TEST REPORT

No. I20D00149-SAR01

For

Client:	**Asiatelco Technologies Co.**
Production:	**Home phone connect**
Model Name:	**V810T / V810TD/V810V/ V810VD/V810A / V810AD**
Brand Name:	**ATEL**
FCC ID:	**XYO-V810**
Hardware Version:	**V1.0**
Software Version:	**QC25_V8100_1.0.4.802**
Issued date:	**2020-12-14**

NOTE

1. The test results in this test report relate only to the devices specified in this report.
2. This report shall not be reproduced except in full without the written approval of East China Institute of Telecommunications.
3. For the test results, the uncertainty of measurement is not taken into account when judging the compliance with specification, and the results of measurement or the average value of measurement results are taken as the criterion of the compliance with specification directly.
4. It has been confirmed with the customer that the Highest Frame-Averaged Output Power and Antenna gain information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences will be borne by the customer.

Test Laboratory:
East China Institute of Telecommunications
Add: Building 4,No.766,Jingang Road,Pudong, Shanghai, P. R. China
Tel: +86 21 63843300
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Revision Version

Report Number	Revision	Date	Memo
I20D00149-SAR01	00	2020-11-30	Initial creation of test report
I20D00149-SAR01	01	2020-12-14	Second creation of test report

CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name	East China Institute of Telecommunications
Address	Building 4,No.766,Jingang Road,Pudong, Shanghai, P. R. China
Postal Code	201206
Telephone	+86 21 63843300
Fax	+86 21 63843301
FCC Designation No	CN1177

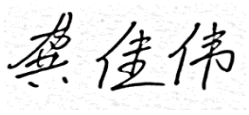
1.2. Testing Environment

Normal Temperature	18℃-25℃
Relative Humidity	25%-75%

1.3. Project Data

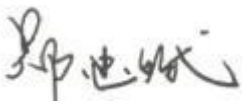
Project Leader	Chen Minfei

1.4. Signature



Gong Jiawei
(Prepared this test report)

Yan Hang
(Reviewed this test report)



Zheng Zhongbin
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name	Asiatelco Technologies Co.
Address	#289 Bisheng Road, Building-8, 3F, Zhang jiang Hi-Tech Park, Pudong, Shanghai, China
Telephone	N/A
Postcode	201204

2.2. Manufacturer Information

Company Name	Asiatelco Technologies Co.
Address	#289 Bisheng Road, Building-8, 3F, Zhang jiang Hi-Tech Park, Pudong, Shanghai, China
Telephone	N/A
Postcode	201204

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Home phone connect
Model name	V810T/V810TD/V810V/V810VD/V810A/V810AD
UMTS Frequency Band:	WCDMA Band II/ Band IV/ Band V
LTE Frequency Band	LTE 2/4/5/12/13/14/66/71
Additional Communication Function	BLE; WiFi 802.11a/b/g/n/ac

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N05	866834041312997	V1.0	QC25_V8100_1.0.4.802	2020-10-22

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	Manufacturer
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*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents for FCC

4.1. Documents supplied by applicant

All technical documents are supplied by the client or manufacturer, which is the basis of evaluation.

4.2. Reference Documents

The following documents listed in this section are referred for evaluation.

Reference	Title	Version
FCC CFR 47	Part 2 FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS. Oct 1,2011 Section 2.1091 Radiofrequency radiation exposure evaluation: mobile devices, June 23, 2015	**2015**

4.3. Criteria

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with the reference this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

Limits for Occupational / Controlled Exposure				
Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times |E|2, |H|2 or S (minitues)
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/cm2)	Averaging Times |E|2, |H|2 or S (minitues)
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.				

4.4. Calculation

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 FCC KDB 447498 D01 and 47 CFR §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

5. Evaluation Summary and Statement of Compliance

5.1. RF Power Output

Band	Frequence	Highest Output Power (dBm)	Highest Output Power (mW)	Antenna Gain(dBi)
WCDMA Band 2	1852.4	25	316.23	3.7
WCDMA Band 4	1712.4	25	316.23	3.7
WCDMA Band 5	826.4	25	316.23	1.9
LTE Band 2	1850.7	25	316.23	3.7
LTE Band 4	1710.7	25	316.23	3.7
LTE Band 5	824.7	25	316.23	1.9
LTE Band 12	699.7	25	316.23	1.9
WIFI 2.4G 802.11b	2412	12	15.85	2.5
WIFI 2.4G 802.11g	2412	12	15.85	2.5
WIFI 2.4G 802.11n	2412	12	15.85	2.5
WIFI 5G 802.11a	5180	14	25.12	5
WIFI 5G 802.11n	5180	14	25.12	5
WIFI 5G 802.11ac	5180	14	25.12	5

5.2. Evaluation Summary

Band	Frequence	Highest Output Power (dBm)	Highest Output Power (mW)	Antenna Gain(dBi)	Numeric antenna gain	Power density at 20cm	MPE limit (mW/cm^2)	Power density /limit
WCDMA Band 2	1852.4	25	316.23	3.7	2.344	0.147	1.000	0.147
WCDMA Band 4	1712.4	25	316.23	3.7	2.344	0.147	1.000	0.147
WCDMA Band 5	826.4	25	316.23	1.9	1.549	0.097	0.551	0.177
LTE Band 2	1850.7	25	316.23	3.7	2.344	0.147	1.000	0.147
LTE Band 4	1710.7	25	316.23	3.7	2.344	0.147	1.000	0.147
LTE Band 5	824.7	25	316.23	1.9	1.549	0.097	0.550	0.177
LTE Band 12	699.7	25	316.23	1.9	1.549	0.097	0.466	0.209
WIFI 2.4G 802.11b	2412	12	15.85	2.5	1.778	0.006	1.000	0.006
WIFI 2.4G 802.11g	2412	12	15.85	2.5	1.778	0.006	1.000	0.006
WIFI 2.4G 802.11n	2412	12	15.85	2.5	1.778	0.006	1.000	0.006

WIFI 5G 802.11a	5180	14	25.12	5	3.162	0.016	1.000	0.016
WIFI 5G 802.11n	5180	14	25.12	5	3.162	0.016	1.000	0.016
WIFI 5G 802.11ac	5180	14	25.12	5	3.162	0.016	1.000	0.016

5.3. Simultaneous SAR Evaluation

Power density /Limit			∑(Power density /Limit) of
1	2	3	
WWAN	2.4G WiFi	5GHz WiFi	1+2+3
0.209	0.006	0.016	0.231

Note:

1. ∑(Power density /Limit) : This is a summation of [(Power density for each transmitter/antenna included in the simultaneous transmission)/(corresponding MPE limit)],for WWAN+2.4GHz WiFi+5GHz.

2. Considering the WWAN collocation with the 2.4GHz WiFi or 5GHz WiFi transmitter of the Highest output power performance listed in the table above, the aggregated (Power density /Limit) is smaller than1, and MPE of 2 and 3 collocated transmitters is compliant.

The product is under the MPE limits. All is pass.