

FCC/IC - TEST REPORTReport Number : **68.770.14.012.01** Date of Issue: January 19, 2015Model : 100000Product Type : SP1 Snow ProfilerApplicant : AvaTech, Inc.Address : 2700 Rasmussen Rd, Park City, UT, USAProduction Facility : JDI Electronics FactoryAddress : Sima Village, Chang Ping Town, DongGuan,
GuangDong, ChinaTest Result : ☒ **Positive** ☐ **Negative**Total pages including
Appendices : 16

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2 Details about the Test Laboratory

Details about the Test Laboratory

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
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3 Description of the Equipment Under Test

Product: SP1 Snow Profiler

Model no.: 100000

FCC ID: 2ADY4-SP1

Brand Name: AvaTech

Options and accessories: NIL

Rating: DC 3.0V by 2*AA Batteries

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B 10-1-14 Edition	Unintentional Radiators
ICES-003 Issue 5 August 2012	Information Technology Equipment (ITE) – Limits and methods of measurement

5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart B 10-1-13 Edition/ICES-003 Issue 5				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
Conducted Emission on AC 150kHz to 30MHz	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emission 30MHz to 1000MHz	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6 General Remarks

Remarks

Nil.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: November 11, 2014

Testing Start Date: November 11, 2014

Testing End Date: January 13, 2015

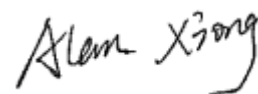
- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Prepared by:



John Zhi
EMC Project Manager



Alan Xiong
EMC Project Engineer

7 Technical Requirement

7.1 Conducted Emission Test

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

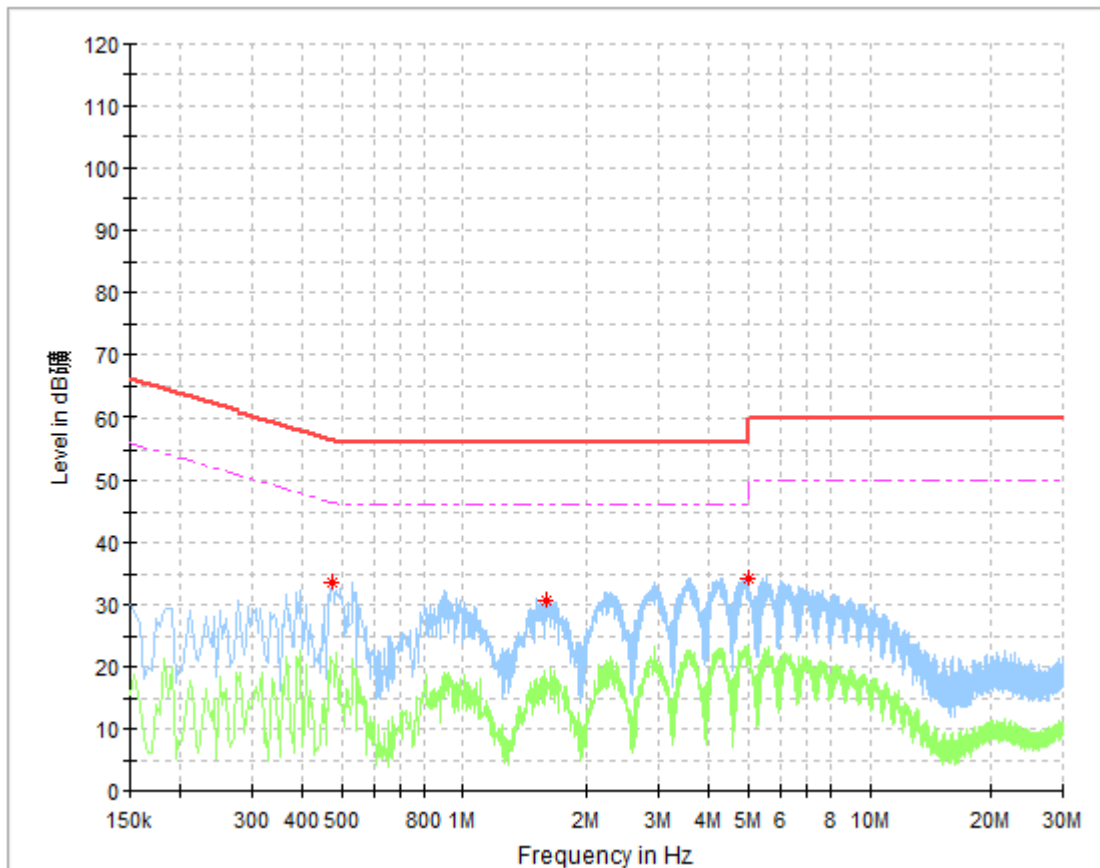
According to §15.107, conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Conducted Emission

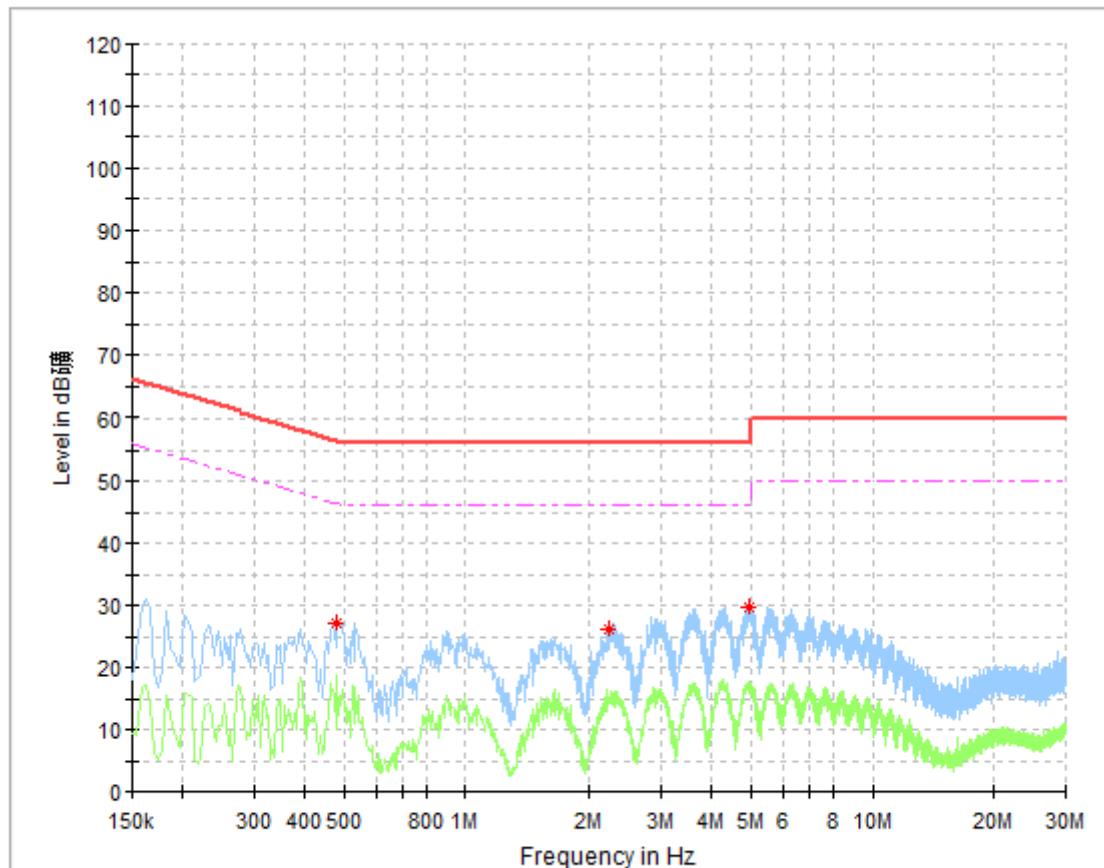
Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Downloading
 Test Specification : Line
 Comment : AC 120V/60Hz



Frequency (MHz)	MaxPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.474000	33.49	56.44	22.96	L1	9.6
1.610000	30.54	56.00	25.46	L1	9.7
4.998000	34.29	56.00	21.71	L1	9.8

Conducted Emission

Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Downloading
 Test Specification : Neutral
 Comment : AC 120V/60Hz



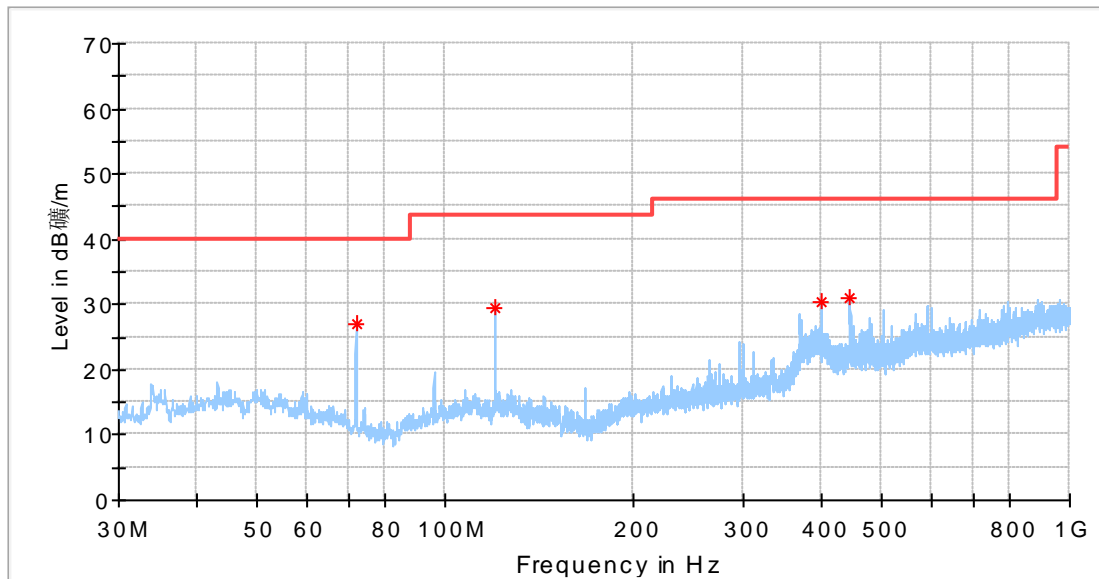
Frequency (MHz)	MaxPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.482000	27.08	56.30	29.23	N	9.7
2.238000	26.22	56.00	29.78	N	9.7
4.982000	29.77	56.00	26.23	N	9.8

Test Equipment List**Conducted emission test**

Equipment	Manufacturer	Model No.	Serial No.	Cal. due. date
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2015-8-17
LISN	Rohde & Schwarz	ENV4200	100249	2015-8-17
LISN	Rohde & Schwarz	ENV216	100326	2015-8-17
ISN	Rohde & Schwarz	ENY81	100177	2015-8-17
ISN	Rohde & Schwarz	ENY81-CAT6	101664	2015-8-17
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-58	2015-8-17
RF Current probe	Rohde & Schwarz	EZ-17	100816	2015-8-17

7.2 Radiated Emission Test 30MHz – 1000MHz

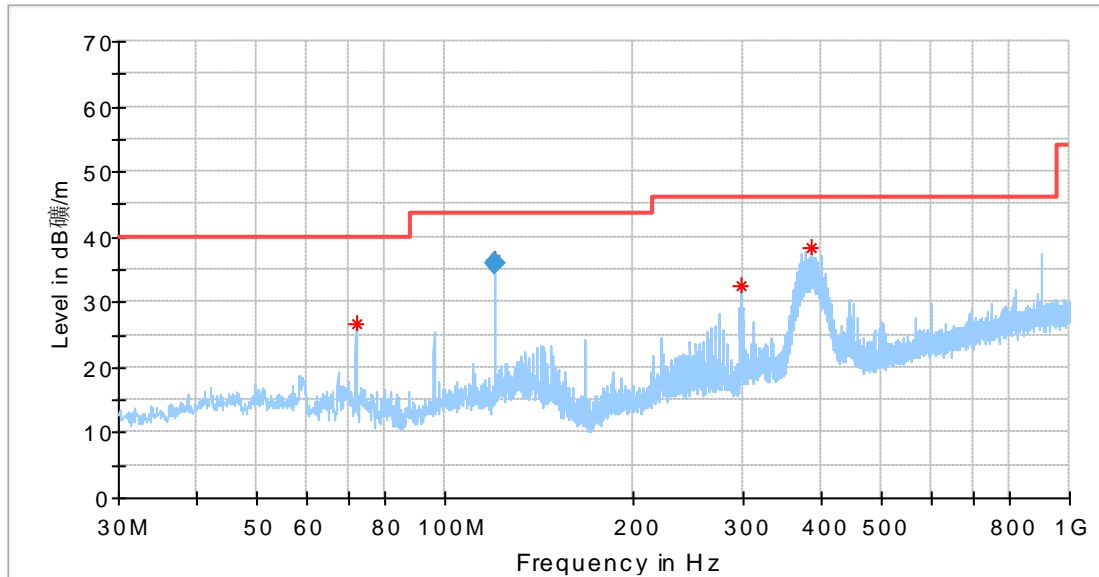
Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Downloading
 Ant. Polarity : Vertical
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
71.952500	26.99	40.00	13.01	---	---	200.0	V	283.0	10.6
119.96750	29.53	43.50	13.97	---	---	100.0	V	5.0	12.2
399.99437	30.25	46.00	15.75	---	---	100.0	V	132.0	18.0
443.76562	31.13	46.00	14.87	---	---	100.0	V	32.0	18.6

7.2 Radiated Emission Test 30MHz – 1000MHz

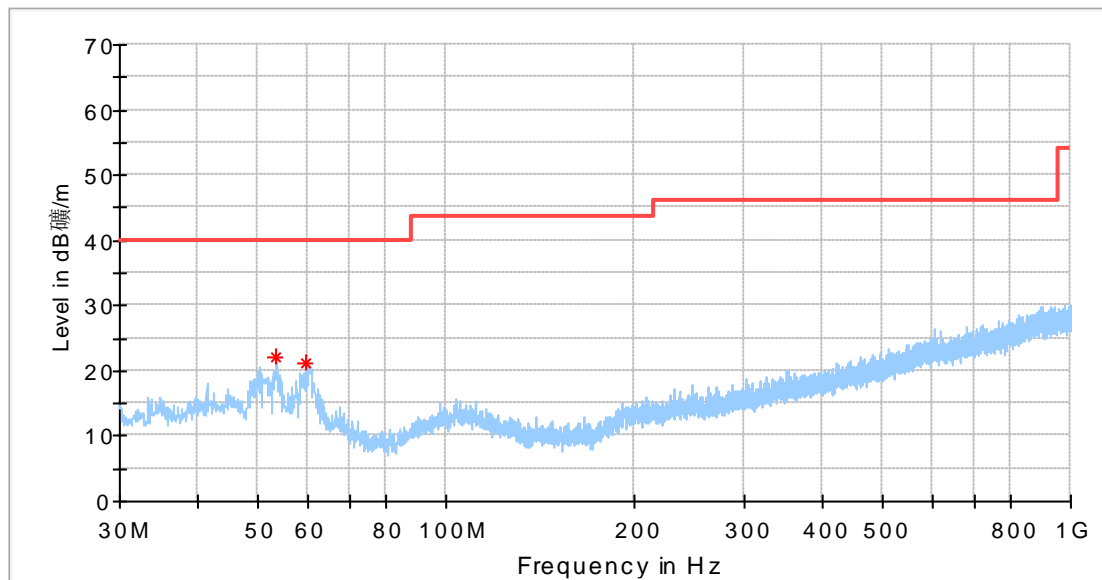
Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Downloading
 Ant. Polarity : Horizontal
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
71.952500	26.76	40.00	13.24	---	---	200.0	H	355.0	10.6
120.00065	35.89	43.50	7.61	10.0	120.000	294.0	H	-84.0	12.2
298.75062	32.41	46.00	13.59	---	---	100.0	H	69.0	15.6
385.86875	38.31	46.00	7.69	---	---	100.0	H	344.0	17.8

7.2 Radiated Emission Test 30MHz – 1000MHz

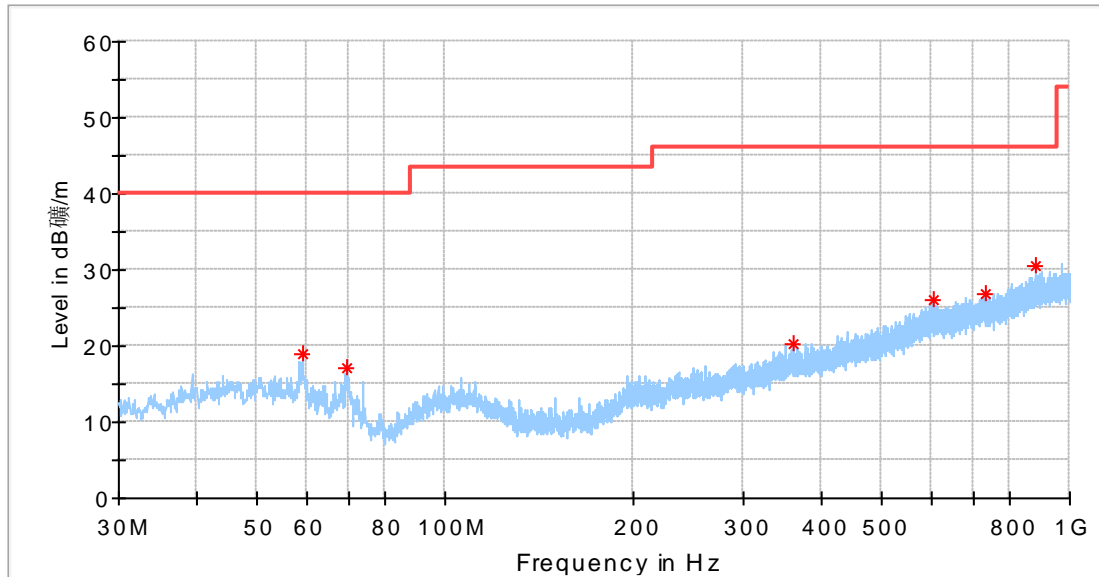
Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Normal Working
 Ant. Polarity : Vertical
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
53.461875	22.13	40.00	17.87	---	---	100.0	V	143.0	15.0
59.766875	21.05	40.00	18.95	---	---	100.0	V	143.0	13.9

7.2 Radiated Emission Test 30MHz – 1000MHz

Product Type : SP1 Snow Profiler
 M/N : 100000
 Operating Condition : Downloading
 Ant. Polarity : Horizontal
 Comment : 30-1000MHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
59.221250	19.06	40.00	20.94	---	---	100.0	H	305.0	14.0
69.709375	17.12	40.00	22.88	---	---	100.0	H	0.0	11.4
360.52750	20.30	46.00	25.70	---	---	100.0	H	177.0	17.1
604.48250	25.96	46.00	20.04	---	---	100.0	H	49.0	21.7
731.06750	26.96	46.00	19.04	---	---	100.0	H	0.0	23.1
879.53812	30.61	46.00	15.39	---	---	100.0	H	0.0	25.6

Test Equipment List**Radiated Emission Test**

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	2015-8-17
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2017-8-17
Horn Antenna	Rohde & Schwarz	HF907	102294	2017-8-17
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2015-8-17
3m Semi-anechoic chamber	TDK	9X6X6	----	2019-5-29