

Produkte
Products

Prüfbericht - Nr.: 14040072 001 <i>Test Report No.:</i>		Seite 1 von 9 <i>Page 1 of 9</i>	
Auftraggeber: <i>Client:</i>		Guangdong Shantou Chenghai Huajun Aeromodelling Plastic Toys Factory Meihua, Pumei, Guangyi Chenghai, Shantou Guangdong China	
Gegenstand der Prüfung: <i>Test Item:</i>		Short Range Device - Radio Control Toy Transmitter (2.4GHz)	
Bezeichnung: <i>Identification:</i>	Please refer to "Models" on page 3	Serien-Nr.: <i>Serial No.:</i>	Engineering sample
Wareneingangs-Nr.: <i>Receipt No.:</i>	A000225988 (001-003)	Eingangsdatum: <i>Date of Receipt:</i>	10.07.2015
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>		Test samples received are not damaged and suitable for testing.	
Prüfört: <i>Testing Location:</i>		TÜV Rheinland Hong Kong Ltd. 8/F, First Group Centre, 14 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong Global United Technology Services Co., Ltd. 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, China	
Prüfgrundlage: <i>Test Specification:</i>		FCC Part 15 Subpart C ANSI C63.4-2009	
Prüfergebnis: <i>Test Results:</i>		Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage. The above mentioned product was tested and passed .	
Prüflaboratorium: <i>Testing Laboratory:</i>		TÜV Rheinland Hong Kong Ltd. 8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong	
geprüft/ tested by:		kontrolliert/ reviewed by:	
16.07.2015 Datum <i>Date</i>	Joey Leung Project Engineer Name/Stellung <i>Name/Position</i>	 Unterschrift <i>Signature</i>	16.07.2015 Datum <i>Date</i>
	Benny Lau Senior Project Manager Name/Stellung <i>Name/Position</i>	 Unterschrift <i>Signature</i>	
Sonstiges: <i>Other Aspects</i>		FCCID: OH360991000003	
Abkürzungen:		Abbreviations:	
P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet		P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested	
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>			

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Product information

Manufacturers declarations

	Transmitter
Operating frequency range	2402 - 2474 MHz
Type of modulation	GFSK
Number of channels	65
Type of antenna	Wire Antenna
Power level	fix
Connection to public utility power line	No
Nominal voltage	6.0 V

Product function and intended use

The equipment under test (EUT) is a radio control toy transmitter operating at 2.4GHz. It is powered by battery only.

FCCID: OH360991000003

Models	Product description
W609-1, W609-2, W609-3, W609-4, W609-5, W609-9, W609-10, W606-1, W606-2, W606-3, W606-4, W606-5, W606-6, W606-7, W606-8, W606-9, W605-1, W605-2, W605-3, W605-4, W605-5, W605-6, W605-7, W605-8, W605-9, W809-1, W809-2, W809-3, W809-4, W809-5, W809-6, W809-7, W809-8, W809-9, W806-1, W806-2, W806-3, W806-4, W806-5, W806-6, W806-7, W806-8, W806-9, W805-1, W805-2, W805-3, W805-4, W805-5, W805-6, W805-7, W805-8, W805-9	Radio Controlled Toy

Submitted documents

Circuit Diagram
Block Diagram
Bill of material
User manual
Rating Label

Special accessories and auxiliary equipment

The product has been tested together with the following additional accessory:

Nil

Independent Operation Modes

The basic operation mode is transmitting control signal for the RC toy.

For further information refer to User Manual

Related Submittal(s) Grants

This is a single application for certification of the transmitter.

List of Test and Measurement Instruments

Global United Technology Services Co., Ltd. (Registration number: 600491)

Equipment	Manufacturer	Type	S/N	Cal. interval	Last cal.
3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	---	2 year	05 Apr 2015
Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	---	N/A	N/A
ESU EMI Test Receiver	R&S	ESU26	---	1 year	08 Jun 2015
Loop Antenna	Zhinan	ZN30900A	---	1 year	08 Jun 2015
Bi-log Hybrid Antenna	SCHWARZBECK	VULB9163	---	1 year	09 Mar 2015
Double-ridged horn antenna	SCHWARZBECK	9120D	---	1 year	09 Mar 2015
RF Amplifier	HP	8347A	---	1 year	08 Jun 2015
RF Amplifier	HP	8349B	---	1 year	08 Jun 2015
EMI Test Software	AUDIX	E3	---	1 year	N/A
Coaxial cable	GTS	N/A	---	1 year	08 Jun 2015
Coaxial Cable	GTS	N/A	---	1 year	08 Jun 2015
Thermo meter	N/A	N/A	---	1 year	08 Jun 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	100007	1 year	12 Jan 2015

Results FCC Part 15 – Subpart C

Subclause 15.207 – Disturbance Voltage on AC Mains	N/A
There is no AC power input or output ports on the EUT.	

Subclause 15.205 – Restricted bands – Spurious Emissions – Band edge		Pass
Test Specification : ANSI C63.4 – 2009 Mode of operation : Tx mode Port of testing : Enclosure Detector : Peak RBW/VBW : 100 kHz / 300 kHz for f < 1 GHz 1 MHz / 3 MHz for f > 1 GHz Supply voltage : 6.0VDC, 4 x 1.5V AA size new battery Temperature : 23°C Humidity : 50%		
Requirement: Radiated emissions which fall in the restricted bands, as defined in 15.205 (a), must also comply with the radiated emission limits specified in 15.209(a).		
Results: PASS		
Tx frequency 2402MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2400.000	48.39	74.0 / P
2400.000	38.65	54.0 / A
Tx frequency 2402MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2400.000	43.59	74.0 / P
2400.000	37.60	54.0 / A
Tx frequency 2474MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	37.09	74.0 / P
2483.500	26.75	54.0 / A
Tx frequency 2474MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	37.00	74.0 / P
2483.500	26.88	54.0 / A

Subclause 15.215 (c) – 20 dB Bandwidth				Pass
Test Specification : ANSI C63.4 – 2009 Mode of operation : Tx mode Port of testing : Enclosure RBW/VBW : 100 kHz / 300 kHz Supply voltage : 6.0VDC, 4 x 1.5V AA size new battery Temperature : 23°C Humidity : 50%				
Requirement: The intentional radiators must be designed to ensure that the 20dB bandwidth of the emission, is contained within the frequency band designated in the rule section under which the equipment is operated.				
Results: For test protocols refer to Appendix 1, page 2-3.				
Frequency (MHz)	20 dB left (MHz)	Limit (MHz)	20 dB right (MHz)	Limit (MHz)
2402	2401.270	> 2400	2402.500	< 2483.5
2433	2432.230	> 2400	2433.480	< 2483.5
2474	2474.250	> 2400	2475.490	< 2483.5

Subclause 15.249 (a) – Field Strength of Fundamental and Harmonics				Pass
Test Specification : ANSI C63.4 – 2009 Mode of operation : Tx mode Port of testing : Enclosure RBW/VBW : 100 kHz / 300 kHz for $f < 1$ GHz 1 MHz / 3 MHz for $f > 1$ GHz Supply voltage : 6.0VDC, 4 x 1.5V AA size new battery Temperature : 23°C Humidity : 50%				
Requirement: The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following limit.				
Results: PASS				
Fundamental Frequency 2402MHz		Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2401.830	68.49	114.0 / P		
2401.830	56.49	94.0 / A		
Fundamental Frequency 2402MHz		Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2401.830	63.67	114.0 / P		
2401.830	54.63	94.0 / A		
Harmonics 2402MHz		Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
4804.000	42.49	74.0 / P		

4804.000	33.77	54.0 / A
Harmonics 2402MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4804.000	41.59	74.0 / P
4804.000	34.88	54.0 / A
Fundamental Frequency 2433MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2433.060	67.62	114.0 / P
2433.060	56.57	94.0 / A
Fundamental Frequency 2433MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2433.060	63.79	114.0 / P
2433.060	54.51	94.0 / A
Harmonics 2433MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4866.000	41.62	74.0 / P
4866.000	32.99	54.0 / A
Harmonics 2433MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4866.000	42.58	74.0 / P
4866.000	33.95	54.0 / A
Fundamental Frequency 2474MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2474.975	69.89	114.0 / P
2474.975	56.96	94.0 / A
Fundamental Frequency 2474MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2474.975	65.75	114.0 / P
2474.975	54.82	94.0 / A
Harmonics 2474MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4950.000	40.92	74.0 / P
4950.000	32.39	54.0 / A
Harmonics 2474MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4950.000	41.19	74.0 / P
4950.000	34.66	54.0 / A

Subclause 15.249 (d) – Emissions radiated outside of the specified frequency bands Pass		
Test Specification : ANSI C63.4 - 2009 Mode of operation : Tx mode Port of testing : Enclosure Detector : Peak RBW/VBW : 100 kHz / 300 kHz for $f < 1$ GHz 1 MHz / 3 MHz for $f > 1$ GHz Supply voltage : 6.0VDC, 4 x 1.5V AA size new battery Temperature : 23°C Humidity : 50%		
Requirement: Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.		
Results: All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.		
Tx frequency 2402MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A
Tx frequency 2402MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A
Tx frequency 2433MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A
Tx frequency 2433MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A
Tx frequency 2474MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A
Tx frequency 2474MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
No peak found	---	74.0 / P
No peak found	---	54.0 / A