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TEST REPORT

KCTL Inc.
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1. Client

- Name : IDP Corp., Ltd.
- Address : (Guro-Dong, Buycksan digital vally 7)601, 50, Digital-ro33-gil, Guro-gu, Seoul, Korea
- Date of Receipt : 2017-04-04

2. Use of Report : -

3. Name of Product and Model : Laminator / SMART-51L

4. Manufacturer and Country of Origin : IDP Corp., Ltd. / Korea

5. FCC ID : VU2-SMART-51L

6. Date of Test : 2017-05-25 to 2017-07-17

7. Test Standards : FCC Part 15 Subpart C 15.225

8. Test Results : Refer to the test result in the test report

Affirmation	Tested by Name : Yongsung Lee (Signature)	Technical Manager Name : Changmin Kim (Signature)

2017-07-18

KCTL Inc.

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by KCTL Inc.

REPORT REVISION HISTORY

Date	Revision	Page No
2017-07-18	Originally issued	-

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[Contents]

1. Client information 4
2. Laboratory information 5
3. Description of E.U.T. 6
3.1 Basic description 6
3.2 General description 6
3.3 Test frequency 6
4. Summary of test results 7
4.1 Standards & results 7
4.2 Uncertainty 7
5. Test results 8
5.1 Antenna Requirement 8
5.2 In-band Fundamental Emission 9
5.3 In-band Spurious Emission 11
5.4 Out-of-band Spurious Emission 13
5.5 Frequency tolerance 16
5.6 Conducted Emission 18
6. Test equipment used for test 22

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1. Client information

Applicant:	IDP Corp., Ltd.
Address:	(Guro-Dong, Buycksan digital vally 7)601, 50, Digital-ro33-gil, Guro-gu, Seoul, Korea
Telephone number:	82-2-6099-3700
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Contact person:	Yongtae Kim / kmyt@idp-corp.com

Manufacturer:	IDP Corp., Ltd.
Address:	(Guro-Dong, Buycksan digital vally 7)601, 50, Digital-ro33-gil, Guro-gu, Seoul, Korea

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2. Laboratory information

Address

KCTL Inc.

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea

Telephone Number: 82 31 285 0894

Facsimile Number: 82 505 299 8311

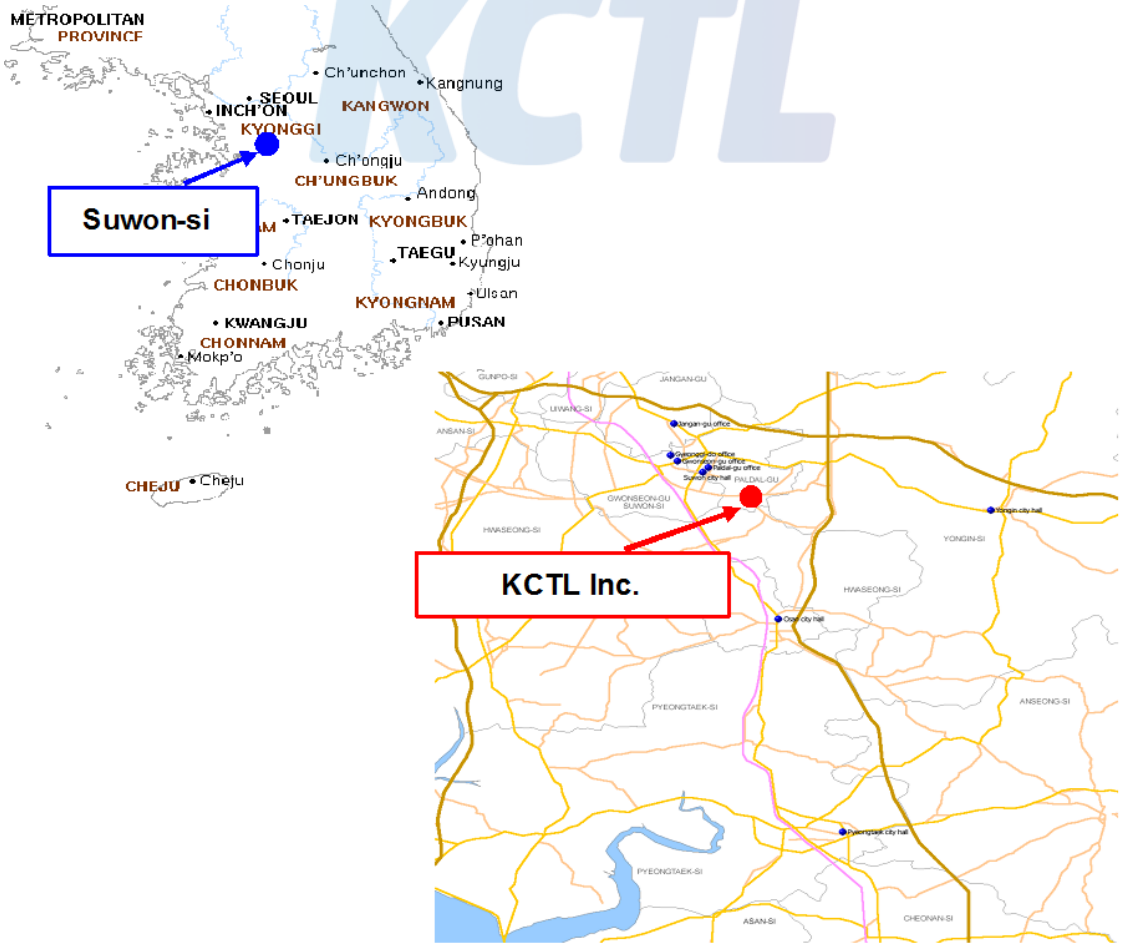
FCC Site Designation No: KR0040, FCC Site Registration No: 687132

VCCI Registration No. : R-3327, G-198, C-3706, T-1849

Industry Canada Registration No. : 8035A

KOLAS NO.: KT231

SITE MAP



3. Description of E.U.T.

3.1 Basic description

Applicant	IDP Corp., Ltd.
Address of Applicant	(Guro-Dong, Buycksan digital vally 7)601, 50, Digital-ro33-gil, Guro-gu, Seoul, Korea
Manufacturer	IDP Corp., Ltd.
Address of Manufacturer	(Guro-Dong, Buycksan digital vally 7)601, 50, Digital-ro33-gil, Guro-gu, Seoul, Korea
Type of equipment	Laminator
Basic Model	SMART-51L
Variant Model [1)]	SOLID-510L, HEXAGON-L, IDP-51L, ID-51L, CP-51L, P-51L
Serial number	N/A

[1)] Variant model names are different only for the color.

3.2 General description

Frequency Range	13.56 ㎒
Type of Modulation	ASK
The number of channels	1 ch
Type of Antenna	Loop Antenna
Power supply	DC 24 V
Product SW/HW version	smart51_app_1_00_02_SPI.bin / MAIN SCH,51 PRT,V0.12_B
Radio SW/HW version	smart51_app_1_00_02_SPI.bin / MAIN SCH,51 PRT,V0.12_B
Test SW Version	CardPrinterFirmware Downloader v2.1.0.2
RF power setting in TEST SW	Token2Shell Version 6.3.0

Note : The above EUT information was declared by the manufacturer.

3.3 Test frequency

Frequency	13.56 ㎒

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4. Summary of test results

4.1 Standards & results

Rule Reference	Parameter	Status
15.203	Antenna Requirement	C
15.225 (a)	In-band Fundamental Emission	C
15.225 (b)	In-band Spurious Emission	C
15.225 (c)	In-band Spurious Emission	C
15.225 (d) 15.209	Out-of–band Spurious Emission	C
15.225 (e)	Frequency Stability Tolerance	C
15.207	Conducted Emissions	C
Note1) : C = complies, NC = Not complies, NT = Not tested, NA = Not Applicable Note2) : The worst case is Y scheme(Please refer to the “Test setup photos” to check X, Y, Z configuration).		

4.2 Uncertainty

Measurement Item	Expanded Uncertainty U = *k*Uc (*k* = 2)	
Radiated Spurious Emissions	30 ㎒ ~ 300 ㎒:	+4.94 ㏈, -5.06 ㏈
		+4.93 ㏈, -5.05 ㏈
	300 ㎒ ~ 1 000 ㎒:	+4.97 ㏈, -5.08 ㏈
		+4.84 ㏈, -4.96 ㏈
	1 ㎓ ~ 25 ㎓:	+6.03 ㏈, -6.05 ㏈
Conducted Emissions	9 ㎑ ~ 150 ㎑:	3.75 ㏈
	150 ㎑ ~ 30 ㎒:	3.36 ㏈

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5. Test results

5.1 Antenna Requirement

5.1.1 Regulation

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.1.2 Result

-Complied

The Loop antenna is permanantely attached on PCB board.

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5.2 In-band Fundamental Emission

5.2.1 Regulation

15.225 (a) The field strength of any emission within the band 13.553-13.567 ㎒ shall not exceed 15, 848 microvolts/meter at 30 meters.

5.2.2 Measurement Procedure

Test Procedure The Radiated Electric Field Strength intensity has been measured on semi anechoic chamber with a ground plane and at a distance of 3m.

Frequency : From 9 ㎑ to 30 ㎒ at distance 3m The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

Frequency : From 30 ㎒ to 1 ㎓ at distance 3m The measuring antenna height varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.

Measurements were performed with a QP, PK, and AV detector. The radiated emission measurements were made with the following detector function of the test receiver (below 1 ㎓).

Frequency	9 - 90 ㎑	90 - 110 ㎑	110 - 490 ㎑	490 ㎑ - 30 ㎒	30 ㎒ -1 ㎓
Detecter type	PK/AV	QP	PK/AV	QP	QP
IF bandwidth	200 ㎐	200 ㎐	9 ㎑	9 ㎑	120 ㎑

- Part 15 Section 15.31 (f)(2) (9 ㎑ - 30 ㎒)
[Limit at 3m]=[Limit at 300m]-40 x log(3[m]/300[m])
[Limit at 3m]=[Limit at 30m]-40 x log (3[m]/30[m])

5.2.3 Test Result

- Complied

- Module 1

Voltage [v]	Frequency [㎒]	Reading [dB㎶]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Correction Factor [dB]	field strength dB㎶/m at 3 m	Limit dB㎶/m at 3 m	Margin [dB]
QP DATA.									
24.0	13.56	68.20	0.91	-32.67	19.56	-12.20	56.00	124.00	68.80

- Module 2

Voltage [v]	Frequency [㎒]	Reading [dB㎶]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Correction Factor [dB]	field strength dB㎶/m at 3 m	Limit dB㎶/m at 3 m	Margin [dB]
QP DATA.									
24.0	13.56	60.50	0.91	-32.67	19.56	-12.20	48.30	124.00	75.70

- Module1+2

Voltage [v]	Frequency [㎒]	Reading [dB㎶]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Correction Factor [dB]	field strength dB㎶/m at 3 m	Limit dB㎶/m at 3 m	Margin [dB]
QP DATA.									
24.0	13.56	68.40	0.91	-32.67	19.56	-12.20	56.20	124.00	67.80

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5.3 In-band Spurious Emission

5.3.1 Regulation

15.225 (b) With in the bands 13.410-13.553 ㎒ and 13.567-13.710 ㎒, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

15.225 (c) With in the bands 13.110-13.410 ㎒ and 13.710-14.010 ㎒, the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

5.3.2 Test Result

- Complied

Measurement Distance: 3 m

- Module 1

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
13.40	9	35.00	H	0.91	-32.67	19.56	-12.20	80.50	22.80	57.70
13.55	9	36.30	H	0.91	-32.67	19.56	-12.20	90.50	24.10	66.40
13.57	9	53.10	H	0.91	-32.67	19.56	-12.20	90.50	40.90	49.60
13.72	9	35.30	V	0.92	-32.67	19.55	-12.20	80.50	23.10	57.40

- Module 2

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
13.19	9	35.10	H	1.00	-32.67	19.57	-12.10	80.50	23.00	57.50
13.55	9	35.00	H	0.91	-32.67	19.56	-12.20	90.50	22.80	67.70
13.57	9	47.00	H	0.91	-32.67	19.56	-12.20	90.50	34.80	55.70
13.97	9	35.20	H	0.93	-32.67	19.54	-12.20	80.50	23.00	57.50

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- Module 1+2

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
13.39	9.00	34.10	V	0.91	-32.67	19.56	-12.20	80.50	21.90	58.60
13.55	9.00	35.10	H	0.91	-32.67	19.56	-12.20	90.50	22.90	67.60
13.57	9.00	53.10	H	0.91	-32.67	19.56	-12.20	90.50	40.90	49.60
13.75	9.00	33.10	V	0.92	-32.67	19.55	-12.20	80.50	20.90	59.60

Margin (dB) = Limit - Actual
[Result = Reading - Amp Gain + AF + CL]
1. H = Horizontal, V = Vertical Polarization
2. AF/CL = Antenna Factor and Cable Loss
Note: This test was performed by using peak detector mode If peak result meets the limit, QP measurement is skipped.

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5.4 Out-of-band Spurious Emission

5.4.1 Regulation

15.225 (d) The Field Strength of any emissions appearing outside of the 13.110-14.010 ㎒ band shall not exceed the general radiated emission limits in 15.209

Frequency (㎒)	Field Strength (㎶/m)	Measurement distance (meters)
0.009-0.490	2400/F(㎑)	300
0.490-1.705	24000/F(㎑)	30
1.705-30.0	30(29.54 ㏈㎶/m)	30
30.0-88.0	100(40 ㏈㎶/m)	3
88-216	150(43.5 ㏈㎶/m)	3
216-960	200 (46 ㏈㎶/m)	3
Above 960	500 (53.98 ㏈㎶/m)	3

5.4.2 Measurement Procedure

The spurious emissions from the EUT will be measured on an 10 m Anechoic chamber in the frequency range of 9 ㎑ to 30 ㎒ using a tuned receiver and a shielded loop antenna.
The antenna was positioned 3, 10 or 30 meters horizontally from the EUT.
Measurements haver been made in all three orthogonal axes and the shielded loop antenna was rotated to locate the maximum of the emissions.
In the case where larger measuring distances are required the results will extrapolated based on the values measuring on the closer distances according to Section 15.31 (f) (2) [2].

The final measurement will be performed with an EMI Riceiver set to Quasi Peak detector except for the frequency bands 9 ㎑ to 90 ㎑ and 110 to 490 ㎑ where an average detector will be used according to Section 15.209 (d) [2].

The final lever, expressed in ㏈㎶/m, is arrived at by taking the reading from the EMI receiver (Level ㏈㎶) and adding the antenna correction factor and cable loss fator (Factor ㏈) to it. This result then has to be compared with the relevant FCC limit. The resolution bandwith during the measurement is as follows:
9 ㎑ – 150 ㎑: ResBW: 200 ㎐
150 ㎑ – 30 ㎒: ResBW: 9 ㎑

The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions in an anechoic chamber at a distance of 3 meters.

The EUT was placed on the top of the 0.8 meter height, 1 x 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360°.
The antenna polarization was also changed from vertical to horizontal. The spectrum was canned from 30 to 1 000 ㎒ using the BILOG antenna. To obain the final measurement data, the EUT was arranged on a turntable situated on a 10 m chamber. The EUT was tested at a distance 3 meters.
Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

5.4.3 Test Result

- Complied

Measurement Distance: 3 m

- Module 1

-Below 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
1.00	9	43.40	H	0.22	-32.72	19.60	-12.90	67.60	30.50	37.10
29.72	9	34.50	H	1.47	-32.69	18.92	-12.30	69.50	22.20	47.30

-Above 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
58.13	120	43.70	V	1.85	-32.67	12.62	-18.20	40.00	25.50	14.50
195.51	120	46.90	H	3.91	-32.59	15.28	-13.40	43.50	33.50	10.00
258.80	120	45.10	H	4.76	-32.54	18.38	-9.40	46.00	35.70	10.30
610.30	120	32.20	V	7.55	-32.69	24.64	-0.50	46.00	31.70	14.30

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- Module 2

-Below 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
2.66	9	36.30	H	0.47	-32.71	19.64	-12.60	69.50	23.70	45.80
16.81	9	35.10	H	1.04	-32.67	19.43	-12.20	69.50	22.90	46.60

-Above 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
59.34	120	41.20	V	2.06	-32.67	12.41	-18.20	40.00	23.00	17.00
117.30	120	25.30	V	3.16	-32.63	18.07	-11.40	43.50	13.90	29.60
330.09	120	33.40	H	5.02	-32.57	19.95	-7.60	46.00	25.80	20.20
893.91	120	20.10	H	8.98	-31.93	26.45	3.50	46.00	23.60	22.40

- Module 1+2

-Below 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
0.50	9	48.60	H	0.23	-32.73	19.60	-12.90	73.62	35.70	37.92
28.01	9	35.70	V	1.47	-32.69	19.02	-12.20	69.50	23.50	46.00

-Above 30 ㎒

Frequency [㎒]	Receiver Bandwidth [㎑]	Reading [dB(㎶)]	Pol. [V/H]	Cable Loss [dB]	Amp Gain [dB]	Antenna Factor [dB]	Factor [dB]	Limit [dB(㎶/m)]	Result [dB(㎶/m)]	Margin [dB]
QP DATA.										
194.54	120	41.50	H	3.92	-32.59	15.27	-13.40	43.50	28.10	15.40
255.28	120	39.10	H	4.63	-32.54	18.31	-9.60	46.00	29.50	16.50
327.67	120	33.20	H	5.08	-32.57	19.89	-7.60	46.00	25.60	20.40
476.56	120	25.10	H	6.38	-32.61	22.93	-3.30	46.00	21.80	24.20

Margin (dB) = Limit – Actual
[Result = Reading – Amp Gain + AF + CL]
1. H = Horizontal, V = Vertical Polarization
2. AF/CL = Antenna Factor and Cable Loss

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5.5 Frequency tolerance

5.5.1 Regulation

15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01 % of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85 % to 115 % of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

5.5.2 Test Result

- Complied

- Module 1

VOLTAGE [%]	POWER [V]	TEMP [℃]	FREQ [㎐]	FREQ.DEV [㎐]	Deviation [%]
100	24.0	20	13 560 191.8	191.8	0.001 41
		-20	13 560 129.9	129.9	0.000 96
		-10	13 560 133.9	133.9	0.000 99
		0	13 560 177.8	177.8	0.001 31
		10	13 560 180.8	180.8	0.001 33
		20	13 560 191.8	191.8	0.001 41
		25	13 560 195.8	195.8	0.001 44
		30	13 560 195.8	195.8	0.001 44
		40	13 560 194.8	194.8	0.001 44
		50	13 560 194.8	194.8	0.001 44
85	20.4	20	13 560 194.8	194.8	0.001 44
115	27.6	20	13 560 194.8	194.8	0.001 44

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- Module 2

VOLTAGE [%]	POWER [V]	TEMP [℃]	FREQ [㎐]	FREQ.DEV [㎐]	Deviation [%]
100	24.0	20	13 560 245.8	245.8	0.001 81
		-20	13 560 146.9	146.9	0.001 08
		-10	13 560 157.8	157.8	0.001 16
		0	13 560 143.9	143.9	0.001 06
		10	13 560 217.8	217.8	0.001 61
		20	13 560 245.8	245.8	0.001 81
		25	13 560 245.8	245.8	0.001 81
		30	13 560 246.8	246.8	0.001 82
		40	13 560 246.8	246.8	0.001 82
		50	13 560 244.8	244.8	0.001 81
85	20.4	20	13 560 245.8	245.8	0.001 81
115	27.6	20	13 560 245.8	245.8	0.001 81

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5.6 Conducted Emission

5.6.1 Regulation

According to §15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 ㎑ to 30 ㎒, shall not exceed the limits in the following table, as measured using a 50 μH/50 Ω line impedance stabilization network (LISN).
Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (㎒)	Conducted limit (㏈㎶)	
	Qausi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 – 30	60	50

* Decreases with the logarithm of the frequency.

According to §15.107(a), for unintentional device, except for Class A digital devices, line conducted emission limits are the same as the above table.

5.6.2 Measurement Procedure

1) The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 ㎝ in which is located 40 ㎝ away from the vertical wall and 1.5m away from the side wall of the shielded room.

2) Each current-carrying conductor of the EUT power cord was individually connected through a 50Ω/50μH LISN, which is an input transducer to a Spectrum Analyzer or an EMI/Field Intensity Meter, to the input power source.

3) Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.

4) The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 ㎒ to 30 ㎒.

5) The measurements were made with the detector set to PEAK amplitude within a bandwidth of 10 ㎑ or to QUASI-PEAK and AVERAGE within a bandwidth of 9 ㎑. The EUT was in transmitting mode during the measurements.

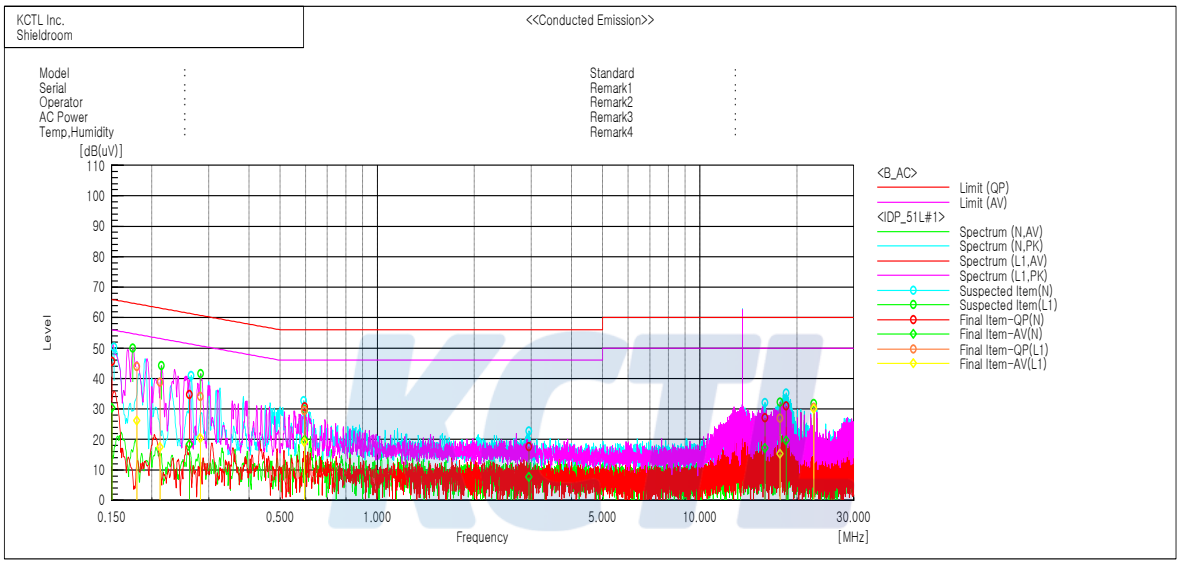
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5.6.3 Test Result

- Complied

Figure 4. The plot of Conducted Emission

- Module 1



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15028	35.8	20.6	9.7	45.5	30.3	66.0	56.0	20.5	25.7
2	0.26139	25.1	8.8	9.6	34.7	18.4	61.4	51.4	26.7	33.0
3	0.59521	20.8	10.1	9.8	30.6	19.9	56.0	46.0	25.4	26.1
4	2.95391	7.9	-2.0	9.7	17.6	7.7	56.0	46.0	38.4	38.3
5	15.91954	17.0	7.1	10.0	27.0	17.1	60.0	50.0	33.0	32.9
6	18.52587	20.8	9.5	10.1	30.9	19.6	60.0	50.0	29.1	30.4

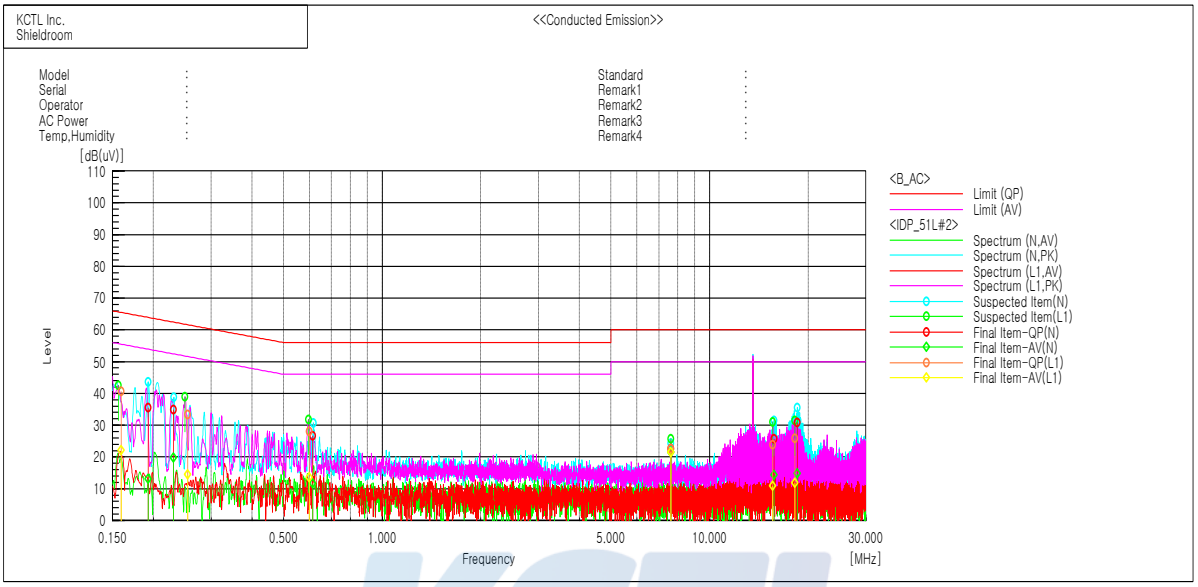
--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.17952	33.7	16.1	10.1	43.8	26.2	64.5	54.5	20.7	28.3
2	0.2119	28.9	7.5	9.9	38.8	17.4	63.1	53.1	24.3	35.7
3	0.28289	24.4	10.7	9.7	34.1	20.4	60.7	50.7	26.6	30.3
4	0.59462	19.5	9.3	9.9	29.4	19.2	56.0	46.0	26.6	26.8
5	17.72523	16.8	5.1	10.1	26.9	15.2	60.0	50.0	33.1	34.8
6	22.56775	20.3	19.8	10.2	30.5	30.0	60.0	50.0	29.5	20.0

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- Module 2

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Final Result

--- N Phase ---

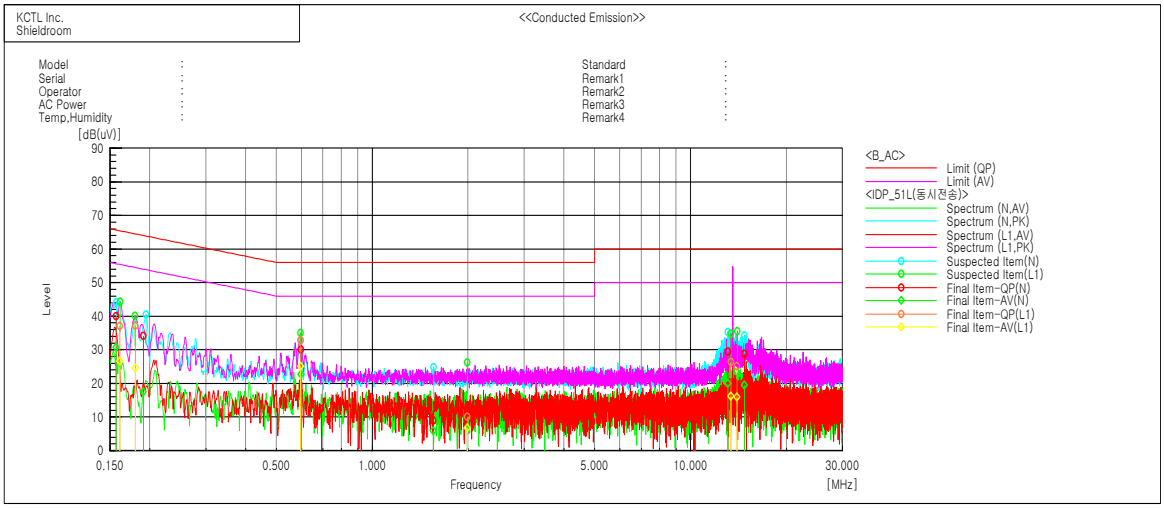
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.19264	25.4	3.1	10.0	35.4	13.1	63.9	53.9	28.5	40.8
2	0.23051	25.2	10.1	9.7	34.9	19.8	62.4	52.4	27.5	32.6
3	0.61297	16.8	1.9	9.8	26.6	11.7	56.0	46.0	29.4	34.3
4	7.61744	12.8	11.6	9.8	22.6	21.4	60.0	50.0	37.4	28.6
5	15.73975	15.7	4.3	10.0	25.7	14.3	60.0	50.0	34.3	35.7
6	18.53522	20.7	4.7	10.1	30.8	14.8	60.0	50.0	29.2	35.2

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15942	30.6	12.2	10.0	40.6	22.2	65.5	55.5	24.9	33.3
2	0.25459	23.5	4.7	9.7	33.2	14.4	61.6	51.6	28.4	37.2
3	0.59853	18.2	3.6	9.9	28.1	13.5	56.0	46.0	27.9	32.5
4	7.61581	12.7	11.5	9.9	22.6	21.4	60.0	50.0	37.4	28.6
5	15.56619	13.7	0.8	10.1	23.8	10.9	60.0	50.0	36.2	39.1
6	18.2235	15.7	1.7	10.2	25.9	11.9	60.0	50.0	34.1	38.1

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- Module 1+2



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1569	30.0	20.8	9.9	39.9	30.7	65.6	55.6	25.7	24.9
2	0.1909	24.1	7.4	10.0	34.1	17.4	64.0	54.0	29.9	36.6
3	0.59763	20.2	12.8	9.8	30.0	22.6	56.0	46.0	26.0	23.4
4	1.55639	-0.8	-3.8	9.7	8.9	5.9	56.0	46.0	47.1	40.1
5	13.0927	19.4	9.9	10.0	29.4	19.9	60.0	50.0	30.6	30.1
6	14.78377	18.8	9.5	10.0	28.8	19.5	60.0	50.0	31.2	30.5

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.161	26.9	16.5	10.1	37.0	26.6	65.4	55.4	28.4	28.8
2	0.17987	27.0	14.4	10.1	37.1	24.5	64.5	54.5	27.4	30.0
3	0.59562	23.0	15.1	9.9	32.9	25.0	56.0	46.0	23.1	21.0
4	1.98905	0.2	-3.1	9.8	10.0	6.7	56.0	46.0	46.0	39.3
5	13.39665	16.4	6.2	10.0	26.4	16.2	60.0	50.0	33.6	33.8
6	14.00985	15.1	5.9	10.0	25.1	15.9	60.0	50.0	34.9	34.1

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6. Test equipment used for test

	Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
■	Vector Signal Generator	R & S	SMBV100A	257566	18.01.06
■	Spectrum Analyzer	R & S	FSW26	101353	18.01.06
■	DC Power Supply	AGILENT	E3632A	KR73001026	18.01.06
■	Temp & Humid Chamber	Daejin Engineering	DJ-THR11000	10041	18.01.31
■	Loop Antenna	R & S	HFH2-Z2	100355	18.03.03
■	Bilog Antenna	TESEQ	CBL 6112D	37876	18.08.05
■	Attenuator	AGILENT	8491B	MY39270292	18.08.05
■	Amplifier	SONOMA	310N	344922	17.08.26
■	EMI Test Receiver	R & S	ESCI7	100732	17.08.25
■	Turn Table	Innco Systems	DT2000	79	-
■	Antenna Mast	Innco Systems	MA4000-EP	303	-
■	EMI Test Receiver	R & S	ESCI	100001	17.10.20
■	Two-Line V -Network	R & S	ENV216	101358	17.08.16

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