

TEST REPORT

Reference No..... : WTU20S04016795W002 V3
FCC ID : 2AIIH-OQB2020
Applicant..... : Optiqo Sweden AB
Address..... : Roxviksgatan 8A, 58273 Linköping, Sweden
Manufacturer : Magnificent Cleaning Equipment Co., Ltd.
Address..... : 369 Pujin Raod, Linhu Town, Wuzhong District, Suzhou 215105, China
Product..... : Optiqo - Qlvr Box
Model(s) : OQB2020
Brand Name..... : N/A
Standards..... : FCC 1.1307
Date of Receipt sample : 2020-04-07
Date of Test : 2020-04-14 to 2020-04-20
Date of Issue..... : 2020-06-17
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU20S04016 795W002	2020-04-07	2020-04-14 to 2020-04-20	2020-04-21	original	-	Replaced
WTU20S04016 795W002 V1	2020-04-07	2020-04-14 to 2020-04-20	2020-06-11	Version 1	Updated	Replaced
WTU20S04016 795W002 V2	2020-04-07	2020-04-14 to 2020-04-20	2020-06-16	Version 2	Updated	Replaced
WTU20S04016 795W002 V3	2020-04-07	2020-04-14 to 2020-04-20	2020-06-17	Version 3	Updated	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Optiqo - Qlvr Box
Model(s):	OQB2020
Model Description:	N/A
GSM Band(s):	GSM 850/900/1800/1900MHz
GPRS/EGPRS Class:	12
NFC:	Support
Hardware Version:	OPTIQO V3
Software Version:	OPTIQO20200402
Note:	N/A

4.2 Details of E.U.T.

Operation Frequency:	NFC:13.56MHz GPRS/EDGE 850: 824~849MHz GPRS/EDGE 1900: 1850~1910MHz
Ratings:	Battery DC 9V

5 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

6 RF Exposure

Requirement: FCC Part 1.1307

Test Mode: The EUT work in test mode(Tx).

6.1 Procedures and Requirements

A 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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2 The procedures / limit

FCC Part 1.1307:

(A) Limits for Occupational / Controlled 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)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) 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/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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

6.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

GSM

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
GSM	0.00	1.000	33.00	1995.26	0.396935	1

NFC:

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
13.56MHz	0.00	1.000	11.73	14.89	0.002963	13.274

Note: the following is Source-based time-averaged maximum output power Calculation

Frequency	Source-based time-averaged maximum output power	Substituted (0dBm)	Source-based time-averaged maximum output power
(MHz)	(dBμV/m)	(dBμV/m)	(dBm)
13.56	106.93	95.2	11.73

=====End of Report=====