RF EXPOSURE REPORT

REPORT NO.: SA111019C14B

MODEL NO.: BelAir20EO–11A, BelAir20EO–11B, BelAir20EO–11C, BelAir20EO–11D

FCC ID: RAR40005011

RECEIVED: Feb. 10, 2012

TESTED: Feb. 10 ~ Apr. 25, 2012

ISSUED: Apr. 26, 2012

APPLICANT: BelAir Networks Inc.

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

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TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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Report No.: SA111019C14B

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA111019C14B	Original release	Apr. 26, 2012

1. CERTIFICATION

PRODUCT: 802.11n dual-band WIFI router

MODEL NO.: BelAir20EO–11A, BelAir20EO–11B,
BelAir20EO–11C, BelAir20EO–11D

BRAND: BelAir

APPLICANT: BelAir Networks Inc.

TESTED: Feb. 10 ~ Apr. 25, 2012

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: **FCC Part 2 (Section 2.1091)**
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: BelAir20EO–11A, BelAir20EO–11B,BelAir20EO–11C, BelAir20EO–11D) 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 : ___Apr. 26, 2012___
Andrea Hsia / Specialist

APPROVED BY : _____ , DATE : ___Apr. 26, 2012___
Gary Chang / Technical Manager

2. RF EXPOSURE

2.1 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

2.2 MPE CALCULATION FORMULA

Pd = (Pout*G) / (4*pi*r2)

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

2.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 26cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4   CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MODULATION MODE	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412-2462	802.11b	25.57	7.41	26	0.234	1
	802.11g	24.71	7.41	26	0.192	1
	802.11n (20MHz)	26.02	7.41	26	0.259	1
	802.11n (40MHz)	26.63	7.41	26	0.298	1
2412-2462	802.11b	21.9	11.01	26	0.230	1
	802.11g	24.5	11.01	26	0.419	1
	802.11n (20MHz)	24.4	11.01	26	0.409	1
	802.11n (40MHz)	20.5	11.01	26	0.167	1
5745-5825	802.11a	22.2	9.71	26	0.183	1
	802.11n (20MHz)	21.7	9.71	26	0.163	1
	802.11n (40MHz)	22.2	9.71	26	0.183	1
5745-5825	802.11a	22.2	14.51	26	0.551	1
	802.11n (20MHz)	21.4	14.51	26	0.458	1
	802.11n (40MHz)	22.2	14.51	26	0.551	1

2.4G:
Configuration A: Directional gain =4.4dBi + 10log(2)=7.41dBi
Configuration C: Directional gain =8dBi + 10log(2)=11.01dBi

5.0G:
Configuration A: 5745MHz -5825MHz: Directional gain =6.7dBi + 10log(2)=9.71dBi
Configuration B: 5745MHz -5825MHz: Directional gain =11.5dBi + 10log(2)=14.51dBi

NOTE:

CONCULSION:

Only 2.4 and 5GHz can transmit simultaneously. The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

1.   WLAN 2.4G + WLAN 5.0G = 0.419 + 0.551 = 0.970
Therefore, the maximum calculation of this situation is 0.970, which is less than the "1" limit.