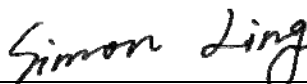
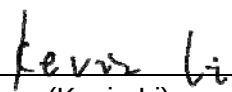


FCC EMC Test Report

FCC ID: QISB525S-65A2

Project No. : 1701C181D
Equipment : LTE CPE
Test Model : B525s-65a
Series Model : N/A
Applicant : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of
Huawei Technologies Co., Ltd., Bantian, Longgang
District, Shenzhen, 518129, P.R.C

Date of Receipt : Jul. 15, 2019
Date of Test : Jul. 16, 2019 ~ Jul. 19, 2019
Issued Date : Jul. 23, 2019
Tested by : BTL Inc.

Testing Engineer : 
(Simon Ling)
Technical Manager : 
(Bill Zhang)
Authorized Signatory : 
(Kevin Li)

B T L I N C .

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan,
Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000



Certificate #5123.02

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	4
1 . GENERAL SUMMARY	5
2 . SUMMARY OF TEST RESULTS	6
2.1 TEST FACILITY	7
2.2 MEASUREMENT UNCERTAINTY	7
3 . GENERAL INFORMATION	8
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	10
3.3 EUT OPERATING CONDITIONS	10
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
3.5 DESCRIPTION OF SUPPORT UNITS	12
4 . EMC EMISSION TEST	13
4.1 CONDUCTED EMISSION MEASUREMENT	13
4.1.1 POWER LINE CONDUCTED EMISSION	13
4.1.2 MEASUREMENT INSTRUMENTS LIST	13
4.1.3 TEST PROCEDURE	14
4.1.4 DEVIATION FROM TEST STANDARD	14
4.1.5 TEST SETUP	14
4.1.6 TEST RESULTS	14
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	17
4.2.2 MEASUREMENT INSTRUMENTS LIST	18
4.2.3 TEST PROCEDURE	19
4.2.4 DEVIATION FROM TEST STANDARD	19
4.2.5 TEST SETUP	20
4.2.6 TEST RESULTS-BELOW 1 GHZ	21
4.2.7 TEST RESULTS-ABOVE 1 GHZ	24

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jul. 23, 2019

1. GENERAL SUMMARY

Equipment : LTE CPE
Brand Name : HUAWEI
Test Model : B525s-65a
Series Model : N/A
Applicant : Huawei Technologies Co.,Ltd.
Manufacturer : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen, 518129, P.R.C
Factory : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen, 518129, P.R.C
Date of Test : Jul. 16, 2019 ~ Jul. 19, 2019
Test Sample : Engineering Sample No.: DG1907161
Standard(s) : FCC Part 15, Subpart B
ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCE-1-1701C181D) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B ANSI C63.4-2014	Conducted Emission	Class B	PASS	
	Radiated emission Below 1 GHz	Class B	PASS	
	Radiated emission Above 1 GHz	Class B	PASS	NOTE(1)

NOTE:

- (1) The EUT's max operating frequency is 5 GHz which does exceed 108 MHz, so the test will be performed.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

2.2 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. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{CISPR} requirement.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C01	CISPR	150 kHz ~ 30MHz	3.16

B. Radiated Measurement

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB02 (3m)	CISPR	30MHz ~ 200MHz	V	4.56
		30MHz ~ 200MHz	H	3.60
		200MHz ~ 1,000MHz	V	4.16
		200MHz ~ 1,000MHz	H	4.00

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-CB02 (3m)	CISPR	1GHz ~ 6GHz	4.38
		6GHz ~ 18GHz	5.36

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-CB08 (1m)	CISPR	18 ~ 26.5 GHz	3.82
		26.5 ~ 40 GHz	3.90

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE CPE
Brand Name	HUAWEI
Test Model	B525s-65a
Series Model	N/A
Model Difference(s)	N/A
Work Frequency	Please refer to Note 2.
Hardware Version	WL1B525I
Software Version	81.191.21.00.00
Power Source	DC voltage supplied from AC/DC adapter.
Power Rating	I/P: 100-240V~ 50/60Hz, 0.8A O/P: 12V  2A
Connecting I/O Port(s)	3* LAN port 1* LAN/WAN port 1* USB port 1* TEL port 1* POWER port 1* SIM card port

Note:

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

Mode		Work Frequency		
		Transmitt Frequency(MHz)	Receive Frequency(MHz)	Bandwidths(including wifi chanel)
GSM	GSM850	824-849	869-894	200K
	PCS1900	1850-1910	1930-1990	200K
WCDMA	B2	1850-1910	1930-1990	5M
	B5	824-849	869-894	5M
LTE	B2	1850-1910	1930-1990	1.4M/3M/5M/10M/15M/20M
	B4	1710-1755	2110-2155	1.4M/3M/5M/10M/15M/20M
	B5	824-849	869-894	1.4M/3M/5M/10M
	B7	2500-2570	2620-2690	5M/10M/15M/20M
	B26	814-849	859-894	1.4M/3M/5M/10M/15M
	B38	2570-2620	2570-2620	5M/10M/15M/20M
	B41	2496-2690	2496-2690	5M/10M/15M/20M
WIFI	2.4G	2432~2462	2432-2462	20M/40M
	5.0G	5150-5250	5150-5250	20M/40M/80M

*The above work frequency is exemption frequency.

3. The EUT contains following accessory devices.

Items	Manufacturer	Model Name	Description
Adapter	SHENZHEN HONOR ELECTRONIC CO.,LTD	HW-120200E01 HW-120200B01 HW-120200U01 HW-120200A01	I/P: 100-240V~ 50/60Hz, 0.8A O/P: 12V  2A
	Dongguan Shilong Fuhua Electronic Co.,Ltd	HW-120200E01 HW-120200B01 HW-120200U01 HW-120200A01	
	Shenzhen TOPOW Electronics CO., Ltd.	HW-120200E01 HW-120200B01 HW-120200U01	
LAN Cable	Luxshare Precision Industry Co., Ltd.	LUX20150329001	/
	NingBo Broad Telecommunication Co.,Ltd.	WA0003	
		WA0016	
	HUIZHOU DEHONG TECHNOLOGY CO.LTD	210-50390	
RJ11 Cable	Comlink Electronics (SHENZHEN) Co.Ltd	A0603883039	/
	Luxshare Precision Industry Co., Ltd.	LUX20170721001	
	NingBo Broad Telecommunication Co.,Ltd.	WA0015	

4. Configuration table:

Item	Factory	Model	config1	config2	config3	config4
Adapter	HONOR	HW-120200U01	V			
	TOPOW			V		
	Fuhua				V	V
RJ45 Cable	NingBo Broad	WA0003	V			
		WA0016		V		
	LuXshare	LUX20150329001			V	
	DEHONG	210-50390				V
RJ11 Cable	Comlink	A0603883039	V			
	Luxshare	LUX20170721001		V		
	NingBo Broad	WA0015			V	V

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	FULL SYSTEM(LTE)
Mode 2	FULL SYSTEM(WCDMA)
Mode 3	FULL SYSTEM(GSM)
Mode 4	FULL SYSTEM(WAN)

For Conducted Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM(LTE)

For Radiated Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM(LTE)

Evaluation description:

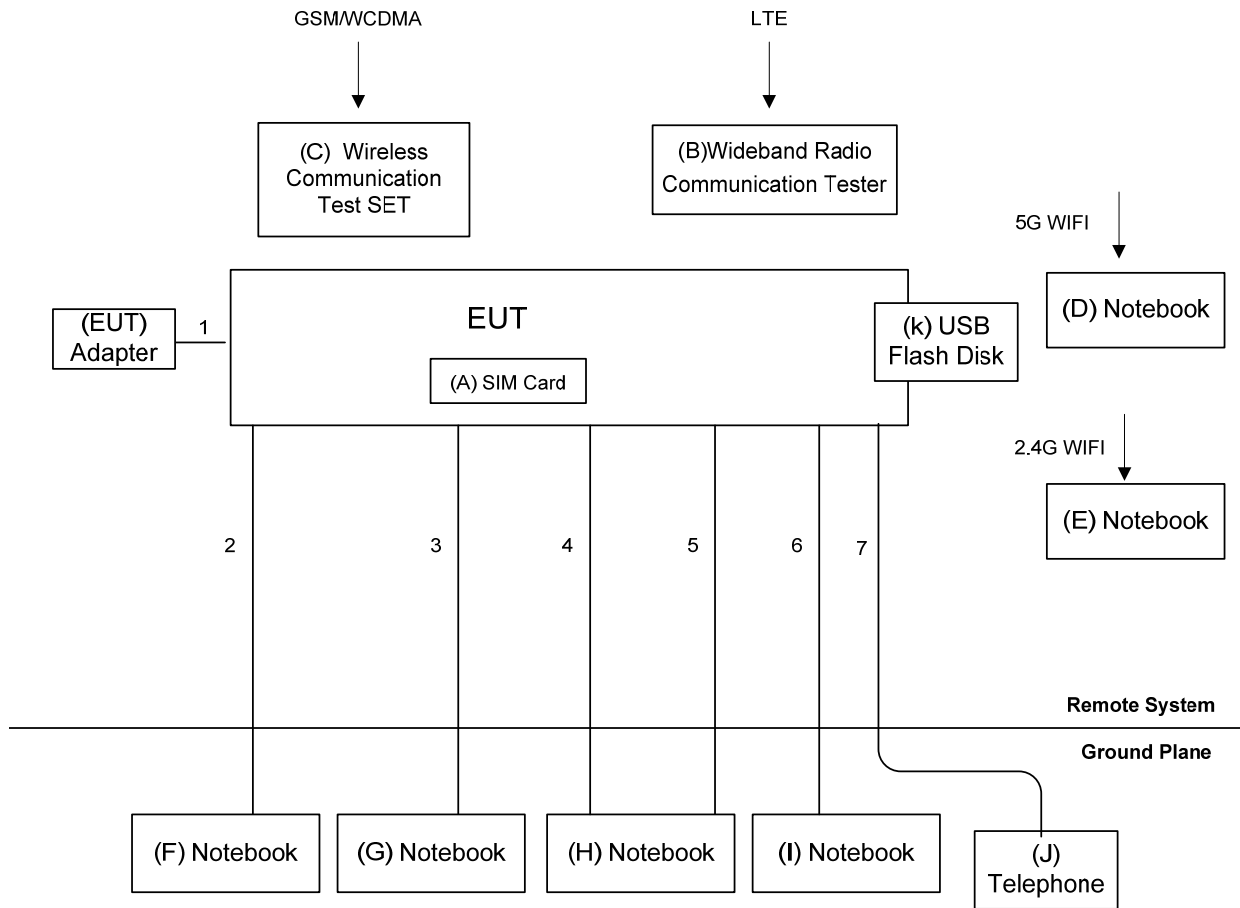
1. Mode 1 tested config 1-4, config 3 is the worst case and tested Mode 2-4.
2. Config 3 with Mode 1 is the worst case and recorded in this report.

3.3 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The standard test signals and output signal as following:

1. EUT connected to adapter via DC cable for power supply.
2. EUT connected to Notebook(F&G&H&I) via RJ45 cable.
3. EUT connected to Notebook(D&E) via 2.4G&5G WIFI function.
4. EUT connected to wireless communication test SET via radio signal.
5. EUT connected to wideband radio communication tester via radio signal.
6. The SIM card and USB Flash Disk are plugged into the EUT.

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
A	SIM Card	RS	N/A	N/A
B	Wideband Radio Communication Tester	RS	CMW500	122125
C	Wireless Communication Test SET	Agilent	(8960 Series) E5515C	MY48364183
D	Notebook	Lenovo	V310-14ISK	LR07GZHC
E	Notebook	Lenovo	G40	YB09261386
F	Notebook	Lenovo	E445	MP-05Y56S
G	Notebook	Lenovo	E445	MP-05Y3X6
H	Notebook	Lenovo	Y510P	YB04604082
I	Notebook	Lenovo	V310-14ISK	LR07GZML
J	Telephone	TCL	HCD868(79)TSD	N/A
K	USB Flash Disk	Kingston	N/A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	RJ45 Cable	NO	NO	10m
3	RJ45 Cable	NO	NO	10m
4	RJ45 Cable	NO	NO	10m
5	RJ45 Cable	NO	NO	10m
6	RJ45 Cable	NO	NO	10m
7	RJ11 Cable	NO	NO	10m

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56 *	56 - 46 *
0.5 - 5.0	56.00	46.00
5.0 - 30.0	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value - Limit Value

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 10, 2020
2	TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 10, 2020
3	EMI Test Receiver	R&S	ESR3	101862	Aug. 11, 2019
4	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Mar. 10, 2020
5	TRANSIENT LIMITER	EM	EM-7600	772	Mar. 10, 2020
6	Cable	N/A	N/A(6m)	N/A	Mar. 12, 2020
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A 1-01	N/A	N/A

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
 All calibration period of equipment list is one year.

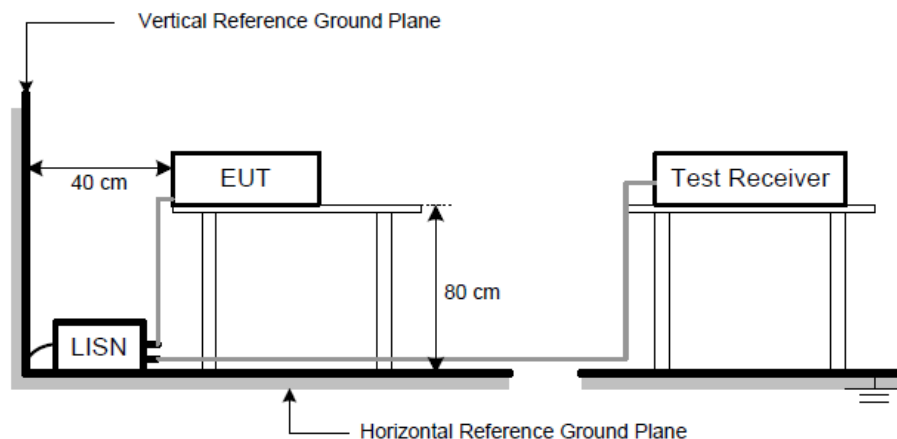
4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- f. First the whole spectrum of emission caused by equipment under test(EUT) is recorded with Detector set to peak. Peak value recorded in table if the margin from QP Limit is larger than 2dB, otherwise, QP value is recorded, Measuring frequency range from 150KHz to 30MHz.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP

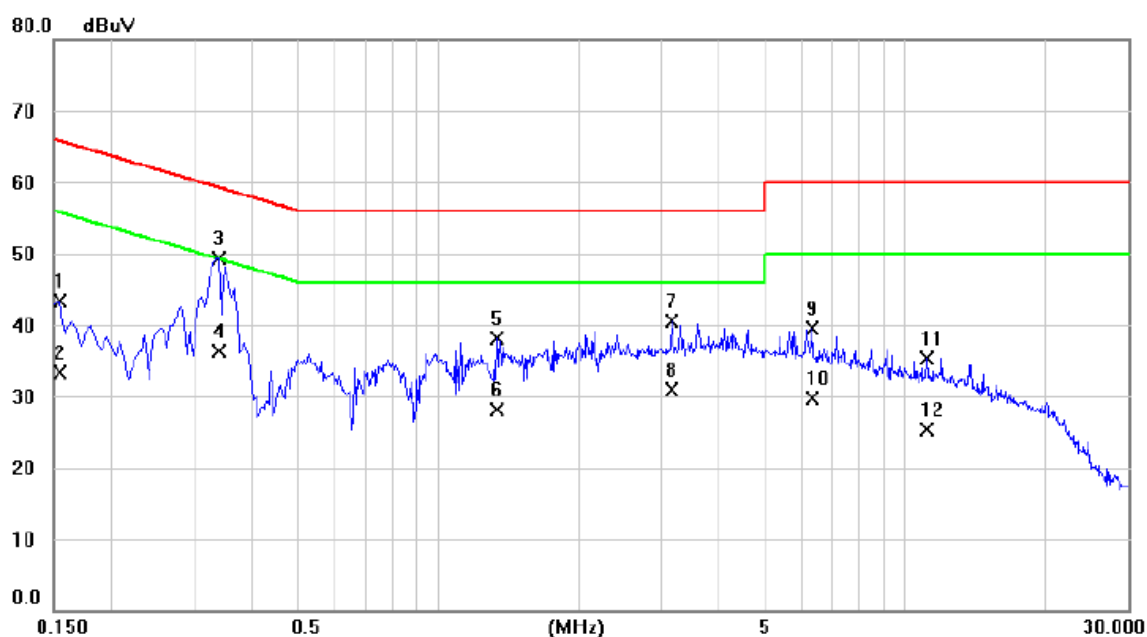


4.1.6 TEST RESULTS

Remark

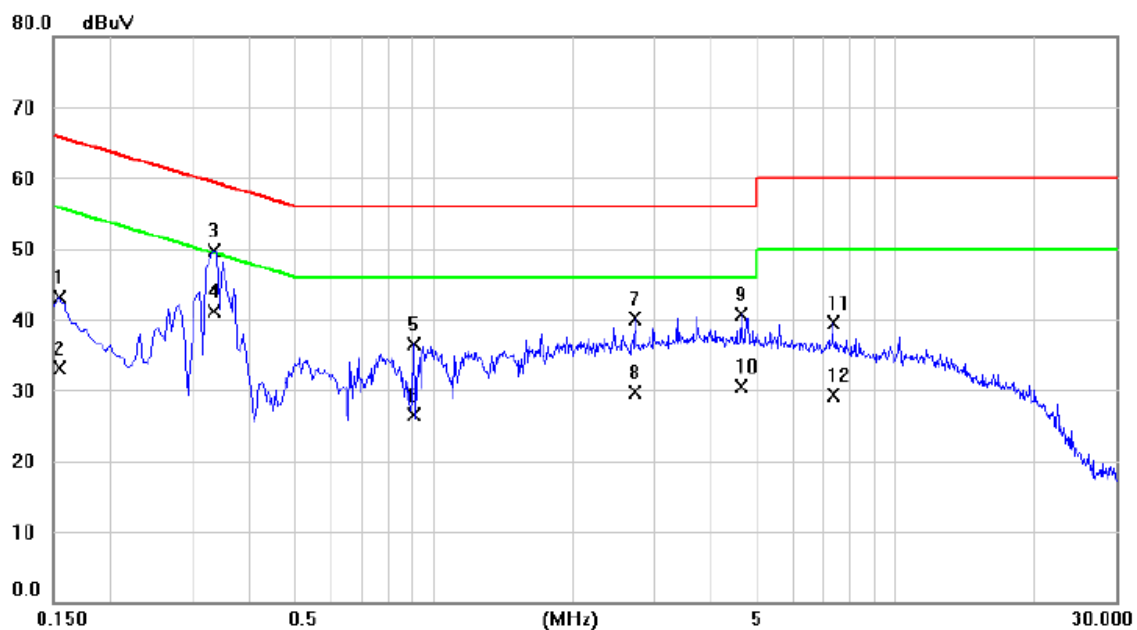
- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9 kHz; SPA setting in RBW=10 kHz, VBW =10 kHz, Swp. Time = 0.3 sec./MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10 kHz, VBW=10 kHz, Swp. Time =0.3 sec./MHz.
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “*” marked in AVG Mode column of Interference Voltage Measured.

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	Mode 1		
Test Engineer	Simon Ling		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1545	33.53	9.82	43.35	65.75	-22.40	QP	
2		0.1545	23.48	9.82	33.30	55.75	-22.45	AVG	
3	*	0.3390	39.53	9.85	49.38	59.23	-9.85	QP	
4		0.3390	26.50	9.85	36.35	49.23	-12.88	AVG	
5		1.3335	28.20	9.94	38.14	56.00	-17.86	QP	
6		1.3335	18.15	9.94	28.09	46.00	-17.91	AVG	
7		3.1650	30.36	10.07	40.43	56.00	-15.57	QP	
8		3.1650	20.78	10.07	30.85	46.00	-15.15	AVG	
9		6.3240	29.17	10.28	39.45	60.00	-20.55	QP	
10		6.3240	19.48	10.28	29.76	50.00	-20.24	AVG	
11		11.1570	24.84	10.55	35.39	60.00	-24.61	QP	
12		11.1570	14.78	10.55	25.33	50.00	-24.67	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	Mode 1		
Test Engineer	Simon Ling		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1545	33.10	9.91	43.01	65.75	-22.74	QP	
2		0.1545	23.18	9.91	33.09	55.75	-22.66	AVG	
3		0.3345	39.63	9.98	49.61	59.34	-9.73	QP	
4	*	0.3345	31.10	9.98	41.08	49.34	-8.26	AVG	
5		0.9060	26.35	10.10	36.45	56.00	-19.55	QP	
6		0.9060	16.48	10.10	26.58	46.00	-19.42	AVG	
7		2.7330	29.79	10.23	40.02	56.00	-15.98	QP	
8		2.7330	19.48	10.23	29.71	46.00	-16.29	AVG	
9		4.6185	30.32	10.36	40.68	56.00	-15.32	QP	
10		4.6185	20.18	10.36	30.54	46.00	-15.46	AVG	
11		7.3275	28.87	10.61	39.48	60.00	-20.52	QP	
12		7.3275	18.78	10.61	29.39	50.00	-20.61	AVG	

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class B (at 3m)	
	(uV/m) Field strength	(dBuV/m) Field strength
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Above 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class B	
	(dBuV/m) (at 3m)	
	Peak	Average
Above 1000	74	54

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

- (1) The limit for radiated test was performed according to as following:
FCC Part 15, Subpart B
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m).
3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

4.2.2 MEASUREMENT INSTRUMENTS LIST

Below 1GHz & 1-18 GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2020
2	Double Ridged Horn Antenna	ARA	DRG-118A	16554	Mar. 09, 2020
3	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2020
4	Amplifier	HP	8447D	1937A02847	Mar. 10, 2020
5	Cable	emci	LMR-400(30MHz-1GHz) (10m+2.5m)	N/A	Jun. 19, 2020
6	Cable	mitron	B10-01-01-12M	18072743	Jul. 30, 2019
7	Controller	MF	MF-7802BS	N/A	N/A
8	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
9	EMI Test Receiver	Keysight	N9038A	MY56400060	Mar. 10, 2020

18-30 GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Horn Antenna	EMCO	3115	9605-4803	Mar. 23, 2020
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020
3	Amplifier	Agilent	8449B	3008A02584	Aug. 11, 2019
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 10, 2020
5	MXE EMI Receiver	Agilent	N9038A	MY53220133	Mar. 10, 2020
6	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
7	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
8	Controller	MF	MF-7802	MF780208159	N/A
9	Cable	emci	SUCOFLEX 102_8m(0.01GHz — 40GHz)	N/A	Mar. 26, 2020
10	Cable	Mlcable Inc.	B10-01-01-5M	18047123	Mar. 01, 2020
11	Cable	Mlcable Inc.	B10-01-01-10M	18072746	Mar. 01, 2020
12	Cable	N/A	A50-3.5M3.5M-1.5M-AT	18041824	Mar. 01, 2020

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.4).

Note:

For measurement of frequency 1GHz-30GHz, the EUT was set 3 meters away from the receiver antenna.

Emission level (dBuV/m)=20log Emission level (uV/m).

The limits above 18GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1m

Distance extrapolation factor = 20 log (3m/1m) dB ;

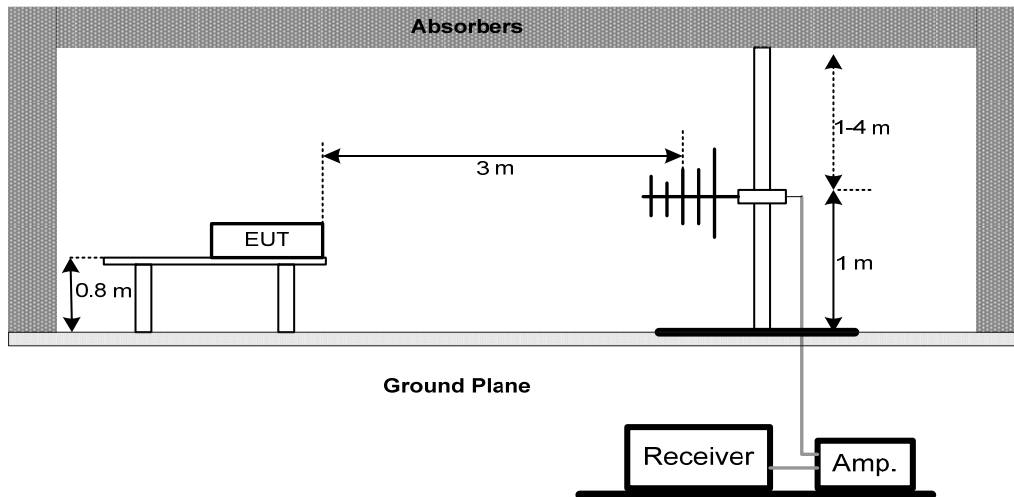
Limit line = specific limits (dBuV) + 9.5 dB.

4.2.4 DEVIATION FROM TEST STANDARD

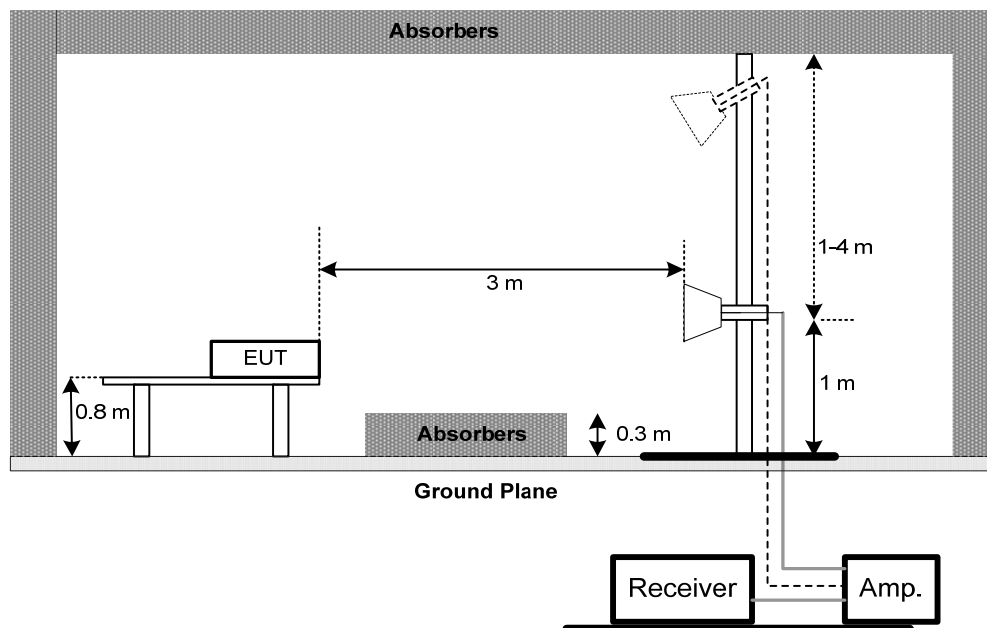
No deviation

4.2.5 TEST SETUP

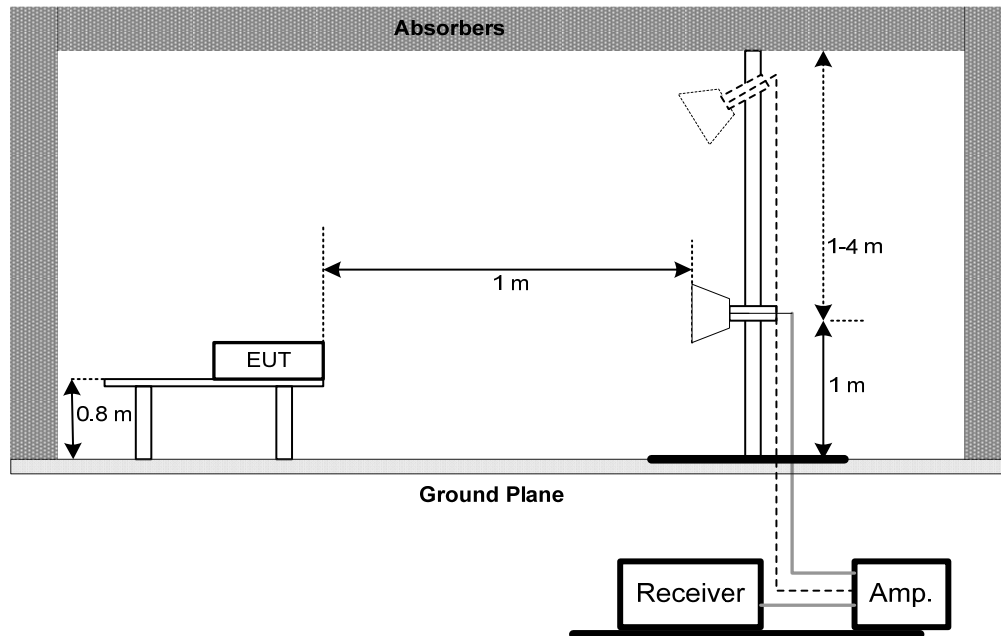
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency 1-18 GHz



(C) Radiated Emission Test Set-Up Frequency 18-30 GHz

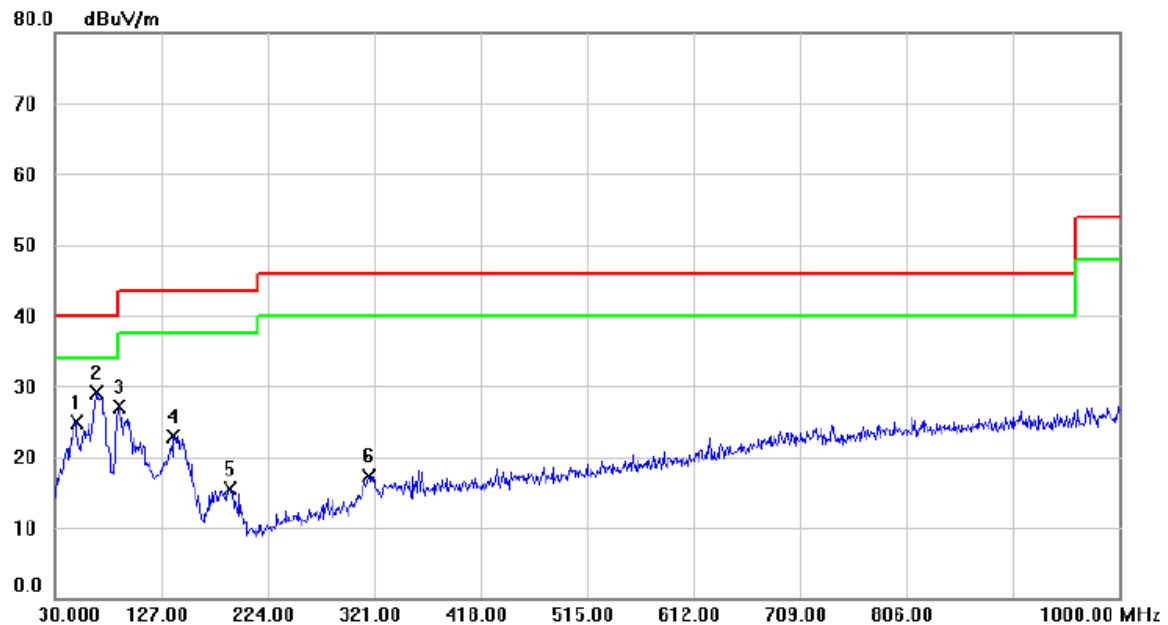


4.2.6 TEST RESULTS-BELOW 1 GHZ

Remark :

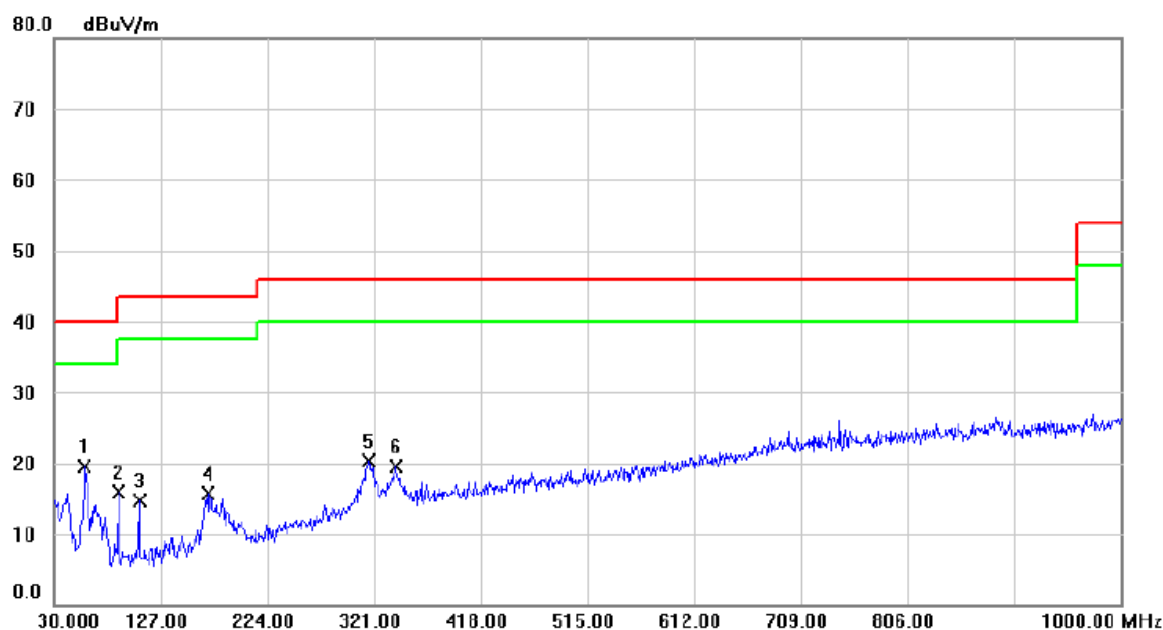
- (1) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30 MHz to 1000 MHz
- (3) If the peak scan value lower limit more than 20 dB, then this signal data does not show in table.

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	Mode 1		
Test Engineer	Simon Ling		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		49.4000	45.63	-20.70	24.93	40.00	-15.07	QP	
2	*	67.8300	52.22	-23.05	29.17	40.00	-10.83	QP	
3		88.2000	49.73	-22.62	27.11	43.50	-16.39	QP	
4		138.6400	45.33	-22.43	22.90	43.50	-20.60	QP	
5		190.0500	35.14	-19.55	15.59	43.50	-27.91	QP	
6		316.1500	31.18	-13.94	17.24	46.00	-28.76	QP	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	Mode 1		
Test Engineer	Simon Ling		



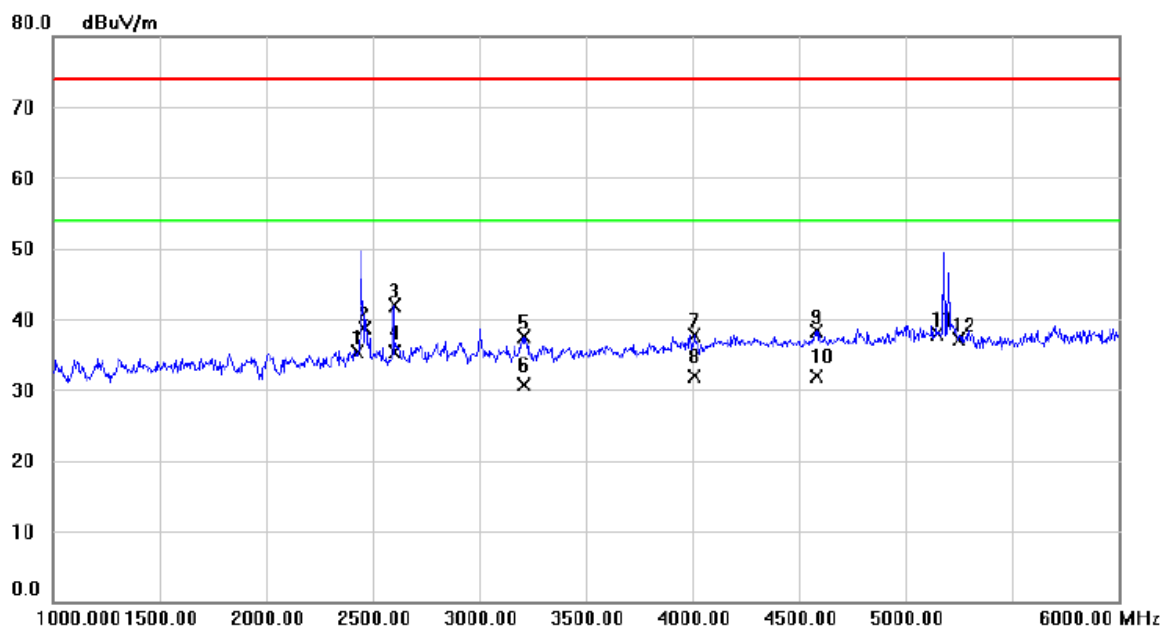
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	58.1300	42.17	-22.74	19.43	40.00	-20.57	QP	
2		88.2000	38.55	-22.62	15.93	43.50	-27.57	QP	
3		107.6000	36.33	-21.72	14.61	43.50	-28.89	QP	
4		170.6500	35.94	-20.33	15.61	43.50	-27.89	QP	
5		316.1500	34.15	-13.94	20.21	46.00	-25.79	QP	
6		340.4000	33.05	-13.48	19.57	46.00	-26.43	QP	

4.2.7 TEST RESULTS-ABOVE 1 GHZ

Remark :

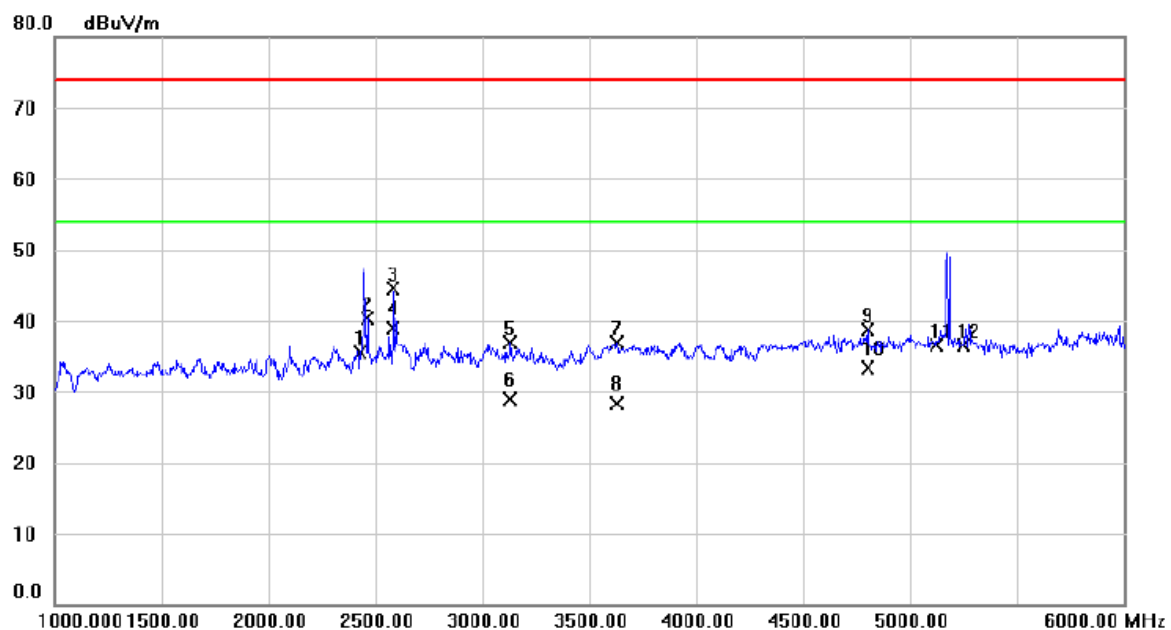
- (1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Radiated emissions measured in frequency range above 1000 MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (3) Data of measurement within this frequency range shown “ * ” in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- (4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	Mode 1		
Note	Test data mark 1&2 point is 2.4G WIFI exemption frequency.		
	Test data mark 11&12 point is 5G WIFI exemption frequency.		
Test Engineer	Simon Ling		



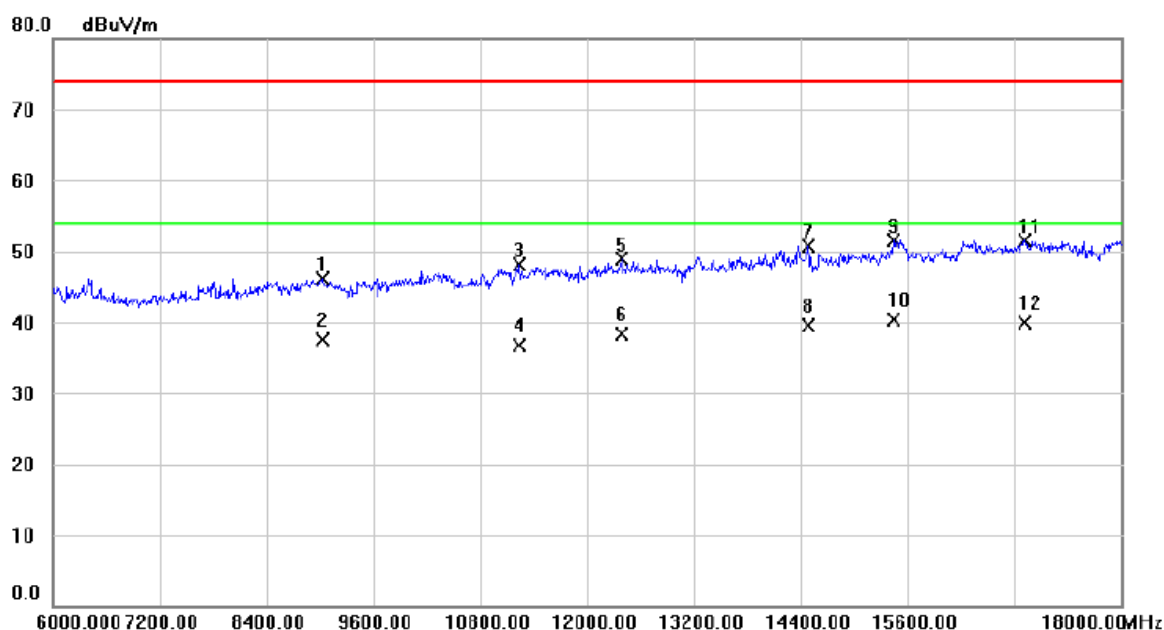
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2432.000	37.11	-1.77	35.34	74.00	-38.66	peak	
2		2462.000	40.35	-1.69	38.66	74.00	-35.34	peak	
3		2600.000	43.14	-1.25	41.89	74.00	-32.11	peak	
4	*	2600.000	36.56	-1.25	35.31	54.00	-18.69	AVG	
5		3207.500	37.03	0.55	37.58	74.00	-36.42	peak	
6		3207.500	30.25	0.55	30.80	54.00	-23.20	AVG	
7		4010.000	36.03	1.65	37.68	74.00	-36.32	peak	
8		4010.000	30.24	1.65	31.89	54.00	-22.11	AVG	
9		4580.000	34.73	3.54	38.27	74.00	-35.73	peak	
10		4580.000	28.46	3.54	32.00	54.00	-22.00	AVG	
11		5150.000	32.29	5.69	37.98	74.00	-36.02	peak	
12		5250.000	31.28	5.73	37.01	74.00	-36.99	peak	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	Mode 1		
Note	Test data mark 1&2 point is 2.4G WIFI exemption frequency. Test data mark 11&12 point is 5G WIFI exemption frequency.		
Test Engineer	Simon Ling		



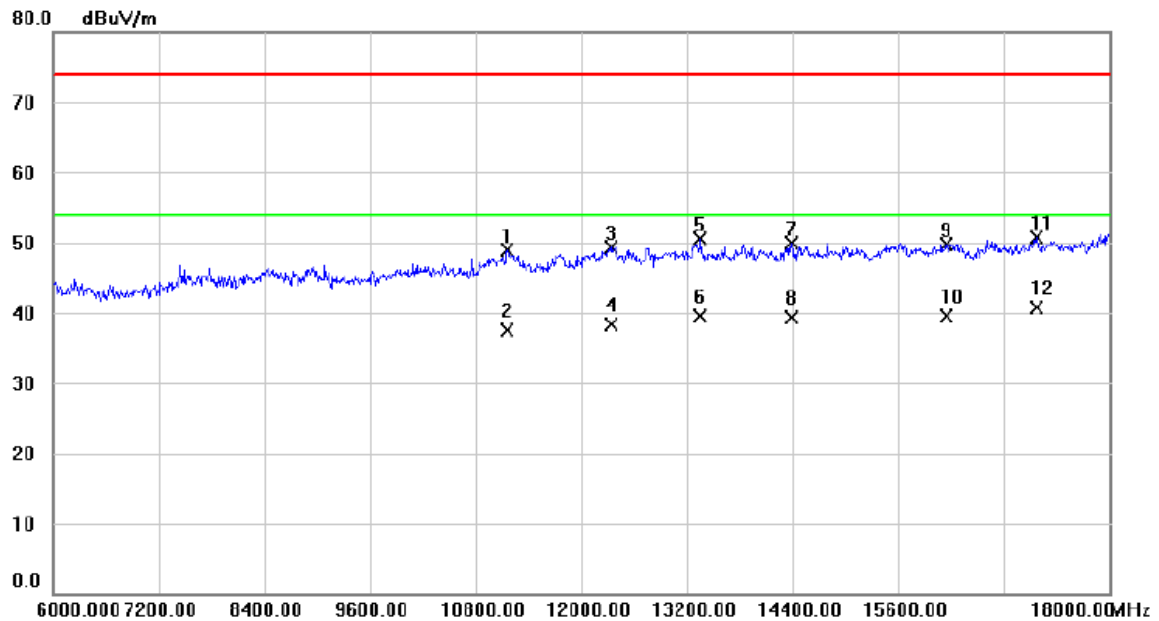
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2432.000	37.36	-1.77	35.59	74.00	-38.41	peak	
2		2462.000	42.07	-1.69	40.38	74.00	-33.62	peak	
3		2585.000	45.83	-1.30	44.53	74.00	-29.47	peak	
4	*	2585.000	40.12	-1.30	38.82	54.00	-15.18	AVG	
5		3130.000	36.46	0.36	36.82	74.00	-37.18	peak	
6		3130.000	28.46	0.36	28.82	54.00	-25.18	AVG	
7		3630.000	35.59	1.38	36.97	74.00	-37.03	peak	
8		3630.000	26.87	1.38	28.25	54.00	-25.75	AVG	
9		4800.000	34.10	4.63	38.73	74.00	-35.27	peak	
10		4800.000	28.65	4.63	33.28	54.00	-20.72	AVG	
11		5120.000	30.87	5.67	36.54	74.00	-37.46	peak	
12		5250.000	30.82	5.73	36.55	74.00	-37.45	peak	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	Mode 1		
Test Engineer	Simon Ling		



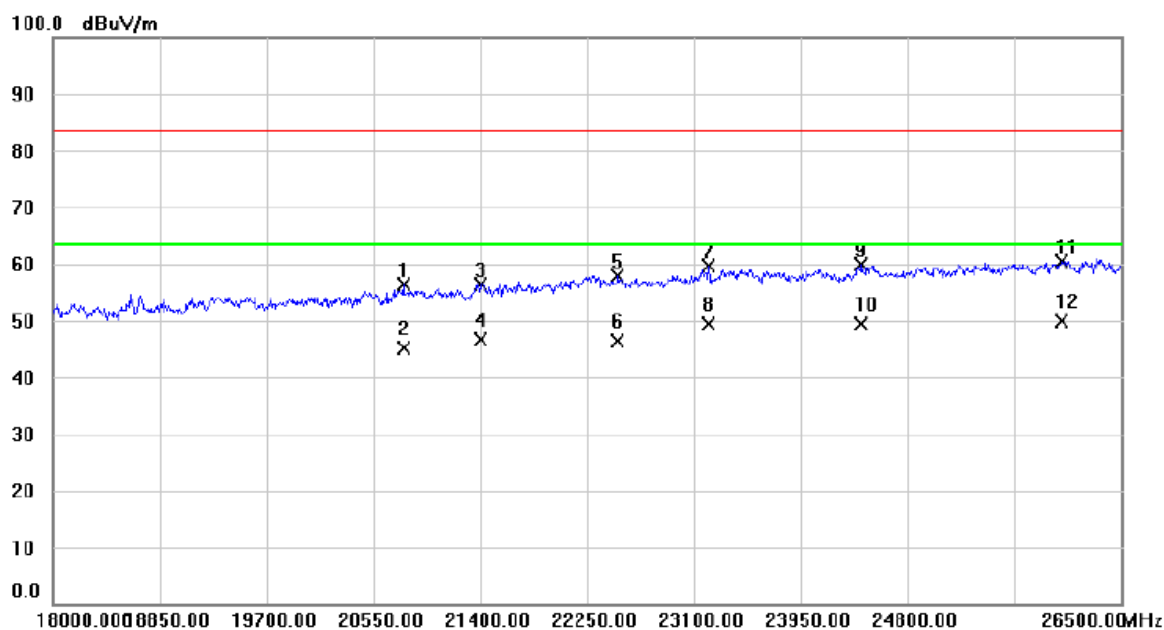
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		9036.000	33.52	12.65	46.17	74.00	-27.83	peak	
2		9036.000	24.78	12.65	37.43	54.00	-16.57	AVG	
3		11232.00	31.77	16.38	48.15	74.00	-25.85	peak	
4		11232.00	20.34	16.38	36.72	54.00	-17.28	AVG	
5		12384.00	31.23	17.61	48.84	74.00	-25.16	peak	
6		12384.00	20.64	17.61	38.25	54.00	-15.75	AVG	
7		14484.00	29.77	20.92	50.69	74.00	-23.31	peak	
8		14484.00	18.64	20.92	39.56	54.00	-14.44	AVG	
9		15444.00	33.69	17.77	51.46	74.00	-22.54	peak	
10	*	15444.00	22.46	17.77	40.23	54.00	-13.77	AVG	
11		16920.00	31.91	19.61	51.52	74.00	-22.48	peak	
12		16920.00	20.34	19.61	39.95	54.00	-14.05	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	Mode 1		
Test Engineer	Simon Ling		



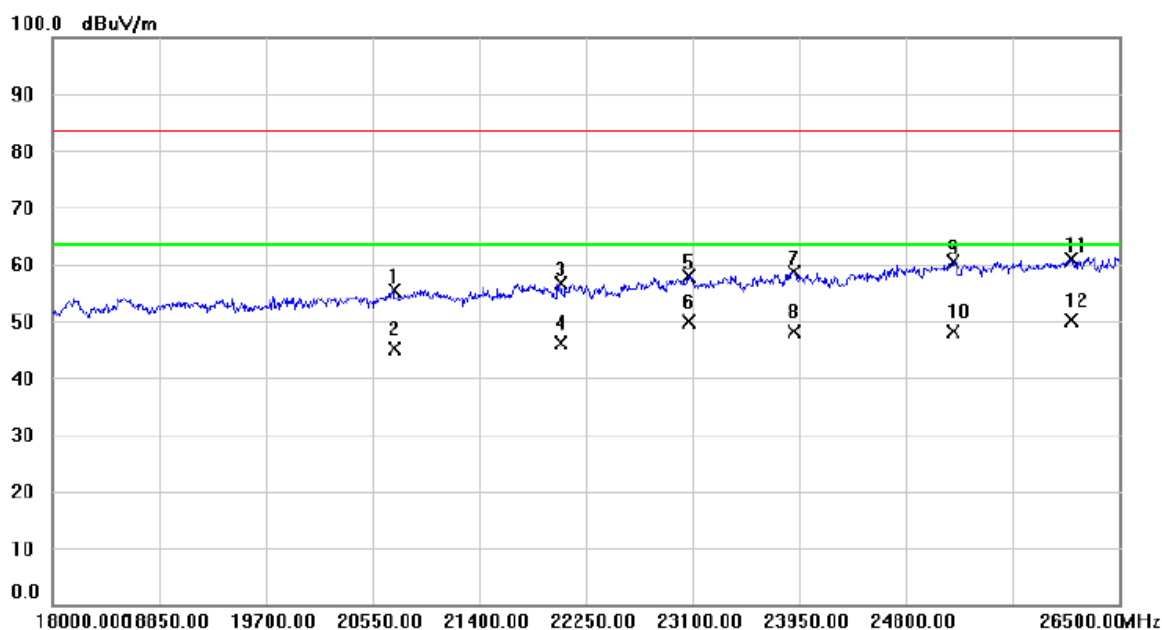
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11160.00	32.67	16.21	48.88	74.00	-25.12	peak	
2		11160.00	21.36	16.21	37.57	54.00	-16.43	AVG	
3		12348.00	31.68	17.63	49.31	74.00	-24.69	peak	
4		12348.00	20.65	17.63	38.28	54.00	-15.72	AVG	
5		13356.00	31.79	18.75	50.54	74.00	-23.46	peak	
6		13356.00	20.78	18.75	39.53	54.00	-14.47	AVG	
7		14388.00	28.99	20.84	49.83	74.00	-24.17	peak	
8		14388.00	18.46	20.84	39.30	54.00	-14.70	AVG	
9		16152.00	31.69	17.97	49.66	74.00	-24.34	peak	
10		16152.00	21.46	17.97	39.43	54.00	-14.57	AVG	
11		17172.00	30.37	20.29	50.66	74.00	-23.34	peak	
12	*	17172.00	20.37	20.29	40.66	54.00	-13.34	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	Mode 1		
Test Engineer	Simon Ling		



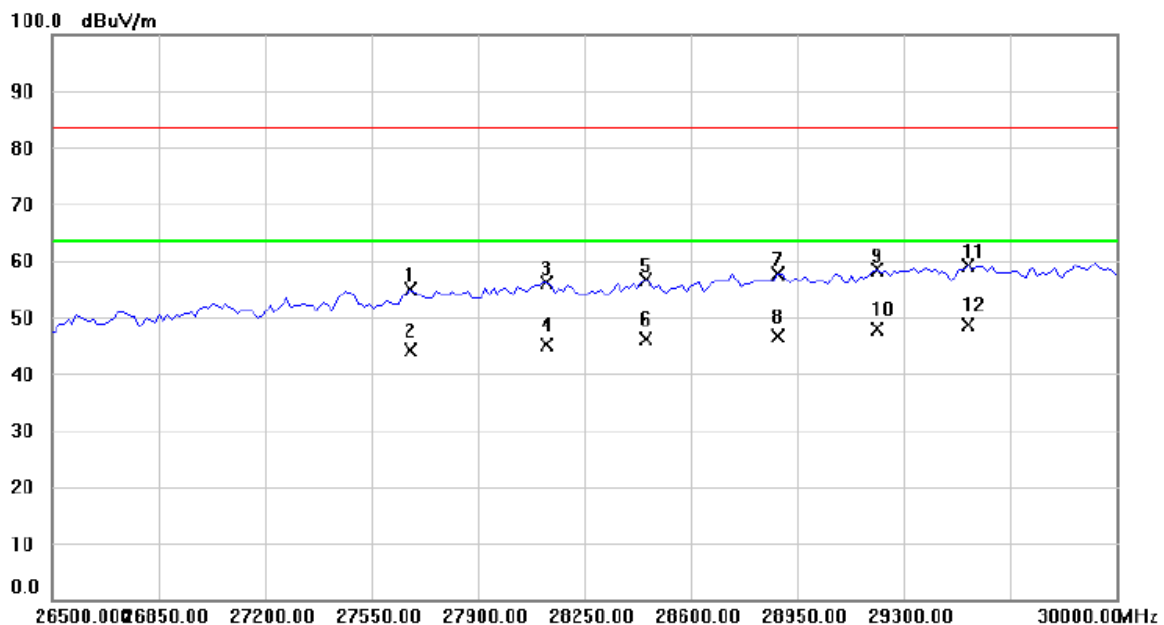
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		20788.00	31.44	24.85	56.29	83.50	-27.21	peak	
2		20788.00	20.39	24.85	45.24	63.50	-18.26	AVG	
3		21408.50	29.79	26.54	56.33	83.50	-27.17	peak	
4		21408.50	20.15	26.54	46.69	63.50	-16.81	AVG	
5		22496.50	32.89	25.01	57.90	83.50	-25.60	peak	
6		22496.50	21.46	25.01	46.47	63.50	-17.03	AVG	
7		23219.00	30.49	29.05	59.54	83.50	-23.96	peak	
8		23219.00	20.34	29.05	49.39	63.50	-14.11	AVG	
9		24434.50	32.40	27.59	59.99	83.50	-23.51	peak	
10		24434.50	21.78	27.59	49.37	63.50	-14.13	AVG	
11		26032.50	31.48	28.85	60.33	83.50	-23.17	peak	
12	*	26032.50	21.06	28.85	49.91	63.50	-13.59	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	Mode 1		
Test Engineer	Simon Ling		



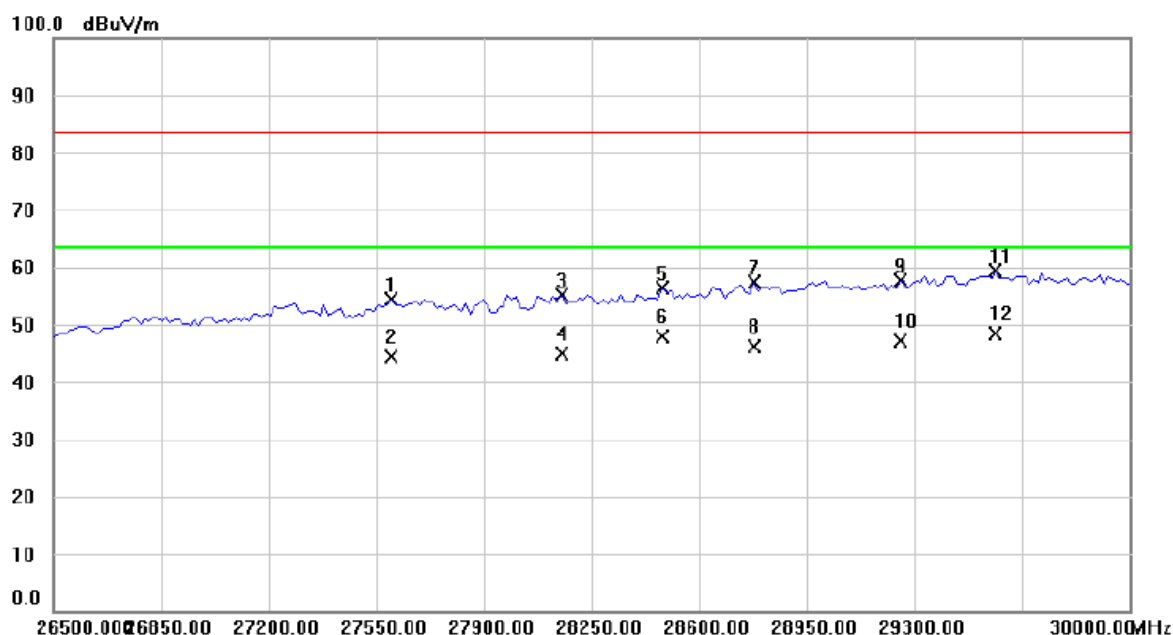
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		20720.00	30.90	24.58	55.48	83.50	-28.02	peak	
2		20720.00	20.65	24.58	45.23	63.50	-18.27	AVG	
3		22054.50	30.87	25.74	56.61	83.50	-26.89	peak	
4		22054.50	20.46	25.74	46.20	63.50	-17.30	AVG	
5		23066.00	28.98	28.97	57.95	83.50	-25.55	peak	
6		23066.00	20.81	28.97	49.78	63.50	-13.72	AVG	
7		23907.50	30.53	28.00	58.53	83.50	-24.97	peak	
8		23907.50	20.01	28.00	48.01	63.50	-15.49	AVG	
9		25182.50	33.58	26.80	60.38	83.50	-23.12	peak	
10		25182.50	21.35	26.80	48.15	63.50	-15.35	AVG	
11		26117.50	32.39	28.39	60.78	83.50	-22.72	peak	
12	*	26117.50	21.78	28.39	50.17	63.50	-13.33	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	Mode 1		
Test Engineer	Simon Ling		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		27680.23	50.96	3.97	54.93	83.50	-28.57	peak	
2		27680.23	40.23	3.97	44.20	63.50	-19.30	AVG	
3		28127.90	51.60	4.55	56.15	83.50	-27.35	peak	
4		28127.90	40.53	4.55	45.08	63.50	-18.42	AVG	
5		28453.48	51.31	5.41	56.72	83.50	-26.78	peak	
6		28453.48	40.65	5.41	46.06	63.50	-17.44	AVG	
7		28887.59	51.17	6.40	57.57	83.50	-25.93	peak	
8		28887.59	40.16	6.40	46.56	63.50	-16.94	AVG	
9		29213.17	51.62	6.79	58.41	83.50	-25.09	peak	
10		29213.17	41.08	6.79	47.87	63.50	-15.63	AVG	
11		29511.62	52.09	6.97	59.06	83.50	-24.44	peak	
12	*	29511.62	41.57	6.97	48.54	63.50	-14.96	AVG	

EUT	LTE CPE	Model Name	B525s-65a
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	Mode 1		
Test Engineer	Simon Ling		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		27598.83	50.52	3.90	54.42	83.50	-29.08	peak	
2		27598.83	40.36	3.90	44.26	63.50	-19.24	AVG	
3		28155.03	50.62	4.62	55.24	83.50	-28.26	peak	
4		28155.03	40.26	4.62	44.88	63.50	-18.62	AVG	
5		28480.62	50.79	5.48	56.27	83.50	-27.23	peak	
6		28480.62	42.32	5.48	47.80	63.50	-15.70	AVG	
7		28779.07	51.15	6.15	57.30	83.50	-26.20	peak	
8		28779.07	40.02	6.15	46.17	63.50	-17.33	AVG	
9		29253.87	50.92	6.80	57.72	83.50	-25.78	peak	
10		29253.87	40.32	6.80	47.12	63.50	-16.38	AVG	
11		29565.89	52.45	7.02	59.47	83.50	-24.03	peak	
12	*	29565.89	41.32	7.02	48.34	63.50	-15.16	AVG	

End of Test Report