



FCC REPORT

Report Reference No	CHTEW19060173	Report verification:
Project No:	SHT1905048905EW	
FCC ID:	Q5EDSJ-M9	
Applicant's name:	Kirisun Communication Co.,Lt	td.
Manufacturer	3rd Floor, Building A, Tongfang Langshan Road, Nanshan Distri	Information Habour, No.11 ct, Shenzhen 518057, P.R.China
Address:	Kirisun Communication Co.,Ltd.	
Test item description:	3rd Floor, Building A, Tongfang Langshan Road, Nanshan Distri	Information Habour, No.11 ct, Shenzhen 518057, P.R.China
Trade Mark	Smart Device	
Model/Type reference	KIRISUN	
Listed Model(s)	DSJ-M9	
Standard:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 22 FCC CFR Title 47 Part 24	
	FCC CFR Title 47 Part 27	
Date of receipt of test sample:	May 24, 2019	
Date of testing	May 25, 2019- Jun 24, 2019	
Date of issue	Jun 25, 2019	
Result:	Pass	
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Approved by (position+printedname+signature):	Manager Hans Hu	Aaron.Fang Homsty
Testing Laboratory Name	Shenzhen Huatongwei Interna	tional Inspection Co Ltd.
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The test report merely correspond to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Applicable Standards

The tests were performed according to following standards:

FCC Rules Part 2: FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

FCC Rules Part 22: PUBLIC MOBILE SERVICES

FCC Rules Part 24: PERSONAL COMMUNICATIONS SERVICES

FCC Rules Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

ANSI C63.26: 2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

KDB 971168 D01 Power Meas License Digital Systems v03: MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

1.2. Report version information

Revision No.	Date of issue	Description
N/A	2019-06-25	Original

2. Test Description

Test Item	Section in CFR 47	Result	Test Engineer
Conducted Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	Pass	Jiongsheng Feng
Peak-to-Average Ratio	Part 24.232 Part 27.50	Pass	Jiongsheng Feng
99% Occupied Bandwidth & 26 dB Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b) Part 27.53	Pass	Jiongsheng Feng
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass	Jiongsheng Feng
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass	Jiongsheng Feng
Frequency stability VS Temperature	Part 2.1055(a)(1)(b) Part 22.355 Part 24.235 Part 27.54	Pass	Jiongsheng Feng
Frequency stability VS Voltage	Part 2.1055(d)(1)(2) Part 22.355 Part 24.235 Part 27.54	Pass	Jiongsheng Feng
ERP and EIRP	Part 22.913(a) Part 24.232(b) Part 27.50	Pass	Shower Dai
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	Pass	Shower Dai

Note: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Habour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China
Manufacturer:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Habour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China

3.2. Product Description

Name of EUT:	Smart Device	Smart Device							
Trade Mark:	KIRISUN								
Model No.:	DSJ-M9	DSJ-M9							
Listed Model(s):	-	-							
IMEI Code:	Conducted: 3554580 Radiated: 355458046								
SIM Information:	Support Two SIM Ca	rd							
Power supply:	DC 3.8V								
Adapter information:	Input: 100-240Va.c.,	Model: FJ-SW1260502000UN Input: 100-240Va.c., 50/60Hz, 0.4A Max Output: 5.0Vd.c., 2000mA							
Hardware version:	V2.0								
Software version:	M9_V28								
4G									
Operation Band:	FDD Band 2	🛛 FDD Band 4	🛛 FDD Band 5						
	FDD Band 7	🛛 FDD Band 12	🛛 FDD Band 17						
	SFDD Band 41								
	FDD Band 2:	1850.7 MHz – 1909.3	MHz						
	FDD Band 4:	1710.7 MHz – 1754.3	MHz						
	FDD Band 5:	824.7 MHz – 848.3 M	Hz						
Transmit frequency:	FDD Band 7:	2502.5 MHz – 2567.5	MHz						
	FDD Band 12:	699.7 MHz – 715.3 M	Hz						
	FDD Band 17:	706.5 MHz – 713.5 M	Hz						
	FDD Band 41:	2557.5 MHz – 2652.5	MHz						
	FDD Band 2:	1930.7 MHz – 1989.3	MHz						
	FDD Band 4:	2110.7 MHz – 2154.3	MHz						
Receive frequency:	FDD Band 5: 869.7 MHz – 893.3 MHz								
Receive frequency:	FDD Band 5: FDD Band 7:	869.7 MHz – 893.3 M 2622.5 MHz – 2687.5							

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Γ		
	FDD Band 17:	736.5 MHz – 743.5 MHz
	FDD Band 41:	2557.5 MHz – 2652.5 MHz
	FDD Band 2:	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	FDD Band 4:	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	FDD Band 5:	1.4MHz, 3MHz, 5MHz, 10MHz
Channel bandwidth:	FDD Band 7:	5MHz, 10MHz, 15MHz, 20MHz
	FDD Band 12:	1.4MHz, 3MHz, 5MHz, 10MHz
	FDD Band 17:	5MHz, 10MHz
	FDD Band 41:	5MHz, 10MHz, 15MHz, 20MHz
Power Class:	Class 3	
Modulation type:	QPSK, 16QAM	
Antenna type	FPC Antenna	
Antenna Gain	Band2:0.5dBi Band4:0.5dBi Band5:0.5dBi Band7:0.5dBi Band12:0.5dBi Band17:0.5dBi Band41:0.5dBi	

3.3. Operation state

Test frequency list

FDD Band 2	Test Frequency ID	Bandwidth [MHz]	Nul	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
		1.4	18607	1850.7	607	1930.7
		3	18615	1851.5	615	1931.5
	Low Range	5	18625	1852.5	625	1932.5
	Low Hange	10	18650	1855	650	1935
		ארי 15 ^{נין} 20 ^{נין}	18675	1857.5	675	1937.5
	Mid Range	1.4/3/5/10	18700 18900	1860 1880	700 900	1940 1960
		15 ^[1] /20 ^[1] 1.4	19193	1909.3	1193	1989.3
		3	19185	1908.5	1185	1988.5
		5	19175	1907.5	1175	1987.5
	High Range	10	19150	1905	1150	1985
		15 ¹¹	19125	1902.5	1125	1982.5
	NOTE 4 D. L. HI	20 11	19100	1900	1100	1980
	NOTE 1: Bandwidth 36.101 [2]	7] Clause 7.3) is allo		cified UE receiver s	sensitivity red	quirement (15
EDD Band 4	Test Freeman ID	D d bb	N	F	N	F (
FDD Band 4	Test Frequency ID	Bandwidth [MHz]	Nul	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
		1.4	19957	1710.7	1957	2110.7
		3	19965 19975	1711.5 1712.5	1965 1975	2111.5 2112.5
	Low Range	10	20000	1712.5	2000	2112.5
		15	20025	1717.5	2025	2117.5
		20	20050	1720	2050	2120
	Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
		1.4	20393 20385	1754.3 1753.5	2393 2385	2154.3 2153.5
	+	5	20385	1753.5	2385	2153.5
	High Range	10	20375	1752.5	2350	2152.5
		15	20325	1747.5	2325	2147.5
		20	20300	1745	2300	2145
FDD Band 5	Test Frequency ID	Bandwidth	NUL	Frequency of	N _{DL}	Frequency of
		[MHz]		Uplink [MHz]		Downlink
						[MHz]
		1.4	20407			
	-	1.4	20407	824.7 825.5	2407	869.7
	Low Range	1.4 3 5	20407 20415 20425	824.7 825.5 826.5	2407 2415 2425	869.7 870.5 871.5
	Low Range	3 5 10 ^[1]	20415	825.5	2415	870.5
	-	3 5 10 ^[1]	20415 20425 20450	825.5 826.5 829	2415 2425 2450	870.5 871.5 874
	Low Range Mid Range	3 5 10 ^[1] 1.4/3/5 10 ^[1]	20415 20425 20450 20525	825.5 826.5 829 836.5	2415 2425 2450 2525	870.5 871.5 874 881.5
	Mid Range	3 5 10 ^{11]} 1.4/3/5 10 ^[1] 1.4	20415 20425 20450 20525 20643	825.5 826.5 829 836.5 848.3	2415 2425 2450 2525 2643	870.5 871.5 874 881.5 893.3
	-	3 5 10 ^[11] 1.4/3/5 10 ^[1] 1.4 3 5	20415 20425 20450 20525	825.5 826.5 829 836.5	2415 2425 2450 2525	870.5 871.5 874 881.5
	Mid Range High Range	3 5 10 ^[1] 1.4/3/5 10 ^[1] 1.4 3 5 10 ^[1]	20415 20425 20450 20525 20643 20635 20625 20600	825.5 826.5 829 836.5 848.3 847.5 846.5 844	2415 2425 2450 2525 2643 2635 2625 2600	870.5 871.5 874 881.5 893.3 892.5 891.5 889
	Mid Range High Range NOTE 1: Bandwidth fr	3 5 10 ^[1] 1.4/3/5 10 ^[1] 1.4 3 5 10 ^[1]	20415 20425 20450 20525 20643 20635 20625 20600 n of the spec	825.5 826.5 829 836.5 848.3 847.5 846.5 844	2415 2425 2450 2525 2643 2635 2625 2600	870.5 871.5 874 881.5 893.3 892.5 891.5 889
	Mid Range High Range NOTE 1: Bandwidth fr	3 5 10 ^[1] 1.4/3/5 10 ^[1] 1.4 3 5 5 10 ^[1] or which a relaxation	20415 20425 20450 20525 20643 20635 20625 20600 n of the spec	825.5 826.5 829 836.5 848.3 847.5 846.5 844	2415 2425 2450 2525 2643 2635 2625 2600	870.5 871.5 874 881.5 893.3 892.5 891.5 889
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr	3 5 10 ^[1] 1.4/3/5 10 ^[1] 1.4 3 5 5 10 ^[1] or which a relaxation	20415 20425 20450 20525 20643 20635 20625 20600 n of the spec	825.5 826.5 829 836.5 848.3 847.5 846.5 844	2415 2425 2450 2525 2643 2635 2625 2600	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27	3 5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4 3 5 10 ¹¹¹ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5	20415 20425 20450 20525 20643 20635 20605 20605 20600 of the spectived.	825.5 826.5 829 836.5 848.3 847.5 846.5 844 fled UE receiver se Frequency of Uplink [MHz] 2502.5	2415 2425 2450 2525 2643 2635 2600 nsitivity requ	870.5 871.5 874 881.5 893.3 892.5 899.5 889 irement (TS Frequency of Downlink [MHz] 2622.5
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27	3 5 10 ^[11] 1.4/3/5 10 ^[1] 1.4 3 5 5 0 ^[11] 10 ^[11] or which a relaxation 1 Clause 7.3) is allow Bandwidth [MHz] 5 10	20415 20425 20450 20525 20643 20635 20603 206025 20600 of the spec- ved.	825.5 826.5 829 836.5 848.3 847.5 846.5 844.5 844 4ffed UE receiver set Uplink [MHz] 2502.5 2505	2415 2425 2450 2525 2643 2635 2625 2600 nsitivity requ N _{DL} 2775 2800	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27	3 5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4 3 5 10 ¹¹¹ 1.4 3 5 10 ¹¹⁰ 10 ¹¹⁵ 10	20415 20425 20450 20525 20635 20635 20625 20605 20600 of the spec ved. NuL 20775 20800 20825	825.5 826.5 829 836.5 848.3 847.5 844.5 844 fied UE receiver set Frequency of Uplink [MHz] 2502.5 2505 2507.5	2415 2425 2450 2525 2643 2635 2600 nsitivity requ N _{DL} 2775 2800 2825	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27]	3 5 10 ^[11] 1.4/3/5 10 ^[11] 1.4 3 5 10 ^[11] or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ^[11]	20415 20425 20450 20525 20643 20625 20625 20625 20625 20625 20625 20620 20625 20620 20625 20600 20775 20800 20825 20850	825.5 826.5 829 836.5 848.3 847.5 846.5 844.5 844.5 844.5 fied UE receiver set Uplink [MHz] 2502.5 2507.5 2510	2415 2425 2450 2525 2643 2625 2600 ssitivity requ NpL 2775 2800 2825 2850	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27	3 5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹⁹ 5/10/15 20 ¹¹⁹	20415 20425 20450 20525 20623 20625 20625 20625 20625 20625 20625 20620 0 of the spec- ved. 20775 20800 20825 20850 20850 21100	825.5 826.5 829 836.5 848.3 847.5 846.5 844 fied UE receiver se Frequency of Uplink [MHz] 2502.5 2507.5 2510 2535	2415 2425 2450 2525 2643 2625 2625 2625 2625 2625 2625 2625 262	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27]	3 5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4 3 5 10 ¹¹¹ or which a relaxation] Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹¹ 5 10 5	20415 20425 20450 20525 20623 20623 20623 20623 20623 20625 20620 0 of the spec- ved. N uL 2 0775 20800 20825 20800 20825 20850 20850 201100	825.5 826.5 829 836.5 848.3 847.5 846.5 846.5 846.5 844 (fled UE receiver set Uplink [MHz] 2502.5 2505 2507.5 2510 2535 2567.5	2415 2425 2450 2525 2643 2635 2605 2605 2605 2605 2605 2605 2605 260	870.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2630 2655 2687.5
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27]	3 5 10 ^[11] 1.4/3/5 10 ^[1] 1.4/3/5 10 ^[1] 1.4 3 5 5 10 ^[1] or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ^[1] 5 10 5 10 15 20 ^[1] 5 10 10 10 10 10 10 10 10 10 10 10 10 10	20415 20425 20450 20525 20633 20633 20635 20605 20600 no f the spec- ved. NuL 20775 20800 20825 20800 20825 20850 21100 21425 21400	825.5 826.5 829 836.5 848.3 847.5 846.5 844.5 844 ffed UE receiver sei Frequency of Uplink [MHz] 2502.5 2505 2507.5 2505 2507.5 2565	2415 2425 2450 2525 2643 2635 2600 nsitivity requ NpL 2775 2800 2825 2850 2825 2850 3100 3425 3400	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2630 2655 2687.5 2685
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27 Test Frequency ID Low Range Mid Range	3 5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4 3 5 10 ¹¹¹ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹¹ 5 10 15 15	20415 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20775 20800 20775 20800 20825 20850 20850 20850 20140 20850 20140 20850 20140 20850 20140 20150 20140 20150 20150 20140 20150 20100 20150 2000 200	825.5 826.5 829 836.5 848.3 847.5 846.5 844 fied UE receiver set Uplink [MHz] 2502.5 2507.5 2507.5 2510 2535 2567.5 2565.5	2415 2425 2450 2525 2643 2625 2625 2625 2625 2625 2625 2625 262	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2687.5 2687.5 2687.5
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range	3 5 10 ¹¹⁷ 14/3/5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ 0r which a relaxation 2 clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹⁷ 5 10 15 15 10 15 15 10 15 15 10 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15	20415 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20620 20625 20620 20625 20600 20775 20800 20775 20800 20825 20850 21100 21425 21100 21425 21400 21455 21450 21450 21450 21455 21450 21455 21455 21455 21455 21455 21455 21455 21455 2055 2055 2055 2055 2055 2055 2055 2	825.5 826.5 829 836.5 848.3 847.5 846.5 844.4 ffled UE receiver set Uplink [MHz] 2502.5 2505 2507.5 2510 2535 2567.5 2565 2565 2560	2415 2425 2450 2525 2635 2605 2600 nsitivity requ NpL 2775 2800 2825 2850 3100 3425 3400 3375 3350	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625 2625 2625 2630 2655 2687.5 2685 2682.5 2680
FDD Band 7	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range	3 5 10 ⁽¹¹⁾ 1.4/3/5 10 ⁽¹¹⁾ 1.4 3 5 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 5 10 15 20 ⁽¹¹⁾ 5 10 15 20 ⁽¹¹⁾ 5 10 15 20 ⁽¹¹⁾ 15 20 ⁽¹¹⁾ 15 15 20 ⁽¹¹⁾ 15 15 15 15 15 15 15 15 15 15	20415 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20620 20625 20620 20625 20600 20775 20800 20775 20800 20825 20850 21100 21425 21100 21425 21400 21455 21450 21450 21450 21455 21450 21455 21455 21455 21455 21455 21455 21455 21455 2055 2055 2055 2055 2055 2055 2055 2	825.5 826.5 829 836.5 848.3 847.5 846.5 844.4 ffled UE receiver set Uplink [MHz] 2502.5 2505 2507.5 2510 2535 2567.5 2565 2565 2560	2415 2425 2450 2525 2635 2605 2600 nsitivity requ NpL 2775 2800 2825 2850 3100 3425 3400 3375 3350	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625 2625 2625 2630 2655 2687.5 2685 2682.5 2680
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range	3 5 10 ^[11] 1.4/3/5 10 ^[11] 1.4/3/5 10 ^[11] 1.4 3 5 10 ^[11] or which a relaxation [MHz] 5 10 15 20 ^[11] 5/10/15 20 ^[11] 5 10 15 20 ^[11] 5/10/15 20 ^[11] 5/10/1	20415 20425 20450 20525 20643 20625 20625 20625 20625 20625 20625 20620 20625 20620 20625 20600 20775 20800 20825 20850 21100 21425 21400 21375 21350 2055 2055 2055 2055 2055 2055 2055 2	825.5 826.5 829 836.5 848.3 847.5 846.5 844. fied UE receiver ser 2502.5 2507.5 2507.5 2507.5 2565 2565 2565 2565 2565 2565 2560 fied UE receiver ser	2415 2425 2450 2525 2643 2635 2600 nsitivity requi	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2685 2687.5 2685 2687.5 2685 2685 2680 rement (TS
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27 Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27 Table 4.3.1.1.12-1:	3 5 10 ⁽¹¹⁾ 1.4/3/5 10 ⁽¹¹⁾ 1.4/3/5 10 ⁽¹¹⁾ 1.4 3 5 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 10 ⁽¹¹⁾ 5 10 5 10 15 20 ⁽¹¹⁾ 15 20 ⁽¹¹⁾ 5 10 15 20 ⁽¹¹⁾ 15 20 ⁽¹¹⁾ 5 10 15 20 ⁽¹¹⁾	20415 20425 20425 20425 20525 20643 20603 20602 20600 of the spec- ved.	825.5 826.5 829 836.5 848.3 847.5 846.5 844.4 (filed UE receiver set Uplink [MHz] 2502.5 2507.5 2505 2507.5 2550 2557.5 2560 fied UE receiver set 2560 fied UE receiver set 260 fied fiel fiel fiel fiel fiel fiel fiel fiel	2415 2425 2450 2525 263 2635 2605 2600 nsitivity requi	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625 2625 2625 2685 2685 2685 268
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27]	3 5 10 ¹¹⁷ 14/3/5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹⁷ 5 10 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15	20415 20425 20450 20525 20643 20625 20625 20625 20625 20625 20625 20620 20625 20620 20625 20600 20775 20800 20825 20850 21100 21425 21400 21375 21350 2055 2055 2055 2055 2055 2055 2055 2	825.5 826.5 829 836.5 848.3 847.5 846.5 844. fied UE receiver ser 2502.5 2507.5 2507.5 2507.5 2507.5 2565 2567.5 2565 2562.5 2562.5 2562.5 2565 2562.5 2565 256	2415 2425 2450 2525 2643 2635 2600 nsitivity requi	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2667.5 2687.5 2685 2687.5 2685 2682.5 2682.5 2680 rement (TS
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27 Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27 Table 4.3.1.1.12-1:	3 5 10 ⁽¹¹⁾ 1.4/3/5 10 ⁽¹¹⁾ 1.4/3/5 10 ⁽¹¹⁾ 1.4 3 5 10 ⁽¹¹⁾ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ⁽¹¹⁾ 15 2	20415 20425 20425 20425 20525 20643 20603 20602 20600 of the spec- ved.	825.5 826.5 829 836.5 848.3 847.5 846.5 844.4 (filed UE receiver set Uplink [MHz] 2502.5 2507.5 2505 2507.5 2550 2557.5 2560 fied UE receiver set 2560 fied UE receiver set 260 fied fiel fiel fiel fiel fiel fiel fiel fiel	2415 2425 2450 2525 263 2635 2605 2600 nsitivity requi	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625 2625 2625 2685 2685 2685 268
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID	3 5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ 10 ¹¹⁷ 10 ¹¹⁹ 11.4 3 5 10 10 15 10 15 20 ¹¹⁷ 5/10/15 20 ¹¹⁹ 5 10 15 20 ¹¹⁹ 10 15 20 ¹¹⁹ 10 15 20 ¹¹⁹ 10 15 15 10 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15	20415 20425 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20850 20850 20850 20850 20100 21425 20850 21400 21425 20350 0 of the spectrum 21375 20150 2017 2035	825.5 826.5 826.5 829 836.5 844.3 847.5 846.5 844 fied UE receiver se 2502 2507.5 2507.5 2507.5 2507.5 2562.5 2562.5 2562.5 2562.5 2562.5 2560 fied UE receiver ser 2560 Fied UE receiver ser 2560 Fied UE receiver ser 2560 State State S	2415 2425 2450 2525 2643 2625 2625 2625 2625 2625 2625 2625 262	870.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2687.5 2685 2682.5 2682.5 2682.5 2682.5 2682.5 2685 2682.5 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27 Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27 Table 4.3.1.1.12-1:	3 5 10 ⁽¹⁷⁾ 1.4/3/5 10 ^[17] 1.4/3/5 10 ^[17] 1.4 3 5 10 ^{(17]} or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ^[17] 14 3 5 ^[17] 1.4 3 5 ^[17]	20415 20425 20425 20425 20525 20623 20623 20623 20623 20625 20625 20625 20625 20625 20625 20850 20850 20850 20850 20850 21100 21375 21350 21375 21350 21350 21350 21355 21350 21375 21375	825.5 826.5 826.5 829 836.5 848.3 847.5 846.5 846.5 844 (fled UE receiver ser 2502.5 2507.5 2507.5 2567.5 2567.5 2562.5 2562.5 2562.5 2562.5 2566.5 5 2562.5 2560 fied UE receiver ser Frequency of Uplink [MHz] 699.7 700.5 701.5	2415 2425 2450 2525 2633 2635 2605 2605 2605 2600 2825 2850 3100 3425 2850 3100 3425 3375 3350 3375 3350 3400 3375 3350 3400 3425 3400 3425 2850 2850 2850 350 2850 350 2850 2850 2850 2850 2850 2850 2850 28	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2685.5 2685.5 2685.5 2685.5 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range	3 5 10 ^[11] 1.4/3/5 10 ^[11] 1.4/3/5 10 ^[11] 1.4 3 5 10 ^[11] or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ^[11] 14 3 5 5 ^[11] 10	20415 20425 20450 20525 20643 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20850 21100 21425 21400 21425 21400 21425 21400 21425 21350 0 10 fthe spectwell 21350 0 10 fthe spectwell 21307 21307 21303 2130 2130	825.5 826.5 826.5 829 836.5 844.3 844.5 846.5 844 fied UE receiver ser 2502.5 2507.5 2507.5 2507.5 2565 2567.5 2565 2562.5 2560 fied UE receiver ser 2560 fied UE receiver ser 2560 700.5 700.5 701.5 704	2415 2425 2450 2525 2643 2625 2600 sitivity requination 2625 2625 2625 2625 2625 2625 2625 262	870.5 871.5 874 881.5 893.3 892.5 891.5 899 irement (TS Frequency of Downlink [MHz] 2652.5 2652 2667.5 2685 2687.5 2685 2685 2685 2685 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5 734
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID	3 5 5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4/3/5 10 ¹¹¹ 1.4 3 5 10 ¹¹¹ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹¹ 14 3 5 ¹¹¹ 10 ¹¹¹ 10 ¹¹¹ 10 ¹¹¹ 1143	20415 20425 20425 20425 20525 20623 20623 20623 20623 20625 20625 20625 20625 20625 20625 20850 20850 20850 20850 20850 21100 21375 21350 21375 21350 21350 21350 21355 21350 21375 21375	825.5 826.5 826.5 829 836.5 848.3 847.5 846.5 846.5 844 (fled UE receiver ser 2502.5 2507.5 2507.5 2567.5 2567.5 2562.5 2562.5 2562.5 2562.5 2566.5 5 2562.5 2560 fied UE receiver ser Frequency of Uplink [MHz] 699.7 700.5 701.5	2415 2425 2450 2525 2633 2635 2605 2605 2605 2600 2825 2850 3100 3425 2850 3100 3425 3375 3350 3375 3350 3400 3375 3350 3400 3425 3400 3425 2850 2850 2850 350 2850 350 2850 2850 2850 2850 2850 2850 2850 28	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2685.5 2685.5 2685.5 2685.5 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range	3 5 5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4/3/5 5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ 10 ¹¹⁷ 10 ¹¹⁷ 11.4 3 5 10 15 20 ¹¹⁷ 14 3 5 10 ¹¹ 14/3 5 10 ¹¹ 10 ¹¹ 14/3 14/3 5 10 ¹¹ 14/3 14/3 14/3 14 14 14 14 14 14 14 14 14 14 14 14 14	20415 20425 20425 20425 20525 20603 20625 20600 of the spec- ved. NuL 20775 20800 20825 20800 20850 20850 21100 21425 21375 21350 21550 21	825.5 826.5 826.5 829 836.5 848.3 847.5 846.5 844 (fled UE receiver ser 2502.5 2507.5 2507.5 2507.5 2507.5 2567.5 2562.5 2562.5 2562.5 2560 fied UE receiver ser Frequency of Uplink [MHz] 699.7 700.5 701.5 704 707.5	2415 2425 2450 2451 2635 2635 2605 2600 nsitivity requination 2775 2800 2825 2850 3100 3425 3400 3375 3350 silivity requination width for op NoL 5017 5035 5060 5095	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2625 2625 2685.5 2685 2685.5 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5 734 737.5
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range Mid Range More 1: Bandwidth fr 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range Mid Range	3 5 5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4 3 5 10 ¹¹⁷ or which a relaxation [Clause 7.3) is allow Bandwidth [MHz] 5 10 15 20 ¹¹⁷ 15 20 ¹¹⁷ 15 20 ¹¹⁷ 14 3 5 1 ¹⁷ 10 ¹¹⁷ 1.4/3 5 1 ¹⁷ 10 ¹¹⁷ 1.4/3 3 1 ¹⁷ 1 ¹⁷ 1.4/3 3 1 ¹⁷ 1 ¹⁷ 1.4/3 3 1 ¹⁷	20415 20425 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 20825 2075 2075 20825 2075 20825 2075 20825 2075 2075 2075 20825 2075 2075 2075 2075 2075 2075 2075 20	825.5 826.5 826.5 829 836.5 848.3 847.5 846.5 844 fied UE receiver ser 2507.5 2507.5 2507.5 2567.5 2567.5 2567.5 2566 2562.5 2566 fied UE receiver ser 2565 2566.5 2562.5 2566 fied UE receiver ser 2565 2567.5 257.5 257.5 257.5 257.5 257.5 257.5 257.5 257.5 257.5 277.5 701	2415 2425 2450 2525 2643 2625 2600 sitivity requination 2625 2625 2625 2625 2625 2625 2625 262	870.5 871.5 874 881.5 893.3 892.5 891.5 899 irement (TS Frequency of Downlink [MHz] 2652.5 2652 2667.5 2685 2687.5 2685 2685 2685 2685 2686 2687.5 2685 2685 2685 2685 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5 734
	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Low Range Mid Range High Range NOTE 1: Bandwidth f 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range	3 5 10 ^[11] 1.4/3/5 10 ^[11] 1.4/3/5 10 ^[11] 1.4 3 5 10 ^[11] 1.4 3 5 10 ^[11] 10 ^[11] 10 ^[11] 5 10 15 20 ^[11] 10 14 3 5 ^[11] 1.4 3 ^[11] 1.4 3 ^[11] 1.4 3 ^[11] 1.4 ^[11]	20415 20425 20425 20525 20643 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20850 20850 20775 20800 20850 20850 21100 21425 21375 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 21350 213555 213555 21555 21555 215555 215555 21555555 2155555555	825.5 826.5 829 836.5 848.3 847.5 846.5 844.7 84	2415 2425 2450 2525 2643 2635 2605 2605 2605 2600 nsitivity requination 22775 2800 2825 2850 3100 3425 3400 3425 3350 3350 3350 3350 3350 5035 5035 50	870.5 871.5 874 881.5 893.3 892.5 891.5 891.5 891.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2625 2625 2682.5 2683.5 27.5 27.5 27.5 27.5 27.5 27.5 27.5 27
FDD Band 7 FDD Band 12	Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Test Frequency ID Low Range Mid Range High Range NOTE 1: Bandwidth fr 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range Mid Range More 1: Bandwidth fr 36.101 [27] Table 4.3.1.1.12-1: Test Frequency ID Low Range Mid Range	3 5 5 10 ¹¹⁷ 14/3/5 10 ¹¹⁷ 1.4/3/5 10 ¹¹⁷ 1.4/3/5 5 10 ¹¹⁷ 10 ¹¹⁷ 1.4 3 5 10 Bandwidth [MHz] 5 10 15 20 ¹¹⁷ 10 15 20 ¹¹⁷ 10 15 10 15 10 15 10 10 15 10 10 11 14 3 5 5 11 10 ¹¹⁷ 1.4 1 10 ¹¹⁷ 1	20415 20425 20425 20450 20525 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20625 20850 21100 21425 20850 21100 21425 21400 21425 21400 21375 21350 of the spect ved.	825.5 826.5 826.5 829 836.5 844.3 847.5 846.5 844. fied UE receiver se 2502.5 2507.5 2507.5 2507.5 2565 2562.5 2562.5 2562.5 2562.5 2562.5 2560 fied UE receiver ser 2565 2562.5 2565 2562.5 2560 fied UE receiver ser 257.5 2565 2565 2565 2565 2565 2565 2565 25	2415 2425 2425 2623 2625 2625 2625 2625 2625 2625 26	870.5 871.5 871.5 874 881.5 893.3 892.5 891.5 889 irement (TS Frequency of Downlink [MHz] 2622.5 2627.5 2627.5 2630 2655 2687.5 2685 2682.5 2685 2682.5 2686 2682.5 2680 rement (TS Frequency of Downlink [MHz] 729.7 730.5 731.5 734.7 737.5 745.3 744.5 743.5 744.5

FDD Band 17	Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
	Low Range	5 "	23755	706.5	5755	736.5
	Ű	10 ^[1]	23780	709	5780	739
	Mid Range	5 ^[1] /10 ^[1]	23790	710	5790	740
	High Range	5 [1]	23825	713.5	5825	743.5
		10 ^[1]	23800	711	5800	741
	NOTE 1: Bandwidth fo [27] Clause	or which a rela: e 7.3) is allowe		ified UE receiver si	ensitivity requ	irement (TS 36.101
FDD Band 41	Test Frequer	Test Frequency ID		EARFCN	Frequer	cy (UL and DL) [MHz]
	Low Ran	qe	[MHz] 5	40265		2557.5
	Low Rang	ge		40265 40290		
	Low Rang	ge	5			2557.5
	Low Rang	ge	5 10	40290		2557.5 2560
	Low Rang Mid Rang		5 10 15	40290 40315		2557.5 2560 2562.5
		ge	5 10 15 20	40290 40315 40340		2557.5 2560 2562.5 2565
	Mid Rang	ge	5 10 15 20 5/10/15/20	40290 40315 40340 40740		2557.5 2560 2562.5 2565 2605
	Mid Rang	ge	5 10 15 20 5/10/15/20 5	40290 40315 40340 40740 41215		2557.5 2560 2562.5 2565 2605 2605 2652.5

3.4. EUT operation mode

For RF test items

The EUT has been tested under typical operating condition. Testing was performed by configuring EUT to maximum output power status.

T			Bandwidth (MHz)						ulation	RB #		
Test Items	Band	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full
	2	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	-	-	0	0	0	0	0
Conducted Output Power	7	-	-	0	0	0	0	0	0	0	0	0
	12	0	0	0	0	-	-	0	0	0	0	0
	17	-	-	0	0	-	-	0	0	0	0	0
	41	-	-	0	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0	0	-	0
	4	0	0	0	0	0	0	0	0	0	-	0
	5	0	0	0	0	-	-	0	0	0	-	0
Peak-to-Average	7	-	-	0	0	0	0	0	0	0	-	0
Ratio	. 12	0	0	0	0	-	-	0	0	0	_	0
	17	-	-	0	0	-	-	0	0	0	-	0
-	41	-	-	0	0	0	0	0	0	0	-	0
	2	0	0	0	0	0	0	0	0	-	-	0
-	4	0	0	0	0	0	0	0	0	-	-	0
-				1				ł				
99% Occupied Bandwidth & 26	5 7	0	0	0	0	-	-	0	0	-	-	0
dB Bandwidth		-	-	0	0	0	0	0	0	-	-	0
-	12	0	0	0	0	-	-	0	0	0	-	0
	17	-	-	0	0	-	-	0	0	-	-	0
	41	-	-	0	0	0	0	0	0	-	-	0
	2	0	0	0	0	0	0	0	0	0	-	0
-	4	0	0	0	0	0	0	0	0	0	-	0
_	5	0	0	0	0	-	-	0	0	0	-	0
Band Edge	7	-	-	0	0	0	0	0	0	0	-	0
_	12	0	0	0	0	-	-	0	0	0	-	0
-	17	-	-	0	0	-	-	0	0	0	-	0
	41	-	-	0	0	0	0	0	0	0	-	0
_	2	0	0	0	0	0	0	0	0	0	-	-
_	4	0	0	0	0	0	0	0	0	0	-	-
Conductori	5	0	0	0	0	-	-	0	0	0	-	-
Conducted Spurious Emission	7	-	-	0	0	0	0	0	0	0	-	-
	12	0	0	0	0	-	-	0	0	0	-	-
	17	-	-	0	0	-	-	0	0	0	-	-
	41	-	-	0	0	0	0	0	0	0	-	-
	2	0	0	0	0	0	0	0	0	-	-	0
	4	0	0	0	0	0	0	0	0	-	-	0
	5	0	0	0	0	-	-	0	0	-	-	0
Frequency Stability	7	-	-	0	0	0	0	0	0	-	-	0
Stability	12	0	0	0	0	-	-	0	0	-	-	0
-	17	-	-	0	0	-	-	0	0	-	-	0
	41	-	-	0	0	0	0	0	0	-	-	0
	2	0	0	0	0	0	0	0	0	0	-	-
	4	0	0	0	0	0	0	0	0	0	-	-
	5	0	0	0	0	-	-	0	0	0	-	-
ERP and EIRP	7	-	-	0	0	0	0	0	0	0	-	-
		1	1	· ~			- ×	Ŭ Ŭ	Ŭ Ŭ	Ŭ	1	1
-	12	0	0	0	0	-	-	0	0	0	-	-

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	41	-	-	0	0	0	0	0	0	0	-	-
	2	0	0	0	0	0	0	0	-	0	-	-
	4	0	0	0	0	0	0	0	-	0	-	-
	5	0	0	0	0	-	-	0	-	0	-	-
Radiated Spurious Emission	7	-	-	0	0	0	0	0	-	0	-	-
Linicolon	12	0	0	0	0	-	-	0	0	0	-	-
	17	-	-	0	0	-	-	0	-	0	-	-
	41		-	0	0	0	0	0	-	0	-	-
Remark	Remark 1. The mark " • "means that this configuration is chosenfor testing 2. The mark "-"means that this bandwidth is not test. 3. The device is investigatedfrom 30MHz to10 times offundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.											

3.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

supplied by the manufacturer
 supplied by the lab

		Manufacturer:	/
0	7	Model No.:	/
		Manufacturer:	/
0	7	Model No.:	/

3.6. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd. Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

4.2. Test Facility

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files.

IC-Registration No.:5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377B-1.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Equipments Used during the Test

Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
•	Signal and spectrum Analyzer	R&S	FSV40	100048	2018/10/28	2019/10/27
•	Spectrum Analyzer	Agilent	N9020A	MY50510187	2018/09/29	2019/09/28
•	Radio communication tester	R&S	CMW500	137688-Lv	2018/09/29	2019/09/28
•	Test software	Tonscend	JS1120-1(LTE)	N/A	N/A	N/A
•	Test software	Tonscend	JS1120-2(WIFI)	N/A	N/A	N/A
•	Test software	Tonscend	JS1120-3(WCDMA)	N/A	N/A	N/A
•	Test software	Tonscend	JS1120-4(GSM)	N/A	N/A	N/A

•	Radiated Spurious Emission									
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)				
•	Semi-Anechoic Chamber	Albatross projects	SAC-3m-01	N/A	2018/09/30	2021/09/29				
•	Spectrum Analyzer	R&S	FSP40	100597	2018/10/27	2019/10/26				
٠	Loop Antenna	R&S	HFH2-Z2	100020	2017/11/20	2020/11/19				
•	Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	538	2017/04/05	2020/04/04				
٠	Horn Antenna	SCHWARZBECK	9120D	1011	2017/04/01	2020/03/31				
0	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2017/03/27	2020/03/26				
0	Pre-amplifier	BONN	BLWA0160-2M	1811887	2018/11/14	2019/11/13				
•	Pre-amplifier	CD	PAP-0102	12004	2018/11/14	2019/11/13				
•	Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-248	2019/04/26	2020/04/25				
٠	RF Connection Cable	HUBER+SUHNER	RE-7-FH	N/A	2018/11/15	2019/11/14				
•	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	2018/11/15	2019/11/14				
•	EMI Test Software	Audix	E3	N/A	N/A	N/A				
•	Turntable	MATURO	TT2.0	N/A	N/A	N/A				
•	Antenna Mast	MATURO	TAM-4.0-P	N/A	N/A	N/A				

4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

	VN=Nominal Voltage	DC 3.80V		
Voltage	VL=Lower Voltage	DC 3.60V		
	VH=Higher Voltage	DC 4.35V		
Tomporatura	TN=Normal Temperature	25 °C		
Temperature	Extreme Temperature From -30° to + 50° centigrade			
Humidity	30~60 %			
Air Pressure	950-1050 hPa			

4.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01"Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics;Part 1"and TR-100028-02 "Electromagnetic compatibility Radio spectrum Matters (ERM);Uncertainties compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement characteristics;Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongweilaboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.51 dB	(1)
Transmitter power Radiated	2.66dB for <1GHz 3.44dB for >1GHz	(1)
Conducted spurious emissions 9kHz~40GHz	0.51 dB	(1)
Radiated spurious emissions	2.66dB for <1GHz	(1)
	3.44dB for >1GHz	(')
Occupied Rendwidth	18Hz for <1GHz	(1)
Occupied Bandwidth	69Hz for >1GHz	(1)
Frequency error	15Hz for <1GHz	(1)
Frequency error	70Hz for >1GHz	(1)

 This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

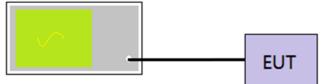
5. TEST CONDITIONS AND RESULTS

5.1. Conducted Output Power

<u>LIMIT</u>

N/A

TEST CONFIGURATION



Communication Tester

TEST PROCEDURE

- 1. The EUT output port was connected to communication tester.
- 2. Set EUT at maximum power through communication tester.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure the maximum burst average power.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

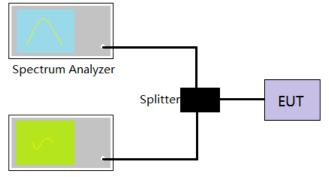
Refer to appendix A on the section 8 appendix report

5.2. Peak-to-Average Ratio

LIMIT

13dB

TEST CONFIGURATION



Communication Tester

TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. Center Frequency = Carrier frequency, RBW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed.
 - i. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.
 - ii. For bursttransmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that issynced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in whichthetransmitter is operating at maximum power
- 6. Record the maximum PAPR level associated with a probability of 0.1%.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

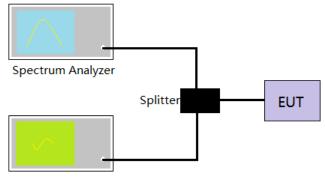
☑ Passed □ Not Applicable

Refer to appendix B on the section 8 appendix report

5.3. 99% Occupied Bandwidth & 26 dB Bandwidth

<u>LIMIT</u> N/A

TEST CONFIGURATION



Communication Tester

TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. Spectrum analyzer setting as follow:

Center Frequency= Carrier frequency, RBW=1% to 5% of the anticipated OBW, VBW= 3 * RBW, Detector=Peak,

Trace maximum hold.

4. Record the value of 99% Occupied bandwidth and 26dB bandwidth.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Refer to appendix C on the section 8 appendix report

5.4. Band Edge

<u>LIMIT</u>

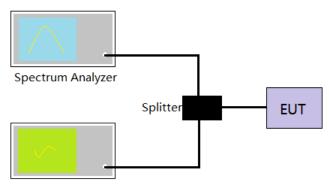
Part 24.238 and Part 22.917 and Part 27.53 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

LTE Band 7

Part 27.53 m(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P) dB$ on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P) dB$ on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

TEST CONFIGURATION



Communication Tester

TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. The band edges of low and high channels were measured.
- 4. Spectrum analyzer setting as follow:

RBW= no less than 1% of the OBW, VBW =3 * RBW, Sweep time= Auto

5. Record the test plot.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Refer to appendix D on the section 8 appendix report

5.5. Conducted Spurious Emissions

LIMIT

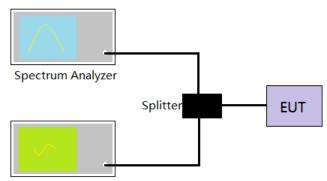
Part 24.238 and Part 22.917 and Part 27.53 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

LTE Band 7

Part 27.53 m(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 25 + 10 log (P) dB on all frequencies between 2490.5 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees. Limit <-25 dBm

TEST CONFIGURATION



Communication Tester

TEST PROCEDURE

- 1. The EUT was connected to the spectrum analyzer and communication tester via a power splitter
- 2. Set EUT in maximum power output.
- 3. Spectrum analyzer setting as follow:

Below 1GHz, RBW=100KHz, VBW = 300KHz, Detector=Peak, Sweep time= Auto Above 1GHz, RBW=1MHz, VBW=3MHz, Detector=Peak, Sweep time= Auto Scan frequency range up to 10th harmonic.

4. Record the test plot.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

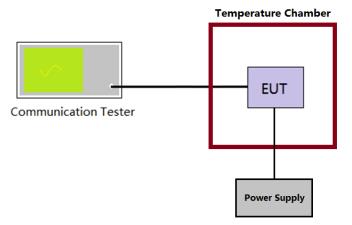
Refer to appendix E on the section 8 appendix report

5.6. Frequency stability VS Temperature measurement

<u>LIMIT</u>

2.5ppm

TEST CONFIGURATION



TEST PROCEDURE

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber.
- 4. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.
- 5. Repeat step 4 measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Refer to appendix F on the section 8 appendix report

5.7. Frequency stability VS Voltage measurement

<u>LIMIT</u>

2.5ppm

TEST CONFIGURATION



TEST PROCEDURE

- 1. The equipment under test was connected to an external DC power supply and input rated voltage.
- 2. The EUT output port was connected to communication tester.
- 3. The EUT was placed inside the temperature chamber at 25°C
- The power supply voltage to the EUT was varied ±15% of the nominal value measured at the input to the EUT
- 5. Record the maximum frequency change.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

Refer to appendix F on the section 8 appendix report

5.8. ERP and EIRP

<u>LIMIT</u>

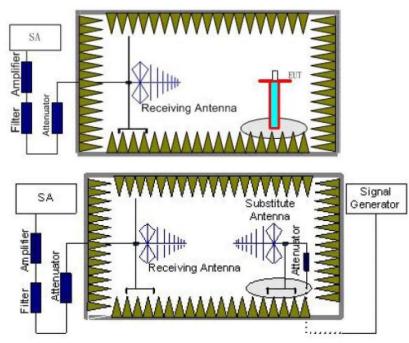
LTE Band 2/7/41: 2W(33dBm) EIRP

LTE Band 4: 1W(30dBm) EIRP

LTE Band 5: 7W(38.50dBm) ERP

LTE Band 12/17: 3W(34.77dBm) ERP

TEST CONFIGURATION



TEST PROCEDURE

- EUT was placed on a 0.8 meter for below 1GHz and 1.5 meter for above 1GHz high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz,, And the maximum value of the receiver should be recorded as (Pr).
- 4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest isconnected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (PcI) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.

- The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
 ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

LTE Band 2-1.4MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Result		
Modulation	Channel	Vertical	Horizontal	Limit (dBm)			
	Low	20.34	18.00				
QPSK	Mid	20.43	18.07		PASS		
	High	20.56	17.86				
	Low	19.84	17.52	- ≤33.00			
16QAM	Mid	20.01	17.69		PASS		
	High	19.95	17.54				

LTE Band 2-3MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result		
wouldtion	Channel	Vertical	Horizontal				
	Low	20.53	17.90		PASS		
QPSK	Mid	20.84	18.06				
	High	20.71	17.84				
	Low	19.70	17.60	≤33.00 			
16QAM	Mid	19.93	17.74		PASS		
	High	19.87	17.52				

LTE Band 2-5MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dDm)	Deput		
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result		
	Low	20.83	18.09				
QPSK	Mid	20.56	17.95		PASS		
	High	20.54	17.59				
	Low	19.99	17.75	- ≤33.00			
16QAM	Mid	19.87	17.58		PASS		
	High	19.70	17.16				

	LTE Band 2-10MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Booult			
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result			
	Low	20.78	17.92		PASS			
QPSK	Mid	20.87	17.80					
	High	20.62	17.60					
	Low	19.91	17.52	≤33.00				
16QAM	Mid	19.93	17.36		PASS			
	High	19.76	17.26					

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LTE Band 2-15MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Popult		
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result		
	Low	20.07	18.16				
QPSK	Mid	19.41	18.29		PASS		
	High	19.65	17.65				
	Low	19.24	17.63	— ≤33.00 — —			
16QAM	Mid	18.63	18.71		PASS		
	High	18.71	17.25				

LTE Band 2-20MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result		
Wouldton	Channel	Vertical	Horizontal	Limit (dBm)			
	Low	20.13	17.82	<22.00	PASS		
QPSK	Mid	19.75	18.04				
	High	19.74	17.67				
	Low	19.15	17.61	≤33.00			
16QAM	Mid	19.01	17.88		PASS		
	High	19.06	17.52				

	LTE Band 4-1.4MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dDm)	Result			
wodulation	Channel	Vertical	Horizontal	Limit (dBm)				
	Low	21.75	19.73	<20.00				
QPSK	Mid	21.87	19.63		PASS			
	High	21.96	19.60					
	Low	20.91	19.40	≤30.00 				
16QAM	Mid	21.04	19.26		PASS			
	High	20.91	19.37					

LTE Band 4-3MHz							
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result		
Modulation	Channel	Vertical	Horizontal	Limit (dBm)			
	Low	21.63	19.84	<20.00	PASS		
QPSK	Mid	21.38	19.47				
	High	21.06	19.36				
	Low	21.19	19.75	- ≤30.00			
16QAM	Mid	20.72	19.30		PASS		
	High	21.26	19.50				

	LTE Band 4-5MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Booult					
wodulation	Channel	Vertical	Horizontal	Limit (dBm) ≤30.00	Result					
	Low	21.80	20.24	-						
QPSK	Mid	21.89	19.61		PASS					
	High	21.71	19.60	<20.00						
	Low	20.95	19.72	- ≤30.00						
16QAM	Mid	21.06	19.11		PASS					
	High	20.57	19.19							

	LTE Band 4-10MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Result					
Modulation	Channel	Vertical	Horizontal	- Limit (dBm) 	Result					
	Low	22.02	20.15	-						
QPSK	Mid	21.87	19.54		PASS					
	High	21.33	19.66							
	Low	21.31	19.68	- ≤30.00						
16QAM	Mid	21.40	19.04		PASS					
	High	20.83	19.18							

Report No.: CHTEW19060173

LTE Band 4-15MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dDm)	Result				
Modulation	Channel	Vertical	Horizontal	Limit (dBm) ≤30.00	Result				
	Low	21.24	19.32						
QPSK	Mid	21.26	19.45	<20.00	PASS				
	High	20.36	19.08						
	Low	20.74	19.07	≤30.00					
16QAM	Mid	20.83	19.15		PASS				
	High	19.82	18.85						

LTE Band 4-20MHz									
Madulation	Channel	EIRP (dBm)		Limit (dRm)	Result				
Modulation	Channel	Vertical	Horizontal	Limit (dBm) ≤30.00	Result				
	Low	21.32	19.34						
QPSK	Mid	21.56	19.55		PASS				
	High	20.49	19.15	<20.00					
	Low	20.70	19.05	≤30.00	PASS				
16QAM	Mid	20.63	19.19]					
	High	19.63	18.86						

	LTE Band 5-1.4MHz								
Modulation	Channel	ERP	(dBm)	Limit (dPm)	Popult				
Modulation	Channel	Vertical	Horizontal	Limit (dBm) ≤38.50	Result				
	Low	21.68	20.89	-					
QPSK	Mid	21.56	20.76		PASS				
	High	21.67	20.56	<29.50					
	Low	20.93	19.92	≤38.50					
16QAM	Mid	20.65	20.12		PASS				
	High	20.79	19.74						

	LTE Band 5-3MHz									
Modulation	Channel	ERP	(dBm)	Limit (dBm)	Result					
Wouldtion	Channel	Vertical	Horizontal		Result					
	Low	21.91	20.42							
QPSK	Mid	21.98	20.63		PASS					
	High	22.02	20.30	<29.50						
	Low	20.59	20.13	— ≤38.50 —						
16QAM	Mid	20.42	20.07		PASS					
	High	20.58	19.72							

LTE Band 5-5MHz									
Modulation	Channel	ERP	(dBm)	Limit (dRm)	Result				
wooulation	Channel	Vertical	Horizontal	Limit (dBm) ≤38.50	Result				
	Low	21.79	20.09						
QPSK	Mid	21.93	18.97		PASS				
	High	21.78	18.81	<29.50					
	Low	21.21	19.78	≤38.50					
16QAM	Mid	21.34	18.57]	PASS				
	High	21.19	18.46						

	LTE Band 5-10MHz									
Modulation	Channel	ERP	(dBm)	Limit (dDm)	Desult					
wouldtion	Channel	Vertical	Horizontal	Limit (dBm) ≤38.50	Result					
	Low	21.65	20.05							
QPSK	Mid	21.80	19.01		PASS					
	High	21.56	18.86	<29.50						
	Low	21.08	19.53	S38.50 						
16QAM	Mid	21.24	18.57		PASS					
	High	21.08	18.41							

	LTE Band 7-5MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Booult					
Modulation	Channel	Vertical	Horizontal	Limit (dBm) ≤33.00	Result					
	Low	20.52	18.43	-						
QPSK	Mid	20.78	18.69		PASS					
	High	21.10	18.49	<22.00						
	Low	19.56	17.99	- ≤33.00						
16QAM	Mid	19.66	18.22		PASS					
	High	19.87	18.21							

LTE Band 7-10MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result				
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	20.77	18.32						
QPSK	Mid	21.38	18.56		PASS				
	High	21.22	18.52	<22.00					
	Low	19.69 18.	18.02	≤33.00					
16QAM	Mid	20.08	18.19]	PASS				
	High	20.07	18.11						

LTE Band 7-15MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dRm)	Result				
wodulation	Channel	Vertical	Horizontal	Limit (dBm) ≤33.00	Result				
	Low	21.05	18.98						
QPSK	Mid	20.77	18.43		PASS				
	High	20.87	18.60	<22.00					
	Low	20.50	18.52	≤33.00					
16QAM	Mid	20.23	18.00		PASS				
	High	20.39	18.22						

	LTE Band 7-20MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Result					
Wouldtion	Channel	Vertical	Horizontal	Limit (dBm)						
	Low	21.15	18.93							
QPSK	Mid	21.09	18.51		PASS					
	High	21.17	18.66							
	Low	20.35	18.55	≤33.00						
16QAM	Mid	20.23	18.07]	PASS					
	High	20.39	18.25							

	LTE Band 12-1.4MHz								
Modulation	Channel	ERP	(dBm)	Limit (dPm)	Booult				
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	21.61	19.53						
QPSK	Mid	21.59	19.48		PASS				
	High	21.75	19.58	< 24 77					
	Low	21.15	19.15	- ≤34.77					
16QAM	Mid	21.11	19.07		PASS				
	High	21.19	19.29						

LTE Band 12-3MHz									
Modulation	Channel	ERP	(dBm)	Limit (dBm)	Result				
Modulation	Channel	Vertical	Horizontal		Result				
	Low	21.22	19.39	_					
QPSK	Mid	21.46	19.25		PASS				
	High	21.52	19.22	< 24 77					
	Low	20.73	19.28						
16QAM	Mid	20.73	19.06		PASS				
	High	21.86	19.35						

	LTE Band 12-5MHz								
Modulation	Channel	ERP	(dBm)	Limit (dPm)	Popult				
wooulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	21.70	19.80						
QPSK	Mid	21.84	20.14		PASS				
	High	22.11	19.95	< 24 77					
	Low	20.73	19.07	≤34.77					
16QAM	Mid	20.92	19.63		PASS				
	High	20.80	19.39						

	LTE Band 12-10MHz									
Modulation	Channel	ERP	(dBm)	Limit (dDm)	D K					
wouldtion	Channel	Vertical	Horizontal	Limit (dBm)	Result					
	Low	21.96	19.68							
QPSK	Mid	22.48	20.05		PASS					
	High	22.23	19.82							
	Low	20.60	19.27	- ≤34.77	PASS					
16QAM	Mid	21.01	19.58	1						
	High	20.88	19.41							

	LTE Band 17-5MHz								
Modulation	Channel	ERP	(dBm)	Limit (dDm)	Decult				
wodulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	20.78	18.97	_					
QPSK	Mid	21.03	19.00		PASS				
	High	21.50	18.97	< 24 77					
	Low	19.66	18.07	- ≤34.77					
16QAM	Mid	19.99	18.28		PASS				
	High	20.03	18.10						

LTE Band 17-10MHz								
Modulation	Channel	ERP	(dBm)	Limit (dBm)	Result			
wodulation	Channel	Vertical	Horizontal		Result			
	Low	21.04	18.82					
QPSK	Mid	21.73	18.89	_ - ≤34.77	PASS			
	High	21.63	18.64					
	Low	19.52	18.32					
16QAM	Mid	20.27	18.32		PASS			
	High	20.29	18.15					

	LTE Band 41-5MHz								
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Booult				
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	21.58	20.08						
QPSK	Mid	21.52	19.92		PASS				
	High	21.96	19.90	<22.00					
	Low	20.80	19.72	≤33.00	PASS				
16QAM	Mid	20.88	19.55						
	High	20.79	19.67						

	LTE Band 41-10MHz								
Modulation	Channel	EIRP	(dBm)	Limit (dDm)	Result				
wouldtion	Channel	Vertical	Horizontal	Limit (dBm)	Result				
	Low	21.78	19.99						
QPSK	Mid	22.00	19.82		PASS				
	High	22.05	19.92	<22.00					
	Low	20.91	19.74	- ≤33.00					
16QAM	Mid	20.96	19.52	1	PASS				
	High	21.12	19.59						

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	LTE Band 41-15MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dPm)	Result					
Modulation	Channel	Vertical	Horizontal	Limit (dBm)	Result					
	Low	21.83	20.60							
QPSK	Mid	21.75	20.35		PASS					
	High	21.83	20.46							
	Low	21.25	20.12	≤33.00	PASS					
16QAM	Mid	21.19	19.90							
	High	21.33	20.06							

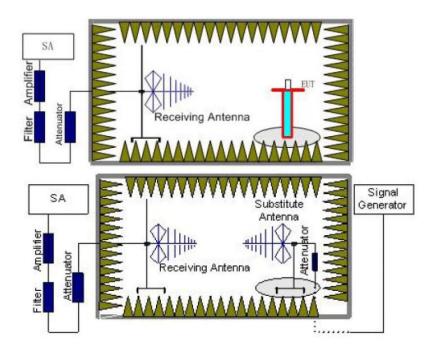
LTE Band 41-20MHz									
Modulation	Channel	EIRP	(dBm)	Limit (dBm)	Result				
Wouldton	Channel	Vertical	Horizontal		Result				
	Low	21.94	20.55	_					
QPSK	Mid	22.04	20.41		PASS				
	High	22.11	20.51	≤33.00					
	Low	21.14	20.14	≤33.00					
16QAM	Mid	21.19	20.02						
	High	21.35	20.16						

5.9. Radiated Spurious Emission

LIMIT

LTE Band 2/4/5/12/13/17: -13dBm; LTE Band 7: -25dBm

TEST CONFIGURATION



TEST PROCEDURE

- EUT was placed on a 0.8 meter for below 1GHz and 1.5 meter for above 1GHz high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.0m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100kHz,VBW=300kHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (Pr).
- 4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest isconnected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.

- The measurement results are obtained as described below: Power(EIRP)=PMea- PAg - Pcl + Ga We used SMF100A micowave signal generator which signal level can up to 33dBm,so we not used power Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=PMea- Pcl + Ga
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
 ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

	LTE Band 2-1.4MHz								
Channel	Frequency	Spurious	Emission	Limit (dDm)	Result				
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result				
	3701.4	Vertical	-35.77						
	5552.1	V	-39.45	≤-13.00	Pass				
Low	7402.8	V							
LOW	3701.4	Horizontal	-38.69						
	5552.1	Н	-40.85	≤-13.00	Pass				
	7402.8	Н							
	3760	Vertical	-35.45	≤-13.00	Pass				
	5640	V	-39.52						
Mid	7520	V							
IVIIC	3760	Horizontal	-38.62						
	5640	Н	-40.78	≤-13.00	Pass				
	7520	H							
	3818.6	Vertical	-35.57						
	5727.9	V	-39.63	≤-13.00	Pass				
High	7637.2	V							
High	3818.6	Horizontal	-38.63						
	5727.9	Н	-40.77	≤-13.00	Pass				
	7637.2	Н							

	LTE Band 2-3MHz								
Channel	Frequency	Spurious	Emission	Limit (dBm)	Result				
Channel	(MHz)	Polarization	Level (dBm)		Result				
	3703	Vertical	-36.07						
	5554.5	V	-39.36	≤-13.00	Pass				
Low	7406	V							
LOW	3703	Horizontal	-36.48						
	5554.5	н	-39.28	≤-13.00	Pass				
	7406	н							
	3760	Vertical	-36.41	≤-13.00	Pass				
	5640	V	-39.01						
Mid	7520	V							
IMIG	3760	Horizontal	-36.25						
	5640	н	-38.40	≤-13.00	Pass				
	7520	н							
	3817	Vertical	-37.29						
	5725.5	V	-38.60	≤-13.00	Pass				
Lliab	7634	V							
High	3817	Horizontal	-36.83						
	5725.5	н	-38.50	≤-13.00	Pass				
	7634	Н							

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LTE Band 2-5MHz						
Channel	Frequency (MHz)	Spurious Emission		Lineit (dDm)	Desult	
		Polarization	Level (dBm)	Limit (dBm)	Result	
	3705	Vertical	-36.36			
	5557.5	V	-39.27	≤-13.00	Pass	
Law	7410	V				
Low	3705	Horizontal	-36.79	≤-13.00	Pass	
	5557.5	Н	-39.18			
	7410	Н				
	3760	Vertical	-36.72	≤-13.00	Pass	
	5640	V	-38.89			
Mid	7520	V				
IVIIC	3760	Horizontal	-37.01	≤-13.00	Pass	
	5640	Н	-38.57			
	7520	Н				
High	3815	Vertical	-37.56	≤-13.00	Pass	
	5722.5	V	-38.67			
	7630	V				
	3815	Horizontal	-37.26			
	5722.5	Н	-38.61	≤-13.00	Pass	
	7630	Н				

		LTE Ban	d 2-10MHz		
Channel	Frequency (MHz)	Spurious Emission		Limit (dPm)	Result
		Polarization	Level (dBm)	Limit (dBm)	Result
	3710	Vertical	-36.66	≤-13.00	Pass
	5565	V	-39.06		
Low	7420	V			
LOW	3710	Horizontal	-37.62		Pass
	5565	Н	-38.86	≤-13.00	
	7420	Н			
	3760	Vertical	-37.46	≤-13.00	Pass
	5640	V	-38.22		
Mid	7520	V			
Mid	3760	Horizontal	-38.10	≤-13.00	Pass
	5640	н	-37.14		
	7520	Н			
	3810	Vertical	-39.97	≤-13.00	Pass
	5715	V	-37.49		
High	7620	V			
High	3810	Horizontal	-39.21	≤-13.00	
	5715	Н	-37.34		Pass
	7620	Н			

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LTE Band 2-15MHz						
Channel	Frequency	Spurious Emission			Desult	
	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	3715	Vertical	-37.34	≤-13.00	Pass	
	5572.5	V	-38.93			
Low	7430	V				
LOW	3715	Horizontal	-37.92	≤-13.00	Pass	
	5572.5	н	-38.81			
	7430	н				
	3760	Vertical	-37.82	≤-13.00	Pass	
	5640	V	-38.43			
Mid	7520	V				
IVIIC	3760	Horizontal	-38.20	≤-13.00	Pass	
	5640	Н	-37.98			
	7520	Н				
	3805	Vertical	-38.97	≤-13.00	Pass	
	5707.5	V	-38.13			
المعام	7610	V				
High	3805	Horizontal	-39.22	≤-13.00	Pass	
	5707.5	Н	-38.18			
	7610	Н				

LTE Band 2-20MHz						
Channel	Frequency (MHz)	Spurious Emission		Linsit (dDma)	Decult	
		Polarization	Level (dBm)	Limit (dBm)	Result	
	3720	Vertical	-37.75			
	5580	V	-38.74	≤-13.00	Pass	
Low	7440	V				
LOW	3720	Horizontal	-38.60		Pass	
	5580	н	-38.56	≤-13.00		
	7440	н				
	3760	Vertical	-38.46	≤-13.00	Pass	
	5640	V	-37.99			
Mid	7520	V				
IMIG	3760	Horizontal	-39.03	≤-13.00	Pass	
	5640	н	-37.40			
	7520	н				
	3800	Vertical	-40.06	≤-13.00	Pass	
	5700	V	-37.59			
High	7600	V				
High	3800	Horizontal	-39.46			
	5700	н	-37.47	≤-13.00	Pass	
	7600	Н				

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- 1. Remark"----" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

		LTE Ban	d 4-1.4MHz		
Channel	Frequency	Spurious	Emission	Limit (dPm)	Result
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	3421.4	Vertical	-33.85		
	5132.1	V	-39.53	≤-13.00	Pass
	6842.8	V			
Low	3421.4	Horizontal	-36.86		Pass
	5132.1	Н	-34.57	≤-13.00	
	6842.8	Н			
	3465	Vertical	-33.94		
	5197.5	V	-39.44	≤-13.00	Pass
	6930	V			
Mid	3465	Horizontal	-36.75		
	5197.5	Н	-34.48	≤-13.00	Pass
	6930	Н			
	3508.6	Vertical	-34.08		
	5262.9	V	-39.59	≤-13.00	Pass
	7017.2	V			
High	3508.6	Horizontal	-36.76		
	5262.9	H	-34.49	≤-13.00	Pass
	7017.2	H			
	<u> </u>	LTE Bar	nd 4-3MHz		
	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	3423	Vertical	-34.24		
	5134.5	V	-39.41	≤-13.00	Pass
	6846	V			
Low	3423	Horizontal	-36.63		
	5134.5	Н	-34.46	≤-13.00	Pass
	6846	Н			
	3465	Vertical	-34.33		
		Vertical V	-34.33 -39.49	≤-13.00	Pass
	3465			≤-13.00	Pass
Mid	3465 5197.5	V	-39.49	≤-13.00	Pass
Mid	3465 5197.5 6930	V V	-39.49 	≤-13.00 ≤-13.00	Pass
Mid	3465 5197.5 6930 3465	V V Horizontal	-39.49 -36.45		
Mid	3465 5197.5 6930 3465 5197.5	V V Horizontal H	-39.49 -36.45 -34.60		
Mid	3465 5197.5 6930 3465 5197.5 6930	V V Horizontal H H	-39.49 -36.45 -34.60 	≤-13.00	
	3465 5197.5 6930 3465 5197.5 6930 3507	V V Horizontal H H Vertical	-39.49 -36.45 -34.60 -34.58		Pass
Mid High	3465 5197.5 6930 3465 5197.5 6930 3507 5260.5	V V Horizontal H H Vertical V V	-39.49 -36.45 -34.60 -34.58 -39.27 	≤-13.00	Pass
	3465 5197.5 6930 3465 5197.5 6930 3507 5260.5 7014	V V Horizontal H H Vertical V	-39.49 -36.45 -34.60 -34.58 -39.27	≤-13.00	Pass

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		LTE Bar	nd 4-5MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	Deput
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	3425	Vertical	-34.63		
	5137.5	V	-39.31	≤-13.00	Pass
Low	6850	V			
LOW	3425	Horizontal	-36.22		
	5137.5	н	-34.62	≤-13.00	Pass
	6850	н			
	3465	Vertical	-34.71		Pass
	5197.5	V	-39.38	≤-13.00	
Mid	6930	V	-		
IVIIC	3465	Horizontal	-36.33		
	5197.5	н	-34.71	≤-13.00	Pass
	6930	н			
	3505	Vertical	-34.56		
	5257.5	V	-39.24	≤-13.00	Pass
Lliab	7010	V	-		
High	3505	Horizontal	-36.26		
	5257.5	н	-34.64	≤-13.00	Pass
	7010	Н			

		LTE Ban	d 4-10MHz		
Channel	Frequency	Spurious	Emission	Limit (dBm)	Result
Charmer	(MHz)	Polarization	Level (dBm)	Linii (dBiii)	
	3430	Vertical	-34.95		
	5145	V	-39.38	≤-13.00	Pass
Low	6860	V			
Low	3430	Horizontal	-36.26		
	5145	н	-34.65	≤-13.00	Pass
	6860	н			
	3465	Vertical	-35.01		Pass
	5197.5	V	-39.43	≤-13.00	
Mid	6930	V			
IVIIO	3465	Horizontal	-36.33		
	5197.5	н	-34.71	≤-13.00	Pass
	6930	н	-		
	3500	Vertical	-34.90		
	5250	V	-39.34	≤-13.00	Pass
Llich	7000	V	-		
High	3500	Horizontal	-36.17		
	5250	н	-34.56	≤-13.00	Pass
	7000	н			

		LTE Ban	d 4-15MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	Result
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	
	3435	Vertical	-34.72		
	5152.5	V	-39.32	≤-13.00	Pass
Low	6870	V			
LOW	3435	Horizontal	-36.11		
	5152.5	Н	-34.61	≤-13.00	Pass
	6870	Н			
	3465	Vertical	-34.68		Pass
	5197.5	V	-39.28	≤-13.00	
Mid	6930	V			
IVIIG	3465	Horizontal	-36.17		
	5197.5	Н	-34.66	≤-13.00	Pass
	6930	Н			
	3495	Vertical	-34.59		
	5242.5	V	-39.21	≤-13.00	Pass
High	6990	V			
High	3495	Horizontal	-36.11		
	5242.5	Н	-34.61	≤-13.00	Pass
	6990	Н			

		LTE Ban	d 4-20MHz		
Channel	Frequency	Spurious	Emission	Limit (dBm)	Result
Channel	(MHz)	Polarization	Level (dBm)	сіпіі (авіт)	
	3440	Vertical	-34.91		
	5160	V	-39.04	≤-13.00	Pass
Low	6880	V			
LOW	3440	Horizontal	-36.27		
	5160	н	-34.47	≤-13.00	Pass
	6880	н			
	3465	Vertical	-35.03		Pass
	5197.5	V	-39.16	≤-13.00	
Mid	6930	V			
IVIIG	3465	Horizontal	-36.39		
	5197.5	н	-34.37	≤-13.00	Pass
	6930	Н			
	3490	Vertical	-34.86		
	5235	V	-34.32	≤-13.00	Pass
Lliab	6980	V			
High	3490	Horizontal	-36.39		
	5235	н	-34.58	≤-13.00	Pass
	6980	Н			

- 1. Remark"----" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

2. The emission	on levels of delow 1 G		d 5-1.4MHz		
	Frequency	Spurious	Emission		D K
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1649.4	Vertical	-35.41		
	2474.1	V	-43.72	≤-13.00	Pass
1.	3298.8	V			
Low	1649.4	Horizontal	-44.79		
	2474.1	Н	-45.63	≤-13.00	Pass
	3298.8	Н			
	1673	Vertical	-35.28		
	2509.5	V	-43.60	≤-13.00	Pass
	3346	V			
Mid	1673	Horizontal	-44.97		
	2509.5	Н	-45.77	≤-13.00	Pass
	3346	Н			
	1696.6	Vertical	-35.04		
	2544.9	V	-43.38	≤-13.00	Pass
	3393.2	V	-		
High	1696.6	Horizontal	-45.02		
	2544.9	Н	-45.82	≤-13.00	Pass
	3393.2	Н			
		LTE Bar	nd 5-3MHz		
	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1651	Vertical	-35.57		
	2476.5	V	-43.56	≤-13.00	Pass
1.	3302	V			
Low	1651	Horizontal	-45.48		
	2476.5	Н	-45.78	≤-13.00	Pass
	3302	Н			
	1673	Vertical	-36.13		
	2509.5	V	-44.05	≤-13.00	Pass
N 41 1	3346	V			
Mid	1673	Horizontal	-45.38		
	2509.5	Н	-45.87	≤-13.00	Pass
	3346	Н			
	1695	Vertical	-36.50		
	2542.5	V	-44.66	≤-13.00	Pass
		V			
	3390		1		
High	3390 1695	Horizontal	-45.99		
High			-45.99 -46.45	≤-13.00	Pass

		LTE Bar	nd 5-5MHz		
Channel	Frequency	Spurious	Emission	Limit (dDm)	Result
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	
	1653	Vertical	-35.73		
	2479.5	V	-43.40	≤-13.00	Pass
Low	3306	V			
LOW	1653	Horizontal	-46.14		
	2479.5	н	-45.93	≤-13.00	Pass
	3306	н			
	1673	Vertical	-36.25		Pass
	2509.5	V	-43.87	≤-13.00	
Mid	3346	V			
IVIIC	1673	Horizontal	-45.99		
	2509.5	Н	-44.38	≤-13.00	Pass
	3346	н			
	1693	Vertical	-36.77		
	2539.5	V	-44.72	≤-13.00	Pass
Lliab	3386	V			
High	1693	Horizontal	-46.16		
	2539.5	Н	-44.54	≤-13.00	Pass
	3386	Н			

		LTE Ban	d 5-10MHz		
Channel	Frequency	Spurious	Emission	Limit (dBm)	Result
Channel	(MHz)	Polarization	Level (dBm)		Result
	1658	Vertical	-35.81		
	2487	V	-43.32	≤-13.00	Pass
Low	3316	V			
LOW	1658	Horizontal	-46.50		
	2487	н	-46.01	≤-13.00	Pass
	3316	н			
	1673	Vertical	-36.10		Pass
	2509.5	V	-43.57	≤-13.00	
Mid	3346	V			
IVIIC	1673	Horizontal	-46.11		
	2509.5	н	-45.94	≤-13.00	Pass
	3346	н			
	1688	Vertical	-35.98		
	2532	V	-43.68	≤-13.00	Pass
Lliab	3376	V	-		
High	1688	Horizontal	-46.10		
	2532	н	-45.95	≤-13.00	Pass
	3376	н			

- 1. Remark"----" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

		LTE Bar	nd 7-5MHz		
	Frequency	Spurious	Emission		D It
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	5005	Vertical	-38.56		
	7507.5	V	-42.44	≤-25.00	Pass
	10010	V			
Low	5005	Horizontal	-48.41		Pass
	7507.5	Н	-51.25	≤-25.00	
	10010	Н			
	5070	Vertical	-38.79		
	7605	V	-42.65	≤-25.00	Pass
.	10140	V			
Mid	5070	Horizontal	-47.78		
	7605	Н	-43.13	≤-25.00	Pass
	10140	Н			
	5135	Vertical	-39.28		
	7702.5	V	-43.45	≤-25.00	Pass
	10270	V			
High	5135	Horizontal	-47.63		
	7702.5	Н	-43.48	≤-25.00	Pass
	10270	Н			
		LTE Ban	d 7-10MHz		
	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	5010	Vertical	-38.58		
	7515	V	-42.42	≤-25.00	Pass
	10020	V			
Low	5010	Horizontal	-48.50		
	7545	Н	F4 07		Pass
	7515		-51.27	≤-25.00	Pass
	10020	H	-51.27	≤-25.00	Pass
				≤-25.00	Pass
	10020	Н		≤-25.00 ≤-25.00	Pass
	10020 5070	H Vertical	 -38.66		
Mid	10020 5070 7605	H Vertical V	 -38.66 -42.48		
Mid	10020 5070 7605 10140	H Vertical V V	 -38.66 -42.48 		
Mid	10020 5070 7605 10140 5070	H Vertical V V Horizontal	 -38.66 -42.48 -47.76	≤-25.00	Pass
Mid	10020 5070 7605 10140 5070 7605	H Vertical V V Horizontal H	 -38.66 -42.48 -47.76 -43.05	≤-25.00	Pass
Mid	10020 5070 7605 10140 5070 7605 10140	H Vertical V V Horizontal H H	 -38.66 -42.48 -47.76 -43.05 	≤-25.00	Pass
	10020 5070 7605 10140 5070 7605 10140 5130	H Vertical V V Horizontal H H Vertical	 -38.66 -42.48 -47.76 -43.05 -39.23	≤-25.00 ≤-25.00	Pass Pass
Mid High	10020 5070 7605 10140 5070 7605 10140 5130 7695	H Vertical V V Horizontal H H Vertical V	 -38.66 -42.48 -47.76 -43.05 -39.23 -43.42	≤-25.00 ≤-25.00	Pass Pass
	10020 5070 7605 10140 5070 7605 10140 5130 7695 10260	H Vertical V V Horizontal H H Vertical V V	 -38.66 -42.48 -47.76 -43.05 -39.23 -43.42 	≤-25.00 ≤-25.00	Pass Pass

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		LTE Ban	d 7-15MHz		
Channel	Frequency	Spurious	Emission	Limit (dPm)	Result
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	
	5015	Vertical	-38.72		
	7522.5	V	-42.28	≤-25.00	Pass
Low	10030	V			
LOW	5015	Horizontal	-49.09		
	7522.5	Н	-51.40	≤-25.00	Pass
	10030	Н			
	5070	Vertical	-39.19		Pass
	7605	V	-42.69	≤-25.00	
Mid	10140	V			
IVIIC	5070	Horizontal	-48.47		
	7605	Н	-43.17	≤-25.00	Pass
	10140	Н			
	5125	Vertical	-39.66		
	7687.5	V	-43.48	≤-25.00	Pass
High	10250	V			
High	5125	Horizontal	-48.33		
	7687.5	Н	-43.51	≤-25.00	Pass
	10250	Н			

		LTE Ban	d 7-20MHz		
Channel	Frequency	Spurious	Emission	Limit (dPm)	Result
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	
	5020	Vertical	-38.82		
	7530	V	-42.18	≤-25.00	Pass
Low	10040	V			
LOW	5020	Horizontal	-49.53		
	7530	н	-51.54	≤-25.00	Pass
	10040	н			
	5070	Vertical	-39.18		Pass
	7605	V	-42.49	≤-25.00	
Mid	10140	V			
IMIG	5070	Horizontal	-48.99		
	7605	н	-42.91	≤-25.00	Pass
	10140	н			
	5120	Vertical	-39.60		
	7680	V	-43.18	≤-25.00	Pass
High	10240	V			
High	5120	Horizontal	-48.88		
	7680	н	-43.21	≤-25.00	Pass
	10240	Н			

- 1. Remark"----" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

		LTE Band	12-1.4MHz		
Ohamad	Frequency	Spurious	Emission		Desult
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1399.4	Vertical	-36.22		
	2099.1	V	-40.54	≤-13.00	Pass
	2798.8	V			
Low	1399.4	Horizontal	-47.85		Pass
	2099.1	Н	-48.73	≤-13.00	
	2798.8	Н			
	1415	Vertical	-35.91		
	2122.5	V	-40.25	≤-13.00	Pass
	2830	V			
Mid	1415	Horizontal	-48.11		
	2122.5	Н	-48.94	≤-13.00	Pass
	2830	Н			
	1430.6	Vertical	-35.55		
	2145.9	V	-39.92	≤-13.00	Pass
	2861.2	V	-		
High	1430.6	Horizontal	-48.22		
	2145.9	Н	-49.04	≤-13.00	Pass
	2861.2	Н			
	<u> </u>	LTE Ban	d 12-3MHz		
	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1401	Vertical	-36.74		
	2101.5	V	-40.02	≤-13.00	Pass
					F 855
	2802	V			
Low	2802 1401	V Horizontal	 -48.66		
LOW				≤-13.00	Pass
LOW	1401 2101.5	Horizontal	-48.66	≤-13.00	Pass
LOW	1401	Horizontal H H	-48.66 -48.91	≤-13.00	Pass
LUW	1401 2101.5 2802	Horizontal H	-48.66 -48.91 	≤-13.00 ≤-13.00	Pass Pass
	1401 2101.5 2802 1415	Horizontal H H Vertical	-48.66 -48.91 -37.39		
Low	1401 2101.5 2802 1415 2122.5	Horizontal H H Vertical V	-48.66 -48.91 -37.39 -40.59		
	1401 2101.5 2802 1415 2122.5 2830	Horizontal H H Vertical V V	-48.66 -48.91 -37.39 -40.59 		
	1401 2101.5 2802 1415 2122.5 2830 1415	Horizontal H H Vertical V V Horizontal	-48.66 -48.91 -37.39 -40.59 -48.47	≤-13.00	Pass
	1401 2101.5 2802 1415 2122.5 2830 1415 2122.5	Horizontal H H Vertical V V Horizontal H	-48.66 -48.91 -37.39 -40.59 -48.47 -49.06	≤-13.00	Pass
	1401 2101.5 2802 1415 2122.5 2830 1415 2122.5 2830	Horizontal H H Vertical V V Horizontal H H	-48.66 -48.91 -37.39 -40.59 -48.47 -49.06 	≤-13.00	Pass
Mid	1401 2101.5 2802 1415 2122.5 2830 1415 2122.5 2830 1415 2122.5 2830 1415 2122.5 2830 1429	Horizontal H H Vertical V V Horizontal H H V V ertical	-48.66 -48.91 -37.39 -40.59 -48.47 -49.06 -38.06	≤-13.00 ≤-13.00	Pass Pass
	1401 2101.5 2802 1415 2122.5 2830 1415 2122.5 2830 1415 2122.5 2830 1415 2122.5 2830 1429 2143.5	Horizontal H H Vertical V V Horizontal H H H Vertical V V	-48.66 -48.91 -37.39 -40.59 -48.47 -49.06 -38.06 -41.70	≤-13.00 ≤-13.00	Pass Pass
Mid	1401 2101.5 2802 1415 2122.5 2830 1415 2122.5 2830 1429 2143.5 2858	Horizontal H H Vertical V V Horizontal H H H Vertical V	-48.66 -48.91 -37.39 -40.59 -48.47 -49.06 -38.06 -41.70 	≤-13.00 ≤-13.00	Pass Pass

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LTE Band 12-5MHz						
Channel	Frequency	Spurious Emission		Lineit (dDirr)	Desult	
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
	1403	Vertical	-36.87	≤-13.00	Pass	
	2104.5	V	-39.89			
Low	2806	V				
LOW	1403	Horizontal	-49.22		Pass	
	2104.5	Н	-49.03	≤-13.00		
	2806	Н		1		
	1415	Vertical	-37.32	≤-13.00	Pass	
	2122.5	V	-40.28			
Mid	2830	V				
IVIIG	1415	Horizontal	-49.08	≤-13.00	Pass	
	2122.5	Н	-40.75			
	2830	Н				
	1427	Vertical	-37.79	≤-13.00	Pass	
	2140.5	V	-41.05			
High	2854	V				
High	1427	Horizontal	-49.22	≤-13.00	Pass	
	2140.5	Н	-40.88			
	2854	Н				

		LTE Band	d 12-10MHz		
Channel	Frequency	Spurious Emission		Limit (dPm)	Desult
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1408	Vertical	-37.03		Pass
	2112	V	-39.73	≤-13.00	
Low	2816	V			
LOW	1408	Horizontal	-49.88		Pass
	2112	н	-49.18	≤-13.00	
	2816	н			
	1415	Vertical	-37.56	≤-13.00	Pass
	2122.5	V	-40.20		
Mid	2830	V			
IVIIC	1415	Horizontal	-49.40	≤-13.00	Pass
	2122.5	н	-49.09		
	2830	н			
	1422	Vertical	-37.41	≤-13.00	Pass
	2133	V	-40.33		
Lliada	2844	V	-		
High	1422	Horizontal	-49.38	≤-13.00	Pass
	2133	н	-49.11		
	2844	н			

- 1. Remark"----" means that the emission level is too low to be measured
- 2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

2. The emissi	on levels of below TG		d 17-5MHz		
Oharrad	Frequency	Spurious Emission			
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1413	Vertical	-39.84		
	2119.5	V	-41.88	≤-13.00	Pass
	2826	V			
Low	1413	Horizontal	-44.79		Pass
	2119.5	Н	-44.28	≤-13.00	
	2826	Н			
	1420	Vertical	-40.32		
	2130	V	-42.31	≤-13.00	Pass
	2840	V			
Mid	1420	Horizontal	-44.22		
	2130	Н	-42.75	≤-13.00	Pass
	2840	Н			
	1427	Vertical	-40.76		Pass
	2140.5	V	-43.03	≤-13.00	
	2854	V			
High	1427	Horizontal	-44.10		Pass
	2140.5	Н	-43.06	≤-13.00	
	2854	н			
		LTE Band	17-10MHz		
. .	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	1418	Vertical	-40.07	≤-13.00	Pass
	2127	V	-41.65		
	2836	V			
Low	1418	Horizontal	-45.67		Pass
	2127	Н	-44.47	≤-13.00	
	2836	Н			
	1420	Vertical	-40.77		Pass
	2130	V	-42.27	≤-13.00	
N 41 - 1	2840	V			
Mid	1420	Horizontal	-44.93	≤-13.00	Pass
	2130	Н	-42.83		
	2840	Н			
	2840	• •			
	1422	Vertical	-41.34		
			-41.34 -43.21	≤-13.00	Pass
	1422	Vertical		≤-13.00	Pass
High	1422 2133	Vertical V	-43.21	≤-13.00	Pass
High	1422 2133 2844	Vertical V V	-43.21	≤-13.00 ≤-13.00	Pass

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- 1.
- Remark"---" means that the emission level is too low to be measured The emission levels of below 1 GHz are very lower than the limit and not show in test report 2.

		LTE Ban	d 41-5MHz		
Channel	Frequency (MHz)	Spurious Emission		Limit (dBm)	Desult
Channel		Polarization	Level (dBm)		Result
	5005	Vertical	-41.63		
	7507.5	V	-40.22	≤-25.00	Pass
	10010	V			
Low	5005	Horizontal	-42.44		
	7507.5	Н	-43.45	≤-25.00	Pass
	10010	Н			
	5070	Vertical	-41.67		
	7605	V	-40.25	≤-25.00	Pass
	10140	V			
Mid	5070	Horizontal	-41.38		
	7605	Н	-41.07	≤-25.00	Pass
	10140	Н			
	5135	Vertical	-42.48		
	7702.5	V	-41.60	≤-25.00	Pass
	10270	V			
High	5135	Horizontal	-40.97		Pass
	7702.5	Н	-41.68	≤-25.00	
	10270	Н			
		LTE Band	41-10MHz		
	Frequency	Spurious	Emission		
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	5010	Vertical	-41.69	≤-25.00	Pass
	7515	V	-40.16		
	10020	V			
Low	5010	Horizontal	-42.71	≤-25.00	Pass
	7515	Н	-43.51		
	10020	Н			
	5070	Vertical	-41.91		Pass
	7605	V	-40.35	≤-25.00	
	10140	V			
Mid	5070	Horizontal	-41.94	≤-25.00	Pass
	7605	Н	-40.95		
	10140	Н			
	5130	Vertical	-42.51		Pass
High	7695	V	-41.33	≤-25.00	
	10260	V			
	5130	Horizontal	-41.72		Pass
U U			1	≤-25.00	
C	7695	Н	-41.38	≤-25.00	Pass

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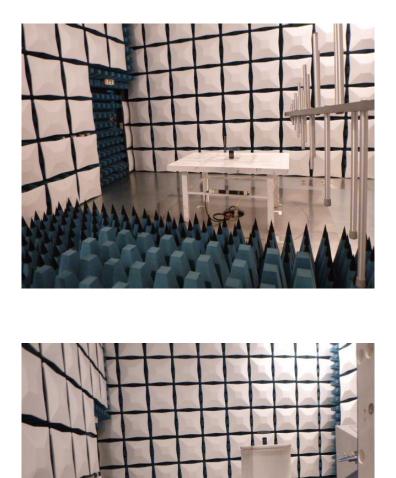
		LTE Band	d 41-15MHz		
Channel	Frequency (MHz)	Spurious Emission			
Channel		Polarization	Level (dBm)	Limit (dBm)	Result
	5015	Vertical	-41.80		Pass
	7522.5	V	-40.05	≤-25.00	
Low	10030	V			
Low	5015	Horizontal	-43.18		Pass
	7522.5	Н	-43.61	≤-25.00	
	10030	Н			
	5070	Vertical	-42.18	≤-25.00	Pass
	7605	V	-40.38		
Mid	10140	V			
IVIIO	5070	Horizontal	-42.69	≤-25.00	Pass
	7605	Н	-40.76		
	10140	Н			
	5125	Vertical	-42.56	≤-25.00	Pass
	7687.5	V	-41.00		
Lliab	10250	V			
High	5125	Horizontal	-42.60	≤-25.00	Pass
	7687.5	Н	-41.02		
	10250	Н			

		LTE Band	d 41-20MHz		
Ohannal	Frequency	Spurious Emission			Decili
Channel	(MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
	5020	Vertical	-41.91	≤-25.00	Pass
	7530	V	-39.94		
Low	10040	V			
LOW	5020	Horizontal	-43.65		Pass
	7530	Н	-43.76	≤-25.00	
	10040	Н			
	5070	Vertical	-42.29	≤-25.00	Pass
	7605	V	-40.27		
Mid	10140	V			
IVIIC	5070	Horizontal	-43.07	≤-25.00	Pass
	7605	Н	-40.72		
	10140	Н			
	5120	Vertical	-42.74	≤-25.00	Pass
	7680	V	-41.01		
Lliab	10240	V			
High	5120	Horizontal	-42.95	≤-25.00	Pass
	7680	Н	-41.03		
	10240	Н			

3. Remark"---- " means that the emission level is too low to be measured

4. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

6. TEST SETUP PHOTOS OF THE EUT



7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Refere to the test report No.: CHTEW19060171

8. APPENDIX REPORT