



Test report No.: 2370318R-RFUSV17S-A

# RF Exposure Report

Product Name	Celer, Celer-5G, Celer-LTE1, Celer-LTE2
Trademark	Windbit
Model and /or type reference	TLDPH00P1, TLDPH01P1, TLDPH02P1, TLDPH03P1
FCC ID	YUATLDPH00P1
Applicant's name / address	Teldat S.A. Parque Tecnológico de Madrid c/ Isaac Newton, Tres Cantos, 28760 Spain
Manufacturer's name	Teldat S.A.
Test method requested, standard	KDB 447498 D01 v06 <input checked="" type="checkbox"/> Minimum test separation distance $\geq$ 20 cm <input type="checkbox"/> For low power devices
Verdict Summary	IN COMPLIANCE
Documented By (Senior Project Specialist / Genie Chang)	<i>Genie Chang</i>
Tested By (Senior Engineer / Jack Hsu)	<i>Jack Hsu</i>
Approved By (Manager / Tim Sung)	<i>Tim Sung</i>
Date of Receipt	2023/07/11
Date of Issue	2023/12/14
Report Version	V1.0

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## Competences and Guarantees

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DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

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The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

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1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

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### Revision History

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Report No.	Version	Description	Issued Date
2370318R-RFUSV17S-A	V1.0	Initial issue of report.	2023/12/14

## 1. General Information

### 1.1. EUT Description

Product Name	Celer, Celer-5G, Celer-LTE1, Celer-LTE2
Trademark	Windbit
Model and /or type reference	TLDPH00P1, TLDPH01P1, TLDPH02P1, TLDPH03P1
Contain Module FCC ID	XMR2022RM520NGL (For 5G) XMR201906EM06A (For 4G)

Note: For more detailed information please refer to report No.: 2370318R-RFUSV01S-A, 2370318R-RFUSV01S-B, 2370318R-RFUSV03S-A and 2370318R-RFUSV03S-B.

## 2. Test Facility

USA	FCC Registration Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

### 3. RF Exposure Evaluation

#### 3.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance  $\geq 20$  cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

#### 3.2. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

##### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is  $\leq 1.0$

## 3.3. Test Result of RF Exposure Evaluation

Product	Celer, Celer-5G, Celer-LTE1, Celer-LTE2
Test Item	RF Exposure Evaluation

## Only WLAN

Band	conducted output power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Bluetooth	9.24	5.17	14.410	27.606	0.005	1
WiFi 2.4G	21.82	2.44	24.260	266.686	0.053	1
WiFi 5G	21.86	4.73	26.590	456.037	0.091	1

## With EM06-A module

Band	conducted output power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band 2	24.00	2.00	26.000	398.107	0.079	1.000
WCDMA Band 4	24.00	0.80	24.800	301.995	0.060	1.000
WCDMA Band 5	24.00	-0.20	23.800	239.883	0.048	0.549
LTE B2	24.00	2.00	26.000	398.107	0.079	1.000
LTE B4	24.00	0.80	24.800	301.995	0.060	1.000
LTE B5	24.00	-0.20	23.800	239.883	0.048	0.549
LTE B7	24.00	1.80	25.800	380.189	0.076	1.000
LTE B12	24.00	0.90	24.900	309.030	0.061	0.466
LTE B13	24.00	0.00	24.000	251.189	0.050	0.518
LTE B25	24.00	2.00	26.000	398.107	0.079	1.000
LTE B26	24.00	0.00	24.000	251.189	0.050	0.543
LTE B30	24.00	-0.10	23.900	245.471	0.049	1.000
LTE B41	24.00	2.00	26.000	398.107	0.079	1.000
LTE B66	24.00	0.80	24.800	301.995	0.060	1.000

With RM520N-GL module

Band	conducted output power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band 2	25.00	-0.82	24.180	261.818	0.052	1.000
WCDMA Band 4	25.00	-0.82	24.180	261.818	0.052	1.000
WCDMA Band 5	25.00	-1.13	23.870	243.781	0.048	0.549
LTE B2 / CA_2C / 5GNR n2	25.00	-0.82	24.180	261.818	0.052	1.000
LTE B4	25.00	-0.82	24.180	261.818	0.052	1.000
LTE B5 / CA_5B / 5GNR n5	25.00	-1.13	23.870	243.781	0.048	0.549
LTE B7 / CA_7C / 5GNR n7	25.00	-2.70	22.300	169.824	0.034	1.000
LTE B12 / 5GNR n12	25.00	-1.13	23.870	243.781	0.048	0.466
LTE B13 / 5GNR n13	25.00	-1.13	23.870	243.781	0.048	0.518
LTE B14 / 5GNR n14	25.00	-1.13	23.870	243.781	0.048	0.525
LTE B17	25.00	-1.13	23.870	243.781	0.048	0.469
LTE B25 / 5GNR n25	25.00	-0.82	24.180	261.818	0.052	1.000
LTE B26 / 5GNR n26	25.00	-1.13	23.870	243.781	0.048	0.543
LTE B30 / 5GNR n30	25.00	-5.70	19.300	85.114	0.017	1.000
LTE B38 / CA_38C / 5GNR n38	28.00	-2.70	25.300	338.844	0.067	1.000
LTE B41 / CA_41C / 5GNR n41	28.00	-0.64	27.360	544.503	0.108	1.000
LTE B42 / CA_42C (3450 - 3550MHz)	28.00	-0.64	27.360	544.503	0.108	1.000
LTE B43 (3700 - 3800MHz)	28.00	-5.81	22.190	165.577	0.033	1.000
LTE B48 / CA_48C / 5GNR n48	25.00	-5.81	19.190	82.985	0.017	1.000
LTE B66 / 5GNR n66	25.00	-0.82	24.180	261.818	0.052	1.000
5GNR n70	25.00	-0.82	24.180	261.818	0.052	1.000
LTE B71 / 5GNR n71	25.00	-1.13	23.870	243.781	0.048	0.442
5GNR n77	28.00	-0.64	27.360	544.503	0.108	1.000
5GNR n78	28.00	-0.64	27.360	544.503	0.108	1.000

Note: The conducted output power is refer to report No.: 2370318R-RFUSV01S-A, 2370318R-RFUSV01S-B, 2370318R-RFUSV03S-A and 2370318R-RFUSV03S-A-B from the DEKRA.



Co-location
<p>Conclusion:</p> <p>The formula of calculated the human exposure assessment is:</p> $CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$ <p>CPD = Calculation power density                      LPD = Limit of power density</p> <p><b>BLE function + Wi-Fi 2.4 GHz function + Wi-Fi 5 GHz function + WWAN function = 0.005 + 0.053 + 0.091 + 0.108 = 0.257</b>, therefore the maximum calculations of above situations are less than the “1” limit.</p>

Results	PASS
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