

RF EXPOSURE REPORT

REPORT NO.: SA140128E04

MODEL NO.: FXE2000-DG

FCC ID: PQRFXE2000-DG

RECEIVED: Jan. 28, 2014

TESTED: Feb. 13 to 14, 2014

ISSUED: Apr. 01, 2014

APPLICANT: Contec Co., Ltd.

ADDRESS: 3-9-31, Himesato, Nishiyodogawa-ku
Osaka Japan 555-0025

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.

TEST LOCATION (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan,
R.O.C.

TEST LOCATION (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan,
R.O.C.

This report should not be used by the client to claim
product certification, approval, or endorsement by any
government agencies.

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1. CERTIFICATION	4
2. RF EXPOSURE LIMIT	5
3. MPE CALCULATION FORMULA	5
4. CLASSIFICATION	5
5. ANTENNA GAIN	6
6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER	7



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140128E04	Original release	Apr. 01, 2014

1. CERTIFICATION

PRODUCT: Wireless LAN Adapter
BRAND NAME: CONTEC
MODEL NO.: FXE2000-DG
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Contec Co., Ltd.
TESTED DATE: Feb. 13 to 14, 2014
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: FXE2000-DG) 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 : Phoenix Huang , **DATE:** Apr. 01, 2014
(Phoenix Huang, Specialist)

APPROVED BY : May Chen , **DATE:** Apr. 01, 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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Brand	Model	Gain (dBi) (Exclude cable loss)	Cable Loss (dB)	Net Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (GHz to GHz)	Cable Length (cm)
Chain (0)	FDK	A3001	2	1	1	Chip	U.FL	2.4~2.4835	6
			1	2	-1			5.15~5.85	
Chain (1)	FDK	A3001	2	1.5	0.5	Chip	U.FL	2.4~2.4835	16
			1	2.5	-1.5			5.15~5.85	

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247 (2.4GHz):

802.11b:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412 - 2462	120.318	3.76	20	0.05689	1.00

NOTE: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.76\text{dBi}$.

802.11g:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412 - 2462	835.103	3.76	20	0.39488	1.00

NOTE: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.76\text{dBi}$.

802.11n (HT20):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412 - 2462	559.429	1	20	0.14011	1.00

802.11n (HT40):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2422 - 2452	532.945	1	20	0.13348	1.00

For 15.247 (5GHz):

802.11a:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	399.714	1.76	20	0.11926	1.00

NOTE: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 1.76\text{dBi}$.

802.11n (HT20):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	413.316	-1	20	0.06531	1.00

802.11n (HT40):

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	402.163	-1	20	0.06355	1.00

For 15.407 (5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5180 - 5240, 5260 - 5320, 5500 - 5580 & 5660 - 5700	55.700	1.76	20	0.01108	1.00

NOTE: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 1.76\text{dBi}$.

802.11n (HT20):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5180 - 5240, 5260 - 5320, 5500 - 5580 & 5660 - 5700	53.423	-1	20	0.01063	1.00

802.11n (HT40):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5190 - 5230, 5270 - 5310, 5510 - 5550 & 5670	54.645	-1	20	0.01087	1.00

--- END ---