

Produkte
Products



Prüfbericht - Nr.: 14033031 001		Seite 1 von 9 Page 1 of 9	
<i>Test Report No.:</i>			
Auftraggeber: <i>Client:</i>	SHANTOU CHENGHAI WEILI TOYS CO.,LTD. No.2 Fengxin Road Industrial Area Chenghai, Shantou Guangdong P.R.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>	00130718240-001	Eingangsdatum: <i>Date of Receipt:</i>	18.07.2013
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>	Test sample(s) is/are not damaged and suitable for testing.		
Prüfört: <i>Testing Location:</i>	Shenzhen Emtek Co., Ltd. Bldg. 69, Majialong Industry Zone, Nanshan District, ShenZhen, Guangdong, 518052 P.R. China		
Prüfgrundlage: <i>Test Specification:</i>	FCC Part 15 Subpart C ANSI C63.4-2003		
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:	
08.08.2013	Joey Leung Test Engineer	08.08.2013	Sharon Li Section Manager
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Unterschrift <i>Signature</i>
			
Sonstiges: Other Aspects		FCCID: O85WL201305004	
Abkürzungen:	P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet	Abbreviations:	P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested
<p>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.</p> <p><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></p>			

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Product information

Manufacturers declarations

	Transmitter
Operating frequency range	2413 - 2457 MHz
Type of modulation	GFSK
Number of channels	45
Type of antenna	Integral
Power level	fix
Connection to public utility power line	No
Nominal voltage	V _{nom} : 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 batteries only.

FCCID: O85WL201305004

Models	Product description
L929, L939, L949, L959, L969, L979, L989, L999, A929, A939, A949, A959, A969, A979, A989, A999, F929, F939, F949, F959, F969, F979, F989, F999, K929, K939, K949, K959, K969, K979, K989, K999, P929, P939, P949, P959, P969, L202, L212, L222	Radio Control Toy Car Transmitter

The EUT bears 40 models as listed above. They are the same in schematic, PCB layouts, electronic components and only different in model number.

Submitted documents

- Circuit Diagram
- Block Diagram
- Bill of material
- User manual
- Rating Label

List of Test and Measurement Instruments

Shenzhen EMTEK Co., Ltd. (Registration number: 709623)

Equipment	Manufacturer	Type	S/N	Due Date
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 29, 2014
Pre-Amplifier	HP	8447D	2944A07999	May 29, 2014
Bilog Antenna	Schwarzbeck	VULB9163	142	May 11, 2014
Loop Antenna	Schwarzbeck	FMZB 1519	012	May 11, 2014
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	May 11, 2014
Horn Antenna	Schwarzbeck	BBHA 9120	D143	May 11, 2014
Cable	Schwarzbeck	AK9513	ACRX1	May 11, 2014
Cable	Rosenberger	N/A	FP2RX2	May 29, 2014
Cable	Schwarzbeck	AK9513	CRPX1	May 29, 2014
Cable	Schwarzbeck	AK9513	CRRX2	May 29, 2014
Pre-Amplifier	A.H.	PAM-0126	1415261	May 29, 2014
Spectrum Analyzer	Rohde & Schwarz	FSP30	100007	Sept 16, 2013

Subclause 15.215 (c) – 20 dB Bandwidth		Pass		
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.				
Test Specification : ANSI C63.4 – 2003 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%				
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)
2413	2412.030	> 2400	2414.010	< 2483.5
2435	2434.020	> 2400	2436.020	< 2483.5
2457	2455.990	> 2400	2458.050	< 2483.5

Subclause 15.249 (a) – Radiated Emission (Fundamental and Harmonics)		Pass		
Test Specification : ANSI C63.4 – 2003 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 2413MHz		Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2412.692	62.52	114.0 / P		
2412.692	55.40	94.0 / A		
Fundamental Frequency 2413MHz		Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2412.628	59.82	114.0 / P		
2412.628	52.09	94.0 / A		

Harmonics 2413MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4816.102	49.74	74.0 / P	
4816.102	37.41	54.0 / A	
Harmonics 2413MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4816.102	47.62	74.0 / P	
4816.102	39.30	54.0 / A	
7239.141	52.72	74.0 / P	
7239.141	38.24	54.0 / A	
Fundamental Frequency 2435MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2434.680	62.42	114.0 / P	
2434.680	55.32	94.0 / A	
Fundamental Frequency 2435MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2434.680	59.37	114.0 / P	
2434.680	52.31	94.0 / A	
Harmonics 2435MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4868.590	49.80	74.0 / P	
4868.590	36.63	54.0 / A	
Harmonics 2435MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4868.590	48.06	74.0 / P	
4868.590	35.63	54.0 / A	
Fundamental Frequency 2457MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2456.698	62.48	114.0 / P	
2456.698	55.42	94.0 / A	
Fundamental Frequency 2457MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2456.698	63.06	114.0 / P	
2456.698	55.81	94.0 / A	
Harmonics 2457MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4895.833	51.29	74.0 / P	

4895.833	40.06	54.0 / A
Harmonics 2457MHz		Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4895.833	49.91	74.0 / P
4895.833	37.77	54.0 / A

Subclause 15.249 (d) – Spurious Radiated Emissions		Pass
Test Specification : ANSI C63.4 - 2003 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 2413MHz		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 2413MHz		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 2435MHz		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 2435MHz		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 2457MHz		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 2457MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
No peak found	---	74.0 / P	
No peak found	---	54.0 / A	