RF EXPOSURE EVALUATION REPORT

FCC ID	: H8N-CTX0800
Equipment	: OBU
Brand Name	: ASKEY
Model Name	: CTX0800-RoHS-US
Applicant	: ASKEY COMPUTER CORPORATION 10F, No.119, Jiankang Rd., Zhonghe Dist., New Taipei City, Taiwan
Manufacturer	: ASKEY COMPUTER CORPORATION 10F, No.119, Jiankang Rd., Zhonghe Dist., New Taipei City, Taiwan
Standard	: 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

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Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FA2N3001-01	Rev. 01	Initial issue of report	Sep. 23, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	OBU
Brand Name	ASKEY
Model Name	CTX0800-RoHS-US
FCC ID	H8N-CTX0800
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
EUT Stage	Identical Prototype

Integrated WWAN Module	
Brand Name	ALPS ALPINE CO., LTD.
Model Name	UMNZ1A2
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz
Mode	GSM/GPRS/EGPRS RMC 12.2Kbps HSDPA HSUPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM

Reviewed by: Jason Wang

Report Producer: Paula Chen

2. Maximum RF average output power among production units

Mode		Maximum Average power(dBm)
GSM	GSM850	35
	GSM1900	32
WCDMA	Band II	25.7
	Band IV	25.7
	Band V	25.7
LTE	Band 2	25.7
	Band 4	25.7
	Band 5	25.7
	Band 12	25.7
	Band 13	25.7
	Band 66	25.7
	Band 71	25.7
FR1	n2	25.7
	n5	25.7
	n41	26
	n66	25.7
	n71	25.7
	n77	26

Mode		Maximum Average power(dBm)
WLAN	2.4GHz	22
	5GHz	22.5
Bluetooth		7.5

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 26 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

4.1. Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum PG (mW)	Power Density at 26cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
GSM 850	3.15	32.00	412.10	0.049	0.549	0.088
GSM 1900	3.30	32.00	426.58	0.050	1.000	0.050
WCDMA Band 2	3.30	25.70	794.33	0.094	1.000	0.094
WCDMA Band 4	3.32	25.70	797.99	0.094	1.000	0.094
WCDMA Band 5	3.15	25.70	767.36	0.090	0.549	0.165
LTE Band 2	3.30	25.70	794.33	0.094	1.000	0.094
LTE Band 4	3.32	25.70	797.99	0.094	1.000	0.094
LTE Band 5	3.15	25.70	767.36	0.090	0.549	0.165
LTE Band 12	3.37	25.70	807.24	0.095	0.466	0.204
LTE Band 13	3.37	25.70	807.24	0.095	0.518	0.184
LTE Band 66	3.32	25.70	797.99	0.094	1.000	0.094
LTE Band 71	3.73	25.70	877.00	0.103	0.442	0.234
FR1 n2	3.30	25.70	794.33	0.094	1.000	0.094
FR1 n5	3.15	25.70	767.36	0.090	0.549	0.165
FR1 n41	3.84	26.00	963.83	0.114	1.000	0.114
FR1 n66	3.32	25.70	797.99	0.094	1.000	0.094
FR1 n71	3.73	25.70	877.00	0.103	0.442	0.234
FR1 n77	3.96	26.00	990.83	0.117	1.000	0.117
WLAN2.4GHz Band	2.66	22.00	292.42	0.034	1.000	0.034
WLAN5GHz Band	0.49	22.50	199.07	0.023	1.000	0.023
Bluetooth	1.15	7.50	7.33	0.001	1.000	0.001

4.2. Collocated Power Density Calculation

LTE Power Density / Limit	5G NR Power Density / Limit	WLAN 2.4GHz Power Density / Limit	∑(Power Density / Limit) of WWAN+WLAN
0.234	0.234	0.034	0.502

LTE Power Density / Limit	5G NR Power Density / Limit	WLAN5GHz Power Density / Limit	∑(Power Density / Limit) of WWAN+WLAN
0.234	0.234	0.023	0.491

Note:

1. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for LTE + 5G NR + WLAN2.4GHz and LTE + 5G NR + WLAN5GHz.
2. Considering the WWAN module collocation with the WLAN transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.