FCC PART 15B TEST REPORT
On Behalf of
PaloSanto Solutions

Elastix miniUCS
Model No.: miniUCS

Prepared for	:	PaloSanto Solutions
Address	:	Cdla. Nueva Kennedy, Calle ENo.222 - 9na Este, Guayaquil, Ecuador

Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	1/F, 1/Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China Tel: (86) 755-26066544 Fax: (86) 755-26014772

Report Number	:	201212699F
Date of Test	:	Dec.06~15, 2012
Date of Report	:	Dec.19, 2012

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TEST REPORT VERIFICATION

Applicant	:	PaloSanto Solutions
Manufacturer	:	PaloSanto Solutions
EUT	:	Elastix miniUCS
Model No.	:	miniUCS
Rating	:	DC 12V
Trade Mark	:	N.A.

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2010 & FCC / ANSI C63.4-2009

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Dec.06~15, 2012

Prepared by : Well Wang

(Engineer/ Well Wang)

Reviewer : Jerry Du

(Project Manager/ Jerry Du)

Approved & Authorized Signer : Tom. Chen

(Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	**:**	Elastix miniUCS
Model Number	**:**	miniUCS
Test Power Supply	**:**	DC 12V
Applicant	:	PaloSanto Solutions
Address	:	Cdla. Nueva Kennedy, Calle ENo.222 - 9na Este, Guayaquil, Ecuador
Manufacturer	:	PaloSanto Solutions
Address	:	Cdla.Nueva Kennedy, Calle ENo.222 - 9na Este, Guayaquil, Ecuador
Date of Sample received	**:**	Dec.06, 2012
Date of Test	:	Dec.06~15, 2012

1.2. Auxiliary Equipment Used during Test

PC	:	Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
MONITOR	:	Manufacturer: DELL M/N: E170Sc S/N: CN-00V539-64180-055-0UPS CE , FCC: DOC
KEYBOARD	:	Manufacturer: DELL M/N: SK-8115 S/N: CN-0DJ313-71616-06C-02XN CE , FCC: DOC Cable: 1m, unshielded
MOUSE	:	Manufacturer: DELL M/N: M-UARDEL7 S/N: N/A CE , FCC: DOC Cable: 1m, unshielded
Printer	:	Manufacturer:Brother M/N: MFC-3360C S/N: N/A CE, FCC:DOC
Power Line	:	1.5m, unshielded
VGA Cable	:	1.5m, unshielded
USB Cable	:	1m, unshielded
gigabit-network Cable	:	10m, unshielded

1.3. Description of Test Facility

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

CNAS - LAB Code: L3503
Anbotek Compliance Laboratory Limited., 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.: 752021
Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed 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 752021, August 20, 2010

IC-Registration No.: 8058A-1
Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, August 30, 2010

Test Location
All Emissions tests were performed
Anbotek Compliance Laboratory Limited. at 1/F, 1/Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

1.4. Measurement Uncertainty

Radiation Uncertainty	**:**	Ur = 4.3dB
Conduction Uncertainty	**:**	Uc = 3.4dB

1.5. Test Summary

For the EUT described above. The standards used were FCC Part 15 Subpart B for Emissions.
Table 1 : Tests Carried Out Under FCC Part 15 Subpart B

Standard	Test Items	Status
FCC Part 15 Subpart B	Power Line Conducted Emission Test (150KHz To 30MHz)	√
FCC Part 15 Subpart B	Radiated Emission Test	√

√ Indicates that the test is applicable
x Indicates that the test is not applicable

2. POWER LINE CONDUCTED MEASUREMENT

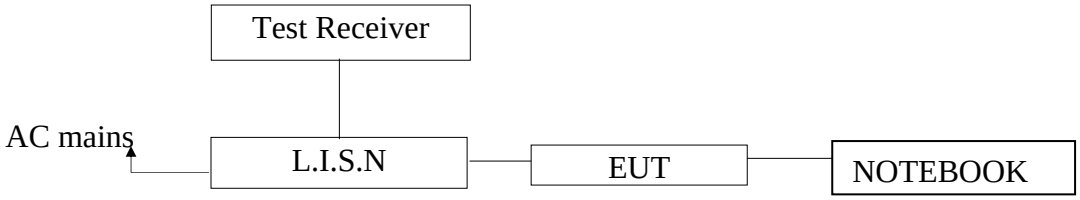
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Apr. 25, 2012	1 Year
2.	Two-Line V-network	Rohde & Schwarz	ENV216	10055	Apr. 25, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 25, 2012	1 Year
4.	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Elastix miniUCS)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Subpart B Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	79	66
0.50 ~ 5.00	73	60
5.00 ~ 30.00	73	60

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	Elastix miniUCS
Model Number	:	miniUCS
Applicant	**:**	PaloSanto Solutions

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown as Section 2.2.
2.5.2. Turn on the power of all equipment and running the software: asterisk.
2.5.3. Let the EUT work in test mode (On) and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2009 on Conducted Emission Measurement.
The bandwidth of test receiver (ESCI) set at 9KHz.
The frequency range from 150KHz to 30MHz is checked.
The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

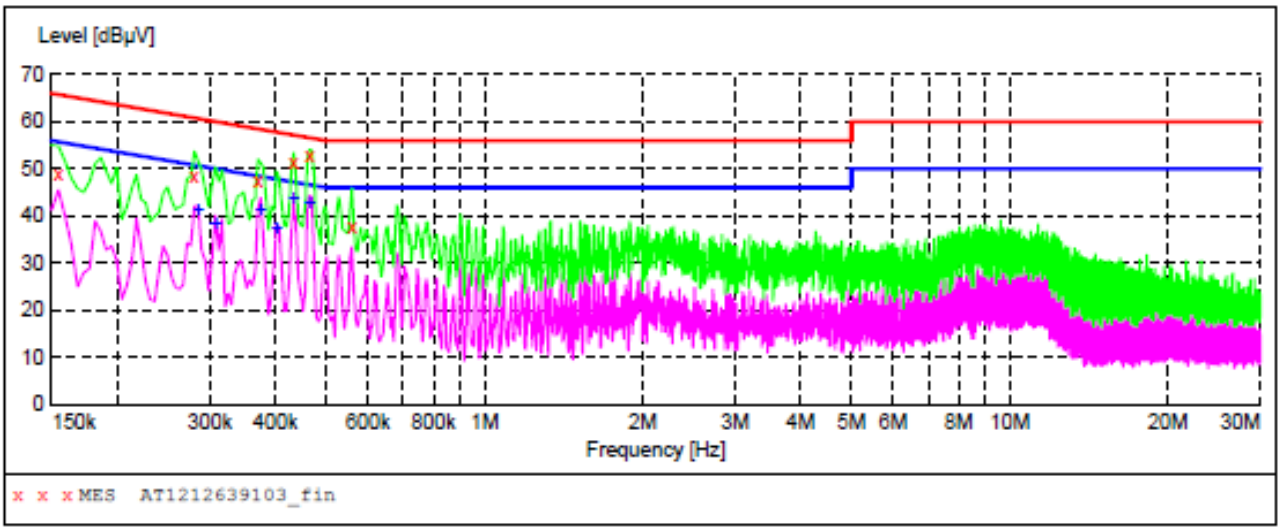
The frequency range from 150KHz to 30 MHz is investigated.

The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT:	Elastix miniUCS M/N: miniUCS
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	120V~, 60Hz for PC
Comment:	L
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1212639103_fin"

12/8/2012 9:12AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	48.90	20.1	66	16.9	QP	L1	GND
0.280500	48.50	20.1	61	12.3	QP	L1	GND
0.370500	47.70	20.1	59	10.8	QP	L1	GND
0.433500	51.60	20.1	57	5.6	QP	L1	GND
0.465000	53.00	20.1	57	3.6	QP	L1	GND
0.559500	37.90	20.1	56	18.1	QP	L1	GND

MEASUREMENT RESULT: "AT1212639103_fin2"

12/8/2012 9:12AM

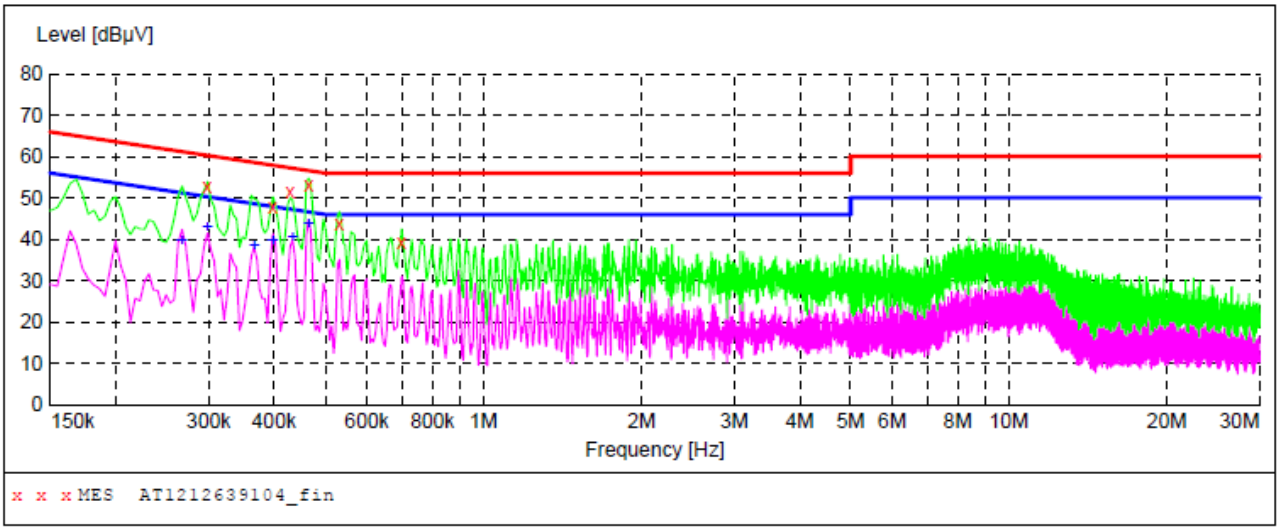
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.285000	41.90	20.1	51	8.8	AV	L1	GND
0.307500	38.50	20.1	50	11.5	AV	L1	GND
0.375000	41.80	20.1	48	6.6	AV	L1	GND
0.402000	37.90	20.1	48	9.9	AV	L1	GND
0.433500	43.90	20.1	47	3.3	AV	L1	GND
0.465000	43.20	20.1	47	3.6	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT:	Elastix miniUCS M/N:miniUCS
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	120V~, 60Hz for PC
Comment:	N
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1212639104_fin"

12/8/2012 9:15AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.298500	52.90	20.1	60	7.4	QP	N	GND
0.397500	48.00	20.1	58	9.9	QP	N	GND
0.429000	51.60	20.1	57	5.7	QP	N	GND
0.465000	53.30	20.1	57	3.3	QP	N	GND
0.532500	43.90	20.1	56	12.1	QP	N	GND
0.699000	39.40	20.1	56	16.6	QP	N	GND

MEASUREMENT RESULT: "AT1212639104_fin2"

12/8/2012 9:15AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.267000	39.90	20.1	51	11.3	AV	N	GND
0.298500	42.90	20.1	50	7.4	AV	N	GND
0.366000	38.50	20.1	49	10.1	AV	N	GND
0.397500	39.90	20.1	48	8.0	AV	N	GND
0.433500	40.40	20.1	47	6.8	AV	N	GND
0.465000	43.60	20.1	47	3.4	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

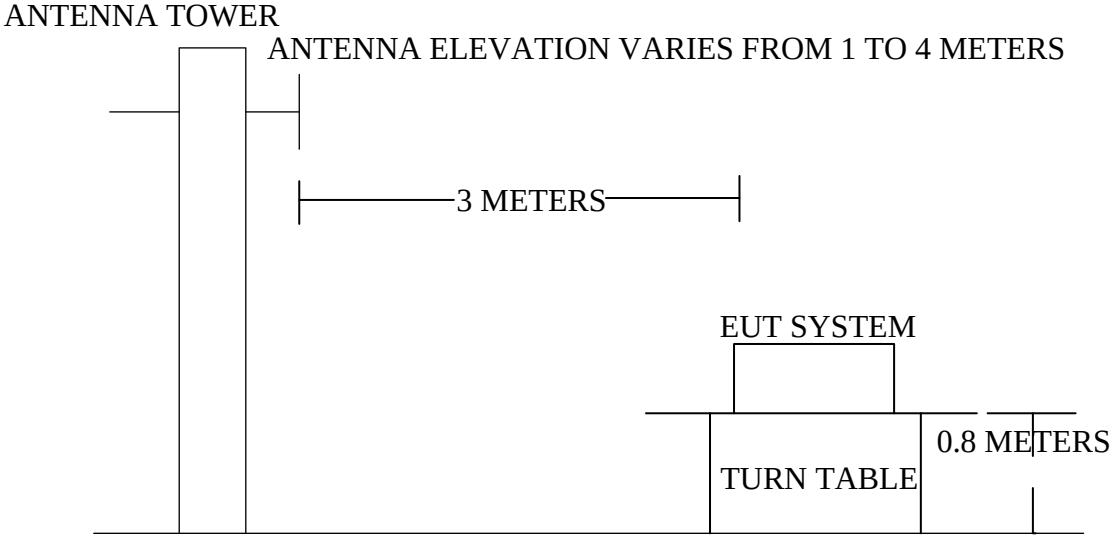
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 25, 2012	1 Year
2	Bilog Broadband Antenna	Schwarzbeck	VULB9163	100015	Apr. 25, 2012	1 Year
3	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 25, 2012	1 Year
4	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators

(EUT: Elastix miniUCS)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Elastix miniUCS)

3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT dB(μV)/m
30~88	3	49.5
88~216	3	54
216~960	3	56.9
Above 960	3	60

Remark： (1) Emission level (dB)μV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

EUT	**:**	Elastix miniUCS
Model Number	**:**	miniUCS
Applicant	**:**	PaloSanto Solutions

3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipment and running the software: asterisk.

3.5.3. Let the EUT work in test mode (On) and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.
The frequency range from 30MHz to 6000MHz is checked.

The test mode is tested in chamber and all the test results are listed in Section 3.7.

3.7. Radiated Emission Measurement Results

PASS.

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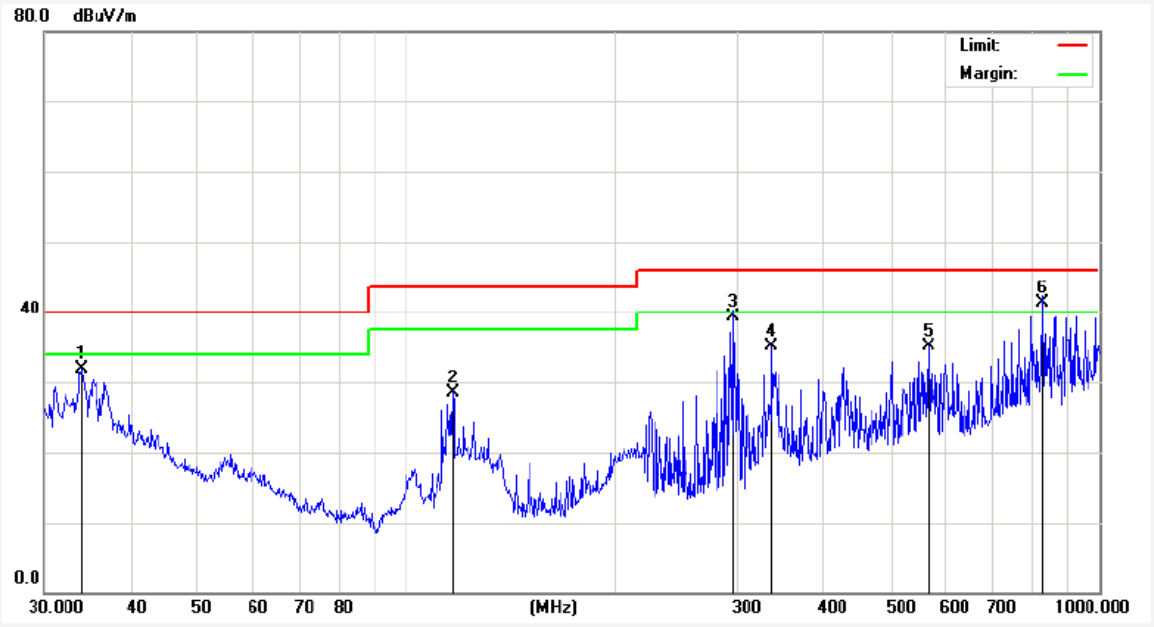
Job No.:	**AT1212639F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 12V**
Test item:	**Radiation Test**	**Date:**	**2012/12/14**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:20:24**
EUT:	**Elastix miniUCS**	**Test By:**	**Well Wang**
Model:	**miniUCS**	**Distance:**	**3m**
Mode:	**On**		
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	33.9174	46.69	-14.86	31.83	40.00	-8.17	peak			
2	116.5401	49.69	-21.09	28.60	43.50	-14.90	peak			
3	295.1469	57.07	-17.82	39.25	46.00	-6.75	QP	300	0	
4	336.0352	49.58	-14.49	35.09	46.00	-10.91	peak			
5	566.6223	46.28	-11.15	35.13	46.00	-10.87	peak			
6	827.4934	47.36	-6.01	41.35	46.00	-4.65	QP	300	360	

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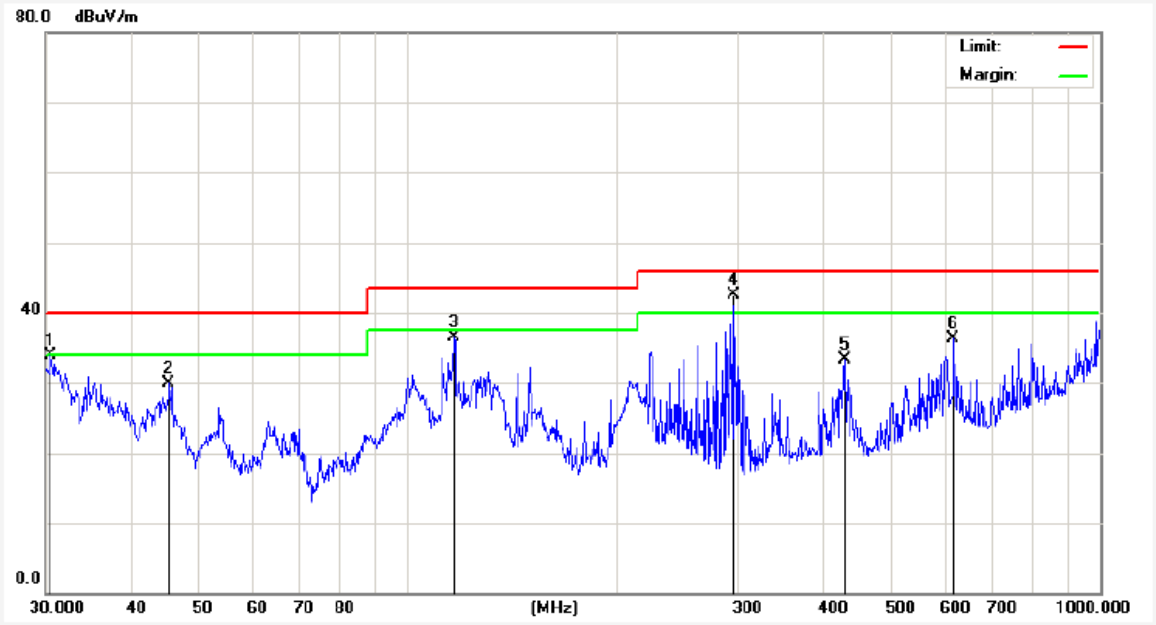
Job No.:	**AT1212639F**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 12V**
Test item:	**Radiation Test**	**Date:**	**2012/15/14**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:22:39**
EUT:	**Elastix miniUCS**	**Test By:**	**Well Wang**
Model:	**miniUCS**	**Distance:**	**3m**
Mode:	**On Red**		
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.5306	50.52	-16.66	33.86	40.00	-6.14	peak			
2	45.2166	42.33	-12.43	29.90	40.00	-10.10	peak			
3	116.5401	52.52	-16.09	36.43	43.50	-7.07	peak			
4	294.9069	57.38	-14.83	42.55	46.00	-3.45	QP	100	360	
5	428.0193	44.57	-11.25	33.32	46.00	-12.68	peak			
6	614.2142	45.41	-9.13	36.28	46.00	-9.72	peak			

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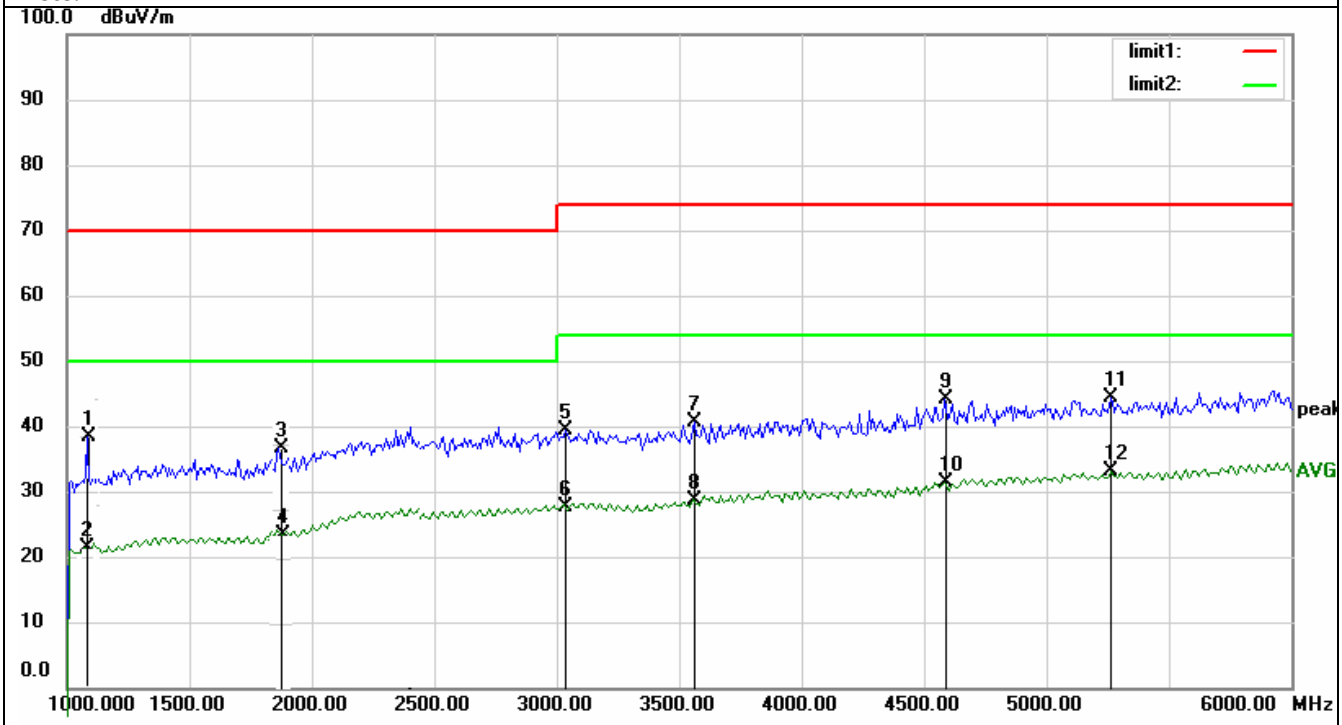
Job No.:	**AT1212639F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 12V**
Test item:	**Radiation Test**	**Date:**	**2012/15/14**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**11:29:58**
EUT:	**Elastix miniUCS**	**Test By:**	**Well Wang**
Model:	**miniUCS**	**Distance:**	**3m**
Mode:	**On Red**		
Note:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1155.352	50.68	-11.76	38.92	70.00	-31.08	peak			
2		1155.372	37.10	-11.76	25.34	50.00	-24.66	AVG			
3		1891.208	48.08	-8.66	39.42	70.00	-30.58	peak			
4		1891.211	34.78	-8.66	26.12	50.00	-23.88	AVG			
5		3035.256	46.95	-7.53	39.42	74.00	-34.58	peak			
6		3035.256	35.18	-7.53	27.65	54.00	-26.35	AVG			
7		3564.102	47.69	-7.03	40.66	74.00	-33.34	peak			
8		3564.102	35.71	-7.03	28.68	54.00	-25.32	AVG			
9		4581.731	48.97	-4.90	44.07	74.00	-29.93	peak			
10		4581.731	36.23	-4.90	31.33	54.00	-22.67	AVG			
11		5262.820	48.43	-4.06	44.37	74.00	-29.63	peak			
12	*	5262.820	37.10	-4.06	33.04	54.00	-20.96	AVG			

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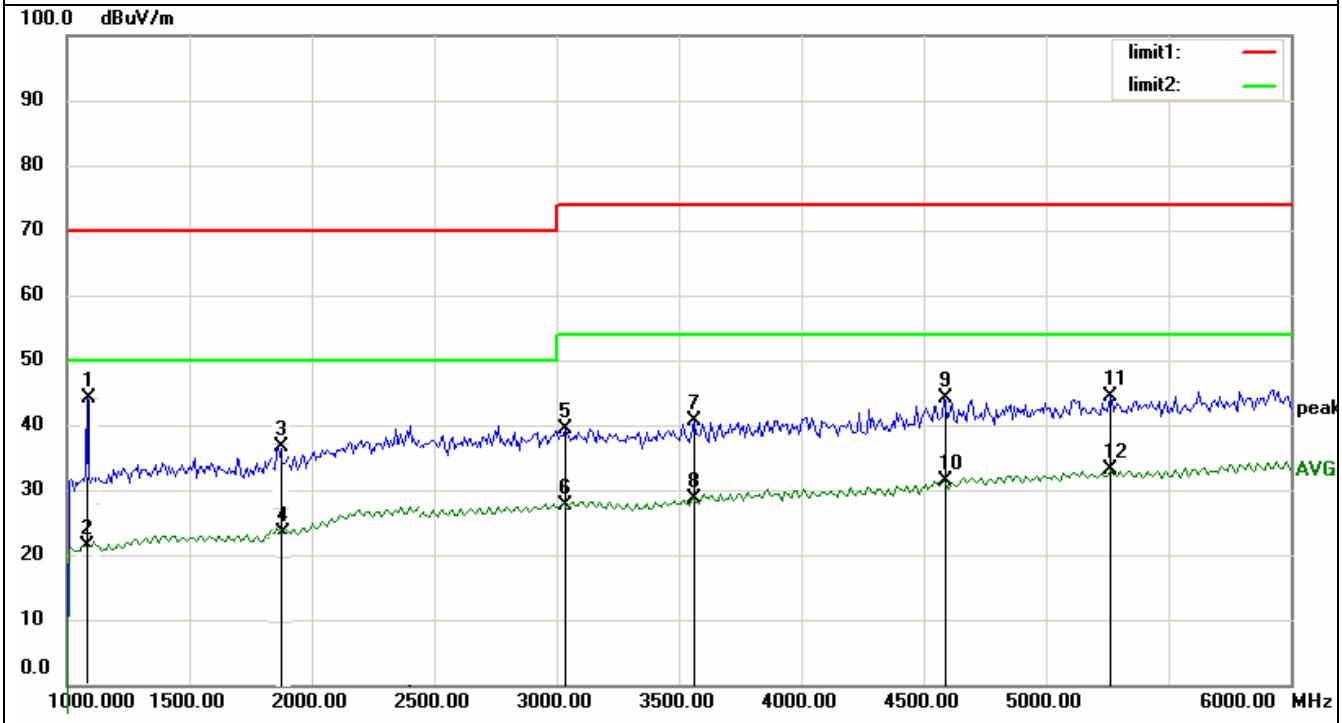
Job No.:	**AT1212639F**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC12V**
Test item:	**Radiation Test**	**Date:**	**2012/05/14**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**11:32:20**
EUT:	**Elastix miniUCS**	**Test By:**	**Well Wang**
Model:	**miniUCS**	**Distance:**	**3m**
Mode:	**On Red**		
Note:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1201.897	51.33	-8.73	42.60	70.00	-28.40	peak			
2		1201.897	36.30	-8.73	27.57	50.00	-22.43	AVG			
3		1790.705	47.52	-8.16	39.36	70.00	-30.64	peak			
4		1790.705	35.12	-8.16	26.96	50.00	-23.04	AVG			
5		3107.372	47.50	-7.42	40.08	74.00	-33.92	peak			
6		3107.372	35.63	-7.42	28.21	54.00	-25.79	AVG			
7		3828.526	47.59	-6.54	41.05	74.00	-32.95	peak			
8		3828.526	36.08	-6.54	29.54	54.00	-24.46	AVG			
9		4549.679	48.51	-4.97	43.54	74.00	-30.46	peak			
10		4549.679	36.02	-4.97	31.05	54.00	-22.95	AVG			
11		5847.756	48.66	-3.17	45.49	74.00	-28.51	peak			
12	*	5847.756	36.71	-3.17	33.54	54.00	-20.46	AVG			