RF EXPOSURE REPORT

Applicant:	Qualcomm Technologies, Inc. 5775 Morehouse Drive, San Diego, CA 92121-1714, United States
Manufacturer:	Qualcomm Technologies, Inc. 5775 Morehouse Drive, San Diego, CA 92121-1714, United States
Product Name:	Tri-Radio LGA Module for IoT applications
Brand Name:	Qualcomm
Model No.:	QCC743M-0
FCC ID	J9C-QCC743M0
Date of EUT Received:	Mar. 07, 2025
Issue Date:	Apr. 22, 2025

Approved By John Yeh

John Yeh

We hereby certify that:

The above equipment was evaluated by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091, KDB 447498 D01 v06.

The results of this report relate only to the sample identified in this report.

Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2503000228ES	00	Change antenna location & add additional HW SKU QCC743M-0P	Apr. 07, 2024	Cindy Chou	
TESA2503000228ES	01	Modify comment	Apr. 22, 2024	Cindy Chou	*

Note:

1、The remark "*" indicates modification of the report upon requests from certification body.

2、Variant information of HW SKU is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

3、Measurement results in the original test report TESA2411000736ES are partially leveraged in this test report.

Contents

1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	Tri-Radio LGA Module for IoT applications
Brand Name:	Qualcomm
Model No.	QCC743M-0
HW SKU:	QCC743M-0U, QCC743M-0B, QCC743M-0P

1.2 HW SKU Difference Table:

HW SKU	Antenna Type	Impedance
QCC743M-0U	3 types: PIFA, Monopole, Dipole	C21=1.8pF, C20=1.8pF
QCC743M-0B	1 type: PCB	C21=1.6pF, C20=2pF
QCC743M-0P	3 types: PIFA, Monopole, Dipole	C21=1.8pF, C20=2pF

1.3 Evaluation site

Laboratory	Site Address		FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	☒	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	☐	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	☐	1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Neihu District, Taipei City, 222 Taiwan.	TW0029	23862	

1.4 Antenna Information:

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)
PCB	INPAQ	RFIQM0744010NB001	2.4GHz	1.89
PIFA	INPAQ	RFPCA441010EMABY01		3.19
Monopole	INPAQ	RFPCA501010EMABY01		3.12
Dipole	INPAQ	RFPCA521010EMABY01		**3.37**

Note: Antenna information is provided by the applicant.

1.5 Rated Power

Mode	Freq. Range (MHz)	Channels	Modulation Technology	Max Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Worst Case
BR+EDR	2402-2480	79	GFSK + π /4DQPSK + 8DPSK	10	3.37	13.37	
BLE	2402-2480	40	GFSK	20	3.37	23.37	
Thread	2405-2480	16	O-QPSK & DSSS	20	3.37	23.37	
WLAN2.4GHz	2412-2462	11	DSSS & OFDM	22.5	3.37	**25.87**	V
Modulation type:		CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 4096QAM for OFDMA in 11ax HE mode					

Note: PG information is provided by the applicant.

2 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

$S=PG/4\pi R^2$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

2.2 Power Density Calculation (Worst Case)

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max.Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm^2)	Limit (mW/cm^2)	Pass / Fail	Power Density / Limit
Thread	2480.00	20	20	3.37	217.27	0.0432	1.000	Pass	0.043
BLE	2480.00	20	20	3.37	217.27	0.0432	1.000	Pass	0.043
WLAN 2.4G	2442.00	20	22.5	3.37	386.37	0.077	1.000	Pass	0.077

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

~ End of Report ~