



<b>EMC TEST REPORT</b> <b>FCC 47 CFR Part 15B</b> <b>Industry Canada RSS-Gen</b> <b>Electromagnetic compatibility - Unintentional radiators</b>	
<b>Report Reference No.</b> .....	G0M-1206-2073-EF01-V01
<b>Testing Laboratory</b> .....	Eurofins Product Service GmbH
Address .....	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation .....	<div style="text-align: center;">   </div> <p style="text-align: center;">                     A2LA Accredited Testing Laboratory, Certificate No.: 1983.01                      FCC Filed Test Laboratory, Reg.-No.: 96970                      IC OATS Filing assigned code: 3470A                 </p>
<b>Applicant's name</b> .....	Kondo Kagaku Co., Ltd.
Address .....	4-17-7 Higashi Nippori, Arakawa-Ku Tokyo 116-0014 JAPAN
<b>Test specification:</b>	
Standard.....	47 CFR Part 15 Subpart B RSS-Gen, Issue 3, 2010-12 ANSI C63.4:2009
<b>Equipment under test (EUT):</b>	
Product description	Radio Control Transmitter for Model cars
Model No.	EX-1 ASF
Additional Models	None
Hardware version	1.00
Firmware / Software version	1.00
	FCC-ID: QH9KTSS-701                      IC: N/A
<b>Test result</b>	<b>Passed</b>

**Possible test case verdicts:**

- not applicable to test object .....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

**Testing:**

Date of receipt of test item .....: 2012-07-10

Date (s) of performance of tests .....: 2012-07-30

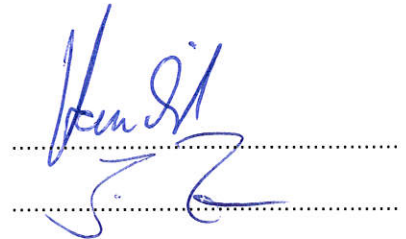
Compiled by .....: Antje Bartusch

Tested by (+ signature).....: Matthias Handrik

Approved by (+ signature) .....: Jens Zimmermann

Date of issue.....: 2012-10-24

Total number of pages.....: 18


**General remarks:**

**The test results presented in this report relate only to the object tested.**  
**The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.**

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

**Additional comments:**

**REPORT INDEX**

<b>1</b>	<b>EQUIPMENT (TEST ITEM) DESCRIPTION</b>	<b>4</b>
1.1	Photos – Equipment external	5
1.2	Photos – Equipment internal	6
1.3	Photos – Test setup	7
1.4	Supporting Equipment Used During Testing	8
1.5	Operating Modes	9
1.6	Test Equipment Used During Testing	10
1.7	Sample emission level calculation	11
<b>2</b>	<b>RESULT SUMMARY</b>	<b>12</b>
<b>3</b>	<b>TEST CONDITIONS AND RESULTS</b>	<b>13</b>
3.1	Test Conditions and Results – Radiated emissions	13

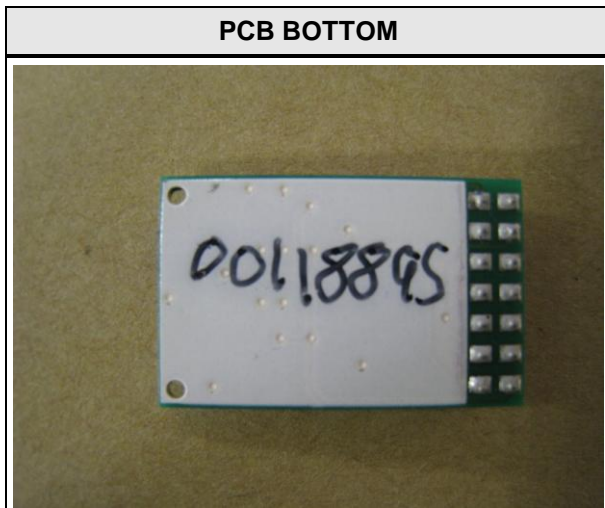
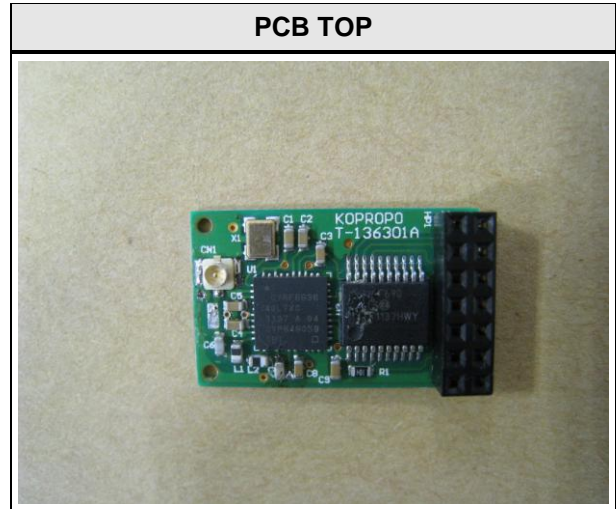
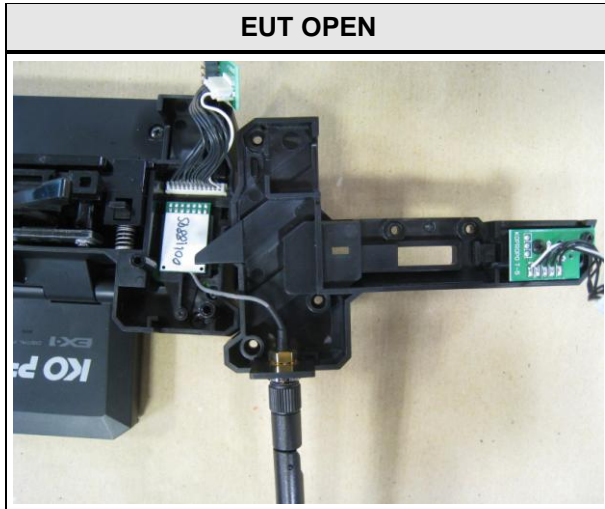
## 1 Equipment (Test item) Description

<b>Description</b>	Radio Control Transmitter for Model cars
<b>Model</b>	EX-1 ASF
<b>Additional Models</b>	None
<b>Serial number</b>	None
<b>Hardware version</b>	1.00
<b>Software / Firmware version</b>	1.00
<b>FCC-ID</b>	QH9KTSS-701
<b>IC</b>	N/A
<b>Power supply</b>	4 x 1.5 VDC (Battery)
<b>AC/DC-Adaptor</b>	None
<b>Manufacturer</b>	Kondo Kagaku Co., Ltd. 4-17-7 Higashi Nippori, Arakawa-Ku Tokyo 116-0014 JAPAN
<b>Highest emission frequency</b>	Fmax [MHz] = 24
<b>Device classification</b>	Class B
<b>Equipment type</b>	Tabletop
<b>Number of tested samples</b>	1

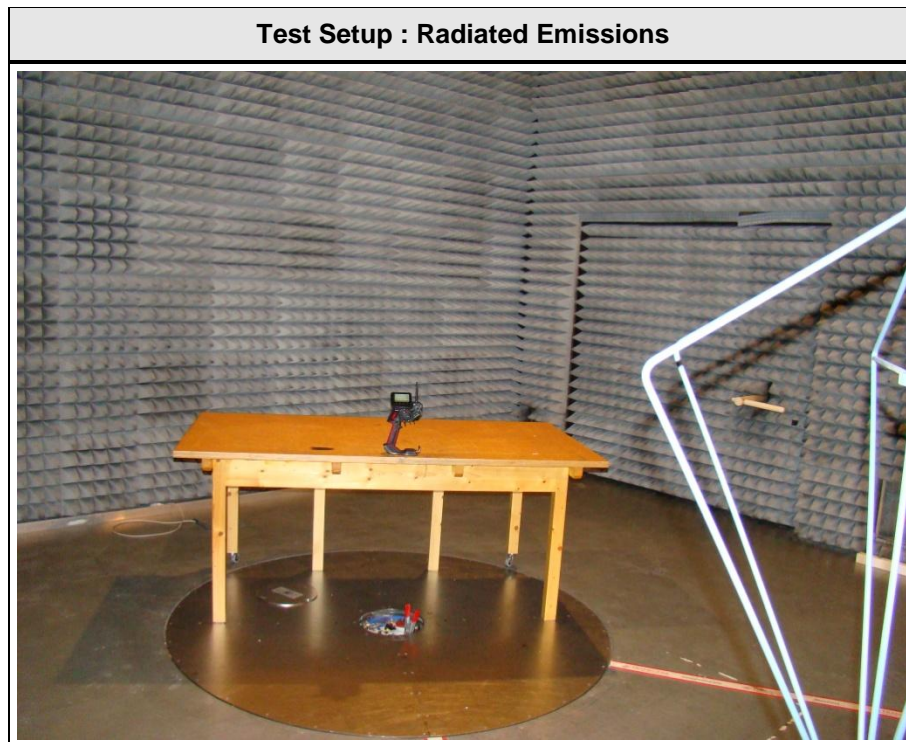
1.1 Photos – Equipment external



1.2 Photos – Equipment internal



1.3 Photos – Test setup



#### 1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
None				
<b>*Note:</b> Use the following abbreviations: AE : Auxiliary/Associated Equipment, or SIM : Simulator (Not Subjected to Test) CABL : Connecting cables				



### 1.5 Operating Modes

Mode #	Description
1	Transmit mode active

## 1.6 Test Equipment Used During Testing

<b>Radiated emissions</b>					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Biconical Antenna	R&S	HK 116	EF00012	2010-01	2013-01
LPD-Antenne	R&S	HL 223	EF00187	2011-02	2014-02
LPD-Antenna	R&S	HL 025	EF00327	2010-02	2013-02
EMI Test Receiver	R&S	ESU8	EF00379	2011-12	2012-12
EMI Test Receiver	R&S	ESCS30	EF00295	2012-08	2013-08

## 1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dB $\mu$ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dB $\mu$ V/m). The FCC limits are given in units of  $\mu$ V/m. The following formula is used to convert the units of  $\mu$ V/m to dB $\mu$ V/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

$$\begin{array}{rclcl} \text{Reading} & + & \text{AF} & = & \text{Net Reading} & : & \text{Net reading - FCC limit} & = & \text{Margin} \\ 21.5 \text{ dB}\mu\text{V} & + & 26 \text{ dB} & = & 47.5 \text{ dB}\mu\text{V/m} & : & 47.5 \text{ dB}\mu\text{V/m} - 57.0 \text{ dB}\mu\text{V/m} & = & -9.5 \text{ dB} \end{array}$$

## 2 Result Summary

FCC 47 CFR Part 15B, Industry Canada RSS-Gen				
Product Specific Standard	Requirement – Test	Reference Method	Result	Remarks
47 CFR 15.109 RSS-Gen 4.9 & 4.10	Radiated emissions	ANSI C 63.4	PASS	
47 CFR 15.107 RSS-Gen 7.2.4	AC power line conducted emissions	ANSI C63.4	N/A	
<b>Remarks:</b>				

### 3 Test Conditions and Results

#### 3.1 Test Conditions and Results – Radiated emissions

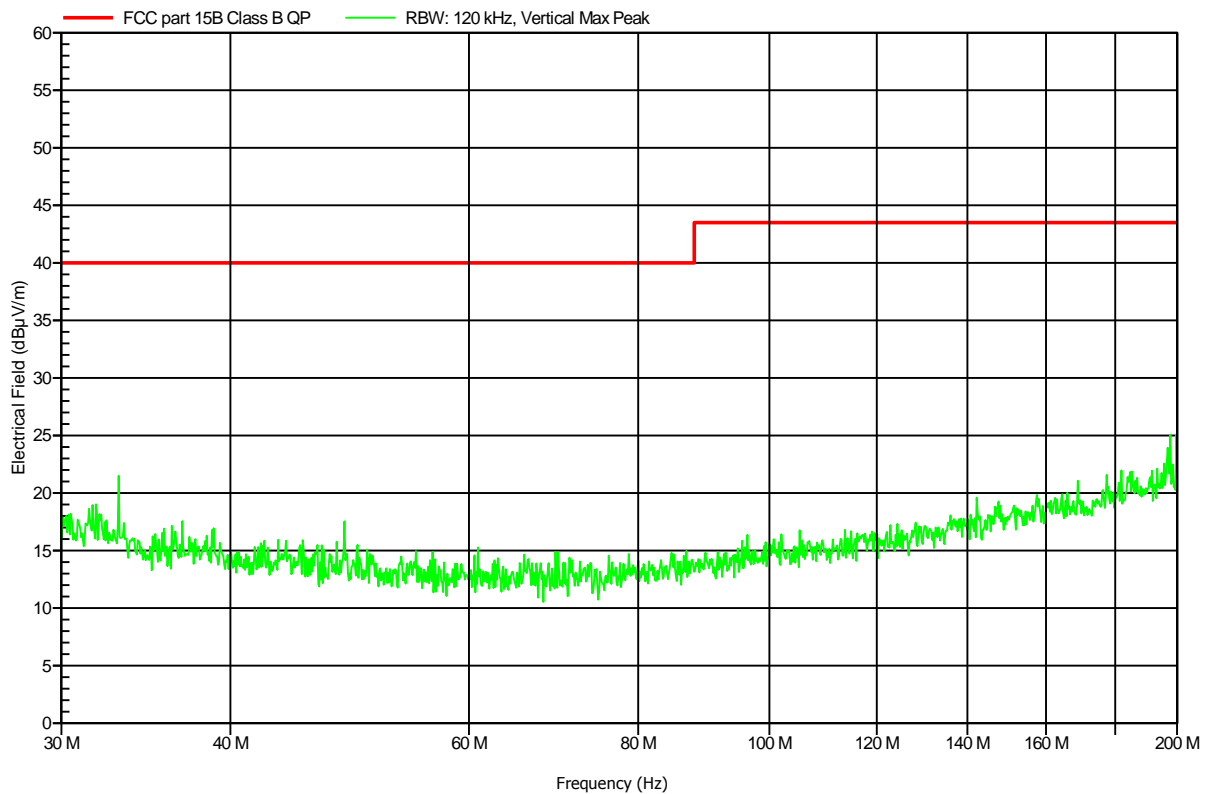
Radiated emissions acc. FCC 47 CFR 15.109 / IC RSS-Gen		Verdict: PASS				
Laboratory Parameters:	Required prior to the test	During the test				
Ambient Temperature	15 to 35 °C	23 °C				
Relative Humidity	30 to 60 %	45 %				
Test according referenced standards	Reference Method					
	ANSI C63.4					
Sample is tested with respect to the requirements of the equipment class	Equipment class					
	Class B					
Test frequency range determined from highest emission frequency	Highest emission frequency					
	Fmax [MHz] = 24					
Fully configured sample scanned over the following frequency range	Frequency range					
	30 MHz to 1 GHz					
Operating mode	1					
Limits and results Class B						
Frequency [MHz]	Quasi-Peak [dB $\mu$ V/m]	Result	Average [dB $\mu$ V/m]	Result	Peak [dB $\mu$ V/m]	Result
30 – 88	40	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46	PASS	-		-	-
960 – 1000	54	PASS	-		-	-
Comments:						

**Spurious emissions under normal conditions according to FCC part 15B**

Project number: G0M-1206-2073

Manufacturer:	Kondo Kagaku Co., Ltd.
EUT Name:	Radio Control Transmitter for model cars
Model:	EX-1 ASF
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 23°C, Unom: 4x1.5 V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3m
Mode:	active (transmit)
Test Date:	30.07.2012
Note:	

Index 1

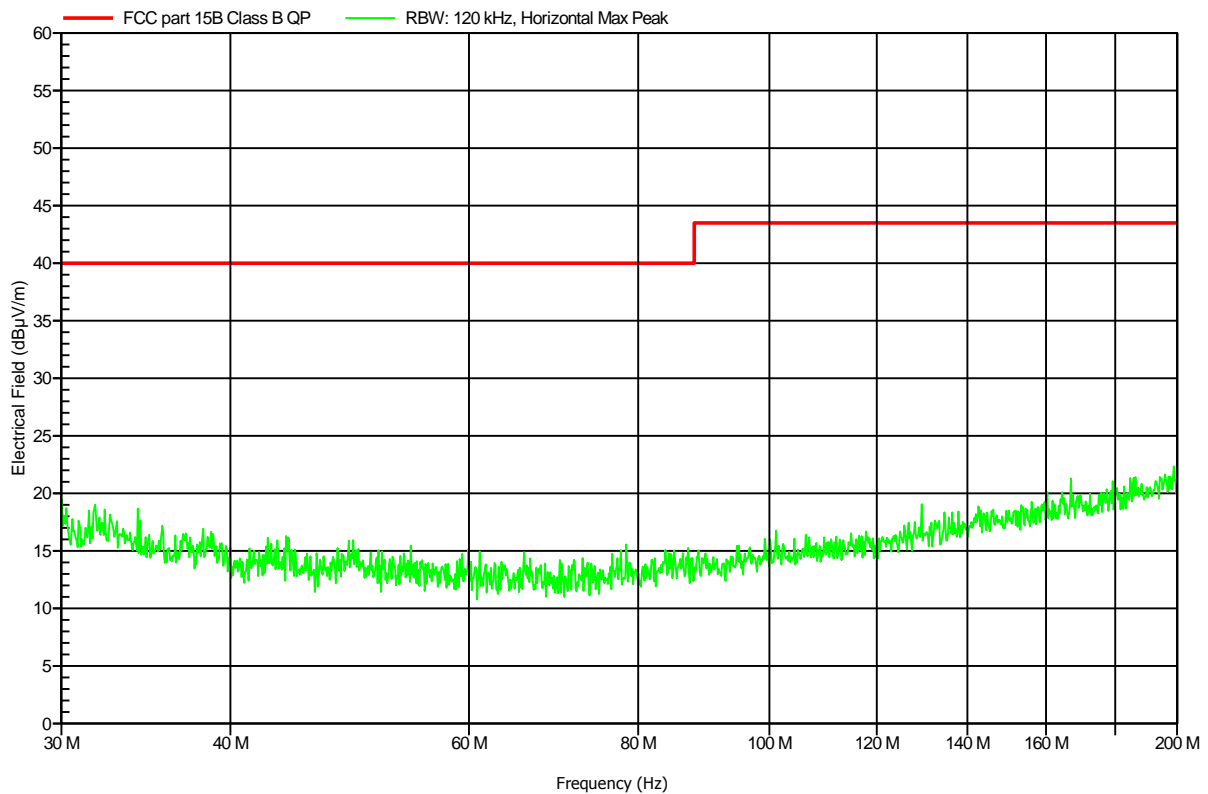


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Project number: G0M-1206-2073

Manufacturer:	Kondo Kagaku Co., Ltd.
EUT Name:	Radio Control Transmitter for model cars
Model:	EX-1 ASF
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 23°C, Unom: 4x1.5 V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3m
Mode:	active (transmit)
Test Date:	30.07.2012
Note:	

Index 2

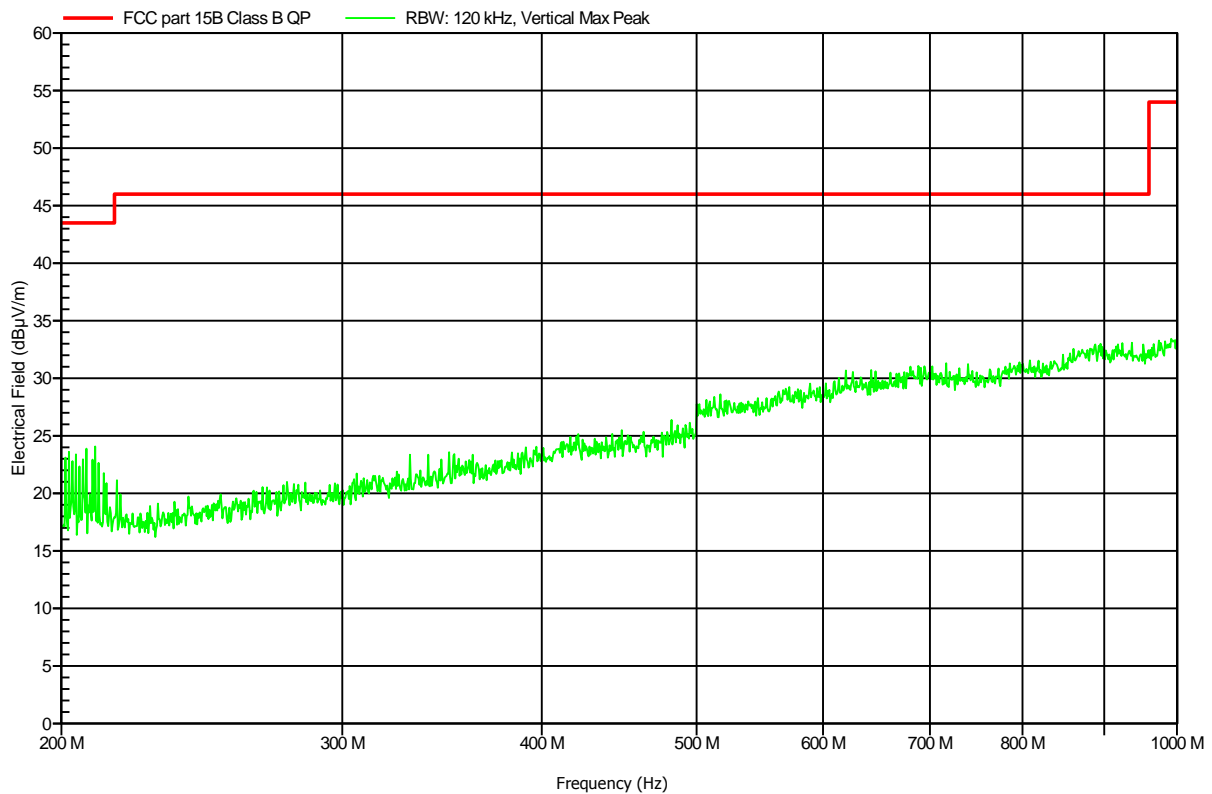


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Project number: G0M-1206-2073

Manufacturer:	Kondo Kagaku Co., Ltd.
EUT Name:	Radio Control Transmitter for model cars
Model:	EX-1 ASF
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 23°C, Unom: 4x1.5 V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3m
Mode:	active (transmit)
Test Date:	30.07.2012
Note:	

Index 3





**Spurious emissions under normal conditions according to FCC part 15B**

Project number: G0M-1206-2073

Manufacturer:	Kondo Kagaku Co., Ltd.
EUT Name:	Radio Control Transmitter for model cars
Model:	EX-1 ASF
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 23°C, Unom: 4x1.5 V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3m
Mode:	active (transmit)
Test Date:	30.07.2012
Note:	

Index 4

