

Produkte
Products



Prüfbericht - Nr.: 14033625 001		Seite 1 von 9	
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Auftraggeber: <i>Client:</i>	Stadlbauer Marketing + Vertrieb GmbH Rennbahn Allee1 5412 Puch, Salzburg Austria		
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>	00130830211-001	Eingangsdatum: <i>Date of Receipt:</i>	30.08.2013
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>	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 C63.4-2003		
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:	
13.09.2013	Joey Leung Test Engineer	13.09.2013	Mika Chan Project Manager
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Unterschrift <i>Signature</i>
			
Sonstiges: Other Aspects	FCCID: YFA401004		
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	2405 - 2475 MHz
Type of modulation	GFSK
Number of channels	71
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: YFA401004

Models	Product description
301010, 301011, 301012, 301013, 301014, 301015, 301016	Radio Control Toy Boat

Submitted documents

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

List of Test and Measurement Instruments

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

Equipment	Manufacturer	Type	S/N	Cal. Due date
3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	---	05 Apr 2015
Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	---	N/A
ESU EMI Test Receiver	R&S	ESU26	---	28 Jun 2014
Loop Antenna	Zhinan	ZN30900A	---	28 Jun 2014
Bi-log Hybrid Antenna	SCHWARZBECK	VULB9163	---	17 Mar 2014
Double-ridged horn antenna	SCHWARZBECK	9120D	---	17 Mar 2014
Horn Antenna	ETS-LINDGREN	3160	---	17 Mar 2014
RF Amplifier	HP	8347A	---	28 Jun 2014
RF Amplifier	HP	8349B	---	28 Jun 2014
EMI Test Software	AUDIX	E3	---	N/A
Coaxial cable	GTS	N/A	---	28 Jun 2014
Coaxial Cable	GTS	N/A	---	28 Jun 2014
Thermo meter	N/A	N/A	---	30 Jun 2014
Spectrum Analyzer	Rohde & Schwarz	FSP30	100007	03 Dec 2014

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)
2405	2404.338	> 2400	2407.292	< 2483.5
2445	2444.400	> 2400	2447.352	< 2483.5
2475	2474.364	> 2400	2477.304	< 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 2405MHz		Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2405.000	80.80	114.0 / P		
2405.000	52.49	94.0 / A		
Fundamental Frequency 2405MHz		Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m		
2405.000	76.07	114.0 / P		
2405.000	50.57	94.0 / A		

Harmonics 2405MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4810.000	63.94	74.0 / P	
4810.000	43.99	54.0 / A	
7215.000	58.35	74.0 / P	
7215.000	43.99	54.0 / A	
Harmonics 2405MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4810.000	59.85	74.0 / P	
4810.000	41.24	54.0 / A	
7215.000	58.48	74.0 / P	
7215.000	42.42	54.0 / A	
Fundamental Frequency 2445MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2445.000	80.35	114.0 / P	
2445.000	57.59	94.0 / A	
Fundamental Frequency 2445MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2445.000	78.03	114.0 / P	
2445.000	53.88	94.0 / A	
Harmonics 2445MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4890.000	61.78	74.0 / P	
4890.000	42.90	54.0 / A	
7335.000	59.01	74.0 / P	
7335.000	44.66	54.0 / A	
Harmonics 2445MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
4890.000	56.98	74.0 / P	
4890.000	39.40	54.0 / A	
7335.000	58.91	74.0 / P	
7335.000	43.06	54.0 / A	
Fundamental Frequency 2475MHz		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2475.000	77.45	114.0 / P	
2475.000	53.62	94.0 / A	
Fundamental Frequency 2475MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
2475.000	77.32	114.0 / P	

2475.000	54.32	94.0 / A
Harmonics 2475MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4950.000	61.61	74.0 / P
4950.000	40.77	54.0 / A
7425.000	59.01	74.0 / P
7425.000	43.24	54.0 / A
Harmonics 2475MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4950.000	55.26	74.0 / P
4950.000	38.87	54.0 / A
7425.000	56.53	74.0 / P
7425.000	41.95	54.0 / A

Subclause 15.249 (d) – Spurious Radiated Emissions		Pass
<p>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%</p>		
<p>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.</p>		
<p>Results: All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.</p>		
Tx frequency 2405MHz 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 2405MHz 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 2445MHz 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 2445MHz		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 2475MHz		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 2475MHz		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
No peak found	---	74.0 / P	
No peak found	---	54.0 / A	