



No. I21Z61036-SEM02

for

TCL Communication Ltd.

Vodafone Gigacube

Model Name: HH500V

Hardware Version: HH500_MB_C

Software Version: HH500V_VDF_V2.0.0B01

FCC ID: 2ACCJB157

Issued Date: 2021-8-27

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I21Z61036-SEM02	Rev.0	2021-6-20	Initial creation of test report
I21Z61036-SEM02	Rev.1	2021-8-11	Update the information on section7.
I21Z61036-SEM02	Rev.2	2021-8-19	Update the information on section8.
I21Z61036-SEM02	Rev.3	2021-8-23	Update the information on section7.
I21Z61036-SEM02	Rev.4	2021-8-27	Update the information on section7and section8.

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1. Test Laboratory

1.1. Testing Location

Company Name: CTTL(Shouxiang)
Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District,
Beijing, P. R. China100191
Postal Code: 100191
Telephone: 00861062304633
Fax: 00861062304793

1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.3. Project data

Project Leader: Lin Hao
Testing Start Date: 2021-6-20
Testing End Date: 2021-6-20

1.4. Signature

Lin Hao

(Prepared this test report)

Qi Dianyuan

(Reviewed this test report)

Lu Bingsong

Deputy Director of the laboratory
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
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Contact:	Gong Zhizhou
Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address /Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact:	Gong Zhizhou
Email:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	0086-755-36612000-81722

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

3.1. About EUT

Description	Vodafone Gigacube
Model name	HH500V
Operation mode	LTEBand1/3/5/7/8/20/28/32/34/38/39/40/41/42/43 N1/3/7/8/20/28/38/77/78 WIFI2.4/5G
CA Frequency Band	CA_3C,CA_7C,CA_38C,CA_3A- 7A,CA_3A_20A,CA_3A_28A,CA_7A_28A,CA_1A_3A,CA_1 A_20A,CA_7A_20A,CA_1A_28A,CA_3A_8A,CA_1A_7A,CA _1A_8A,CA_7A_8A
EN-DC Bands	3A_n1A , 7A_n1A, 20A_n1A, 8A_n1A, 1A_n3A, 7A_n3A, 20A_n3A, 8A_n3A, 28A_n3A, 1A_n7A, 28A_n7A, 3A_n7A, 20A_n7A, 7A_n8A, 3A_n20A, 1A_n20A, 7A_n20A, 1A_N28A, 3A_N28A, 7A_N28A, 20A_N28A, 1A_n38A, 3A_n38A, 1A_n77A, 3A_n77A, 28A_n77A, 1A_N78A, 3A_N78A, 7A_N78A, 8A_N78A, 20A_N78A, 28A_N78A, 38A_N78A,

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version
EUT1	/	HH500_MB_C	HH500V_VDF_V2.0.0B01

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	/	/

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

4. Reference Documents

4.1. Reference Documents for testing

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

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

447498 D01 General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

Canadian RSS-102: standard for uncontrolled environment requires the RF-exposure value in W/m² unit, therefore the MPE limit value determined in mW/cm² unit, should be multiplied by 10 to have the required unit. The MPE limits are the same like on FCC § 1.1301 at table 1.

5. RF Exposure Limit

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time 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/f²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

$$\text{Friis transmission formula: } P_d = \frac{P_{out} * G}{4 * \pi * r^2}$$

where

P_d = power density (mW/cm²)

P_{out} = output power to antenna (mW)

G = gain of antenna (linear scale)

r = distance between antenna and observation point (cm)

6. Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as Mobile Device.

7. Simultaneous Transmission

	Main antenna	WLAN antenna 2.4G	WLAN antenna 5G	Sum
MPE	0.177	0.303	0.235	0.715

8. Test Results

8.1. The maximum antenna gain

The maximum gain for each frequency band is:

Frequency band	Antenna gain (dBi)
LTE B5	0.1
LTE B7	3.4
LTE B38	3.4
LTE B41	3.4
LTE B42	3.4
NR n78	3.4
WiFi 2.4G	9.82
WiFi 5.2G	8.72
WiFi 5.3G	8.72
WiFi 5.6G	8.72

8.2. The maximum rated power limits

Maximum rated power for antenna:

Frequency band	Maximum Rated Power (dBm)
LTE B5	25.7
LTE B7	25.7
LTE B38	25.7
LTE B41	25.7
LTE B42	25.7
NR n78	25.7

WiFi 2.4G	22
WiFi 5.2G	22
WiFi 5.3G	22
WiFi 5.6G	22

8.3. Output Power Into Antenna & RF Exposure value at distance 20cm

The worst cases conducted output power for every frequency band is:

Frequency band	Maximum Rated Power (dBm)	Maximum Rated Power (mW)	Antenna gain (dbi)	Antenna gain	d (cm)	Calculation (mW/cm ²)	Limit (mW/cm ²)	Calculation
LTE B5	25.7	371.535	0.1	1.0	20	0.076	0.558	PASS
LTE B7	25.7	371.535	3.4	2.2	20	0.162	1.000	PASS
LTE B38	25.7	371.535	3.4	2.2	20	0.162	1.000	PASS
LTE B41	25.7	371.535	3.4	2.2	20	0.162	1.000	PASS
LTE B42	25.7	371.535	3.4	2.2	20	0.162	1.000	PASS
NR n78	25.7	371.535	3.4	2.2	20	0.162	1.000	PASS
WIFI2.4G	22	158.489	9.82	9.6	20	0.303	1.000	PASS
WIFI5.2G	22	158.489	8.72	7.4	20	0.235	1.000	PASS
WIFI5.3G	22	158.489	8.72	7.4	20	0.235	1.000	PASS
WIFI5.6G	22	158.489	8.72	7.4	20	0.235	1.000	PASS

According above test result, the device complies with the exposure requirements.

*****END OF REPORT*****