

RF EXPOSURE EVALUATION REPORT

FCC ID : 2BXG6FAST5698
Equipment : 5G GATEWAY
Brand Name : T-Mobile
Model Name : FAST5698
Marketing Name : TMO-G5MSG
Applicant : SAGEMCOM USA LLC
1301 West President George Bush
Highway Ste 330, Richardson, Texas,
United States, 75080
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: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

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Approved by: Cona Huang / Deputy Manager



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Table of Contents

1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
2. MAXIMUM RF POWER	5
3. RF EXPOSURE LIMIT INTRODUCTION	7
4. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION	8



History of this test report

Report No.	Version	Description	Issued Date
FA670306	Rev. 01	Initial issue of report	Sep. 04, 2026

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
Equipment	5G GATEWAY
Brand Name	T-Mobile
Model Name	FAST5698
Marketing Name	TMO-G5MSG
FCC ID	2BXG6FAST5698
Wireless Technology and Frequency Range	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 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6GHz Band: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz IEEE 802.15.4: 2405 MHz ~ 2480 MHz
Mode	LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/ EHT40/ EHT80/EHT 160 Bluetooth LE IEEE 802.15.4: O-QPSK DSSS

 Reviewed by: Jason Wang

 Report Producer: Paula Chen

2. Maximum RF power

LTE Band	Max Conducted output power (per Tune-up) (dBm)	ANT1 (dBi)	ANT7 (dBi)
2	24±2	3.13	-
4	24±2	2.74	-
5	24±2	1.11	-
12	24±2	1.89	-
25	24±2	3.09	-
26	24±2	1.11	-
71	24±2	1.5	-
41_PC3	24±2	-	1.28
41_PC2	27±2	-	1.28
66	24±2	3.89	-
48	17.5±2	2.21	-
NR Band	Max Conducted output power (per Tune-up) (dBm)	ANT1 (dBi)	ANT7 (dBi)
n2_PC3	24±2	3.13	-
n25_PC3	24±2	3.09	-
n66_PC3	24±2	3.89	-
n71_PC3	24±2	1.5	-
n41_PC2	26.5±2	-	1.28
n48_PC3	17.5±2	2.21	-
n77_PC2_3450-3550	24.5±2	2.24	-
n77_PC2_3700-3980	24.5±2	2.5	-
NR MIMO Band	Max Conducted output power (per Tune-up) (dBm)	ANT1 (dBi)	ANT7 (dBi)
n2_PC2_ULMIMO	26±2	3.13	2.59
n25_PC2_ULMIMO	26±2	3.09	2.59
n66_PC2_ULMIMO	26±2	3.89	2.79
n71_PC2_ULMIMO	26±2	1.50	0.21
n41_PC1.5_ULMIMO	28±2	3.05	1.28
n48_PC2_ULMIMO	18.5±2	2.21	2.02
n77_PC1.5_ULMIMO_3450-3550	25.5±2	2.24	2.14
n77_PC1.5_ULMIMO_3700-3980	25.5±2	2.50	2.23

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)
IEEE 802.15.4			
2.4G;D1D	3.72	18.45	22.17
BT			
2.4G;BT-LE	3.72	18.37	22.09
2.4GHz WLAN			
2.4G;G1D	4.86	29.84	34.7
2.4G;D1D	5.79	29.92	35.71
5GHz WLAN			
5.2G;D1D	6.08	29.64	35.72
5.3G;D1D	5.66	23.96	29.62
5.6G;D1D	5.66	23.96	29.62
5.8G;D1D	5.89	29.94	35.83
6GHz WLAN			
6.2G;D1D	-	-	26.91
6.4G;D1D	-	-	26.49
6.7G;D1D	-	-	26.52
7.0G;D1D	-	-	25.78

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/f ²)	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/f ²)	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 30 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

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Maximum PG (mW)	Power Density at 30cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
LTE Band 2	3.13	26.00	29.13	0.82	818.46	0.072	1.000	0.072
LTE Band 4	2.74	26.00	28.74	0.75	748.17	0.066	1.000	0.066
LTE Band 5	1.11	26.00	27.11	0.51	514.04	0.045	0.549	0.083
LTE Band 12	1.89	26.00	27.89	0.62	615.18	0.054	0.466	0.117
LTE Band 25	3.09	26.00	29.09	0.81	810.96	0.072	1.000	0.072
LTE Band 26	1.11	26.00	27.11	0.51	514.04	0.045	0.549	0.083
LTE Band 41_PC3	1.28	26.00	27.28	0.53	534.56	0.047	1.000	0.047
LTE Band 41_PC2	1.28	29.00	30.28	1.07	1066.60	0.094	1.000	0.094
LTE Band 48	2.21	19.50	21.71	0.15	148.25	0.013	1.000	0.013
LTE Band 66	3.89	26.00	29.89	0.97	974.99	0.086	1.000	0.086
LTE Band 71	1.50	26.00	27.50	0.56	562.34	0.050	0.442	0.113
NR Band 2	3.13	26.00	29.13	0.82	818.46	0.072	1.000	0.072
NR Band 2_UL MIMO	3.13	28.00	31.13	1.30	1297.18	0.115	1.000	0.115
NR Band 25	3.09	26.00	29.09	0.81	810.96	0.072	1.000	0.072
NR Band 25_UL MIMO	3.09	28.00	31.09	1.29	1285.29	0.114	1.000	0.114
NR Band 41_PC2	1.28	28.50	29.78	0.95	950.60	0.084	1.000	0.084
NR Band 41_PC1.5 UL MIMO	3.05	30.00	33.05	2.02	2018.37	0.179	1.000	0.179
NR Band 48	2.21	19.50	21.71	0.15	148.25	0.013	1.000	0.013
NR Band 48 UL MIMO	2.21	20.50	22.71	0.19	186.64	0.017	1.000	0.017
NR Band 66	3.89	26.00	29.89	0.97	974.99	0.086	1.000	0.086
NR Band 66 UL MIMO	3.89	28.00	31.89	1.55	1545.25	0.137	1.000	0.137
NR Band 71	1.50	26.00	27.50	0.56	562.34	0.050	0.442	0.113
NR Band 71 UL MIMO	1.50	28.00	29.50	0.89	891.25	0.079	0.442	0.178
NR Band 77_PC2	2.50	26.50	29.00	0.79	794.33	0.070	1.000	0.070
NR Band 77_PC1.5 UL MIMO	2.50	27.50	30.00	1.00	1000.00	0.088	1.000	0.088
WLAN2.4GHz Band	5.79	29.92	35.71	3.72	3723.92	0.329	1.000	0.329
WLAN5GHz Band	5.89	29.94	35.83	3.83	3828.25	0.339	1.000	0.339
WLAN6GHz Band			26.91	0.49	490.91	0.043	1.000	0.043
Bluetooth	3.72	18.37	22.09	0.16	161.81	0.014	1.000	0.014
IEEE 802.15.4	3.72	18.45	22.17	0.16	164.82	0.015	1.000	0.015

WWAN Ratio	2.4GHz WLAN Ratio	5GHz WLAN Ratio	6GHz WLAN Ratio	Max (Bluetooth, IEEE 802.15.4) Ratio	Summed of Ratio
0.179	0.329	0.339	0.043	0.015	0.905

Note:

1. $\Sigma(\text{Power Density} / \text{Limit})$: This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)]
2. Considering all transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1

Conclusion:

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