



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
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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 :  , **DATE:** Mar. 05, 2014
(Claire Kuan, Specialist)

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

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 ²)	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/cm²

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**.

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

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
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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