

TEST REPORT



CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu,
Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
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Report No.:
CTK-2022-00136
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1. Client

- Name : SEONG JI INDUSTRIAL CO., LTD
- Address : 54-33, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, South Korea
- Date of Receipt : 2021-11-17

2. Manufacturer

- Name : SEONG JI INDUSTRIAL CO., LTD
- Address : 54-33, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, South Korea

3. Use of Report : For FCC Certification

4. Test Sample / Model: AUDIO TRANSCEIVER / ATM510 and ATM511


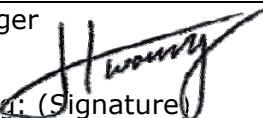
5. Date of Test : 2021-11-24 to 2022-01-05

6. Test Standard(method) used : FCC 47 CFR part 15 subpart C 15.249

7. Testing Environment: Temp.: (24 ± 1) °C, Humidity: (50 ± 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)
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2022-01-12

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



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REPORT REVISION HISTORY

Date	Revision	Page No
2022-01-12	Issued (CTK-2022-00136)	all

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1. General Product Description

1.1 Client Information

Company	SEONG JI INDUSTRIAL CO., LTD
Contact Point	54-33, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, South Korea
Contact Person	Name : Lee Sang Young E-mail : sylee@seongji.co.kr Tel : +82-31-239-8194 Fax : +82-31-233-7048

1.2 Product Information

FCC ID	2AS8LATM510
Product Description	AUDIO TRANSCEIVER
Model name	ATM510
Variant Model name	ATM511
Operating Frequency	5 848.35 MHz – 5 870.35 MHz (2 MHz_BW) 5 849.35 MHz – 5 871.35 MHz (4 MHz_BW)
RF Output Power	Below 94 dBuV/m @ 3m
Antenna Specification	Antenna type : PCB Antenna ANT1 Gain : 1.0 dBi ANT2 Gain : 1.7 dBi
Type of Modulation	Pi/4 DQPSK
Power Source	ATM510 : DC 5 V ATM511 : DC 3.3 V
Hardware Rev	REV1.0
Software Rev	<2 MHz_BW> TX : 2.0.15 RX : 2.0.1 <4 MHz_BW> TX : 3.0.15 RX : 3.0.1

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	HP	15-bs563TU	CND7253QPR
AC/DC Adapter	HP	HSTNN-LA40	-

1.4 Model Differences

The ATM511 model only changes the power source circuit from the Basic model.

The transmitter schematic and circuits including the antenna are electrically identical

ATM510 : DC 5.0 V

ATM511 : DC 3.3 V



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2. Facility and Accreditations

2.1 Test Facility

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

The conducted measurement facility is located at 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yong-in-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.



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3. Test Specifications

3.1 Standards

FCC Part Section(s)	Requirement(s)	Status (Note 1)	Test Condition
15.249 (a)	Field strength of emissions from intentional radiators	C	Radiated
15.249 (d)	Emissions radiated outside of the specified frequency bands	C	
15.209	Radiated Spurious Emission	C	
15.249 (e)	20 dB Bandwidth	C	Conducted
15.207	AC Conducted Emissions	C	Line Conducted
<i>Note 1:</i> C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable			
<i>Note 2:</i> The data in this test report are traceable to the national or international standards.			
<i>Note 3:</i> The sample was tested according to the following specification: FCC Part 15.249, ANSI C63.10-2013			



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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.
The engineering test program was provided and enabled to make EUT continuous transmit.

Test Frequency

Mode	Lowest channel	Middle channel	Highest channel
Digital Modulation 2MHz_BW	5 848.35 MHz	5 858.35 MHz	5 870.35 MHz
Digital Modulation 4MHz_BW	5 849.35 MHz	5 859.35 MHz	5 871.35 MHz

Test mode	Duty Cycle
2MHz_BW	100%
4MHz_BW	100%



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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
Occupied Bandwidth	0.1 MHz (C.L.: Approx. 95 %, $k = 2$)
Radiated Emissions ($f \leq 1$ GHz)	4.66 dB (C.L.: Approx. 95 %, $k = 2$)
Radiated Emissions ($f > 1$ GHz)	4.76 dB (C.L.: Approx. 95 %, $k = 2$)
Line Conducted Emission	1.96 dB (C.L.: Approx. 95 %, $k = 2$)

3.4 Test Software

Conducted Test	Ics Pro Ver. 6.0.3
Radiated Test	TOYO EMI software EP5RE Ver. 6.0.1.0
Line Conducted Test	ESCI7, ESCI3 : EMC32 Ver. 8.50.0 ESR7 : EMC32 Ver. 8.53.0

4. Technical Characteristic Test

4.1 20 dB Bandwidth

Test Procedures

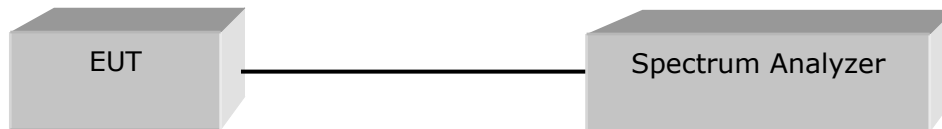
ANSI C63.10-2013 - Section 6.9.2

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

- a) Span = 10 MHz (between 2 times and 5 times the OBW)
- b) RBW = 100 kHz (1% to 5% of the OBW)
- c) VBW = 300 kHz (approximately 3 times RBW)
- d) Sweep = auto
- e) Detector function = peak
- f) Trace = max hold



Limit

Limit : N/A



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Test Data:

Mode	20 dB Bandwidth (MHz)	
	Digital Modulation_2MHz_BW	
ANT	ANT1	ANT2
Frequency		
5 848.35 MHz	2.154	2.171
5 858.35 MHz	2.191	2.200
5 870.35 MHz	2.171	2.210
Measurement uncertainty	± 0.1 MHz	

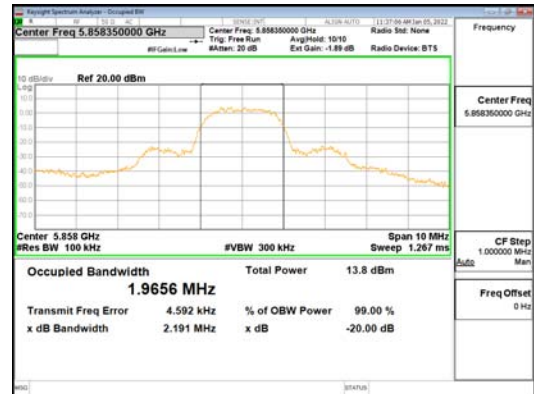
Mode	6 dB Bandwidth (MHz)	
	Digital Modulation_4MHz_BW	
ANT	ANT1	ANT2
Frequency		
5 849.35 MHz	4.213	4.224
5 859.35 MHz	4.203	4.237
5 871.35 MHz	4.215	4.249
Measurement uncertainty	± 0.1 MHz	

See next pages for actual measured spectrum plots.

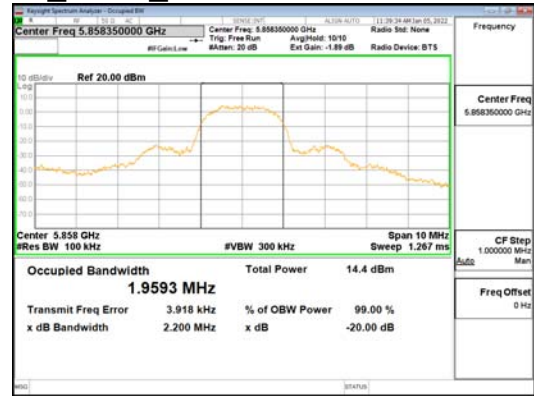


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ANT1_Digital Modulation_2MHz_BW

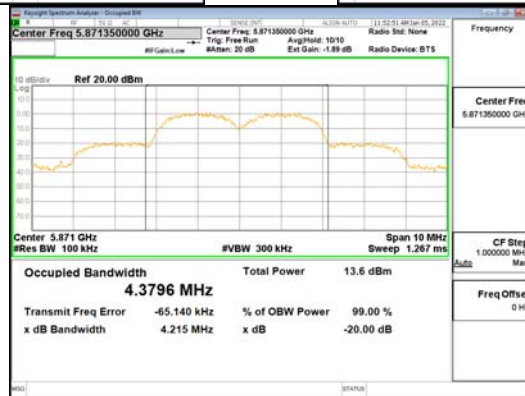
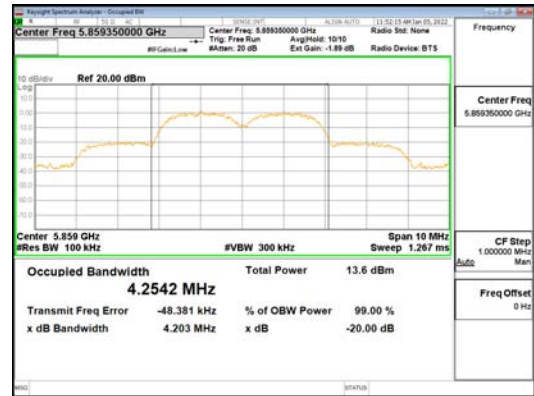
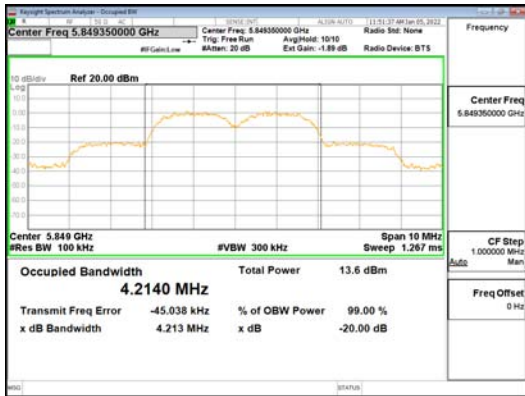


ANT2_Digital Modulation_2MHz_BW

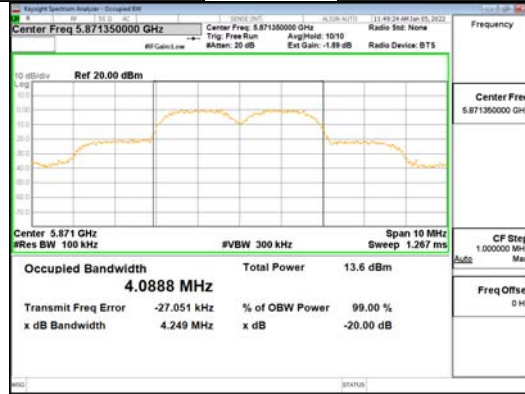
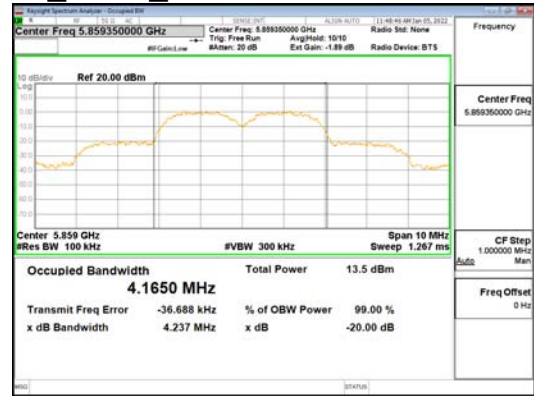
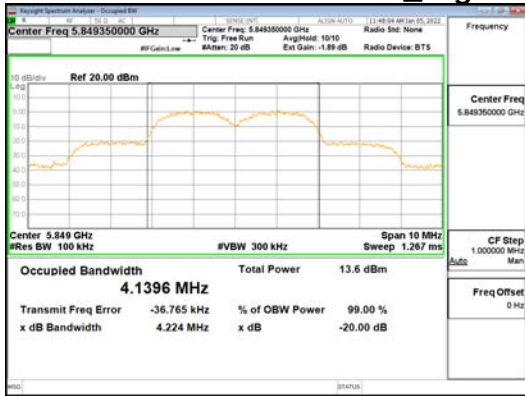


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ANT1_Digital Modulation_4MHz_BW



ANT2_Digital Modulation_4MHz_BW

4.2 Field strength

Test Location

- 10 m SAC (test distance : 10 m, 3 m)
 3 m SAC (test distance : 3 m)

Test Procedures

- 1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. 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 range 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 = 100 kHz for $f < 1$ GHz, 9 kHz for $f < 30$ MHz
b) VBW \geq RBW
c) Detector = CISPR Quasi-peak
d) Sweep time = auto couple

- Peak

Frequency Range = 1 GHz ~ 40 GHz

- a) RBW = 1 MHz
b) VBW $\geq 3 \times$ RBW
c) Detector = Peak
d) Sweep time = auto
e) Trace mode = max hold

- Average (duty cycle $\geq 98\%$)

Frequency Range = 1 GHz ~ 40 GHz

- a) RBW = 1 MHz
b) VBW $\geq 3 \times$ 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%)

Frequency Range = 1 GHz ~ 40 GHz

a) RBW = 1 MHz

b) VBW ≥ 3 × RBW

c) Detector = RMS

d) Sweep time = auto

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

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

If power averaging (RMS) mode, then the applicable correction factor is 10 log(1/x), where x is the duty cycle.

Limit

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field Strength of Fundamental (dBuV/m)	
	Peak	Average
5 725 – 5 875 MHz	114	94
	Field Strength of Harmonics (dBuV/m)	
	74	54

Field strength limits are specified at a distance of 3 meters.

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

- 15.209(a)

Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m	Deasurement 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

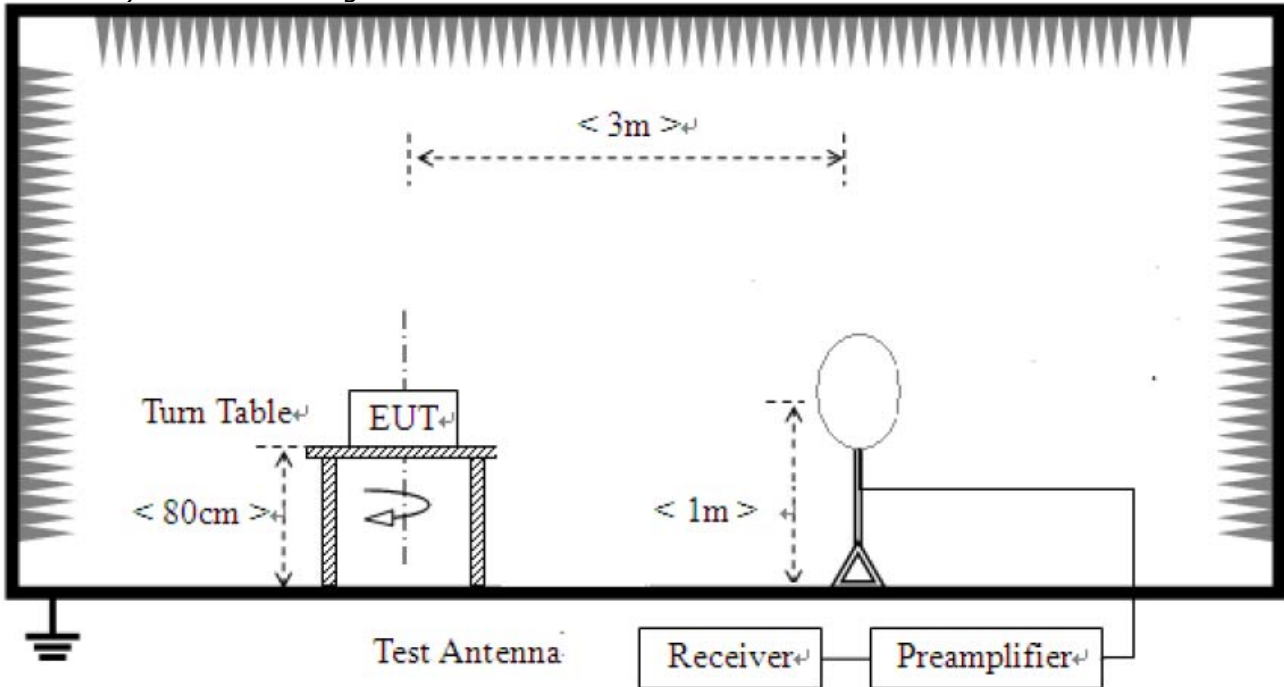
** Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231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

Note :

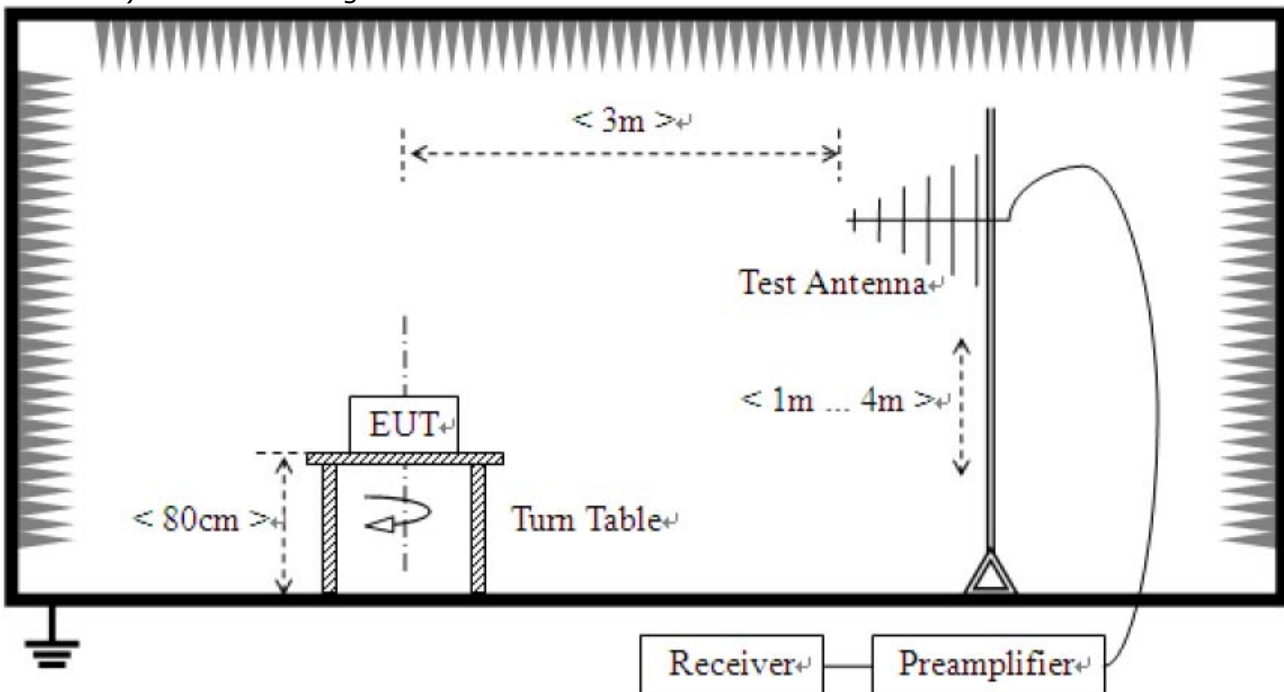
- 1) For above 1 GHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
- 2) For above 1 GHz, limit field strength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

Test Setup:

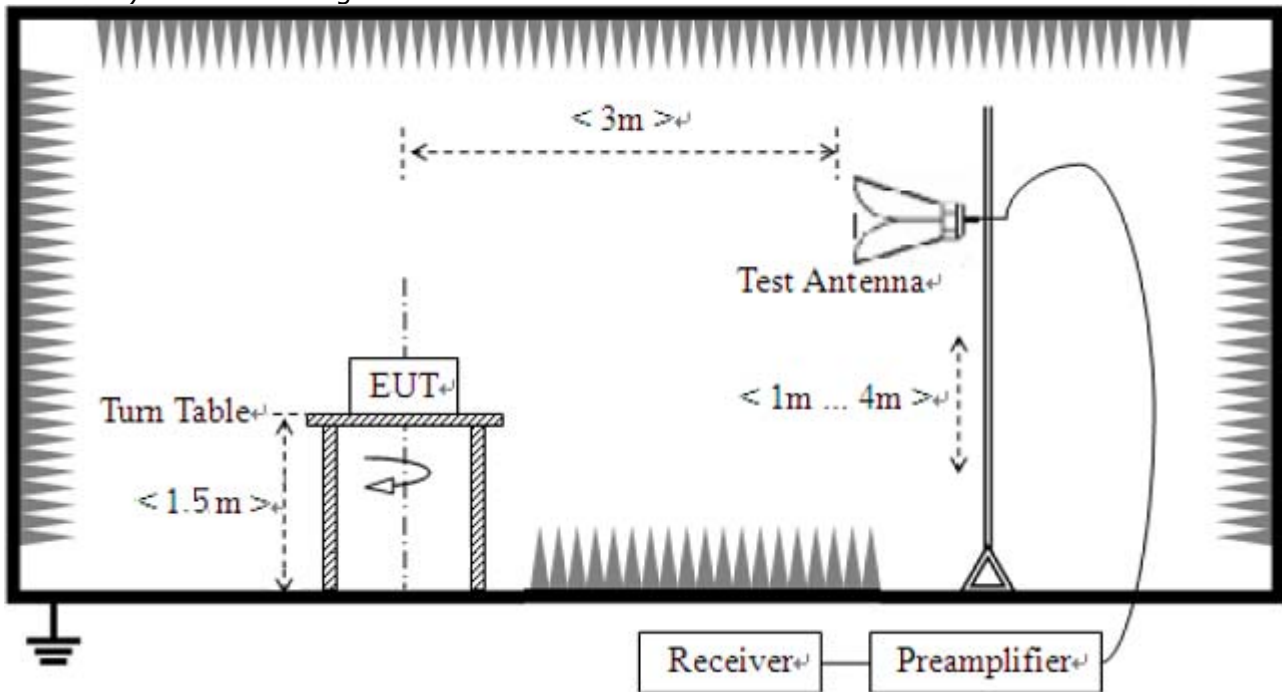
- 1) For field strength of emissions from 9 kHz to 30 MHz



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



3) For field strength of emissions above 1 GHz



Test Results

1) Field Strength of Fundamental

Test mode : Digital Modulation_2MHz_BW, ANT1

Lowest (5 848.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 848.35	H	96.4	-----	2.8	99.2	-----	-----	114.0	-----	14.8	-----
	H	-----	85.4	2.8	-----	88.2	0.0	-----	94.0	-----	5.8
	V	96.5	-----	2.8	99.3	-----	-----	114.0	-----	14.7	-----
	V	-----	87.5	2.8	-----	90.3	0.0	-----	94.0	-----	3.7

Middle (5 858.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 858.35	H	96.0	-----	2.9	98.9	-----	-----	114.0	-----	15.1	-----
	H	-----	86.3	2.9	-----	89.2	0.0	-----	94.0	-----	4.8
	V	96.2	-----	2.9	99.1	-----	-----	114.0	-----	14.9	-----
	V	-----	86.7	2.9	-----	89.6	0.0	-----	94.0	-----	4.4

Highest (5 870.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 870.35	H	96.8	-----	3.0	99.8	-----	-----	114.0	-----	14.2	-----
	H	-----	85.9	3.0	-----	88.9	0.0	-----	94.0	-----	5.1
	V	96.8	-----	3.0	99.8	-----	-----	114.0	-----	14.2	-----
	V	-----	86.2	3.0	-----	89.2	0.0	-----	94.0	-----	4.8

Remarks

- 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.
- Peak Result = Reading + c.f(Correction factor)
Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
- Correction factor = Antenna factor + Cable loss - Amp Gain



Test mode : Digital Modulation_4MHz_BW, ANT1

Lowest (5 849.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 849.35	H	90.1	-----	2.8	92.9	-----	-----	114.0	-----	21.1	-----
	H	-----	82.7	2.8	-----	85.5	0.0	-----	94.0	-----	8.5
	V	91.1	-----	2.8	93.9	-----	-----	114.0	-----	20.1	-----
	V	-----	84.5	2.8	-----	87.3	0.0	-----	94.0	-----	6.7

Middle (5 859.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 859.35	H	90.2	-----	2.9	93.1	-----	-----	114.0	-----	20.9	-----
	H	-----	82.6	2.9	-----	85.5	0.0	-----	94.0	-----	8.5
	V	91.1	-----	2.9	94.0	-----	-----	114.0	-----	20.0	-----
	V	-----	83.5	2.9	-----	86.4	0.0	-----	94.0	-----	7.6

Highest (5 871.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 871.35	H	89.8	-----	3.1	92.9	-----	-----	114.0	-----	21.1	-----
	H	-----	82.6	3.1	-----	85.7	0.0	-----	94.0	-----	8.3
	V	90.9	-----	3.1	94.0	-----	-----	114.0	-----	20.0	-----
	V	-----	83.6	3.0	-----	86.6	0.0	-----	94.0	-----	7.4

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. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



Test mode : Digital Modulation_2MHz_BW, ANT2

Lowest (5 848.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 848.35	H	93.3	-----	2.8	96.1	-----	-----	114.0	-----	17.9	-----
	H	-----	86.8	2.8	-----	89.6	0.0	-----	94.0	-----	4.4
	V	95.5	-----	2.8	98.3	-----	-----	114.0	-----	15.7	-----
	V	-----	86.9	2.8	-----	89.7	0.0	-----	94.0	-----	4.3

Middle (5 858.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 858.35	H	93.4	-----	2.9	96.3	-----	-----	114.0	-----	17.7	-----
	H	-----	87.1	2.9	-----	90.0	0.0	-----	94.0	-----	4.0
	V	95.3	-----	2.9	98.2	-----	-----	114.0	-----	15.8	-----
	V	-----	87.0	2.9	-----	89.9	0.0	-----	94.0	-----	4.1

Highest (5 870.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 870.35	H	93.2	-----	3.0	96.2	-----	-----	114.0	-----	17.8	-----
	H	-----	86.8	3.0	-----	89.8	0.0	-----	94.0	-----	4.2
	V	95.3	-----	3.0	98.3	-----	-----	114.0	-----	15.7	-----
	V	-----	85.7	3.0	-----	88.7	0.0	-----	94.0	-----	5.3

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. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



Test mode : Digital Modulation_4MHz_BW, ANT2

Lowest (5 849.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 849.35	H	89.7	-----	2.8	92.5	-----	-----	114.0	-----	21.5	-----
	H	-----	82.9	2.8	-----	85.7	0.0	-----	94.0	-----	8.3
	V	92.0	-----	2.8	94.8	-----	-----	114.0	-----	19.2	-----
	V	-----	83.3	2.8	-----	86.1	0.0	-----	94.0	-----	7.9

Middle (5 859.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 859.35	H	89.8	-----	2.9	92.7	-----	-----	114.0	-----	21.3	-----
	H	-----	84.1	2.9	-----	87.0	0.0	-----	94.0	-----	7.0
	V	91.6	-----	2.9	94.5	-----	-----	114.0	-----	19.5	-----
	V	-----	83.3	2.9	-----	86.2	0.0	-----	94.0	-----	7.8

Highest (5 871.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
5 871.35	H	89.6	-----	3.1	92.7	-----	-----	114.0	-----	21.3	-----
	H	-----	83.0	3.0	-----	86.0	0.0	-----	94.0	-----	8.0
	V	91.8	-----	3.0	94.8	-----	-----	114.0	-----	19.2	-----
	V	-----	82.5	3.0	-----	85.5	0.0	-----	94.0	-----	8.5

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. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain

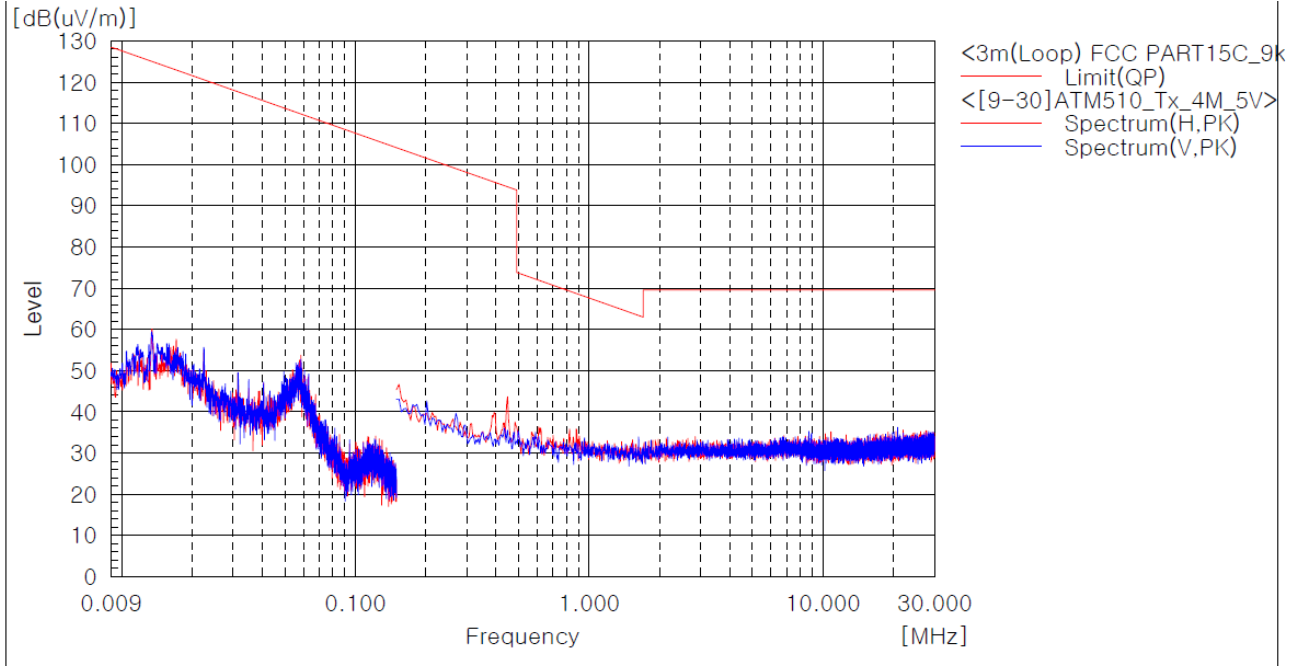
2) 9 kHz to 30 MHz

Test mode : Transmitter (ATM510, Worst Case)

The requirements are:

Complies

Test Data



Frequency [MHz]	(P)	Reading [dBuV]	c.f [dB(1/m)]	Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
-----------------	-----	----------------	---------------	------------------	------------------	-------------

The emissions 9 kHz to 30 MHz were 20 dB lower than the limit.

Remark :

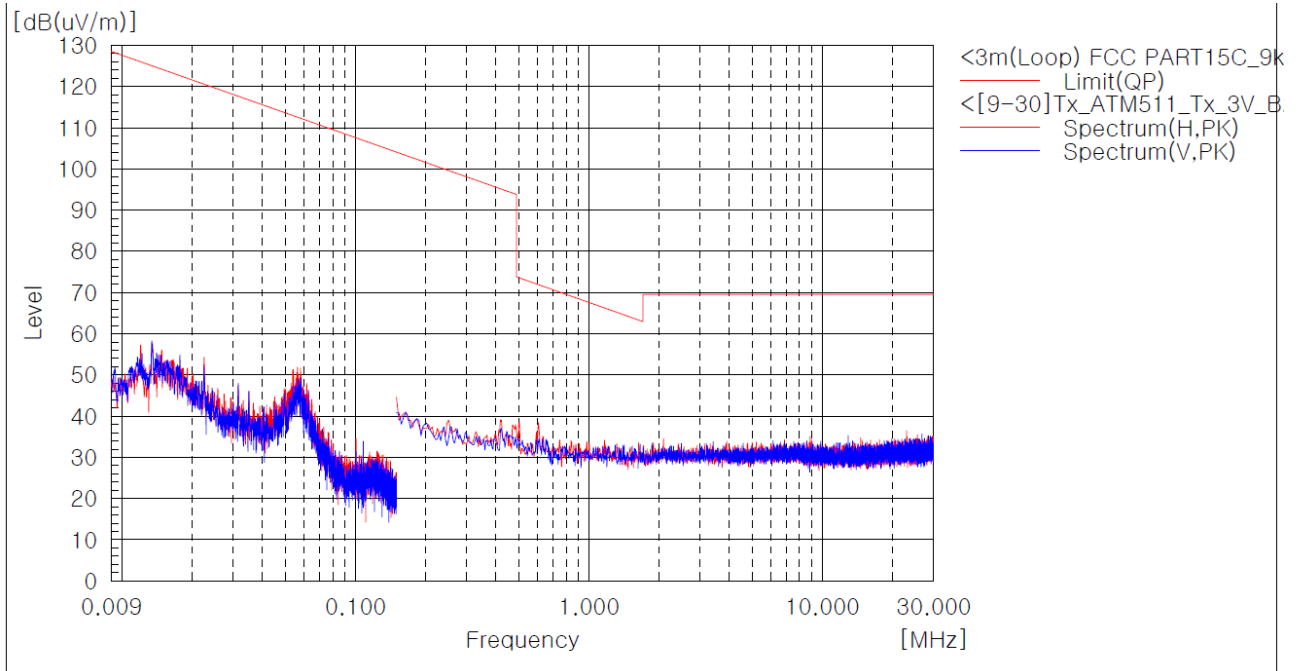
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. This data is the Peak(PK) value.

Test mode : Transmitter (ATM511, Worst Case)

The requirements are:

Complies

Test Data



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

Remark :

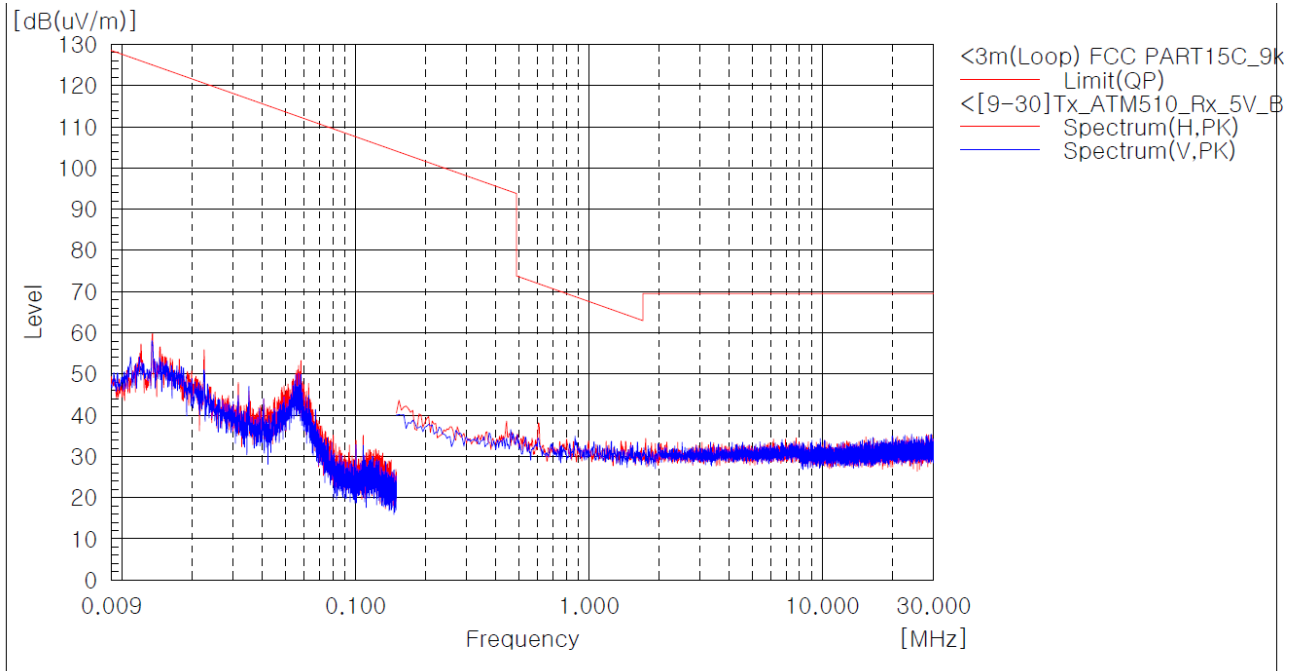
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. This data is the Peak(PK) value.

Test mode : Receiver (ATM510, Worst Case)

The requirements are:

Complies

Test Data



Frequency [MHz]	(P)	Reading [dBuV]	c.f [dB(1/m)]	Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
-----------------	-----	----------------	---------------	------------------	------------------	-------------

The emissions 9 kHz to 30 MHz were 20 dB lower than the limit.

Remark :

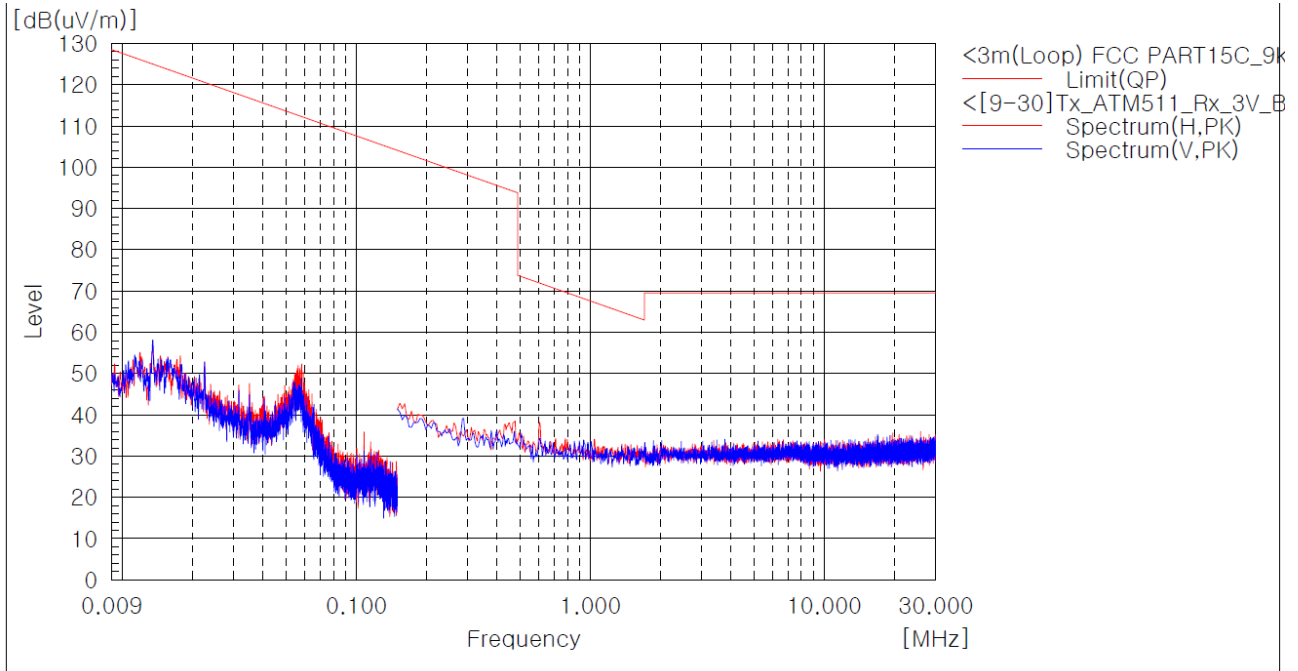
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. This data is the Peak(PK) value.

Test mode : Receiver (ATM511, Worst Case)

The requirements are:

Complies

Test Data



Frequency [MHz]	(P)	Reading [dBuV]	c.f [dB(1/m)]	Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
-----------------	-----	----------------	---------------	------------------	------------------	-------------

The emissions 9 kHz to 30 MHz 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. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator
4. This data is the Peak(PK) value.

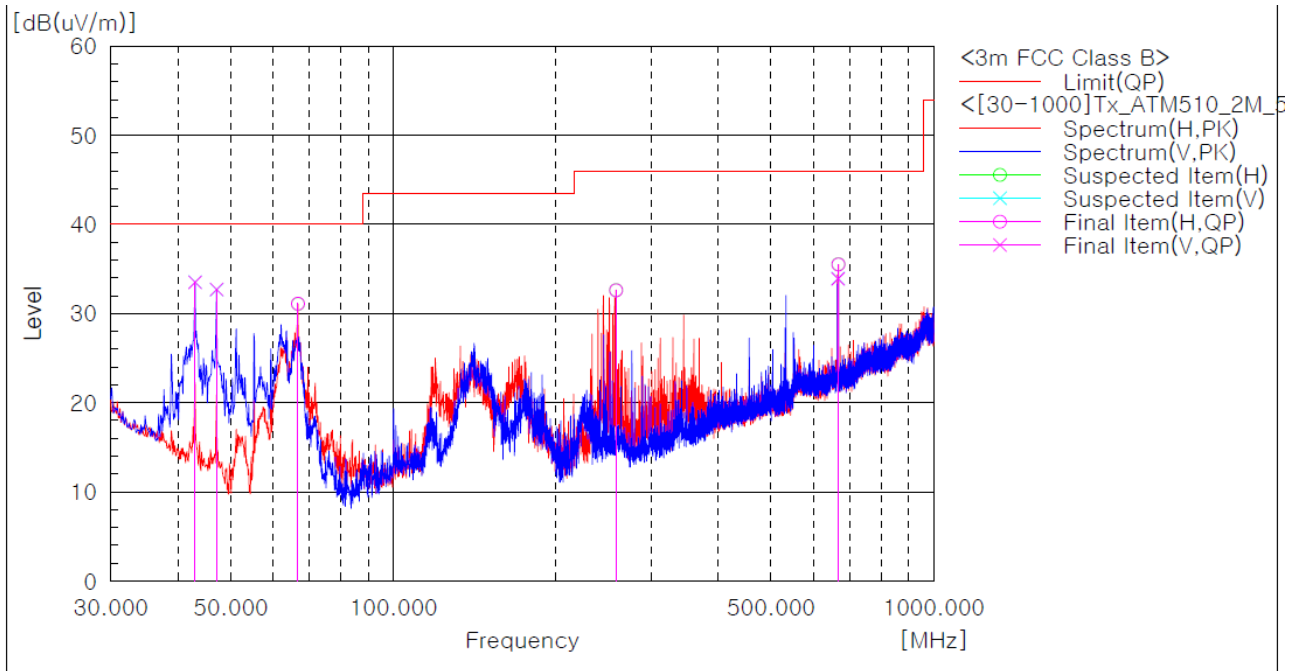
3) 30 MHz to 1 GHz

Test mode : Transmitter (ATM510, Worst Case)

The requirements are:

Complies

Test Data



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	42.974	V	46.1	-12.6	33.5	40.0	6.5	101.0	255.0
2	47.096	V	47.5	-14.8	32.7	40.0	7.3	101.0	271.0
3	66.618	H	49.1	-18.0	31.1	40.0	8.9	309.0	14.0
4	258.556	H	41.0	-8.4	32.6	46.0	13.4	101.0	118.0
5	665.350	V	32.9	1.0	33.9	46.0	12.1	101.0	75.0
6	666.563	H	34.5	1.0	35.5	46.0	10.5	101.0	268.0

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. This data is the Peak(PK) value.
5. We have done all test mode. The results are only attached worst cases.

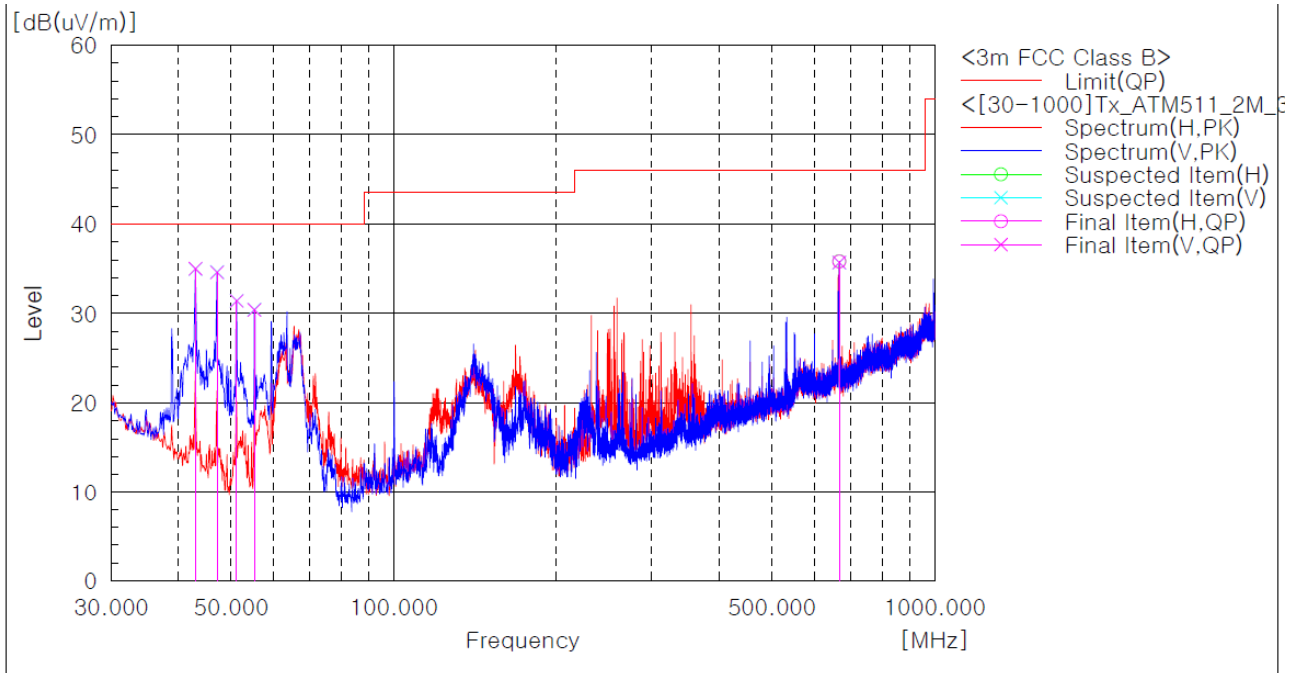


Test mode : Transmitter (ATM511, Worst Case)

The requirements are:

Complies

Test Data



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	42.974	V	47.6	-12.6	35.0	40.0	5.0	101.0	261.0
2	47.096	V	49.4	-14.8	34.6	40.0	5.4	101.0	211.0
3	51.219	V	48.3	-16.9	31.4	40.0	8.6	101.0	258.0
4	55.220	V	48.7	-18.3	30.4	40.0	9.6	101.0	245.0
5	666.441	H	34.8	1.0	35.8	46.0	10.2	101.0	248.0
6	666.441	V	34.7	1.0	35.7	46.0	10.3	101.0	75.0

Remark :

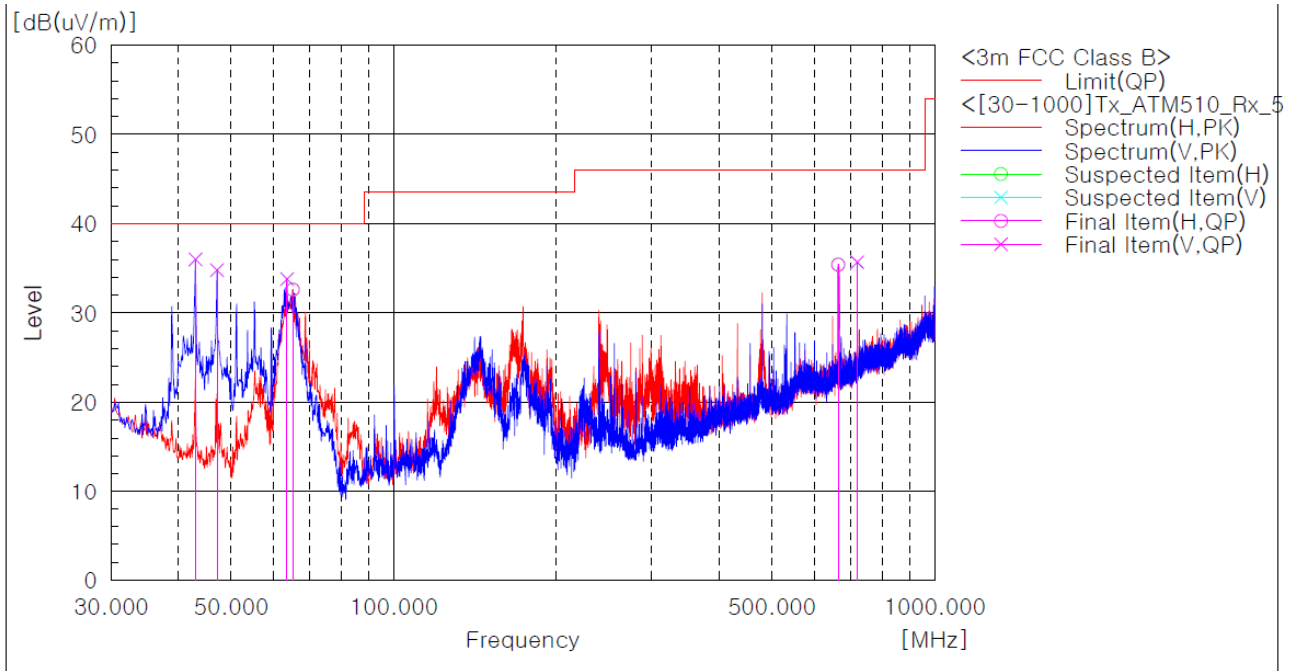
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. This data is the Peak(PK) value.
5. We have done all test mode. The results are only attached worst cases.

Test mode : Receiver (ATM510, Worst Case)

The requirements are:

Complies

Test Data



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	42.974	V	48.6	-12.6	36.0	40.0	4.0	101.0	300.0
2	47.096	V	49.6	-14.8	34.8	40.0	5.2	101.0	274.0
3	63.465	V	52.1	-18.3	33.8	40.0	6.2	193.0	108.0
4	65.041	H	50.7	-18.1	32.6	40.0	7.4	400.0	21.0
5	663.774	H	34.3	1.1	35.4	46.0	10.6	306.0	293.0
6	719.670	V	33.8	1.9	35.7	46.0	10.3	101.0	21.0

Remark :

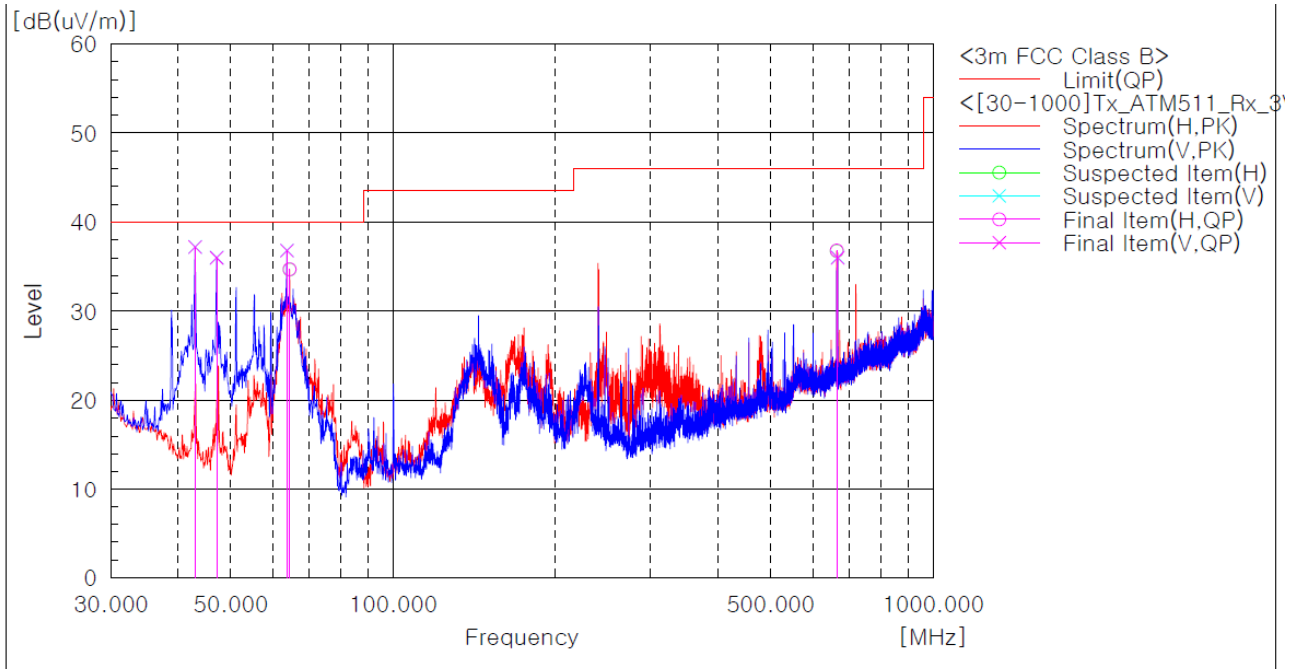
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + c.f(Correction factor)
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain
4. This data is the Peak(PK) value.
5. We have done all test mode. The results are only attached worst cases.

Test mode : Receiver (ATM511, Worst Case)

The requirements are:

Complies

Test Data



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	42.974	V	49.8	-12.6	37.2	40.0	2.8	101.0	302.0
2	63.586	V	55.1	-18.3	36.8	40.0	3.2	291.0	131.0
3	47.096	V	50.8	-14.8	36.0	40.0	4.0	101.0	272.0
4	64.314	H	52.9	-18.2	34.7	40.0	5.3	305.0	339.0
5	663.774	H	35.7	1.1	36.8	46.0	9.2	101.0	275.0
6	666.199	V	35.0	1.0	36.0	46.0	10.0	101.0	58.0

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. This data is the Peak(PK) value.
5. We have done all test mode. The results are only attached worst cases.

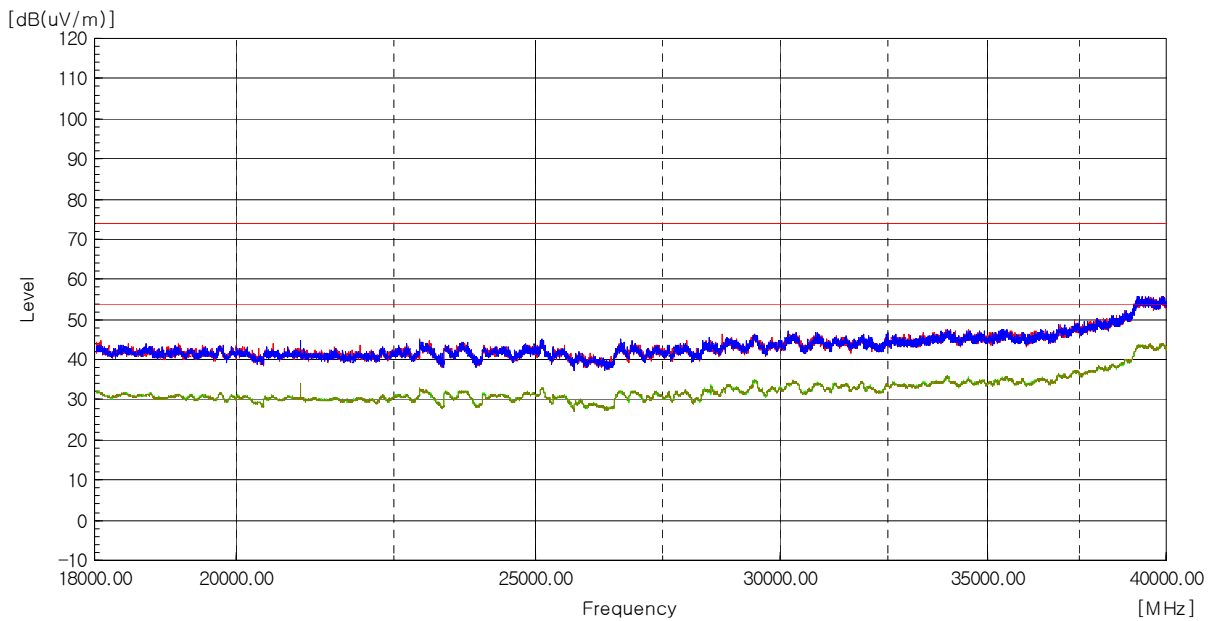
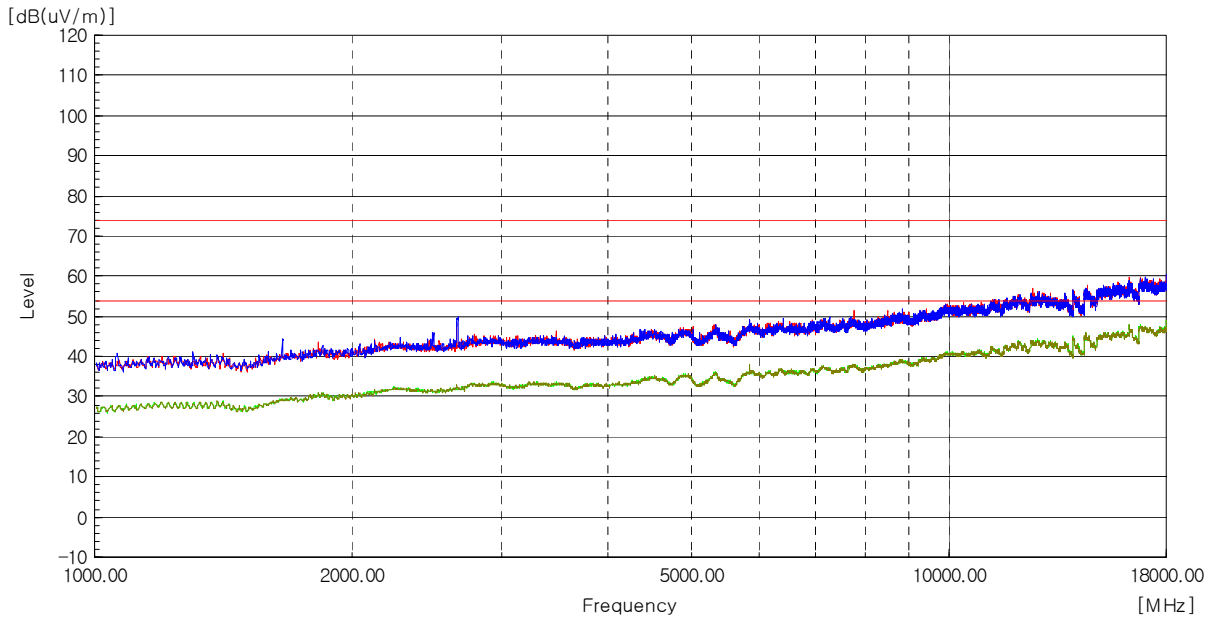


4) above 1 GHz

The requirements are:

Complies

Test Data





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Report No.:
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Test mode : Digital Modulation_2MHz_BW, ANT1

The requirements are:

Complies

Test Data

Lowest (5 848.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
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No emissions were detected at a level greater than 20dB below limit.

Middle (5 858.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Highest (5 870.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

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. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



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Report No.:
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Test mode : Digital Modulation_4MHz_BW, ANT1

The requirements are:

Complies

Test Data

Lowest (5 849.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Middle (5 859.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Highest (5 871.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Remarks

1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down positon(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



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Report No.:
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Test mode : Digital Modulation_2MHz_BW, ANT2

The requirements are:

Complies

Test Data

Lowest (5 848.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Middle (5 858.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Highest (5 870.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
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No emissions were detected at a level greater than 20dB below limit.

Remarks

1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down positon(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



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Test mode : Digital Modulation_4MHz_BW, ANT2

The requirements are:

Complies

Test Data

Lowest (5 849.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Middle (5 859.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
-----------------	-----	-------------------	-------------------	---------------	---------------------	---------------------	------------------------	---------------------	---------------------	----------------	----------------

No emissions were detected at a level greater than 20dB below limit.

Highest (5 871.35 MHz)

Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
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No emissions were detected at a level greater than 20dB below limit.

Remarks

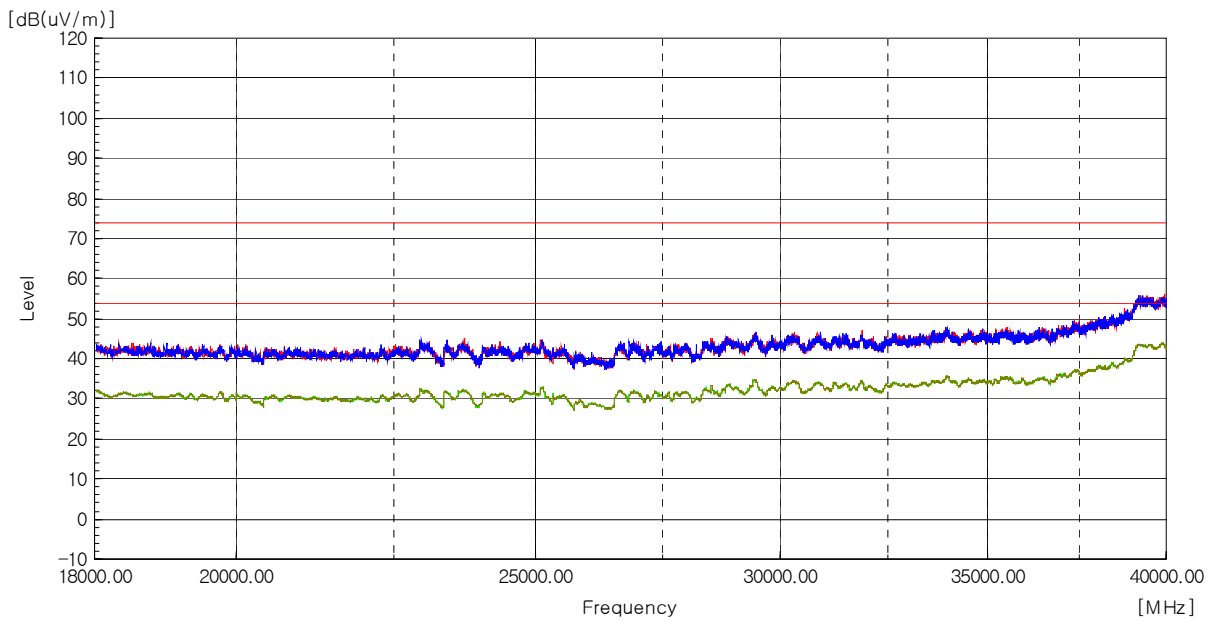
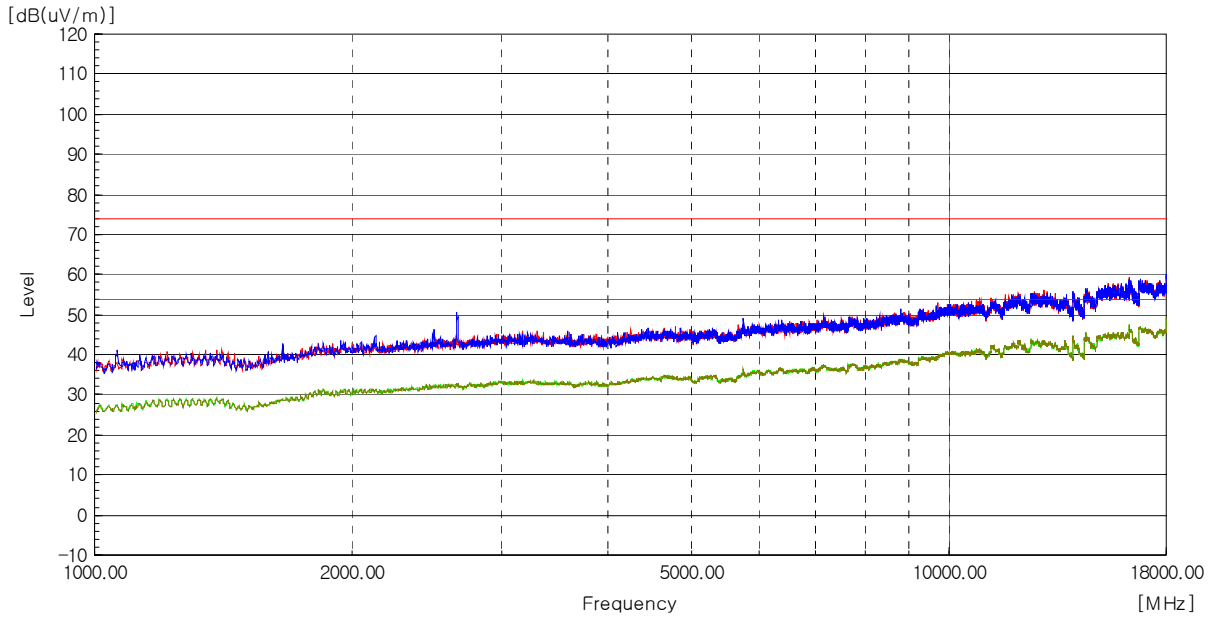
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Peak Result = Reading + c.f(Correction factor)
 Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



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Test mode : Receiver (Worst Case)





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Frequency [MHz]	(P)	Reading PK [dBuV]	Reading AV [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	Level AV [dB(uV/m)]	Duty Cycle Factor [dB]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin AV [dB]
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The emissions above 1 GHz were 20 dB lower than the limit.

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 stand-up position(Z axis) and the worst case was recorded.
2. Peak Result = Reading + c.f(Correction factor)
Average Result = Reading + c.f(Correction factor) + Duty Cycle Factor
3. Correction factor = Antenna factor + Cable loss - Amp Gain



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4.3 AC Conducted Emissions

Test Location

Shielded Room

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Procedures

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

- 15.207(a)

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

* Decreases with the logarithm of the frequency.

Test Results

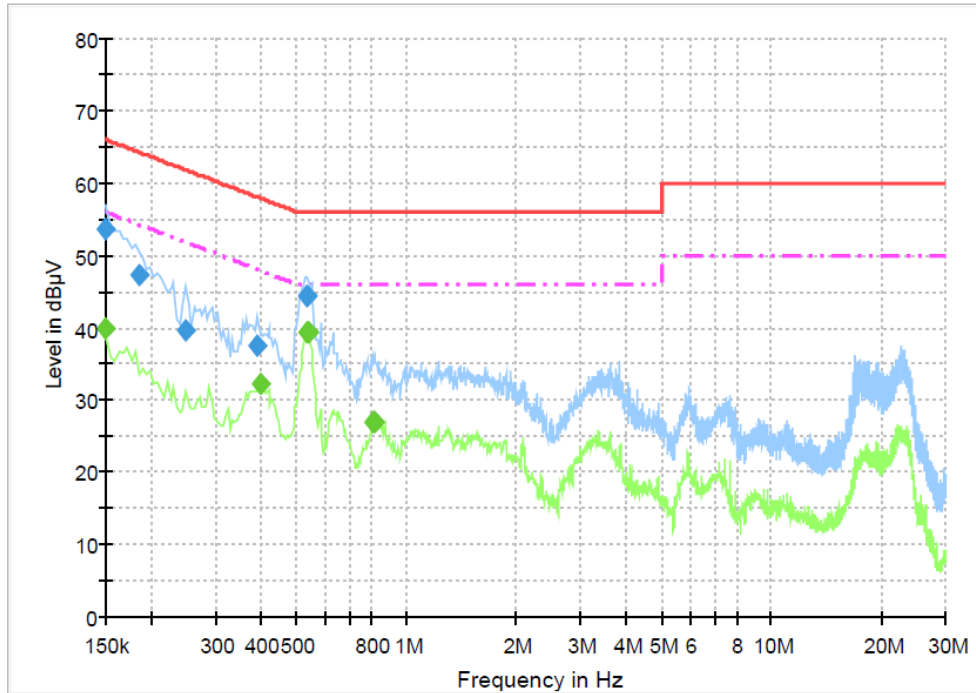
The requirements are:

Complies

Test Data

- ATM510

[LINE]
3CE_Class B_L1



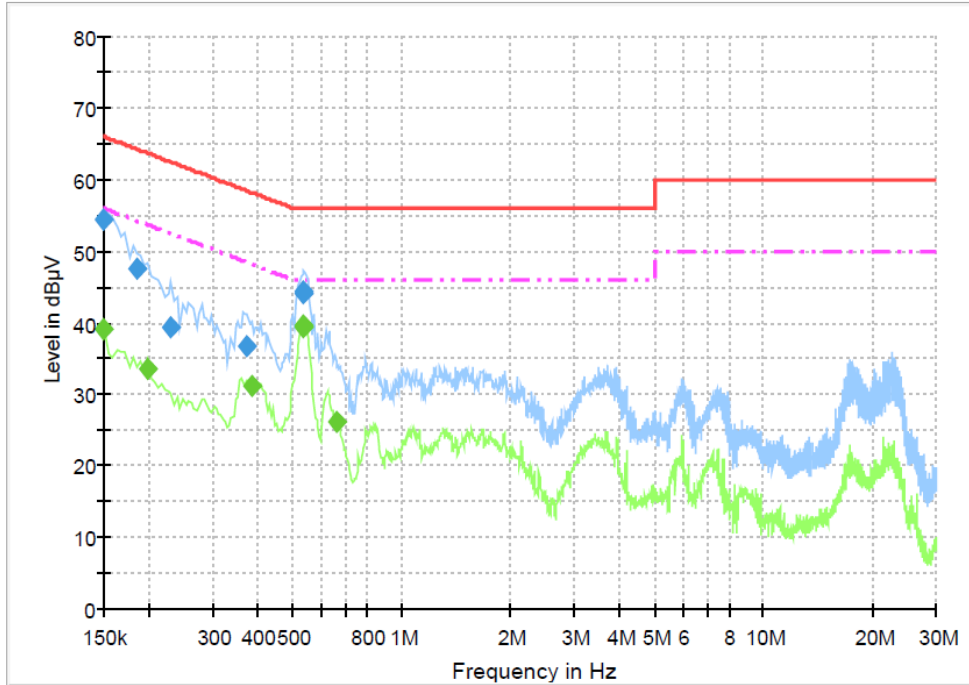
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	53.5	1000.0	9.000	On	L1	9.7	12.5	66.0
0.186000	47.3	1000.0	9.000	On	L1	9.9	16.9	64.2
0.249000	39.6	1000.0	9.000	On	L1	9.6	22.2	61.8
0.388500	37.6	1000.0	9.000	On	L1	9.9	20.5	58.1
0.532500	44.3	1000.0	9.000	On	L1	9.9	11.7	56.0
0.537000	44.4	1000.0	9.000	On	L1	9.9	11.6	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	39.8	1000.0	9.000	On	L1	9.7	16.2	56.0
0.397500	32.2	1000.0	9.000	On	L1	9.9	15.7	47.9
0.532500	39.5	1000.0	9.000	On	L1	9.9	6.5	46.0
0.541500	39.3	1000.0	9.000	On	L1	9.9	6.7	46.0
0.811500	26.8	1000.0	9.000	On	L1	9.8	19.2	46.0
0.820500	26.9	1000.0	9.000	On	L1	9.8	19.1	46.0

[NEUTRAL]
3CE_Class B_N



Final Result 1

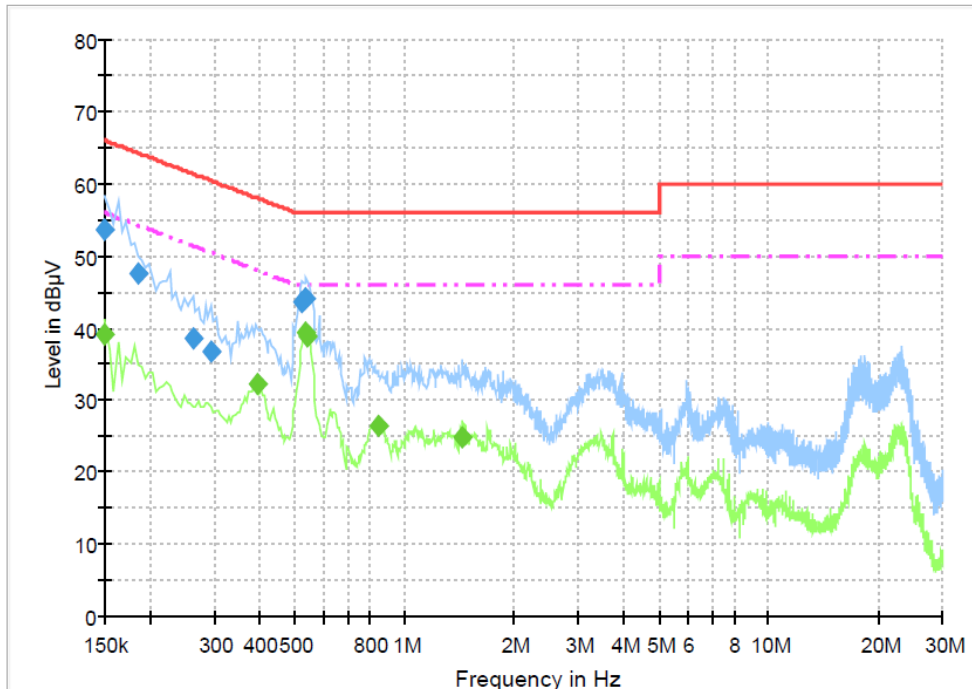
Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	54.4	1000.0	9.000	On	N	9.8	11.6	66.0
0.186000	47.6	1000.0	9.000	On	N	9.9	16.6	64.2
0.231000	39.4	1000.0	9.000	On	N	9.7	23.0	62.4
0.375000	36.8	1000.0	9.000	On	N	9.9	21.6	58.4
0.532500	44.3	1000.0	9.000	On	N	9.9	11.7	56.0
0.537000	44.2	1000.0	9.000	On	N	9.9	11.8	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	39.1	1000.0	9.000	On	N	9.8	16.9	56.0
0.199500	33.5	1000.0	9.000	On	N	9.8	20.2	53.6
0.384000	31.3	1000.0	9.000	On	N	9.9	16.9	48.2
0.532500	39.5	1000.0	9.000	On	N	9.9	6.5	46.0
0.537000	39.6	1000.0	9.000	On	N	9.9	6.4	46.0
0.663000	26.2	1000.0	9.000	On	N	9.9	19.8	46.0

- ATM511

[LINE]
3CE_Class B_L1



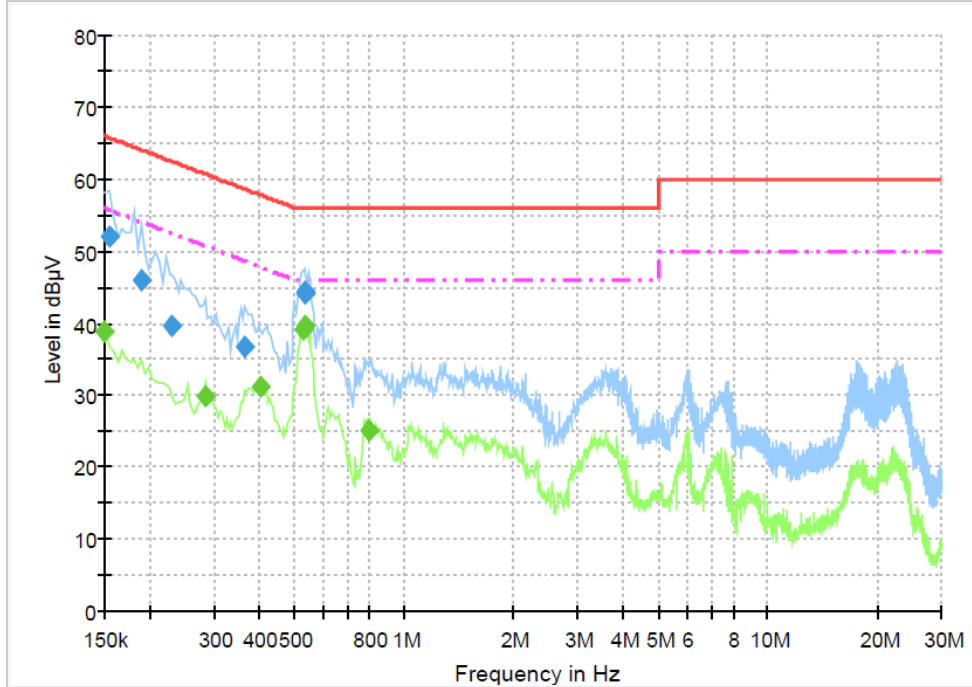
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	53.7	1000.0	9.000	On	L1	9.7	12.3	66.0
0.186000	47.4	1000.0	9.000	On	L1	9.9	16.8	64.2
0.262500	38.5	1000.0	9.000	On	L1	9.7	22.8	61.4
0.294000	36.8	1000.0	9.000	On	L1	9.7	23.6	60.4
0.523500	43.5	1000.0	9.000	On	L1	9.9	12.5	56.0
0.537000	44.0	1000.0	9.000	On	L1	9.9	12.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	39.2	1000.0	9.000	On	L1	9.7	16.8	56.0
0.393000	32.3	1000.0	9.000	On	L1	9.9	15.7	48.0
0.532500	39.4	1000.0	9.000	On	L1	9.9	6.6	46.0
0.541500	38.9	1000.0	9.000	On	L1	9.9	7.1	46.0
0.847500	26.4	1000.0	9.000	On	L1	9.8	19.6	46.0
1.441500	24.9	1000.0	9.000	On	L1	9.8	21.1	46.0

[NEUTRAL]
3CE_Class B_N



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	52.1	1000.0	9.000	On	N	9.9	13.6	65.8
0.190500	46.0	1000.0	9.000	On	N	9.9	18.0	64.0
0.231000	39.6	1000.0	9.000	On	N	9.7	22.8	62.4
0.366000	36.7	1000.0	9.000	On	N	9.9	21.9	58.6
0.532500	44.3	1000.0	9.000	On	N	9.9	11.7	56.0
0.537000	44.1	1000.0	9.000	On	N	9.9	11.9	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	38.8	1000.0	9.000	On	N	9.8	17.2	56.0
0.285000	29.9	1000.0	9.000	On	N	9.8	20.8	50.7
0.402000	31.2	1000.0	9.000	On	N	9.9	16.6	47.8
0.528000	39.0	1000.0	9.000	On	N	9.9	7.0	46.0
0.537000	39.5	1000.0	9.000	On	N	9.9	6.5	46.0
0.802500	25.1	1000.0	9.000	On	N	9.8	20.9	46.0



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APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date
1	Signal Analyzer	Agilent	N9020A	MY52090670	2021-10-21	2022-10-21
2	Signal Generator	Rohde & Schwarz	SMB100A	175528	2021-04-12	2022-04-12
3	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2021-10-20	2022-10-20
4	BILOG ANTENNA	TESEQ	CBL6111D	58490	2021-03-03	2023-03-03
5	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-126	2020-05-20	2022-05-20
6	Attenuator	PASTERNAK	PE7047-6	NONE	2021-02-26	2022-02-26
7	6dB Attenuator	BIRD	5W 6dB	1744	2021-12-17	2022-12-17
8	AMPLIFIER	SONOMA	310	291721	2021-01-22	2022-01-22
9	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2022-01-11	2023-01-11
10	Horn Antenna	ETS-Lindgren	3117	00154525	2021-10-21	2022-10-21
11	Preamplifier	Agilent	8449B	3008A00464	2021-10-19	2022-10-19
12	Horn Antenna	SCHWARZBECK	BBHA9170	00967	2021-05-25	2022-05-25
13	Low Noise Amplifier	TESTEK	TK-PA1840H	200115-L	2021-05-21	2022-05-21
14	Band Reject Filter	Micro Tronics	BRM50716	G315	2021-10-08	2022-10-08
15	LISN	Rohde & Schwarz	ENV216	101236	2021-10-20	2022-10-20
16	EMI Test Receiver	Rohde & Schwarz	ESCI3	100032	2022-01-11	2023-01-11

	Cable	Manufacturer	Model No.	Serial No.	Check Date
1	RF Cable (Conducted)	Junkosha Inc.	MWX221	1512S127	2021-11-25
2	RF Cable (Line Conducted)	Canare Corporation	L-5D2W	N/A	2021-10-20
3	RF Cable (9kHz-30MHz Radiated)	HUBER+SUHNER	NA	NA	2021-02-20
4	RF Cable (9kHz-1GHz Below Radiated)	HUBER+SUHNER	SUCOFLEX 104	MY27558/4	2021-02-20
5	RF Cable (30MHz-1GHz Below Radiated)	HUBER+SUHNER	SUCOFLEX 104	N/A	2021-02-20
6	RF Cable (1GHz-18GHz Radiated)	HUBER+SUHNER	SUCOFLEX 102	MY2374/2	2021-02-20
7	RF Cable (1GHz-40GHz Radiated)	HUBER+SUHNER	SUCOFLEX 102	MY4728/2	2021-02-20
8	RF Cable (18GHz-40GHz Radiated)	HUBER+SUHNER	SUCOFLEX 102	803010/2	2021-10-27