



Industrial Internet Innovation Center (Shanghai) Co.,Ltd.

MPE REPORT

PRODUCT	5G CPE
BRAND	ATEL
MODEL	PW550+,PW550, PW550 Plus, PW550 Pro,JW515, PW550-NA
FCC ID	XYO-PW550NA
APPLICANT	Asiatelco Technologies Co.
ISSUE DATE	September 30, 2024
STANDARD(S)	FCC 47 CFR Part 2 §2.1091

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1 Summary of Test Report

1.1 Test Standard (s)

No.	Test Standard(s)	Title	Version
1	FCC 47 CFR Part 2 §2.1091	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS. Section 2.1091 Radiofrequency radiation exposure evaluation: mobile devices	N/A
NOTE: The standard of FCC 47 CFR Part 2 §2.1091 has not been accredited by A2LA.			

1.2 Reference Documents

No.	Reference Document(s)	Title	Version
1	KDB 447498	General RF Exposure Guidance	D01 v06

1.3 Data Provided by Applicant

No.	Item(s)	Data
1	Maximum tune-up power	Antenna 8: WCDMA Band II/IV/V: 25.00 dBm LTE Band 2/4/5/7/12/13/14/17/25/26/66/71: 24.50 dBm LTE Band 30: 23.50 dBm NR Band n2/5/7/12/14/25/66/71: 24.50 dBm NR Band n30: 23.50 dBm Antenna 3: LTE Band 41: 27.50 dBm LTE Band CA_41C: 27.50 dBm NR Band n41: 27.50 dBm Antenna 6: LTE Band 48: 22.00 dBm NR Band n77: 27.50 dBm NR Band n78: 27.50 dBm NR MIMO(n41): NR Band n41 Antenna 3: 23.50 dBm NR Band n41 Antenna 8: 23.50 dBm NR MIMO(n77): NR Band n77 Antenna 1: 23.50 dBm NR Band n77 Antenna 6: 23.50 dBm NR MIMO(n78): NR Band n78 Antenna 1: 23.50 dBm NR Band n78 Antenna 6: 23.50 dBm BT Antenna: BLE: 5.50 dBm Wi-Fi Antenna 1: Wi-Fi 2.4G: 21.00 dBm Wi-Fi 5G U-NII-1: 19.00 dBm Wi-Fi 5G U-NII-3: 19.00 dBm Wi-Fi Antenna 2:

		Wi-Fi 2.4G: 21.00 dBm Wi-Fi 5G U-NII-1: 19.00 dBm Wi-Fi 5G U-NII-3: 18.00 dBm
2	Maximum antenna gain	Antenna 8: WCDMA Band II : 1.70 dBi; WCDMA Band IV : 1.82 dBi; WCDMA Band V : 1.56 dBi; LTE Band 2: 1.70 dBi; LTE Band 4: 1.82 dBi; LTE Band 5: 1.56 dBi; LTE Band 7: 1.07 dBi; LTE Band 12: 0.92 dBi; LTE Band 13: 0.43 dBi; LTE Band 14: 0.43 dBi; LTE Band 17: 0.92 dBi; LTE Band 25: 1.70 dBi; LTE Band 26: 1.56 dBi; LTE Band 30: 0.22 dBi; LTE Band 66: 1.82 dBi; LTE Band 71: 0.92 dBi; NR Band n2: 1.70 dBi; NR Band n5: 1.56 dBi; NR Band n7: 1.07 dBi; NR Band n12: 0.92 dBi; NR Band n14: 0.43 dBi; NR Band n25: 1.70 dBi; NR Band n30: 0.22 dBi; NR Band n66: 1.82 dBi; NR Band n71: 0.92 dBi; Antenna 3: LTE Band 41: 1.92 dBi; LTE Band CA_41C: 1.92 dBi; NR Band n41: 1.92 dBi; Antenna 6: LTE Band 48: 1.84 dBi; NR Band n77: 1.84 dBi; NR Band n78: 1.84 dBi; NR MIMO(n41): NR Band n41 Antenna 3: 1.92 dBi; NR Band n41 Antenna 8: 1.77 dBi; NR MIMO(n77): NR Band n77 Antenna 1: 1.91 dBi; NR Band n77 Antenna 6: 1.84 dBi; NR MIMO(n78): NR Band n78 Antenna 1: 1.61 dBi; NR Band n78 Antenna 6: 1.84 dBi; BT Antenna: BLE: 3.87 dBi; Wi-Fi Antenna 1: Wi-Fi 2.4G: 4.50 dB; Wi-Fi 5G U-NII-1: 6.05 dBi; Wi-Fi 5G U-NII-3: 4.85 dBi; Wi-Fi Antenna 2: Wi-Fi 2.4G: 3.60 dBi; Wi-Fi 5G U-NII-1: 5.28 dBi; Wi-Fi 5G U-NII-3: 3.50 dBi;
NOTE: The data of Maximum tune-up power and Maximum antenna gain are provided by the customer may affect the validity of the test results in this report, and the impact and consequences of this shall be undertaken by the customer.		

2 General Information of The Laboratory

2.1 Testing Laboratory

Lab Name	Industrial Internet Innovation Center (Shanghai) Co.,Ltd.
Address	Building 4, No. 766, Jingang Road, Pudong, Shanghai, China
Telephone	021-68866880
FCC Registration No.	708870
FCC Designation No.	CN1364

2.2 Laboratory Environmental Requirements

Temperature	18°C~25°C
Relative Humidity	25%RH~75%RH

2.3 Project Information

Project Manager	Xu Yuting
Test Date	N/A

3 General Information of The Customer

3.1 Applicant

Company	Asiatelco Technologies Co.
Address	#68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201204, China
Telephone	N/A

3.2 Manufacturer

Company	Asiatelco Technologies Co.
Address	#68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201204, China
Telephone	N/A

4 General Information of The Product

4.1 Product Description for Equipment under Test (EUT)

Product	5G CPE
Model	PW550+,PW550, PW550 Plus, PW550 Pro,JW515, PW550-NA
Date of Receipt	N/A
EUT ID*	N/A
SN/IMEI	N/A
Supported Radio Technology and Bands	WCDMA Band II /IV /V LTE Band 2/4/5/7/12/13/14/17/25/26/30/41/48/66/71, CA_41C NR SA n2/5/7/12/14/25/30/41/66/71/77/78 NR MIMO: n41/n77/n78 Wi-Fi 802.11 b/g/a/n/ac/ax
Tx Frequency	1850 MHz-1910 MHz (WCDMA Band II) 1710 MHz-1755 MHz (WCDMA Band IV) 824 MHz-849 MHz (WCDMA Band V) 1850 MHz-1910 MHz (LTE Band 2) 1710 MHz-1755 MHz (LTE Band 4) 824 MHz-849 MHz (LTE Band 5) 2500 MHz-2570 MHz (LTE Band 7) 699 MHz-716 MHz (LTE Band 12) 777 MHz-787 MHz (LTE Band 13) 788 MHz-798 MHz (LTE Band 14) 704 MHz-716 MHz (LTE Band 17) 1850 MHz-1915 MHz (LTE Band 25) 814 MHz-849 MHz (LTE Band 26) 2305 MHz-2315 MHz (LTE Band 30) 2496 MHz-2690 MHz (LTE Band 41) 3550 MHz-3700 MHz (LTE Band 48) 1710 MHz-1780 MHz (LTE Band 66) 663 MHz-698 MHz (LTE Band 71) 1850 MHz-1910 MHz (NR Band n2) 824 MHz-849 MHz (NR Band n5) 2500 MHz-2570 MHz (NR Band n7) 699 MHz-716 MHz (NR Band n 12) 788 MHz-798 MHz (NR Band n 14) 1850 MHz-1915 MHz (NR Band n25) 2305 MHz-2315 MHz (NR Band n30) 2496 MHz-2690 MHz (NR Band n41) 1710 MHz-1780 MHz (NR Band n66) 663 MHz-698 MHz (NR Band n71) 3300 MHz-4200 MHz (NR Band n77) 3300 MHz-3800 MHz (NR Band n78) 2412 MHz-2462 MHz (Wi-Fi 2.4G) 5180 MHz-5240 MHz (Wi-Fi 5G U-NII-1) 5745 MHz-5825 MHz (Wi-Fi 5G U-NII-3) 2402 MHz-2480 MHz (BLE)

Hardware Version	PW55-P1
Software Version	CPE5_PW550_NO_00_v1.0.2
NOTE1: EUT ID is the internal identification code of the laboratory. NOTE2: Samples in the test report are provided by the customer. The test results are only applicable to the samples received by the laboratory.	

4.2 Description for Auxiliary Equipment (AE)

AE ID*	Description	Model	SN/Remark
N/A	N/A	N/A	N/A
NOTE: AE ID is the internal identification code of the laboratory.			

5 General Description

5.1 Evaluation Distance

Evaluation distance 20cm as a distance between the equipment and the operator or user when it is used normally. The distance used for the assessment had be specified by the manufacturer and be onsistent with the intended usage of the equipment.

5.2 Evaluation Method

For conservative evaluation consideration, only maximum power of each frequency band based on the tighter limits respectively are used to calculate the boundary power density.

Based on the KDB447498 D01 and FCC 47 CFR Part 2 § 2.1091, the DUT is evaluated as a mobile device.

$$S = \frac{P \times G}{4\pi d^2}$$

Where

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

6 Assessment Results

6.1 Standalone Evaluation

6.1.1 Limit/Criterion

Table 6.1.1-1: Limits for Occupational / Controlled Exposure

Limits for Occupational / Controlled Exposure				
Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1824/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1	6
300 – 1500	--	--	F/300	6
1500 - 100000	--	--	5	6
Limits for General Population / Uncontrolled Exposure				
Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3 – 1.34	614	1.63	(100)*	30
1.34 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	--	--	F/1500	30
1500 - 100000	--	--	1	30
NOTE: f = frequency in MHz; * Plane-wave equivalent power density. For the DUT, the limits for General Population / Uncontrolled Exposure are applicable.				

6.1.2 Standalone Evaluation

Table 6.1.2-1: Standalone Evaluation

Antenna	Frequency Band	Limit (mW/cm ²)	Results (mW/cm ²)	Results /Limit	Verdict
Antenna 8	WCDMA Band II	1.000	0.093	0.093	PASS
Antenna 8	WCDMA Band IV	1.000	0.096	0.096	PASS
Antenna 8	WCDMA Band V	0.549	0.090	0.164	PASS
Antenna 8	LTE Band 2	1.000	0.083	0.083	PASS
Antenna 8	LTE Band 4	1.000	0.085	0.085	PASS
Antenna 8	LTE Band 5	0.549	0.080	0.146	PASS
Antenna 8	LTE Band 7	1.000	0.072	0.072	PASS
Antenna 8	LTE Band 12	0.466	0.069	0.148	PASS
Antenna 8	LTE Band 13	0.518	0.062	0.120	PASS
Antenna 8	LTE Band 14	0.525	0.062	0.118	PASS
Antenna 8	LTE Band 17	0.469	0.069	0.147	PASS
Antenna 8	LTE Band 25	1.000	0.083	0.083	PASS
Antenna 8	LTE Band 26	0.543	0.080	0.147	PASS
Antenna 8	LTE Band 30	1.000	0.047	0.047	PASS
Antenna 3	LTE Band 41	1.000	0.174	0.174	PASS
Antenna 6	LTE Band 48	1.000	0.048	0.048	PASS
Antenna 8	LTE Band 66	1.000	0.085	0.085	PASS
Antenna 8	LTE Band 71	0.442	0.069	0.156	PASS
Antenna 3	LTE CA_41C	1.000	0.174	0.174	PASS
Antenna 8	NR n2	1.000	0.083	0.083	PASS
Antenna 8	NR n5	0.549	0.080	0.146	PASS
Antenna 8	NR n7	1.000	0.072	0.072	PASS
Antenna 8	NR n12	0.466	0.069	0.148	PASS
Antenna 8	NR n14	0.525	0.062	0.118	PASS
Antenna 8	NR n25	1.000	0.083	0.083	PASS
Antenna 8	NR n30	1.000	0.047	0.047	PASS
Antenna 3	NR n41	1.000	0.174	0.174	PASS
Antenna 8	NR n66	1.000	0.085	0.085	PASS
Antenna 8	NR n71	0.442	0.069	0.156	PASS
Antenna 6	NR n77	1.000	0.171	0.171	PASS
Antenna 6	NR n78	1.000	0.171	0.171	PASS
Antenna 3	NR n41 MIMO	1.000	0.069	0.069	PASS
Antenna 8		1.000	0.067	0.067	PASS

Antenna 1	NR n77 MIMO	1.000	0.069	0.069	PASS
Antenna 6		1.000	0.068	0.068	PASS
Antenna 1	NR n78 MIMO	1.000	0.065	0.065	PASS
Antenna 6		1.000	0.068	0.068	PASS
BT	BLE	1.000	0.002	0.002	PASS
Wi-Fi Antenna 1:	Wi-Fi 2.4G	1.000	0.071	0.071	PASS
	Wi-Fi 5G U-NII-1	1.000	0.064	0.064	PASS
	Wi-Fi 5G U-NII-3	1.000	0.048	0.048	PASS
Wi-Fi Antenna 2:	Wi-Fi 2.4G	1.000	0.057	0.057	PASS
	Wi-Fi 5G U-NII-1	1.000	0.053	0.053	PASS
	Wi-Fi 5G U-NII-3	1.000	0.028	0.028	PASS

6.2 Simultaneous transmission Evaluation

Table 6.2-1: Simultaneous transmission Evaluation

MAX.ratios: WCDMA/LTE /NR	MAX.ratios: BLE	MAX.ratios: Wi-Fi 2.4G	MAX.ratios: Wi-Fi 5G U- NII-1	MAX.ratios: Wi-Fi 5G U- NII-3	MAX.Worst case ratios:WCDMA/LTE/N R+Wi-Fi+BLE
0.174	0.002	0.071	0.064	0.048	0.247
		0.057	0.053	0.028	0.233
0.174	0.002	0.128	0.117	0.076	0.304

Conclusion: The Sum of the Ratios is smaller than 1, and simultaneous transmissions is compliant.

Annex A: Revised History

Version	Revised Content
V0	Initial



Accredited Laboratory

A2LA has accredited

INDUSTRIAL INTERNET INNOVATION CENTER (SHANGHAI) CO., LTD.

Shanghai, People's Republic of China

for technical competence in the field of

Electrical Testing

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. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 20th day of September 2023.

A handwritten signature in blue ink, appearing to read 'Trace McInturf'.

Mr. Trace McInturf, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2025

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

END OF REPORT