RF EXPOSURE REPORT

REPORT NO.:	SA110824C04
MODEL NO.:	CellPipe 7130 Residential Gateway 1Ez.N0001
FCC ID:	MXF-WACC-134AN
RECEIVED:	Aug. 24, 2011
TESTED:	Sep. 20 to 23, 2011
ISSUED:	Oct. 05, 2011

APPLICANT:	Gemtek Technology Co., Ltd.
ADDRESS:	No.15-1, Zhonghua Rd, Hsinchu Industrial Park , Hsinchu County, Taiwan,R.O.C.303

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

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA110824C04	Original release	Oct. 05, 2011

1. CERTIFICATION

PRODUCT:	Wireless video bridge (Access Point or Client) for wireless distribution of IPTV within the home environment
MODEL:	CellPipe 7130 Residential Gateway 1Ez.N0001
BRAND:	Alcatel-Lucent
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Gemtek Technology Co., Ltd.
TESTED:	Sep. 20 to 23, 2011
STANDARDS:	FCC Part 2 (Section 2.1091) FCC OET Bulletin 65, Supplement C (01-01) IEEE C95.1

The above equipment (Model: CellPipe 7130 Residential Gateway 1Ez.N0001) 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:** Oct. 05, 2011
(Lori Chung, Specialist)

APPROVED BY : _____ , **DATE:** Oct. 05, 2011
(May Chen, Deputy 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/cm^2

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

There are four antennas provided to this EUT, please refer to the following table:

Antenna No.	Transmitter Circuit	Antenna Type	Connecter Type	Gain (dBi)	Function
1	CHAIN (0)	PRINT PCB	NA	BAND 1: 3.7 BAND 4: 5.8	RX
2	CHAIN (1)	PRINT PCB	NA	BAND 1: 3.7 BAND 4: 5.8	TX / RX
3	CHAIN (2)	PRINT PCB	NA	BAND 1: 3.7 BAND 4: 5.8	TX / RX
4	CHAIN (3)	PRINT PCB	NA	BAND 1: 3.7 BAND 4: 5.8	TX / RX

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	337.0	10.6	20	0.770	1.00

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 10.6

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	789.5	5.8	20	0.597	1.00

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
5755 ~ 5795	789.2	5.8	20	0.597	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	16.2	8.5	20	0.023	1.00

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi) = 8.5

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	28.7	3.7	20	0.013	1.00

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5190 ~ 5230	44.4	3.7	20	0.021	1.00

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