Product Service

Choose certainty.
Add value.

Report On

FCC Testing of the GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
Short Range Device Wireless USB Transmitter DCS100T
In accordance with FCC CFR 47 Part 15 Part C

COMMERCIAL-IN-CONFIDENCE

FCC ID: YRKDCS100T

Document 57010088 Report 01 Issue 1 September 2010

Product Service

TÜV Product Service Ltd Beijing Branch
9th floor, Landmark Tower 2, No.8 North Dongsanhuan Road, Beijing 100004, P.R. China
Tel: +86-10 6590 6186. Website: www.tuv-sud.cn

REPORT ON

FCC CRF 47 Parts 15 C: 2008 Testing of the
GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
Short Range Device Wireless USB Transmitter DCS100T

Document 57010088 Report 01 Issue 1

September 2010

PREPARED FOR

GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
80 WHITE STREET, NEW YORK,NY 10013, America

PREPARED BY

Chen Jie
Project Engineer

APPROVED BY

ZHANG Changxin
Manager

DATED

30 September 2010

Product Service

CONTENTS

Product Service

SECTION 1

REPORT SUMMARY

FCC Testing of the GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
Short Range Device Wireless USB Transmitter DCS100T
in accordance with FCC CFR 47 Part 15C

Product Service

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the GENERAL TOOLS & INSTRUMENTS COMPANY LLC. Short Range Device Wireless USB Transmitter DCS100T to the requirements of FCC CFR 47 Part 15C: 2008.

Testing was carried out in support of an application for Grant of Equipment Authorisation of Short Range Device Wireless USB Transmitter DCS100T.

Objective	To perform FCC Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
Model Number(s)	Wireless USB Transmitter DCS100T
Serial Number(s)	Engineering sample
Antenna Gain	0dBi
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15C: 2008
Incoming Release Date	Declaration of Build Status 24 August 2010
Start of Test	26 August 2010
Finish of Test	1 September 2010
Related Document(s)	FCC CFR 47 Part 15:2008 ANSI C63.4:2003

Product Service

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results in accordance with FCC CFR 47 Part 15: 2008 is shown below.

Configuration - Short Range Device Wireless Video Transmitter						
Section	FCC Clause	Test Description	Mode	Mod State	Result	Comments
2.1	15.249 (a)(c)(e)	Field Strength and Harmonics	2414, 2432,2468MHz	0	Pass	
2.2	15.249 (c)(d)(e) 15.209	Radiated Spurious Emissions	2432MHz	0	Pass	
2.3	2.1049 (h)	Occupied Bandwidth	2414,2432,2468MHz	0	Pass	
2.4	15.207	Conducted Emissions on Power Line	2432MHz	0	Pass	-Charging for TX
2.5	15.205	Restricted bands of operation.	2414,2468MHz	0	Pass	

Product Service

1.3 DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	Short Range Device Wireless Video Transmitter
MANUFACTURER	GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
TYPE	DCS100T
SERIAL NUMBER	Engineering sample
TRANSMITTER OPERATING RANGE	2414MHz、2432MHz、2468MHz
COUNTRY OF ORIGIN	America
ITU DESIGNATION OF EMISSION	10M3F1F
FCC ID	YRKDCS100T
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	DCS100T is a Short Range Device Wireless USB Transmitter
MANUFACTURING DESCRIPTION	The Wireless USB Transmitter DCS100T was powered by Polymer lithium battery, which is 3.7Vdc, 1200mAh. The batteries could be charged by the adaptor: Input: AC 100 – 240V, 50/60Hz Output: DC 5.5V 1.5A

No responsibility will be accepted by TÜV Product Service Beijing Branch as to the accuracy of the information declared in this document by the manufacturer.

Product Service

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) DCS100T was a GENERAL TOOLS & INSTRUMENTS COMPANY LLC. Short Range Device Wireless USB Transmitter as shown in the photograph below. A full technical description can be found in the Manufacturer's documentation.

Equipment Under Test

Product Service

1.4.2 Test Configuration

Configuration 1: 2.4GHz Short Range Device

The EUT was configured in accordance with FCC CFR 47 Part 15: 2008.

1.4.3 Modes of Operation

Operation Modes

Mode 1 – 2414 MHz
Mode 2 – 2432 MHz
Mode 3 – 2468 MHz

Information on the specific test modes utilised are detailed in the test procedure for each individual test.

Product Service

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure, test laboratories or an open test area as appropriate.

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.7 MODIFICATION RECORD

Modification State	Description of Modification fitted to EUT	Sample S/N
0	Initial sample supplied by customer	Engineering sample

No modifications were made to the EUT during testing.

1.8 ALTERNATIVE TEST SITE

The testing was conducted at following site registrations:

FCC Accreditation 800392
QuieTek Technology (Suzhou) Co., Ltd.
No.99 Hongye RD.Suzhou Industrial Park Loufeng Hi-New-Tech Development Area,Suzhou,China

Product Service

SECTION 2

TEST DETAILS

FCC Testing of the GENERAL TOOLS & INSTRUMENTS COMPANY LLC.
Short Range Device Wireless USB Transmitter DCS100T
in accordance with FCC CFR 47 Part 15C

2.1 FIELD STRENGTH AND HARMONICS

2.1.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart C, Clause 15.249(a)(c)(e)

2.1.2 Equipment Under Test

Short Range Device Wireless USB Transmitter DCS100T

2.1.3 Date of Test and Modification State

31 August 2010 – Modification State 0

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2008.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Emissions identified within the range 2.4GHz – 2.4385GHz were formally measured using Peak and Average Dectectors, as propriate.

The measurements were performed at a 3m distance unless otherwise stated.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration1 - Mode 1
- Mode 2
- Mode 3

2.1.6 Environmental Conditions

	31 August 2010
Ambient Temperature	23.2°C
Relative Humidity	24.1%

Product Service

2.1.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15: 2008 for Field Strength and Harmonics.

The test results are shown below.

Configuration 1 - Mode 1

Fundamental Frequencies

Fundamental Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	mV/m	AV/PK
2414	H	82.101	-5.933	76.167	-17.833	94.0	50	AV
	H	92.691	-5.926	86.765	-27.235	114.0	500	PK
2414	V	81.774	-5.933	75.841	-18.159	94.0	50	AV
	V	91.927	-5.930	85.997	-28.003	114.0	500	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Harmonic Frequencies

Harmonic Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	µV/m	AV/PK
4828.000	H	56.413	0.465	56.878	-17.122	74.0	5000	PK
4828.000	H	43.698	0.465	44.163	-9.837	54.0	500	AV
7242.000	H	46.776	6.877	53.653	-20.347	74.0	5000	PK
7242.000	H	32.995	6.877	39.872	-14.128	54.0	500	AV
9656.000	H	38.203	8.596	46.799	-27.201	74.0	5000	PK
12070.000	H	35.266	11.896	47.163	-26.837	74.0	5000	PK
14484.000	H	36.987	16.359	53.346	-20.654	74.0	5000	PK
16898.000	H	36.951	15.022	51.973	-22.027	74.0	5000	PK
4828.000	V	39.421	0.465	39.886	-14.114	54.0	500	AV
4828.000	V	50.937	0.465	51.401	-22.599	74.0	5000	PK
7242.000	V	45.347	6.877	52.224	-21.776	54.0	500	AV
7242.000	V	34.034	6.877	40.911	-13.089	74.0	5000	PK
9656.000	V	37.513	8.596	46.109	-27.891	74.0	5000	PK
12070.000	V	35.103	11.896	47.000	-27.000	74.0	5000	PK
14484.000	V	36.537	16.359	52.896	-21.104	74.0	5000	PK
16898.000	V	37.273	15.022	52.295	-21.705	74.0	5000	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Product Service

Configuration 1 - Mode 2

Fundamental Frequencies

Fundamental Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	mV/m	AV/PK
2432	V	92.284	-5.963	86.321	-27.679	114.0	500	PK
	V	82.633	-5.975	76.658	-17.342	94.0	50	AV
2432	H	91.092	-5.983	85.108	-28.892	114.0	500	PK
	H	82.003	-5.975	76.028	-17.972	94.0	50	AV

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Harmonic Frequencies

Harmonic Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	µV/m	AV/PK
4864.000	H	53.431	0.340	53.771	-20.229	74.0	5000	PK
4864.000	H	42.367	0.340	42.707	-11.293	54.0	500	AV
7296.000	H	43.884	6.858	50.742	-23.258	74.0	5000	PK
7296.000	H	30.434	6.858	37.292	-16.708	54.0	500	AV
9728.000	H	37.559	9.137	46.696	-27.304	74.0	5000	PK
12160.000	H	36.064	12.020	48.085	-25.915	74.0	5000	PK
14592.000	H	37.220	16.053	53.273	-20.727	74.0	5000	PK
17024.000	H	37.009	15.592	52.601	-21.399	74.0	5000	PK
4864.000	V	50.250	0.340	50.590	-23.410	74.0	5000	PK
4864.000	V	40.621	0.340	40.961	-13.039	54.0	500	AV
7296.000	V	44.160	6.858	51.018	-22.982	74.0	5000	PK
7296.000	V	32.172	6.858	39.030	-14.970	54.0	500	AV
9728.000	V	37.491	9.137	46.628	-27.372	74.0	5000	PK
12160.000	V	35.380	12.020	47.401	-26.599	74.0	5000	PK
14592.000	V	36.962	16.053	53.015	-20.985	74.0	5000	PK
17024.000	V	37.188	15.592	52.780	-21.220	74.0	5000	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Product Service

Configuration 1 - Mode 3

Fundamental Frequencies

Fundamental Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	mV/m	AV/PK
2468	H	85.021	-5.975	79.046	-14.954	94.0	50	AV
	H	94.469	-5.986	88.484	-25.516	114.0	500	PK
2468	V	85.472	-5.975	79.496	-14.504	94.0	50	AV
	V	95.511	-5.976	89.535	-24.465	114.0	500	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Harmonic Frequencies

Harmonic Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit		Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	µV/m	AV/PK
4936.000	H	54.050	0.492	54.542	-19.458	74.0	5000	PK
4936.000	H	41.272	0.492	41.763	-12.237	54.0	500	AV
7404.000	H	31.967	6.696	38.663	-15.337	54.0	500	AV
7404.000	H	44.221	6.696	50.920	-23.080	74.0	5000	PK
9872.000	H	37.156	10.284	47.440	-26.560	74.0	5000	PK
12340.000	H	37.551	10.889	48.440	-25.560	74.0	5000	PK
14808.000	H	36.812	15.870	52.682	-21.318	74.0	5000	PK
17276.000	H	37.265	16.316	53.582	-20.418	74.0	5000	PK
4935.500	V	52.819	0.490	53.309	-20.691	74.0	5000	PK
4936.000	V	40.222	0.492	40.713	-13.287	54.0	500	AV
7404.000	V	29.447	6.696	36.143	-17.857	54.0	500	AV
7409.000	V	42.873	6.694	49.567	-24.433	74.0	5000	PK
9872.000	V	36.469	10.284	46.753	-27.247	74.0	5000	PK
12340.000	V	37.995	10.889	48.884	-25.116	74.0	5000	PK
14808.000	V	36.940	15.870	52.810	-21.190	74.0	5000	PK
17276.000	V	37.074	16.316	53.391	-20.609	74.0	5000	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Limit	Fundamental : ≤50mV/m or ≤94dBµV/m(AV) ≤500mV/m or ≤114dBµV/m(PK) Harmonics: ≤500 µV/m or ≤54dBµV/m(AV) ≤5000 µV/m or ≤74dBµV/m(PK)

Remarks

The field strength of emissions from the intentional radiator operated in the 2400MHz to 2483.5MHz band did not exceed 50mV/m or 94dBµV/m (Average) & 500mV/m or 114dBµV/m (Peak) for the fundamental, 500µV/m or 54dBµV/m (Average) & 5000µV/m or 74dBµV/m (Peak) for harmonics.

2.2 RADIATED SPURIOUS EMISSIONS

2.2.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart C, Clause 15.249(c)(d)(e),15.209

2.2.2 Equipment Under Test

Short Range Device Wireless USB Transmitter DCS100T

2.2.3 Date of Test and Modification State

31 August 2010 – Modification State 0

2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.2.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2008.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within the anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations.

Emissions identified within the range 30MHz – 1GHz were then formally meausred using a Peak and Quasi-Peak detector. as propriate.

The measurements were performed at a 3m distance unless otherwise stated.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration1 - Mode 2

2.2.6 Environmental Conditions

	31 August 2010
Ambient Temperature	23.2°C
Relative Humidity	24.1%

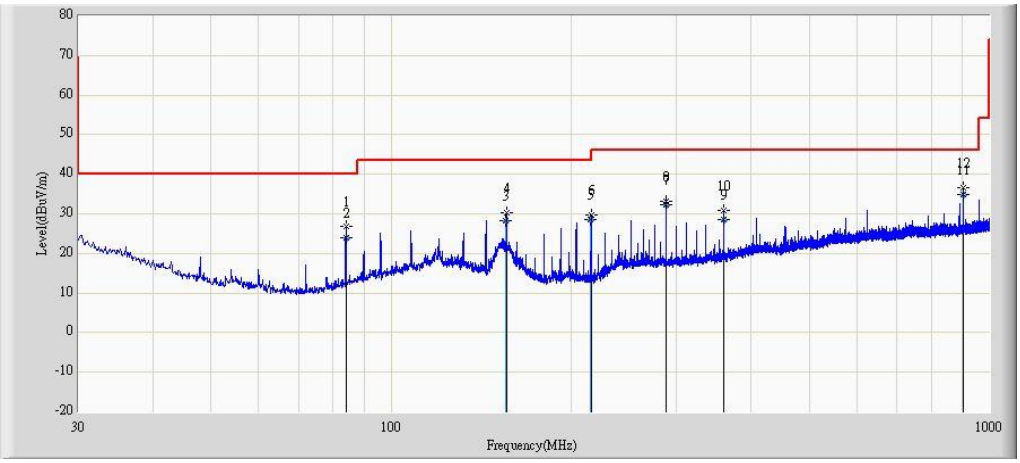
Product Service

2.2.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15: 2008 Radiated Spurious Emissions.

The test results are shown below.

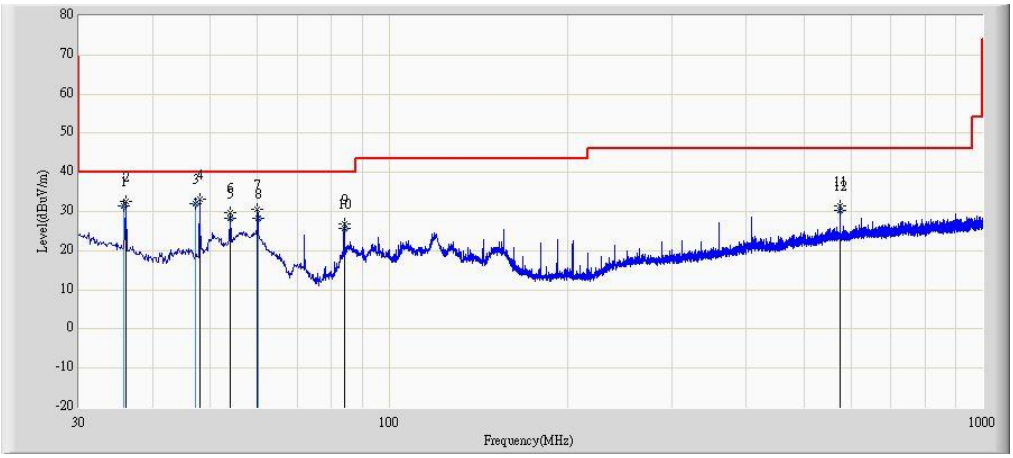
Configuration 1 - Mode 2



Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit	Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	QP/PK
83.956	H	18.579	8.316	26.895	-13.105	40.000	PK
84.000	H	15.700	8.327	24.028	-15.972	40.000	QP
155.500	H	17.800	10.546	28.346	-15.154	43.500	QP
155.979	H	19.851	10.541	30.392	-13.108	43.500	PK
215.400	H	19.300	9.388	28.688	-14.812	43.500	QP
215.997	H	20.204	9.424	29.629	-13.871	43.500	PK
288.000	H	18.300	13.860	32.160	-13.840	46.000	QP
288.020	H	19.269	13.860	33.129	-12.871	46.000	PK
360.000	H	12.700	15.928	28.628	-17.372	46.000	QP
360.043	H	14.852	15.927	30.779	-15.221	46.000	PK
905.300	H	12.700	22.255	34.955	-11.045	46.000	QP
905.425	H	14.268	22.250	36.518	-9.482	46.000	PK

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

.



Frequency (MHz)	Polarisation (Vertical/ Horizontal)	Reading Level	Factor	Field Strength	Over Limit	Limit	Type
		(dBuV)	(dB)	dBµV/m	(dB)	dBµV/m	QP/PK
35.750	V	16.300	15.139	31.440	-8.560	40.000	QP
35.941	V	17.653	15.041	32.694	-7.306	40.000	PK
47.250	V	22.500	9.449	31.949	-8.051	40.000	QP
47.945	V	23.940	9.170	33.110	-6.890	40.000	PK
54.000	V	20.800	7.355	28.154	-11.846	40.000	QP
54.007	V	22.414	7.353	29.767	-10.233	40.000	PK
59.949	V	24.101	6.351	30.452	-9.548	40.000	PK
60.200	V	21.900	6.331	28.231	-11.769	40.000	QP
83.956	V	18.415	8.316	26.731	-13.269	40.000	PK
84.200	V	17.300	8.379	25.679	-14.321	40.000	QP
576.110	V	11.550	20.010	31.560	-14.440	46.000	PK
576.200	V	10.400	20.007	30.407	-15.593	46.000	QP

Note: Field Strength =Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Limit

Frequency (MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance (meters)
30 – 88	100	40.0	3
88 – 216	150	43.5	3
216 – 960	200	46.0	3
Above 960	500	54.0	3

Remarks

The EUT does not exceed the limit at the measured frequency.

2.3 OCCUPIED BANDWIDTH

2.3.1 Specification Reference

FCC CFR 47 Part 2: 2008, Clause 2.1049(h)

2.3.2 Equipment Under Test

Short Range Device Wireless USB Transmitter DCS100T

2.3.3 Date of Test and Modification State

31 August 2010 – Modification State 0

2.3.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.3.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 2: 2008.

Connect EUT's antenna terminal to the spectrum analyser via a low loss cable with transmitting mode.

Adjust the centre frequency of the spectrum analyser on the frequency be measured, and set for peak detector mode; max hold trace mode RBW=100 KHz and VBW=300 KHz.

The span of the analyzer approximately 2 to 3 times the channel bandwidth shall be set to capture all products of the modulation process, including the emission skirts. Use the marker-to-peak function to set the marker to the peak of the emission.

Use the OBW function to measure 99%emission bandwidth, record the occupied bandwidth value.

Repeat the above procedures until all assigned frequencies to be measured.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration1 - Mode 1
- Mode 2
- Mode 3

2.3.6 Environmental Conditions

	31 August 2010
Ambient Temperature	23.6°C
Relative Humidity	24.3%

Product Service

2.3.7 Test Results

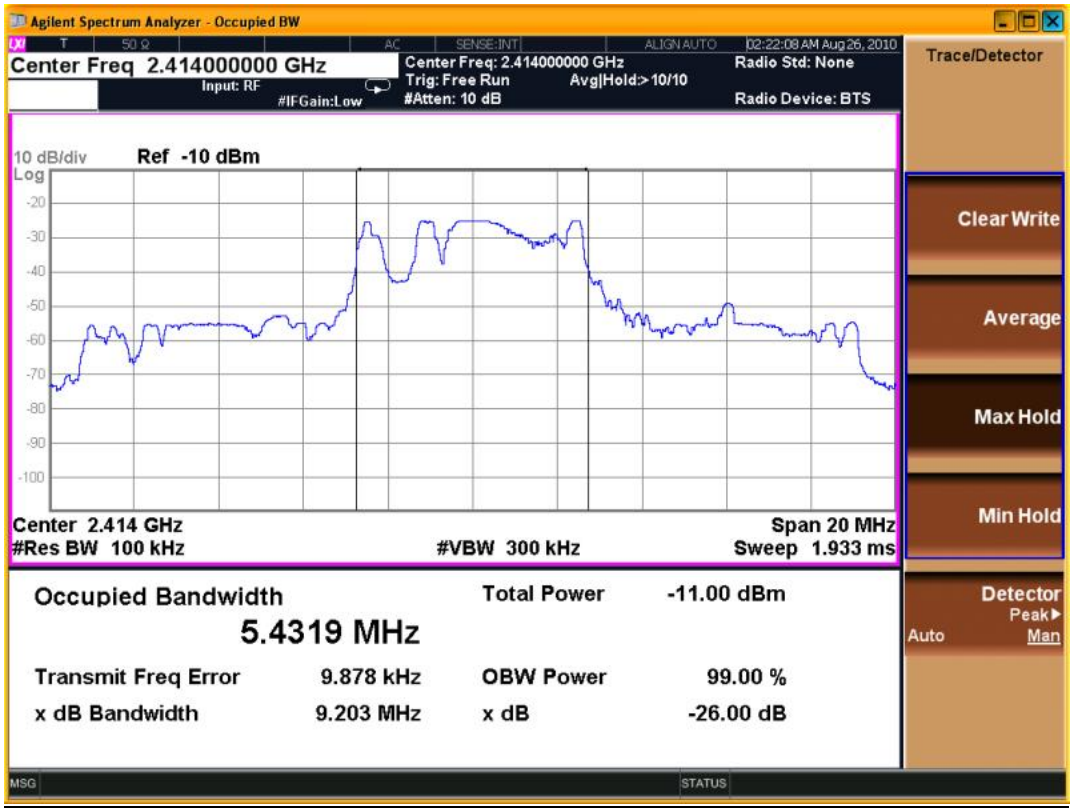
For the period of test the EUT met the requirements of FCC CFR 47 Part 2: 2008 for Occupied Bandwidth.

Configuration 1 - Mode 1

Frequency (MHz)	Occupied bandwidth (MHz)
2414	9.203

The plot of test result are shown below.

Configuration 1 - Mode 1

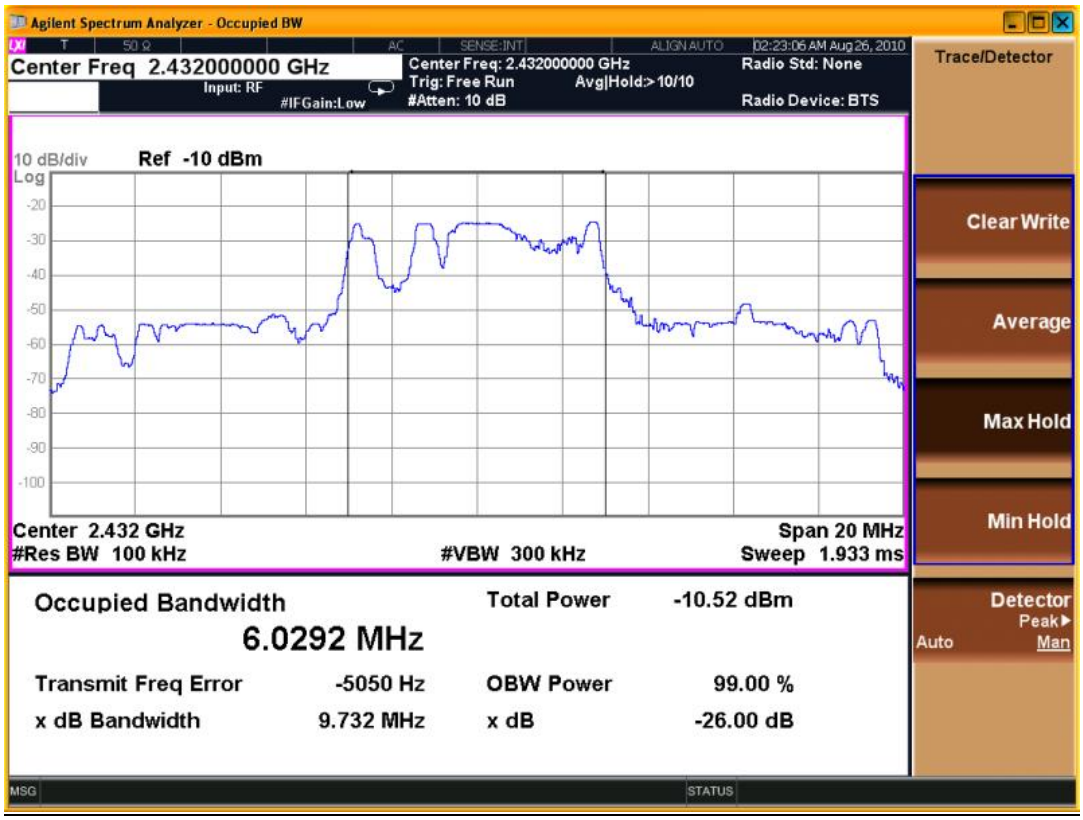


Configuration 1 - Mode 2

Frequency (MHz)	Occupied bandwidth (MHz)
2432	6.029

The plot of test result are shown below.

Configuration 1 - Mode 2



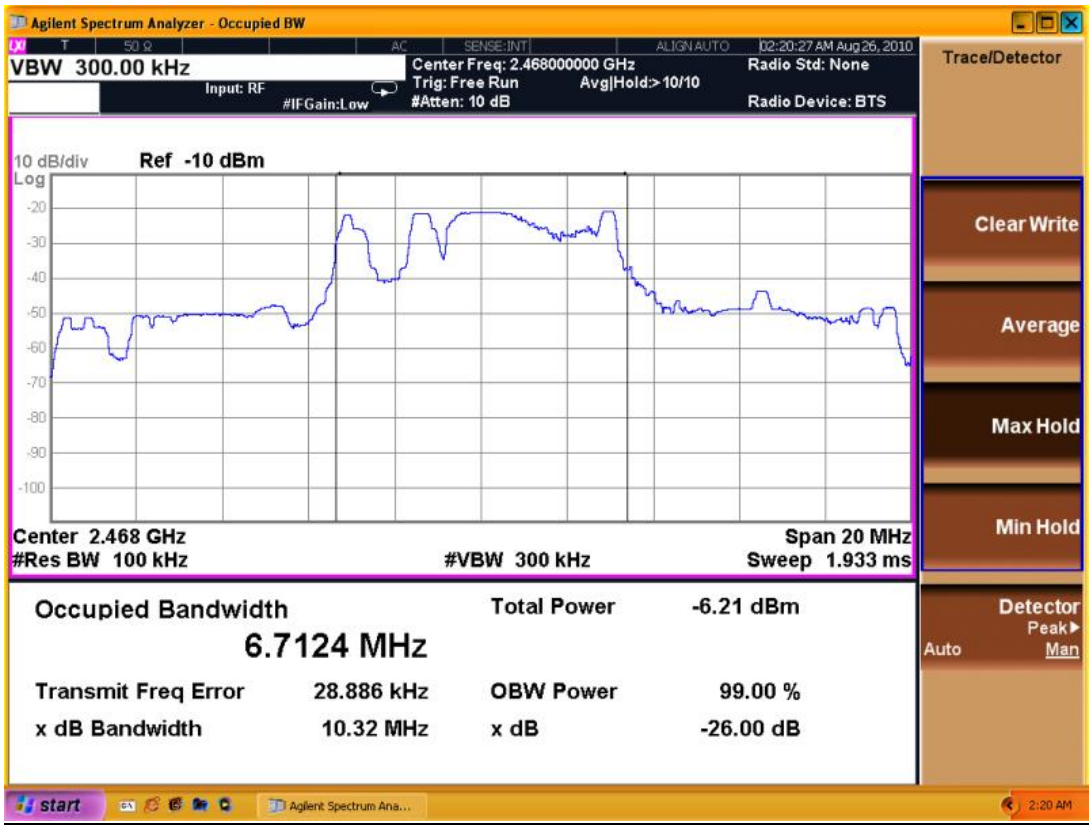
Product Service

Configuration 1 - Mode 3

Frequency (MHz)	Occupied bandwidth (MHz)
2468	10.32

The plot of test result are shown below.

Configuration 1 - Mode 3



2.4 CONDUCTED EMISSION ON POWER LINE

2.4.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart C, Clause 15.207

2.4.2 Equipment Under Test

Short Range Device Wireless USB Transmitter DCS100T

2.4.3 Date of Test and Modification State

31 August 2010 – Modification State 0

2.4.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.4.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2008.

The EUT was placed 0.4 meters from the conducting wall of the shield room with the power mains 120V/60Hz through an artificical mains network (AMN). The distance between the computer and AMN was 80cm.

Emissions were formally measured using a Quasi-Peak and Average Detectors, which meet the CISPR requirements. The details of the worst-case emissions for the Live and Neutral Lines are presented in the tables below.

Conducted Emission were measured on Live and Neutral Lines in turn.

Measurements were made over the frequency range 0.15MHz to 30MHz.

The EUT was supplied from a AC/DC Adatptor.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration1 - Mode 2

2.4.6 Environmental Conditions

	31 August 2010
Ambient Temperature	23.3°C
Relative Humidity	24.4%

Product Service

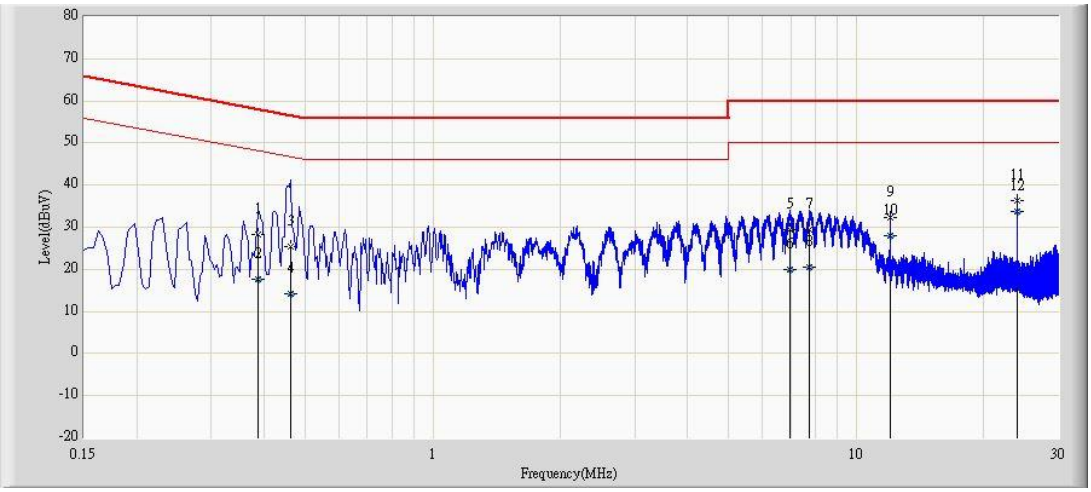
2.4.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15: 2008 for Conducted Emissions on Power Line.

The plots of test results are shown below.

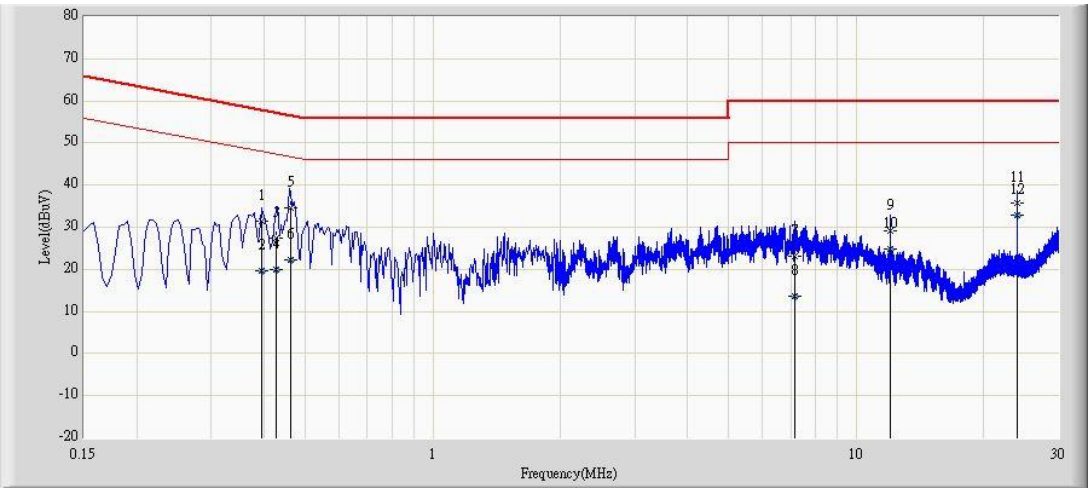
Configuration 1 - Mode 2

Live Line



Emission Frequency (MHz)	Measure Level	Margin	Limit	Type
	dBµV	dB	dBµV µV	AV/QP
0.386	28.328	-29.821	58.149	QP
0.386	17.763	-30.386	48.149	AV
0.462	25.285	-31.371	56.657	QP
0.462	14.059	-32.598	46.657	AV
6.962	29.405	-30.595	60.000	QP
6.962	20.081	-29.919	50.000	AV
7.766	29.432	-30.568	60.000	QP
7.766	20.607	-29.393	50.000	AV
12.002	32.396	-27.604	60.000	QP
12.002	27.937	-22.063	50.000	AV
24.002	36.310	-23.690	60.000	QP
24.002	33.617	-16.383	50.000	AV

Neutral Line



Emission Frequency (MHz)	Measure Level	Margin	Limit	Type
	dBµV	dB	dBµV µV	AV/QP
0.394	31.317	-26.662	57.979	QP
0.394	19.726	-28.253	47.979	AV
0.426	27.450	-29.881	57.330	QP
0.426	20.074	-27.257	47.330	AV
0.462	34.723	-21.933	56.657	QP
0.462	22.198	-24.458	46.657	AV
7.134	23.213	-36.787	60.000	QP
7.134	13.630	-36.370	50.000	AV
12.002	29.132	-30.868	60.000	QP
12.002	24.884	-25.116	50.000	AV
24.002	35.729	-24.271	60.000	QP
24.002	32.798	-17.202	50.000	AV

Limit

Emission Frequency (MHz)	Limit ---dBµV	
	QP	Average
0.15---0.5	❖ 66 to 56	❖ 56 to 46
0.5---5	56	46
5---30	60	50
❖ Decreases with the logarithm of the frequency		

2.5 RESTRICTED BANDS OF OPERATION

2.5.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart C, Clause 15.205

2.5.2 Equipment Under Test

Short Range Device Wireless USB Transmitter DCS100T

2.5.3 Date of Test and Modification State

31 August 2010 – Modification State 0

2.5.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.5.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2008.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

The measurements were performed at a 3m distance.

The test was performed with the EUT in the transmitting mode

RBW=1MHz, VBW=3MHz, Maxhold, Average Dectectors.

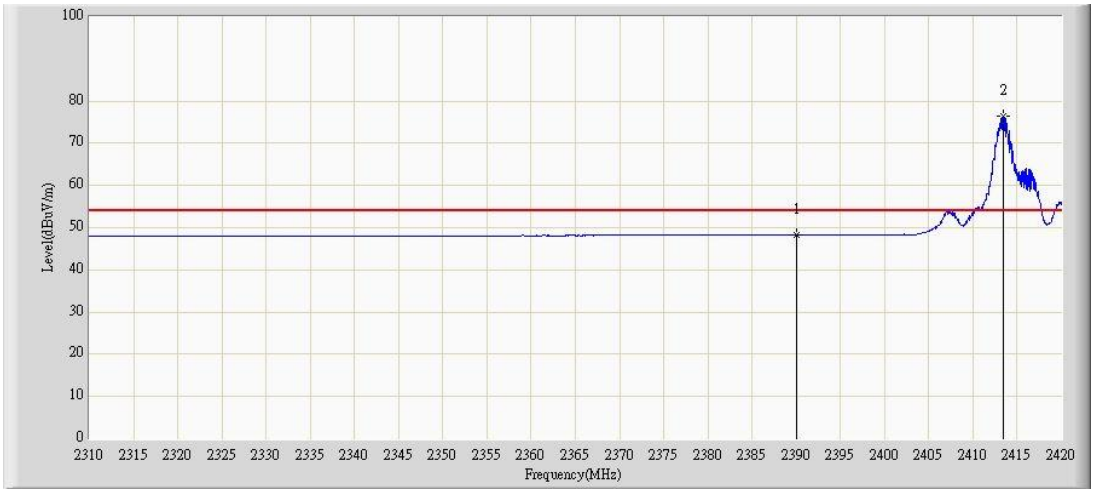
The test was performed with the EUT in the following configurations and modes of operation:

Configuration1 - Mode 1
- Mode 3

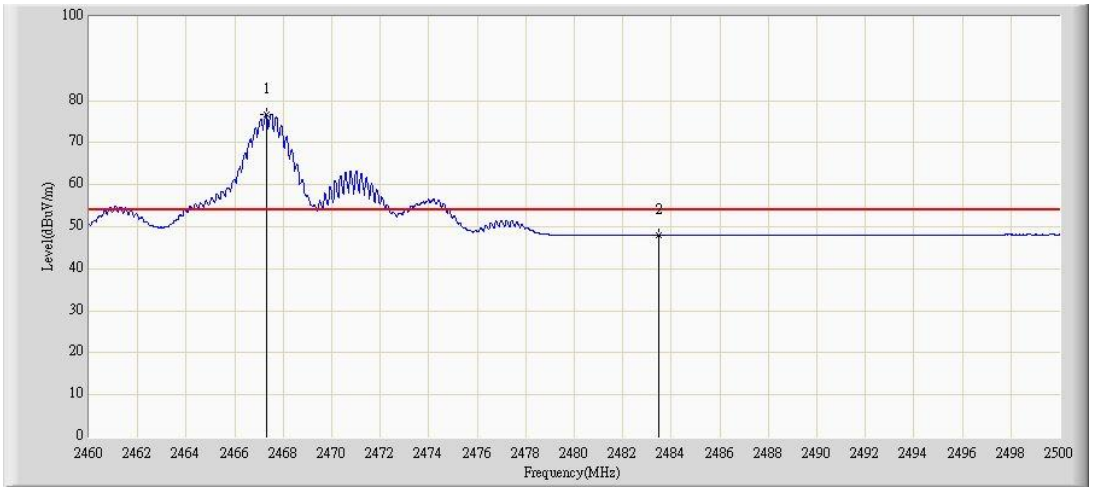
2.5.6 Environmental Conditions

	31 August 2010
Ambient Temperature	23.3°C
Relative Humidity	24.4%

2.5.7 Test Results



Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
2390.000	48.346	17.434	-5.654	54.000	30.911	AV



Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
2483.500	48.023	17.089	-5.977	54.000	30.934	AV

Product Service

Limit

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	
13.36 - 13.41			

The EUT is operating on 2412 MHz, this falls between the restricted bands of 2310---2390 MHz and 2483.5 - 2500 MHz

Product Service

SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	Serial No.	Calibration Date
3m Semi-Anechoic Chamber (AC2)				
EMI Test Receiver	R&S	ESCI	100573	2010.04.23
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2009.11.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2010.05.05
3m Semi-Anechoic Chamber (AC5)				
Spectrum Analyzer	Agilent	N9010A	MY48030494	2010.04.23
Preamplifier	QuieTek	AP-180C	CHM-0602013	2010.05.05
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2010.06.11
Conducted Emisision Testing Room (TR1)				
EMI Test Receiver	R&S	ESCI	100906	2010.01.15
Two-Line V-Network	R&S	ENV 216	101043	2010.06.18

Product Service

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU
Radiated Emissions, Bilog Antenna, AOATS	30MHz to 1GHz Amplitude	5.1dB*
Radiated Emissions, Horn Antenna, AOATS	1GHz to 40GHz Amplitude	6.3dB*
Worst case error for both Time and Frequency measurement 12 parts in 10^6.		

* In accordance with CISPR 16-4

Product Service

SECTION 4

DISCLAIMERS AND COPYRIGHT

4.1 DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.