TEST REPORT

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

1. Client

◦ Name : BITFINDER, INC.

◦ Address : 40 boardman pl, 2F, San Francisco, California, 94103, United States

◦ Date of Receipt : 2019-09-30

2. Manufacturer

◦ Name : BITFINDER, INC.

◦ Address : 13F WeWork, 343 Samil-Daero, Jung-Gu, Seoul, Republic of Korea

3. Use of Report : For FCC Certification

4. Test Sample / Model: AWAIR Omni Surface Mount / AWAOMNSURF

5. Date of Test : 2019-10-08 to 2019-10-21

6. Test Standard(method) used : FCC 47 CFR part 15 subpart C 15.247

7. Testing Environment: Temp.: (23 ± 1) ℃, Humidity: (48 ± 1) % R.H.

8. Test Results : Compliance

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

Affirmation	Tested by Ji-Hye Kim: (Signature)	Technical Manager Won-Jae, Hwang: (Signature)

2019-10-22

Republic of KOREA **CTK Co., Ltd.**

REPORT REVISION HISTORY

Date	Revision	Page No
2019-10-22	Issued (CTK-2019-04207)	all

CONTENTS

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

1. General Product Description

1.1 Client Information

Company	BITFINDER, INC.
Contact Point	40 boardman pl, 2F, San Francisco, California, 94103, United States
Contact Person	Name : Lee Jun Seo E-mail : junseo@getawair.com Tel : +82-2-6952-4827

1.2 Product Information

FCC ID	2AF65AWAIRBKT
Product Description	AWAIR Omni Surface Mount
Model name	AWAOMNSURF
Operating Frequency	125KHz Bandwidth : 902.3 MHz to 914.9 MHz 500KHz Bandwidth : 903.0 MHz to 914.2 MHz
Antenna type	Monopole Antenna
Antenna gain	-1 dBi
Number of channels	125KHz Bandwidth : 64 500KHz Bandwidth : 8
Channel Spacing	125KHz Bandwidth : 200 kHz 500KHz Bandwidth : 1.6 MHz
Type of Modulation	DSSS
Power Source	DC 5 V, DC 12 V, PoE 48 V
Hardware Rev	OMNI SURFACE MOUNT REV3
Software Rev	awair-lora-backplate_1.0.0 & awair-eth-backplate_0.2.2

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	Samsung Electronics Co., Ltd.	NT-RC530	HPFG91EC300116B
Adaptor	Tech-Power Electric Co., LTd.	NT01	-
TRAVEL ADAPTER	Samsung Electronics Co., Ltd.	EP-TA10EWE	SL4G307WS/B-E
AWAIR Omni in-wall Mount	BITFINDER, INC.	AWAOMNINWALL	-

2. Facility and Accreditations

2.1 Test Facility

The measurement facility is located at (Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea.

2.2 Laboratory Accreditations and Listings

Country	Agency	Registration Number
USA	FCC	805871
CANADA	ISED	8737A-2
KOREA	NRRA	KR0025

2.3 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

3. Test Specifications

3.1 Standards

FCC Part Section(s)	Requirement(s)	Status (Note 1)	Test Condition
15.209	Radiated Emissions	C	Radiated
15.207	AC Conducted Emissions	C	Line Conducted
Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable			
Note 2: The data in this test report are traceable to the national or international standards.			
Note 3: The sample was tested according to the following specification: FCC Part 15.247			
Note 4: The tests were performed according to the method of measurements prescribed in KDB No.558074, ANSI C63.10-2013			
etc. : The conformity assessment of except for this item was confirmed by the RF module installed in the device. Refer to module test report. (Test Report No. SHEM160900621801 issued on Dem. 20, 2016 by SGS-CSTC Standards Technical Services(Shanghai) Co., Ltd. Module FCC ID : VPYCMABZ) Test was performed by modular transmitter.			

3.2 Mode of operation during the test

The EUT is operated in a manner representative of the typical of the equipments.
During at testing, system components were manipulated within the confines of typical usage to maximize each emission. All modulation modes were tests.
The results are only attached worst cases.
This EUT is supported the DC 5 V, DC 12 V and PoE 48 V. We have done all test mode.
Worst case is DC 5 V. So the worst data of DC 5 V are shown.

Test Frequency

- 125 kHz Bandwidth

Lowest channel	Middle channel	Highest channel
902.3 MHz	908.5 MHz	914.9 MHz

- 500 kHz Bandwidth

Lowest channel	Middle channel	Highest channel
903 MHz	907.8 MHz	914.2 MHz

Modulation Type

Modulation type	DSSS

3.3 Maximum Measurement Uncertainty

The value of the measurement uncertainty for the measurement of each parameter.
Coverage factor k = 2, Confidence levels of 95 %

Description	Uncertainty
Conducted RF Output Power	1.5 dB
Power Spectral Density	1.5 dB
Occupied Bandwidth	0.1 MHz
Unwanted Emission(conducted)	3.0 dB
Radiated Emissions (f ≤ 1 GHz)	4.0 dB
Radiated Emissions (f > 1 GHz)	5.0 dB

4. Technical Characteristic Test

4.1 Radiated Emission

Test Location

☒ 10 m SAC (test distance : ☐ 10 m, ☒ 3 m)
☒ 3 m SAC (test distance : 3 m)

Test Procedures

KDB 558074 - Section 8.5, 8.6
ANSI C63.10-2013 - Section 11.11, 11.12

1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
2) In the frequency rage above 30 MHz, Bi-Log Test Antenna(30 MHz to 1 GHz) and Horn Test Antenna(above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is carried from 1m to 4m above the ground to determine the maximum value of the field strength. The emissions levels at both horizontal and vertical polarizations should be tested.

Test Settings:

Frequency Range = 9 kHz ~ 1 GHz

a) RBW = 200 Hz(9 kHz ~150 kHz), 9 kHz(150 kHz ~ 30 MHz), 120 kHz(30 MHz ~ 1GHz)

b) VBW ≥ RBW

c) Detector = CISPR Quasi-peak

d) Sweep time = auto couple

- Peak

Frequency Range = 1 GHz ~ 10 GHz (10^{th} harmonic)

a) RBW = 1 MHz

b) VBW ≥ 3 x RBW

c) Detector = Peak

d) Sweep time = auto

e) Trace mode = max hold

- Average (duty cycle ≥ 98%)

Frequency Range = 1 GHz ~ 10 GHz (10^{th} harmonic)

a) RBW = 1 MHz

b) VBW ≥ 3 x RBW

c) Detector = RMS

d) Sweep time = auto

e) Averaging type = power (i.e., RMS)

f) Trace mode = average (at least 100 traces)

- Average (duty cycle < 98%, duty cycle variations are less than ±2%)

Frequency Range = 1 GHz ~ 25 GHz (2.4 GHz 10th harmonic)

a) RBW = 1 MHz

b) VBW ≥ 3 x RBW

c) Detector = RMS

d) Sweep time = auto

e) Averaging type = power (i.e., RMS)

f) Trace mode = average (at least 100 traces)

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
If power averaging (RMS) mode, then the applicable correction factor is
10 log(1/x), where x is the duty cycle.

Limit :

FCC Part 15 § 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Table 1. Restricted Frequency Bands

MHz	MHz	MHz	MHz	MHz	GHz
0.09-0.11	8.37626-8.38675	73-74.6	399.9-410	2690-2900	10.6-12.7
[1]0.495-0.505	8.41425-8.41475	74.8-75.2	608-614	3260-3267	13.25-13.4
2.1735-2.1905	12.29-12.293	108-121.94	960-1240	3332-3339	14.47-14.5
4.125-4.128	12.51975-12.52025	123-138	1300-1427	3345.8-3358	15.35-16.2
4.17725-4.17775	12.57675-12.57725	149.9-150.05	1435-1626.5	3600-4400	17.7-21.4
4.20725-4.20775	13.36-13.41	156.52475-156.52525	1645.5-1646.5	4500-5150	22.01-23.12
6.215-6.218	16.42-16.423	156.7-156.9	1660-1710	5350-5460	23.6-24
6.26775-6.26825	16.69475-16.69525	162.0125-167.17	1718.8-1722.2	7250-7750	31.2-31.8
6.31175-6.31225	16.80425-16.80475	167.72-173.2	2200-2300	8025-8500	36.43-36.5
8.291-8.294	25.5-25.67	240-285	2310-2390	9000-9200	[2]Above 38.6
8.362-8.366	37.5-38.25	322-335.4	2483.5-2500	9300-9500	

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

§ 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

FCC Part 15 § 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Table 2. General Field Strength Limits for Licence-Exempt Transmitters

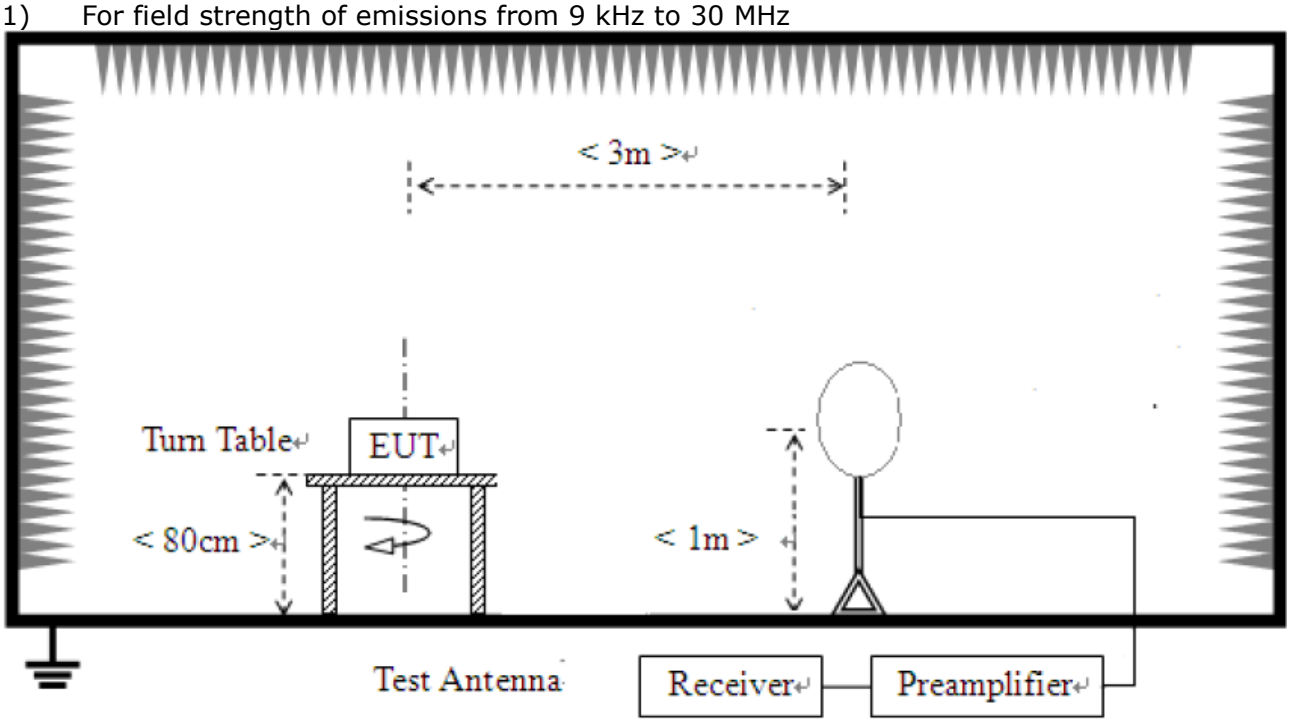
Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705-30	30	-	30
30-88	100**	40	3
88-216	150**	43.5	3
216-960	200**	46	3
Above 960	500	54	3

** Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231 and 15.241.

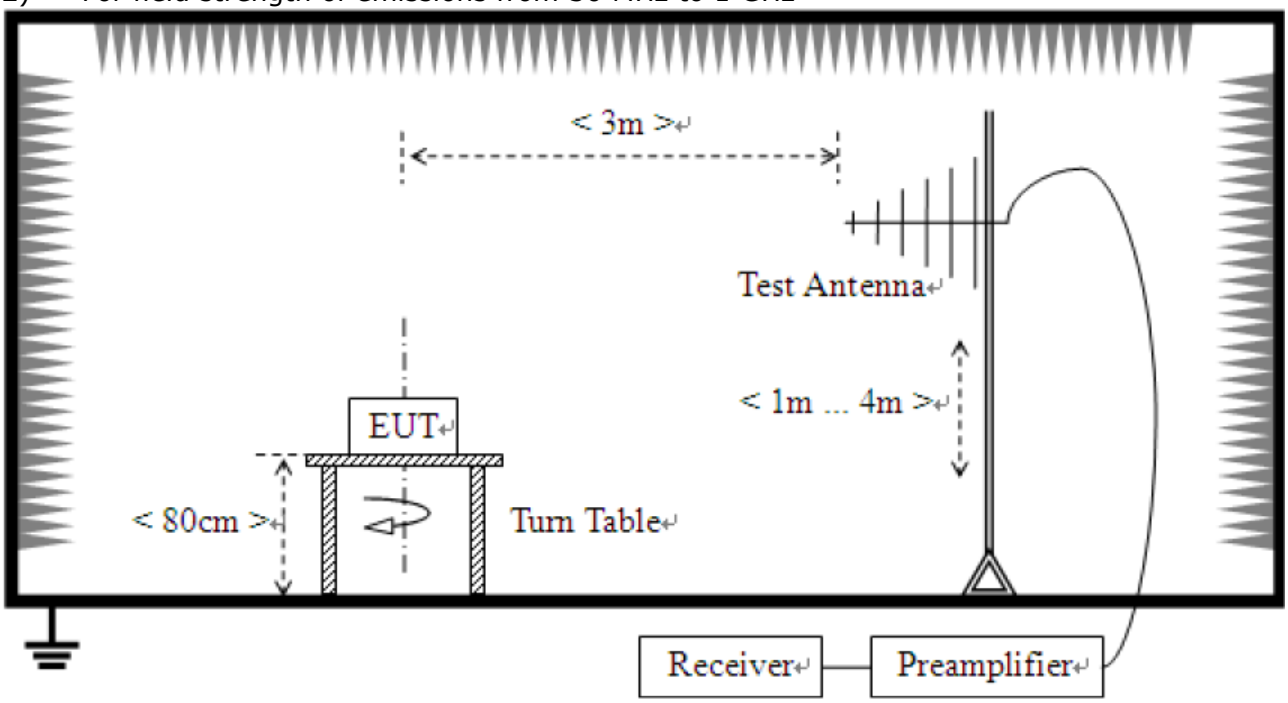
Note :
1) For above 1 GHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
2) For above 1 GHz, limit field strength of harmonics : 54 dBuV/m@3m (AV) and 74 dBuV/m@3m (PK)

Test Setup:

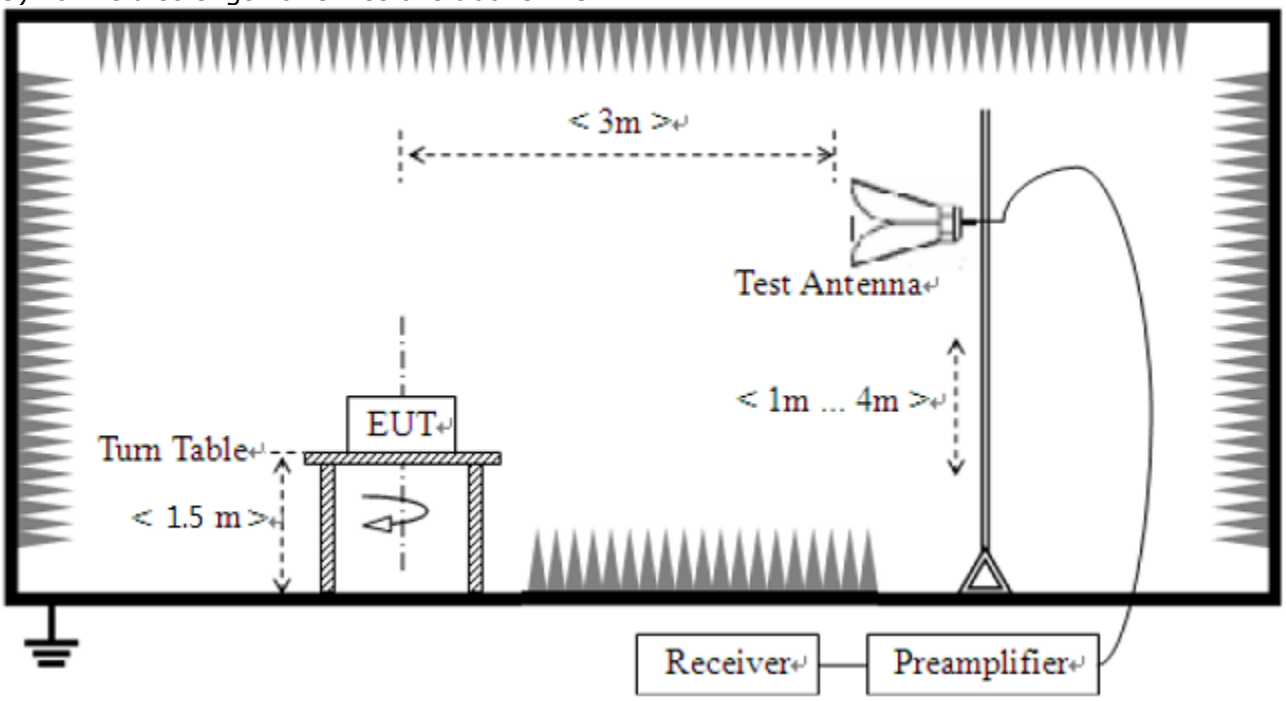
1) For field strength of emissions from 9 kHz to 30 MHz



2) For field strength of emissions from 30 MHz to 1 GHz



3) For field strength of emissions above 1 GHz



CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Test results

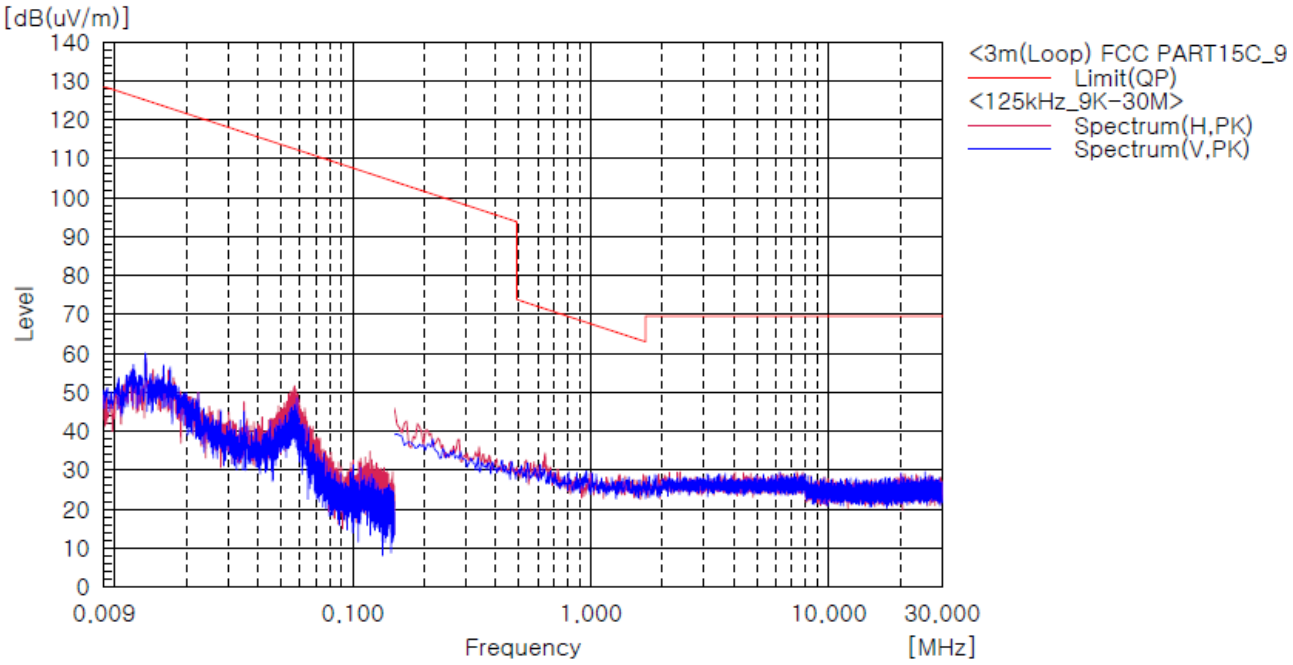
1) 9 kHz to 30 MHz

Test mode : 125 kHz Bandwidth_Worst Case

The requirements are:
☒ Complies

Test Data

Test Model : AWAOMNSURF
Test Mode : 125kHz_9K-30M
Tester : KIM JI HYE



Frequency [MHz]	(P)	Reading QP [dBuV]	dB [1/m]	Result QP [dBuV/m]	Limit QP [dBuV/m]	Margin QP [dB]
The emissions 9 kHz to 30MHz were 20 dB lower than the limit.						

Remark :
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)

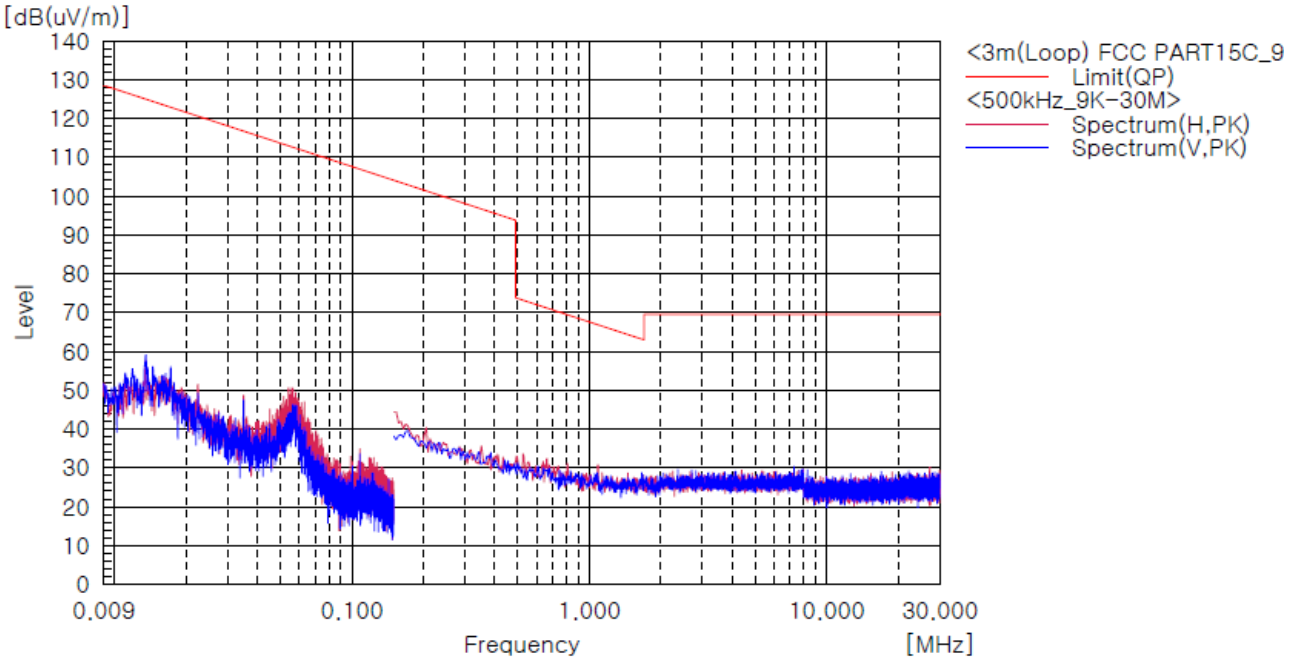
CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Test mode : 500 kHz Bandwidth_Worst Case

The requirements are:
☒ Complies

Test Data

Test Model : AWAOMNSURF
Test Mode : 500kHz_9K~30M
Tester : KIM JI HYE



Frequency [MHz]	(P)	Reading QP [dBuV]	dB [1/m]	Result QP [dBuV/m]	Limit QP [dBuV/m]	Margin QP [dB]
The emissions 9 kHz to 30MHz were 20 dB lower than the limit.						

Remark :
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)

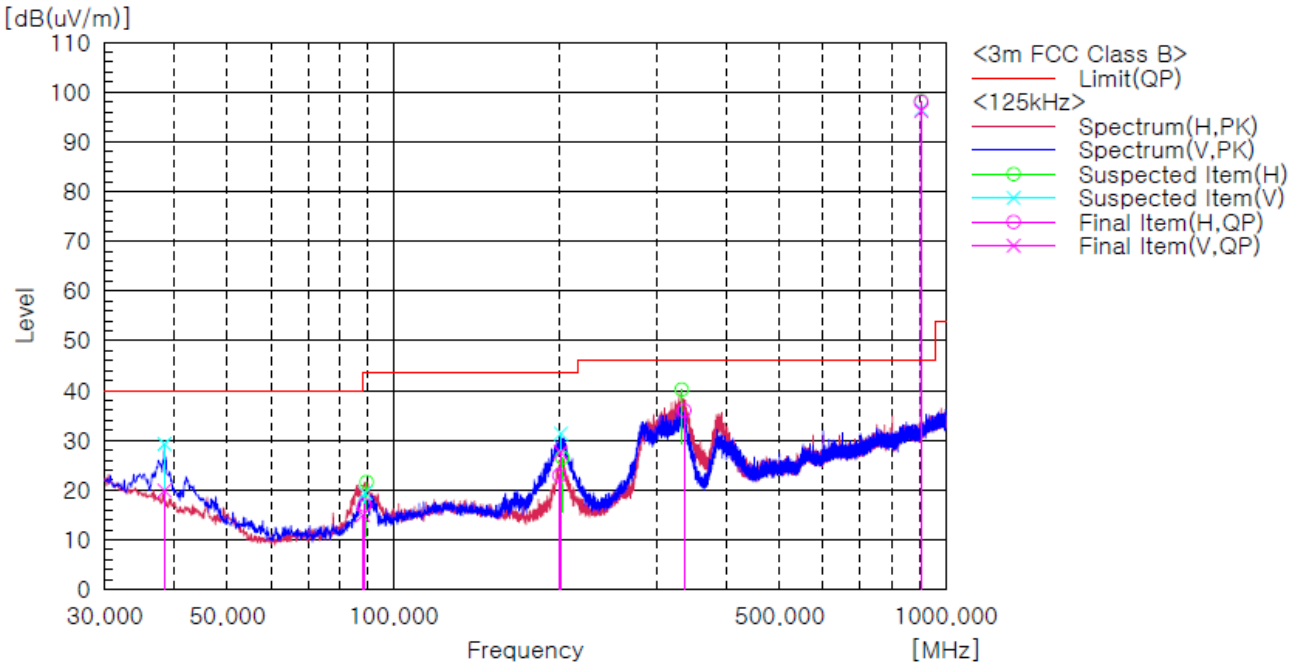
2) 30 MHz to 1 GHz

Test mode : 125 kHz Bandwidth_Worst case

The requirements are:
☒ Complies

Test Data

Test Model : AWAOMNSURF
Test Mode : 125kHz
Tester : KIM JI HYE



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	38.488	V	30.5	-10.6	19.9	40.0	20.1	100.0	44.0
2	88.036	V	29.9	-14.9	15.0	43.5	28.5	100.0	64.0
3	88.644	H	31.9	-14.9	17.0	43.5	26.5	209.0	355.0
4	200.793	V	41.2	-13.6	27.6	43.5	15.9	100.0	352.0
5	199.802	H	36.5	-13.6	22.9	43.5	20.6	101.0	121.0
6	336.276	H	43.3	-7.3	36.0	46.0	10.0	101.0	215.0
7	902.300	V	91.2	5.0	96.2	46.0	-50.2	100.0	50.0
8	902.300	H	93.0	5.0	98.0	46.0	-52.0	101.0	12.0

Remark :
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. No.7 and No. 8 are the carrier frequencies.

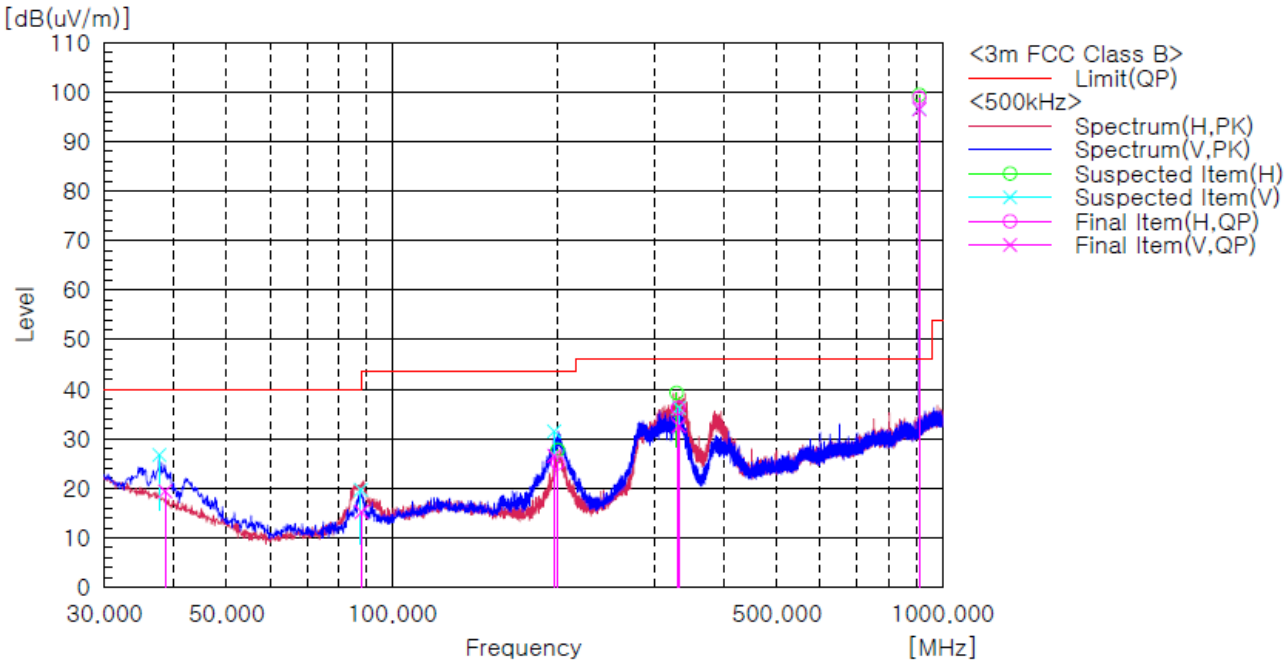
CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Test mode : 500 kHz Bandwidth_Worst case

The requirements are:
☒ Complies

Test Data

Test Model : AWAOMNSURF
Test Mode : 500kHz
Tester : KIM JI HYE



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	38.662	V	30.1	-10.7	19.4	40.0	20.6	101.0	349.0
2	87.983	V	30.1	-14.9	15.2	40.0	24.8	101.0	36.0
3	196.961	V	40.3	-13.7	26.6	43.5	16.9	101.0	352.0
4	199.983	H	38.7	-13.6	25.1	43.5	18.4	100.0	289.0
5	330.778	H	43.7	-7.5	36.2	46.0	9.8	100.0	215.0
6	331.670	V	40.1	-7.5	32.6	46.0	13.4	101.0	342.0
7	907.800	V	91.1	5.4	96.5	46.0	-50.5	101.0	50.0
8	907.800	H	93.4	5.4	98.8	46.0	-52.8	100.0	12.0

Remark :
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. No.7 and No. 8 are the carrier frequencies.

3) above 1 GHz

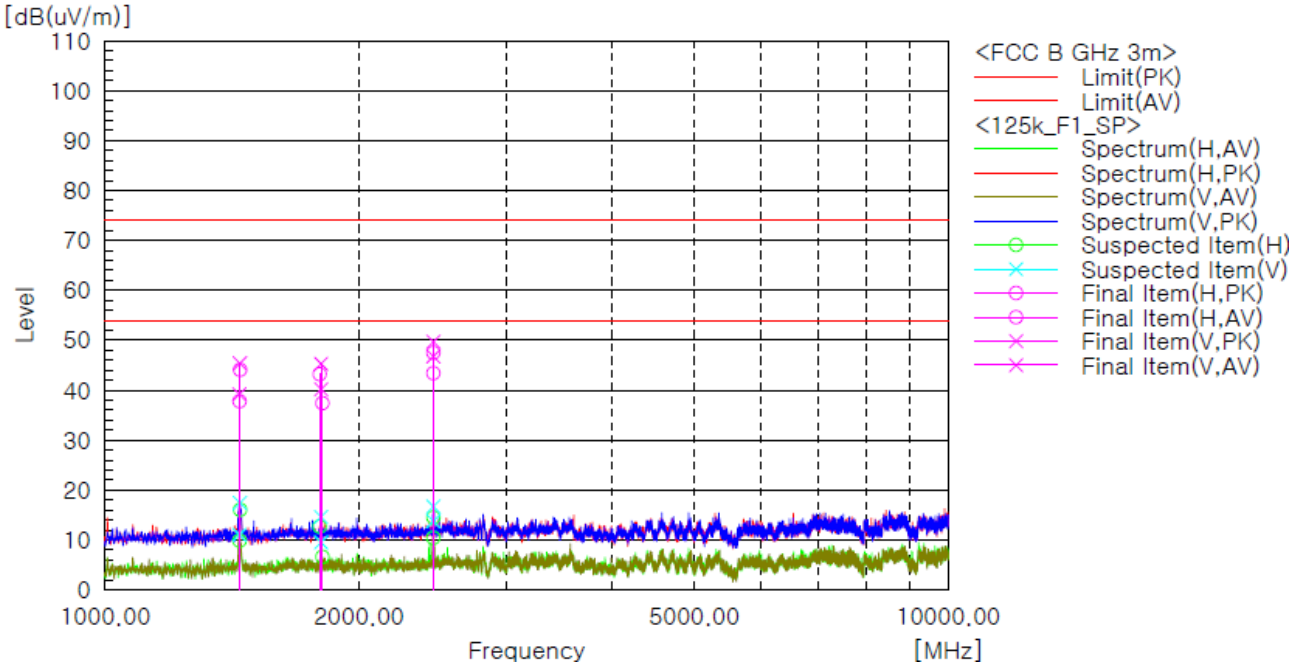
Test mode : 125 kHz Bandwidth

The requirements are:
☒ Complies

Test Data

Model Name : AWAOMNSURF
Manufacturer : BITFINDERM INC.
Mode : 125k_F1_SP

Model Type :



Low (902.3 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 446.63	H	54.00	44.10	9.90
1 445.50	V	54.00	45.40	8.60
1 797.63	H	54.00	43.20	10.80
1 804.38	V	54.00	45.30	8.70
2 452.38	H	54.00	47.50	6.50
2 452.38	V	54.00	49.70	4.30

Mid (908.5 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 445.50	H	54.00	45.00	9.00
1 443.25	V	54.00	44.80	9.20
1 816.75	H	54.00	43.90	10.10
1 816.75	V	54.00	47.00	7.00
2 452.38	H	54.00	49.50	4.50
2 458.00	V	54.00	45.70	8.30

High (914.9 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 445.50	H	54.00	44.80	9.20
1 446.63	V	54.00	45.40	8.60
1 829.13	H	54.00	43.90	10.10
1 829.13	V	54.00	46.50	7.50
2 453.50	H	54.00	47.90	6.10
2 454.63	V	54.00	49.30	4.70

Remarks

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The peak value is lower than the average limit value. (Peak < 54 dBuV/m)

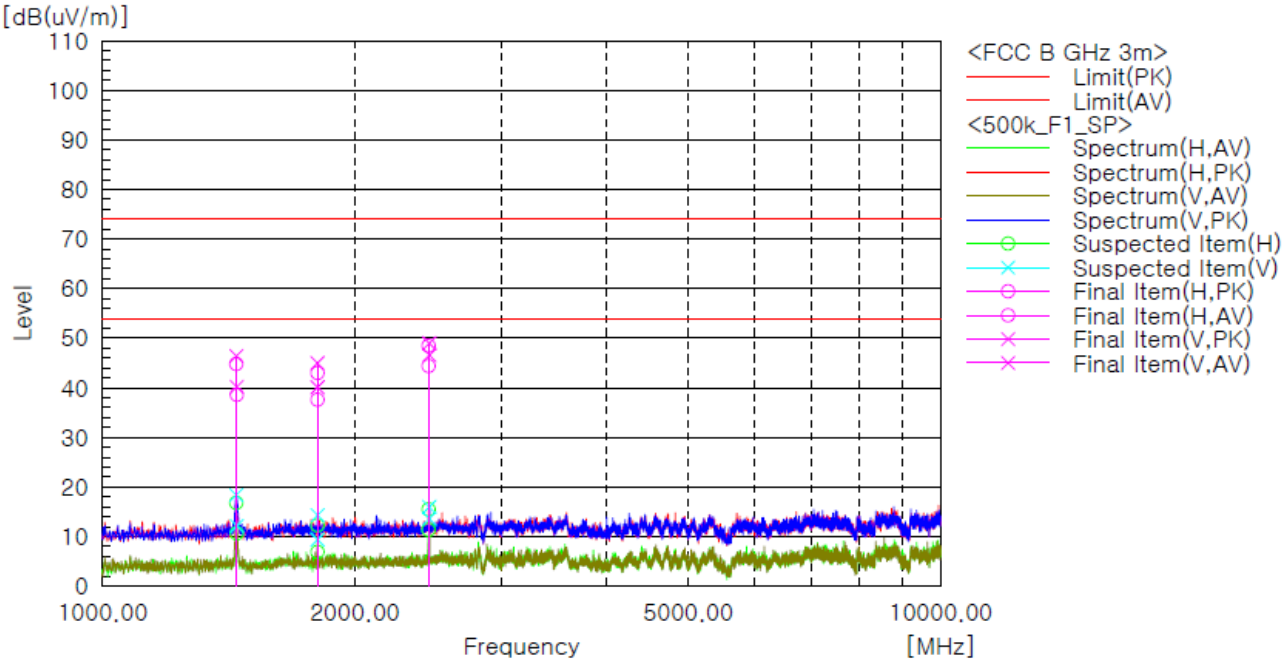
Test mode : 500 kHz Bandwidth

The requirements are:
☒ Complies

Test Data

Model Name : AWAOMNSURF
Manufacturer : BITFINDERM INC.
Mode : 500k_F1_SP

Model Type :



Low (903.0 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 444.38	H	54.00	44.80	9.20
1 444.38	V	54.00	46.40	7.60
1 805.50	H	54.00	43.00	11.00
1 805.50	V	54.00	45.00	9.00
2 450.13	H	54.00	48.50	5.50
2 454.63	V	54.00	49.00	5.00

Mid (907.8 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 445.50	H	54.00	44.10	9.90
1 443.25	V	54.00	46.40	7.60
1 814.50	H	54.00	43.80	10.20
1 814.50	V	54.00	46.30	7.70
2 469.25	H	54.00	47.10	6.90
2 451.25	V	54.00	47.30	6.70

High (914.2 MHz)

Frequency [MHz]	(P)	Limit PK [dBuV/m]	Result PK [dBuV/m]	Margin PK [dB]
1 443.25	H	54.00	43.90	10.10
1 447.75	V	54.00	46.40	7.60
1 828.00	H	54.00	44.00	10.00
1 828.00	V	54.00	45.50	8.50
2 472.63	H	54.00	46.30	7.70
2 449.00	V	54.00	48.40	5.60

Remarks

1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(correction factor)
3. Correction factor = Antenna factor + Cable loss - Amp Gain
4. The peak value is lower than the average limit value. (Peak < 54 dBuV/m)

4.2 AC Conducted Emissions

A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz-30 MHz, shall not exceed the limits.

Instrument Settings

IF Band Width: 9 kHz

Test Procedures

ANSI C63.10-2013 - Section 6.2

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.
Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average**
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

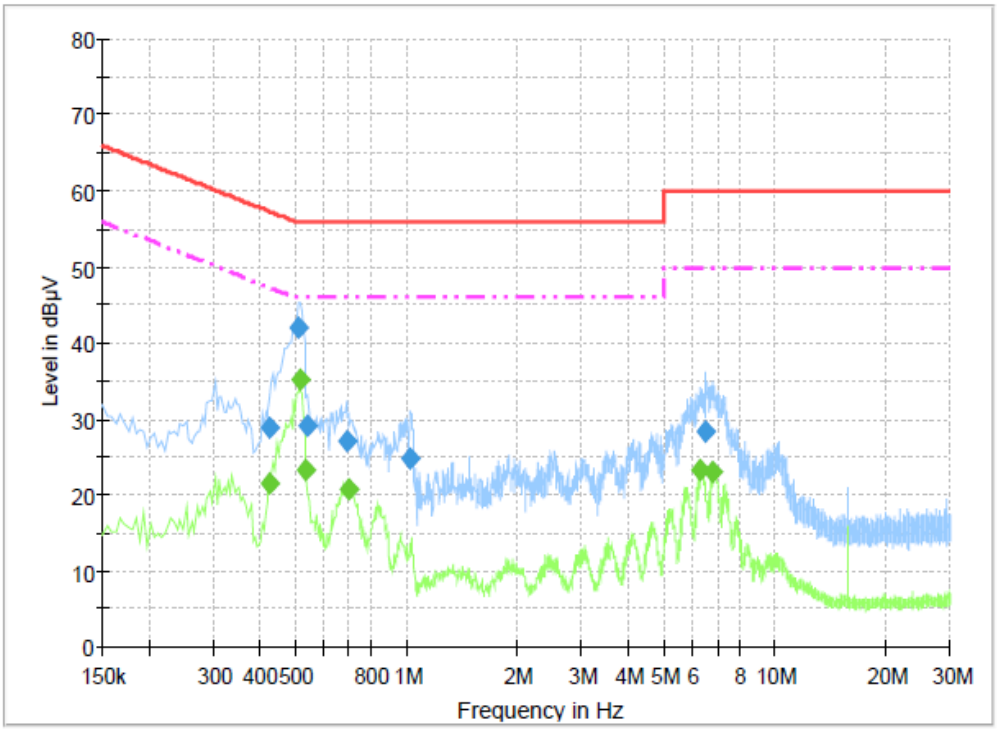
* The level decreases linearly with the logarithm of the frequency.
** A linear average detector is required.

Test Results

The requirements are:
☒ Complies

Test Data

[LINE]



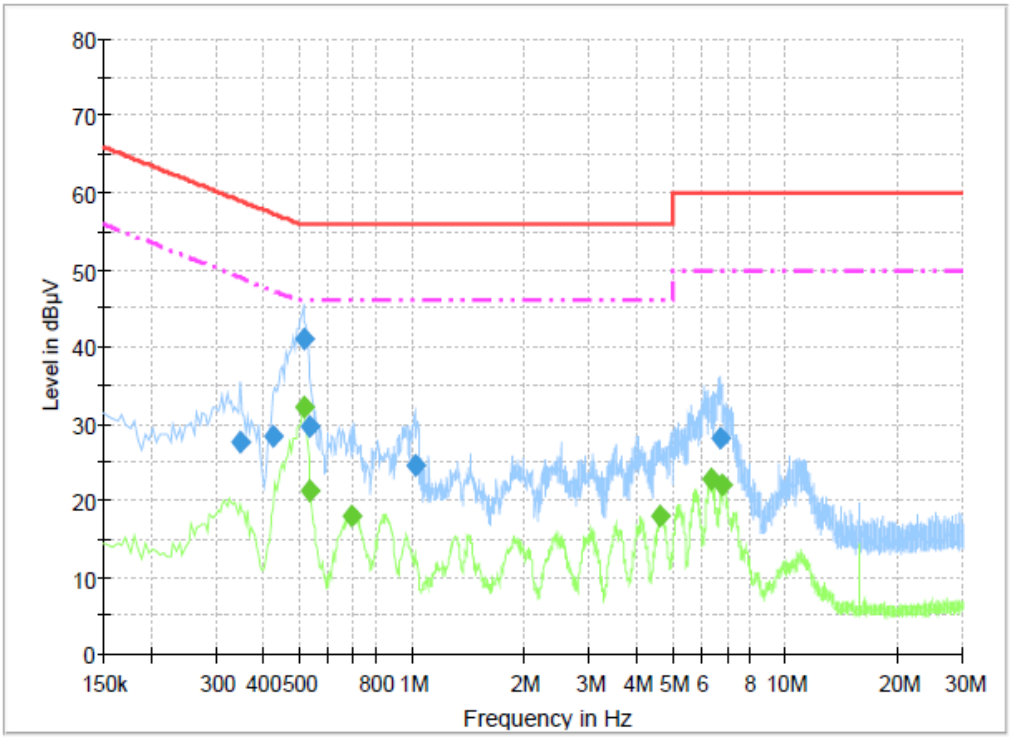
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	28.8	1000.0	9.000	On	L1	10.0	28.5	57.3
0.510000	41.9	1000.0	9.000	On	L1	10.0	14.1	56.0
0.541500	29.0	1000.0	9.000	On	L1	10.0	27.0	56.0
0.690000	27.0	1000.0	9.000	On	L1	10.0	29.0	56.0
1.027500	24.8	1000.0	9.000	On	L1	9.9	31.2	56.0
6.513000	28.4	1000.0	9.000	On	L1	10.0	31.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	21.5	1000.0	9.000	On	L1	10.0	25.7	47.3
0.514500	35.2	1000.0	9.000	On	L1	10.0	10.8	46.0
0.537000	23.3	1000.0	9.000	On	L1	10.0	22.7	46.0
0.699000	20.7	1000.0	9.000	On	L1	10.0	25.3	46.0
6.315000	23.3	1000.0	9.000	On	L1	10.0	26.7	50.0
6.823500	23.1	1000.0	9.000	On	L1	10.0	26.9	50.0

[NEUTRAL]



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.348000	27.6	1000.0	9.000	On	N	10.0	31.4	59.0
0.429000	28.3	1000.0	9.000	On	N	10.0	29.0	57.3
0.514500	41.0	1000.0	9.000	On	N	10.0	15.0	56.0
0.537000	29.6	1000.0	9.000	On	N	10.0	26.4	56.0
1.023000	24.6	1000.0	9.000	On	N	9.9	31.4	56.0
6.738000	28.0	1000.0	9.000	On	N	10.1	32.0	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.514500	32.2	1000.0	9.000	On	N	10.0	13.8	46.0
0.537000	21.2	1000.0	9.000	On	N	10.0	24.8	46.0
0.694500	18.1	1000.0	9.000	On	N	9.9	27.9	46.0
4.650000	18.0	1000.0	9.000	On	N	10.1	28.0	46.0
6.337500	22.7	1000.0	9.000	On	N	10.1	27.3	50.0
6.828000	22.0	1000.0	9.000	On	N	10.1	28.0	50.0

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2019-10-22	2020-10-22
2	Bilog Antenna	Schaffner	CBL6111C	2551	2018-05-10	2020-05-10
3	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-125	2018-05-02	2020-05-02
4	6dB Attenuator	Rohde & Schwarz	DNF	272.4110.50-2	2019-10-25	2020-10-25
5	AMPLIFIER	SONOMA	310	291721	2019-01-28	2020-01-28
6	Preamplifier	Agilent	8449B	3008A02011	2018-12-03	2019-12-03
7	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2019-01-29	2020-01-29
8	Preamplifier	Agilent	8449B	3008A02011	2018-12-03	2019-12-03
9	Horn Antenna	ETS-Lindgren	3117	00154525	2019-02-22	2021-02-22
10	Band Reject Filter	Wainwright Instruments GmbH	WRCG902/930 -894/938- 50/12SS	SN1	2019-01-21	2020-01-21
11	EMI Test Receiver	R&S	ESCI3	100032	2019-01-29	2020-01-29
12	LISN	Rohde & Schwarz	ENV216	101236	2019-10-22	2020-10-22

	Cable	Manufacturer	Model No.	Serial No.	Check Date
1	RF Cable	HUBER+SUHNER	SUCOFLEX 102	MY073/2	2018-12-19
2	RF Cable	HUBER+SUHNER	SUCOFLEX 102	MY4728/2	2018-12-19
3	RF Cable	HUBER+SUHNER	SUCOFLEX 104	MY27558/4	2018-12-19
4	RF Cable	HUBER+SUHNER	SUCOFLEX 104	N/A	2018-12-19
5	RF Cable	HUBER+SUHNER	SUCOFLEX 104	MY27573/4	2018-12-19
6	RF Cable	HUBER+SUHNER	SUCOFLEX 106	N/A	2018-12-19
7	RF Cable	Canare Corporation	L-5D2W	N/A	2018-12-19