



# RF Exposure Evaluation Declaration

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**FCC ID:** H8N-AP6275S

**Applicant:** Askey Computer Corporation

**Application Type:** Certification

**Product:** WIFI+BT Combo Module

**Model No.:** AP6275S

**Brand Name:** ASKEY

**FCC Classification:** FCC Part 15 Spread Spectrum Transmitter (DSS)  
Digital Transmission System (DTS)  
Unlicensed National Information Infrastructure (NII)

**Test Procedure(s):** KDB 447498 D01v06

**Test Date:** June 21, 2021

Reviewed By:

*Kevin Guo*

Kevin Guo

Approved By:

*Robin Wu*

Robin Wu



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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2104RSU079-U7	Rev. 01	Initial Report	07-01-2021	Valid

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## 1. General Information

### 1.1. Applicant

Askey Computer Corporation

10F, No.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY, TAIWAN

### 1.2. Manufacturer

Askey Computer Corporation

10F, No.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY, TAIWAN

### 1.3. Testing Facility

<input checked="" type="checkbox"/>	<b>Test Site – MRT Suzhou Laboratory</b>
	<b>Laboratory Location (Suzhou - Wuzhong)</b>
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	<b>Laboratory Location (Suzhou - SIP)</b>
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	<b>Laboratory Accreditations</b>
	A2LA: 3628.01 <span style="float: right;">CNAS: L10551</span>
	FCC: CN1166 <span style="float: right;">ISED: CN0001</span>
	VCCI: R-20025, G-20034, C-20020, T-20020
<input type="checkbox"/>	<b>Test Site – MRT Shenzhen Laboratory</b>
	<b>Laboratory Location (Shenzhen)</b>
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	<b>Laboratory Accreditations</b>
	A2LA: 3628.02 <span style="float: right;">CNAS: L10551</span>
	FCC: CN1284 <span style="float: right;">ISED: CN0105</span>
<input type="checkbox"/>	<b>Test Site – MRT Taiwan Laboratory</b>
	<b>Laboratory Location (Taiwan)</b>
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	<b>Laboratory Accreditations</b>
	TAF: L3261-190725
	FCC: 291082, TW3261 <span style="float: right;">ISED: TW3261</span>

## 2. PRODUCT INFORMATION

### 2.1. Equipment Description

Product Name:	WIFI+BT Combo Module
Model No.:	AP6275S
Brand Name:	ASKEY
Wi-Fi Specification:	802.11a/b/g/n/ac/ax
Bluetooth Specification:	V5.0 dual mode
Antenna Information	Refer to section 2.2
Remark:	
The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

### 2.2. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	T <sub>x</sub> Paths	Per Chain Max Antenna Gain (dBi)		Directional Gain (dBi)	
			Ant 0	Ant 1	For Power	For PSD
Wi-Fi Internal Antenna						
PIFA	2412 ~ 2462	2	2.1	1.9	2.1	5.11
	5180 ~ 5240	2	4.2	1.9	4.2	7.21
	5260 ~ 5320	2	3.8	3.0	3.8	6.81
	5500 ~ 5720	2	3.8	2.9	3.8	6.81
	5745 ~ 5825	2	3.4	2.3	3.4	6.41
Bluetooth Internal Antenna						
PIFA	2402 ~ 2480	1	1.9		--	

Note 1:

The EUT supports Cyclic Delay Diversity (CDD) technology, the CDD supports 802.11a/g/n/ac/ax, not include 802.11b (SISO only), and CDD signals are correlated.

For CDD transmissions, directional gain is calculated as follows,  $N_{ANT} = 2$ ,  $N_{SS} = 1$ .

If all antennas have the same gain,  $G_{ANT}$ , Directional gain =  $G_{ANT} + \text{Array Gain}$ , where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,  
Array Gain =  $10 \log (N_{ANT} / N_{SS})$  dB = 3.01;
- For power measurements on IEEE 802.11 devices,  
Array Gain = 0 dB for  $N_{ANT} \leq 4$ ;

If antenna gains are not equal, Directional gain may be calculated by using the formulas applicable to equal gain antennas with  $G_{ANT}$  set equal to the gain of the antenna having the highest gain.

Note 2: All antenna information is provided by the manufacturer, test laboratory will not be responsible if any error.

### 3. RF Exposure Evaluation

#### 3.1. 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 <sup>2</sup> )	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

Calculation Formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. 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.

### 3.2. Test Result of RF Exposure Evaluation

Product	WIFI+BT Combo Module
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum conducted power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Bluetooth	2402 ~ 2480	12.32	1.9	14.22	0.0053	1
Wi-Fi	2412 ~ 2462	24.33	2.1	26.43	0.0874	1
	5180 ~ 5825	20.14	3.8	23.94	0.0493	1

#### CONCLUSION:

The max Power Density at R (20 cm) =  $0.0053\text{mW/cm}^2 + 0.0874\text{ mW/cm}^2 + 0.0493\text{ mW/cm}^2 = 0.1420\text{ mW/cm}^2 < 1\text{ mW/cm}^2$ .

Therefore, the Min Safety Distance is 20cm.

\_\_\_\_\_ The End \_\_\_\_\_



## **Appendix A - EUT Photograph**

Refer to "2104RSU079-UE" file.