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Report No.: 1610RSU00308 Report Version: Issue Date: 12-20-2016

RF Exposure Evaluation Declaration

FCC ID: H8N-WHD0100

APPLICANT: Askey Computer Corporation

Certification **Application Type:**

Cloud Client Box **Product:**

Model No.: CAX21

Brand Name: ASUS

FCC Classification: Digital Transmission System (DTS)

FCC Part 15 Spread Spectrum Transmitter(DSS)

Test Procedure(s): KDB 447498 D01v06

Test Date: November 10 ~ December 02, 2016

Reviewed By : Robin Wu)

Approved By : Marlinchen

(Marlin Chen)



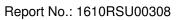


The test results relate only to the samples tested.

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

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Revision History

Report No.	Version	Description	Issue Date	Note
1610RSU00308	Rev. 01	Initial report	12-20-2016	Valid

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1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	Cloud Client Box			
Model No.:	CAX21			
Brand Name:	ASUS			
Wi-Fi Specification:	802.11b/g/n			
Bluetooth Module:	v4.0, v3.0 + HS			
Antenna Type	PCB Antenna			
Antenna Gain	1.59dBi			
Components				
Adapter #1	Manufacturer: Dee Van Enterprise Co., Ltd.			
	M/N: DSA-24CB-05 050300			
	Input: 100-240V ~ 50/60Hz, 0.8A			
	Output: 5Vdc, 3A			
Adapter #2	Manufacturer: Sunny Computer Technology Co., Ltd.			
	M/N: SYS1531-1505-W2			
	Input: 100-240V ~ 50-60Hz, 1A Max			
	Output: 5Vdc, 3A			

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2. RF Exposure Evaluation

2.1. Limits

FCC Rules:

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	Electric Field	Magnetic Field	Power Density	Average Time
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm ²)	(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

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Formula as follows:

f= Frequency in MHz

Calculation 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

Pd is the limit of MPE, 1mW/cm². 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.

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2.2. Test Result of RF Exposure Evaluation

Product	Cloud Client Box	
Test Item	RF Exposure Evaluation	

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.59dBi for Wi-Fi and Bluetooth band.

For 2.4GHz Wi-Fi Band:

Test Mode	Frequency Band	Maximum Average	Power Density at	FCC
	(MHz)	Output Power	r = 20 cm	Limit
		(dBm)	(mW/cm ²)	(mW/cm ²)
802.11b	2412 ~ 2462	21.35	<mark>0.0391</mark>	1
802.11g	2412 ~ 2462	19.32	0.0245	1
802.11n-HT20	2412 ~ 2462	19.01	0.0228	1
802.11n-HT40	2422 ~ 2452	18.91	0.0223	1

For Bluetooth Band:

Test Mode	Frequency Band	Maximum Peak	Power Density at	FCC
	(MHz)	Output Power	r = 20 cm	Limit
		(dBm)	(mW/cm ²)	(mW/cm ²)
BLE	2402 ~ 2483.5	0.61	0.0003	1
DH5	2402 ~ 2483.5	5.77	0.0011	1
2DH5	2402 ~ 2483.5	7.09	0.0015	1
3DH5	2402 ~ 2483.5	7.53	0.0016	1

CONCULISON:

Both of the WLAN and Bluetooth can transmit simultaneously. Therefore, the Max Power Density at r $(20 \text{ cm}) = 0.0391 \text{mW/cm}^2 + 0.0016 \text{mW/cm}^2 = 0.0407 \text{mW/cm}^2 < 1 \text{mW/cm}^2$. So the EUT complies with the FCC requirement.

———— The End

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