Test Report

Issued Date : *Jun. 26, 2014*
Project No. : *ESTSZ140401216F*
Equipment : SecureJet Intelligent Appliance
Model Name : SIA 8.1
Applicant : Jetmobile Pte Ltd
Address : 541 Orchard Road #09-01 Liat Towers Singapore 238881

Tested by:
SHENZHEN EXACT STANDARD TESTING TECHNOLOGY CO. LTD.
Date of Receipt: Jun. 06, 2014
Date of Test:
Jun. 06 ~ 26, 2014

Testing Engineer : Yoyo Deng
(Yoyo Deng)

Technical Manager :
(Charles Liu)

Authorized Signatory :
(Ronnie Liu)

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Declaration

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EST's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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1. CERTIFICATION

Equipment	:	SecureJet Intelligent Appliance
Brand Name	:	SecureJet
Model Name	:	SIA 8.1
Test Model	:	SIA 8.1
Applicant	:	Jetmobile Pte Ltd
Factory	:	Jetmobile Pte Ltd
Address	:	541 Orchard Road #09-01 Liat Towers Singapore 238881
Date of Test	:	Jun. 06 ~ 26, 2014
Test Item	:	ENGINEERING SAMPLE
Standards	:	FCC PART 15 Subpart B: 2012 ICES-003 Issue 5: 2012 ANSI C63.4-2009

The above equipment has been tested and found compliance with the requirement of the relative standards by SHENZHEN EXACT STANDARD TESTING TECHNOLOGY CO., LTD.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. ESTSZ140401216F) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part 15: 2012 ICES-003 Issue 5: 2012 ANSI C63.4-2009	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	

NOTE:

(1) ” N/A” denotes test is not applicable in this Test Report.

2.1 TEST FACILITY

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

IC – Registration No.: 9079A

Global United Technology Service Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the (IC) Federal Communications Commission. The acceptance letter from the IC is maintained in our files. Registration 9079A

FCC – Registration No.: 600491

Global United Technology Service Co., Ltd 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 600491

Address:
2nd Floor, Block No. 2, Laodong Ind Zone, Xixiang Road, Baoan District, Shenzhen, China.

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U，(dB)	NOTE
Shielding Room	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
3m Chamber	CISPR	1GHz~18GHz	V	4.22	
		1GHz~18GHz	H	4.18	
10m Chamber	CISPR	30MHz ~ 1000MHz	V	4.05	
		30MHz ~ 1000MHz	H	4.12	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	SecureJet Intelligent Appliance
Brand Name	SecureJet
Model Name	SIA 8.1
Test Model	SIA 8.1
OEM Brand/Model Name	N/A
Product Description	The EUT is a SecureJet Intelligent Appliance . More details of EUT technical specification, please refer to the User's Manual.
Power Source	AC Mains.
Power Rating	DC 12V via Adapter
Test Power Supply	AC 120V/60Hz
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.
2. The EUT working frequency is 800MHz.

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

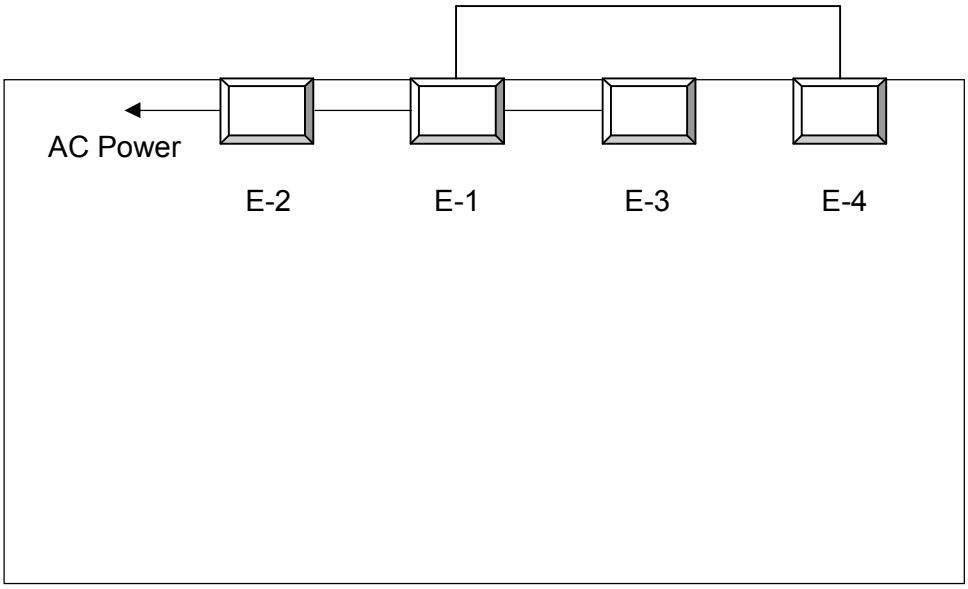
Pretest Mode	Description
Mode 1	On

The EUT system operated these modes were found to be the worst case during the pre-scanning test as Following:

For Conducted Test	
Final Test Mode	Description
Mode 1	On

For Radiated Test	
Final Test Mode	Description
Mode 1	On

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	SecureJet Intelligent Appliance	N/A	SIA 8.1	2AAOB-SIA81	N/A	EUT
E-2	Adapter	MENB	MENB1010A0503F01	VOC	N/A	
E-3	Printer	HP	Q5913A	DOC	N/A	
E-4	PC	IBM	2374	DOC	N/A	

Note:

(1) The support equipment was authorized by Declaration of Conformity.
(2) For detachable type I/O cable should be specified the length m in『Length』column.

4. EMC EMISSION TEST

4.1CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (Hz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The limit for Conducted test was performed according to FCC PART 15B / ICES-003.

(2) The tighter limit applies at the band edges.

(3) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS207	Mar. 17, 2015
2	LISN	Rohde & Schwarz	ESH3-Z5	GTS253	Mar. 17, 2015
3	Test Cable	GTS	N/A	GTS400	Mar. 17, 2015
4	EMI TEST RECEIVER	Rohde & Schwarz	ESU26	GTS203	Mar. 17, 2015

Remark: ” N/A” denotes No Model Name, Serial No. or No Calibration specified.

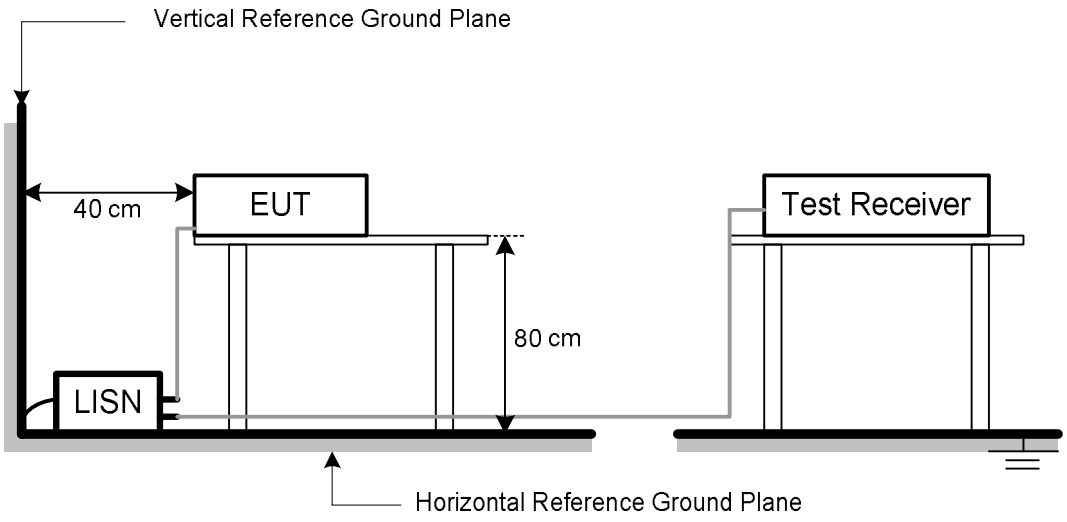
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use.
2. Send "H" pattern to video port device (Monitor).
As the keyboard and mouse are strictly input devices, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.

4.1.7 TEST RESULTS

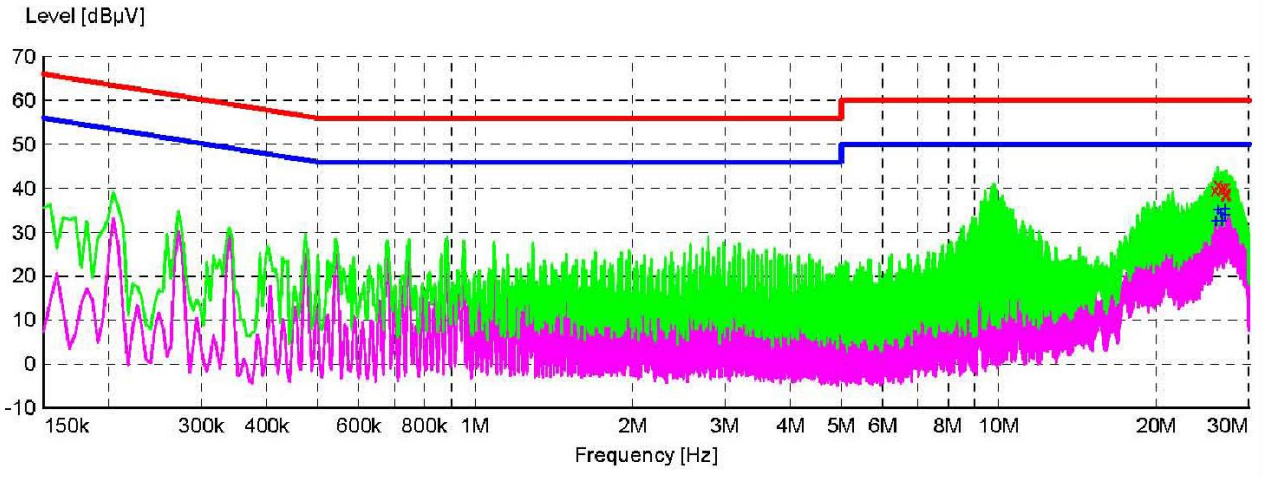
Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec. /MHz. Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.3 sec./MHz.

(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a "*" marked in AVG Mode column of Interference Voltage Measured.

(3) Measuring frequency range from 150KHz to 30MHz.

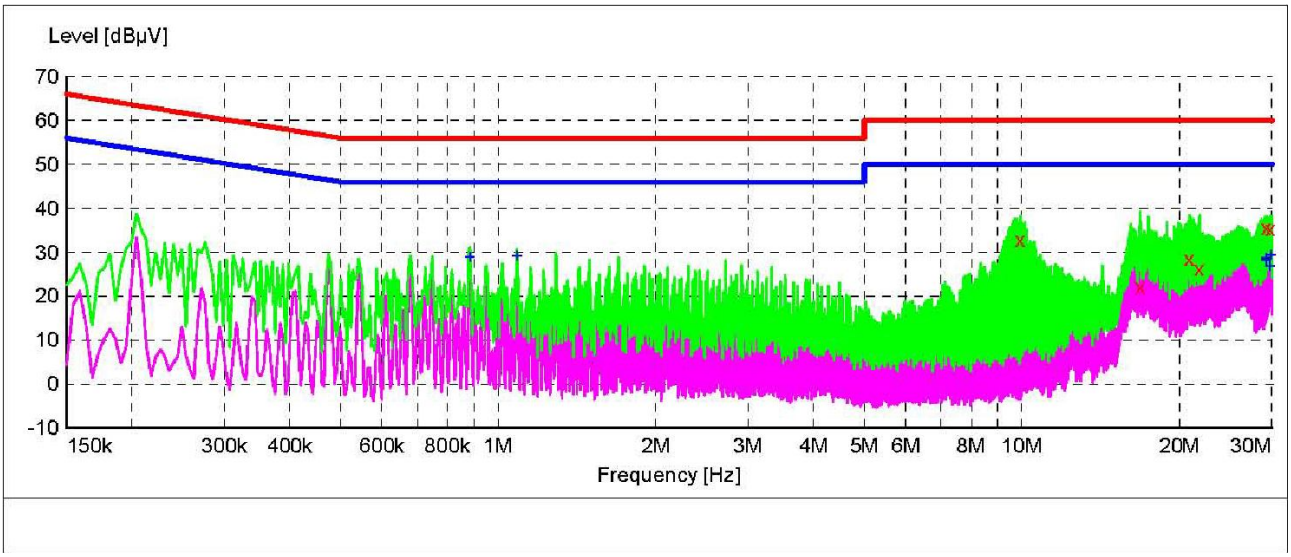
E.U.T :	SecureJet Intelligent Appliance	Model Name :	SIA 8.1
Temperature :	26℃	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	On	Phase:	Line



Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
25.903500	39.80	11.1	60	20.2	QP	L1	GND
26.173500	40.90	11.2	60	19.1	QP	L1	GND
26.740500	40.20	11.2	60	19.8	QP	L1	GND
27.078000	40.20	11.2	60	19.8	QP	L1	GND
27.132000	38.90	11.2	60	21.1	QP	L1	GND
27.199500	38.50	11.2	60	21.5	QP	L1	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
25.966500	32.60	11.2	50	17.4	AV	L1	GND
26.173500	35.20	11.2	50	14.8	AV	L1	GND
26.511000	34.40	11.2	50	15.6	AV	L1	GND
26.668500	32.70	11.2	50	17.3	AV	L1	GND
27.055500	35.30	11.2	50	14.7	AV	L1	GND
27.078000	34.00	11.2	50	16.0	AV	L1	GND

E.U.T :	SecureJet Intelligent Appliance	Model Name :	SIA 8.1
Temperature :	26℃	Relative Humidity :	55 %
Pressure :	1008 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	On	Phase:	Neutral



Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
9.915000	32.90	10.6	60	27.1	QP	N	GND
16.845000	22.10	10.8	60	37.9	QP	N	GND
20.827500	28.60	11.0	60	31.4	QP	N	GND
21.817500	26.30	11.0	60	33.7	QP	N	GND
29.323500	35.60	11.3	60	24.4	QP	N	GND
29.737500	35.30	11.3	60	24.7	QP	N	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.883500	29.00	10.2	46	17.0	AV	N	GND
1.086000	29.30	10.3	46	16.7	AV	N	GND
29.260500	28.70	11.2	50	21.3	AV	N	GND
29.323500	28.20	11.3	50	21.8	AV	N	GND
29.796000	26.90	11.3	50	23.1	AV	N	GND
29.935500	29.40	11.3	50	20.6	AV	N	GND

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

F EQUENCY (Hz)	Class B at 3m （uV/m）	Class A at 10m （uV/m）
30 – 88	100	90
88 – 216	150	150
216 - 960	200	210
960 - 1000	500	300

Notes:

(1) The limit for radiated test was performed according to as following: FCC PART 15B/ ICES-003.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m) =20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 10m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	69.5	49.5	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15B / ICES-003.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m) =20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 6 GHz, whichever is lower

4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna Tripod	Amplifier Research	TP1000A	SEL0074	N/A
2	Pre-amplifier	Agilent Technologies	8447D	SEL0053	Mar. 17, 2015
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Mar. 17, 2015
4	Coaxial Cable	GTS	N/A	GTS400	Mar. 17, 2015
5	Log-periodic Antenna	Amplifier Research	AT1080	SEL0073	N/A
6	Pre-amplifier (1-18GHz)	Rohde & Schwarz	AFS42-0010 1800-25-S-4	SEL0081	Mar. 17, 2015
7	3m Semi-Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W) * 6.4(H)	GTS201	Mar. 30 2015

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

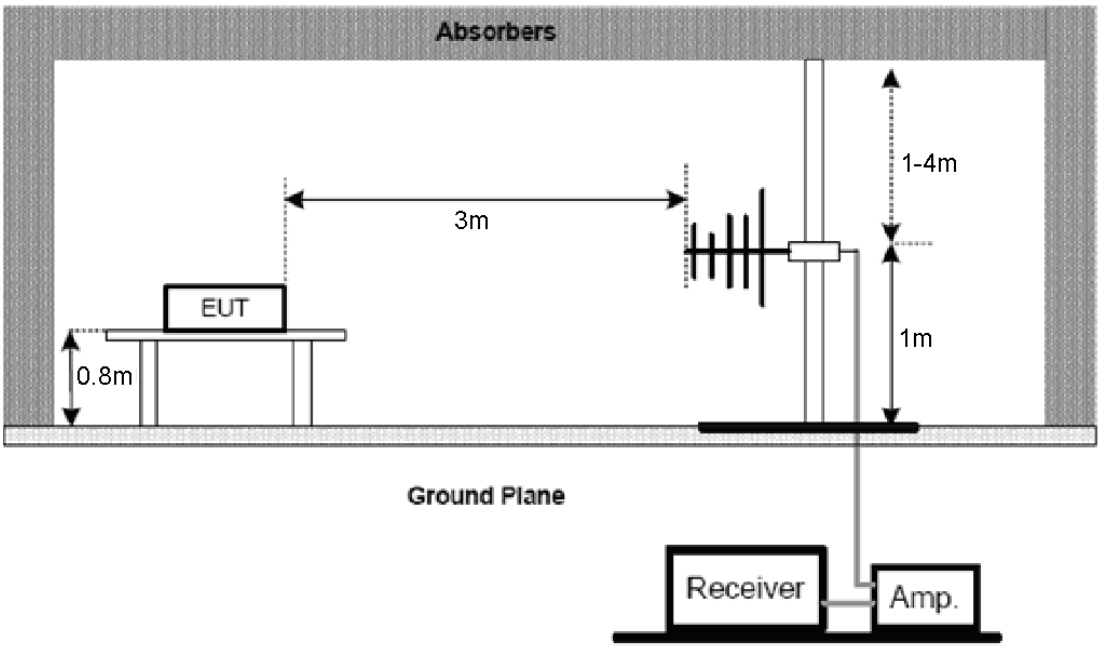
4.2.3 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency below 1GHz. The measuring distance of at 3 m shall be used for measurements at frequency above 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1G)
c. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1G)
d. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
g. For the actual test configuration, please refer to the related Item –EUT Test Setup Photos.

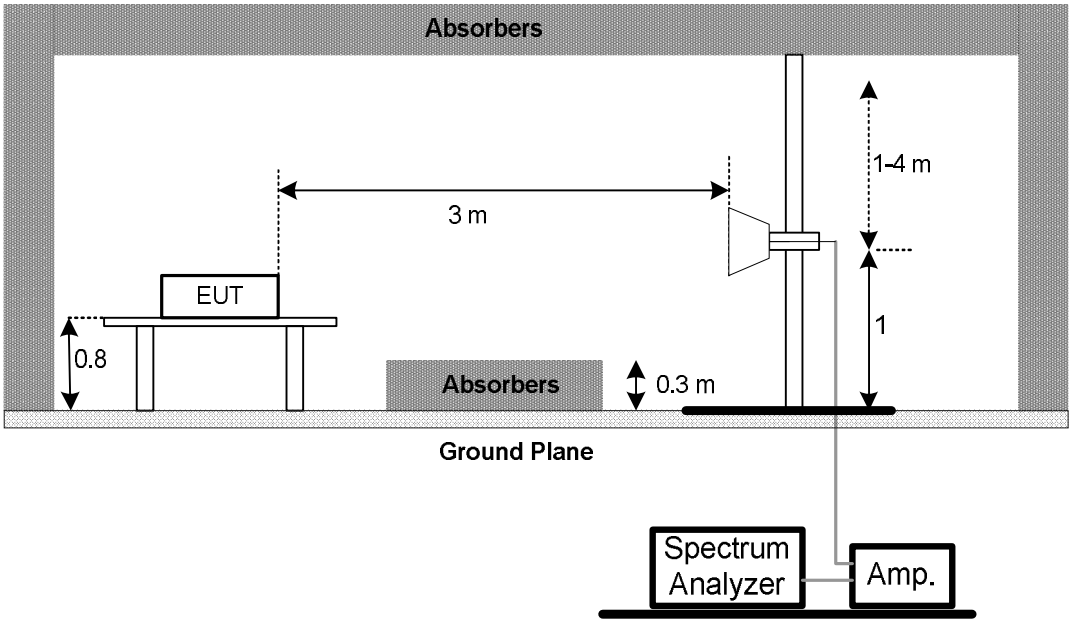
4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP (Below 1000MHZ)



4.2.6 TEST SETUP (ABOVE 1000MHZ)



4.2.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.8 TEST RESULTS-BETWEEN 30MHZ AND 1000MHZ

Remark：

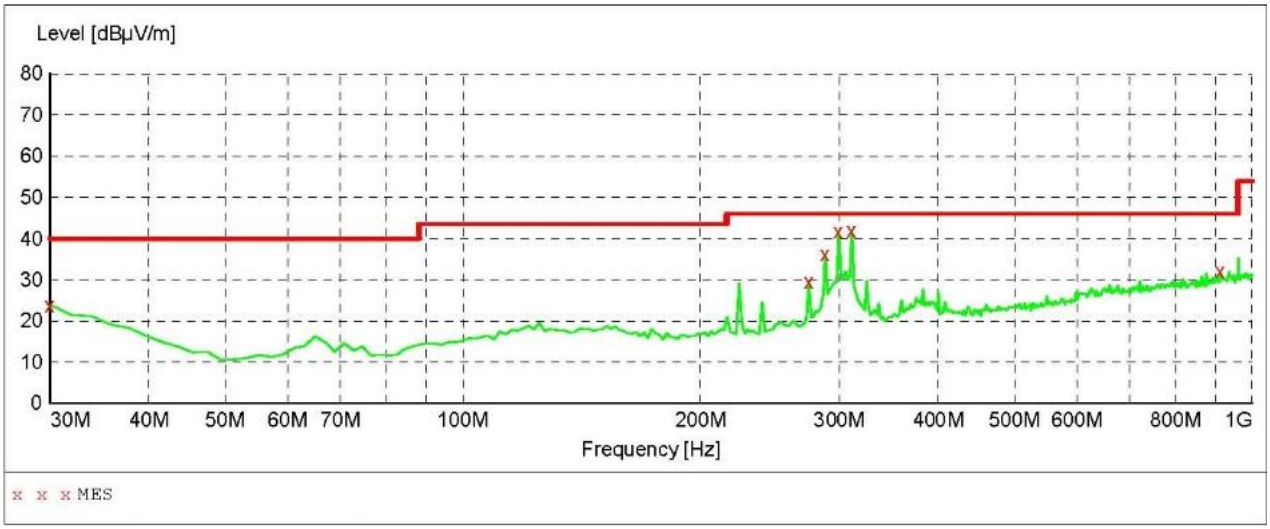
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =300KHz, Swp. Time = 0.3 sec. /MHz。

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。

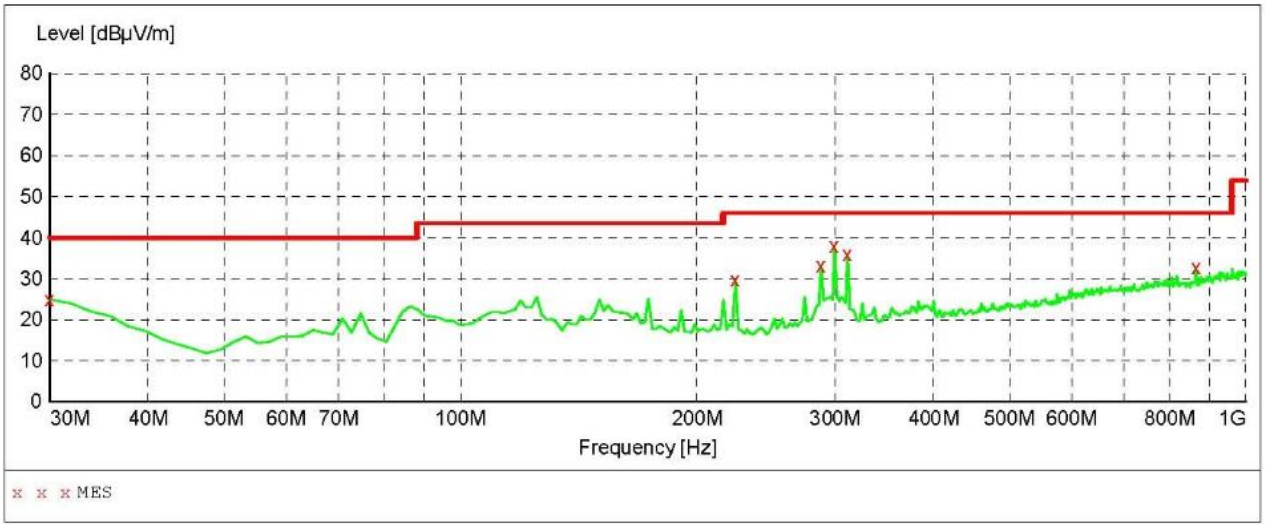
E.U.T :	SecureJet Intelligent Appliance	Model Name :	SIA 8.1
Temperature :	26° C	Relative Humidity :	55 %
ressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	On	Polarization:	Horizontal



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	23.80	21.1	40.0	16.2	---	0.0	0.00	HORIZONTAL
274.440000	29.60	15.3	46.0	16.4	---	0.0	0.00	HORIZONTAL
288.020000	36.10	15.4	46.0	9.9	---	0.0	0.00	HORIZONTAL
299.660000	41.70	15.4	46.0	4.3	---	0.0	0.00	HORIZONTAL
311.300000	41.90	15.7	46.0	4.1	---	0.0	0.00	HORIZONTAL
912.700000	32.00	26.2	46.0	14.0	---	0.0	0.00	HORIZONTAL

E.U.T :	SecureJet Intelligent Appliance	Model Name :	SIA 8.1
Temperature :	26° C	Relative Humidity :	55 %
ressure :	1006 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	On	Polarization:	Vertical



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	24.90	21.1	40.0	15.1	---	0.0	0.00	VERTICAL
224.000000	29.80	14.2	46.0	16.2	---	0.0	0.00	VERTICAL
288.020000	33.30	15.4	46.0	12.7	---	0.0	0.00	VERTICAL
299.660000	38.00	15.4	46.0	8.0	---	0.0	0.00	VERTICAL
311.300000	35.90	15.7	46.0	10.1	---	0.0	0.00	VERTICAL
864.200000	32.70	25.5	46.0	13.3	---	0.0	0.00	VERTICAL

4.2.9 TEST RESULTS- ABOVE 1000MHZ

Remark：

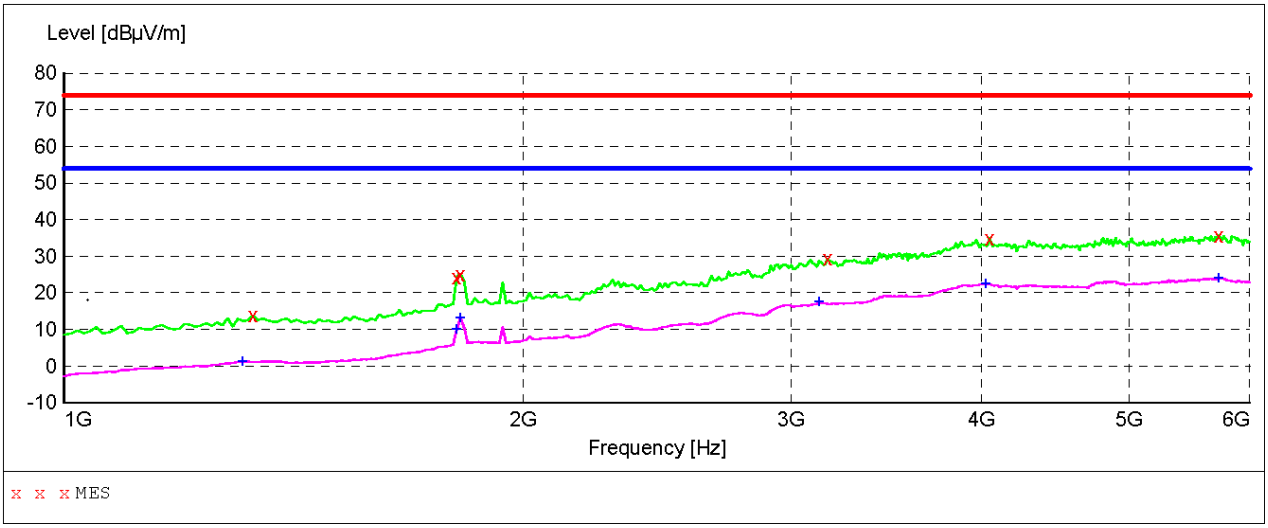
(1) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading Compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 1GHz to 15GHz。

(4) For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also Complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

EUT：	SecureJet Intelligent Appliance	Model Name：	SIA 8.1
Temperature：	25° C	Relative Humidity：	56 %
Pressure：	1008 hPa	Test Voltage：	AC 120V/60Hz
Test Mode：	ON mode	Polarization:	Horizontal



PK Result

MEASUREMENT RESULT:

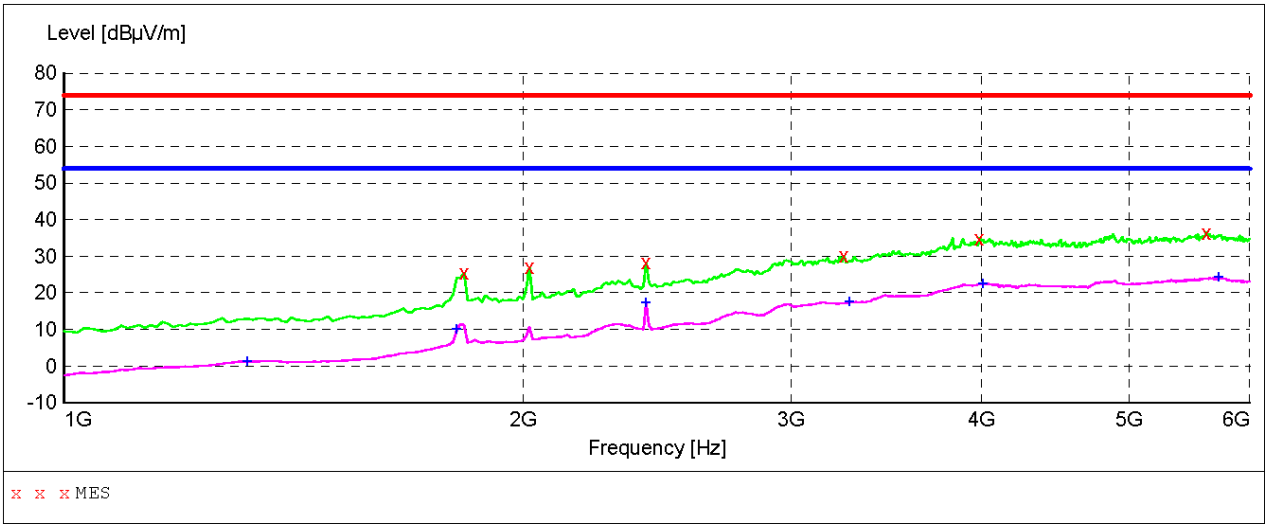
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1330.000000	13.80	-11.0	73.9	60.1	---	0.0	0.00	HORIZONTAL
1810.000000	24.30	-6.8	73.9	49.6	---	0.0	0.00	HORIZONTAL
1820.000000	25.10	-6.8	73.9	48.8	---	0.0	0.00	HORIZONTAL
3170.000000	29.40	2.7	73.9	44.5	---	0.0	0.00	HORIZONTAL
4050.000000	34.90	8.1	73.9	39.0	---	0.0	0.00	HORIZONTAL
5730.000000	35.70	9.5	73.9	38.2	---	0.0	0.00	HORIZONTAL

AV Result

MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1310.000000	1.20	-11.0	53.9	52.7	---	0.0	0.00	HORIZONTAL
1810.000000	10.00	-6.8	53.9	43.9	---	0.0	0.00	HORIZONTAL
1820.000000	13.00	-6.8	53.9	40.9	---	0.0	0.00	HORIZONTAL
3130.000000	17.40	2.5	53.9	36.5	---	0.0	0.00	HORIZONTAL
4030.000000	22.30	8.1	53.9	31.6	---	0.0	0.00	HORIZONTAL
5730.000000	24.00	9.5	53.9	29.9	---	0.0	0.00	HORIZONTAL

EUT：	SecureJet Intelligent Appliance	Model Name：	SIA 8.1
Temperature：	25° C	Relative Humidity：	56 %
Pressure：	1008 hPa	Test Voltage：	AC 120V/60Hz
Test Mode：	ON mode	Polarization:	Vertical



PK Result

MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1830.000000	25.50	-6.6	73.9	48.4	---	0.0	0.00	VERTICAL
2020.000000	27.00	-5.4	73.9	46.9	---	0.0	0.00	VERTICAL
2410.000000	28.30	-2.5	73.9	45.6	---	0.0	0.00	VERTICAL
3250.000000	30.20	3.0	73.9	43.7	---	0.0	0.00	VERTICAL
3990.000000	34.90	8.0	73.9	39.0	---	0.0	0.00	VERTICAL
5620.000000	36.50	9.6	73.9	37.4	---	0.0	0.00	VERTICAL

AV Result

MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1320.000000	1.30	-11.0	53.9	52.6	---	0.0	0.00	VERTICAL
1810.000000	9.90	-6.8	53.9	44.0	---	0.0	0.00	VERTICAL
2410.000000	17.10	-2.5	53.9	36.8	---	0.0	0.00	VERTICAL
3280.000000	17.40	3.2	53.9	36.5	---	0.0	0.00	VERTICAL
4010.000000	22.50	8.1	53.9	31.4	---	0.0	0.00	VERTICAL
5730.000000	24.10	9.5	53.9	29.8	---	0.0	0.00	VERTICAL