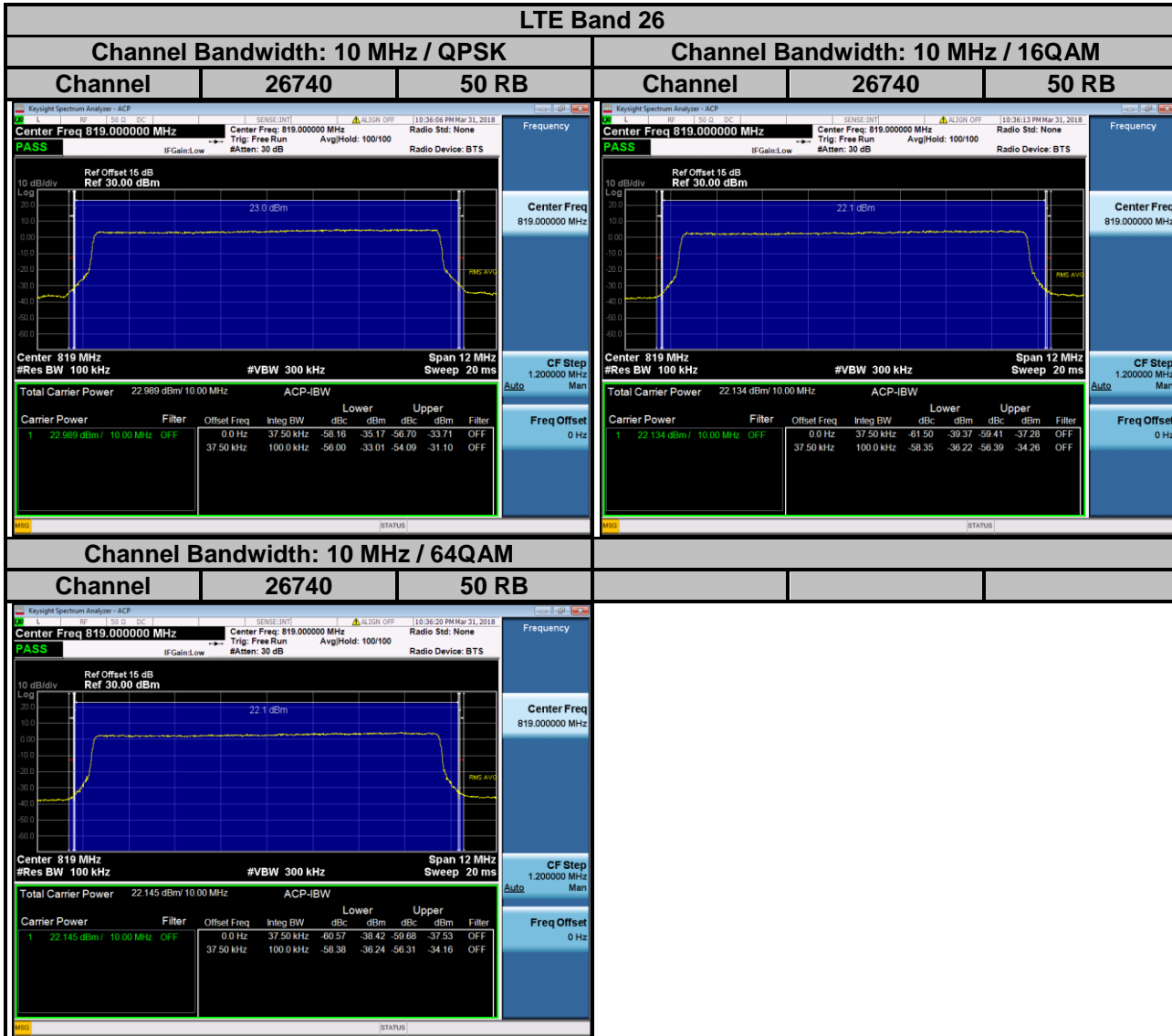


Channel Bandwidth: 5 MHz / 16QAM



Channel Bandwidth: 5 MHz / 64QAM



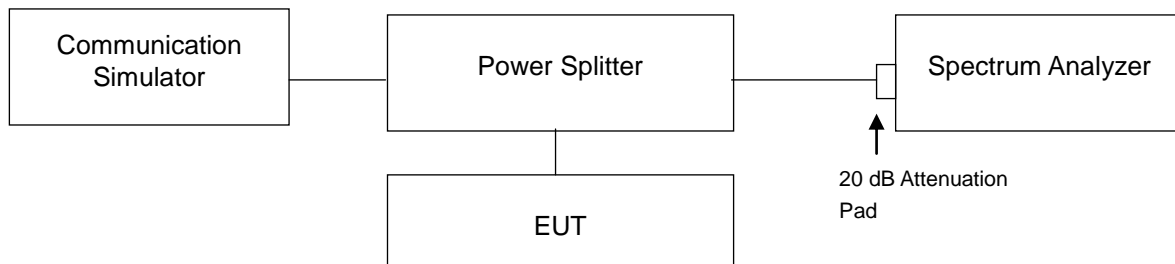


4.5 Conducted Spurious Emissions

4.5.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13 dBm.

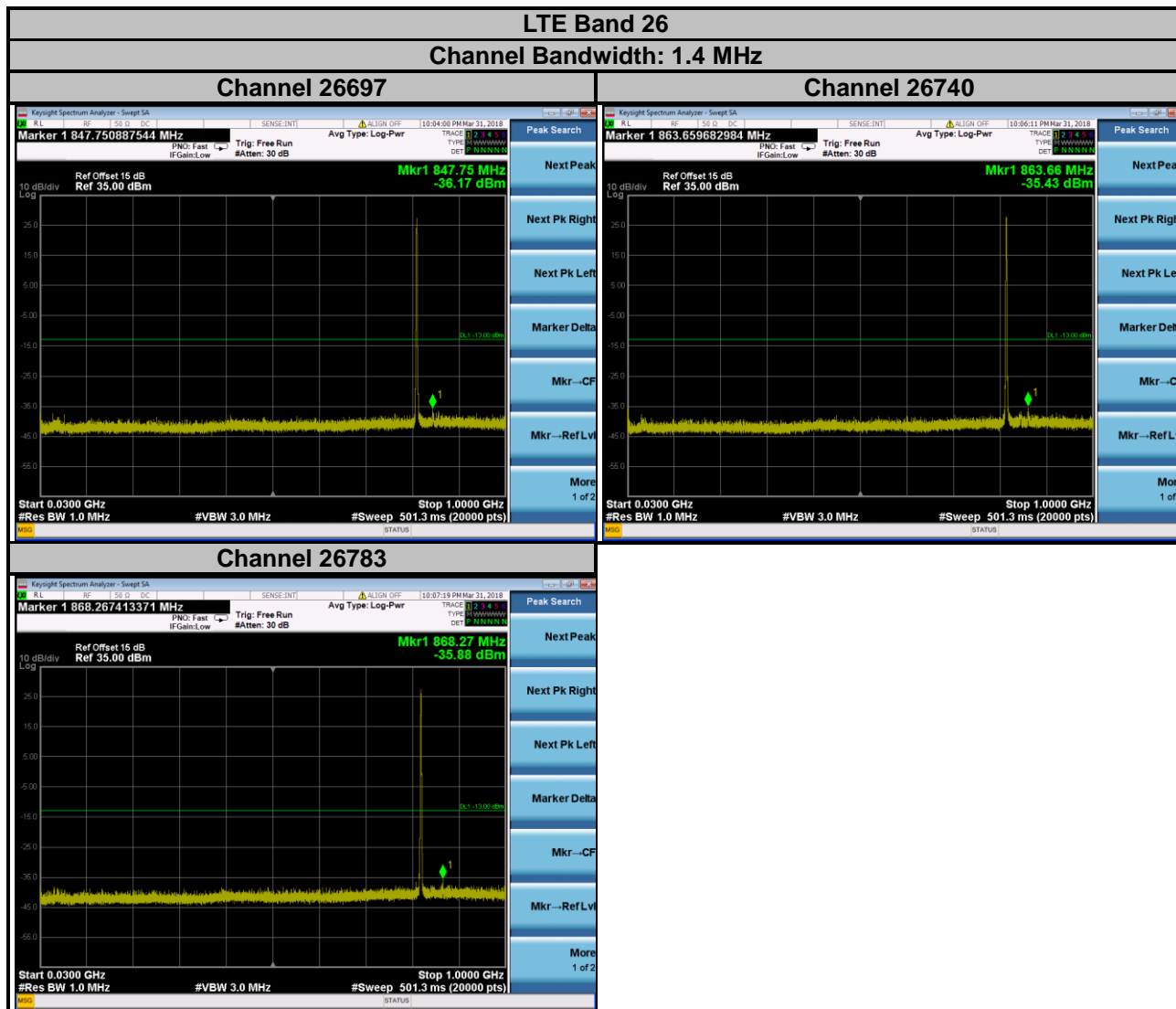
4.5.2 Test Setup



4.5.3 Test Procedure

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 30 MHz to 9 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz are used for conducted emission measurement.

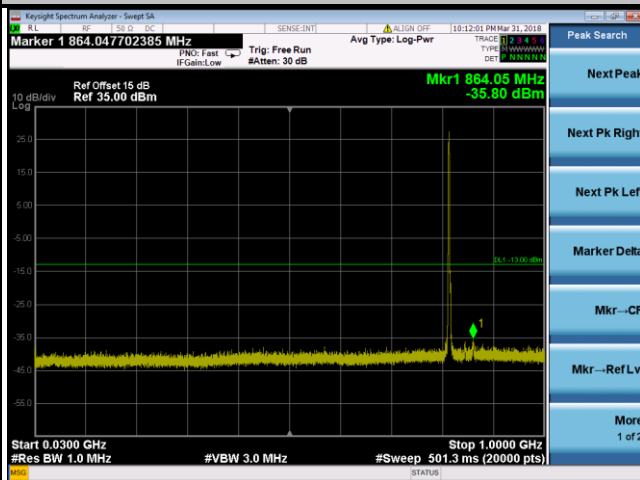
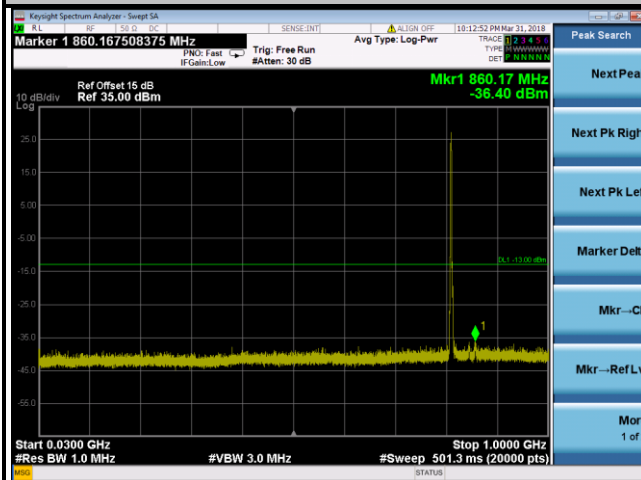
4.5.4 Test Results



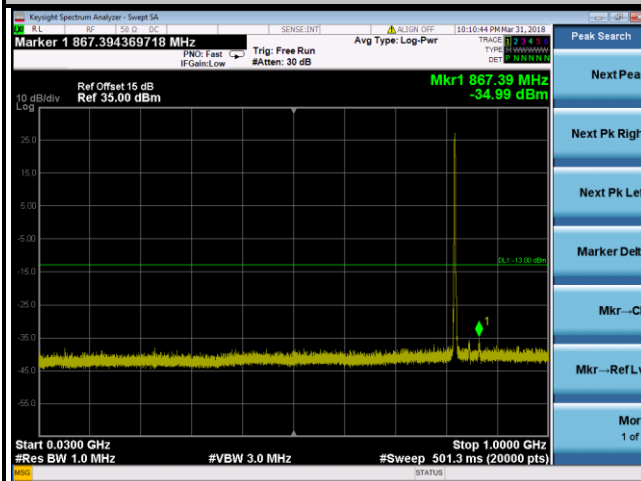
LTE Band 26
Channel Bandwidth: 3 MHz

Channel 26705

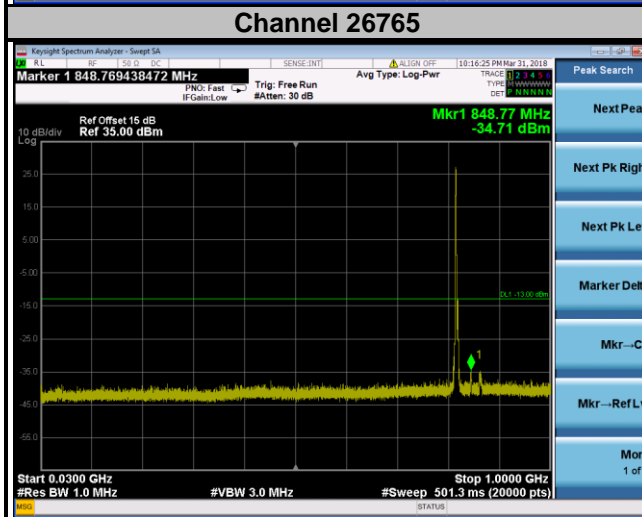
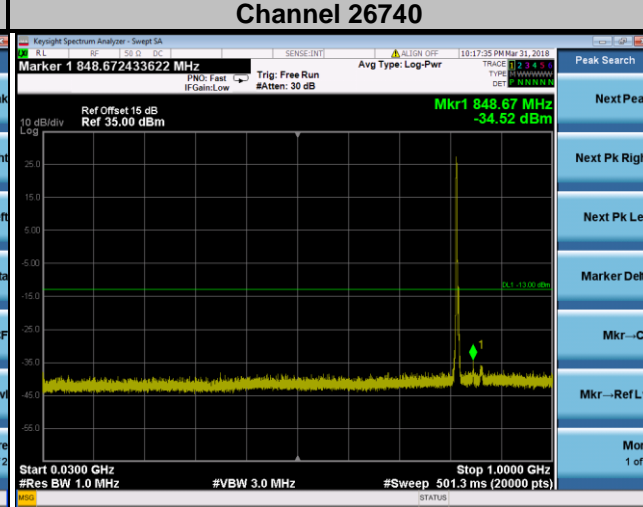
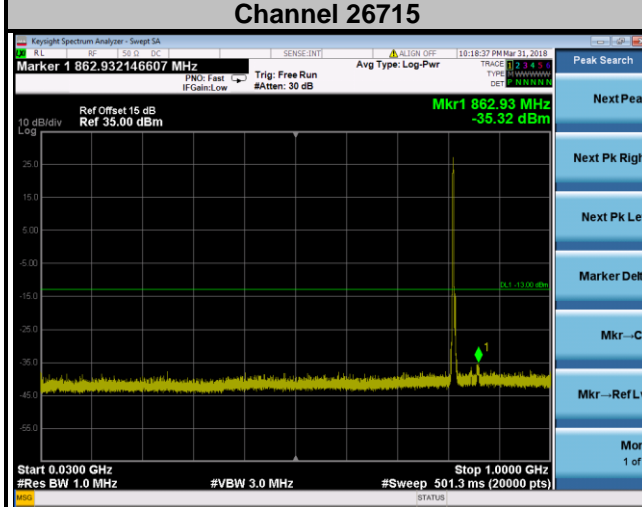
Channel 26740



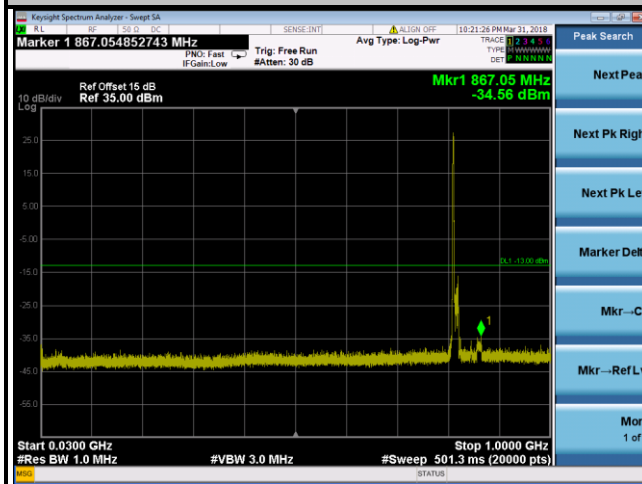
Channel 26775



LTE Band 26
Channel Bandwidth: 5 MHz



LTE Band 26
Channel Bandwidth: 10 MHz
Channel 26740



4.6 Radiated Emission Measurement

4.6.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13 dBm.

4.6.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) 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 1 m to 4 m 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 - 2.15 dBi.

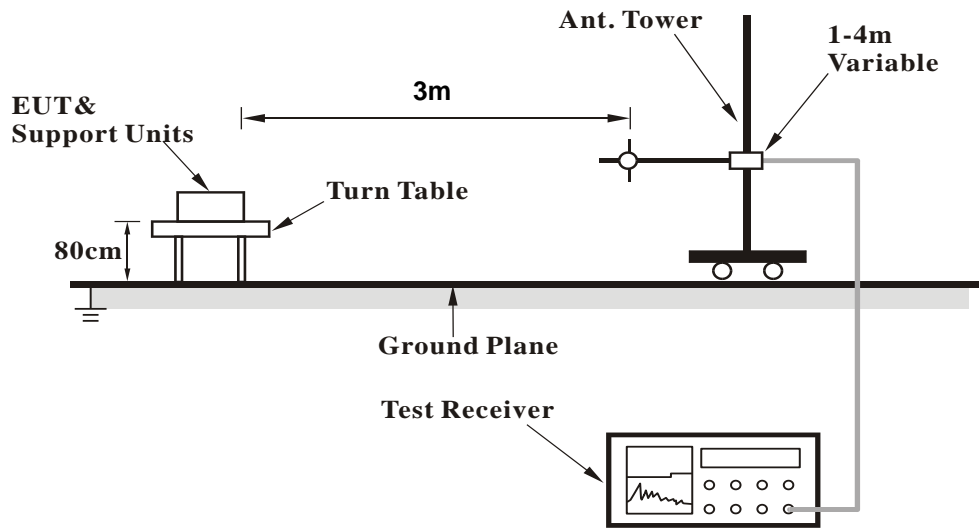
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.6.3 Deviation from Test Standard

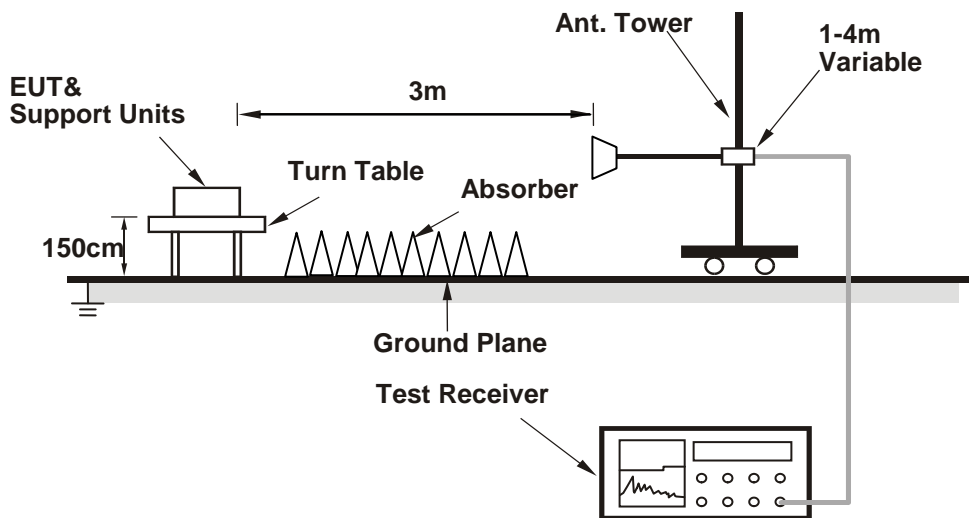
No deviation.

4.6.4 Test Setup

<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).

4.6.5 Test Results

<Mode A>

LTE Band 26

Channel Bandwidth: 1.4 MHz / QPSK

Low Channel

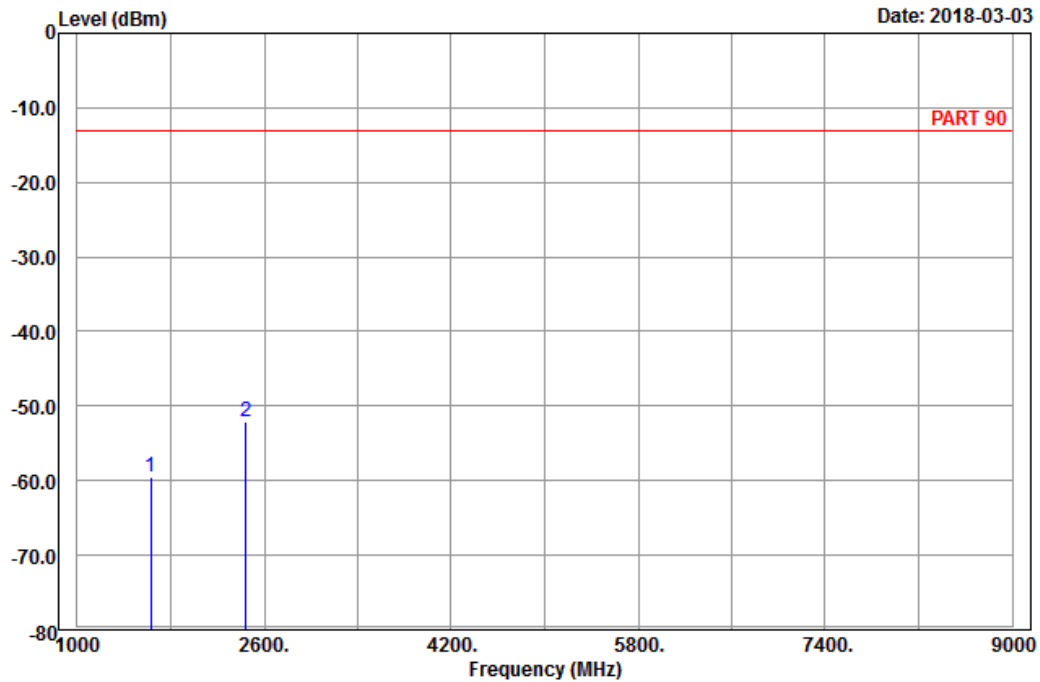


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26697
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1629.40	-59.42	-66.98	-13.00	-46.42	7.56	Peak
2 pp	2444.10	-52.09	-63.09	-13.00	-39.09	11.00	Peak

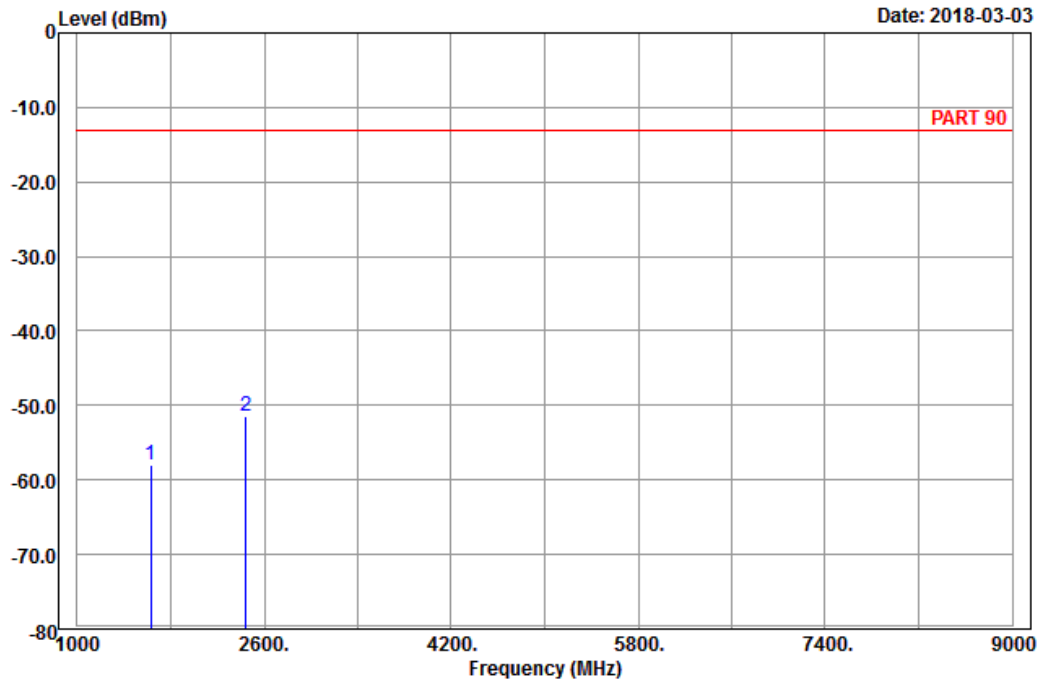


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26697
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1629.40	-57.93	-65.49	-13.00	-44.93	7.56	Peak
2 pp	2444.10	-51.49	-62.49	-13.00	-38.49	11.00	Peak

Middle Channel

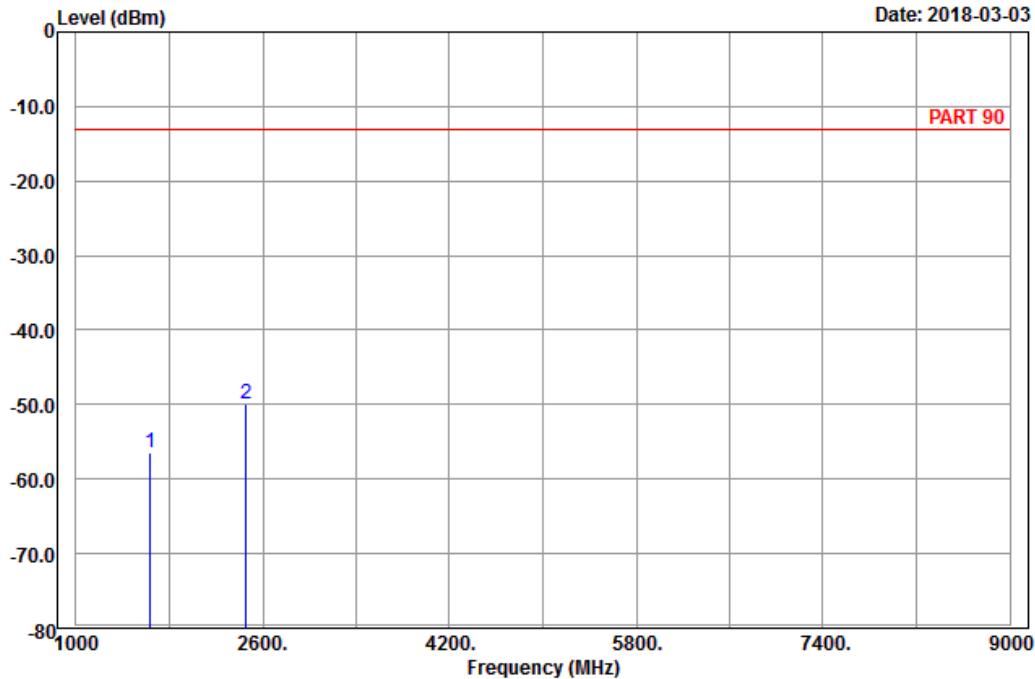


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

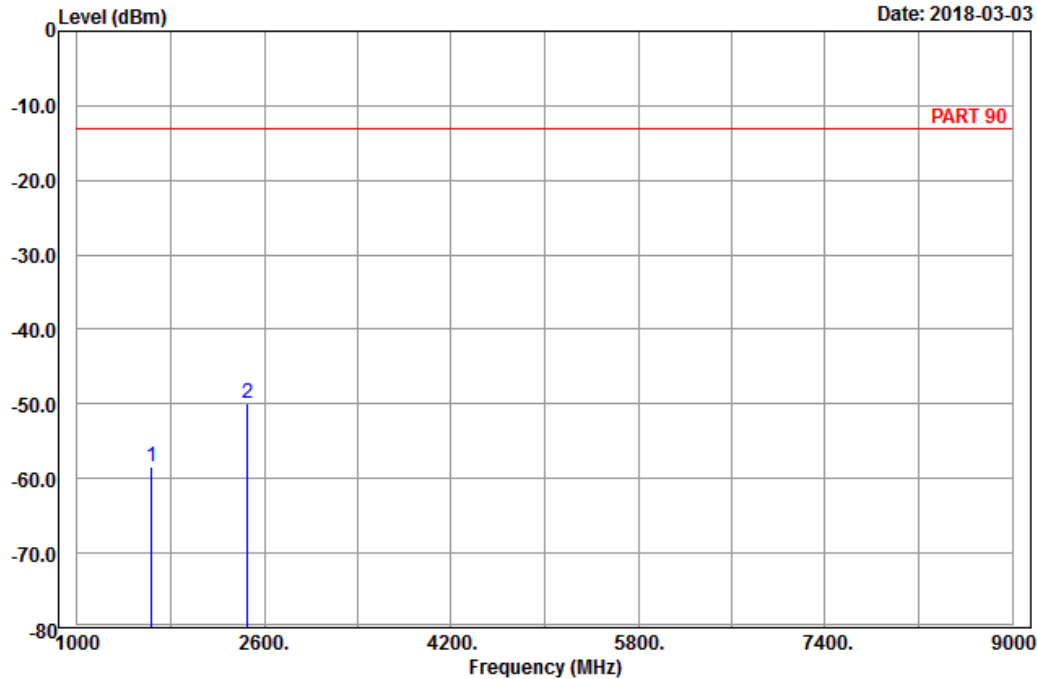
	Freq	Level	Read Level	Limit	Over	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1638.00	-56.47	-64.03	-13.00	-43.47	7.56	Peak
2	2457.00	-50.01	-61.03	-13.00	-37.01	11.02	Peak



A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1638.00	-58.42	-65.98	-13.00	-45.42	7.56	Peak
2 pp	2457.00	-49.89	-60.91	-13.00	-36.89	11.02	Peak

High Channel

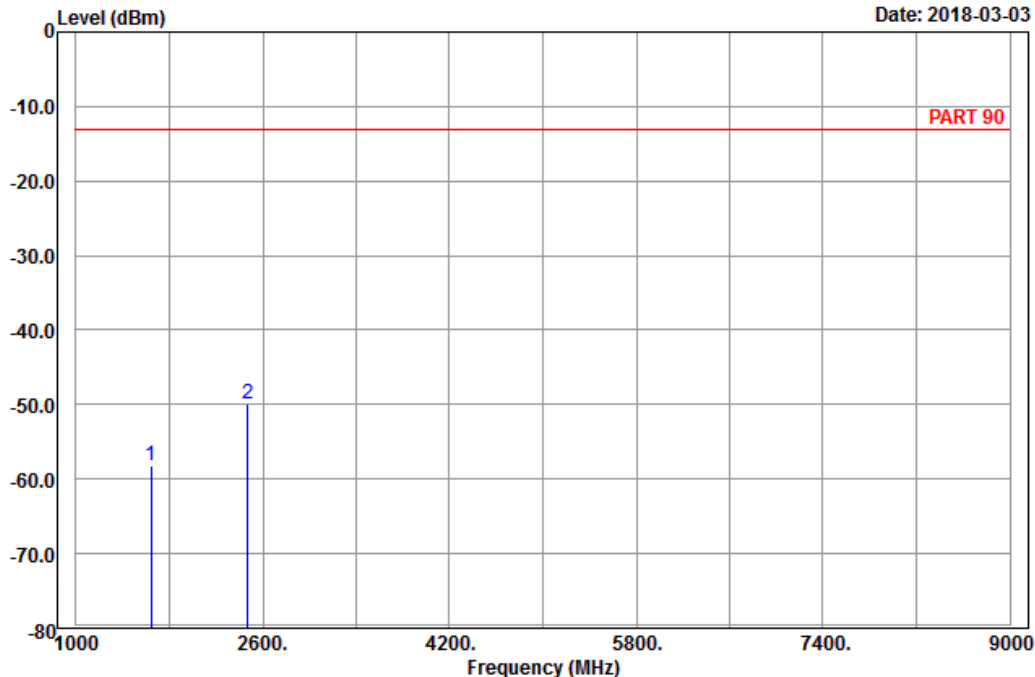


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26783
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit	Over	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1646.60	-58.22	-65.95	-13.00	-45.22	7.73	Peak
2	2469.90	-49.99	-61.02	-13.00	-36.99	11.03	Peak

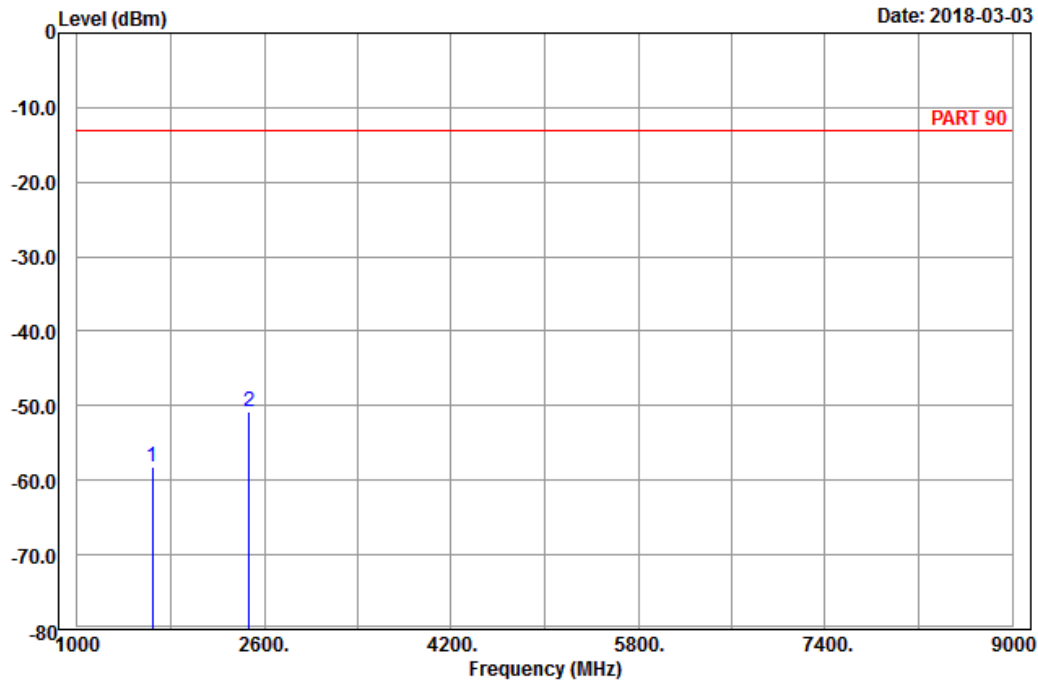


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26783
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1646.60	-58.24	-65.97	-13.00	-45.24	7.73	Peak
2 pp	2469.90	-50.87	-61.90	-13.00	-37.87	11.03	Peak

Channel Bandwidth: 5 MHz / QPSK
 Low Channel

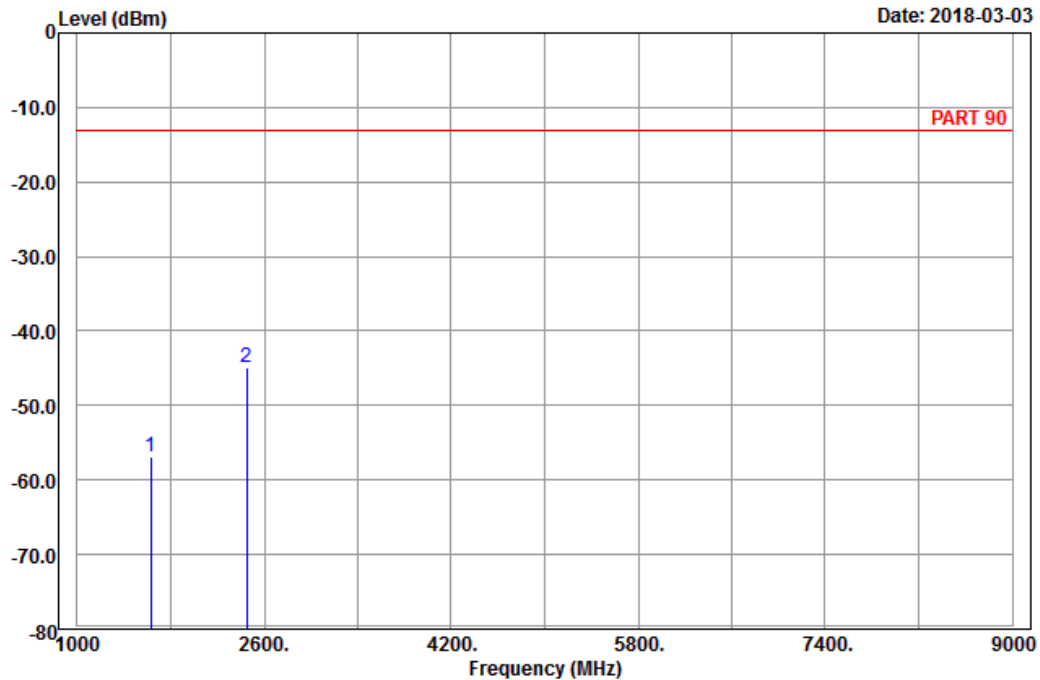


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26715
 Tested by: Charles Hsiao

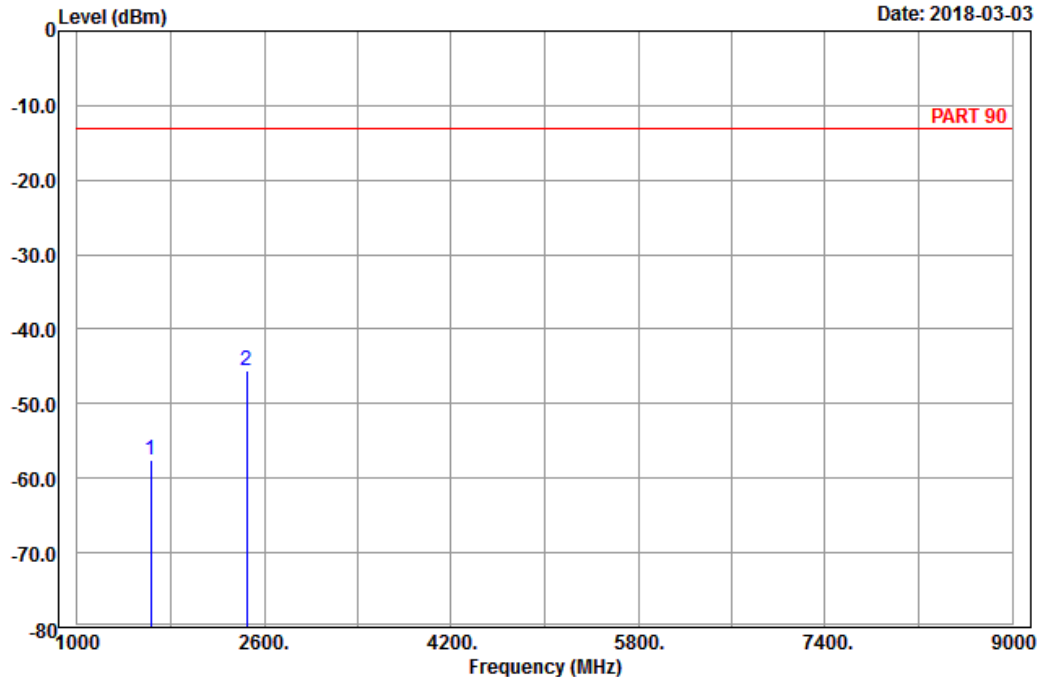
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1633.00	-56.93	-64.49	-13.00	-43.93	7.56	Peak
2 pp	2449.50	-44.89	-55.91	-13.00	-31.89	11.02	Peak



A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26715
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1633.00	-57.54	-65.10	-13.00	-44.54	7.56	Peak
2 pp	2449.50	-45.57	-56.59	-13.00	-32.57	11.02	Peak

Middle Channel

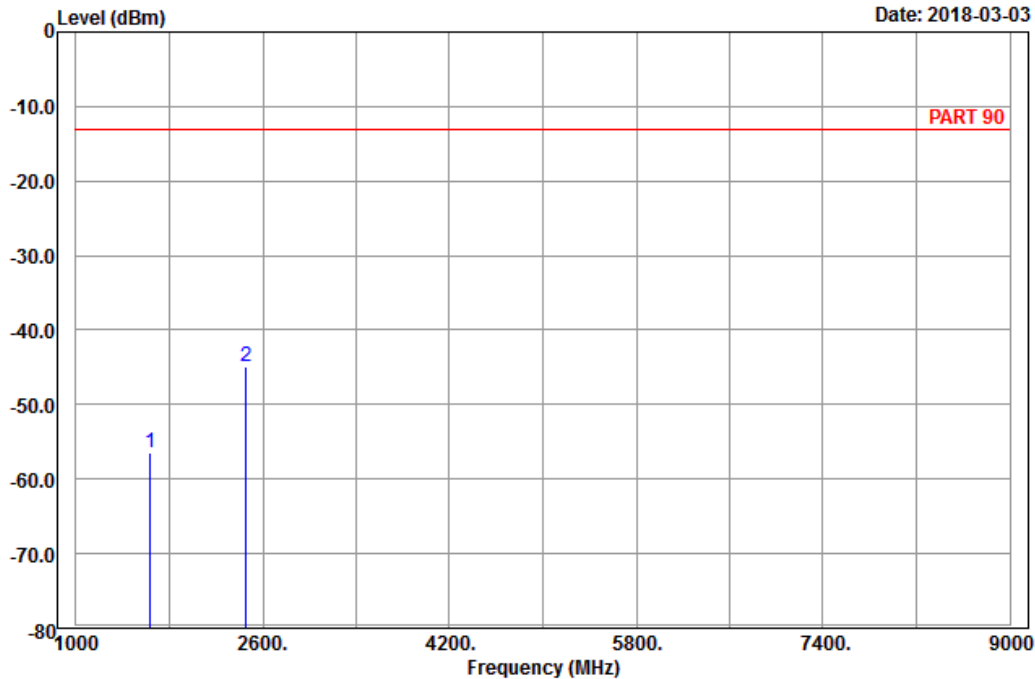


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

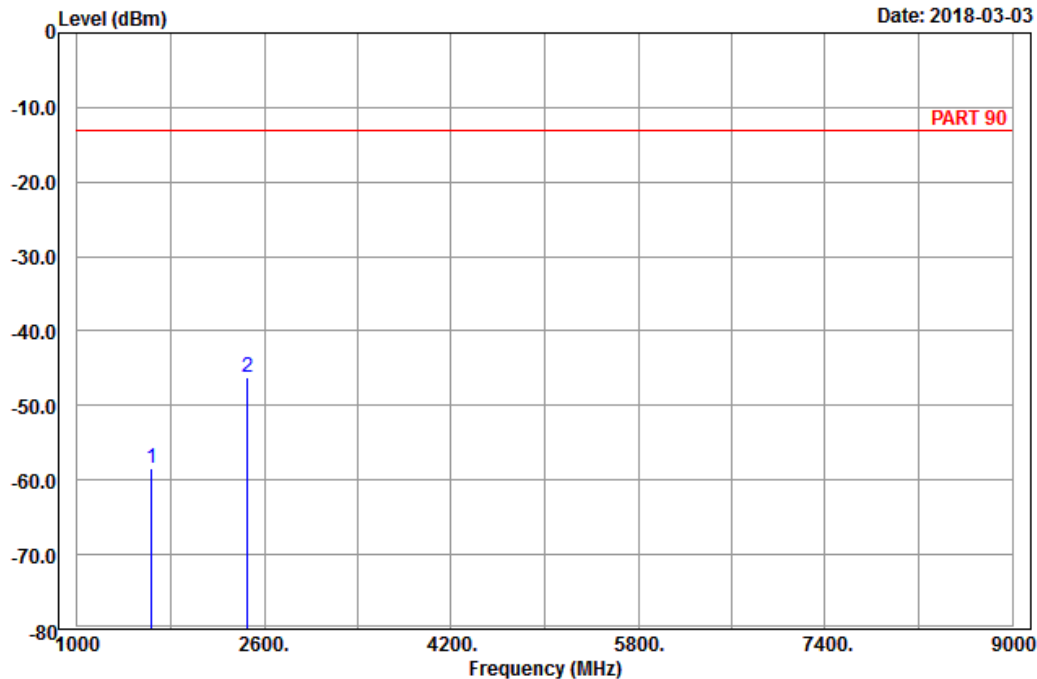
	Freq	Level	Read Level	Limit	Over	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1638.00	-56.47	-64.03	-13.00	-43.47	7.56	Peak
2	2457.00	-44.82	-55.84	-13.00	-31.82	11.02	Peak



A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1638.00	-58.32	-65.88	-13.00	-45.32	7.56	Peak
2 pp	2457.00	-46.13	-57.15	-13.00	-33.13	11.02	Peak

High Channel

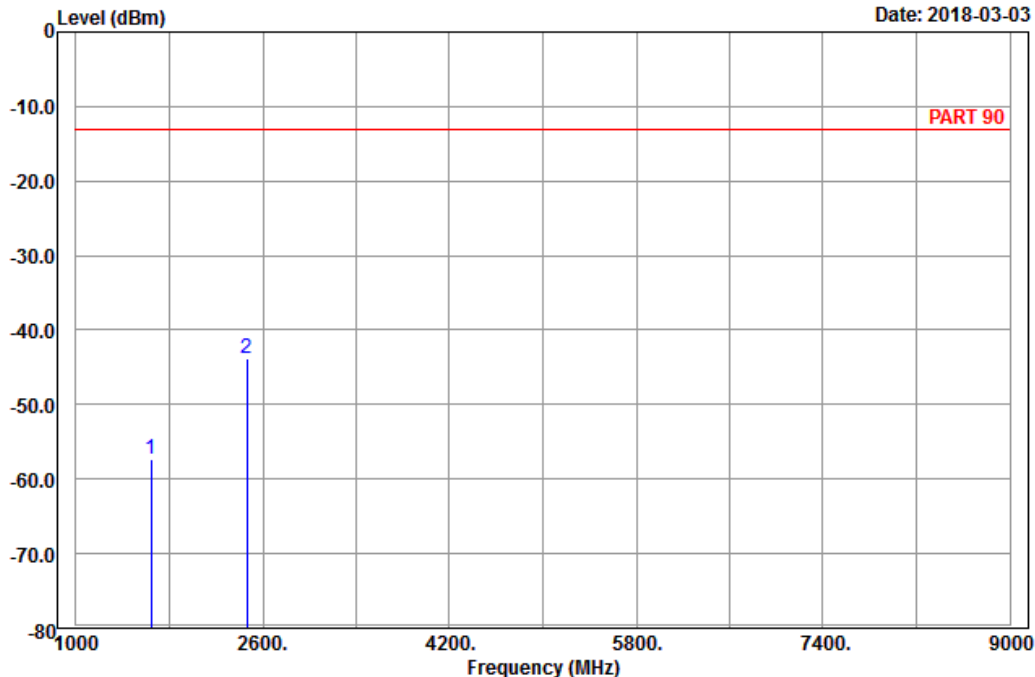


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26765
 Tested by: Charles Hsiao

	Read	Limit	Over				
Freq	Level	Level	Line	Limit	Factor	Remark	
MHz	dBm	dBm	dBm	dB	dB		
1	1643.00	-57.37	-65.10	-13.00	-44.37	7.73	Peak
2	pp 2464.50	-43.89	-54.91	-13.00	-30.89	11.02	Peak

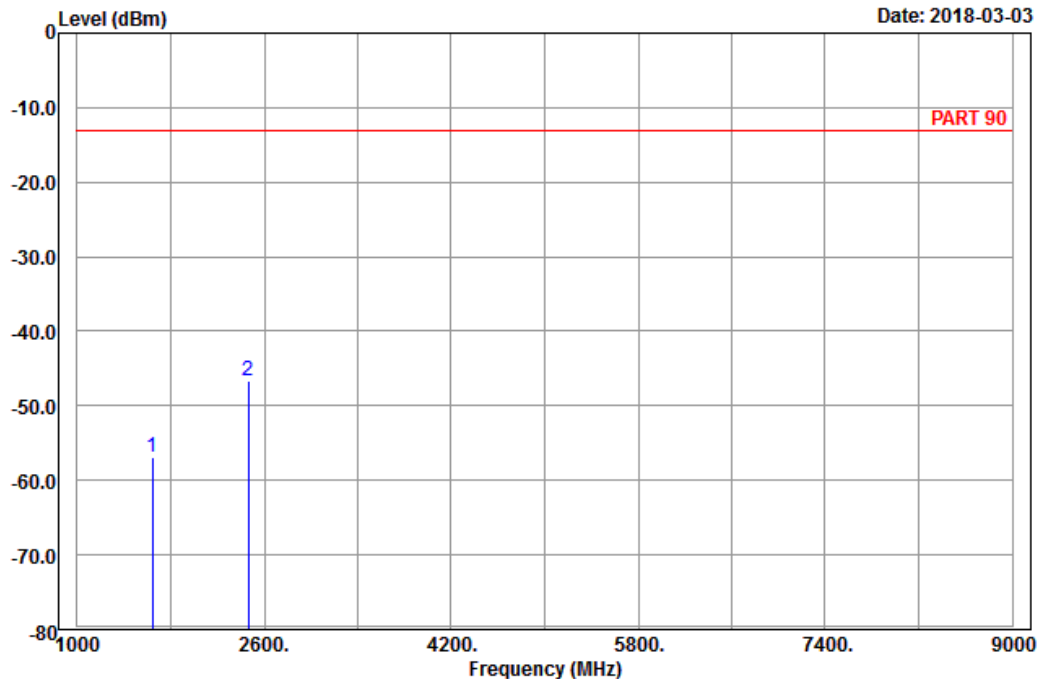


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26765
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	1643.00	-56.87	-64.60	-13.00	-43.87	7.73	Peak
2 pp	2464.50	-46.55	-57.57	-13.00	-33.55	11.02	Peak

Channel Bandwidth: 10 MHz / QPSK
Middle Channel

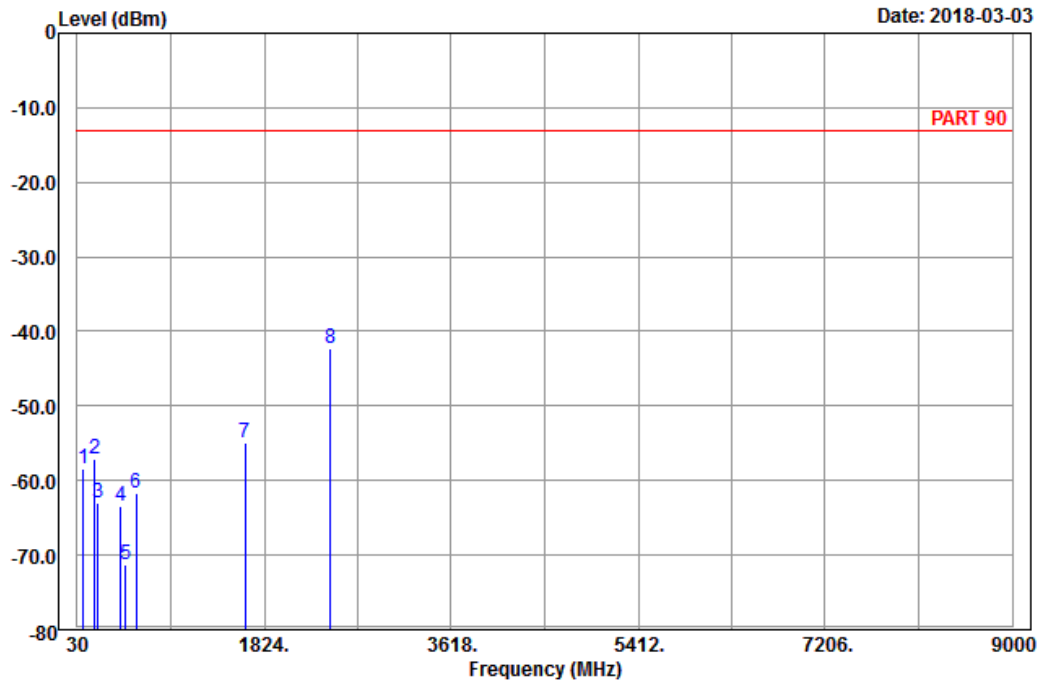


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 9

Date: 2018-03-03



Site : 966 chamber 1
Condition: PART 90 Horizontal
Remark : LTE_Band 26_Link_CH26740
Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	92.10	-58.33	-47.77	-13.00	-45.33	-10.56	Peak
2	195.24	-57.12	-51.16	-13.00	-44.12	-5.96	Peak
3	225.21	-63.00	-57.15	-13.00	-50.00	-5.85	Peak
4	449.10	-63.46	-59.64	-13.00	-50.46	-3.82	Peak
5	497.40	-71.20	-66.00	-13.00	-58.20	-5.20	Peak
6	597.50	-61.72	-62.03	-13.00	-48.72	0.31	Peak
7	1638.00	-54.99	-62.55	-13.00	-41.99	7.56	Peak
8 pp	2457.00	-42.28	-53.30	-13.00	-29.28	11.02	Peak

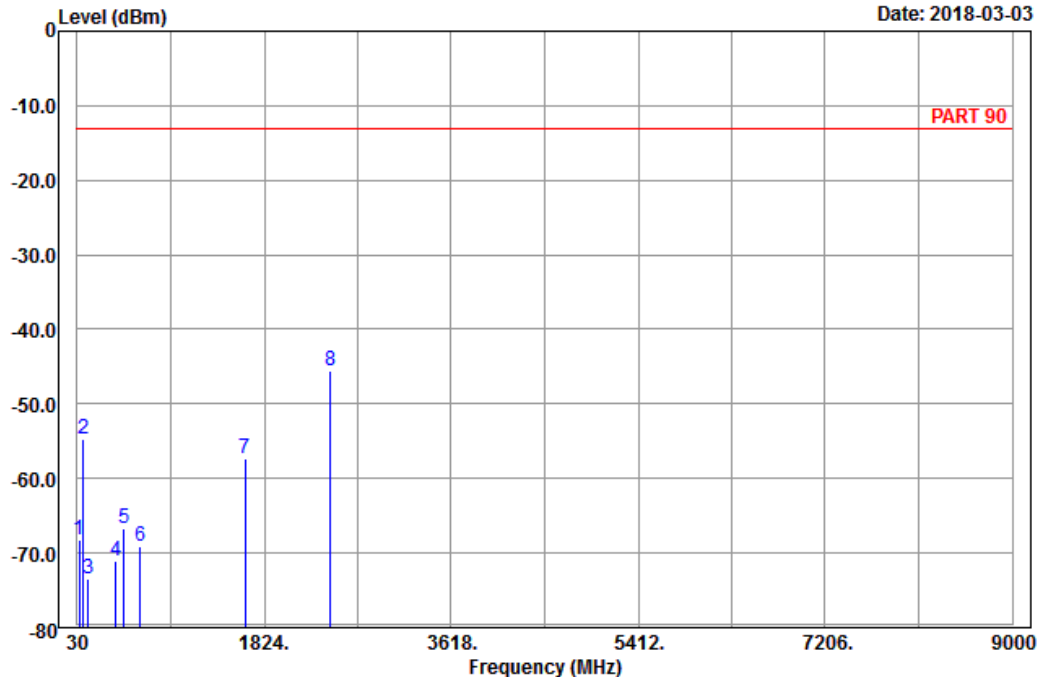


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 10

Date: 2018-03-03



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	47.01	-68.26	-55.15	-13.00	-55.26	-13.11	Peak
2	89.40	-54.74	-43.96	-13.00	-41.74	-10.78	Peak
3	132.60	-73.44	-65.78	-13.00	-60.44	-7.66	Peak
4	400.80	-71.01	-68.25	-13.00	-58.01	-2.76	Peak
5	477.80	-66.76	-62.11	-13.00	-53.76	-4.65	Peak
6	637.40	-69.20	-69.21	-13.00	-56.20	0.01	Peak
7	1638.00	-57.36	-64.92	-13.00	-44.36	7.56	Peak
8 pp	2457.00	-45.46	-56.48	-13.00	-32.46	11.02	Peak

<Mode B>

LTE Band 26

Channel Bandwidth: 10 MHz / QPSK

Middle Channel

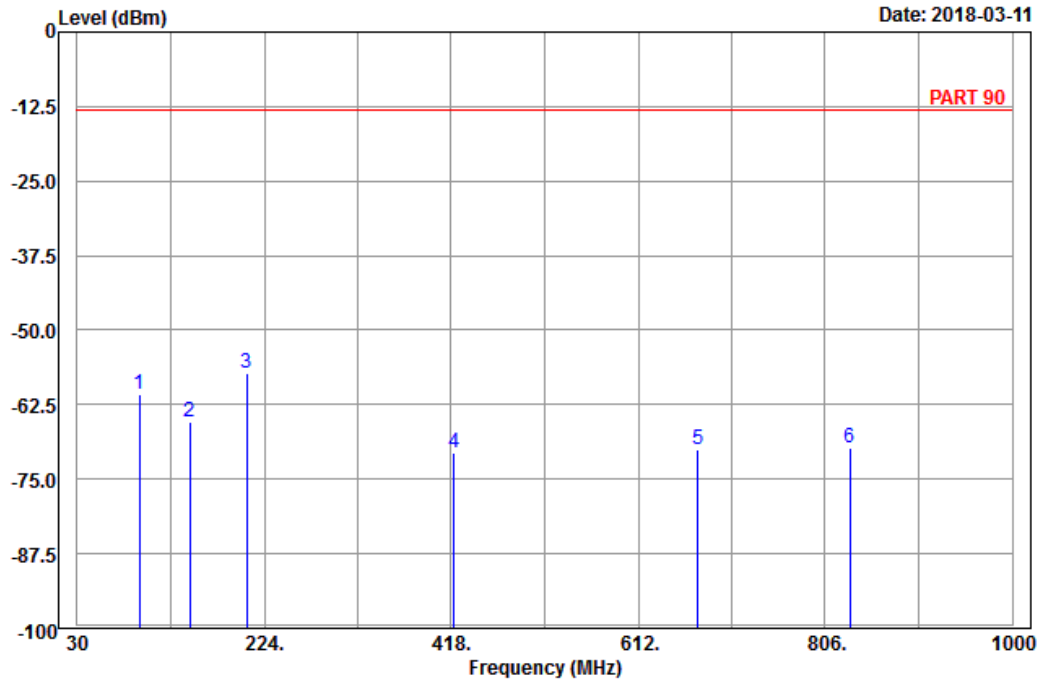


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 2018-03-11



Site : 966 chamber 1
 Condition: PART 90 Horizontal
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	94.26	-60.84	-50.39	-13.00	-47.84	-10.45	Peak
2	147.18	-65.35	-57.47	-13.00	-52.35	-7.88	Peak
3 pp	206.04	-57.24	-51.13	-13.00	-44.24	-6.11	Peak
4	421.10	-70.54	-67.33	-13.00	-57.54	-3.21	Peak
5	673.80	-70.13	-69.88	-13.00	-57.13	-0.25	Peak
6	832.00	-69.65	-71.30	-13.00	-56.65	1.65	Peak

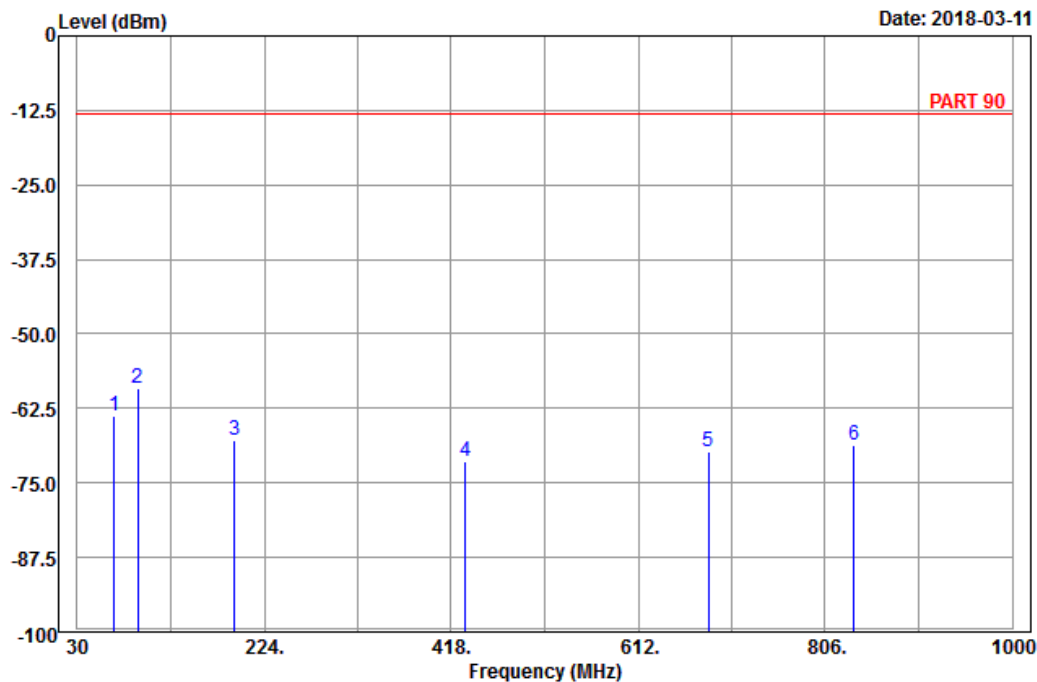


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 2018-03-11



Site : 966 chamber 1
 Condition: PART 90 Vertical
 Remark : LTE_Band 26_Link_CH26740
 Tested by: Charles Hsiao

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	68.34	-63.66	-50.84	-13.00	-50.66	-12.82	Peak
2	pp 92.64	-59.14	-48.63	-13.00	-46.14	-10.51	Peak
3	193.35	-67.82	-61.95	-13.00	-54.82	-5.87	Peak
4	433.00	-71.49	-68.03	-13.00	-58.49	-3.46	Peak
5	685.00	-69.89	-69.59	-13.00	-56.89	-0.30	Peak
6	836.20	-68.73	-70.33	-13.00	-55.73	1.60	Peak

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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