

FCC REPORT

(LTE)

Applicant: HMD global Oy

Address of Applicant: Bertel Jungin aukio 9, 02600 Espoo, Finland

Equipment Under Test (EUT)

Product Name: Smart Phone

Model No.: TA-1358

Trade mark: NOKIA

FCC ID: 2AJOTTA-1358

Applicable standards: FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part 27 Subpart M

Date of sample receipt: 19 Aug., 2021

Date of Test: 20 Aug., to 28 Aug., 2020

Date of report issued: 16 Sep., 2021

Test Result: PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2. Version

Version No.	Date	Description
00	16 Sep., 2021	Original

According to the declaration from the applicant, the models: TA-1361 and TA-1358 are identical in specifications, only different SIM adapter, TA-1361 supports dual sim mode, TA-1358 supports only single sim mode.

Therefore in this report all items do not need to retest and all test data in this report are based on the previous report with report number: JYTSZB-R12-2101726

Tested by:



Test Engineer

Date:

16 Sep., 2021

Reviewed by:



Project Engineer

Date:

16 Sep., 2021

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4. Test Summary

Test Items	Section in CFR 47	Result
RF Output Power Effective Radiated Power and Effective Isotropic Radiated Power	Part 2.1046 Part 22.913 (a)(5) Part 27.50 (h)(2)	Refer to the report: SRTC2021-9004(F)-21082803(C)
Peak-to-Average Ratio	Part 22.913 (d)	Refer to the report: SRTC2021-9004(F)-21082803(C)
Occupied Bandwidth	Part 2.1049	Refer to the report: SRTC2021-9004(F)-21082803(C)
Emission Bandwidth	Part 2.1049	Refer to the report: SRTC2021-9004(F)-21082803(C)
Spurious Emissions at antenna terminals	Part 2.1051 Part 22.917(a) Part 27.53(m)	Refer to the report: SRTC2021-9004(F)-21082803(C)
Band Edges Compliance	Part 2.1051 Part 22.917(a) Part 27.53(m)	Refer to the report: SRTC2021-9004(F)-21082803(C)
Field strength of spurious radiation	Part 2.1051 Part 22.917(a) Part 27.53(m)	Pass
Frequency stability	Part 22.355 Part 27.54 Part 2.1055(d)(2)	Refer to the report: SRTC2021-9004(F)-21082803(C)
Remark: 1. Pass: The EUT complies with the essential requirements in the standard. 2. The report: SRTC2021-9004(F)-21082803(C), issued by The State Radio_monitoring_center Testing Center.		
Test Method:	ANSI/TIA-603-E-2016 ANSI C63.26-2015	

5. General Information

5.1 Client Information

Applicant:	HMD global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Manufacturer/ Factory:	HMD global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland

5.2 General Description of E.U.T.

Product Name:	Smart Phone		
Model No.:	TA-1358		
Operation Frequency range:	LTE Band 5: Tx: 824 MHz - 849 MHz Rx: 869 MHz - 894 MHz LTE Band 7: Tx: 2500 MHz - 2570 MHz Rx: 2620 MHz - 2690 MHz LTE Band 38: Tx: 2570 MHz - 2620 MHz Rx: 2570 MHz - 2620 MHz LTE Band 41: Tx: 2496 MHz - 2690 MHz Rx: 2496 MHz - 2690 MHz LTE Band CA_7C Tx: 2500 MHz - 2700 MHz Rx: 2620 MHz - 2690 MHz LTE Band CA_38C Tx: 2570 MHz - 2620 MHz Rx: 2570 MHz - 2620 MHz LTE Band CA_41C Tx: 2496 MHz - 2690 MHz Rx: 2496 MHz - 2690 MHz		
Modulation type:	☒ QPSK ☒ 16QAM ☒ 64QAM ☒ 256QAM		
Antenna type:	Internal Antenna		
Antenna gain:	LTE Band 5: -3.50 dBi(declare by Applicant) LTE Band 7: -2.00 dBi(declare by Applicant) LTE Band 38: -2.00 dBi(declare by Applicant) LTE Band 41: -2.00 dBi(declare by Applicant)		
Power supply:	Rechargeable Lithium ion Polymer Battery DC3.85V, 4.85Ah		
AC adapter:	Adapter 1: Model: TN-050200U3, TN-050200E3, TN-050200C3A Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models Adapter 2: Model: TN-050200U3, TN-050200A3, TN-050200C3A Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models Adapter 3: Model: AD-010A, AD-010X Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models		
Test Sample Condition:	The test samples were provided in good working order with no visible defects.		

Operation Frequency List:

LTE Band 5 (1.4MHz)		LTE Band 5 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20407	824.70	20415	825.50
20408	824.80	20416	825.60
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
....			
20642	848.20	20634	847.40
20643	848.30	20635	847.50
LTE Band 5 (5MHz)		LTE Band 5 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20425	826.50	20450	829.00
20426	826.60	20451	829.10
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
....			
20624	846.40	20599	839.90
20625	846.50	20600	844.00

LTE Band 7 (5MHz)		LTE Band 7 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20775	2502.50	20800	2505.00
20776	2502.60	20801	2502.10
....			
21099	2534.90	21099	2534.90
21100	2535.00	21100	2535.00
21101	2535.20	21101	2535.20
....			
21424	2567.40	21399	2564.90
21425	2567.50	21400	2565.00
LTE Band 7 (15MHz)		LTE Band 7 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20825	2507.50	20850	2510.00
20826	2507.60	20851	2510.10
....			
21099	2534.90	21099	2534.90
21100	2535.00	21100	2535.00
21101	2535.20	21101	2535.20
....			
21374	2562.40	21349	2559.90
21375	2562.50	21350	2560.00

LTE Band 38 (5MHz)		LTE Band 38 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
37775	2572.50	37800	2575.00
37776	2572.60	37801	2575.10
....			
37999	2594.90	37999	2594.90
38000	2595.00	38000	2595.00
38001	2595.10	38001	2595.10
...	...	...	...
38224	2617.40	38199	2614.90
38225	2617.50	38200	2615.00
LTE Band 38 (15MHz)		LTE Band 38 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
37825	2577.50	37850	2580.00
37826	2577.60	37851	2580.10
....			
37999	2594.90	37999	2594.90
38000	2595.00	38000	2595.00
38001	2595.10	38001	2595.10
...	...	...	...
38174	2612.40	38149	2609.90
38175	2612.50	38150	2610.00

LTE Band 41 (5MHz)		LTE Band 41 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
39675	2498.50	39700	2501.00
39676	2498.60	39701	2501.10
....			
40619	2592.90	40619	2592.90
40620	2593.00	40620	2593.00
40621	2593.10	40621	2593.10
....			
41564	2687.40	41539	2684.90
41565	2687.50	41540	2685.00
LTE Band 41 (15MHz)		LTE Band 41 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
39725	2503.50	39750	2506.00
39726	2503.60	39751	2506.10
....			
40619	2592.90	40619	2592.90
40620	2593.00	40620	2593.00
40621	2593.10	40621	2593.10
....			
41514	2682.40	41489	2680.90
41515	2682.50	41490	2680.00

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

LTE Band 5 (1.4MHz)			LTE Band 5 (3MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20407	824.70	Lowest channel	20415	825.5
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20643	848.30	Highest channel	20635	847.50
LTE Band 5 (5MHz)			LTE Band 5 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20425	826.50	Lowest channel	20450	829.00
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20625	846.50	Highest channel	20600	844.00

LTE Band 7 (5MHz)			LTE Band 7 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20775	2502.50	Lowest channel	20800	2505.00
Middle channel	21100	2535.00	Middle channel	21100	2535.00
Highest channel	21425	2567.50	Highest channel	21400	2565.00
LTE Band 7 (15MHz)			LTE Band 7 (20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20825	2507.50	Lowest channel	20850	2510.00
Middle channel	21100	2535.00	Middle channel	21100	2535.00
Highest channel	21375	2562.50	Highest channel	21350	2560.00

LTE Band 38 (5MHz)			LTE Band 38 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	37775	2572.50	Lowest channel	37800	2575.00
Middle channel	38000	2595.00	Middle channel	38000	2595.00
Highest channel	38225	2617.50	Highest channel	38200	2615.00
LTE Band 38 (15MHz)			LTE Band 38 (20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	37825	2577.50	Lowest channel	37850	2580.00
Middle channel	38000	2595.00	Middle channel	38000	2595.00
Highest channel	38175	2612.50	Highest channel	38150	2610.00

LTE Band 41 (5MHz)			LTE Band 41 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	39675	2498.50	Lowest channel	39700	2501.00
Middle channel	40620	2593.00	Middle channel	40620	2593.00
Highest channel	41565	2687.50	Highest channel	41540	2685.00
LTE Band 41 (15MHz)			LTE Band 41 (20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	39725	2503.50	Lowest channel	39750	2506.00
Middle channel	40620	2593.00	Middle channel	40620	2593.00
Highest channel	41515	2682.50	Highest channel	41490	2680.00

FDD reference test frequencies for CA in operating band 7

Range	CC-Combo / N _{RB_agg} [RB]	CC1 Note1					CC2 Note1				
		BW [RB]	N _{UL}	f _{UL} [MHz]	N _{DL}	f _{DL} [MHz]	BW [RB]	N _{UL}	f _{UL} [MHz]	N _{DL}	f _{DL} [MHz]
Low	50+100	50	20805	2505.5	2805	2625.5	100	20949	2519.9	2949	2639.9
		100	20850	2510	2850	2630	50	20994	2524.4	2994	2644.4
	75+50	75	20825	2507.5	2825	2627.5	50	20945	2519.5	2945	2639.5
	75+75	75	20825	2507.5	2825	2627.5	75	20975	2522.5	2975	2642.5
	75+100	75	20828	2507.8	2828	2627.8	100	20999	2524.9	2999	2644.9
		100	20850	2510	2850	2630	75	21021	2527.1	3021	2647.1
Mid	50+100	50	21006	2525.6	3006	2645.6	100	21150	2540	3150	2660
		100	21051	2530.1	3051	2650.1	50	21195	2544.5	3195	2664.5
	75+50	75	21051	2530.1	3051	2650.1	50	21171	2542.1	3171	2662.1
	75+75	75	21025	2527.5	3025	2647.5	75	21175	2542.5	3175	2662.5
	75+100	75	21003	2525.3	3003	2645.3	100	21174	2542.4	3174	2662.4
		100	21026	2527.6	3026	2647.6	75	21197	2544.7	3197	2664.7
High	50+100	50	21206	2545.6	3206	2665.6	100	21350	2560	3350	2680
		100	21251	2550.1	3251	2670.1	50	21395	2564.5	3395	2684.5
	75+50	75	21277	2552.7	3277	2672.7	50	21397	2564.7	3397	2684.7
	75+75	75	21225	2547.5	3225	2667.5	75	21375	2562.5	3375	2682.5
	75+100	75	21179	2542.9	3179	2662.9	100	21350	2560	3350	2680
		100	21201	2545.1	3201	2665.1	75	21372	2562.2	3372	2682.2
	100+100	100	21152	2540.2	3152	2660.2	100	21350	2560	3350	2680

Note 1: Carriers in increasing frequency order.

TDD reference test frequencies for CA in operating band 38

Range	CC-Combo / N _{RB_agg} [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	N _{UL/DL}	f _{UL/DL} [MHz]	BW [RB]	N _{UL/DL}	f _{UL/DL} [MHz]
Low	75+75	75	37825	2577.5	75	37975	2592.5
	100+100	100	37850	2580	100	38048	2599.8
Mid	75+75	75	37925	2587.5	75	38075	2602.5
	100+100	100	37901	2585.1	100	38099	2604.9
High	75+75	75	38025	2597.5	75	38175	2612.5
	100+100	100	37952	2590.2	100	38150	2610

Note 1: Carriers in increasing frequency order.

TDD reference test frequencies for CA in operating band 41

Range	CC-Combo / NRB_agg [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	N _{UL} /DL	f _{UL} /DL [MHz]	BW [RB]	N _{UL} /DL	f _{UL} /DL [MHz]
Low	25+100	25	39683	2499.3	100	39800	2511
		100	39750	2506	25	39867	2517.7
	50+75	50	39703	2501.3	75	39823	2513.3
		75	39725	2503.5	50	39845	2515.5
	50+100	50	39705	2501.5	100	39849	2515.9
		100	39750	2506	50	39894	2520.4
	75+75	75	39725	2503.5	75	39875	2518.5
		75+100	75	39728	2503.8	100	39899
	100		39750	2506	75	39921	2523.1
	100+100	100	39750	2506	100	39948	2525.8
Mid	25+100	25	40528	2583.8	100	40645	2595.5
		100	40595	2590.5	25	40712	2602.2
	50+75	50	40549	2585.9	75	40669	2597.9
		75	40571	2588.1	50	40691	2600.1
	50+100	50	40526	2583.6	100	40670	2598.0
		100	40571	2588.1	50	40715	2602.5
	75+75	75	40545	2585.5	75	40695	2600.5
		75+100	75	40523	2583.3	100	40694
	100		40546	2585.6	75	40717	2602.7
	100+100	100	40521	2583.1	100	40719	2602.9
High	25+100	25	41373	2668.3	100	41490	2680
		100	41440	2675	25	41557	2686.7
	50+75	50	41395	2670.5	75	41515	2682.5
		75	41417	2672.7	50	41537	2684.7
	50+100	50	41346	2665.6	100	41490	2680
		100	41391	2670.1	50	41535	2684.5
	75+75	75	41365	2667.5	75	41515	2682.5
		75+100	75	41319	2662.9	100	41490
	100		41341	2665.1	75	41512	2682.2
	100+100	100	41292	2660.2	100	41490	2680
Note 1:	Carriers in increasing frequency order.						

5.3 Test environment and mode

Operating Environment:	
Temperature:	Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 3.85Vdc, Extreme: Low 3.4 Vdc, High 4.4 Vdc
Test mode:	
TM1 mode	Keep the EUT communication with simulated station in QPSK mode
TM2 mode	Keep the EUT communication with simulated station in 16QAM mode
TM3 mode	Keep the EUT communication with simulated station in 64QAM mode
TM4 mode	Keep the EUT communication with simulated station in 256QAM mode
Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report.	

5.4 Description of Test Auxiliary Equipment

Test Equipment	Manufacturer	Model No.	Serial No.
Simulated Station	Rohde & Schwarz	CMW500	140493

5.5 Additions to, deviations, or exclusions from the method

No

5.6 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Radiated Emission (9kHz ~ 30MHz) (3m SAC)	±3.13 dB
Radiated Emission (30MHz ~ 1000MHz) (3m SAC)	±4.45 dB
Radiated Emission (1GHz ~ 18GHz) (3m SAC)	±5.34 dB
Radiated Emission (18GHz ~ 40GHz) (3m SAC)	±5.34 dB
Note: The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.26-2015. All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.	

5.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations: ● FCC - Designation No.: CN1211 JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf
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5.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

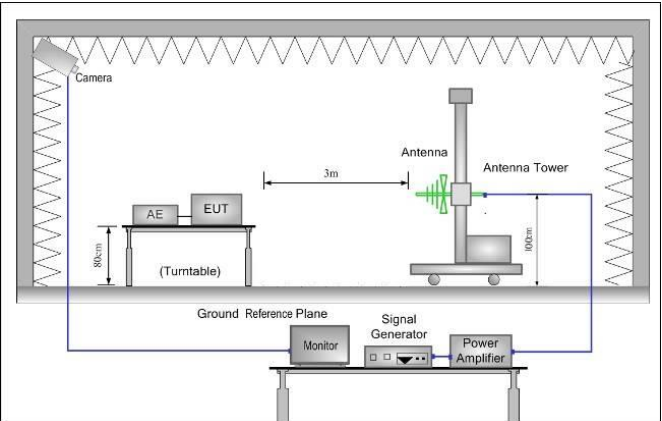
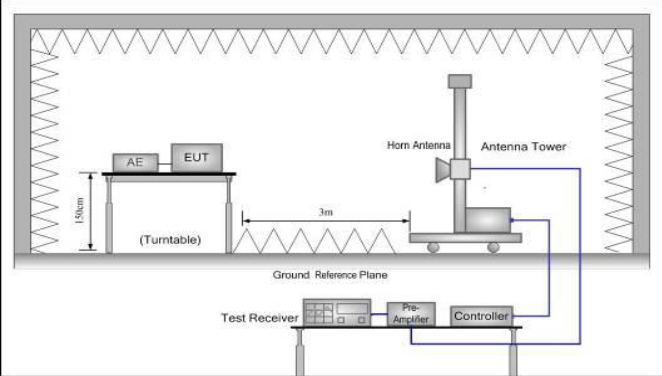
Email: info-JYTee@lets.com, Website: <http://www.ccis-cb.com>

5.9 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Management Number	Cal.Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	WXJ001-1	01-19-2021	01-18-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	WXJ002	03-03-2021	03-02-2022
Biconical Antenna	SCHWARZBECK	VUBA9117	WXJ002-1	06-20-2021	06-19-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	WXJ002-2	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	WXJ002-3	06-18-2021	06-17-2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	WXJ002-4	03-07-2021	03-06-2022
Pre-amplifier (30MHz ~ 1GHz)	HP	8447D	WXG001-2	03-07-2021	03-06-2022
Pre-amplifier (1GHz ~ 18GHz)	SKET	LNPA_0118G-50	WXG001-3	03-07-2021	03-06-2022
Pre-amplifier (18GHz ~ 40GHz)	RF System	TRLA-180400G45B	WXG001-9	03-07-2021	03-06-2022
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	WXJ004	03-03-2021	03-02-2022
Spectrum Analyzer	KEYSIGHT	N9010B	WXJ004-2	11-27-2020	11-26-2021
Signal Generator	Agilent	N5173B	WXJ006-7	03-25-2021	03-24-2022
Simulated Station	Rohde & Schwarz	CMW500	WXJ008-3	06-17-2021	06-16-2022
Coaxial Cable (30MHz ~ 1GHz)	JYT	JYT3M-1G-NN-8M	WXG001-4	03-07-2021	03-06-2022
Coaxial Cable (1GHz ~ 18GHz)	JYT	JYT3M-18G-NN-8M	WXG001-5	03-07-2021	03-06-2022
Coaxial Cable (9kHz ~ 30MHz)	JYT	JYT3M-1G-BB-5M	WXG001-6	03-07-2021	03-06-2022
Coaxial Cable (1GHz ~ 18GHz)	JYT	JYT3M-40G-SS-8M	WXG001-7	03-07-2021	03-06-2022
RF Switch Unit	Tonscend	JS0806-F	WXJ089	N/A	
Test Software	Tonscend	TS+	Version: 3.0.0.1		

6. Test results

6.1 Field strength of spurious radiation measurement

Test Requirement:	Part 2.1053, Part 22.917 (a), Part 27.53 (m)
Limit:	-13dBm for band 5 -25dBm for band 7/38/41/ CA_7C/ CA_38C/ CA_41C
Test setup:	Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $ERP / EIRP = S.G. \text{ output (dBm) } + \text{Antenna Gain(dB/dBi) } - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed
Remark:	The test data in this report are based on the previous report with report number: JYTSZB-R12-2101726

Measurement Data (worst case):

LTE Band 5					
Test Channel = Low Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1176.7088	22.01	-67.92	-13.00	54.92	Horizontal
1649.2325	26.01	-63.25	-13.00	50.25	Horizontal
2437.8719	24.27	-62.78	-13.00	49.78	Horizontal
3535.5268	52.83	-65.09	-13.00	52.09	Horizontal
5523.9762	49.87	-60.38	-13.00	47.38	Horizontal
9028.0014	47.84	-52.76	-13.00	39.76	Horizontal
1201.5101	22.15	-67.87	-13.00	54.87	Vertical
2435.5718	25.71	-61.33	-13.00	48.33	Vertical
2966.7983	22.25	-63.41	-13.00	50.41	Vertical
5222.2611	50.01	-61.62	-13.00	48.62	Vertical
7351.7676	48.35	-56.40	-13.00	43.40	Vertical
9587.6794	46.60	-52.78	-13.00	39.78	Vertical
Remark:					
1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band 7					
Test Channel = Low Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1529.8162	20.01	-50.25	-25.00	25.25	Horizontal
3930.0465	50.85	-66.08	-25.00	41.08	Horizontal
6043.6522	48.55	-60.09	-25.00	35.09	Horizontal
8455.7728	48.22	-54.14	-25.00	29.14	Horizontal
11122.1561	45.74	-50.36	-25.00	25.36	Horizontal
16414.4207	46.02	-44.61	-25.00	19.61	Horizontal
1507.5634	20.63	-49.76	-25.00	24.76	Vertical
3524.2762	52.40	-65.39	-25.00	40.39	Vertical
5992.6496	48.70	-60.51	-25.00	35.51	Vertical
8399.5200	47.58	-54.67	-25.00	29.67	Vertical
12072.4536	44.73	-49.02	-25.00	24.02	Vertical
16407.6704	45.37	-45.13	-25.00	20.13	Vertical
Remark:					
1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band 38					
Test Channel = High Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1149.2687	20.84	-50.49	-25.00	25.49	Horizontal
1879.1099	20.69	-48.76	-25.00	23.76	Horizontal
2997.7497	20.67	-46.53	-25.00	21.53	Horizontal
5202.1101	54.27	-57.36	-25.00	32.36	Horizontal
7803.2402	59.90	-43.46	-25.00	18.46	Horizontal
16392.6696	47.17	-43.34	-25.00	18.34	Horizontal
1182.5228	20.94	-50.66	-25.00	25.66	Vertical
2129.8912	20.76	-48.46	-25.00	23.46	Vertical
2981.4977	20.81	-46.56	-25.00	21.56	Vertical
5202.1101	54.14	-57.49	-25.00	32.49	Vertical
7803.2402	57.71	-45.65	-25.00	20.65	Vertical
16399.4200	46.70	-43.67	-25.00	18.67	Vertical
Remark:					
1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band 41					
Test Channel = Low Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1151.0189	20.75	-50.56	-25.00	25.56	Horizontal
2038.1298	21.07	-48.35	-25.00	23.35	Horizontal
2925.4907	20.98	-46.34	-25.00	21.34	Horizontal
3636.7818	52.37	-65.17	-25.00	40.17	Horizontal
7491.2246	56.65	-47.07	-25.00	22.07	Horizontal
16415.9208	47.15	-43.51	-25.00	18.51	Horizontal
1152.5191	20.91	-50.44	-25.00	25.44	Vertical
1941.6177	20.97	-48.58	-25.00	23.58	Vertical
2938.2423	20.85	-46.46	-25.00	21.46	Vertical
4311.8156	51.93	-63.74	-25.00	38.74	Vertical
7491.2246	54.61	-49.11	-25.00	24.11	Vertical
15033.6017	45.26	-45.11	-25.00	20.11	Vertical
Remark:					
1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band CA_7C					
Test Channel = Middle Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1872.8591	20.39	-49.11	-25.00	24.11	Horizontal
2940.2425	20.80	-46.52	-25.00	21.52	Horizontal
5678.3839	49.49	-59.81	-25.00	34.81	Horizontal
8405.5203	48.91	-53.36	-25.00	28.36	Horizontal
13360.2680	45.90	-46.31	-25.00	21.31	Horizontal
16396.4198	46.54	-43.89	-25.00	18.89	Horizontal
1153.2692	20.75	-50.62	-25.00	25.62	Vertical
2923.2404	20.73	-46.63	-25.00	21.63	Vertical
5660.3830	49.92	-59.62	-25.00	34.62	Vertical
7869.2435	47.65	-55.39	-25.00	30.39	Vertical
13370.7685	45.37	-46.74	-25.00	21.74	Vertical
17984.2492	47.84	-45.34	-25.00	20.34	Vertical
Remark: 1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band CA_38C					
Test Channel = Low Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1443.0554	20.26	-50.49	-25.00	25.49	Horizontal
2934.7418	20.90	-46.39	-25.00	21.39	Horizontal
6748.6874	48.49	-57.60	-25.00	32.60	Horizontal
11237.6619	46.60	-49.30	-25.00	24.30	Horizontal
15047.8524	44.98	-45.49	-25.00	20.49	Horizontal
17912.2456	47.51	-44.87	-25.00	19.87	Horizontal
1509.3137	20.45	-49.87	-25.00	24.87	Vertical
2997.7497	20.87	-46.33	-25.00	21.33	Vertical
6538.6769	49.53	-57.70	-25.00	32.70	Vertical
10037.6019	46.96	-51.67	-25.00	26.67	Vertical
12817.9909	45.08	-47.41	-25.00	22.41	Vertical
17990.2495	47.96	-45.36	-25.00	20.36	Vertical
Remark: 1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

LTE Band CA_41C					
Test Channel = High Channel					
Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1971.6215	20.64	-48.53	-13.00	35.53	Horizontal
2903.2379	20.73	-46.84	-13.00	33.84	Horizontal
7470.2235	48.68	-55.24	-13.00	42.24	Horizontal
11153.6577	46.23	-49.51	-13.00	36.51	Horizontal
14025.5513	44.98	-46.91	-13.00	33.91	Horizontal
17914.4957	47.43	-44.94	-13.00	31.94	Horizontal
1151.7690	21.12	-50.21	-13.00	37.21	Vertical
2924.4906	20.66	-46.68	-13.00	33.68	Vertical
5660.3830	49.23	-60.31	-13.00	47.31	Vertical
11233.1617	46.61	-49.28	-13.00	36.28	Vertical
15006.6003	44.72	-45.45	-13.00	32.45	Vertical
17794.4897	47.80	-45.54	-13.00	32.54	Vertical
Remark: 1. The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.					

7 Test Setup Photo

Reference to the test setup photos: PCE-Test Setup Photo

8 EUT Constructional Details

Reference to the External Photo and Internal Photo

-----End of report-----