




FCC RADIO EXPOSURE TEST REPORT

FCC ID : YUATLDPM01D1
Equipment : Enterprise Access Router
Brand Name : Teldat
Model Name : TLDPM01D1, TLDPM02D1
Applicant : Teldat S.A.
Parque Tecnologico de Madrid, Tres Cantos 28760 Madrid
Manufacturer : Teldat S.A.
Parque Tecnologico de Madrid, Tres Cantos 28760 Madrid
Factory : CastleNet Tech Inc.
No.64, Chung-Shan Rd., Tu-Cheng Dist., New Taipei
23680, Taiwan
Standard : 47 CFR Part 2.1091

The product was received on Mar. 26, 2019, and testing was started from Mar. 26, 2019 and completed on Jun. 13, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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History of this test report

Report No.	Version	Description	Issued Date
FA932105	01	Initial issue of report	Jun. 20, 2019
FA932105	02	1. Change model name to "TLDPM01D1, TLDPM02D1" from "TLDPM01D1(M8-Smart-WiFi);TLDPM02D1(M8-Smart-WiFi)" 2. Change Photographs of EUT Version to "V2" from "V1"	Jul. 17, 2019



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: **Sam Chen**

Report Producer: **Viola Huang**



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Evaluation Mode	Uplink Frequency Range (MHz)	Downlink Frequency Range (MHz)	Modulation Type
WCDMA	Band 4:1710-1755	Band 4:2110-2155	BPSK, QPSK
LTE	Band 13:777-787	Band 13:746-756	QPSK, 16QAM, 64QAM

The EUT contains a certified RF module (FCC ID: N7NEM7455).

1.2 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Brand Name	EUT	Model Name	SKU	Description
Teldat	1	TLDPM01D1	SKU 2	Wi-Fi
	2	TLDPM02D1	SKU 2	Wi-Fi + LTE EM7455

From the above models, model: TLDPM02D1 was selected as representative model for the test and its data was recorded in this report.

1.3 Table of WWAN module function

Model Name	FCC ID	Module	Function
EM7455	N7NEM7455	1	LTE: B13 & WCDMA: B4



1.4 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.



2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(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

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = 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

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



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;G1D	3.28	24.73	28.01	0.50	28.51	0.70958	20	0.14116	1.00000
5.2G;D1D (non-txbf)	4.58	24.79	29.37	0.50	29.87	0.97051	20	0.19308	1.00000
5.2G;D1D (txbf)	7.59	23.56	31.15	0.50	31.65	1.46218	20	0.29089	1.00000
5.8G;D1D (non-txbf)	4.06	24.78	28.84	0.50	29.34	0.85901	20	0.17089	1.00000
5.8G;D1D (txbf)	7.07	23.69	30.76	0.50	31.26	1.33660	20	0.26591	1.00000
WCDMA (EM7455) B4	6.00	24.00	30.00	0.00	30.00	1.00000	20	0.19894	1.00000
LTE (EM7455) B13	6.00	24.00	30.00	0.50	30.50	1.12202	20	0.22321	0.51800

Simultaneous Transmission Analysis Mode:

WLAN 2.4GHz + WLAN 5GHz + WCDMA B4 (EM7455)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	3.28	24.73	28.01	0.50	28.51	0.70958	20	0.14116	1.00000	0.14116
5.2G;D1D	7.59	23.56	31.15	0.50	31.65	1.46218	20	0.29089	1.00000	0.29089
WCDMA (EM7455) B4	6.00	24.00	30.00	0.00	30.00	1.00000	20	0.19894	1.00000	0.19894
									Sum Ratio	0.63098
									Ratio Limit	1

WLAN 2.4GHz + WLAN 5GHz + LTE B13 (EM7455)

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	3.28	24.73	28.01	0.50	28.51	0.70958	20	0.14116	1.00000	0.14116
5.2G;D1D	7.59	23.56	31.15	0.50	31.65	1.46218	20	0.29089	1.00000	0.29089
LTE (EM7455) B13	6.00	24.00	30.00	0.50	30.50	1.12202	20	0.22321	0.51800	0.43091
									Sum Ratio	0.86295
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————