RF Exposure Evaluation Declaration

Product Name	：	Outdoor 5G MIMO-OFDM Radio
Trade Name	：	EUBO
Model No.	：	EL-N-1, EL-N-2, EL-N-3, ML-N-1, ML-N-2, ML-N-3
FCC ID.	：	2ALYE-EMLN35

Applicant：EUBO CO., LTD.
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Date of Receipt	:	Feb. 23, 2017
Issued Date	:	May 08, 2017
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Report Version	:	V1.0

Testing Laboratory
3024

The declaration results relate only to the samples calculated.
The declaration shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission 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

Pd id the limit of MPE, 1 mW/cm^2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃ and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	Outdoor 5G MIMO-OFDM Radio
Test Mode	Transmit
Test Condition	RF Exposure Evaluation

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2 dBi or 1.58 dBi in linear scale.

IEEE 802.11a			
WLAN Function			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
149	5745	45.5932	0.01433
153	5785	38.8061	0.01220
165	5825	35.3590	0.01111

IEEE 802.11n 20MHz (ANT 0+1+2+3+4+5)			
WLAN Function			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
149	5745	34.3479	0.01080
153	5785	21.8575	0.00687
165	5825	15.1356	0.00476

IEEE 802.11n 40MHz (ANT 0+1+2+3+4+5)			
WLAN Function			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
151	5755	68.3282	0.02148
159	5795	27.3968	0.00861

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2.