



TEST REPORT NUMBER: (8523)195-0485(A)

TEST REPORT

Applicant:	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD	Fax:	---
		E-mail:	---
Address :	NO.2 WEST XINGYE ROAD LAIMEI INDUSTRIAL AREA CHENG HAI,Shantou,China		
Test Date :	2023-7-20 to 2023-8-3		

Manufacturer or Supplier :	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD
Address :	NO.2 WEST XINGYE ROAD LAIMEI INDUSTRIAL AREA CHENG HAI,Shantou,China
Sample Description:	DRONE
Model number:	S107H
Additional Model :	UK-F7MINI, DE-F7MINI, F11MINI2, F11MINI-3B, F11MINI-4B, UK-F11MINI, DE-F11MINI, W45
Rated Voltage:	TX: DC6V (4*1.5V LR6 AAbatteries)
FCC ID :	QV7-GC88752-96

The submitted sample of the above equipment has been tested according to following standard(s)

47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Assistant Manager

Name: Nick Lung

Date: NOV 02,2023



TEST REPORT NUMBER: (8523)195-0485(A)

1 Contents

	Page
TEST REPORT	1
1 CONTENTS	2
2 GENERAL INFORMATION	3
2.1 CLIENT INFORMATION	3
2.2 GENERAL DESCRIPTION OF EUT	3
3 SAR EVALUATION	4
3.1 FCC RF EXPOSURE COMPLIANCE REQUIREMENT	4
3.1.1 Standard Requirement	4
3.1.2 Limits	4
3.1.3 EUT RF Exposure	5



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2 General Information

2.1 Client Information

Applicant:	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD
Address of Applicant:	NO.2 WEST XINGYE ROAD LAIMEI INDUSTRIAL AREA CHENG HAI,Shantou,China
Manufacturer:	GUANGDONG SYMA MODEL AIRCRAFT INDUSTRIAL CO., LTD
Address of Manufacturer:	NO.2 WEST XINGYE ROAD LAIMEI INDUSTRIAL AREA CHENG HAI,Shantou,China

2.2 General Description of EUT

Name:	DRONE
Test Model No.:	S107H
Trade Mark :	N/A
Software Version:	1.0
Hardware Version:	1.0
Frequency Range:	2415MHz ~ 2465MHz
Modulation Type:	GFSK
Number of Channels:	51
Sample Type:	Portable product
Antenna Type:	Internal antenna
Antenna Gain:	-1.14dBi

Note:

Model number:UK-F7MINI, DE-F7MINI, F11MINI2, F11MINI-3B, F11MINI-4B, UK-F11MINI, DE-F11MINI, W45

Test Model number:S107H

Their electrical circuit design, layout, components used and internal wiring are identical,
Only the difference in appearance,color is different.



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3 SAR Evaluation

3.1 FCC RF Exposure Compliance Requirement

3.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

3.1.2 Limits

FCC:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

TEST REPORT NUMBER: (8523)195-0485(A)

3.1.3 EUT RF Exposure

Measurement Data

The worst case refer to report (8523)156-0342 is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBμV/m)	Value
2415-2465	90.37	Peak

$$e_{irp} = p_t \times g_t = (E \times d)^2 / 30$$

where:

p_t = transmitter output power in watts,

g_t = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m

d = measurement distance in meters (m)---3m,

So $p_t = (E \times d)^2 / 30 / g_t$

Field strength = 90.37dB μ V/m @3m

Ant. gain --1.14dBi; so Ant numeric gain=0.769

So $p_t = \{ [10^{(90.37/20)} / 10^6 \times 3]^2 / 30 / 0.769 \} \times 1000 \text{mW} = 0.4247 \text{mW}$

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g

Calculated value = $0.4247 / 5 \cdot \sqrt{2.465} = 0.133 < 3$

So the SAR test is not required.