

廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

Page 1 of 24

Application No.

LR007650(7)

Client

Kid Galaxy Inc

150 Dow Street,

Unit 425B Manchester, nh03101

Sample Description:

One(1) item of submitted sample stated to be:

Sample Description	Model number
GOGO AutoF150	10472
GOGO Auto series	10481 / 10482 / 10483 / 10484 /
	10421 / 10422 / 10420 / 10478 /
	10415 / 10438 / 10471 / 10423 /
	10433 / 10569 / 10570 / 40215 /
	10436 / 10437 / 10460 / 10414 /
	10709 / 10710 / 10711 / 10712 /
	10435 / 10410 / 10705 / 10706

Sample registration no.

: RR008824-004

Radio Frequency

: 49.860MHz Transmitter

Rating

: 1 x 9V size battery

No. of submitted sample : Four (4) piece (s)

Date Received

21 Mar 2013

Test Period

25 Mar 2013 to 11 Apr 2013

Test Requested

FCC Part 15 Certification.

Test Method

47 CFR Part 15 (10-1-09 Edition)

ANSI C63.4 - 2009

For and on behalf of

CMA Industrial Development Foundation Limited

Authorized Signature:

Mr. WONG Lap-pon Andrew

Assistant Manager

Electrical Division

FCC ID: QEA-E003-49T

This document is issued subject to the letest CMA Testing General Terms and Conditions of Testing and Inspection Services, evailable on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

Report No.

: AR0018474(2)

Date:

18 Apr 2013

Test Result

See attached sheet(s) from page 2 to 24.

Conclusion

The submitted sample was found to comply with requirement of FCC Part 15

Subpart C.

Remark

All twenty-nine models are the same in circuitry and components; and therefore model 10472 was chosen to be the representative of the test sample. The difference

between the tested model and the declared model(s) is/are the model number, color

and sample description.

For and on behalf of CMA Industrial Development Foundation Limited

Authorized Signature:

Mr. WONG Lap-pong Andrew Assistant Manager

Electrical Division

Page 2 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approvel by CMA Testing



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

Table of Contents

1	Gen	neral Information	. 4
	1.1	General Description	. 4
	1.2	Location of the test site	
	1.3	List of measuring equipment	
	1.4	Measurement Uncertainty	
2	Des	scription of the radiated emission test	. 7
	2.1	Test Procedure	
	2.2	Test Result	. 7
	2,3	Radiated Emission Measurement Data	. 8
3	Des	scription of the Line-conducted Test	. 9
	3.1	Test Procedure	. 9
	3.2	Test Result	. 9
	3.3	Graph and Table of Conducted Emission Measurement Data	
4	Pho	otograph	
	4.1	Photographs of the Test Setup for Radiated Emission and Conducted Emission	1(
	4.2	Photographs of the External and Internal Configurations of the EUT	
5	Sup	plementary document	1
	5.1	Bandwidth	
	5.2	Duty cycle	
	5.3	Transmission time	12
6		pendices	

Page 3 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

1 General Information

1.1 General Description

The equipment under test (EUT) is a transmitter for F 150 FCC car. It operates at 49.860MHz and the oscillation of radio control is generated by a crystal. The EUT is powered by 1 x 9V batteries. There are two buttons on the EUT. When the button is pressed, it will transmit radio control signal to receiver

The antenna is permanently attached in EUT and the radio output power is unable to adjust.

The brief circuit description is listed as follows:

- S1, S2 and its associated circuit act as power circuit.
- R2, R3, R4, R5, R6, R7, D1, C3, C4 and its associated circuit act as encoding circuit
- R8, R9, Q3, C7, C6, X1, C5, L1, R10 and its associated circuit act as 27.145MHz high frequency oscillatory circuit
- R11, C8, C11, Q4, R12, L2, C10, C12, L3, C13, L4 and its associated circuit act as modulator and amplifier circuit

Page 4 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

1.2 Location of the test site

FCC Registered Test Site Number: 552221

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre, 9 – 13 Wong Chuk Yeung Street, Fo Tan, Shatin, New Territories, Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 - 2009. A shielded room is located at :

Ground Floor, Yan Hing Centre, 9-13 Wong Chuk Yeung Street, Fo Tan, Shatin, New Territories, Hong Kong.

Page 5 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

1.3 List of measuring equipment

Ei	Manuellanden	Model No.	Conict No.	Calibration Due Date	
Equipment	Equipment Manufacturer		Serial No.	Calibration Due Date	
EMI Test Receiver R&S Broadband Antenna Schaffner		ESCI	100152	28 May 2013	
		CBL6112B	2718	16 Jan 2014	
Loop Antenna	EMCO	6502	00056620	15 Sep 2013	
Coaxial Cable	Schaffner	RG 213/U	N/A	28 May 2013	
Coaxial Cable	Schaffner	RG 214/U	N/A	28 May 2013	

1.4 Measurement Uncertainty

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.

Radiated emissions

Frequency	Uncertainty (U _{lab})
30MHz ~ 200MHz (Horizontal)	4.83dB
30MHz ~ 200MHz (Vertical)	4.84dB
200MHz ~1000MHz (Horizontal)	4.66dB
200MHz ~1000MHz (Vertical)	4.65dB

Conducted emissions

Conducted chilasions					
Frequency	Uncertainty (Ulab)				
150kHz~30MHz	3.02dB				

Page 6 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

2 Description of the radiated emission test

2.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

The device was rotated through three orthogonal axes to determine which attitude and configuration produce the highest emission during measurement for Radiated Emission measurement.

2.2 Test Result

Peak Detector data was measured unless otherwise stated.

"#" means emissions appearing within the restricted bands shall follow the requirement of section 15.205.

The frequencies from fundamental up to the tenth harmonics were investigated, and emissions more 20dB below limited were not reported. Thus, those highest emissions were presented in next page (section 2.3)

It was found that the EUT meet the FCC requirement.

Page 7 of 24



廢商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart C

Environmental conditions:

ParameterRecorded valueAmbient temperature:25° CRelative humidity:70%

Detector: Peak (Fundamental frequency), Quasi-peak (outside operation band)

RBW: 120kHz VBW: 300kHz

Frequency	Polarity	Reading	Antenna Factor	Average	Field Strength	Limit at 3m	Margin
(MHz)	(H/V)	at 3m (dBµV)	and Cable Loss (dB/m)	Factor (dB)	at 3m (dBµV/m)	(dBμV/m)	(dB)
49.860	V	66.0	12.5	- 6.8	71.7	80.0	- 8.3
99.720	V	11.7	10.1	_	21.8	43.5	- 21.7
149.573	V	7.9	14.5	-	22.4	43.5	- 21.1
199.432	V	10.0	11.2	_	21.2	43.5	- 22.3
249.305	V	12.2	11.9	-	24.1	46.0	- 21.9
299.161	V	9.7	15.0	-	24.7	46.0	- 21.3
349.019	V	10.9	15.9	-	26.8	46.0	- 19.2
389.889	V	12.6	15.9	_	28.5	46.0	- 17.5
448.745	V	10.3	20.3	-	30.6	46.0	- 15.4
498.598	V	11.9	20.3	-	32.2	46.0	- 13.8

Page 8 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 - 2009. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

No measurement is required as the EUT is a battery-operated product.

3.3 Graph and Table of Conducted Emission Measurement Data

Not Applicable

Page 9 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

- 4 Photograph
- 4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho2.jpg.

Page 10 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

5 Supplementary document

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

Document	Filename		
ID Label/Location	LabelSmp.jpg		
Block Diagram	BlkDia.pdf		
Schematic Diagram	Schem.pdf		
Users Manual	UserMan.pdf		
Operational Description	OpDes.pdf		

5.1 Bandwidth

The plot on saved in TestRpt2.pdf shows the fundamental emission is confined in the specified band. The field strength of any emission appearing between the band edges and up to 10 kHz above and below the band edges (49.81 and 49.91 MHz) is at least 26dB below the carrier level. It meets the requirement of Section 15.235(b).

Lower frequency of 26dB below = 49.845MHz

carrier

Upper frequency of 26dB below = 49.874MHz

carrier frequency

5.2 Duty cycle

The duty cycle is simply the on-time divided by the period:

The duration of one cycle

= 4.0ms

Duration of pulse

= 1.8261 ms

Number of pulse

= 1

Effective period of the cycle

= 1 x 1.8261ms = 1.8261ms

Duty Cycle

= 1.8261 / 4.0

= 0.456

Therefore, the average factor is found by $20 \log_{10} 0.456 = -6.8 dB$

Page 11 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

5.3 Transmission time

Not Applicable

Page 12 of 24



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

6 Appendices

A1.	Photos of the set-up of Radiated Emissions	1	page
A2.	Photos of External Configurations	1	page
A3.	Photos of Internal Configurations	1	page
A4.	ID Label/Location	1	page
A5.	Bandwidth Plot	1	page
A6.	Average Factor	1	page
A7.	Block Diagram	1	page
A8.	Schematics Diagram	1	page
A9.	User Manual	2	pages
A10.	Operation Description	1	page

Page 13 of 24



廠商會檢定中心

TEST REPORT

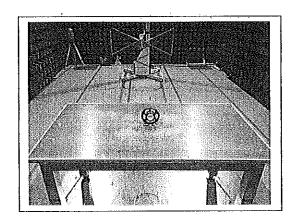
Report No.

AR0018474(2)

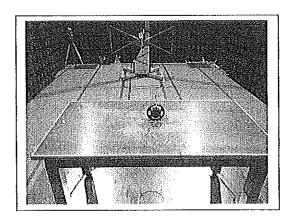
Date:

18 Apr 2013

A1. Photos of the set-up of Radiated Emissions



(Front view)



(Back view)

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 14 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.cmatd.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

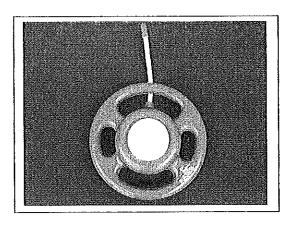
Report No.

AR0018474(2)

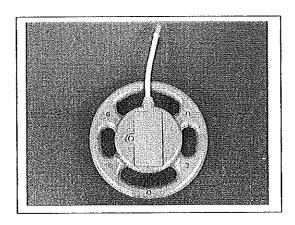
Date:

18 Apr 2013

A2. Photos of External Configurations



External Configuration 1



External Configuration 2

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 15 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Temps and Conditions of Testing and Inspection Services, grailable on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

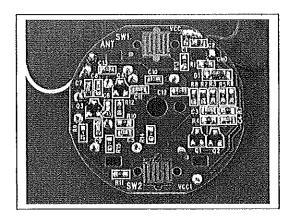
Report No.

AR0018474(2)

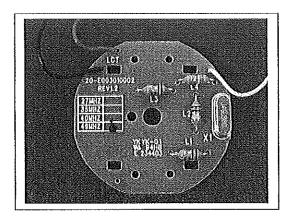
Date:

18 Apr 2013

A3. Photos of Internal Configurations



Internal Configuration 1



Internal Configuration 2

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 16 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the letest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

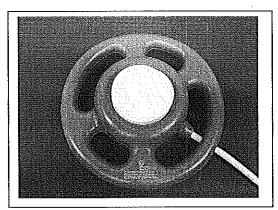
Report No.

: AR0018474(2)

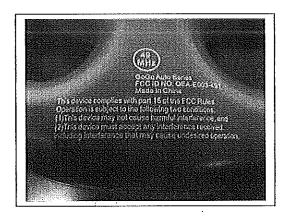
Date:

18 Apr 2013

A4. ID Label / Location



ID Label 1



ID Label 2

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 17 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.omacl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

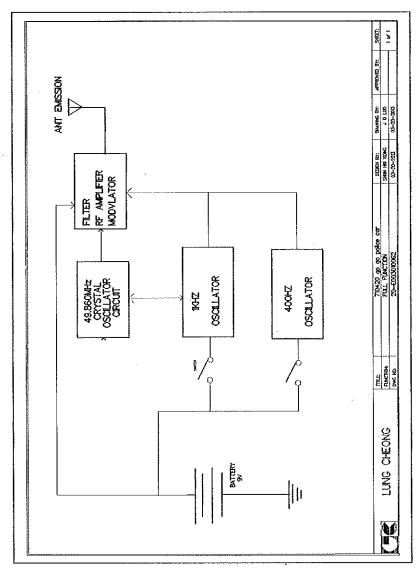
Report No.

AR0018474(2)

Date:

18 Apr 2013

A7. **Block Diagram**



Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 20 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

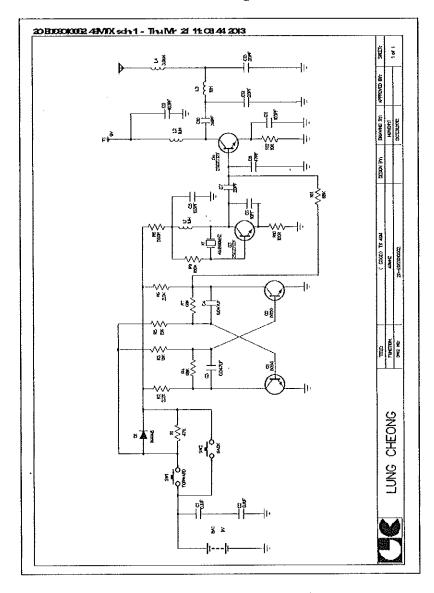
Report No.

AR0018474(2)

Date:

18 Apr 2013

A8. Schematic Diagram



Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 21 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, evailable on request or accessible at website www.cmstd.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

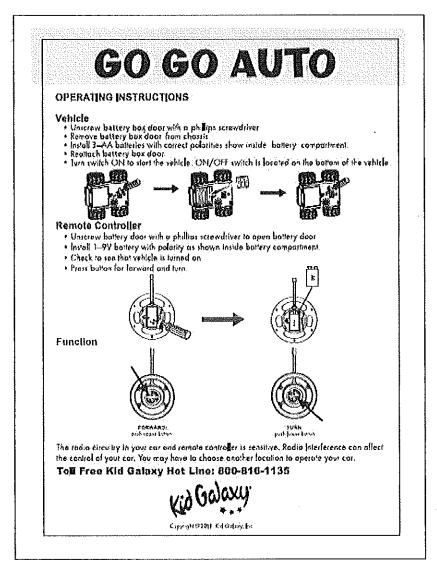
Report No.

AR0018474(2)

Date:

18 Apr 2013

A9. User Manual



Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 22 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or accessible at website www.cinatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

A9. User Manual

USER MANUAL

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two condition: (1)this device may not cause harmful interference, and (2)this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with or limitations of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to ratio or television reception, which can be determined by turning the equipment, off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ Recrient or relocate the receiving antenna,
- ☐ Increase the separation between the equipment and receiver.
- Connect the agulpment into an outlet on a circuit different from that to which the receiver is needed.
- ☐ Consult the dealer or an experienced radioffV technician for help,
- Do not mix oki and new batteries.
- Do not mix alkaline, standard(carbon-zinc), or rechargeable (Nickel-cadmium) batteries.

Go Go Auto Series

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 23 of 24

FCC ID: QEA-E003-49T

This document is issued subject to the latest CMA Testing General Terms and Conditions of Testing and Inspection Services, available on request or excessible at website www.cmatd.com
This document shall not be reproduced except in full or with written approval by CMA Testing



廠商會檢定中心

TEST REPORT

Report No.

AR0018474(2)

Date:

18 Apr 2013

A10. Operation Description

Kid Galaxy RC-TOY GO GO CAR TX OPERATION PRINCIPLE

The Kid Galaxy RC toy go go car TX operates basing on the controlling signals encode by 2 channel circuit; Afer modulation, the hight frequency oscillatory signals were emitted to control the progress, retreat functions for the RX. The modulation type is AM.

Circuits' composition:

Power circuit: encoding circuit: high frequency oscillatory circuit: modulator and amplifier circuit.

1. Power circuit:

\$1,\$2

2. encoding circuit:

R2, R3, R4, R5, R6, R7, D1, C3, C4

3. 27.145MHz high frequency oscillatory circuit decoder circuit:

R8, R9, Q3, C7 · C6, X1, C5, L1, R10

4. modulator and amplifier circuit:

R11, C8, C11, Q1, R12, L2, C10, C12, L3, C13, L4 · ANT

***** End of Report *****

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

Page 24 of 24

FCC ID: QEA-E003-49T

This document is issued, subject to the latest CMA Testing General Tenns and Conditions of Testing and Inspection Services, available on request or accessible at website www.cmatcl.com
This document shall not be reproduced except in full or with written approval by CMA Testing