



EMF TEST REPORT

Product Name: Mobile Digital Recorder

Model Number: MDR-742GW-1(NA), MDR-742GW-2(NA), MDR-742GW-4(NA), MDR-742GW-SD(NA), MDR-742GW-XX(XX)(XXX)

FCC ID: R5XMDR742

Issued For : Brigade Electronics Group Plc

Brigade House, The Mills, Station Road, South Darenth,
United Kingdom, DA4 9BD

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park,
No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan
District, Shenzhen, Guangdong, China

Report Number: LGT25L549HA01

Sample Received Date: Jan. 04, 2026

Date of Test: Jan. 04, 2026 ~ Feb. 09, 2026

Date of Issue: Feb. 09, 2026

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TEST REPORT CERTIFICATION

Applicant: Brigade Electronics Group Plc

Address: Brigade House, The Mills, Station Road, South Darenth, United Kingdom, DA4 9BD

Manufacturer: Brigade Electronics Group Plc

Address: Brigade House, The Mills, Station Road, South Darenth, United Kingdom, DA4 9BD

Product Name: Mobile Digital Recorder

Trademark: **Brigade**

Model Number: MDR-742GW-1(NA), MDR-742GW-2(NA), MDR-742GW-4(NA), MDR-742GW-SD(NA), MDR-742GW-XX(XX)(XXX)

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1091 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Revision History

Rev.	Issue Date	Revisions
00	Feb. 09, 2026	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Mobile Digital Recorder	
Test Model Number:	MDR-742GW-1(NA)	
Series Number:	MDR-742GW-2(NA), MDR-742GW-4(NA), MDR-742GW-SD(NA), MDR-742GW-XX(XX)(XXX)	
Model Difference:	All model variants are built upon a unified hardware platform and RF architecture, sharing identical Bluetooth/Wi-Fi modules, antenna systems, and core circuitry. All models are equipped with both an internal storage caddy and an SD card slot for expandable storage; the only difference across the series is the pre-installed internal storage configuration at shipment: • MDR-742GW-1(NA): Equipped with a 1 TB internal solid-state drive (SSD) (Main test model) • MDR-742GW-2(NA): Equipped with a 2 TB internal SSD • MDR-742GW-4(NA): Equipped with a 4 TB internal SSD • MDR-742GW-SD(NA): Supports expandable storage via SD card interface • MDR-742GW-XX(XX)(XXX): Equipped with different storage option Where “X” can represent represents an alphanumeric character ranging from 0–9 or a–z. Represents different sales regions and customer codes. Variations do not affect the devices' RF performance characteristics or regulatory compliance. Testing has been conducted on a representative sample unit; results are therefore applicable to and fully cover all model variants within this product family.	
Frequency Bands:	2.4G WLAN	IEEE 802.11b/g/n(20MHz): 2412~2462MHz IEEE 802.11n(40MHz):2422~2452MHz
	5G WLAN	IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80): 5.210GHz IEEE 802.11a/n(HT20)/ac(VHT20): 5.745GHz-5.825GHz IEEE 802.11a/n(HT40)/ac(VHT40): 5.755GHz-5.795GHz IEEE 802.11ac(VHT80): 5.775GHz
	WCDMA	Band V: 824 MHz ~ 849 MHz Band II: 1850 MHz ~ 1910 MHz Band IV: 1710 MHz ~ 1755 MHz
	LTE	LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5: 824~849MHz LTE Band 12: 699-716MHz LTE Band 13: 777-787MHz LTE Band 14:788-798MHz LTE Band 66: 1710-1780MHz LTE Band 71: 663-698MHz
Rating:	Input: DC 9-36V	
Hardware Version:	N/A	



Software Version:	N/A
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Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	FCC Registration No.: 746540
	CAB ID: CN0136



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the 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 ²)
Limits for Occupational / controlled Exposures			
0.3-3.0	614	1.63	*(100)
3.0-30	1842/f	4.89/f	*(900/f ²)
30-300	61.4	0.163	1.0
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
0.3-1.34	614	1.63	*(100)
1.34-30	824/f	2.19/f	*(180/f ²)
30-300	27.5	0.073	0.2
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

* = Plane-wave equivalent power density.

Friis Formula

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

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

2.5 TEST RESULT

Turn up Result

Mode	Turn up Power
WCDMA B2	18.5±1dBm
WCDMA B4	21±1dBm
WCDMA B5	19.5±1dBm
LTE B2	24.5±1dBm
LTE B4	24±1dBm
LTE B5	24.5±1dBm
LTE B12	24.5±1dBm
LTE B13	24.5±1dBm
LTE B14	24.5±1dBm
LTE B66	24.5±1dBm
LTE B71	24.4±1dBm
2.4G WIFI-802.11b	16±1dBm
2.4G WIFI-802.11g	16±1dBm
2.4G WIFI-802.11n(HT20)	16±1dBm
2.4G WIFI-802.11n(HT40)	15.5±1dBm
5G WIFI-802.11a	14.5±1dBm
5G WIFI-802.11n(HT20)	12.5±1dBm
5G WIFI-802.11n(HT40)	14±1dBm
5G WIFI-802.11ac(VHT20)	12.5±1dBm
5G WIFI-802.11ac(VHT40)	14±1dBm
5G WIFI-802.11ac(VHT80)	13.5±1dBm



The MPE result of worst mode:

RF Function	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
2.4G WIFI	17.00	50.12	1.4	1.38	0.014	1	0.014	Pass
5G WIFI	15.50	35.48	1.4	1.38	0.010	1	0.010	Pass

RF Function	Max Turn up Power (dBm)	Duty cycle factor	Max Power (dBm)	Max Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
WCDMA Band 2	19.5	0	19.5	89.13	3.15	2.07	0.037	1.000	0.037	Pass
WCDMA Band 4	22	0	22	158.49	2.26	1.68	0.053	1.000	0.053	Pass
WCDMA Band 5	20.5	0	20.5	112.20	3.82	2.41	0.054	0.549	0.098	Pass
LTE Band 2	25.5	0	25.5	354.81	3.15	2.07	0.146	1.000	0.146	Pass
LTE Band 4	25	0	25	316.23	2.26	1.68	0.106	1.000	0.106	Pass
LTE Band 5	25.5	0	25.5	354.81	3.82	2.41	0.170	0.549	0.310	Pass
LTE Band 12	25.5	0	25.5	354.81	1.84	1.53	0.108	0.466	0.231	Pass
LTE Band 13	25.5	0	25.5	354.81	3.04	2.01	0.142	0.518	0.274	Pass
LTE Band 14	25.5	0	25.5	354.81	3.04	2.01	0.142	0.525	0.271	Pass
LTE Band 66	25.5	0	25.5	354.81	2.26	1.68	0.119	1.000	0.119	Pass
LTE Band 71	25.4	0	25.5	354.81	-1	0.79	0.056	0.442	0.127	Pass

Multiple transmission: 2.4G WIFI+ LTE Band 5=0.014+0.310=0.324 < 1

Note:

1. The RF Exposure is less than the limit, complies with the exemption requirements.

*****END OF THE REPORT*****