Nemko Korea Co., Ltd.

(Designation Number : KR0026)

155 & 159, Osan-Ro, Mohyeon-Myeon, Cheoin-Gu, Yongin-Si, Gyeonggi-Do 16885 KOREA, REPUBLIC OF
TEL : + 82 31 330 1700 FAX : + 82 31 322 2332

Declaration of Conformity

Applicant :

SmartThings, Inc.
456 University Avenue Palo Alto
CA 94301, USA
Attn : Mr. Martin Hernandez-Palomares

Dates of Issue : March 08, 2016
Test Report No. : NK-16-E-0017
Test Site : Nemko Korea Co., Ltd.
EMC site, Korea

Model	***F-USB-US-V1***
Trade Mark	***SmartThings***
Contact Person	**SmartThings, Inc.** **456 University Avenue Palo Alto CA 94301, USA** **Mr. Martin Hernandez-Palomares** **Telephone No. : +1 650 600 8159**

Applied Standard : FCC Part 15 Subpart B & Part 2, ICES-003
Classification : FCC Class B Device
EUT Type : Extend USB Stick

The device bearing the brand name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2009.
The test results of this report are deemed satisfactory evidence of compliance with Industry Canada Interference-causing Equipment Standard ICES-003.
I attest to the accuracy of data and all measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Mar 08, 2016
Tested By : Myonghwan Noh
Engineer

Mar. 08. 2016
Reviewed By : Changsoo Choi
Technical Manager

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DUTIES OF THE RESPONSIBLE PARTY

For DECLARATION of CONFORMITY (DoC)

The responsible party upon signing or accepting the Declaration of Conformity as specified in Section 2.906 of the FCC Rules hereby agrees to the duties listed below.

§2.1073(a).
The responsible party warrants that each unit of equipment marketed under DoC is identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced is within the variation that can be expected due to quantity production and testing on a statistical basis.

§2.1073(b).
The responsible party must have a written statement from the manufacturer or accredited test laboratory that the equipment complies with the appropriate technical standards.

§2.1073(c).
In case of transfer of control of equipment, as in the case of sale or merger, the new responsible party shall bear the responsibility of continued compliance of the equipment.

§2.1073(d).
Equipment shall be retested if any modifications or changes are made that could adversely affect the emanation characteristics of the equipment.

§2.1073(e).
If any modifications or changes made by anyone other than the responsible party, the party making the modifications or changes, if located within the U.S., becomes the new responsible party. The new responsible party must comply with all provisions for the DoC, including having test data on file demonstrating that the product continues to comply with all of the applicable technical standards.

§2.1075(a)(1).
The responsible party shall maintain records of the original design drawings and specifications and all changes mode to the product that may affect compliance.

§2.1075(a)(2).
The responsible party shall maintain records of the procedures used for production inspection and testing to insure the conformance with the FCC Rules.

§2.946(a)(1).
The test report data shall be provided to the FCC within 14 days of delivery of request. The test sample(s) shall be provided within 60 days of delivery of request.

§2.946(b).
In case involving harmful interference or safety of life or property, the production sample must be provided within 60 days, but not less than 14 days. Failure to comply with such a request with the time frame shown may be cause for forfeiture, pursuant to Section 1.80 of Part 1 of the FCC Rules.

※The Responsible Party is the manufacturer, system integrator, or the importer as defined in Section 2.909 of the FCC Rules. The Responsible Party for a DoC must be located within the United States as specified in Section 2.1077.

SCOPE

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission under FCC part 15.

Responsible Party :	SmartThings, Inc.
Contact Person :	Mr. Martin Hernandez-Palomares Tel No.: +1 650 600 8159
Manufacturer :	SmartThings, Inc. 456 University Avenue Palo Alto CA 94301, USA

- Model : F-USB-US-V1
- EUT Type: Extend USB Stick
- Trade Mark: SmartThings
- Electric Rating: d.c. 5 V
- Test Voltage: a.c. 120 V, 60 Hz (Host Unit)
- Internal Frequency Z-WAVE (X-tal) : 32 ㎒, ZIGBEE (X-tal) : 24 ㎒
- Classification: FCC Class B Device
- Applied Standard: FCC Part 15 Subpart B & Part 2, ICES-003
- Test Procedure(s): ANSI C63.4 (2009)
- Dates of Test: January 08, 2016 to January 20, 2016
- Place of Tests: Nemko Korea Co., Ltd. EMC Site
- Test Report No.: NK-16-E-0017

INTRODUCTION

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2009) was used in determining radiated and conducted emissions emanating from **SmartThings, Inc.**
Model : **F-USB-US-V1, Extend USB Stick.**

These measurement tests were conducted at ***Nemko Korea Co., Ltd. EMC Laboratory***.
The site address is 155 & 159, Osan-Ro, Mohyeon-Myeon, Cheoin-Gu, Yongin-Si, Gyeonggi-Do 16885 KOREA, REPUBLIC OF
The area of Nemko Korea Corporation Ltd. EMC Test Site is located in a mountain area at 80 kilometers (48 miles) southeast and Incheon International Airport (Incheon Airport), 30 kilometers (18 miles) south-southeast from central Seoul.

The Nemko Korea Co., Ltd. Has been accredited as a Conformity Assessment Body(CAB).

Nemko Korea Co., Ltd.
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Cheoin-Gu, Yongin-Si, Gyeonggi-Do
16885 KOREA, REPUBLIC OF
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Fig. 1. The map above shows the Seoul in Korea vicinity area.
The map also shows Nemko Korea Corporation Ltd. EMC Lab and Incheon Airport.

TEST CONDITIONS & EUT INFORMATION

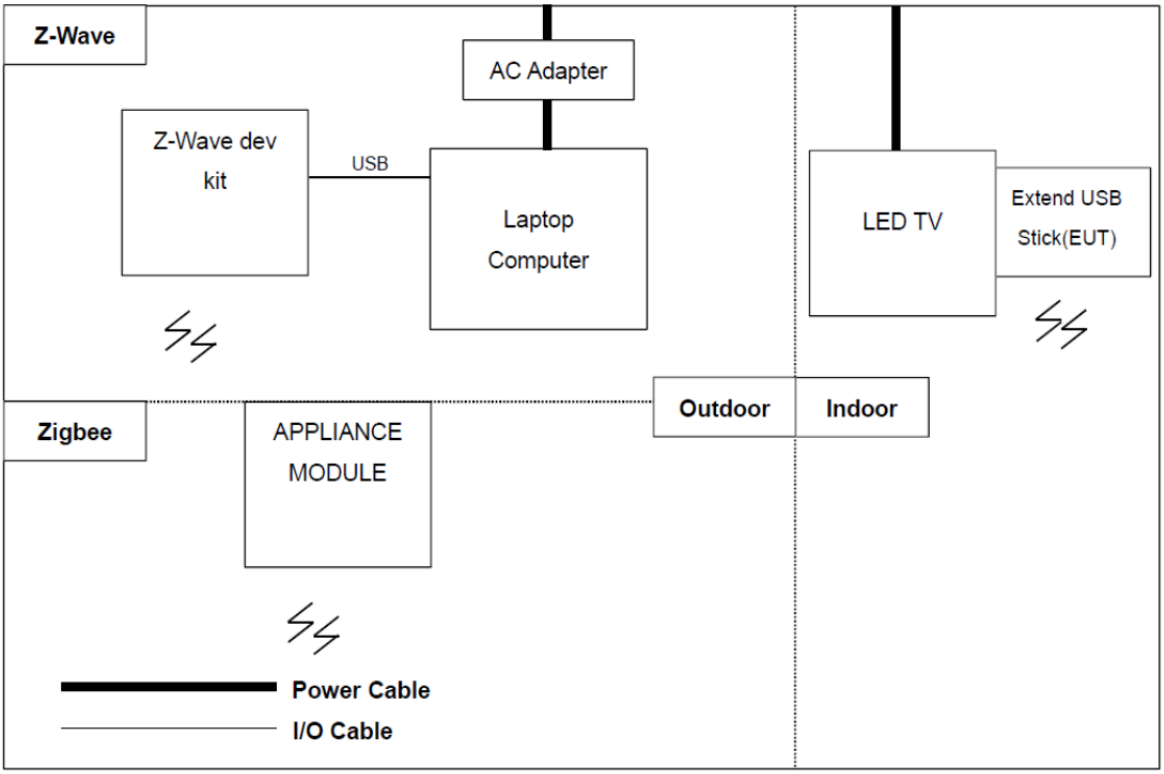
Operating During Test

Z-Wave mode : Extend USB Stick and Z-Wave dev kit are connected.
Zigbee mode : Extend USB Stick and APPLAINCE MODULE are connected.
The test was performed at each mode in accordance with manufacturer's specification.

Support Equipment

Extend USB Stick (EUT)	SmartThings, Inc.	FCC DOC S/N : N/A
LED TV	Samsung Electronics Co., Ltd. Model : UE55JU6600U 1.7 m unshielded Power cable	S/N : N/A
Laptop Computer	HP Model : HSTNN-E08C 1.7 m unshielded Power cable 1.4 m shielded USB cable	S/N : 5CH1360547
AC Adapter	Chicony Power Technology(SUZHOU) co., Ltd. Model : PPP016C 1.7 m unshielded Power cable	S/N : F12961129009729
APPLIANCE MODULE	CentraLite Systems Inc. Model : 4257050-RZHAC	S/N : HNR000005184
Z-Wave dev kit	Model : ZDP03A	S/N : N/A

Setup Drawing



SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specification:

Name of Test	Paragraph No.	Result	Remark
Conducted Emission	15.107(a)	Complies	
Radiated Emission	15.109(g)	Complies	Below 1 GHz
Radiated Emission	15.109(a)	N/A	Above 1 GHz

RECOMMENDATION/CONCLUSION

The data collected shows that the **SmartThings, Inc.**
Model : F-USB-US-V1, Extend USB Stick.
The highest emission observed was at **1.09 MHz** for conducted emissions with a Average margin of **8.2 dB,** at **890.63 MHz** for radiated emissions with a QP margin of **3.5 dB.**

SAMPLE CALCULATION

$$dB\,\mu N = 20 \log_{10}(\mu N/m)$$

$$\mu N = 10^{(dB\,\mu N/20)}$$

EX.

@165.0 MHz Class B limit = 30.0 dB μN/m

Reading = 38.2 dB μN(calibrated level)
Antenna factor + Cable Loss + Amplifier Gain = -12.9 dB
Total = 25.30 dB μN/m
Margin = 30.0 – 25.30 = 4.70
4.70 dB below the limit

DESCRIPTION OF TESTS

Conducted Emissions

The Line conducted emission test facility is located inside a 4 x 7 x 2.5 m shielded enclosure.
It is manufactured by EM engineering. The shielding effectiveness of the shielded room is in accordance with MIL-STD-285 or NSA 65-6.
A 1 m x 1.5 m wooden table 0.8 m height is placed 0.4 m away from the vertical wall and 0.5 m away from the side of wall of the shielded room Rohde & Schwarz (ENV216) of the 50 ohm / 50 uH Line Impedance Stabilization Network(LISN) are bonded to the shielded room.
The EUT is powered from the Rohde & Schwarz (ENV216) LISN.
Power to the LISN s are filtered by high-current high insertion loss power line filters.
The purpose of filter is to attenuate ambient signal interference and this filter is also bonded to shielded enclosure. All electrical cables are shielded by tinned copper zipper tubing with inner diameter of 1 / 2 ”.
If d.c. power device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the LISNs,
All interconnecting cables more than 1 m were shortened by non-inductive bundling (serpentine fashion) to a 1 m length.
Sufficient time for EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT.
The spectrum was scanned from 150 kHz to 30 MHz with 20 ms sweep time.
The frequency producing the maximum level was re-examined using the EMI test receiver. (Rohde & Schwarz ESCI).
The detector functions were set to Quasi-peak mode & average mode.
The bandwidth of receiver was set to 9 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.
Each emission was maximized by; switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux a.c. outlet, if applicable; whichever determined the worst case emission.
Each EME reported was calibrated using the R&S signal generator.

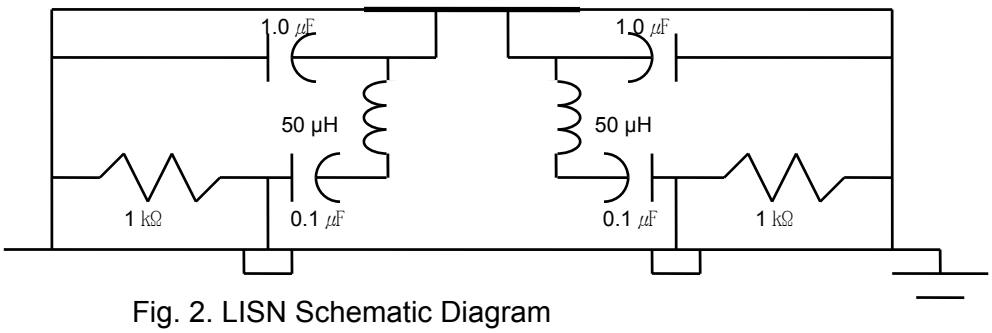


Fig. 2. LISN Schematic Diagram

DESCRIPTION OF TESTS

Radiated Emissions

Measurement were made indoors at 10 m using antenna, signal conditioning unit and EMI test receiver to determine the frequency producing the maximum EME.
Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The Technology configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna was note for each frequency found.
The test receiver was scanned from 30 MHz to 1 000 MHz using TRILOG Broadband Test Antenna (Schwarzbeck, VULB 9163).
The test equipment was placed on a wooden table.
Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.
Each frequency found during scan measurements was reexamined and investigated using EMI test receiver. (ESU 40)
The detector function were set to Quasi-peak and peak mode and the bandwidth of the receiver were set to 120 kHz and 1 MHz depending on the frequency or type of signal.
The EUT support equipment and interconnecting cables were re configured to the setup producing the maximum emission for the frequency and were placed on top of a 0.8 m high non- metallic 1.0 m x 1.5 m table.
The EUT, support equipment and interconnecting cables were re-arranged and manipulated to maximize each EME emission.
The turn table containing the Technology was rotated; the antenna height was varied 1 to 4 meter and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by : switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux a.c. outlet, if applicable; whichever determined the worst case emission.
Each EME reported was calibrated using the R/S signal generator.

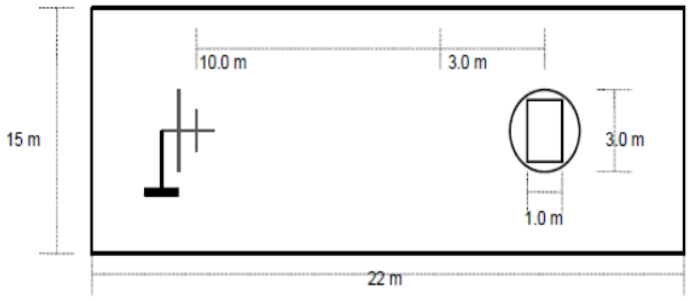


Fig. 3. Dimensions of 10 semi anechoic chamber

TEST DATA

Conducted Emissions

▶ **Zigbee**

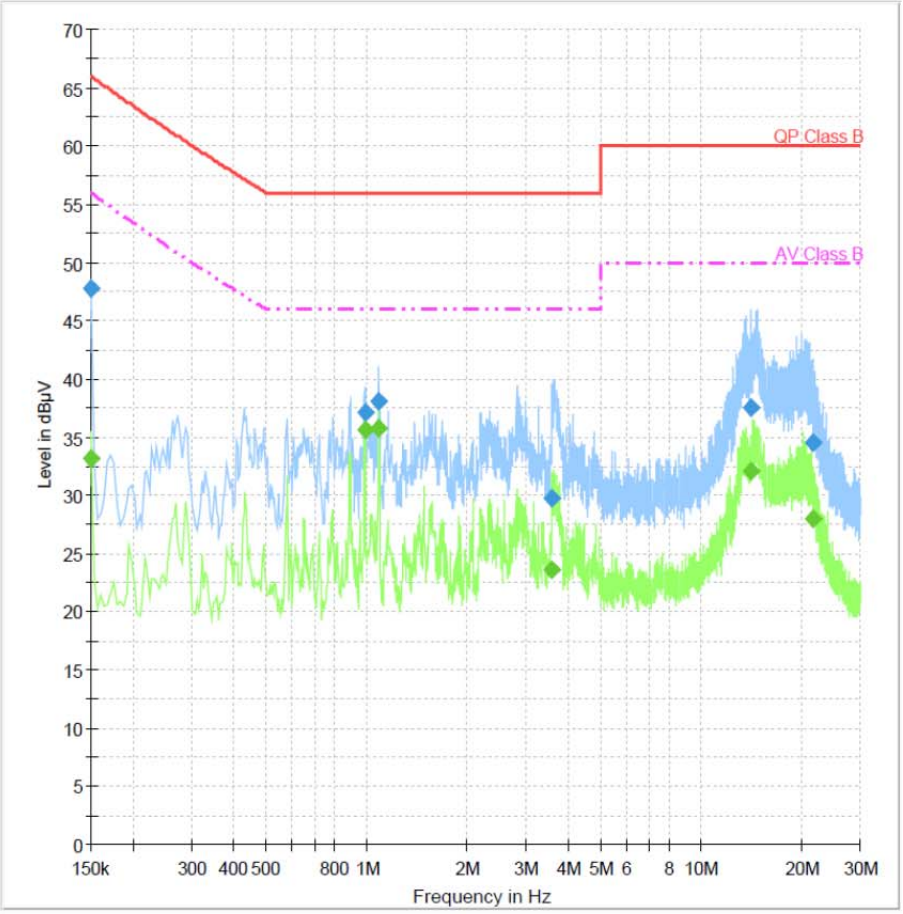
Test Report

Common Information

Test Site:	Nemko Korea(NK-16-E-0017)
Test Description:	Conducted emission
Test Standard:	FCC Part 15 Subpart B Class B
Environment Conditions:	a.c. 120 V, 60 Hz
Operator Name:	Myonghwan Noh
Model:	F-USB-US-V1
Mode:	ZIGBEE

1.EMI Auto Test_2-Line Voltage LISN

1.EMI Auto Test_2-Line Voltage LISN



1/20/2016

EMI Auto Test(1) 2 / 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	47.7	15000.0	9.000	On	N	9.7	18.3	66.0	
0.989531	37.1	15000.0	9.000	On	L1	9.9	18.9	56.0	
1.086544	38.0	15000.0	9.000	On	L1	9.8	18.0	56.0	
3.590212	29.8	15000.0	9.000	On	L1	9.8	26.2	56.0	
14.157112	37.6	15000.0	9.000	On	L1	10.0	22.4	60.0	
21.750206	34.5	15000.0	9.000	On	N	10.0	25.5	60.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	33.1	15000.0	9.000	On	N	9.7	22.9	56.0	
0.989531	35.7	15000.0	9.000	On	L1	9.9	10.3	46.0	
1.086544	35.7	15000.0	9.000	On	L1	9.8	10.3	46.0	
3.590212	23.6	15000.0	9.000	On	L1	9.8	22.4	46.0	
14.157112	32.1	15000.0	9.000	On	L1	10.0	17.9	50.0	
21.750206	27.9	15000.0	9.000	On	N	10.0	22.1	50.0	

1/20/2016

Table 1. Line Conducted Emissions Tabulated Data

▶ **Z-Wave**

EMI Auto Test(1) 1 / 2

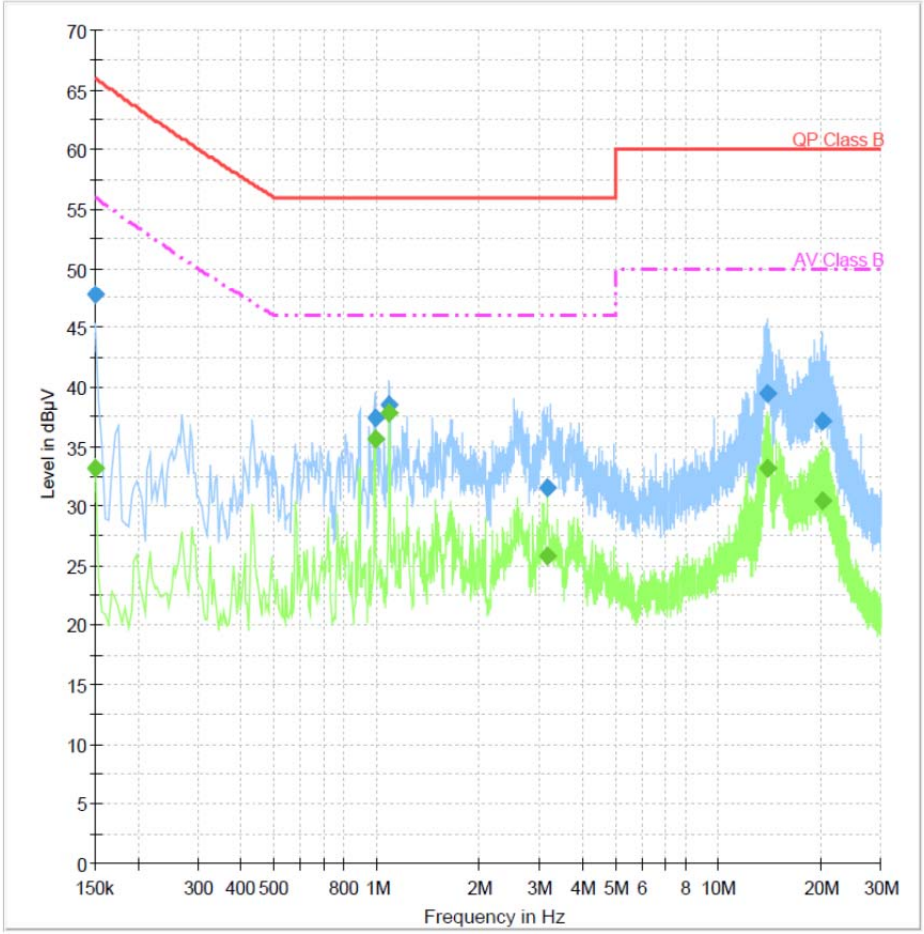
Test Report

Common Information

Test Site:	Nemko Korea(NK-16-E-0017)
Test Description:	Conducted emission
Test Standard:	FCC Part 15 Subpart B Class B
Environment Conditions:	a.c. 120 V, 60 Hz
Operator Name:	Myonghwan Noh
Model:	F-USB-US-V1
Mode:	Z-WAVE

1.EMI Auto Test_2-Line Voltage LISN

1.EMI Auto Test_2-Line Voltage LISN



1/20/2016

EMI Auto Test(1) 2 / 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	47.8	15000.0	9.000	On	N	9.7	18.2	66.0	
0.989531	37.4	15000.0	9.000	On	N	9.8	18.6	56.0	
1.090275	38.5	15000.0	9.000	On	N	9.8	17.5	56.0	
3.161119	31.5	15000.0	9.000	On	L1	9.8	24.5	56.0	
14.015325	39.5	15000.0	9.000	On	N	9.9	20.5	60.0	
20.306212	37.2	15000.0	9.000	On	N	10.0	22.8	60.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	33.2	15000.0	9.000	On	N	9.7	22.8	56.0	
0.989531	35.7	15000.0	9.000	On	N	9.8	10.3	46.0	
1.090275	37.8	15000.0	9.000	On	N	9.8	8.2	46.0	
3.161119	25.7	15000.0	9.000	On	L1	9.8	20.3	46.0	
14.015325	33.2	15000.0	9.000	On	N	9.9	16.8	50.0	
20.306212	30.5	15000.0	9.000	On	N	10.0	19.5	50.0	

1/20/2016

Table 2. Line Conducted Emissions Tabulated Data

NOTES:

1. ***Measurements using Quasi-peak mode & average mode.***
2. ***All modes of operation were investigated and the worst -case emission are reported. See attached Plots.***
3. ***LINE : L1 = Line , N = Neutral***
4. ***The limit for Class B device is on the FCC Part section 15.107(a).***

Tested by : ***Myonghwan Noh***

TEST DATA

Radiated Emissions (Below 1 GHz)

▶ **Zigbee**

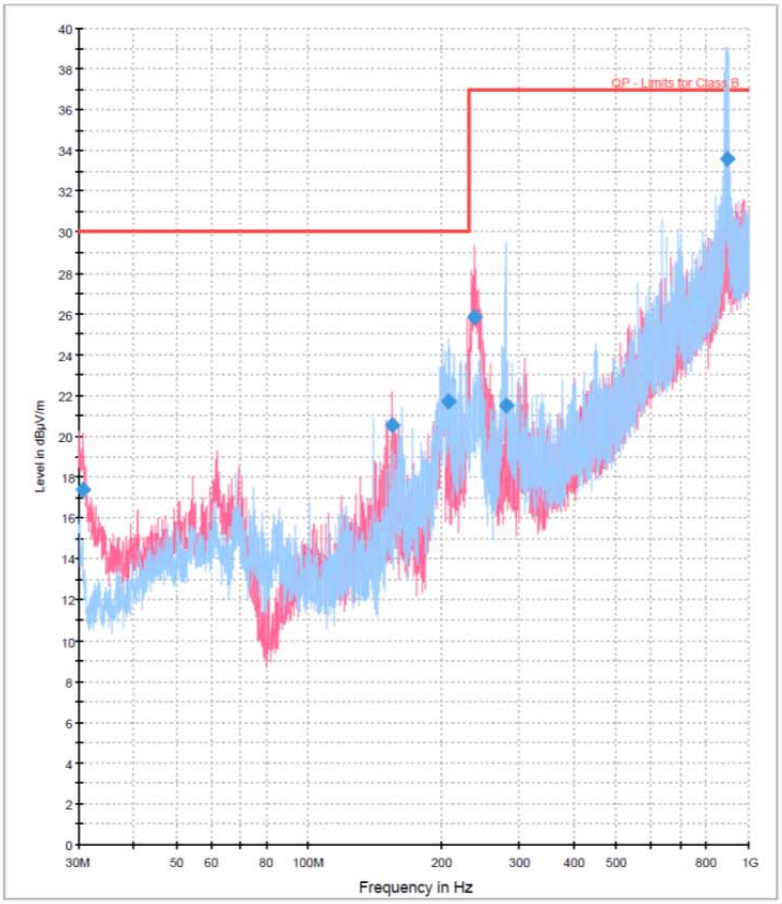
Test Report

Common Information

Test Description :	Radiated Emission(NK-16-E-0017)
Test Site :	Nemko 10 m Chamber
Test Standard :	FCC Part 15 Subpart B Class B
Environment Conditions :	a.c. 120 V, 60 Hz
Operator Name :	Myonghwan.Noh
Model :	F-USB-US-V1
	ZIGBEE

1. Electric Field Strength (30M-1GHz)_final

1. Electric Field Strength (30M-1GHz)_final



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Test 2 / 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
30.630500	17.4	15000.0	120.000	117.0	V	175.0	-25.4	12.6
155.130000	20.6	15000.0	120.000	100.0	V	-17.0	-26.9	9.4
208.286000	21.7	15000.0	120.000	270.0	H	122.0	-23.8	8.3
237.095000	25.8	15000.0	120.000	100.0	V	149.0	-22.0	11.2
279.920500	21.5	15000.0	120.000	130.0	H	301.0	-20.1	15.5
890.632500	33.5	15000.0	120.000	100.0	H	158.0	-6.9	3.5

(continuation of the "Final Result 1" table from column 9 ...)

Frequency (MHz)	Limit (dBµV/m)	Comment
30.630500	30.0	
155.130000	30.0	
208.286000	30.0	
237.095000	37.0	
279.920500	37.0	
890.632500	37.0	

1/15/2016

Table 3. Radiated Measurements at 10 meters

▶ **Z-Wave**

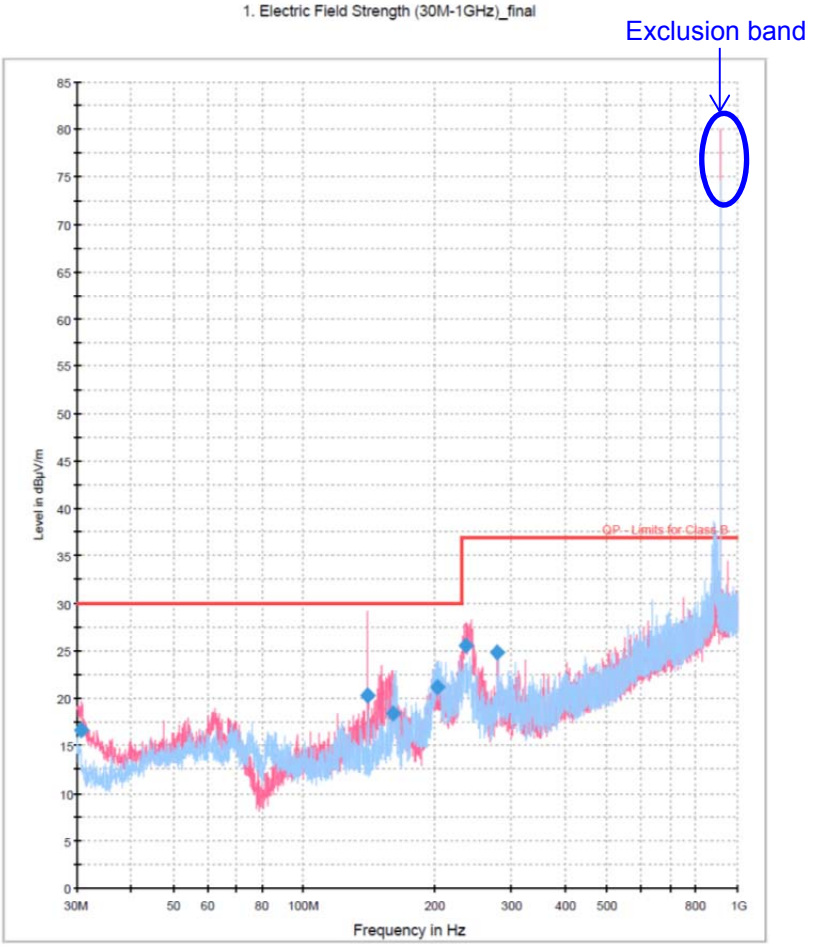
Test 1 / 2

Test Report

Common Information

Test Description :	Radiated Emission(NK-16-E-0017)
Test Site :	Nemko 10 m Chamber
Test Standard :	FCC Part 15 Subpart B Class B
Environment Conditions :	a.c. 120 V, 60 Hz
Operator Name :	Myonghwan.Noh
Model :	F-USB-US-V1
	Z-WAVE

1. Electric Field Strength (30M-1GHz)_final



1/16/2016

Test 2 / 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
30.679000	16.7	15000.0	120.000	130.0	V	201.0	-25.4	13.3
140.483000	20.3	15000.0	120.000	100.0	V	341.0	-27.4	9.7
161.095500	18.4	15000.0	120.000	100.0	V	155.0	-26.7	11.6
202.805500	21.1	15000.0	120.000	370.0	H	121.0	-24.0	8.9
236.367500	25.5	15000.0	120.000	100.0	V	125.0	-22.0	11.5
279.823500	24.9	15000.0	120.000	370.0	V	339.0	-20.1	12.1

(continuation of the "Final Result 1" table from column 9 ...)

Frequency (MHz)	Limit (dBµV/m)	Comment
30.679000	30.0	
140.483000	30.0	
161.095500	30.0	
202.805500	30.0	
236.367500	37.0	
279.823500	37.0	

1/16/2016

Table 4. Radiated Measurements at 10 meters

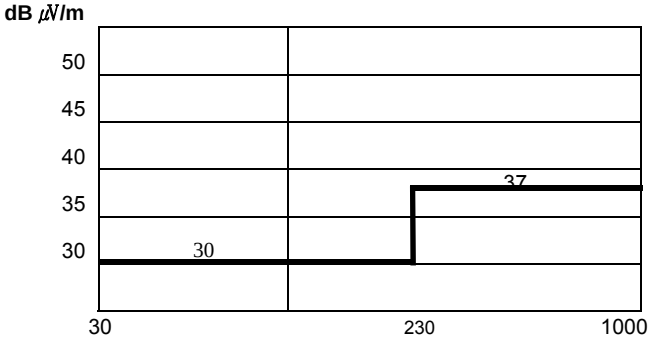


Fig. 4. Limits at 10 meters

NOTES:

1. All modes were measured and the worst-case emission was reported.

2. Below 1 GHz, the radiated limits are shown on Figure 5.

3. CISPR 22 limit will be applied for radiated emission test.

NOTES:

1. *Pol. H = Horizontal V = Vertical

2. **Corr. = Antenna Factor + Cable Loss + Amplifier.

3. Measurements using Quasi-peak mode below 1 GHz.

4. The limit for Class B device is on the FCC Part section 15.109(g).

Tested by : ***Myonghwan Noh***

ACCURACY OF MEASUREMENT

The Measurement Uncertainties stated were calculated in accordance with the requirements of measurement uncertainty contained in CISPR 16-4-2 with the confidence level of 95 %

1. Conducted Uncertainty Calculation

Source of Uncertainty	*Xi*	Uncertainty of *Xi*		Coverage factor *k*	*u(Xi)* (dB)	*Ci*	*Ci u(Xi)* (dB)
		Value (dB)	Probability Distribution				
Measurement System Repeatability	R_S	0.88	normal 1	1.00	0.88	1	0.88
Receiver reading	*Ri*	± 0.02	normal 2	2.00	0.01	1	0.01
Attenuation AMN-Receiver	*LC*	± 0.10	rectangular	$\sqrt{3}$	0.06	1	0.06
AMN Voltage division factor	*LAMN*	± 0.09	normal 2	2.00	0.05	1	0.05
Sine wave voltage	*dVSW*	± 0.17	normal 2	2.00	0.09	1	0.09
Pulse amplitude response	*dVPA*	± 0.92	normal 2	2.00	0.50	1	0.50
Pulse repetition rate response	*dVPR*	± 0.35	normal 2	2.00	0.18	1	0.18
Noise floor proximity	*dVNF*	± 0.00	rectangular	$\sqrt{3}$	0.00	1	0.00
AMN Impedance	*dZ*	± 2.00	normal 2	2.00	1.00	1	1.00
Mismatch	*M*	+ 0.80 - 0.89	U-Shaped	$\sqrt{2}$	0.60	1	0.60
Remark	Using 50 Ω / 50 uH AMN						
Combined Standard Uncertainty	Normal			*uc* = 1.56 dB			
Expended Uncertainty U	Normal (*k* = 2)			*U* = 3.1 dB (CL is 95 %)			

2. Radiation Uncertainty Calculation (Below 1 GHz)

Source of Uncertainty	Xi	Uncertainty of Xi		Coverage factor	u(Xi)	Ci	Ci u(Xi)
		Value (dB)	Probability Distribution	k	(dB)		(dB)
Measurement System Repeatability 1)	R_S	0.67	normal 1	1.00	0.67	1	0.67
Receiver reading 2)	R_i	± 0.02	normal 2	2.00	0.01	1	0.01
Sine wave voltage 3)	dV_{sw}	± 0.17	normal 2	2.00	0.09	1	0.09
Pulse amplitude response 4)	dV_{pa}	± 0.92	normal 2	2.00	0.46	1	0.46
Pulse repetition rate response 5)	dV_{pr}	± 0.35	normal 2	2.00	0.18	1	0.18
Noise floor proximity 6)	dV_{nf}	± 0.50	normal 2	2.00	0.25	1	0.25
Antenna Factor Calibration 7)	A_F	± 2.00	rectangular	$\sqrt{3}$	1.15	1	1.15
Cable Loss 8)	C_L	± 1.00	normal 2	2.00	0.50	1	0.50
Antenna Directivity 9)	A_D	± 0.00	rectangular	$\sqrt{3}$	0.00	1	0.00
Antenna Factor Height Dependence 10)	A_H	± 2.00	rectangular	$\sqrt{3}$	1.15	1	1.15
Antenna Phase Centre Variation 11)	A_P	± 0.20	rectangular	$\sqrt{3}$	0.12	1	0.12
Antenna Factor Frequency Interpolation 12)	A_i	± 0.25	rectangular	$\sqrt{3}$	0.14	1	0.14
Site Imperfections 13)	S_i	± 4.00	triangular	$\sqrt{6}$	1.63	1	1.63
Measurement Distance Variation 14)	D_V	± 0.60	rectangular	$\sqrt{3}$	0.35	1	0.35
Antenna Balance 15)	D_{bal}	± 0.90	rectangular	$\sqrt{3}$	0.52	1	0.52
Cross Polarisation 16)	D_{Cross}	± 0.00	rectangular	$\sqrt{3}$	0.00	1	0.00
Mismatch 17)	M	+ 0.98 - 1.11	U-Shaped	$\sqrt{2}$	0.74	1	0.74
EUT Volume Diameter	Vd	0.33	normal 1	1.00	0.33	1	0.11
Combined Standard Uncertainty	Normal			*uc* = 2.72 dB			
Expended Uncertainty U	Normal (*k* = 2)			5.4 dB (CL is 95 %)			

LIST OF TEST EQUIPMENT

No.	Instrument	Manufacturer	Model	Serial No.	Due to Calibration	Calibration Interval
1	EMI Test Receiver	R&S	ESCI	101041	Apr. 01 2016	1 year
2	Software	R&S	EMC32	Version 8.53.0	-	-
3	TWO-LINE V-NETWORK	R&S	ENV216	101156	Apr. 01 2016	1 year
4	EMI Test Receiver	R&S	ESU 40	100202	Apr. 01 2016	1 year
5	Software	R&S	EMC32	Version 8.53.0	-	-
6	TRILOG Broadband Test Antenna	SCHWARZBECK	VULB 9163	9163-454	Feb. 11 2016	2 year
7	ATTENUATOR	FAIRVIEW	SA3N5W-06	N/A	Apr. 01 2016	1 year
8	Controller	innco systems GmbH	CO2000-G	CO2000/562/ 23890210/L	N/A	N/A
9	Open Switch and Control Unit	R&S	OSP-120	100015	N/A	N/A
10	Antenna Mast (Left)	innco systems GmbH	MA4000-EP	N/A	N/A	N/A
11	Turn Table	innco systems GmbH	DT3000-3T	N/A	N/A	N/A
12	Signal Conditioning Unit	R&S	SCU 01	10030	Apr. 01 2016	1 year

APPENDIX D – BLOCK DIAGRAM

APPENDIX E – USER'S MANUAL

APPENDIX F – SCHEMATIC DIAGRAM