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Report No.: GZEM110300068802 Page: 1 of 19 FCC ID: ZD3FTR50X

TEST REPORT

Application No.:	GZEM1103000688RF
Applicant:	Feitian Technologies Co., Ltd.
FCC ID:	ZD3FTR50X
Product Name:	USB CardReader
Product Description:	Radio CardReader
Model No:	R(Rockey)5XX 🌲
*	XX = be 00 to 99, Please refer to section 3 of this report for more details.
Standards:	FCC PART 15 SUBPART B:2010
Date of Receipt:	2011-03-15
Date of Test:	2011-03-29 to 2011-08-16
Date of Issue:	2011-10-25
Test Result :	Pass*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

rong yao zon oct.

Strong Yao Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

Revision Record					
Version	Chapter	Date	Modifier	Remark	
00		2011-10-25		Original	

Authorized for issue by:		
Tested By	Ryan Yang (Ryan Yang) /Project Engineer	2011-03-29 to 2011-08-16 Date
Prepared By	Millie Li) /Clerk	2011-08-29 Date
Checked By	S-frong yao	2011-10-25
	(Strong Yao) /Reviewer	Date

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3 Test Summary

Electromagnetic Interference (EMI)						
Test	Test Requirement	Test Method	Class / Severity	Result		
Conducted Emission (150 KHz to 30 MHz)	FCC PART 15 SUBPART B:2010	ANSI C63.4:2009	Class B	PASS		
Radiated Emission (30 MHz to 1 GHz)	FCC PART 15 SUBPART B:2010	ANSI C63.4:2009	Class B	PASS **		
Radiated Emission above 1 GHz	FCC PART 15 SUBPART B:2010	ANSI C63.4:2009	Class B	N/A		

Remark :

EUT: In this whole report EUT means Equipment Under Test.

N/A: Not applicable, please refer to section 7.3 of this report for details.

Model No.: R(Rockey)5XX

According to the declaration from the applicant, all models are identical. The first X ranges from 0 to 9 and stands for the color choice of the top half of the outer casing; and the second X ranges from 0 to 9 and stands for the color choice of the bottom half of the outer casing which is labelled with product tag.

Therefore only one model R(Rockey)501 was tested in this report.

**: The EUT passed Radiated Emission (30 MHz to 1 GHz) after retest.



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5 General Information

5.1 Client Information

Applicant:	Feitian Technologies Co., Ltd.
Address of Applicant:	Floor 17th, Tower B, Huizhi Mansion, No.9 Xueqing Road, Haidian District Bejing China

5.2 General Description of E.U.T.

Product Name:	USB CardReader
Model No:	R(Rockey)501

5.3 Details of E.U.T.

Power Supply:	DC 5V (Supplied by PC USB port)
Cable:	1.5 m x 2 wires unscreened USB cable

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

The EUT passed Radiated Emission (30 MHz to 1 GHz) after retest.

5.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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5.7 Description of Support Units

The EUT has been tested with associated equipment as a typical PC system.

Description	Manufacturer	Model No.	SN/Certificate NO			
Test PC 1	Test PC 1					
Personal Computer	DELL	WORKSTATION 690	3R5592X			
Monitor	SAMSUNG	225MS	CR22HVMP900646W			
Mouse	DELL	MOC5UO	G1B02ZP5			
Keyboard	DELL	SK-8115	CN-ODJ331-71616-7B1-109J			
Test PC 2						
Personal Computer	DELL	OPTIPLEX 755	D6JF82X			
Monitor	DELL	SP2208WFPt(B)	CN-OPK573-71618-831-119U			
Mouse	DELL	M-WDEL1	OT0943			
Keyboard	DELL	SK-8115	CN-ODJ331-71616-7B1-109J			
Test PC 3						
Personal Computer	DELL	OPTIPLEX 330	7JZ382X			
Monitor	DELL	E228WFPc	CN-OPN380-64180-7CJ-1DXL			
Mouse	DELL	MOC5UO	G1B02ZP5			
Keyboard	CHERRY	RS 6000M	G 00005662 Q242 III			
Test PC 4						
Personal Computer	DELL	OPTIPLEX 980	GXVZV2X			
Monitor	DELL	P2210f	FGL-00000714011207500 -09BO02490-A			
Mouse	DELL	M-WDEL1	OT0943			
Keyboard	DELL	SK-8135	N/A			
Test PC 5						
Personal Computer	Lenovo	M6600N	SS12594403			
Monitor	HP	D8904	L0204H094			
Mouse	DELL	MOC5UO	G1B02ZP5			
Keyboard	DELL	SK-8135	N/A			
Notebook						
NoteBook	IBM	T40	99-FBAF9 03/09			
NoteBook	IBM	T60	L3-F3755			
NoteBook	Lenovo	R400	L3-ABB9E			

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Description	Manufacturer	Model No.	SN/Certificate NO
Printer			
Printer	DELL	4470-AD1 (926B)	CN-OGH204-48734-69Q-7K78
Printer	HP	C5884A	SG78D1H18F
Other Peripheral			
DV	SONY	DCR-HC28	375383
		2.5" USB2.0 MOBILE	
Portable Hard disk	MSI	HDD(250GB)	HKC08-J/L8022438329
Portable Hard disk	SAMSUNG	HM320JI(320GB)	S16LJD0Q543275
ROM Programmer	DASI Electronics	EMP-100A	N/A
Faxmodem	3Com U.S. Robotics	56K Faxmodem	715630-01
HP Colorado T1000e			
External Parallel	Lisudan Dashard	T 4000.	110005000
Tape Backup System GROUP PHONE	Hewlett Packard	T1000e	US035980
SYSTEM	HB	WS824(1)	241342207120130
Fast Ethernet Switch	TP-Link	TL-SF1005D	7126101589
Fast Ethernet Switch	TP-Link	TL-SF1008D	7126001251
MIC	VoiceAO	N/A	N/A
MIC	VoiceAO	N/A	N/A
Flash Disk	Kingston	DTI/2GB	CH 092908
Flash Disk	Kingston	DTI/1GB	CH 042007
SD Memory Card	SanDisk	128MB	AK0531802339D
MiniSD Memory Card		1024MB	BB063010TE
MMCmobile	Richlight	1GB	MM8GH01GRMCA-9A
Headphone	COBY	CV-230	N/A
Headphone	Philips	N/A	N/A
Ipod classic	Apple	MB147CH	JQ74121YMV
lpod nano	Apple	A1137	JQ63803RV9M
lpod nano	Apple	A1137	5Z50163JXUY
lpod nano	Apple	A1137	YM601DN0SZB
lpod nano	Apple	MC688CH/A	DCYDWE22DDVX
Ipod touch	Apple	A1288	1B9070RW203
Iphone	Apple	A1203	87810HJBWH8
Iphone 3GS	Apple	A1303	579C-A1303A
Projector	Sony	VPL-CX61	5004355
Wii console	Nintendo	RVL-001(JPN)	N/A
Xbox 360 Console	Microsoft	Xbox 360 Console	328731122665682000
Xbox Video Game			
System	Microsoft	F23-00064	111100623241005
HDMI 1 (EMCA002)	SGS	10m	N/A
HDMI 2 (EMCA003)	SGS	5m	N/A
USB (EMCA004)	SGS	5m	N/A
VGA (EMCA005)	SGS	1.8m	N/A

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5.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• NVLAP (Lab Code: 200611-0)

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

• ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

• CNAS (Lab Code: L0167)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

• FCC (Registration No.: 282399)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

• Industry Canada (Registration No.: 4620B-1)

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

• VCCI (Registration No.: R-2460 and C-2584)

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460 and C-2584 respectively.

• CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rules of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.

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6 Equipment Used during Test

Conducted Emission						
No.	Test Fauinment	Manufaatuway	Model No.	Serial No.	Cal.Due date	Calibratio
NO.	Test Equipment	Manufacturer	woder no.		(YYYY-MM-DD)	n Interval
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m ³	N/A	N/A	N/A
EMC0118	Two-line v-netwok	R&S	ENV216	100359	2011-09-25	1Y
EMC0102	LISN	SCHAFFNER CHASE	MN2050D/1	1421	2011-11-23	1Y
EMC2046	Artificial Mains Network (LISN)	AFJ Instruments	LT32C	S.N.320311201 50	2012-05-18	1Y
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	2011-11-24	1Y
EMC0107	Coaxial Cable	SGS	2m	N/A	2012-07-18	1Y
EMC0106	Voltage Probe	SGS	N/A	N/A	N/A	1Y
EMC0120	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	20550	2012-01-17	1Y
EMC0121	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	20549	2012-01-17	1Y
EMC0122	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	20548	2012-01-17	1Y

RE in Ch	RE in Chamber						
No.	To at Emulant and	Manufastura	Madal Na		Cal.Due date	Calibratio n Interval	
NO.	Test Equipment	Manufacturer	Model No.	Serial No.	(YYYY-MM-DD)		
EMC0525	Compact Semi- Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2011-09-06	2Y	
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2012-01-17	1Y	
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	10036	2012-06-01	1Y	
EMC0514	Coaxial cable	SGS	N/A	N/A	2011-12-08	1Y	
EMC2025	Trilog Broadband Antenna 30-3000MHz	SCHWARZBECK MESS- ELEKTRONIK	VULB 9163	9163-450	2011-10-28	1Y	
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2011-12-20	1Y	
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2011-12-20	1Y	
EMC2026	Horn Antenna 1-18GHz	R&S	BBHA 9120D	9120D-841	2011-10-28	1Y	
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2011-09-11	1Y	
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2012-01-17	1Y	
EMC0049	Amplifier	Agilent	8447D	2944A10862	2012-04-21	1Y	
EMC0075	310N Amplifier	Sonama	310N	272683	2011-10-25	1Y	
EMC0523	Active Loop Antenna	EMCO	6502	42963	2011-11-17	1Y	
EMC2041	Broad-Band Horn Antenna(14)15- 26.5(40)GHz	SCHWARZBECK MESS- ELEKTRONI	BBHA 9170	9170-375	2012-06-01	1Y	
EMC0530	10m Semi- Anechoic Chamber	ETS	N/A	N/A	2012-05-10	2Y	

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General used equipment								
No.	Toot Equipmont	Manufacturer	Model No.	Serial No.	Cal.Due date	Calibratio		
NO.	Test Equipment	Manufacturer	Woder No.	Serial No.	(YYYY-MM-DD)	n Interval		
EMC0006	DMM	Fluke	73	70681569	2011-12-16	1Y		
EMC0007	DMM	Fluke	73	70671122	2011-12-16	1Y		

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7 Emission Test Results

7.1 Conducted Emissions Mains Terminals, 150 KHz to 30MHz

Class B

Test Requirement:	FCC Part15 B
Test Method:	ANSI C63.4
Test Voltage:	120V AC, 60Hz
Test Date:	2011-08-15
Frequency Range:	150KHz to 30MHz
Detector:	Peak for pre-scan
	Quasi-Peak and Average at frequency with maximum peak
	(9 kHz resolution bandwidth)

Frequency range	Class B Limits				
MHz	dB (µV)				
	Quasi-peak	Average			
0.15 to 0.50	66 to 56 56 to 46				
0.50 to 5	56 46				
5 to 30	60 50				
NOTE 1 :The limit decreases linearly with the logarithm of the frequency in the range					
0.15 MHz to 0.50 MHz.					
NOTE 2: The lower limit is ap	plicable at the transition frequency.				

7.1.1 E.U.T. Operation

Class / Limit:

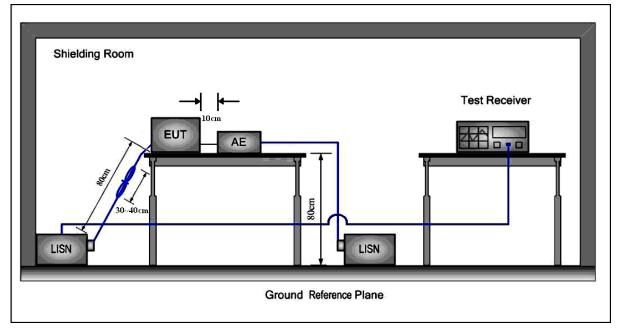
Operating Environment:

Temperature:25.0 °CHumidity:50 %RHAtmospheric Pressure:1008mbarEUT Operation:Pre-test the EUT in PC connection mode and receiving mode, find the worst case
was in PC connection mode.mode, find the worst case



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7.1.2 Test Setup and Procedure



- 1. The mains terminal disturbance voltage test was conducted in a shielded room.
- 2. The EUT was connected to nominal power supply through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50µH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
- 4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

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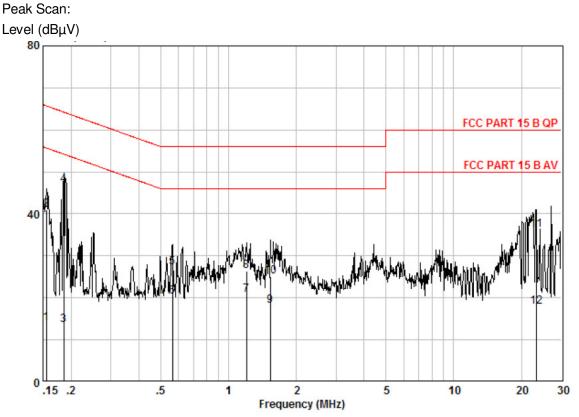


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7.1.3 Measurement Data

Pre-scan was performed with peak detected on both live and neutral cable. Quasi-peak & average measurements were performed at the frequencies which maximum peak emission level was detected. Please see the attached Quasi-peak and Average test results.

Live Line:



Quasi-peak and Average measurement

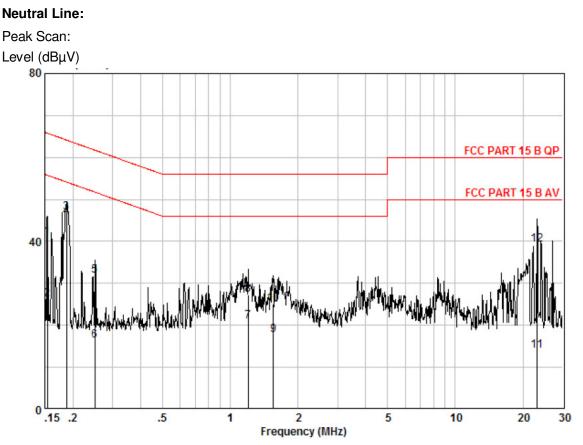
Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.156 0.156 0.185 0.564 0.564 1.203 1.203 1.535	4.18 31.26 3.74 37.20 17.68 10.57 11.03 16.76 8.48	0.07 0.07 0.11 0.11 0.05 0.05 0.02 0.02 0.02	9.62 9.61 9.61 9.63 9.63 9.63 9.63	13.87 40.95 13.47 46.93 27.34 20.23 20.68 26.41 18.13	65.69 54.24 64.24 56.00 46.00 56.00 46.00	-24.74 -40.77 -17.31 -28.66 -25.77 -25.32 -29.59 -27.87	AVERAGE QP AVERAGE AVERAGE QP AVERAGE
1.535 23.263 23.263	15.50 25.82 7.53	0.02 0.27 0.27		25.15 36.19 17.90	60.00	-30.85 -23.81 -32.10	



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Quasi-peak and Average measurement:

Freq	Read Level	Cable Loss	LISN Factor		Limit Line	Over Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	-
0.154	31.28	0.07	9.64			-24.80	
0.154	16.55		9.64				AVERAGE
0.187	37.16	0.11		46.90			
0.187	35.94	0.11					AVERAGE
0.251	22.08	0.10	9.62	31.80	61.73	-29.93	QP
0.251	6.57	0.10	9.62	16.29	51.73	-35.44	AVERAGE
1.203	11.18	0.02	9.65	20.85	46.00	-25.15	AVERAGE
1.203	17.52	0.02	9.65				
1.552	8.04	0.02	9.65	17.71	46.00	-28.29	AVERAGE
1.552	15.30	0.02		24.97			
23.140	3.41						AVERAGE
23.140	28.86	0.27		39.30		-20.70	

Level = Read Level + LISN Factor + Cable Loss.

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7.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	FCC Part15 B
Test Method:	ANSI C63.4
Test Voltage:	120V AC, 60Hz
Test Date:	2011-03-31 (initial test)
	2011-08-16 (retest)
Frequency Range:	30MHz to 1GHz
Measurement Distance:	10 m
Detector:	Peak for pre-scan
	Quasi-Peak if maximised peak within 6dB of limit (120 kHz resolution bandwidth)

Class / Limit:

Class B

Frequency range MHz	Quasi-peak limits dB (μV/m)				
30 to 88	40				
88 to 216	43.5				
216 to 960	46				
Above 960	54				
At transitional frequencies the lower limit applies.					

7.2.1 E.U.T. Operation

Operating Environment:

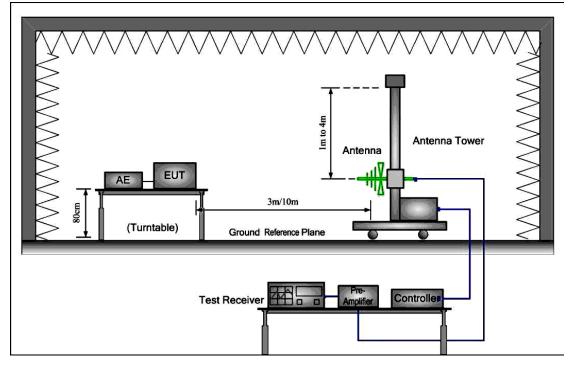
Temperature:24.0 °CHumidity:53 %RHAtmospheric Pressure:1005mbarEUT Operation:Pre-test the EUT in PC connection mode and receiving mode, find the worst case
was in PC connection mode.mode, find the worst case

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7.2.2 Test Setup and Procedure



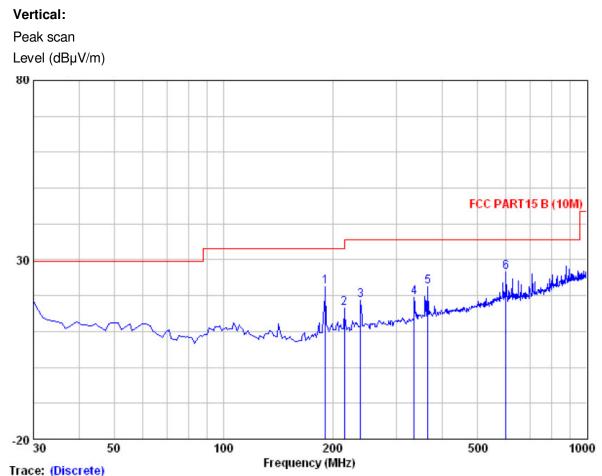
- 1. The radiated emissions test was conducted in a semi-anechoic chamber.
- 2. Biconical and log periodic antenna was used for the frequency range from 30MHz to 1GHz
- 3. The EUT was connected to nominal power supply through a mains power outlet which was bonded to the ground reference plane; The mains cables were draped to the ground reference plane. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
- 4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
- 5. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

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7.2.3 Measurement Data



Quasi-peak measurement

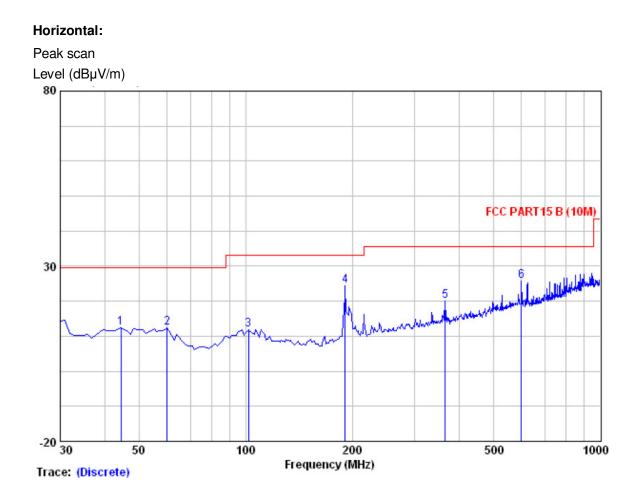
Freq		Intenna Factor				Limit Line	Over Limit	Remark
MHz	dBu∛		dB	dB	dBu∛/m	dBuV/m	dB	
191.020 215.270 238.550 335.550 365.620 599.390	40.64 33.70 34.90 33.12 35.71 34.53	11.98 14.28	1.20 1.30 1.30 1.60 1.70 2.40	29.53 29.52 29.54 29.60 29.60 29.40		33.10 35.60 35.60 35.60	-10.46 -16.69 -16.96 -16.20 -12.96 -9.01	QP QP QP QP

Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.

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Quasi-peak measurement

Freq	ReadA Level			Preamp Factor		Limit Line	Over Limit	Remark
MHz	dBu∛		₫₿	₫₿	dBu∛/m	dBuV/m	āB	
44.550 60.070 101.780 191.020 365.620 599.390	28.62 29.33 28.59 42.54 33.06 33.62	12.69 11.84 12.11 10.33 14.83 19.06	0.60 0.70 0.90 1.20 1.70 2.40	29.50 29.55 29.70 29.53 29.60 29.40	12.41 12.31 11.89 24.54 19.99 25.68	29.50 33.10 33.10 35.60	-17.09 -17.19 -21.21 -8.56 -15.61 -9.92	QP QP QP QP

Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.

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7.3 Radiated Emissions above 1 GHz

Test Date:	N/A: See Remark Below
Class / Limit:	Class B
Measurement Distance:	3 m
Frequency Range:	1GHz to 40GHz
Test Requirement:	FCC Part15 B

Remark:

There is no need for Radiated Emissions (above 1G) test to be performed on this product in accordance with FCC Part 15: 2010 because the highest internal source is less than 108 MHz. For further details, please refer to Subject B section 15.33 (b) (1)of FCC Part 15 which states:

The spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement Range (MHz)
Below 1.705	30
1.705 to 108	1000
108 to 500	2000
500 to 1000	5000
Above 1000	5th harmonic of the highest frequency or 40
	GHz, whichever is lower

--End of Report--

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