



SGS-CSTC Standards Technical Services Co., Ltd.

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Report No.: SZEMO11030092701

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FCC Test Report

Application No.: SZEMO110300927AV
Applicant/Manufacturer/Factory: SandMarTin (Zhong Shan) Electronic., Ltd.
Address of Applicant/Manufacturer/Factory: 3rd Industrial Area Tan Zhou, Zhong Shan, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Digital Video Broadcasting
Item No.: DCM4-HDR
Trade mark: TONER
FCC ID: YWRDCM4-HDR
Standards: FCC PART15 SUBPART B:2010
Date of Receipt: 2011-03-08
Date of Test: 2011-03-16 to 2011-07-25
Date of Issue: 2011-09-29

Test Result :	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Jack Zhang
EMC Laboratory 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. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing. 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 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 2GHz) §	FCC PART 15, SUBPART B: 2010	ANSI C63.4:2009	Class B	PASS
Conducted Emission (150kHz to 30MHz)	FCC PART 15, SUBPART B: 2010	ANSI C63.4:2009	Class B	PASS

Remark:

§

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



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4 General Information

4.1 Details of E.U.T.

Power Supply: AC 120V 60Hz 20W
Remote control battery: AAA*2
The highest frequency: 400MHz

4.2 Description of Support Units

None.

4.3 Standards Applicable for Testing

The customer requested FCC tests for Digital Video Broadcasting.
The standard used was FCC PART 15, SUBPART B, CLASS B.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



4.5 Test Facility

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

- **CNAS (No. CNAS L2929)**
CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.
- **VCCI**
The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.
Date of Registration: September 29, 2008. Valid until September 28, 2011.
- **FCC – Registration No.: 556682**
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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 556682, March 16, 2011
- **Industry Canada (IC)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

5 Equipments Used during Test

RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2012-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2012-03-11
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2012-05-29
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2011-11-09
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2012-05-26
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2011-11-09
8	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2011-11-09
9	Band filter	Amindeon	Asi 3314	SEL0094	2012-05-26
10	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	2011-11-09
11	EMI Test Receiver (9K-3GHz)	Rohde & Schwarz	ESCI	SEL0175	2012-05-26

Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2012-06-10
2	LISN	Rohde & Schwarz	ENV216	SEL0152	2011-10-26
3	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	EMC0120	2012-01-17
4	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	EMC0121	2012-01-17
5	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2012-01-17
6	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2012-05-26
7	Coaxial Cable	SGS	N/A	SEL0024	2012-05-29



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General used equipment					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0102 to SEL0103	2011-11-04
2	Humidity/ Temperature Indicator	Shanghai	ZJ1-2B	SEL0101	2012-03-10
3	Barometer	ChangChun	DYM3	SEL0088	2012-05-18



6 Test Results

6.1 Conducted Emissions Mains Terminals, 150kHz to 30MHz

Test Requirement: FCC Part15 B
Test Method: ANSI C63.4
Frequency Range: 150kHz to 30MHz
Class / Severity: Class B
Detector: Peak for pre-scan (9kHz Resolution Bandwidth)
Quasi-Peak if maximised peak within 6dB of Quasi-Peak limit

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.0 °C Humidity: 50% RH Atmospheric Pressure: 1004 mbar

EUT Operation: Test the EUT in Communicate with PC mode, (pre-test was performed at DVB mode, Communicate with PC mode, Record mode and LAN mode, completed the test was conducted at Communicate with PC mode since it was the worst case,) connect EUT and PC, Keep EUT update software via RS232.

6.1.2 Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



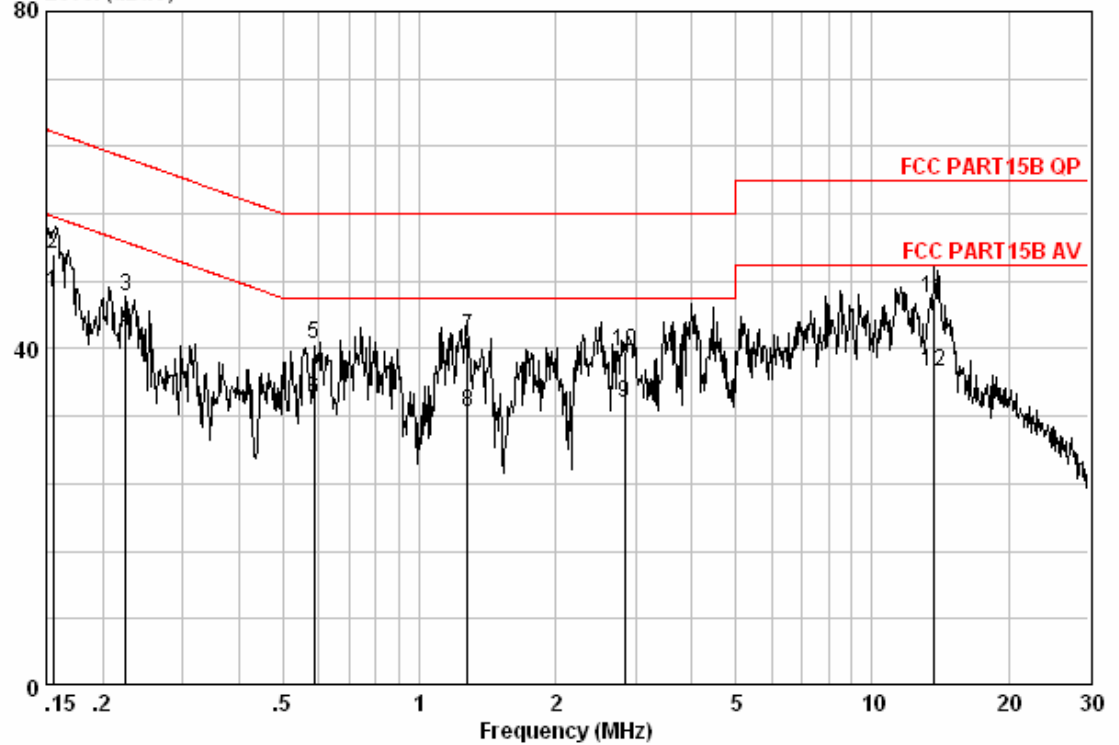
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Live line

Data: 16
Level (dBuV)



Site : Shielding Room
Condition : FCC PART15B QP CE-20101216 LINE
Job No. : 0927AV
Mode : Communicate with PC

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15567	0.04	9.60	37.12	46.76	55.69	-8.94	Average
2	0.15567	0.04	9.60	41.65	51.29	65.69	-14.40	QP
3	0.22437	0.04	9.60	36.51	46.15	62.66	-16.50	QP
4	0.22437	0.04	9.60	32.51	42.15	52.66	-10.50	Average
5	0.58540	0.06	9.65	30.83	40.54	56.00	-15.46	QP
6	0.58540	0.06	9.65	24.20	33.91	46.00	-12.09	Average
7	1.276	0.09	9.70	31.62	41.41	56.00	-14.59	QP
8	1.276	0.09	9.70	22.62	32.41	46.00	-13.59	Average
9	2.839	0.14	9.74	23.61	33.48	46.00	-12.52	Average
10	2.839	0.14	9.74	29.76	39.64	56.00	-16.36	QP
11	13.695	0.24	9.95	35.76	45.96	60.00	-14.04	QP
12	13.695	0.24	9.95	27.10	37.29	50.00	-12.71	Average



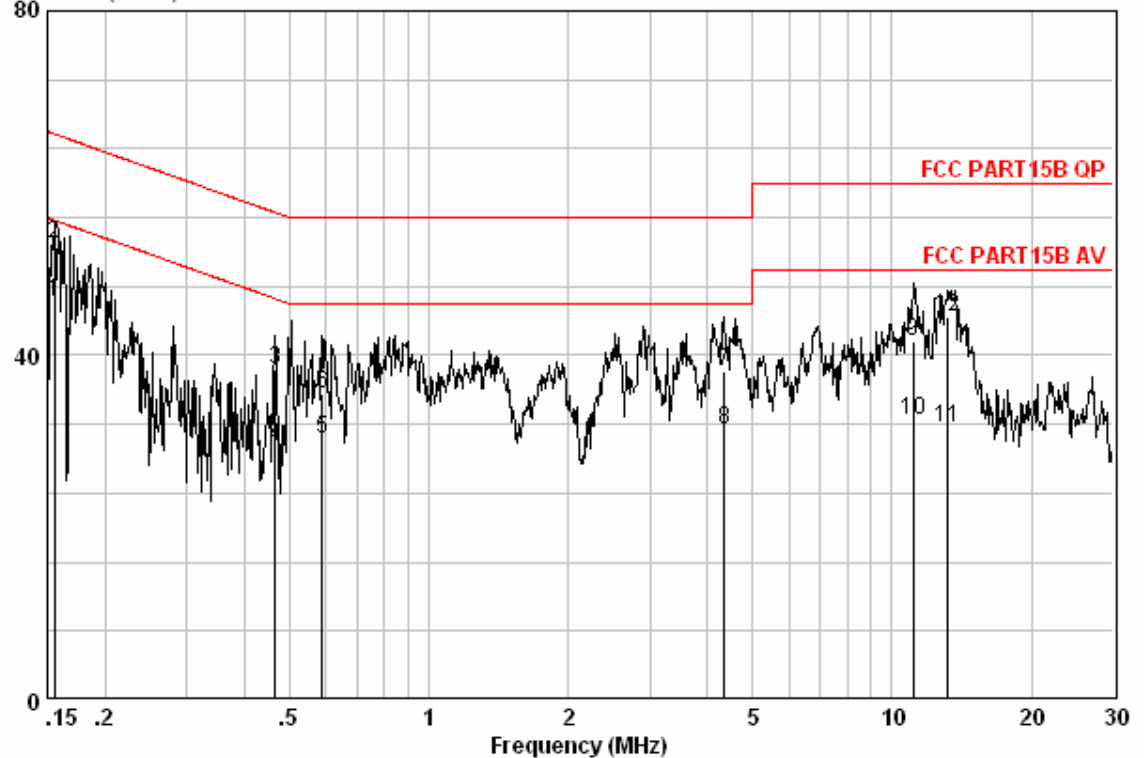
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Neutral line

Data: 15
Level (dBuV)



Site : Shielding Room
Condition : FCC PART15B QP CE-20101216 NEUTRAL
Job No. : 0927AV
Mode : Communicate with PC

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15567	0.04	9.60	36.63	46.27	55.69	-9.42	Average
2	0.15567	0.04	9.60	43.32	52.96	65.69	-12.73	QP
3	0.46614	0.06	9.60	28.73	38.38	56.58	-18.20	QP
4	0.46614	0.06	9.60	19.73	29.38	46.58	-17.20	Average
5	0.58851	0.06	9.65	20.68	30.39	46.00	-15.61	Average
6	0.58851	0.06	9.65	25.76	35.46	56.00	-20.54	QP
7	4.338	0.16	9.78	28.30	38.25	56.00	-17.75	QP
8	4.338	0.16	9.78	21.44	31.39	46.00	-14.61	Average
9	11.139	0.23	9.85	31.63	41.71	60.00	-18.29	QP
10	11.139	0.23	9.85	22.35	32.43	50.00	-17.57	Average
11	13.197	0.24	9.94	21.38	31.56	50.00	-18.44	Average
12	13.197	0.24	9.94	34.24	44.42	60.00	-15.58	QP



6.2 Radiated Emissions, 30MHz to 2GHz

Test Requirement:	FCC Part15 B
Test Method:	ANSI C63.4
Frequency Range:	30MHz to 2GHz
Measurement Distance:	3m
Class:	Class B
Limit:	40.0 dB μ V/m between 30MHz & 88MHz 43.5 dB μ V/m between 88MHz & 216MHz 46.0 dB μ V/m between 216MHz & 960MHz 54.0 dB μ V/m above 960MHz 74 dB μ V/m above 1000MHz for peak 54 dB μ V/m above 1000MHz for average
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30MHz-1GHz Peak for pre-scan (1MHz resolution bandwidth) 1GHz-2GHz RBW=VBW=1 MHz Quasi-Peak if maximised peak within 6dB of limit

6.2.1 E.U.T. Operation

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	1004 mbar
EUT Operation:	Test in DVB mode, Keep EUT working with standard testing signal, pretest performed at low,middle and high channels, completed test was conducted at middle channels, since no worst case was found. Test in LAN mode, Connect EUT and internet via lan port, keep EUT updating weather forecast. Test in communicate with PC mode, Connect EUT and PC,Keep EUT update software via RS232. Test in Record mode, Keep EUT recording video to harddisk.

6.2.2 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.



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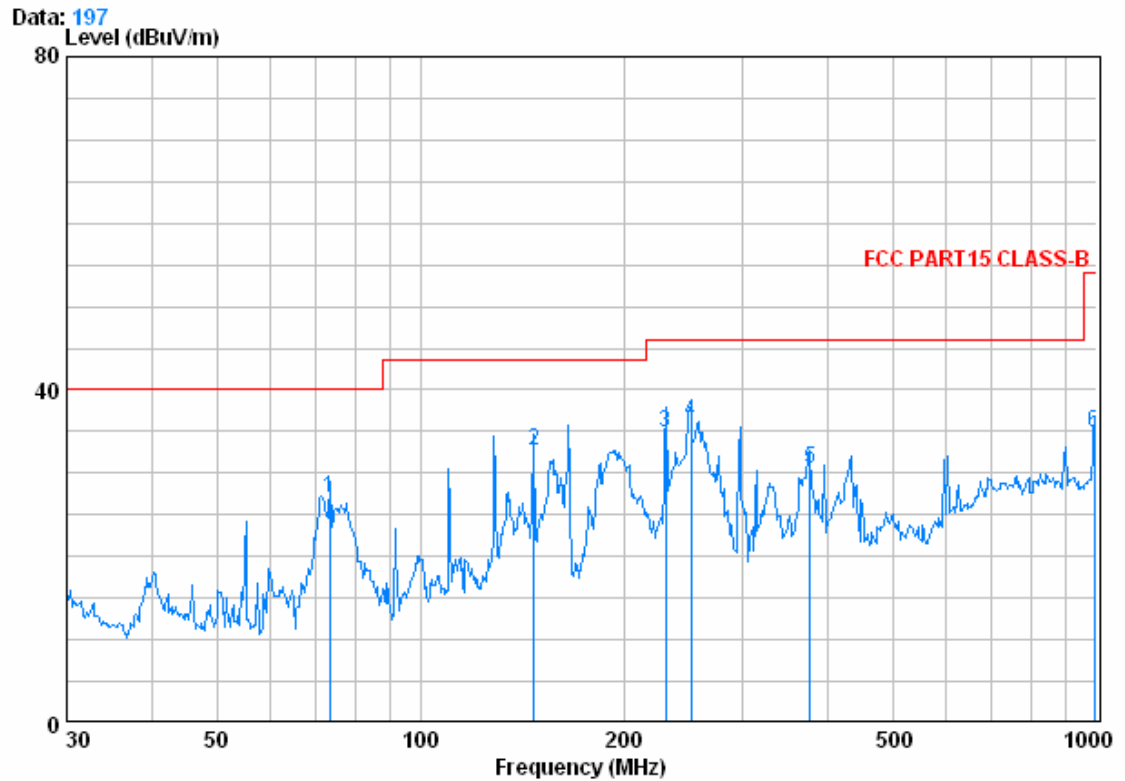
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30MHz to 1GHz

DVB mode

Horizontal



Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL

Job No. : 0927AV

Mode : DVB

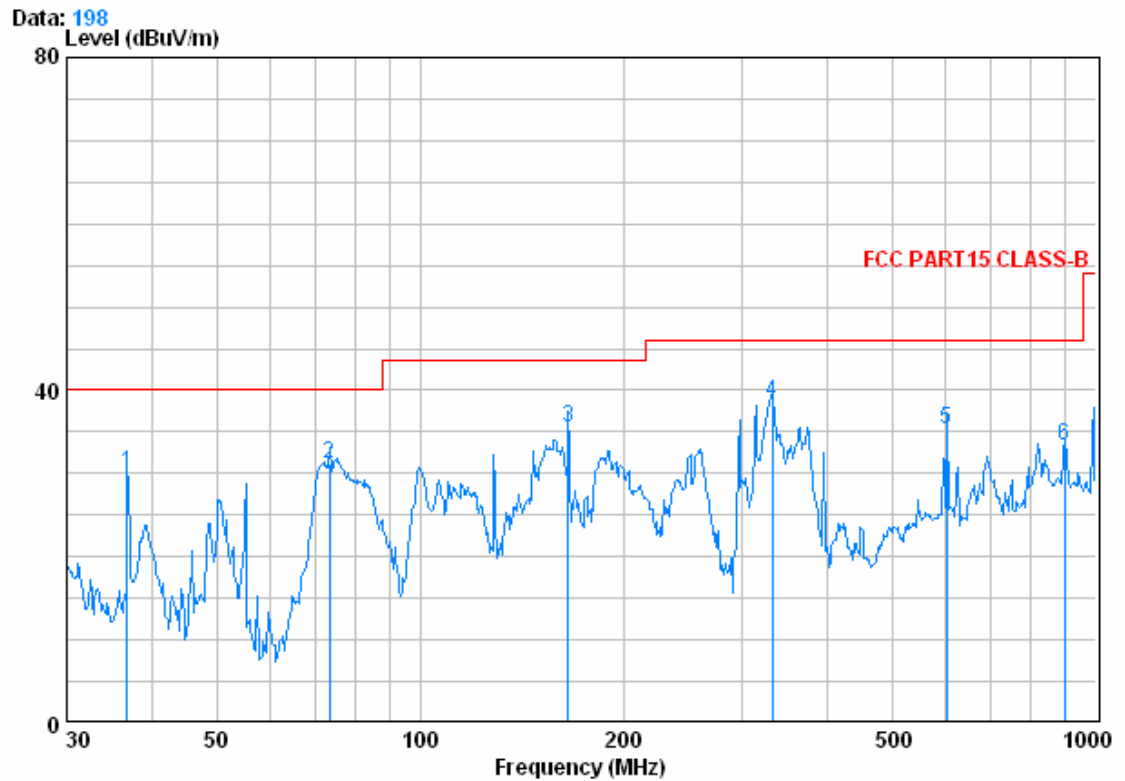
		CableAntenna		Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	73.359	0.90	7.19	27.24	46.14	26.99	40.00	-13.01
2	147.404	1.31	8.76	26.92	49.51	32.66	43.50	-10.84
3	230.907	1.58	11.70	26.59	48.29	34.98	46.00	-11.02
4	251.180	1.68	12.32	26.53	48.69	36.16	46.00	-9.84
5	377.259	2.14	16.03	26.99	39.36	30.54	46.00	-15.46
6	993.011	3.69	24.21	26.33	33.28	34.85	54.00	-19.15



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Vertical



Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL
Job No. : 0927AV
Mode : DVB

	Freq	Cable	Antenna	Preamp	Read		Limit	Over
		Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	36.895	0.60	12.25	27.33	44.54	30.06	40.00	-9.94
2	73.359	0.90	7.19	27.24	50.38	31.23	40.00	-8.77
3	165.487	1.35	9.55	26.83	51.45	35.51	43.50	-7.99
4	332.519	2.01	15.01	26.66	48.31	38.66	46.00	-7.34
5	601.427	2.70	19.80	27.54	40.26	35.22	46.00	-10.78
6	900.147	3.60	23.20	26.78	33.29	33.31	46.00	-12.69



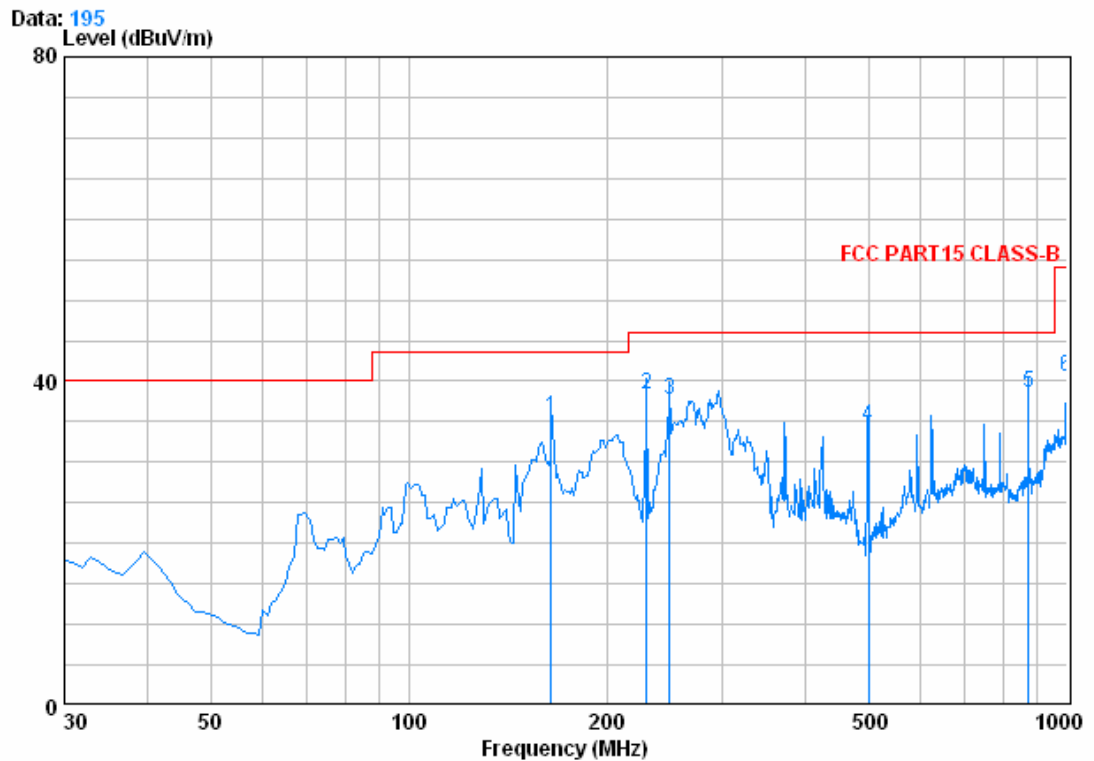
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LAN mode

Horizontal



Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL
Job No. : 0927AV
Mode : LAN

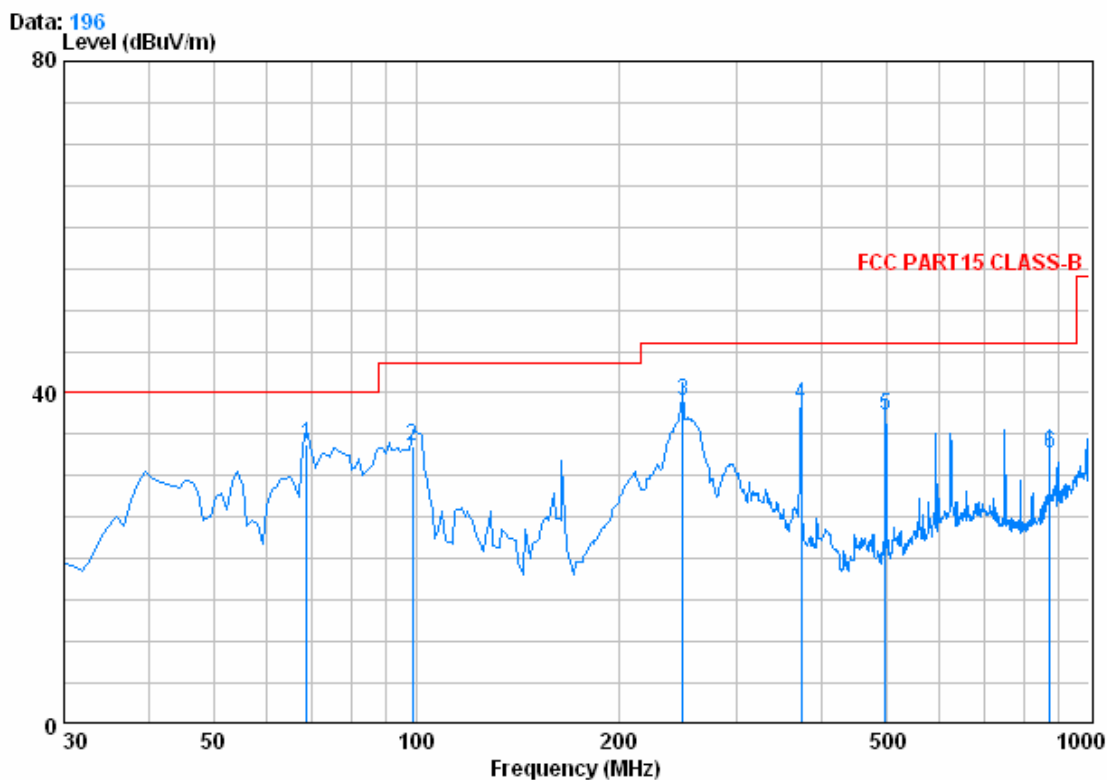
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	164.830	1.34	9.55	26.84	51.54	35.60	43.50	-7.90
2	229.820	1.57	11.64	26.59	51.75	38.37	46.00	-7.63
3	249.220	1.67	12.27	26.54	50.41	37.81	46.00	-8.19
4	499.480	2.60	17.80	27.70	41.76	34.46	46.00	-11.54
5	873.900	3.51	22.93	26.92	39.13	38.64	46.00	-7.36
6	999.030	3.70	24.30	26.30	38.80	40.50	54.00	-13.50



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Vertical



Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL
Job No. : 0927AV
Mode : LAN

	Freq	CableAntenna Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	68.800	0.80	6.94	27.25	53.25	33.73	40.00	-6.27
2	98.870	1.19	9.06	27.20	50.47	33.52	43.50	-9.98
3	249.220	1.67	12.27	26.54	51.69	39.10	46.00	-6.90
4	373.380	2.13	15.97	26.95	47.45	38.60	46.00	-7.40
5	498.510	2.59	17.80	27.70	44.57	37.26	46.00	-8.74
6	873.900	3.51	22.93	26.92	33.08	32.59	46.00	-13.41



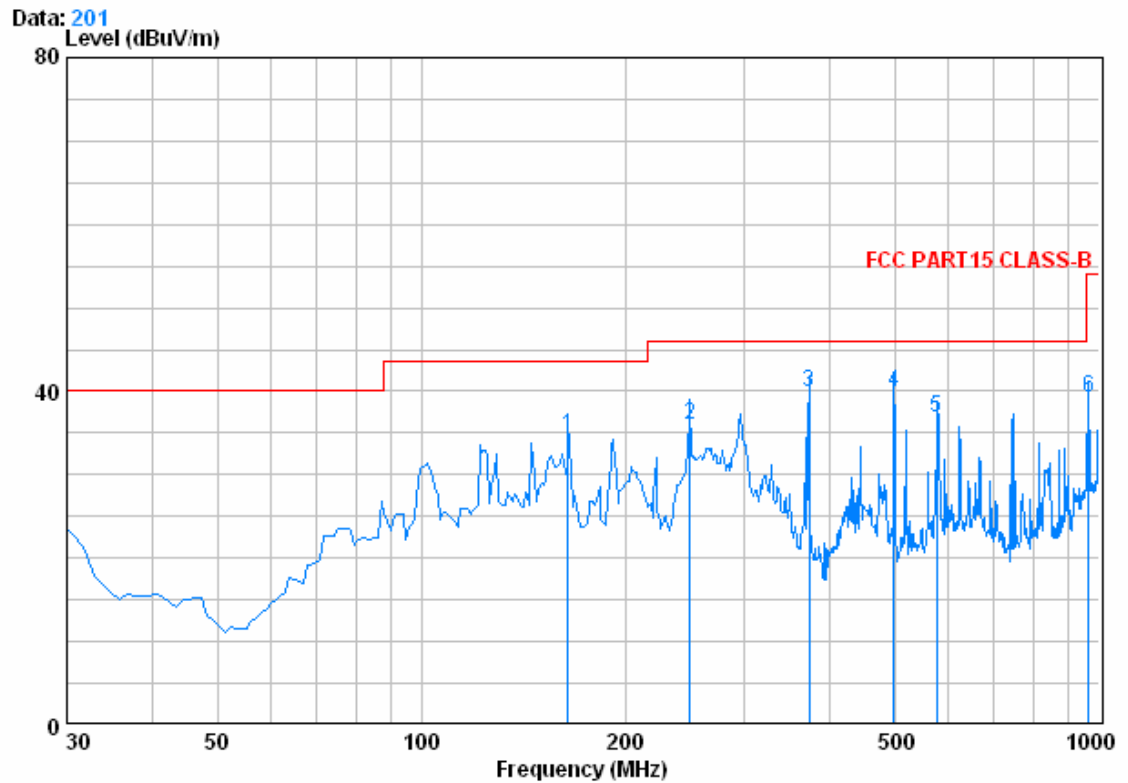
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Communicate with PCmode

Horizontal



Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL

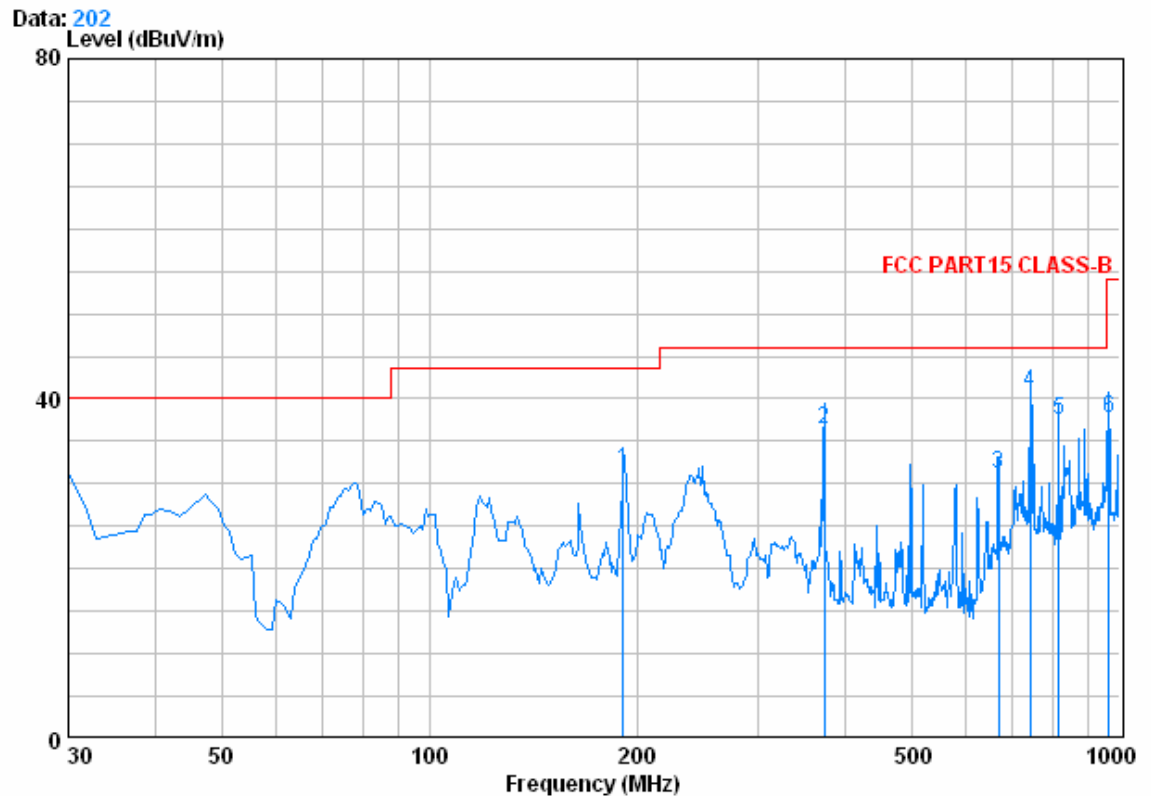
Job No. : 0927AV

Mode : Communicate with PC

		Cable\Antenna Preamp			Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	164.830	1.34	9.55	26.84	50.59	34.65	43.50	-8.85
2	249.220	1.67	12.27	26.54	48.61	36.01	46.00	-9.99
3	373.380	2.13	15.97	26.95	48.69	39.83	46.00	-6.17
4	498.510	2.59	17.80	27.70	47.18	39.87	46.00	-6.13
5	576.110	2.68	19.16	27.57	42.60	36.87	46.00	-9.13
6	964.110	3.67	23.70	26.47	38.36	39.25	54.00	-14.75



Vertical



Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL

Job No. : 0927AV

Mode : Communicate with PC

		Cable	Antenna	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	191.020	1.39	10.11	26.73	46.92	31.68	43.50	-11.82
2	373.380	2.13	15.97	26.95	45.29	36.44	46.00	-9.56
3	668.260	2.84	21.24	27.45	34.57	31.20	46.00	-14.80
4 @	741.980	3.03	21.67	27.36	43.34	40.68	46.00	-5.32
5	815.700	3.27	22.29	27.20	39.10	37.46	46.00	-8.54
6	964.110	3.67	23.70	26.47	36.82	37.71	54.00	-16.29



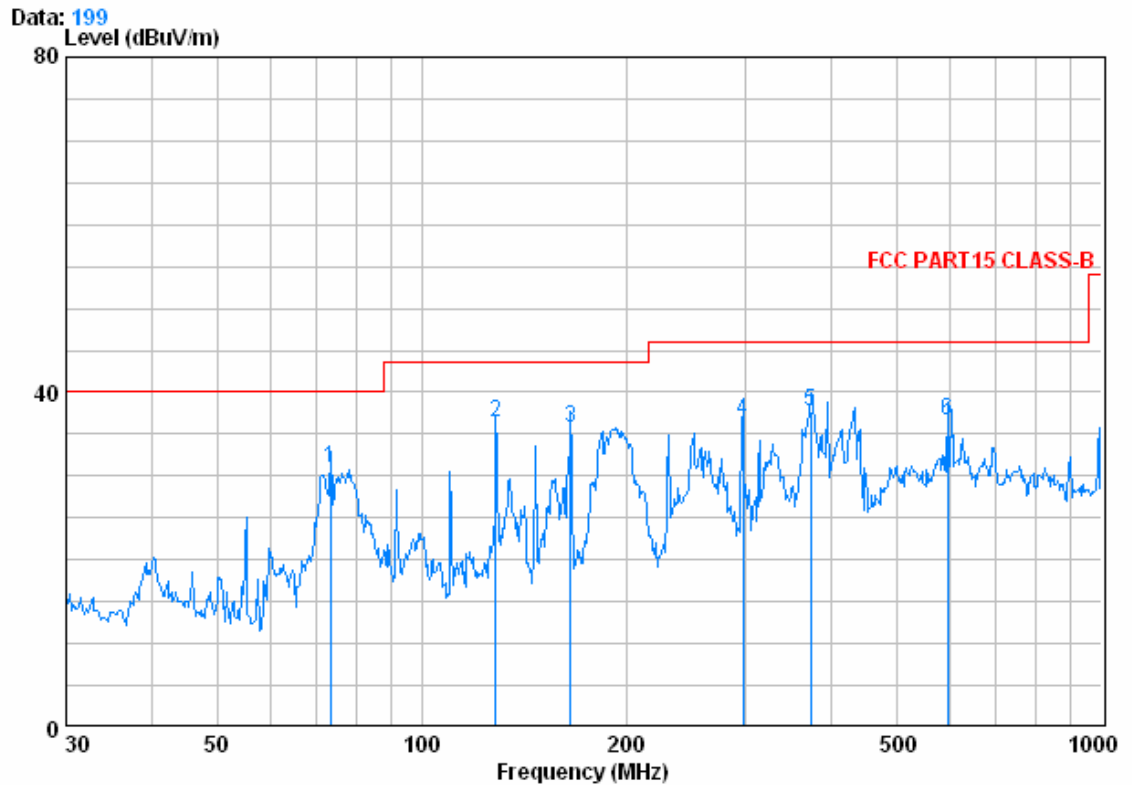
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Record mode

Horizontal



Condition : FCC PART15 CLASS-B 3m 0042673 HORIZONTAL

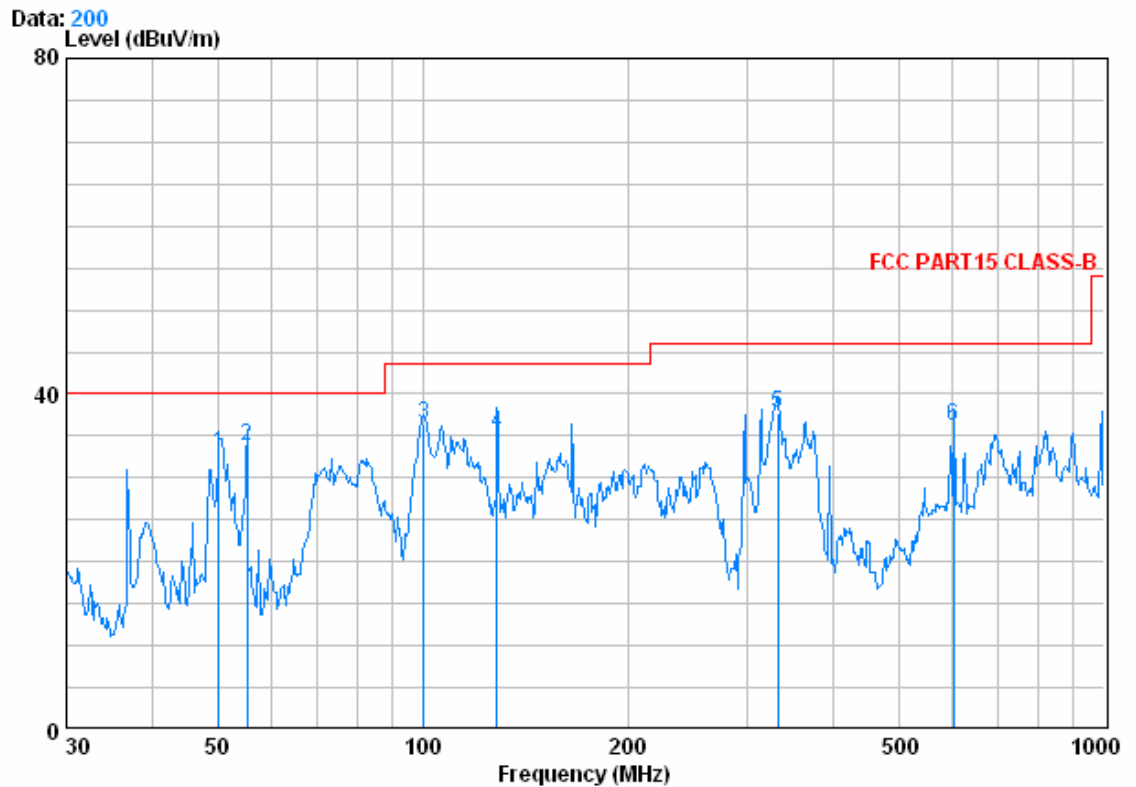
Job No. : 0927AV

Mode : Record

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	73.359	0.90	7.19	27.24	50.14	30.99	40.00	-9.01
2	128.563	1.27	7.73	27.02	54.38	36.36	43.50	-7.14
3	165.487	1.35	9.55	26.83	51.59	35.65	43.50	-7.85
4	297.224	1.89	13.76	26.41	47.37	36.61	46.00	-9.39
5	373.311	2.13	15.97	26.95	46.66	37.81	46.00	-8.20
6	593.050	2.69	19.57	27.55	41.99	36.69	46.00	-9.31



Vertical



Condition : FCC PART15 CLASS-B 3m 0042673 VERTICAL
Job No. : 0927AV
Mode : Record

		Cable&Antenna		Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	50.232	0.80	7.98	27.29	51.34	32.83	40.00	-7.17
2	55.221	0.80	7.56	27.28	52.66	33.74	40.00	-6.26
3	100.229	1.20	9.10	27.20	53.36	36.46	43.50	-7.04
4	128.563	1.27	7.73	27.02	53.36	35.34	43.50	-8.16
5	332.519	2.01	15.01	26.66	47.31	37.66	46.00	-8.34
6	601.427	2.70	19.80	27.54	41.26	36.22	46.00	-9.78

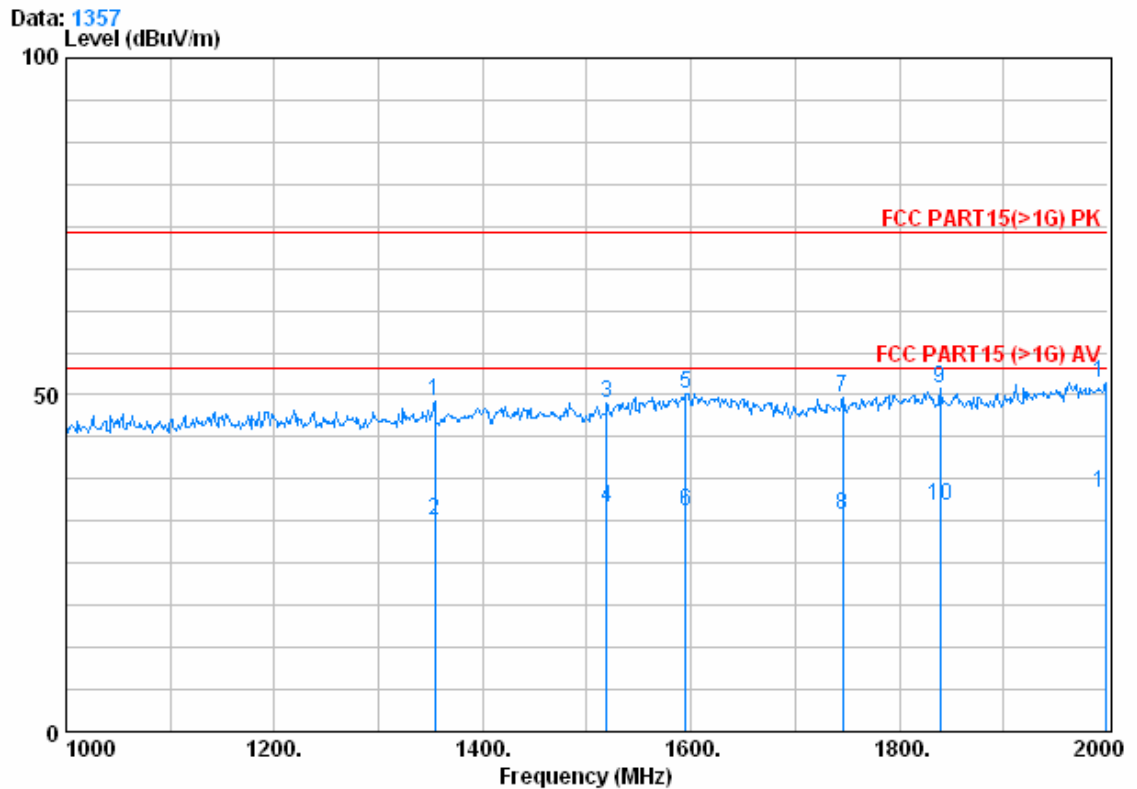


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Above 1G
DVB mode
Horizontal



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL

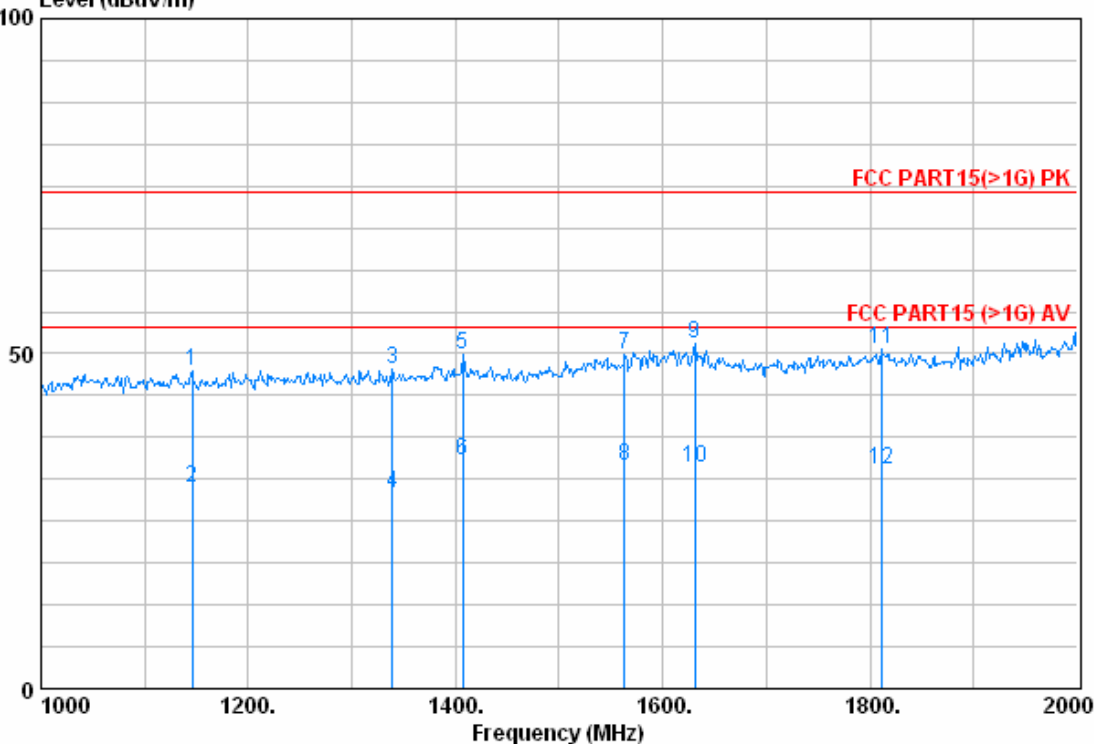
Job No. : 0927AV

Test mode : DVB

	Freq	Cable	Antenna	Preamp	Read	Limit	Over	
		Loss	Factor	Factor	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1354.000	1.68	26.64	39.10	59.91	49.14	74.00	-24.86 Peak
2	1354.000	1.68	26.64	39.10	42.17	31.39	54.00	-22.61 Average
3	1519.000	1.93	27.19	39.58	59.27	48.81	74.00	-25.19 Peak
4	1519.000	1.93	27.19	39.58	43.79	33.33	54.00	-20.67 Average
5	1595.000	2.04	27.43	38.85	59.59	50.20	74.00	-23.80 Peak
6	1595.000	2.04	27.43	38.85	42.18	32.79	54.00	-21.21 Average
7	1746.000	2.23	27.85	39.37	58.88	49.60	74.00	-24.40 Peak
8	1746.000	2.23	27.85	39.37	41.45	32.17	54.00	-21.83 Average
9	1839.000	2.35	28.10	39.18	59.68	50.95	74.00	-23.05 Peak
10	1839.000	2.35	28.10	39.18	42.17	33.44	54.00	-20.56 Average
11	1998.000	2.52	28.49	38.74	59.44	51.71	74.00	-22.29 Peak
12	1998.000	2.52	28.49	38.74	43.24	35.51	54.00	-18.49 Average



Vertical

Data: 1356
Level (dBuV/m)

Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL
Job No. : 0927AV
Test mode : DVB

		CableAntenna Preamp			Read		Limit	Over	Remark
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1146.000	1.32	25.85	39.16	59.35	47.35	74.00	-26.65	Peak
2	1146.000	1.32	25.85	39.16	41.97	29.97	54.00	-24.03	Average
3	1339.000	1.66	26.59	39.26	58.80	47.79	74.00	-26.21	Peak
4	1339.000	1.66	26.59	39.26	40.23	29.22	54.00	-24.78	Average
5	1407.000	1.76	26.82	38.77	60.01	49.82	74.00	-24.18	Peak
6	1407.000	1.76	26.82	38.77	44.21	34.02	54.00	-19.98	Average
7	1563.000	2.00	27.33	39.15	59.59	49.76	74.00	-24.24	Peak
8	1563.000	2.00	27.33	39.15	43.16	33.33	54.00	-20.67	Average
9	1631.000	2.08	27.52	39.15	60.96	51.42	74.00	-22.58	Peak
10	1631.000	2.08	27.52	39.15	42.44	32.90	54.00	-21.10	Average
11	1811.000	2.31	28.02	38.79	59.02	50.56	74.00	-23.44	Peak
12	1811.000	2.31	28.02	38.79	41.28	32.82	54.00	-21.18	Average



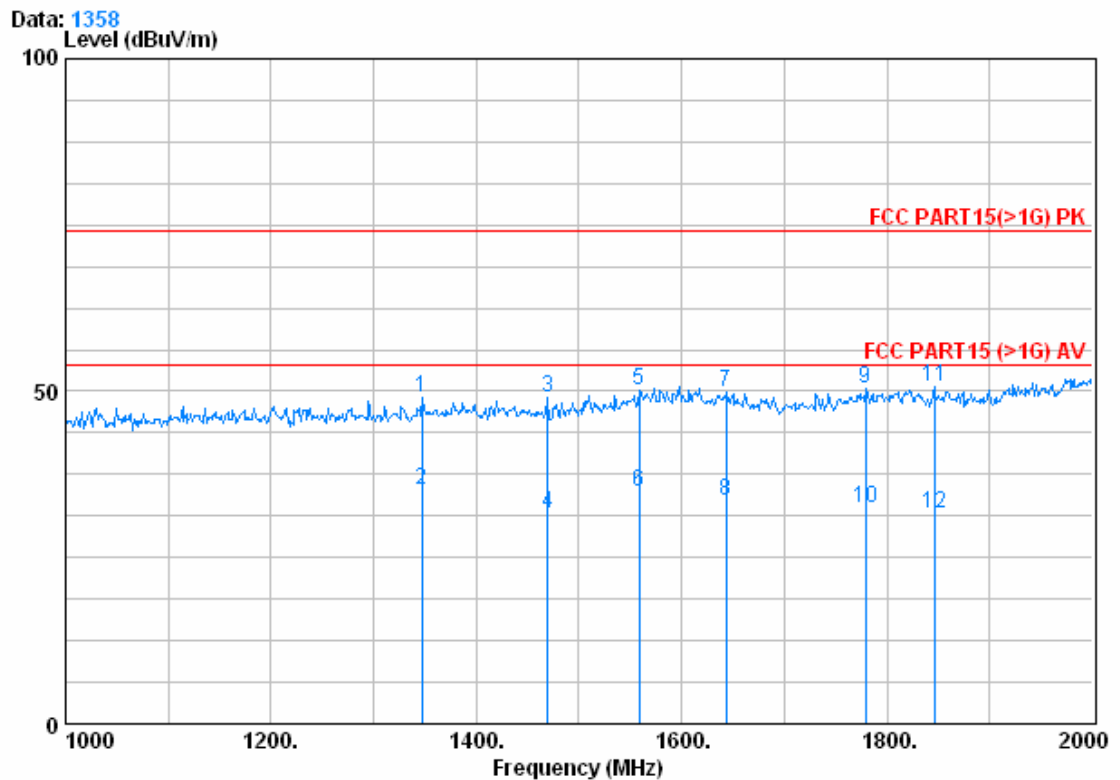
SGS-CSTC Standards Technical Services Co., Ltd.

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LAN mode

Horizontal



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL

Job No. : 0927AV

Test mode : LAN

	Freq	Cable Loss	Antenna Factor	Preamplifier	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1347.000	1.67	26.62	39.18	60.06	49.17	74.00	-24.83	Peak
2	1347.000	1.67	26.62	39.18	45.97	35.08	54.00	-18.92	Average
3	1470.000	1.86	27.03	39.47	59.63	49.04	74.00	-24.96	Peak
4	1470.000	1.86	27.03	39.47	42.13	31.54	54.00	-22.46	Average
5	1559.000	1.99	27.32	39.20	60.13	50.24	74.00	-23.76	Peak
6	1559.000	1.99	27.32	39.20	44.85	34.96	54.00	-19.04	Average
7	1643.000	2.10	27.57	39.32	59.54	49.89	74.00	-24.11	Peak
8	1643.000	2.10	27.57	39.32	43.27	33.62	54.00	-20.38	Average
9	1779.000	2.27	27.94	38.94	59.14	50.40	74.00	-23.60	Peak
10	1779.000	2.27	27.94	38.94	41.22	32.49	54.00	-21.51	Average
11	1846.000	2.35	28.12	39.25	59.36	50.58	74.00	-23.42	Peak
12	1846.000	2.35	28.12	39.25	40.39	31.61	54.00	-22.39	Average



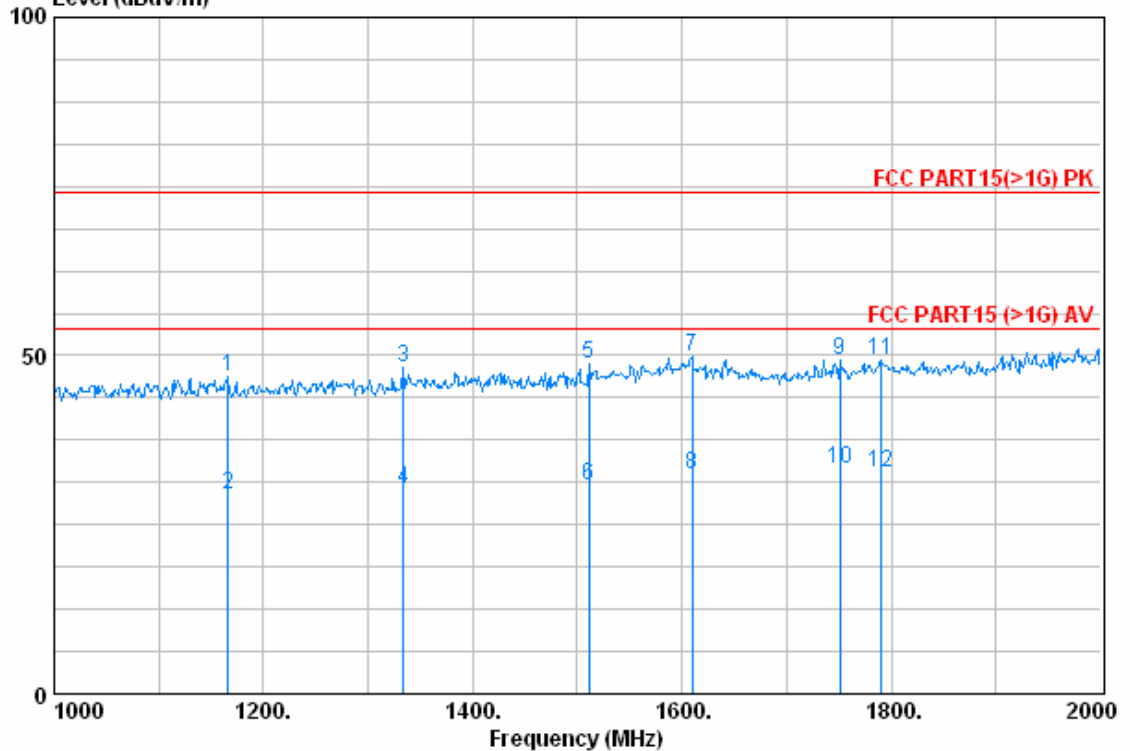
SGS-CSTC Standards Technical Services Co., Ltd.

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Vertical

Data: 1359
Level (dBuV/m)



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL

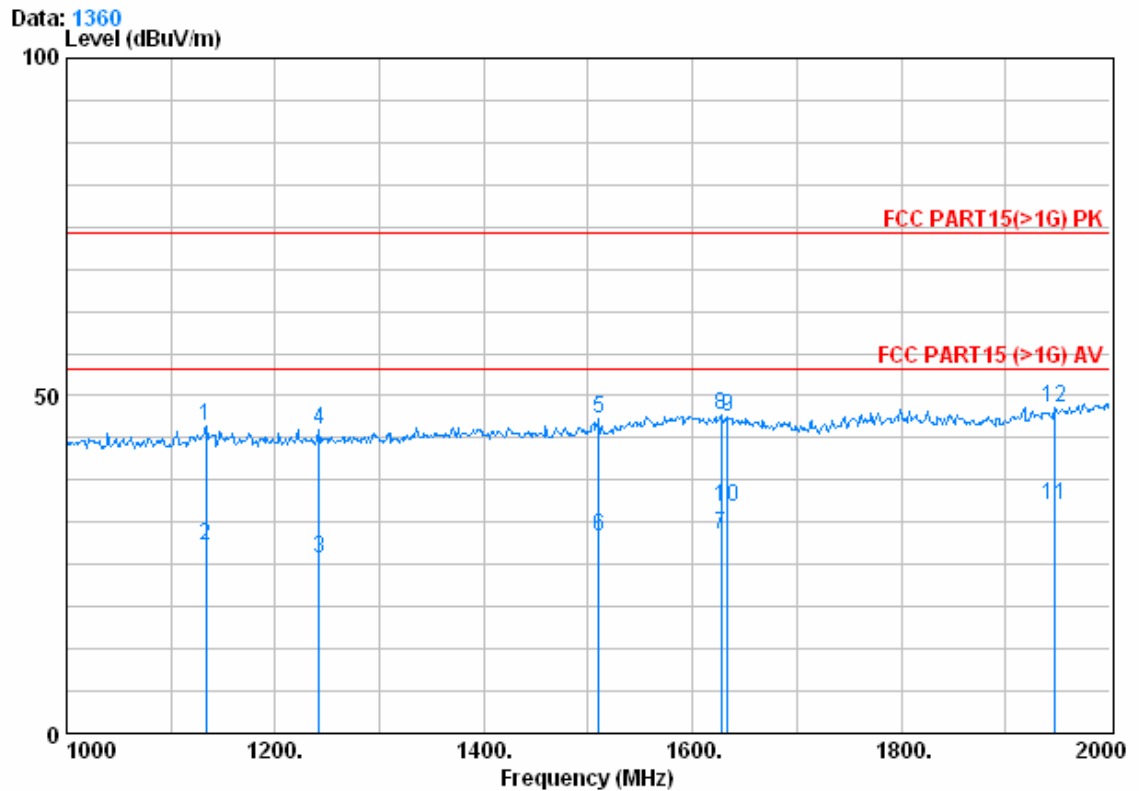
Job No. : 0927AV

Test mode : LAN

	Freq	Cable	Antenna	Preamp	Read	Limit	Over	
	MHz	Loss	Factor	Factor	Level	Level	Limit	Remark
		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	1166.000	1.35	25.93	39.05	58.74	46.97	74.00	-27.03 Peak
2	1166.000	1.35	25.93	39.05	41.22	29.45	54.00	-24.55 Average
3	1334.000	1.65	26.58	39.29	59.32	48.24	74.00	-25.76 Peak
4	1334.000	1.65	26.58	39.29	41.36	30.29	54.00	-23.71 Average
5	1511.000	1.92	27.17	39.67	59.32	48.74	74.00	-25.26 Peak
6	1511.000	1.92	27.17	39.67	41.29	30.71	54.00	-23.29 Average
7	1610.000	2.06	27.47	38.92	59.23	49.83	74.00	-24.17 Peak
8	1610.000	2.06	27.47	38.92	41.75	32.35	54.00	-21.65 Average
9	1751.000	2.24	27.87	39.29	58.61	49.42	74.00	-24.58 Peak
10	1751.000	2.24	27.87	39.29	42.44	33.25	54.00	-20.75 Average
11	1790.000	2.28	27.96	38.80	57.80	49.25	74.00	-24.75 Peak
12	1790.000	2.28	27.96	38.80	41.25	32.70	54.00	-21.30 Average



Communicate with PC mode
Horizontal



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL
Job No. : 0927AV
Test mode : Communicate with PC

	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1134.000	1.30	25.81	39.21	57.55	45.45	74.00	-28.55	Peak
2	1134.000	1.30	25.81	39.21	39.89	27.78	54.00	-26.22	Average
3	1242.000	1.49	26.23	39.21	37.24	25.76	54.00	-28.24	Average
4	1242.000	1.49	26.23	39.21	56.45	44.97	74.00	-29.03	Peak
5	1510.000	1.92	27.17	39.67	57.12	46.54	74.00	-27.46	Peak
6	1510.000	1.92	27.17	39.67	39.65	29.07	54.00	-24.93	Average
7	1627.000	2.08	27.51	39.09	38.97	29.46	54.00	-24.54	Average
8	1627.000	2.08	27.51	39.09	56.59	47.08	74.00	-26.92	Peak
9	1634.000	2.09	27.54	39.21	56.51	46.93	74.00	-27.07	Peak
10	1634.000	2.09	27.54	39.21	43.22	33.64	54.00	-20.36	Average
11	1947.000	2.47	28.38	39.29	42.16	33.72	54.00	-20.28	Average
12	1947.000	2.47	28.38	39.29	56.77	48.33	74.00	-25.67	Peak



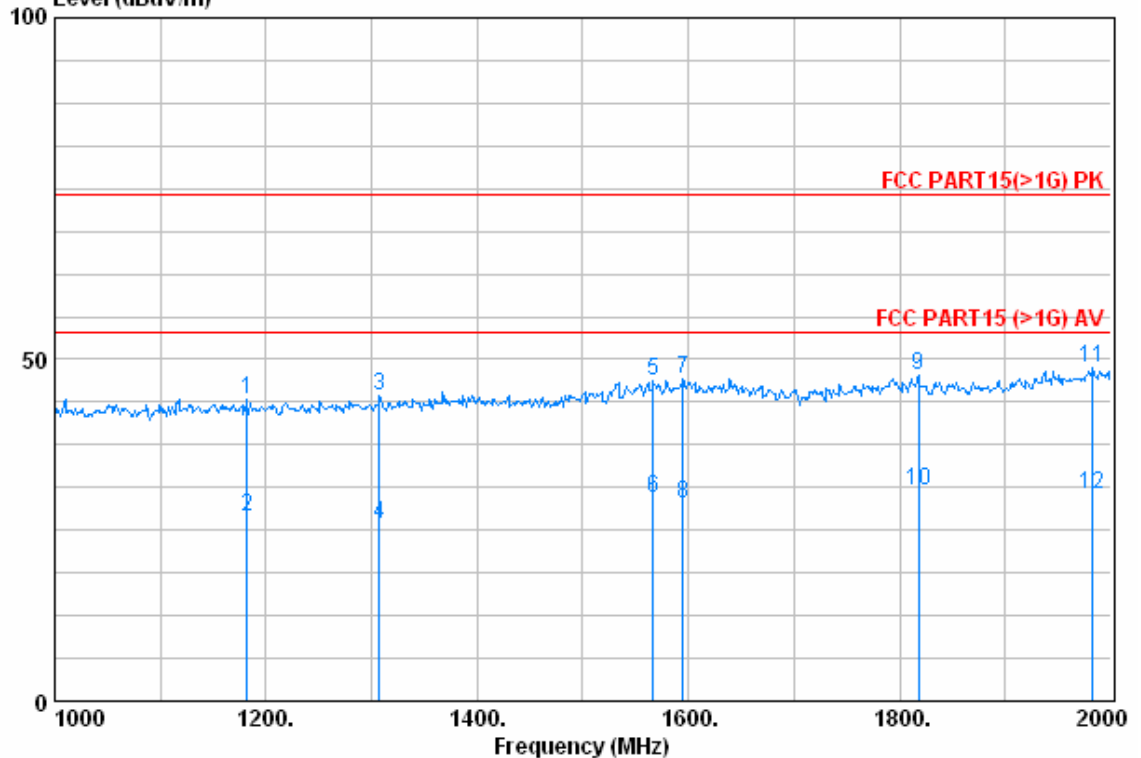
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Vertical

Data: 1361
Level (dBuV/m)



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL

Job No. : 0927AV

Test mode : Communicate with PC

	Freq	Cable Loss	Antenna Factor	Preamplifier Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1182.000	1.38	26.00	38.97	55.66	44.07	74.00	-29.93	Peak
2	1182.000	1.38	26.00	38.97	38.64	27.06	54.00	-26.94	Average
3	1307.000	1.61	26.48	39.56	56.20	44.72	74.00	-29.28	Peak
4	1307.000	1.61	26.48	39.56	37.25	25.77	54.00	-28.23	Average
5	1567.000	2.00	27.33	39.15	56.65	46.82	74.00	-27.18	Peak
6	1567.000	2.00	27.33	39.15	39.61	29.78	54.00	-24.22	Average
7	1595.000	2.04	27.43	38.85	56.62	47.23	74.00	-26.77	Peak
8	1595.000	2.04	27.43	38.85	38.25	28.86	54.00	-25.14	Average
9	1818.000	2.32	28.05	38.92	56.12	47.57	74.00	-26.43	Peak
10	1818.000	2.32	28.05	38.92	39.27	30.72	54.00	-23.28	Average
11	1983.000	2.51	28.46	38.88	56.59	48.68	74.00	-25.32	Peak
12	1983.000	2.51	28.46	38.88	38.23	30.32	54.00	-23.68	Average

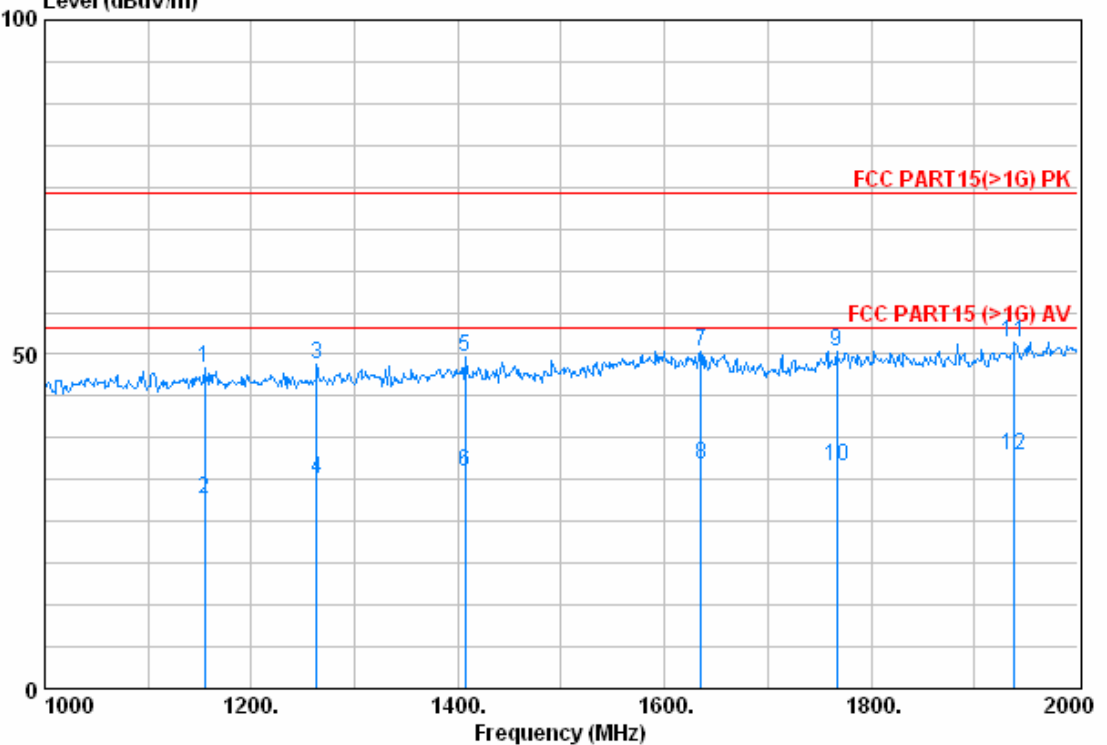


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Record mode
Horizontal

Data: 1363
Level (dBuV/m)



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL
Job No. : 0927AV
Test mode : Record

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1155.000	1.33	25.89	39.11	59.80	47.91	74.00	-26.09	Peak
2	1155.000	1.33	25.89	39.11	40.13	28.25	54.00	-25.75	Average
3	1263.000	1.53	26.31	39.37	60.01	48.48	74.00	-25.52	Peak
4	1263.000	1.53	26.31	39.37	42.79	31.26	54.00	-22.74	Average
5	1407.000	1.76	26.82	38.77	59.77	49.58	74.00	-24.42	Peak
6	1407.000	1.76	26.82	38.77	42.66	32.47	54.00	-21.53	Average
7	1635.000	2.09	27.54	39.21	59.96	50.38	74.00	-23.62	Peak
8	1635.000	2.09	27.54	39.21	43.21	33.63	54.00	-20.37	Average
9	1767.000	2.26	27.91	39.08	59.33	50.41	74.00	-23.59	Peak
10	1767.000	2.26	27.91	39.08	42.28	33.37	54.00	-20.63	Average
11	1939.000	2.46	28.35	39.42	60.36	51.74	74.00	-22.26	Peak
12 @	1939.000	2.46	28.35	39.42	43.61	35.00	54.00	-19.00	Average



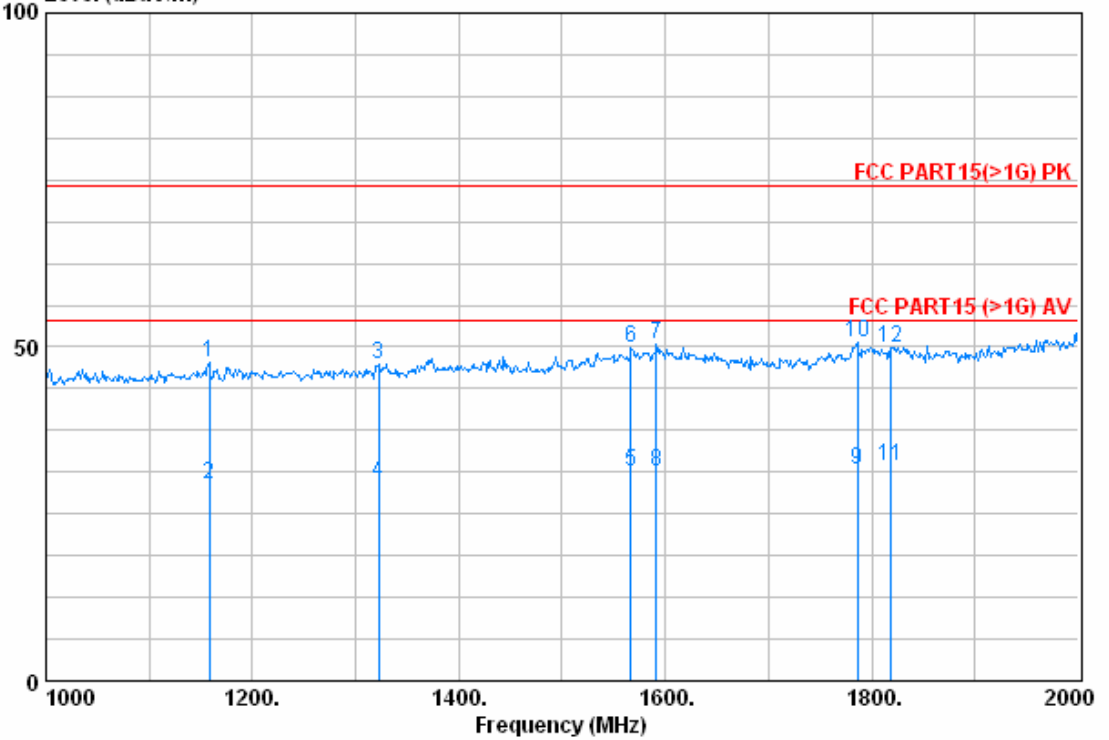
SGS-CSTC Standards Technical Services Co., Ltd.

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Vertical

Data: 1362
Level (dBuV/m)



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL
Job No. : 0927AV
Test mode : Record

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1158.000	1.34	25.90	39.09	59.60	47.75	74.00	-26.25	Peak
2	1158.000	1.34	25.90	39.09	41.32	29.47	54.00	-24.53	Average
3	1322.000	1.63	26.53	39.41	58.67	47.43	74.00	-26.57	Peak
4	1322.000	1.63	26.53	39.41	40.97	29.72	54.00	-24.28	Average
5	1567.000	2.00	27.33	39.15	41.28	31.45	54.00	-22.55	Average
6	1567.000	2.00	27.33	39.15	59.64	49.82	74.00	-24.18	Peak
7	1591.000	2.03	27.41	38.90	59.74	50.29	74.00	-23.71	Peak
8	1591.000	2.03	27.41	38.90	40.75	31.30	54.00	-22.70	Average
9	1786.000	2.28	27.96	38.80	40.25	31.70	54.00	-22.30	Average
10	1786.000	2.28	27.96	38.80	59.25	50.70	74.00	-23.30	Peak
11	1819.000	2.32	28.05	38.92	40.76	32.21	54.00	-21.79	Average
12	1819.000	2.32	28.05	38.92	58.53	49.98	74.00	-24.02	Peak