

Straubing, 22 October 2001

**T E S T - R E P O R T**

**No. 55503-10602**

**for**

**FRD1201U-T2**

**Remote Control Transmitter**

Applicant: Futaba Corporation

Purpose of testing: To show compliance with

FCC Code of Federal Regulations,  
Part 15 Subpart C, Section §15.231

Industry Canada Radio Standards  
Specification RSS-210 Issue 2,  
Section 6.1 (Category I Equipment)

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**Note:**

The test data of this report relate only to the individual item which has been tested. This report shall not be reproduced except in full extent without the written approval of the testing laboratory.

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## 1. Administrative Data

Equipment Under Test (EUT):	FRD1201U-T2
Serial number(s):	0001
Type of equipment:	Remote Control Transmitter
Parts/accessories:	---
FCC-ID:	AZP-FRD1201U-T2
Applicant: (full address)	Futaba Corporation 1080 Yabuzauka Chosei, Chiba, 299-4395 Japan
Contract identification:	---
Contact person:	Mr. Kanetsuna
Manufacturer:	Applicant
Receipt of EUT:	31 August 2001
Date of test:	September 2001
Note:	
Responsible for testing:	Johann Roidt
Responsible for test report:	Johann Roidt

## 2. Identification of Test Laboratory

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Test Laboratory:  
(full address): Senton GmbH EMI/EMC Test Center  
Aeussere Fruehlingstrasse 45  
D-94315 Straubing  
Germany

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Contact person: Mr. Johann Roidt  
Communication: Telephone (+49) 0 94 21 / 55 22-0  
Fax (+49) 0 94 21 / 55 22-99  
eMail: Office@senton.de

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FCC registration number: 90926  
Industry Canada file number: IC 3050

### 3. Summary of Test Results

The tested sample complies with the requirements set forth in the

**Code of Regulations Part 15 Subpart C, Section §15.231 (intentional radiators) of  
the Federal Communication Commission (FCC)**

and the

**Radio Standards Specification RSS-210 Issue 2, Section 6.1 for Low Power  
Licence-Exempt Radiocommunication Devices of Industry Canada.**



Johann Roidt  
Technical Manager

**4. Operation Mode of EUT**

TX continuously active with internal modulation

## 5. Configuration of EUT and Peripheral Devices

### Configuration of cables of EUT

- Not applicable

### Configuration of peripheral devices connected to EUT

- Not applicable

## 6. Measuring Methods

### 6.1. Bandwidth of Emission(FCC §15.231.c / RSS-210 Section 6.1.1.c)

The Bandwidth of Emission is measured with a spectrum analyzer connected to measuring antenna (radiated measurement) or test fixture while EUT is operating in transmit mode with modulation at the appropriate center frequency. To increase received signal level distance to EUT is reduced (appropriate level offset is included).

The spectrum analyzer was set to:

RBW = 10 kHz, VBW = 10 kHz, span = 1 MHz, sweep = 40 ms

See figure 1 for the measurement setup.

Test equipment used (see equipment list for details):

02, 55, 67

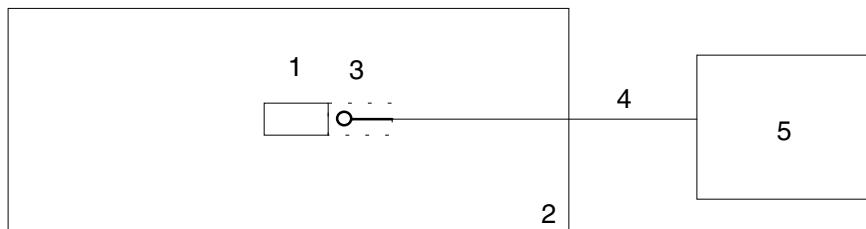


Figure 1: Measurement setup for bandwidth of emission test

1 Transmitter (EUT)  
2 Wooden table

3 Test fixture  
4 Test cable  
5 Spectrum analyzer

## **6.2. Radiated Emission 30 MHz - 1 GHz (FCC §15.205.a,b, §15.209, §15.231.b / RSS-210 Sections 6.1.1.b, 6.3)**

Radiated emissions are measured over the frequency range from 30 MHz to 1 GHz. The bandwidth of the EMI-receiver is set to 120 kHz and the detector-function is set to CISPR quasi-peak.

The test setup is made in accordance with ANSI C63.4-1992.

Measurements are made in both the horizontal and vertical planes of polarization.

Preliminary scans are taken in a semi-anechoic room using a spectrum analyzer with the detector function set to peak. Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

All tests are performed at a test-distance of 3 meters.

For final testing an open-area test-site is used. During the tests the EUT is rotated all around and the receiving-antenna is raised and lowered from 1 meter to 4 meters to find the maximum levels of emissions. The cables and equipment is placed and moved within the range of position likely to find their maximum emissions.

See figure 2 for the measurement setup.

Test equipment used (see equipment list for details):

01, 02, 05, 12, 38, 39, 40, 41, 58, 61, 64, 66

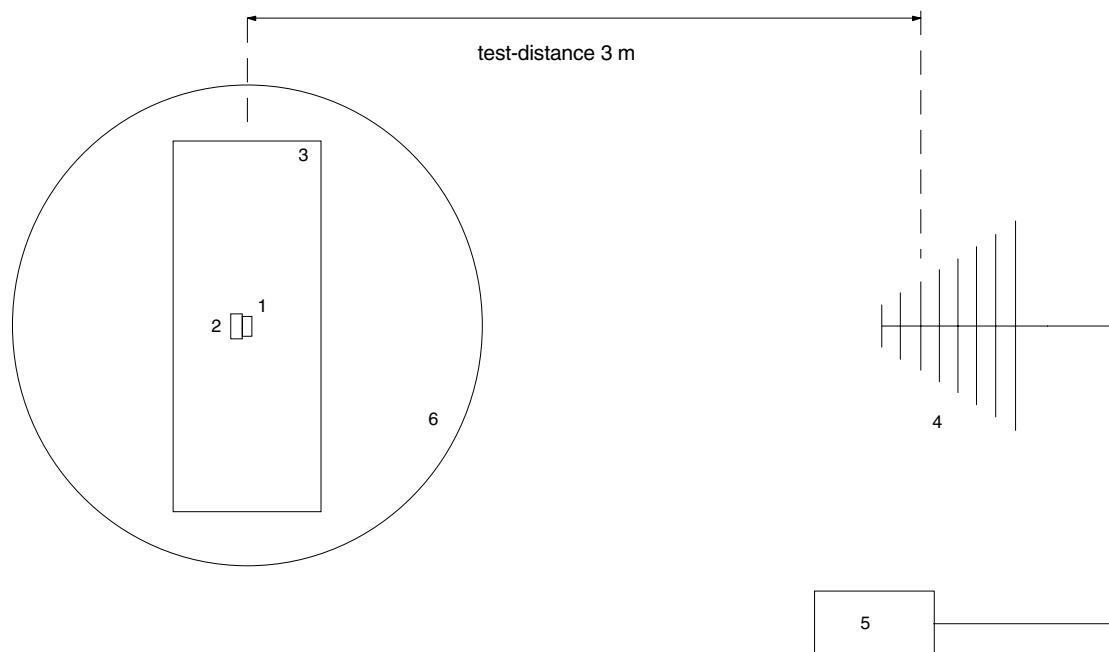


Figure 2: Measurement setup for radiated emission test below 1 GHz

- |   |                                |   |                     |
|---|--------------------------------|---|---------------------|
| 1 | Transmitter (EUT)              | 4 | Measurement antenna |
| 2 | Wooden pedestal (if necessary) | 5 | Test receiver       |
| 3 | Wooden table                   | 6 | Turn table          |

**6.3. Radiated Emission 1 GHz - 10 GHz (FCC §15.205.a,b, §15.209, §15.231.b / RSS-210 Sections 6.1.1.b, 6.3)**

Radiated emissions are measured in the frequency range 1 GHz to 10 GHz. Resolution and video bandwidth of the spectrum analyzer are set to 1 MHz.

Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

Additional measurements are performed at critical frequencies with reduced span.

EUT is rotated all around and receiving antenna is raised and lowered to find the maximum levels of emission. The cables and equipment are placed and moved within the range of position likely to find their maximum emissions.

All tests are performed in a semi-anechoic chamber with a test-distance of 3 meters.

If possible preamplifiers are used for the whole frequency range. Special care is taken to avoid overload in transmit mode (using appropriate attenuators if necessary).

See figure 3 for the measurement setup.

Test equipment used (see equipment list for details):

02, 13, 14, 16, ,42, 44, 45, 57, 64

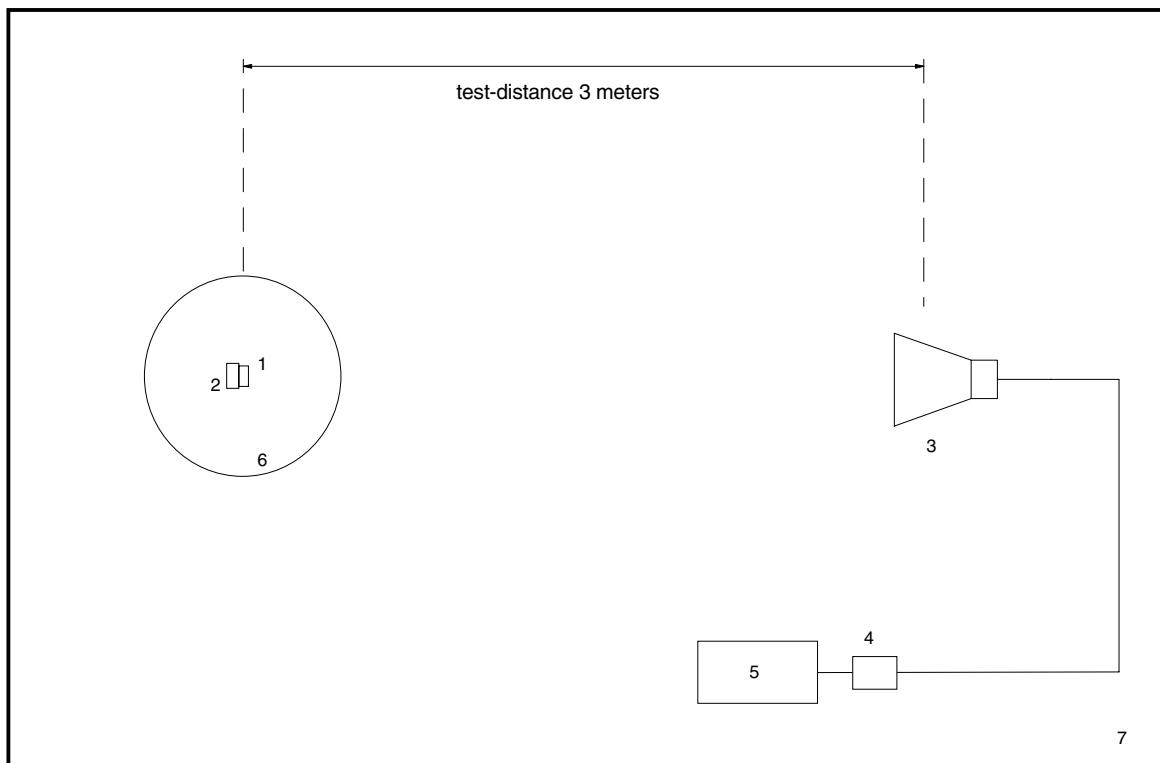


Figure 3: Measurement setup for radiated emission test above 1 GHz

- |   |                                |   |                              |
|---|--------------------------------|---|------------------------------|
| 1 | Transmitter (EUT)              | 3 | Measurement antenna          |
| 2 | Wooden pedestal (if necessary) | 4 | Preamplifier (if applicable) |
|   |                                | 5 | Spectrum analyzer            |
|   |                                | 6 | Turn table                   |
|   |                                | 7 | Semi anechoic room           |

## 7. Equipment List

To facilitate reference to test equipment used for related tests, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory.

No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	R 3271	05050023	Advantest
02	EMI Test Receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
03	Test Receiver	ESH 3	880112/032	Rohde & Schwarz
04	Test Receiver	ESHS 10	860043/016	Rohde & Schwarz
05	Test Receiver	ESV	881414/009	Rohde & Schwarz
06	Test Receiver	ESVP	881120/024	Rohde & Schwarz
07	Audio Analyzer	UPA	862954	Rohde & Schwarz
08	Power Meter	NRVS	836856/015	Rohde & Schwarz
09	Power Sensor	NRV-Z52	837901/030	Rohde & Schwarz
10	Power Sensor	NRV-Z4	863828/015	Rohde & Schwarz
11	Preamplifier	ESV-Z3	860907/004	Rohde & Schwarz
12	Preamplifier	R14601		Advantest
13	Preamplifier	ACX/080-3030	32640	CTT
14	Preamplifier	ACO/180-3530	32641	CTT
15	Signal Generator	SMS	872166/039	Rohde & Schwarz
16	Signal Generator	HP 8673 D	2930A00966	Hewlett Packard
17	Waveform Generator	HP 33120 A	US34005375	Hewlett Packard
18	Attenuator 20 dB	4776-20	9503	Narda
19	Attenuator 10 dB	4776-10	9412	Narda
20	Pulse Limiter	ESH 3-Z2	1144	Rohde & Schwarz
21	Pulse Limiter	11947 A	3107A00566	Hewlett Packard
22	V-Network	ESH 3-Z5	862770/018	Rohde & Schwarz
23	V-Network	ESH 3-Z5	894785/005	Rohde & Schwarz
24	V-Network	ESH 3-Z5	830952/025	Rohde & Schwarz
25	V-Network	ESH 3-Z6	830722/010	Rohde & Schwarz
26	V-Network	NSLK 8127	8127152	Schwarzbeck
27	V-Network	NNLA 8119	8119148	Schwarzbeck
28	V-Network	SE 01	01	Senton
29	T-Network	ESH 3-Z4	890602/011	Rohde & Schwarz
30	T-Network	ESH 3-Z4	890602/012	Rohde & Schwarz
31	High Impedance Probe	TK 9416	01	Schwarzbeck
32	High Impedance Probe	TK 9416	02	Schwarzbeck
33	Current Probe	ESH 2-Z1	863366/18	Rohde & Schwarz
34	Current Probe	ESV-Z1	862553/3	Rohde & Schwarz

No.	Type	Model	Serial Number	Manufacturer
35	Absorbing Clamp	MDS 21	80911	Lüthi
36	Absorbing Clamp	MDS 21	79690	Lüthi
37	Loop Antenna	HFH2-Z2	882964/1	Rohde & Schwarz
38	Biconical Antenna	HK 116	842204/001	Rohde & Schwarz
39	Biconical Antenna	HK 116	836239/02	Rohde & Schwarz
40	Log. Periodic Antenna	HL 223	841516/023	Rohde & Schwarz
41	Log. Periodic Antenna	HL 223	834408/12	Rohde & Schwarz
42	Horn Antenna	3115	9508-4553	Emco
43	Horn Antenna	3160-03	9112-1003	Emco
44	Horn Antenna	3160-04	9112-1001	Emco
45	Horn Antenna	3160-05	9112-1001	Emco
46	Horn Antenna	3160-06	9112-1001	Emco
47	Horn Antenna	3160-07	9112-1008	Emco
48	Horn Antenna	3160-08	9112-1002	Emco
49	Horn Antenna	3160-09	9403-1025	Emco
50	Digital multimeter	199	463386	Keithley
51	DC Power Supply	NGSM 32/10	203	Rohde & Schwarz
52	DC Power Supply	NGB	2455	Rohde & Schwarz
53	DC Power Supply	NGA	386	Rohde & Schwarz
54	Temperature Test Chamber	HT4010	07065550	Heraeus
55	Cable	RG214	1309	Senton
56	Cable	200CM_001	1357	Rosenberger
57	Cable	150CM_001	1479	Rosenberger
58	Cable Set EG1	RG214	1189 - 1191	Senton
59	Cable Set Cabine 1	RG214		Senton
60	Cable Set Cabine 2	RG214		Senton
61	Cable Set Cabine 3	RG214		Senton
62	Shielded Room	No. 1	1451	Senton
63	Shielded Room	No. 2	1452	Senton
64	Semi-anechoic Chamber	No. 3	1453	Siemens
65	Shielded Room	No. 4	1454	Euroshield
66	Open Area Test Site	EG 1		Senton
67	Test fixture			Senton

**8. Photographs Taken During Testing**

Test setup for radiated emission pre-test 30 MHz - 1 GHz  
(semi anechoic room)

EUT position: Flat on table



EUT position: On long side



EUT position: Upright



**9. List of Measurements**

**9.1. List of Measurements According To FCC Part 15 Subpart C**

<b>FCC Part 15 Subpart C</b>			
Section(s):	Test	Page(s)	Result
15.231.c	Bandwidth of emission		Passed
15.231.b	Radiated emission test 30 MHz - 5 GHz		Passed

**9.2. List of Measurements According To Industry Canada RSS-210**

<b>Industry Canada RSS-210 Issue 2</b>			
Section(s):	Test	Page(s)	Result
6.1.1.c	Bandwidth		Passed
6.1.1.b 6.3	Radiated emission test 30 MHz - 5 GHz		Passed

## 10. Referenced Regulations

All tests were performed with reference to the following regulations and standards:

- |   |  |                   |
|---|--|-------------------|
| <input checked="" type="checkbox"/> FCC Part 15 Subpart A | Code of Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)   | October 20, 1997  |
| <input checked="" type="checkbox"/> FCC Part 15 Subpart B | Code of Regulations Part 15 (Radio Frequency Devices), Subpart B (Unintentional Radiators) of the Federal Communication Commission (FCC)                           | October 20, 1997  |
| <input checked="" type="checkbox"/> FCC Part 15 Subpart C | Code of Regulations Part 15 (Radio Frequency Devices), Subpart C (Intentional Radiators) of the Federal Communication Commission (FCC)                             | October 20, 1997  |
| <input checked="" type="checkbox"/> ANSI C63.4            | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz - 40 GHz | October, 1992     |
| <input checked="" type="checkbox"/> RSS-210               | Radio Standards Specification RSS-210 Issue 2 for Low Power Licence-Exempt Radiocommunication Devices of Industry Canada   | February 24, 1996 |

**11. Test Results**

**Field Strength of Emissions according to FCC Rules,  
Part 15, Subpart C, Section 15.231  
Frequency Band > 30 MHz**

Model: FRD1201U-T2  
 Type: Remote Control Transmitter  
 Serial No. ---  
 Applicant: Futaba Corporation  
 Test Site: Open Field Test Site, Semianechoic Chamber (>1GHz)  
 Distance: 3 Meter  
 Date of Test:

Frequency (MHz)	Detector	Antenna Pol.	Analyzer Reading (dB $\mu$ V)	Correction Factor (dB)	Field Strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
430.22	Qpk	Hor	63,2	17	80,2	80,7	0,5
860.44	Qpk	Hor	13,1	22,1	35,2	46	10,8
1293.3	Pk	Hor	11,4	25,2	36,6	54	17,4
1720.0	Pk	Hor	16,1	28,1	44,2	54	9,8
2146.6	Pk	Hor	17,8	29,5	47,3	54	6,7
2577.7	Pk	Hor	15,7	30,2	45,9	54	8,1
3444.4	Pk	Hor	12,1	37,2	49,3	54	4,7

\*\*\* = No emissions above noise floor detected

**Sample calculation of field strength values:**

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{Analyzer Reading (dB}\mu\text{V)} + \text{Correction Factor (dB)}$$

Test equipment used (see equipment list for details):

02, 13, 14, 16, 38, 40, 42, 57, 64, 67

**Bandwidth of the Emission  
according to FCC Rules, Section 15.231 (c)**

Model: Model  
Type: Remote Control Transmitter  
Serial No.: ---  
Applicant: Applicant  
Date of Test:

Test Result: Bandwidth of the Emission according to FCC Rules,  
section 15.231 (c) = **8.854 kHz = 0.002%**

Classification: **Complied**

**Enclosure: Charts taken during Testing**

## Bandwidth of the Emissions according to FCC Rules, section 15.231

Model:  
FRD1201U-T2

Serial No.:  
01100026

Applicant:  
Futaba Corporation

Mode:  
- TX active with internal modulation

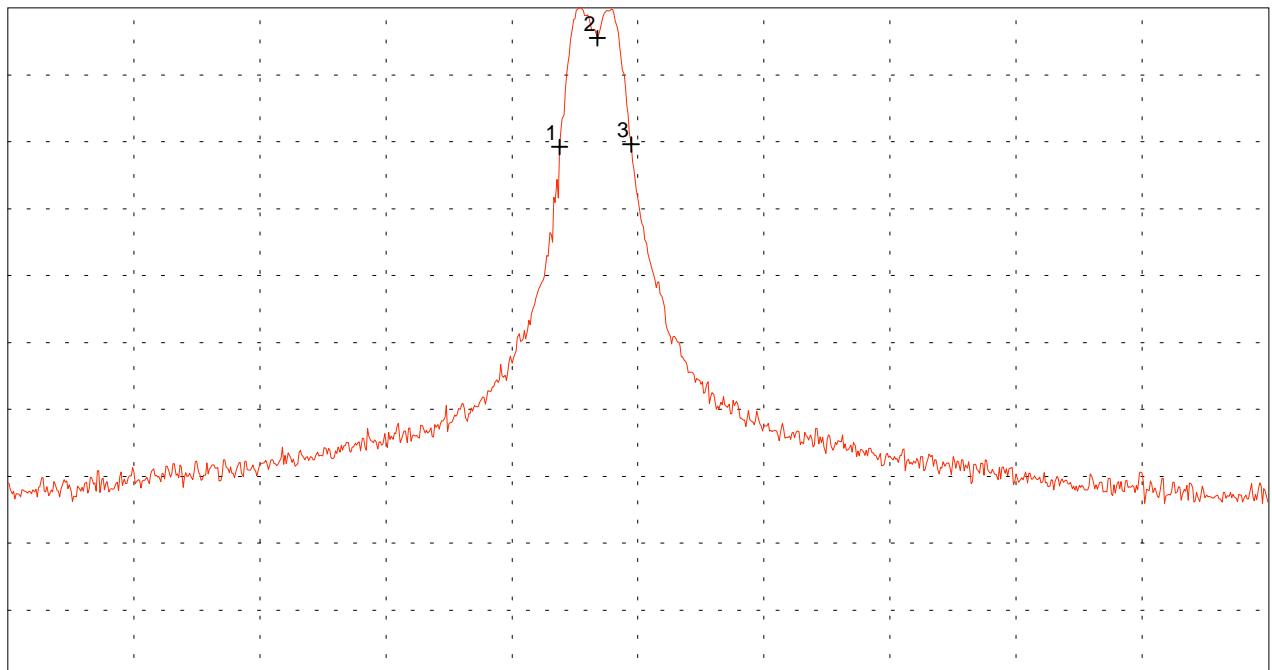
- Radiated Measurement

-

Ref.Level 59 dB $\mu$ V  
10 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 429.414236 MHz  
RBW 1 kHz

VBW 1 kHz

Stop 429.570486 MHz  
SWP 480 ms

### Multi Marker List

No. 1	429.482639 MHz	38.21 dB $\mu$ V
No. 2	429.487326 MHz	54.48 dB $\mu$ V
No. 3	429.491493 MHz	38.59 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

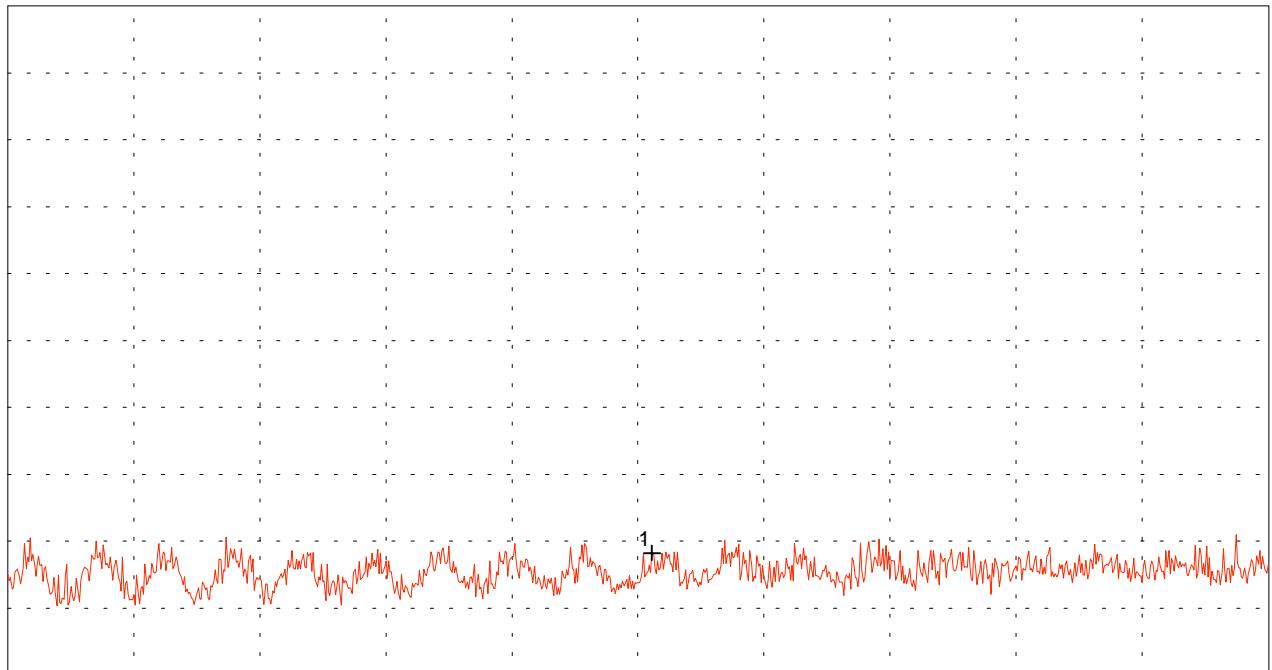
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Horizontal Polarisation  
- Prescan, values without antenna correction  
- EUT position: on long side

Ref.Level 39 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 30.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz  
SWP 60 ms

### Multi Marker List

No. 1      116.888889 MHz      -1.89 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model: FRD1201U-T2
Serial No.: 01100026
Applicant: Futaba Corporation

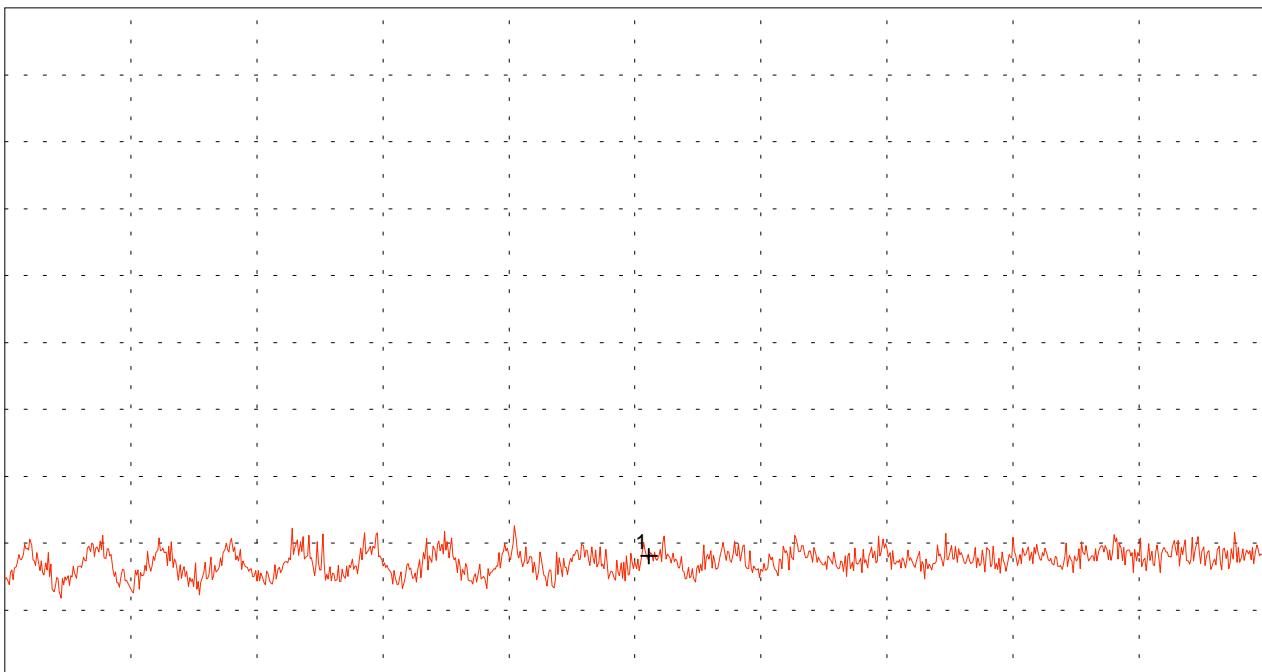
Mode: - TX active
- Radiated Measurement
- Horizontal Polarisation
- Prescan, values without antenna correction
- EUT position: flat on table

Ref.Level 39 dB $\mu$ V

ATT 0 dB

Ref. Offset -30 dB

5 dB/Div.



Start 30.000 MHz

RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz

SWP 60 ms

### Multi Marker List

No. 1      116.888889 MHz      -1.97 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

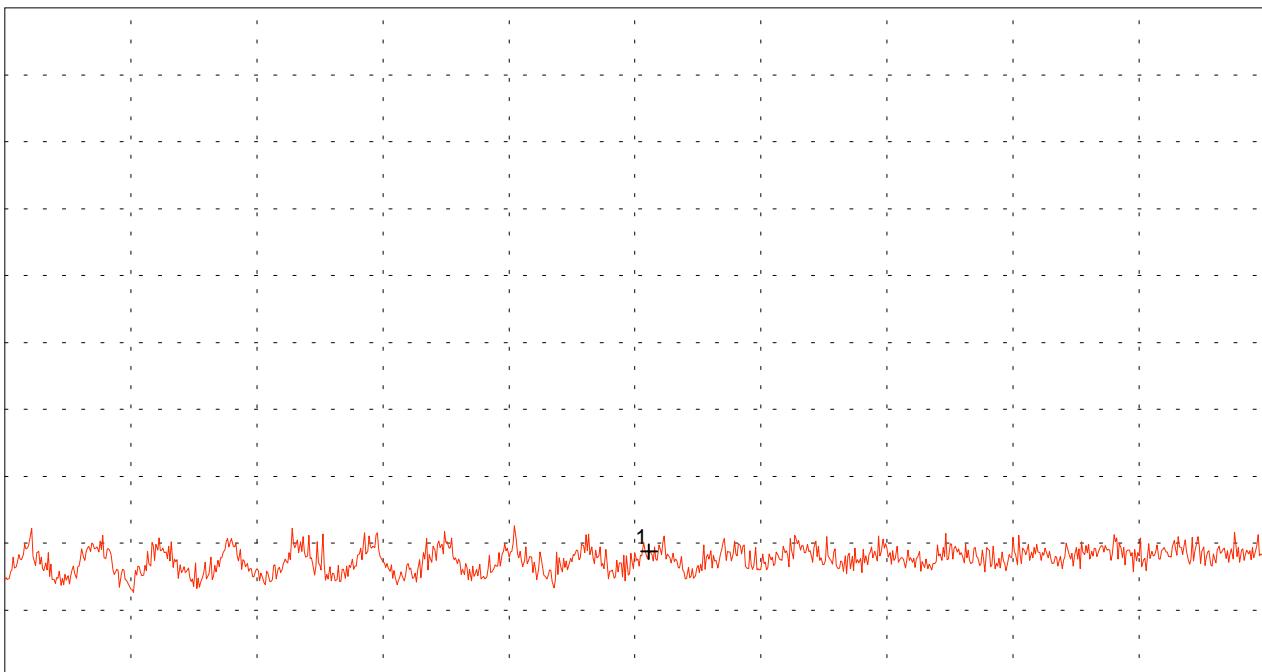
Model: FRD1201U-T2
Serial No.: 01100026
Applicant: Futaba Corporation

Mode: - TX active
- Radiated Measurement
- Horizontal Polarisation
- Prescan, values without antenna correction
- EUT position: upright

Ref.Level 39 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 30.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz  
SWP 60 ms

### Multi Marker List

No. 1      116.888889 MHz      -1.64 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

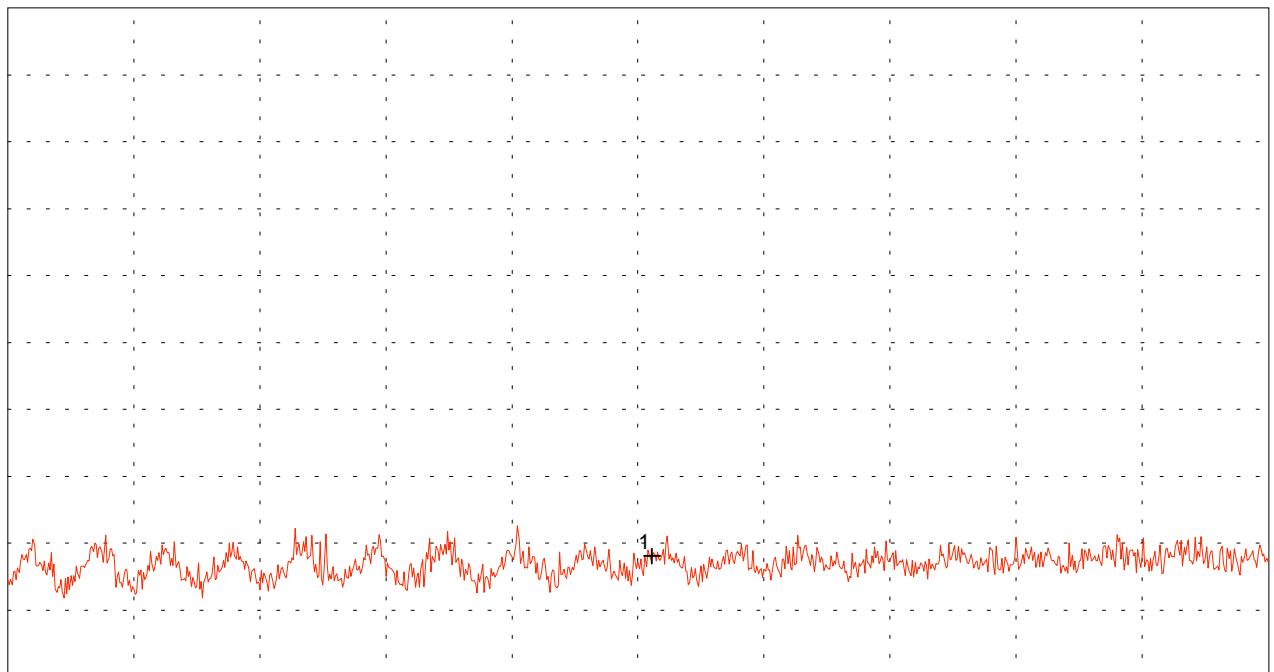
Applicant:  
Futaba Corporation

Mode:  
- TX active  
  
- Radiated Measurement  
  
- Vertical Polarisation  
  
- Prescan, values without antenna correction  
  
- EUT position: flat on table

Ref.Level 39 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 30.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz  
SWP 60 ms

### Multi Marker List

No. 1      116.888889 MHz      -1.97 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

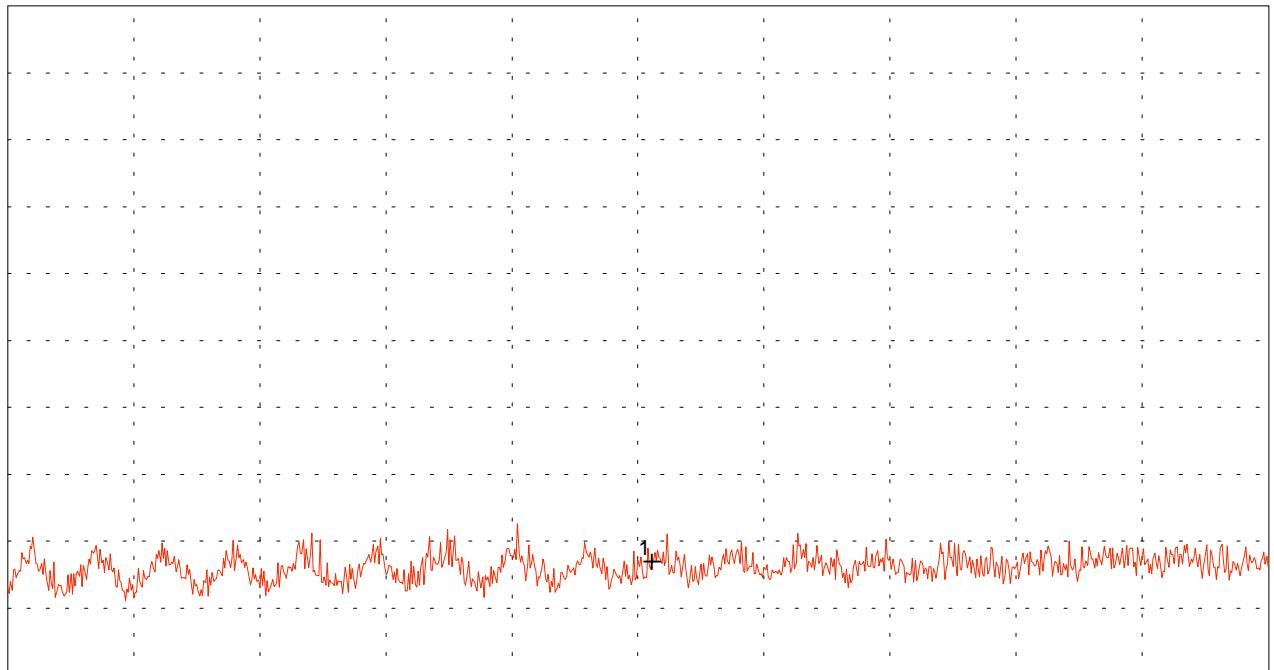
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: on long side

Ref.Level 39 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 30.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz  
SWP 60 ms

### Multi Marker List

No. 1      116.888889 MHz      -2.54 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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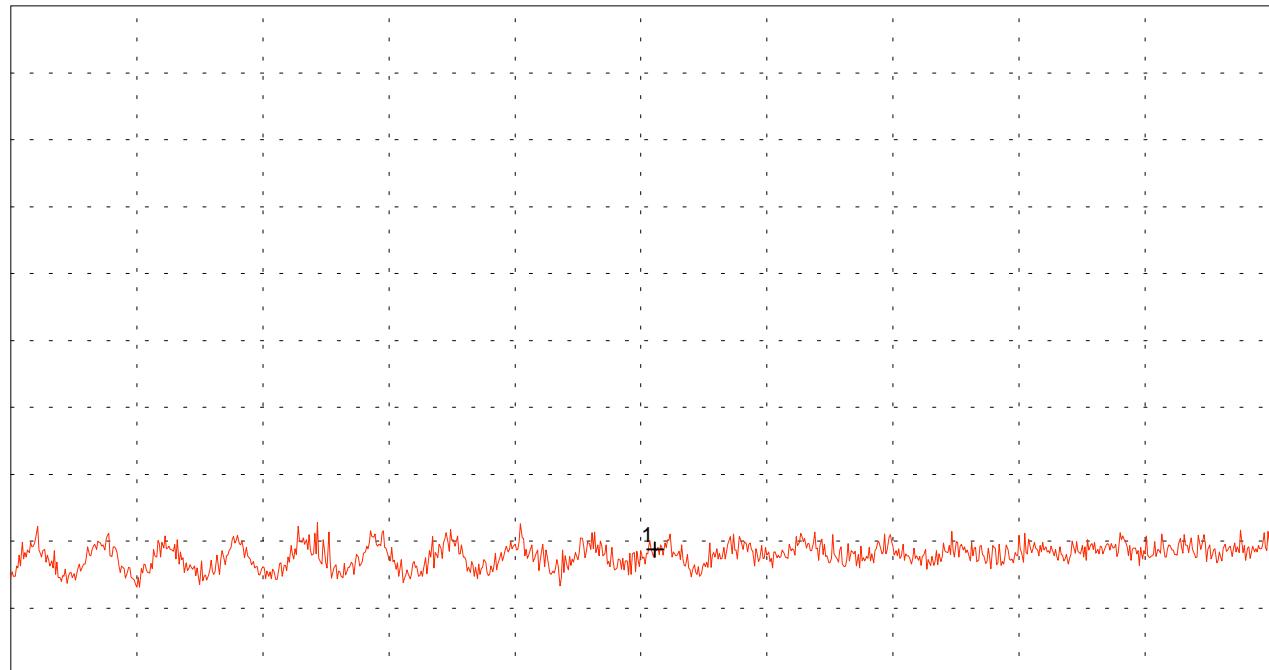
## Radiated Emission Measurement according to FCC Rules

Model: FRD1201U-T2	Mode: - TX active
Serial No.: 01100026	- Radiated Measurement
Applicant: Futaba Corporation	- Vertical Polarisation
	- Prescan, values without antenna correction
	- EUT position: upright

Ref.Level 39 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30 dB



Start 30.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 200.000 MHz  
SWP 60 ms

### Multi Marker List

No. 1 116.888889 MHz -1.64 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

Applicant:  
Futaba Corporation

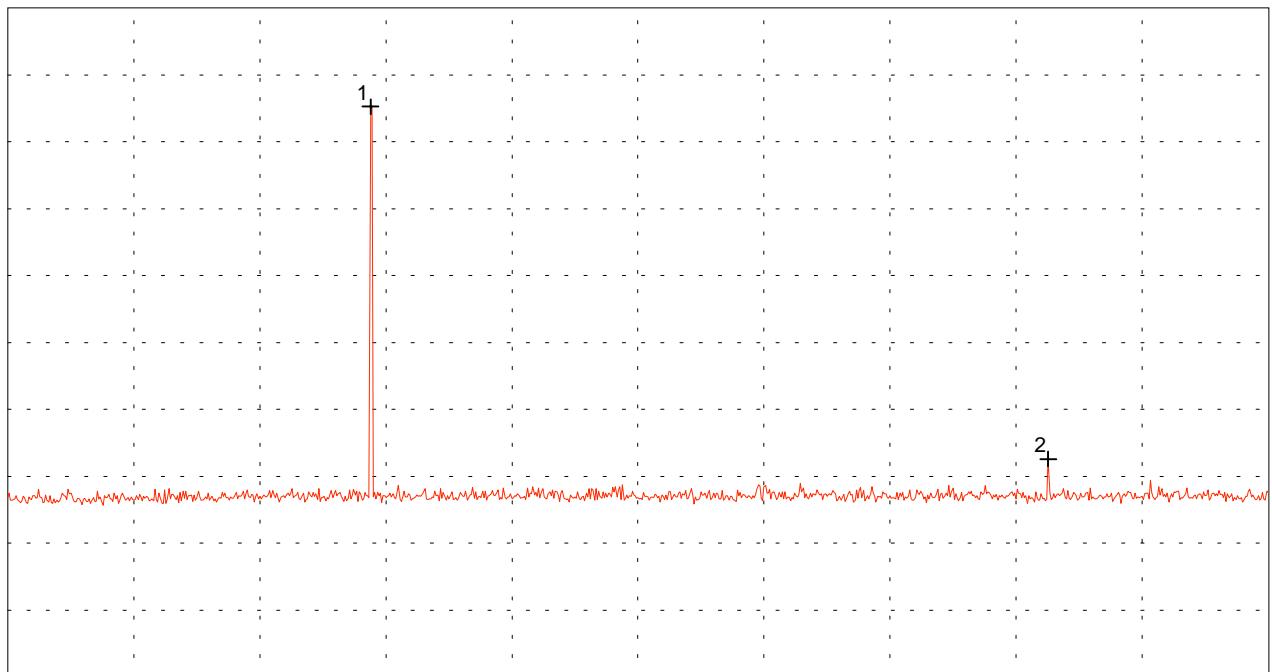
Mode:  
- TX active

- Radiated Measurement
- Horizontal Polarisation
- Prescan, values without antenna correction
- EUT position: upright on Table

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	59.26 dB $\mu$ V
No. 2	860.444444 MHz	6.59 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

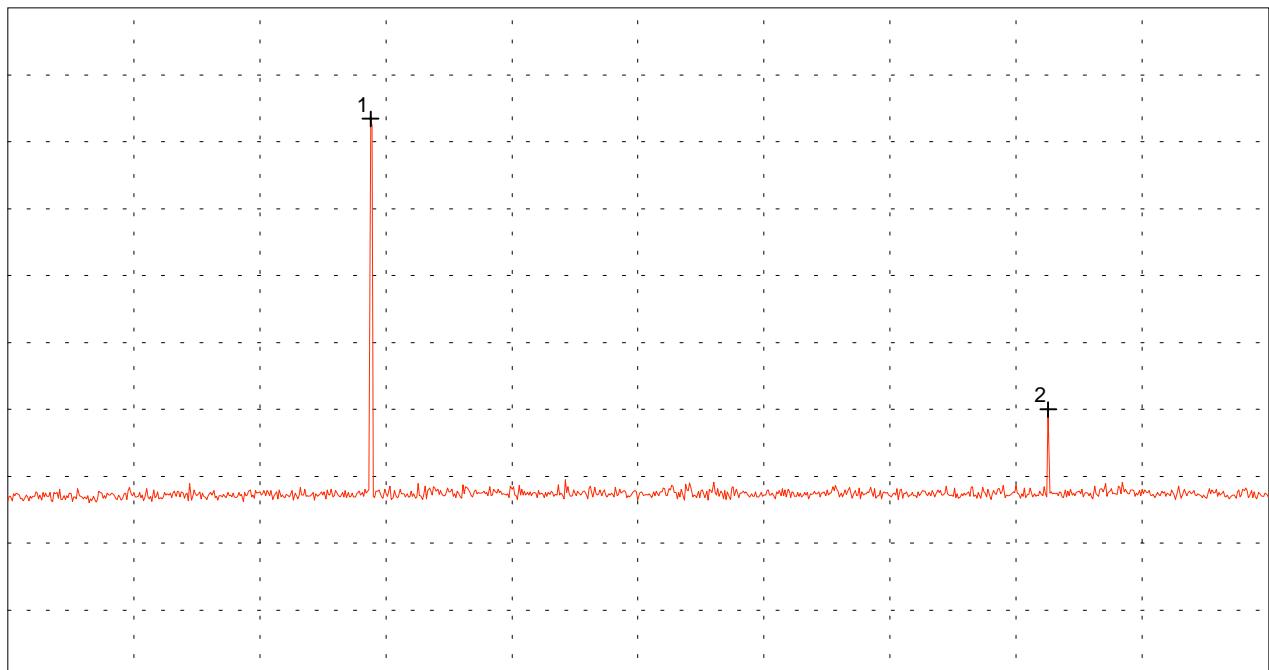
Applicant:  
Futaba Corporation

Mode:  
- TX active  
  
- Radiated Measurement  
  
- Horizontal Polarisation  
  
- Prescan, values without antenna correction  
  
- EUT position: on long side

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	57.43 dB $\mu$ V
No. 2	860.444444 MHz	14.00 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

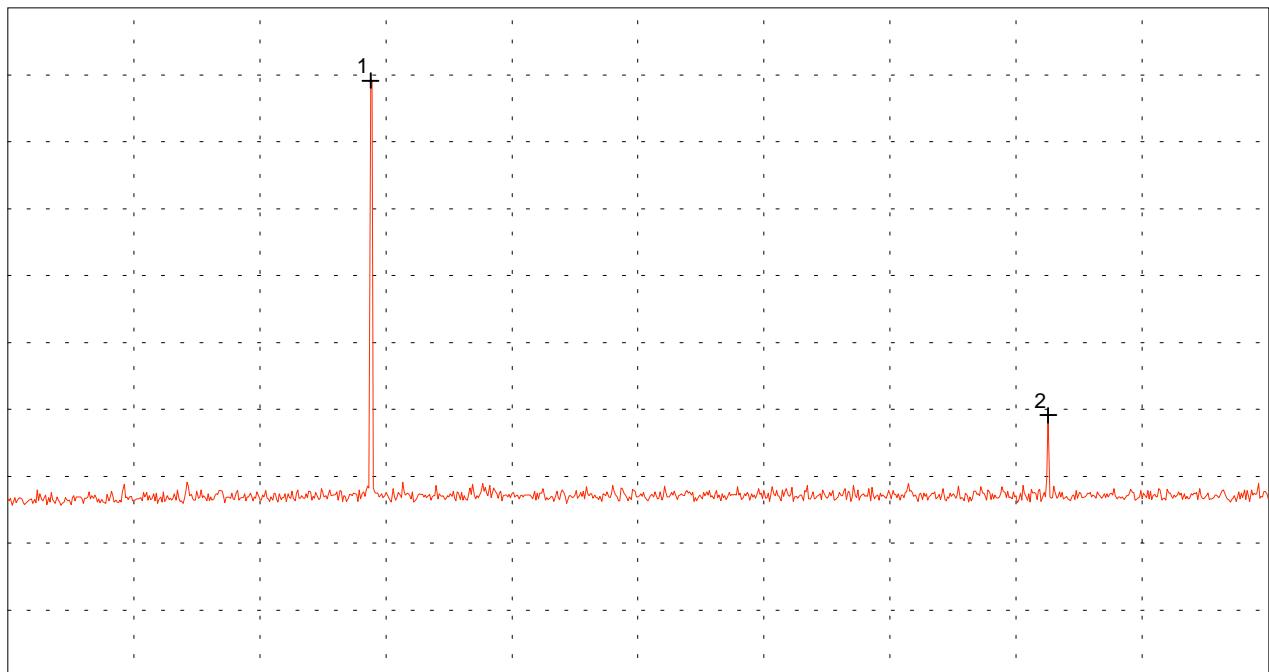
Applicant:  
Futaba Corporation

Mode:  
- TX active  
  
- Radiated Measurement  
  
- Horizontal Polarisation  
  
- Prescan, values without antenna correction  
  
- EUT position: flat on Table

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	63.14 dB $\mu$ V
No. 2	860.444444 MHz	13.12 dB $\mu$ V

Tested by:  
Johann Roidt

Date:

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

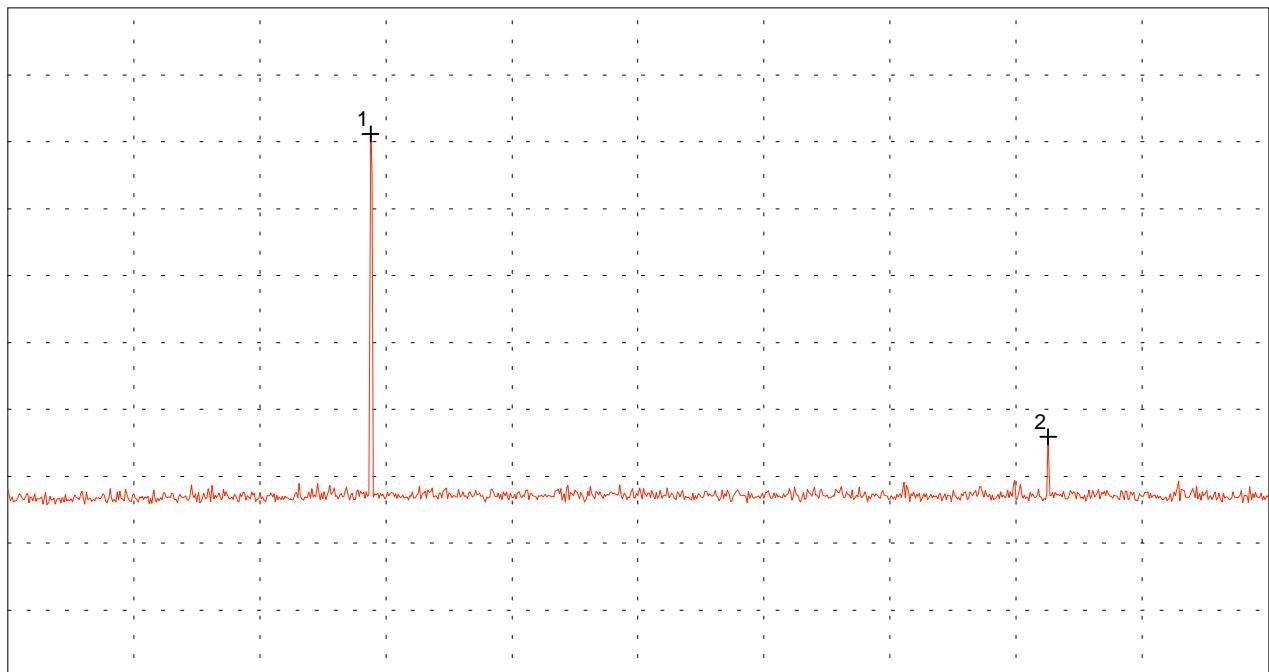
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: flat on Table

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	55.17 dB $\mu$ V
No. 2	860.444444 MHz	9.89 dB $\mu$ V

Tested by:  
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Date:

Project-No.:  
55503-10602

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

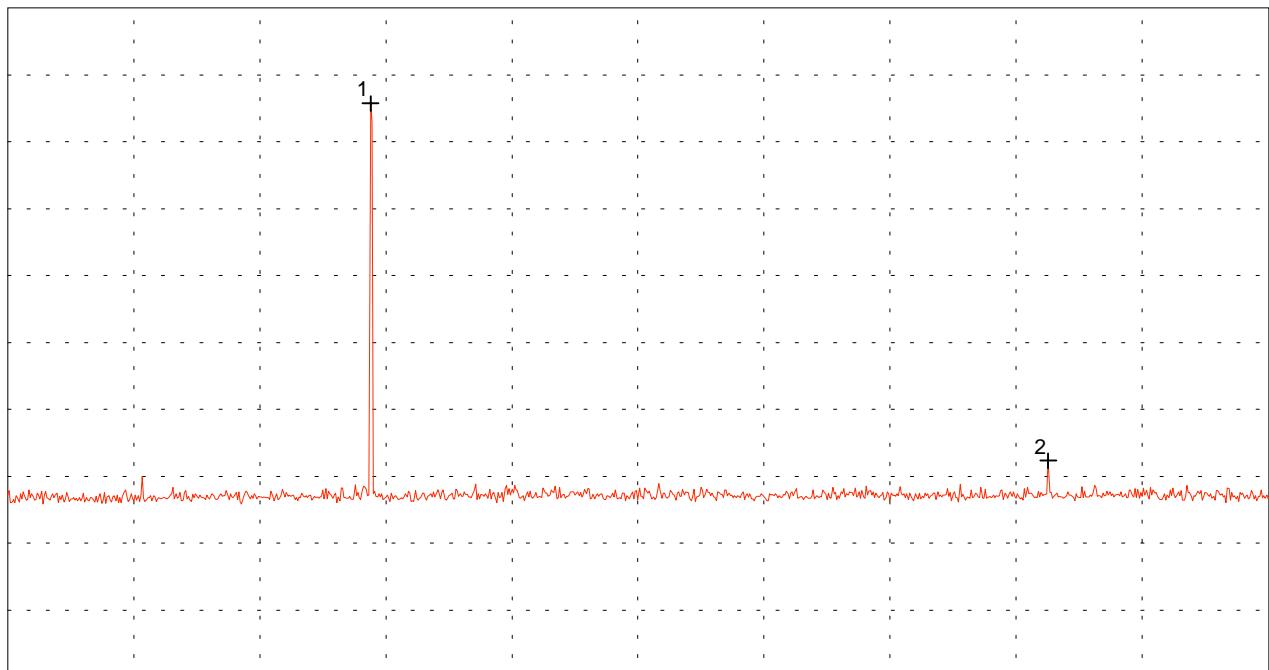
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: on long side

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	59.74 dB $\mu$ V
No. 2	860.444444 MHz	6.34 dB $\mu$ V

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Date:

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

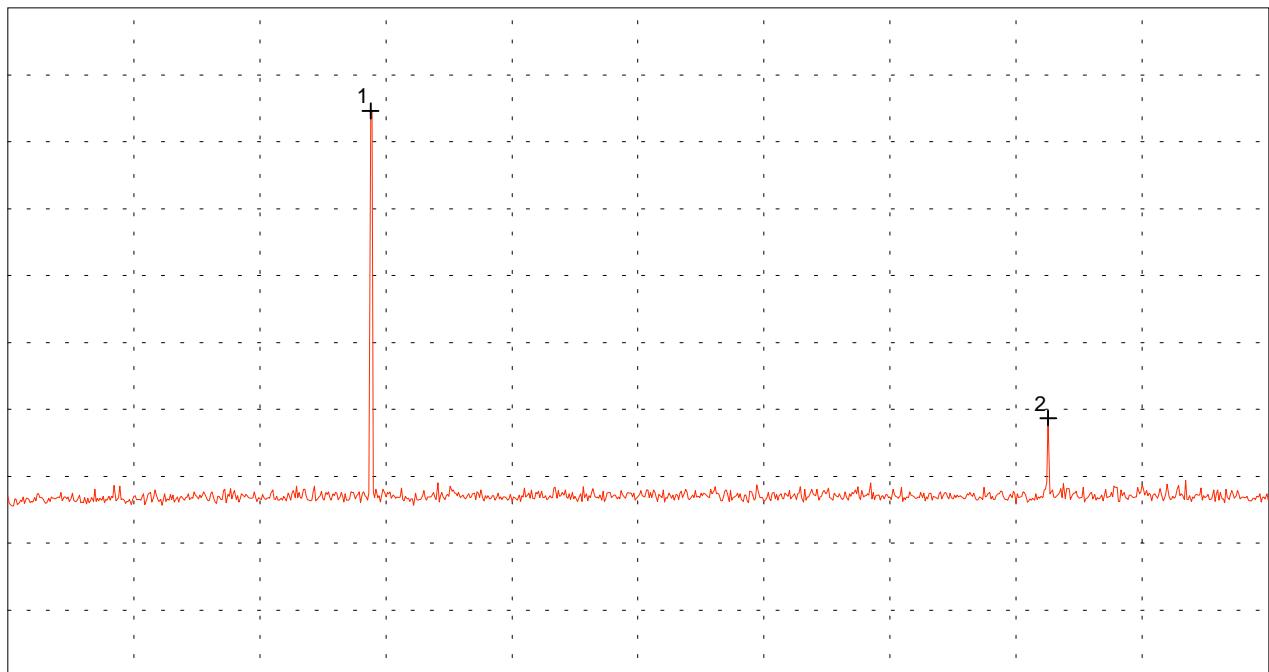
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: upright on Table

Ref.Level 74 dB $\mu$ V  
10 dB/Div.

ATT 10 dB

Ref. Offset -30 dB



Start 200.000 MHz  
RBW 100 kHz

VBW 100 kHz

Stop 1.000 GHz  
SWP 240 ms

### Multi Marker List

No. 1	430.222222 MHz	58.62 dB $\mu$ V
No. 2	860.444444 MHz	12.71 dB $\mu$ V

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

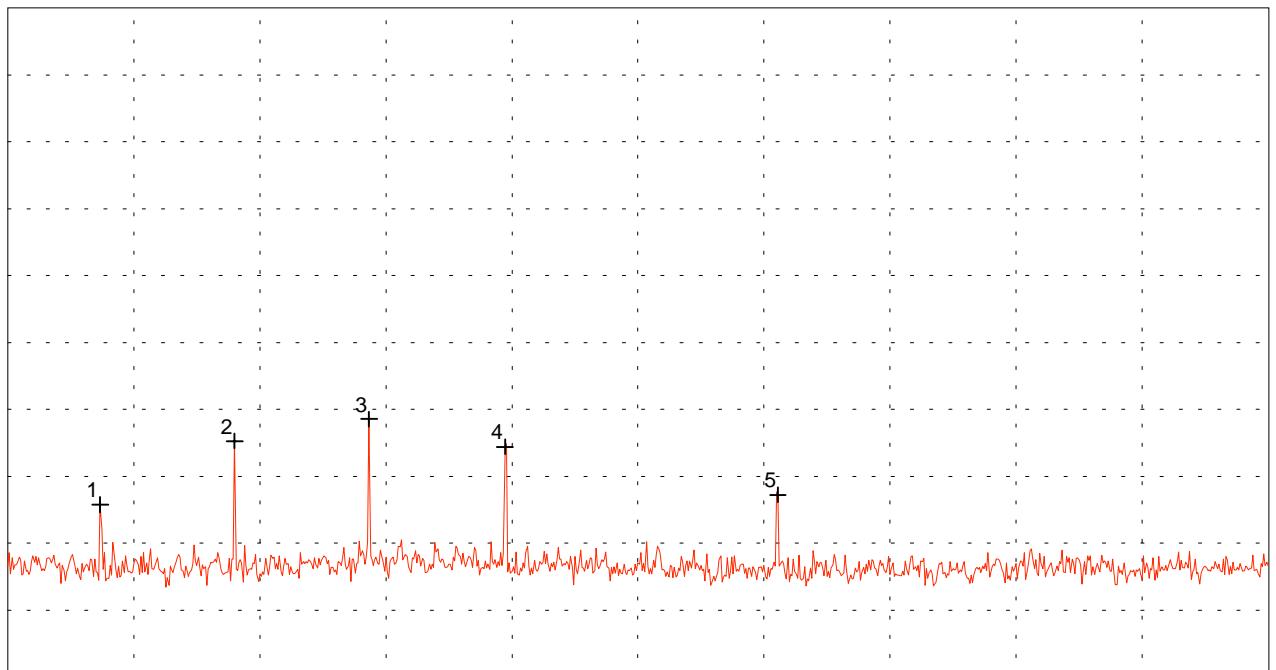
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Horizontal Polarisation  
- Prescan, values without antenna correction  
- EUT position: on long side

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Start 1.000 GHz  
RBW 1 MHz

VBW 1 MHz

Stop 5.000 GHz  
SWP 20 ms

### Multi Marker List

No. 1	1.293333 GHz	11.37 dB $\mu$ V
No. 2	1.720000 GHz	16.13 dB $\mu$ V
No. 3	2.146667 GHz	17.77 dB $\mu$ V
No. 4	2.577778 GHz	15.70 dB $\mu$ V
No. 5	3.444444 GHz	12.12 dB $\mu$ V

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

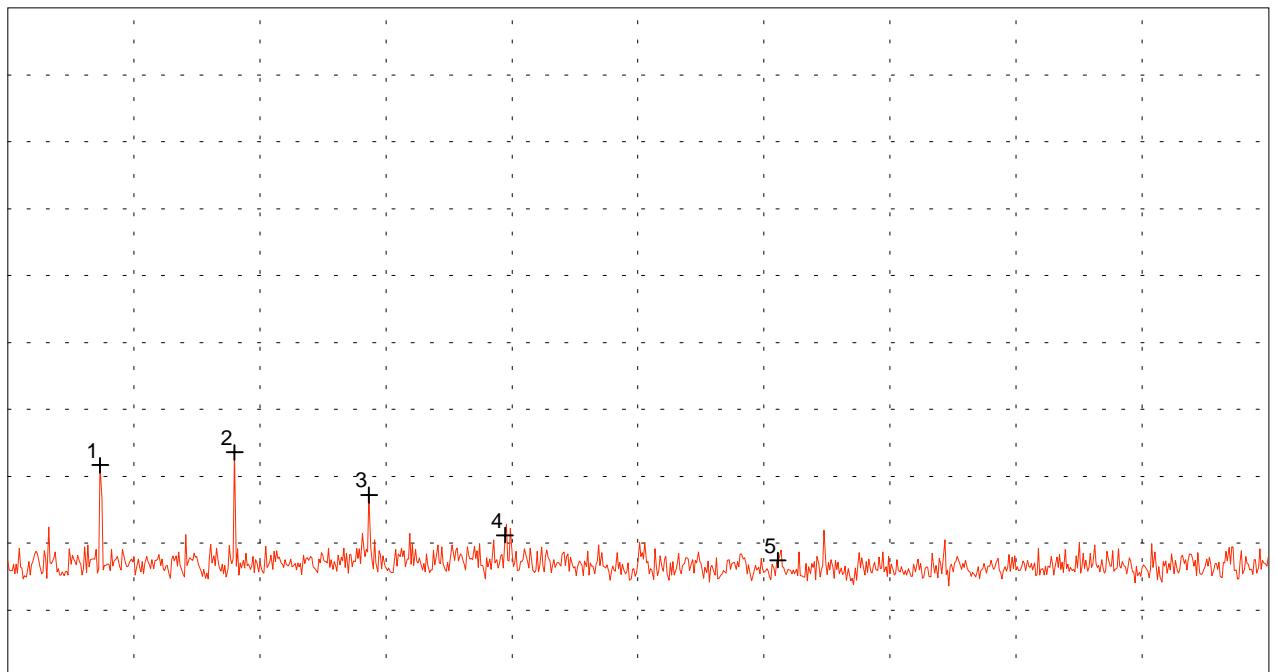
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Horizontal Polarisation  
- Prescan, values without antenna correction  
- EUT position: flat on Table

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Start 1.000 GHz  
RBW 1 MHz

VBW 1 MHz

Stop 5.000 GHz  
SWP 20 ms

Multi Marker List

No. 1	1.293333 GHz	14.32 dB $\mu$ V
No. 2	1.720000 GHz	15.28 dB $\mu$ V
No. 3	2.146667 GHz	12.10 dB $\mu$ V
No. 4	2.577778 GHz	9.10 dB $\mu$ V
No. 5	3.444444 GHz	7.23 dB $\mu$ V

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

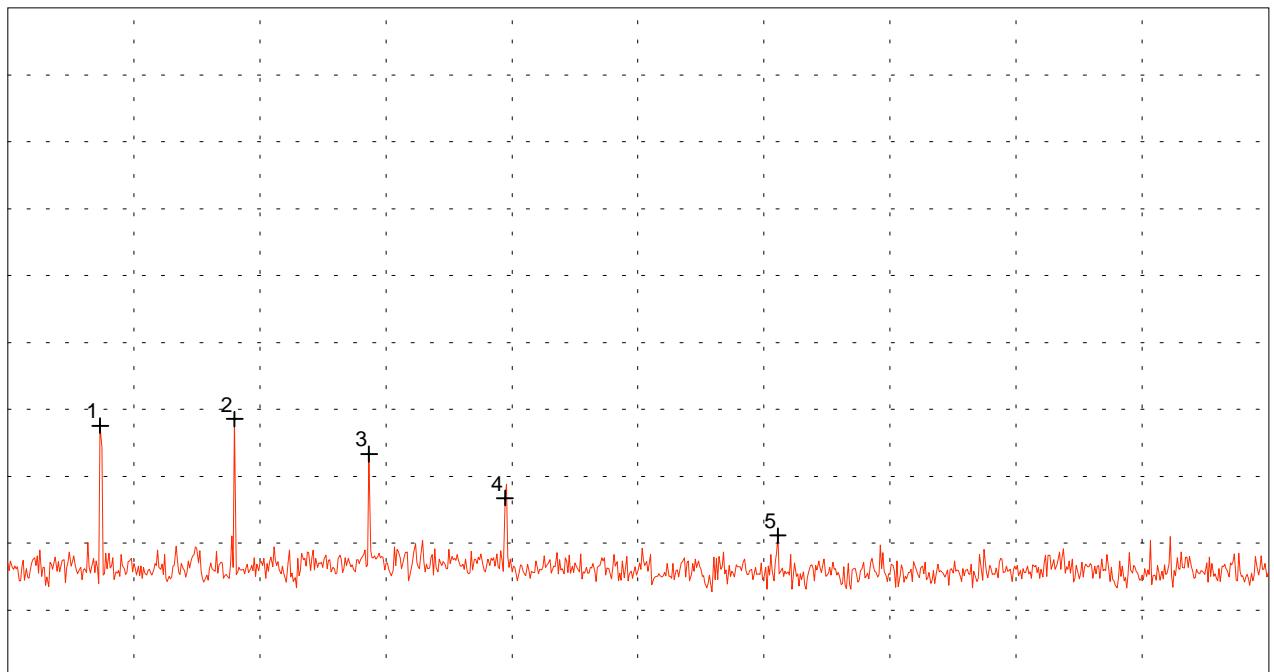
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Horizontal Polarisation  
- Prescan, values without antenna correction  
- EUT position: upright on Table

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Start 1.000 GHz  
RBW 1 MHz

VBW 1 MHz

Stop 5.000 GHz  
SWP 20 ms

Multi Marker List

No. 1	1.293333 GHz	17.28 dB $\mu$ V
No. 2	1.720000 GHz	17.77 dB $\mu$ V
No. 3	2.146667 GHz	15.16 dB $\mu$ V
No. 4	2.577778 GHz	11.88 dB $\mu$ V
No. 5	3.444444 GHz	9.06 dB $\mu$ V

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

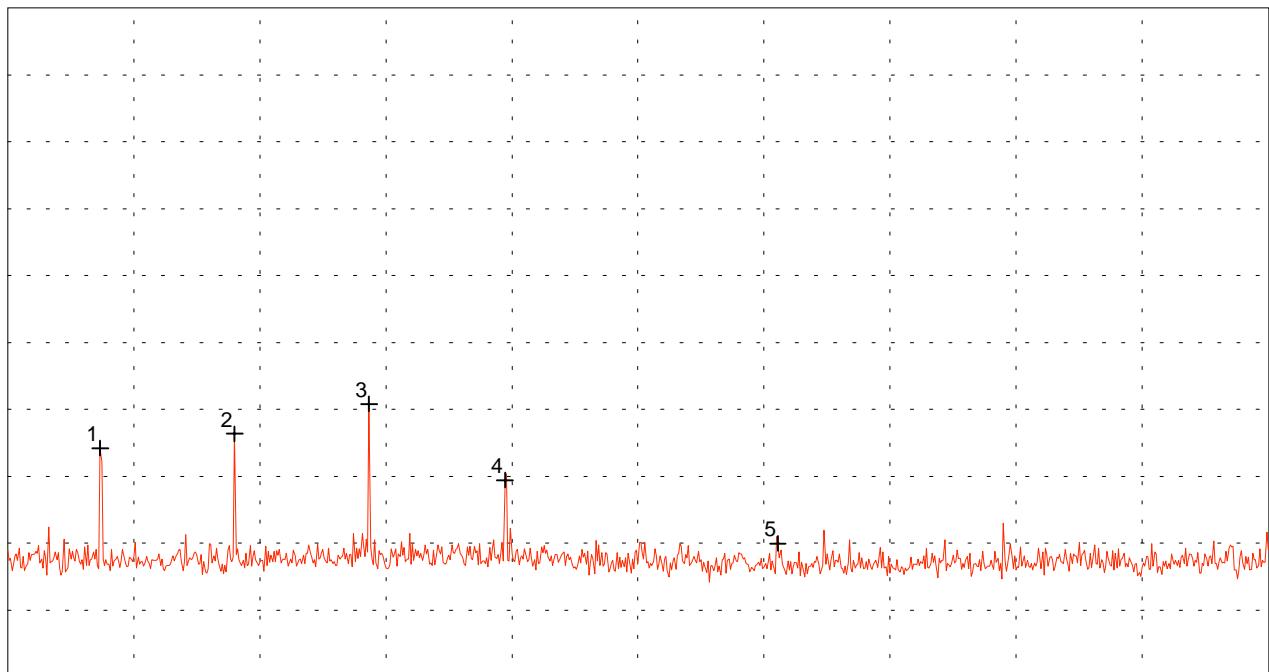
Applicant:  
Futaba Corporation

Mode:  
- TX active  
  
- Radiated Measurement  
  
- Vertical Polarisation  
  
- Prescan, values without antenna correction  
  
- EUT position: flat on Table

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Start 1.000 GHz  
RBW 1 MHz

VBW 1 MHz

Stop 5.000 GHz  
SWP 20 ms

### Multi Marker List

No. 1	1.293333 GHz	15.61 dB $\mu$ V
No. 2	1.720000 GHz	16.67 dB $\mu$ V
No. 3	2.146667 GHz	18.90 dB $\mu$ V
No. 4	2.577778 GHz	13.20 dB $\mu$ V
No. 5	3.444444 GHz	8.48 dB $\mu$ V

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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

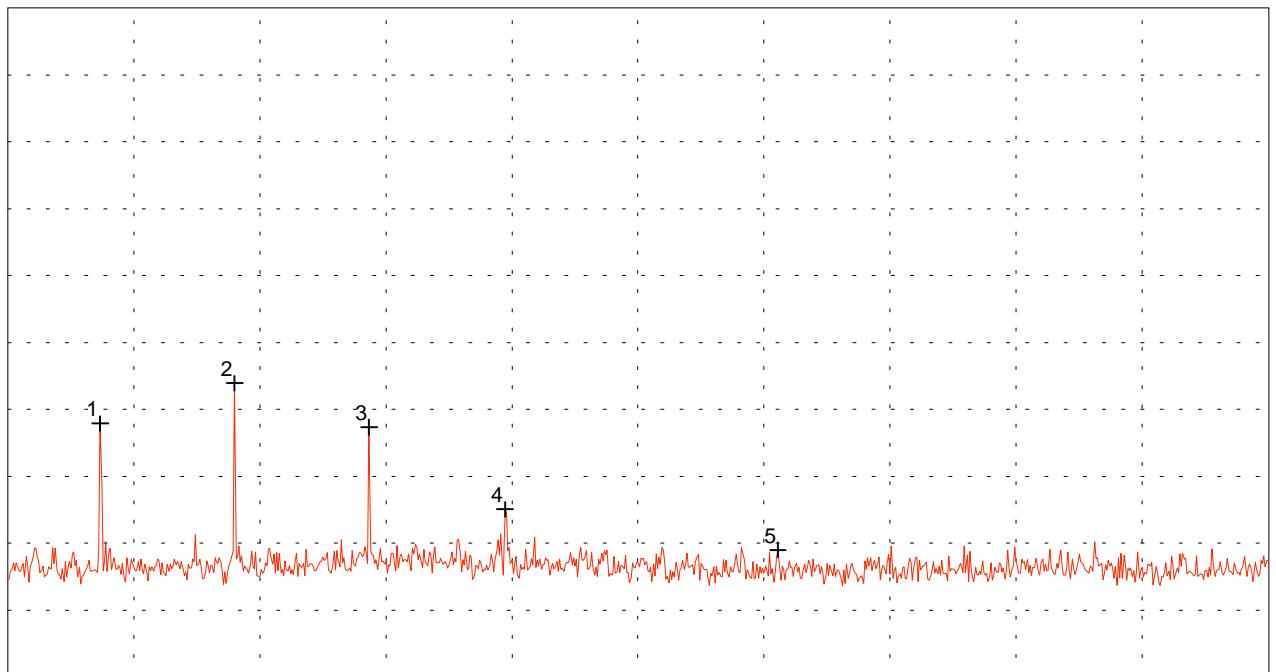
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: on long side

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Start 1.000 GHz  
RBW 1 MHz

VBW 1 MHz

Stop 5.000 GHz  
SWP 20 ms

### Multi Marker List

No. 1	1.293333 GHz	17.43 dB $\mu$ V
No. 2	1.720000 GHz	20.45 dB $\mu$ V
No. 3	2.146667 GHz	17.17 dB $\mu$ V
No. 4	2.577778 GHz	11.02 dB $\mu$ V
No. 5	3.444444 GHz	7.99 dB $\mu$ V

Tested by:  
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## Radiated Emission Measurement according to FCC Rules

Model:  
FRD1201U-T2

Serial No.:  
01100026

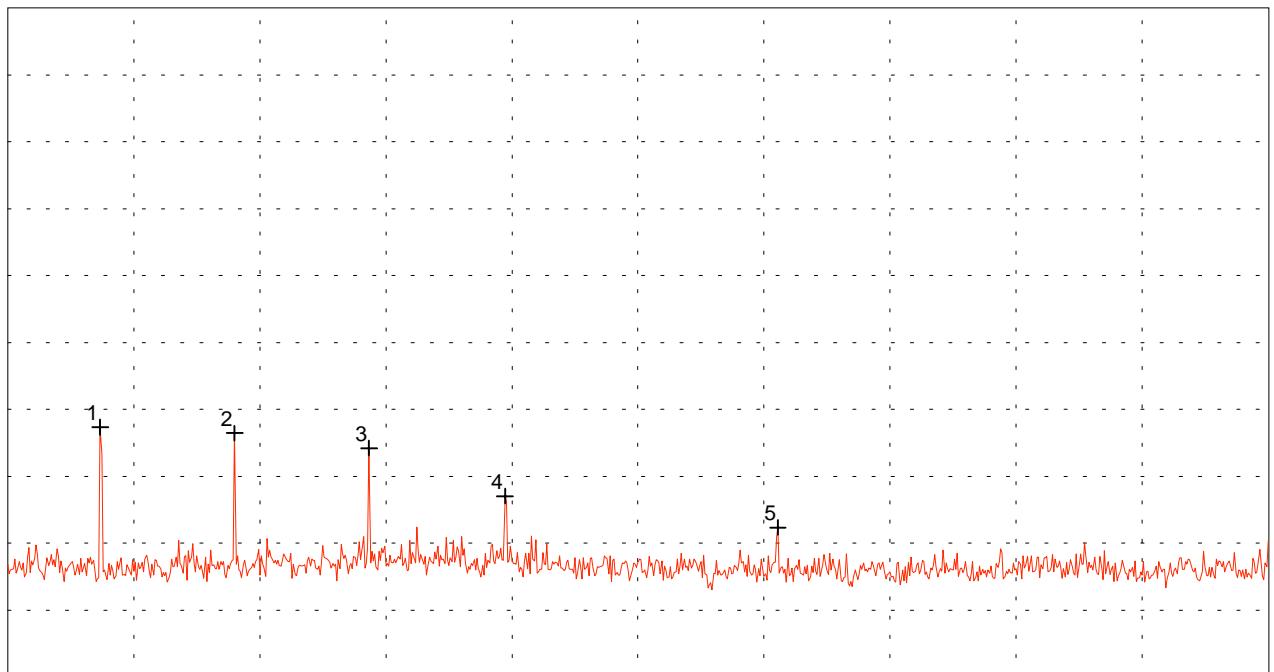
Applicant:  
Futaba Corporation

Mode:  
- TX active  
- Radiated Measurement  
- Vertical Polarisation  
- Prescan, values without antenna correction  
- EUT position: upright on Table

Ref.Level 48.5 dB $\mu$ V  
5 dB/Div.

ATT 0 dB

Ref. Offset -30.5 dB



Multi Marker List

No. 1	1.293333 GHz	17.17 dB $\mu$ V
No. 2	1.720000 GHz	16.72 dB $\mu$ V
No. 3	2.146667 GHz	15.60 dB $\mu$ V
No. 4	2.577778 GHz	12.02 dB $\mu$ V
No. 5	3.444444 GHz	9.66 dB $\mu$ V

Tested by:  
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