



# RF EXPOSURE REPORT

**REPORT NO.:** SA121015E03B

**MODEL NO.:** TD-W8961ND, TD-W8961N

**FCC ID:** TE7TDW8961NDV3

**RECEIVED:** Jan. 13, 2014

**TESTED:** Feb. 25, 2014

**ISSUED:** Mar. 05, 2014

**APPLICANT:** TP-LINK TECHNOLOGIES CO., LTD.

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**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

**LAB ADDRESS:** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA121015E03B	Original release	Mar. 05, 2014



## 1. CERTIFICATION

**PRODUCT:** 300Mbps Wireless N ADSL2+ Modem Router

**BRAND NAME:** TP-LINK

**MODEL NO.:** TD-W8961ND, TD-W8961N

**TEST SAMPLE:** PROTOTYPE

**APPLICANT:** TP-LINK TECHNOLOGIES CO., LTD.

**TESTED DATE:** Dec. 20, 2012

**STANDARDS:** FCC Part 2 (Section 2.1091)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

The above equipment (Model: TD-W8961ND) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** C.K. , **DATE:** Mar. 05, 2014  
( Claire Kuan, Specialist )

**APPROVED BY :** M.C. , **DATE:** Mar. 05, 2014  
( May Chen, Manager )



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## 2. RF EXPOSURE LIMIT

### 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)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = 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

## 4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.



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## 5. ANTENNA GAIN

Original						
Removable antennas for TD-W8961ND						
Transmitter Circuit	Antenna Type	No.	Gain (dBi) (Exclude cable loss)	Connector type	Cable Loss(dB)	Frequency range (MHz to MHz)
Chain (0)	Dipole	3101500193	3	SMA Male Reverse	0.5	2400-2483.5
Chain (1)	Dipole	3101500193	3	SMA Male Reverse	0.5	2400~2483.5
Newly						
Removable antennas for TD-W8961ND						
Transmitter Circuit	Antenna Type	No.	Gain (dBi) (Exclude cable loss)	Connector type	Cable Loss(dB)	Frequency range (MHz to MHz)
Chain (0)	Dipole	3101500328	5	SMA Male Reverse	0.8	2400-2483.5
Chain (1)	Dipole	3101500328	5	SMA Male Reverse	0.96	2400-2483.5
Immovable antennas for TD-W8961N						
Transmitter Circuit	Antenna Type	No.	Gain (dBi) (Exclude cable loss)	Connector type	Cable Loss(dB)	Frequency range (MHz to MHz)
Chain (0)	Dipole	3101500229	5	Weld	0.8	2400-2483.5
Chain (1)	Dipole	3101500178	5	Weld	0.96	2400~2483.5



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## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	322.535	7.13	20	0.33136	1

NOTE: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.13 \text{dBi}$

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