
RF Exposure Evaluation Report

Product Name : Humly Room Display One
Model No. : HUM1001
FCC ID : 2APYB-HUM1001

Applicant : Certus Eiger Ltd.

Address : 814, Houston Center, Mody Road, TST East Kowloon, Hong Kong

Date of Receipt : Oct. 08, 2019
Date of Declaration : Nov. 13, 2019
Report No. : 19A0116R-SAUSP03V00
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Issued Date: Nov. 13, 2019

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Product Name	Humly Room Display One	
Applicant	Certus Eiger Ltd.	
Address	814, Houston Center, Mody Road, TST East Kowloon, Hong Kong	
Manufacturer	Certus Eiger Ltd.	
Model No.	HUM1001	
FCC ID.	2APYB-HUM1001	
Trade Name	Humly	
Applicable Standard	KDB 447498 D01 v06	<input checked="" type="checkbox"/> Minimum test separation distance \geq 20 cm <input type="checkbox"/> For low power devices
Test Result	Complied	

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Tested By : wenlee
 (Supervisor / Wen Lee)

Approved By : Vincent Lin
 (Director / Vincent Lin)

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Humly Room Display One
Trade Name	Humly
Model No.	HUM1001
FCC ID.	2APYB-HUM1001
Frequency Range	802.11b/g/n-20MHz:2412MHz~2462MHz 802.11a/n/ac-20MHz: 5180-5320MHz, 5500-5720MHz, 5745-5825MHz 802.11n/ac-40MHz: 5190-5310, 5510-5710MHz, 5755-5795MHz 802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz BT : 2402-2480MHz
Channel Number	802.11b/g/n-20MHz: 11 802.11a/n-20MHz: 25; 802.11n-40MHz: 12 802.11ac-80MHz: 6 BT : 79 , BLE : 40
Type of Modulation	DSSS/OFDM/BPSK/QPSK/16QAM/64QAM/256QAM FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PIFA Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ANJIE	AJDQ1J-B0027 (Main), AJDQ1J-W0020 (Aux)	PIFA Antenna	2.17dBi for 2.4 GHz 2.09 dBi for 5.15~5.25GHz 2.15 dBi for 5.25~5.35GHz 2.72 dBi for 5.47~5.725GHz 3.29 dBi for 5.725~5.85GHz

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. 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/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. Test Result of RF Exposure Evaluation

Product : Humly Room Display One
 Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: 2.17dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
2.4G	2437	27.31	85.58	628.967	0.2062	1	Pass

Note: The conducted output power is refer to report No.: 19A0116R-RFUSP34V00 from the DEKRA.

WLAN 5G Peak Gain: 3.29dBi

Band	Frequency (MHz)	Conducted maximum Average Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
5G	5260	16.35	68.85	62.675	0.0266	1	Pass

Note: The conducted output power is refer to report No.: 19A0116R-RFUSP64V00 from the DEKRA.