



DATE: 24 September 2019

I.T.L. (PRODUCT TESTING) LTD.

Test Report

for

Telrad Networks Ltd.

Equipment under test:

LTE CAT 6 Single-Mode Outdoor CPE

WLTMS-110-4243

Prepared and
approved by:


D. Shidlow

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This report relates only to items tested.



Measurement/Technical Report for
Telrad Networks Ltd.
LTE CAT 6 Single-Mode Outdoor CPE
WLTMS-110-4243
FCC ID: ARA-CPE9KPRO3XHG

This report concerns:

Original Certification:

Class II change: X

Class I change:

Equipment type:

Licensed Non-Broadcast Station Transmitter

Standards used:

FCC, Part 90, Subpart Z

FCC Part 2

Application for Certification
prepared by:

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Applicant for this device:
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1. General Information

1.1 Administrative Information

Manufacturer:	Telrad Networks Ltd.
Manufacturer's Address:	1 Batsheva St. P.O.B. 6118 Lod 711600 Israel Tel: +972-73-246-7651 Fax: +972-73-246-7504
Manufacturer's Representative:	Klara Milman
Equipment Under Test (E.U.T):	LTE CAT 6 Single-Mode Outdoor CPE
Product Marketing Name (PMN):	WLTMS-110-4243
Serial Number No.:	Not designated
Test Specifications:	FCC Part 90, Subpart Z FCC Part 2



1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), FCC Designation Number IL1005.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-3006, R-2729, T-1877, G-245.
5. ISED CAB Identifier: IL1002.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

2. Transmitter Output Power and Equivalent Isotropically Radiated Power (e.i.r.p.)

2.1 *Test Specification*

FCC Part 90, Subpart Z, section 90.1321

2.2 *FCC Limit*

Base and fixed stations are limited to 25 watts/25 MHz (44.0dBm) equivalent isotropically radiated power (EIRP). In any event, the peak EIRP power density shall not exceed 1 Watt in any one-megahertz.

The limits were adjusted for each tested channel bandwidth accordingly as reflected in the test results tables.

2.3 Test Results

Judgment: PASSED

For additional information see Table 1 to Table 8.

Notes:

1. All “old” conducted power readings are taken from test report no. FW6D0202 Rev.01, dated January 12, 2017. This test report was issued by International Certification Corp. for the Gemtek Technology Co., Ltd. CPE9000-PRO-1D-3.x, model WLTMS-110.
2. Telrad Networks Ltd. has replaced the original antenna with an antenna of maximum gain of 21 dBi and reduced the original power by 7.4dB.
3. See declaration in Appendix A concerning the permitted maximum conducted output power.

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44115	3652.5	22.53	15.13	21	36.13	4.102	5
44340	3675.0	22.42	15.02	21	36.02	3.999	5
44565	3697.5	22.57	15.17	21	36.17	4.140	5

Table 1. Channel Bandwidth: 5MHz – QPSK

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44115	3652.5	22.56	15.16	21	36.16	4.130	5
44340	3675.0	22.48	15.08	21	36.08	4.055	5
44565	3697.5	22.59	15.19	21	36.19	4.159	5

Table 2. Channel Bandwidth: 5MHz – 16QAM

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44140	3655.0	22.35	14.95	21	35.95	3.936	10
44340	3675.0	22.20	14.8	21	35.80	3.802	10
44540	3695.0	22.37	14.97	21	35.97	3.954	10

Table 3. Channel Bandwidth: 10MHz – QPSK

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44140	3655.0	22.36	14.96	21	35.96	3.945	10
44340	3675.0	22.28	14.88	21	35.88	3.873	10
44540	3695.0	22.39	14.99	21	35.99	3.972	10

Table 4. Channel Bandwidth: 10MHz – 16QAM

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44165	3657.5	22.10	14.70	21	35.70	3.715	15
44340	3675.0	22.07	14.67	21	35.67	3.690	15
44515	3692.5	22.09	14.69	21	35.69	3.707	15

Table 5. Channel Bandwidth: 15MHz – QPSK

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44165	3657.5	22.11	14.71	21	35.71	3.724	15
44340	3675.0	22.10	14.70	21	35.70	3.715	15
44515	3692.5	22.12	14.72	21	35.72	3.733	15

Table 6: Channel Bandwidth: 15MHz – 16QAM

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44190	3660.0	22.57	15.17	21	36.17	4.140	20
44340	3675.0	22.54	15.14	21	36.14	4.111	20
44490	3690.0	22.63	15.23	21	36.23	4.198	20

Table 7: Channel Bandwidth: 20MHz – QPSK

Channel	Channel Frequency (MHz)	OLD Conducted Output Power (dBm)	New Maximum Conducted Output Power (dBm)	Max Ant Gain (dBi)	EIRP (dBm)	EIRP (W)	EIRP Limit (W)
44190	3660.0	22.59	15.19	21	36.19	4.159	20
44340	3675.0	22.57	15.17	21	36.17	4.140	20
44490	3690.0	22.67	15.27	21	36.27	4.236	20

Table 8: Channel Bandwidth: 20MHz – 16QAM



3. Antenna Information

The following antenna is used:

Subscriber Antenna Dual Slant

MT – 405042/CVH/C

3.3 – 3.8 GHz; 21dBi

4. R.F Exposure/Safety

The typical placement of the E.U.T. is on a communication tower. The typical distance between the E.U.T. and the user is at least 50cm.

Calculation of Maximum Permissible Exposure (MPE)

Based on 47CFR1 Section 1.1307(b)(1)

(a) FCC Limit is: $1 \frac{mW}{cm^2}$

Using Table 1 of 47CFR1 Section 1.1310 limit for general population/uncontrolled exposures, the above levels are an average over 30 minutes.

(b) The power density produced by the E.U.T. is:

$$S = \frac{P_t G_t}{4\pi R^2}$$

P_t = Maximum Conducted Transmitted Power 15.27 dBm

G_t = Antenna Gain 21 dBi

R = Distance From Transmitter 50 cm

(c) The peak power density produced by the E.U.T. is:

$$15.27 + 21 \text{ dBi} = 36.27 \text{ dBm} = 4236.42 \text{ mW}$$

$$S = 4236.42 / (4\pi / 2500) = 0.1349 \text{ mW/cm}^2$$

(d) This is below the FCC limit.

5. Appendix A Maximum Permitted Conducted Output Power Declaration

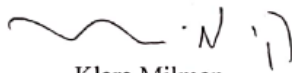


Date: September 23, 2019

To: Federal Communications Commission
Authorization and Evaluation Division

Subject: Tx power limitation statement for model WLTMS-110-4243 with high gain antenna -
FCC ID: ARA-CPE9KPRO3XHG

The maximum permissible conducted output power is limited to the values shown in the test report E202430.00 in the column "New Maximum Conducted Output Power"



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