



# RF EXPOSURE MEASUREMENT AND TEST REPORT

For

## JDTECK INC

215 Celebration Place, Suite 190 Kissimmee FL

**FCC ID: SQX-JDIR-37-819**

<b>Report Type:</b> Original Report	<b>Product Type:</b> JDTECK Industrial Repeater
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<b>Report Number:</b> RDG151130013-MPE	
<b>Report Date:</b> 2015-12-25	
<b>Reviewed By:</b> Sula Huang RF Leader	
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**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

**FCC §1.1307(b) & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)****Applicable Standard**

According to subpart §1.1310, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
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
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

According to §1.1310 and §2.1091 RF exposure is calculated.

**Calculated Formulary:**

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

**Calculated Data:**

Mode	Frequency Band	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
Uplink	824-849	-2.00	0.63	21	125.89	120.00	0.0004	0.55
	1850-1910	-2.00	0.63	21	125.89	120.00	0.0004	1.00
Downlink	869-894	3.00	2.00	45	31622.78	100.00	0.50	0.58
	1930-1990	3.00	2.00	45	31622.78	100.00	0.50	1.00

Note: the power was used for evaluation is rated power including tolerance.

The maximum authorized indoor antenna gain is 3.0dBi, outdoor antenna gain is -2.0dBi.

**Result:** The device meet FCC MPE at 120 cm distance for outdoor antenna and 100cm for indoor antenna.