

ONETECH

# ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : W153R-D020

AGR No. : A153A-174R

Applicant : PROCHILD INC.

Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU,

SEOUL, 152-053, Korea

Manufacturer : PROCHILD INC.

Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU,

SEOUL, 152-053, Korea

**Type of Equipment**: DIAPER ALERT

FCC ID. : 2AEEY-PAA-100

Model Name : PAA-100

Serial number : N/A

Total page of Report : 32 pages (including this page)

Date of Incoming: March 16, 2015

Date of issue : March 26, 2015

## **SUMMARY**

The equipment complies with the regulation; FCC PART 15 SUBPART C Section 15.247

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by:

Ki-Hong, Nam / Asst, Chief Engineer
ONETECH Corp.

Approved by:
sst, Chief Engineer

Sung-Ik, Han/ Managing Director ONETECH Corp.

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# **Revision History**

Issued Report No.	Issued Date	Revisions	Effect Section
W153R-D020	March 26, 2015	Initial Issue	All

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# 1. VERIFICATION OF COMPLIANCE

Applicant : PROCHILD INC.

Address : RM.806, 8FL, KURO ACE TECHNO TOWER #197-48, KURO, KURO-GU, SEOUL, 152-053, Korea

Contact Person: Rak-Gon, Ko / Chief R&D Center Manager

Telephone No. : +82-2-2619-9662 FCC ID : 2AEEY-PAA-100

Model Name : PAA-100

Serial Number : N/A

Date : March 26, 2015

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM	
E.U.T. DESCRIPTION	DIAPER ALERT	
THIS REPORT CONCERNS	Original Grant	
MEASUREMENT PROCEDURES	ANSI C63.10: 2013	
TYPE OF EQUIPMENT TESTED	Pre-Production	
KIND OF EQUIPMENT		
AUTHORIZATION REQUESTED	Certification	
EQUIPMENT WILL BE OPERATED	ECC DART 15 CURDART C Continu 15 247	
UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247	
Modifications on the Equipment to Achieve	No.	
Compliance	None	
Final Test was Conducted On	3 m, Semi Anechoic Chamber	

<sup>-.</sup> The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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## 2. TEST SUMMARY

## 2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (a) (2)	Minimum 6 dB Bandwidth	Met the Limit / PASS
15.247 (b) (3)	Maximum Peak Conducted Output Power	Met the Limit / PASS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.247 (e)	Peak Power Spectral Density	Met the Limit / PASS
15.209	Radiated Emission Limits	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met requirement / PASS

## 2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

## 2.3 Related Submittal(s) / Grant(s)

Original submittal only

# 2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

### 2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

## 2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 301-14, Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do, 464-862 Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-4112/ C-4617/ G-666/ T-1842 IC (Industry Canada) – Registration No. Site# 3736-3

-. Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation No. 85

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) - Designation No. KR0013

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# 3. GENERAL INFORMATION

# 3.1 Product Description

The PROCHILD INC., Model PAA-100 (referred to as the EUT in this report) is a DIAPER ALERT. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	DIAPER ALERT
Temperature Range	-25 °C ~ +75 °C
Operating Frequency	2 402 MHz ~ 2 480 MHz
RF Output Power	0.69 dBm
Number of Channel	40 Channel
Modulation Type	GFSK
Antenna Type	PCB Antenna
USED RF CHIP	Marker: PROCHILD INC.  Model Name: N/A
Antenna Gain	0.544 dBi
List of each Osc. or crystal  Freq.(Freq. >= 1 MHz)	32.768 kHz, 16 MHz

# 3.2 Alternative type(s)/model(s); also covered by this test report.

-. None

# 4. EUT MODIFICATIONS

-. None

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5. SYSTEM TEST CONFIGURATION

### 5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE MANUFACTURER		MODEL/PART NUMBER	FCC ID
Main Board	PROCHILD INC.	ACUBEL REV 1.0	N/A
Battery	N/A	CR2032-SL	N/A

# 5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
PAA-100	PROCHILD INC.	DIAPER ALERT (EUT)	Smart Phone
SHW-M440S	SAMSUNG Electronics	Smart Phone	EUT

## 5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at 2 402 MHz, 2 440 MHz, and 2 480 MHz to get a maximum emission levels from the EUT. The EUT was moved throughout the XY, XZ, and YZ planes and the worst case is "XZ" axis, but the worst data was recorded in this report.

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## 5.4 Configuration of Test System

**Line Conducted Test:** It is not need to test this requirement, because the EUT shall be operated by DC battery.

**Radiated Emission Test:** Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10:

2013 to determine the worse operating conditions. Final radiated emission tests were

conducted at 3 meter open area test site.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both

vertical and horizontal polarization.

## 5.5 Antenna Requirement

For intentional device, according to section 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.

#### **Antenna Construction:**

The antenna of the EUT is a PCB antenna on the main board in the EUT, so no consideration of replacement by the user.

## 6. PRELIMINARY TEST

#### **6.1 AC Power line Conducted Emissions Tests**

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)		
It is not need to test this requirement, because the power of the EUT is supplied by battery.			

# **6.2 General Radiated Emissions Tests**

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)	
Transmitting Mode	X	

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# 7. MIMIMUM 6 dB BANDWIDTH

# 7.1 Operating environment

Temperature :  $21.6 \,^{\circ}\text{C}$ 

Relative humidity : 43.0 % R.H.

# 7.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.



# 7.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)

All test equipment used is calibrated on a regular basis.

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# 7.4 Test data

-. Test Date : March 24, 2015

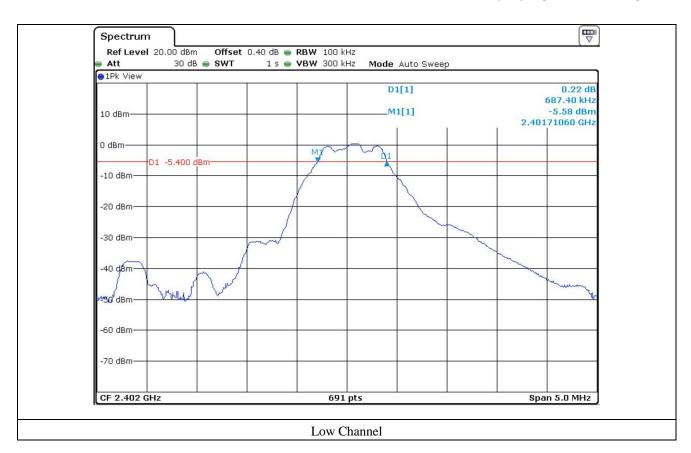
-. Test Result : Pass

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (kHz)	LIMIT (kHz)	MARGIN (kHz)
Low	2 402	687.00	500	187.00
Middle	2 440	695.00	500	195.00
High	2 480	673.00	500	173.00

Remark. Margin = Measured Value - Limit

Tested by: hyung-kwon, Oh / Engineer

Report No.: W153R-D020

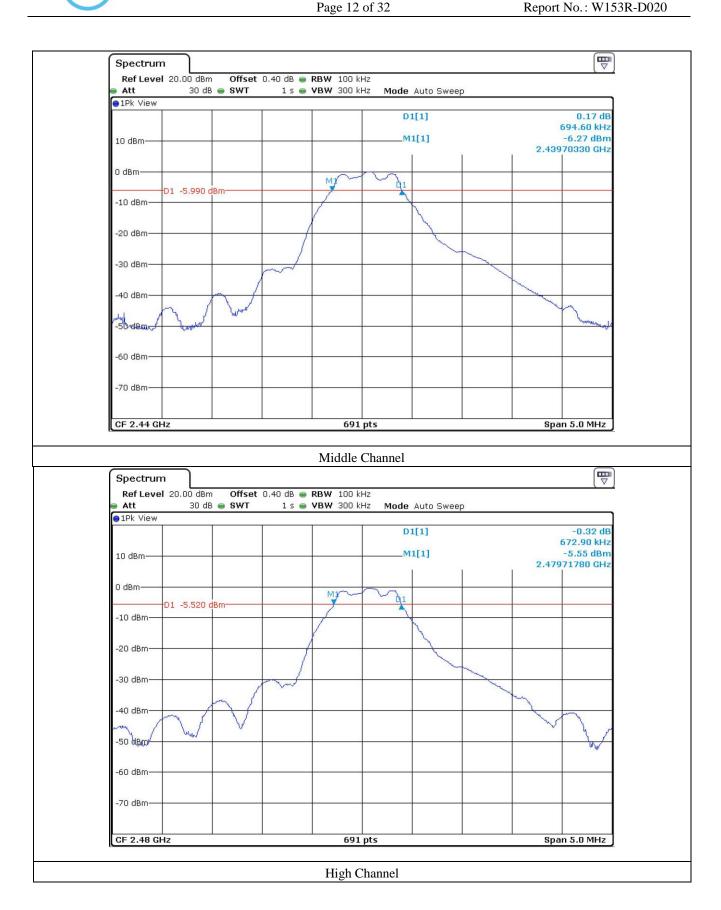


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# 8. MAXIMUM PEAK OUTPUT POWER

# 8.1 Operating environment

Temperature :  $22.1 \,^{\circ}\text{C}$ Relative humidity :  $43.0 \,^{\circ}\text{R.H.}$ 

# 8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to ≥DTS Bandwidth, the video bandwidth is set to 3 times the resolution bandwidth.



# 8.3 Test equipment used

	<b>Model Number</b>	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)

All test equipment used is calibrated on a regular basis.

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## 8.4 Test data

-. Test Date : March 25, 2015

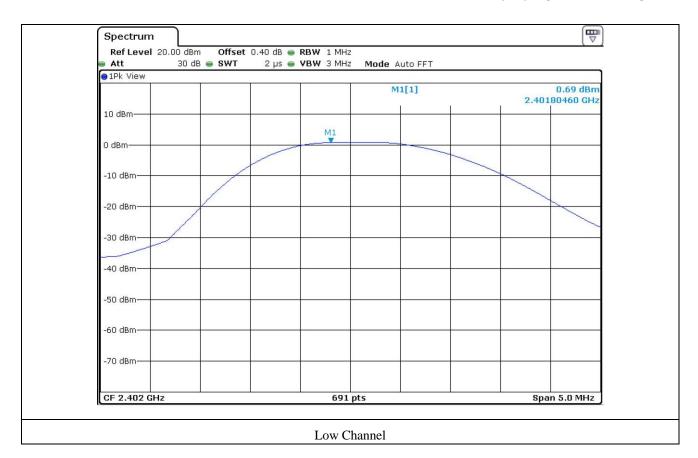
-. Test Result : Pass

CHANNEL	FREQUENCY	MEASURED VALUE	LIMIT	MARGIN
CHANNEL	(MHz)	(dBm)	(dBm)	(dB)
LOW	2 402	0.69	30	29.31
MIDDLE	2 440	0.27	30	29.73
HIGH	2 480	-0.28	30	30.28

Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Tested by: hyung-kwon, Oh / Engineer

Report No.: W153R-D020

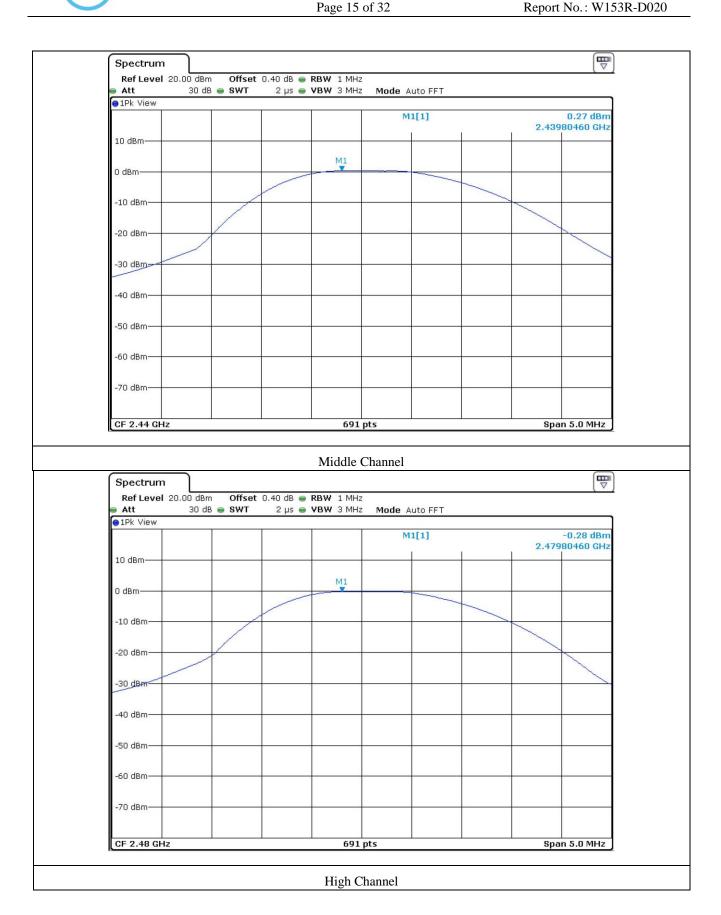


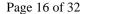
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# 9. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

## 9.1 Operating environment

Temperature :  $21.6 \, ^{\circ}\text{C}$ 

Relative humidity : 43.0 % R.H.

# 9.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



# 9.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

# 9.4 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
□ -	ESCI	Rohde & Schwarz	EMI Test Receiver	101012	Nov. 03, 2014(1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Apr. 29, 2014(1Y)
□ -	8564E	HP	Spectrum Analyzer	3650A00756	Apr. 28, 2014(1Y)
□ -	FSP	Rohde & Schwarz	Spectrum Analyzer	100017	Oct. 08, 2014(1Y)
■ -	310N	Sonoma Instrument	AMPLIFIER	312544	Apr. 28, 2014(1Y)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)
■ -	SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	10041	Nov. 25, 2014(1Y)
■ -	MA240	HD GmbH	Antenna Master	N/A	N/A
■ -	HD100	HD GmbH	Position Controller	N/A	N/A
■ -	DS420S	HD GmbH	Turn Table	N/A	N/A
■ -	HFH2-Z2	Rohde & Schwarz	Loop Antenna	879 285/26	Dec. 09, 2014(2Y)
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	May 02, 2014(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Sep. 05, 2013(2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Sep. 05, 2013(2Y)
<b>-</b>	83051A	Agilent	Microwave System Preamplifer	3950M00201	Apr. 30, 2014(1Y)

All test equipment used is calibrated on a regular basis.

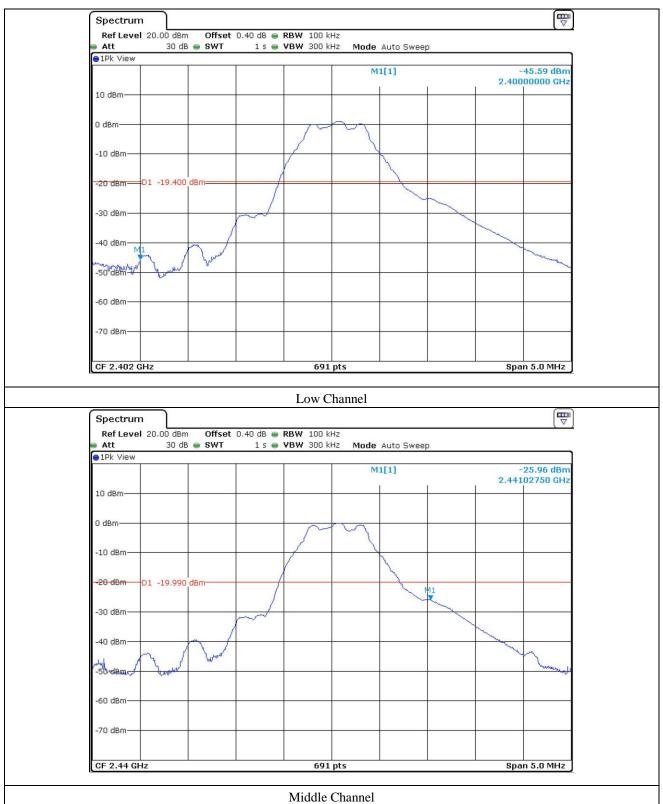
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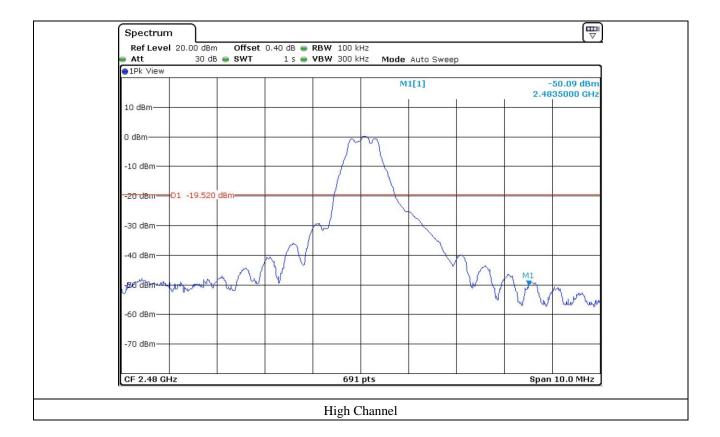
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## 9.5 Test data for conducted emission



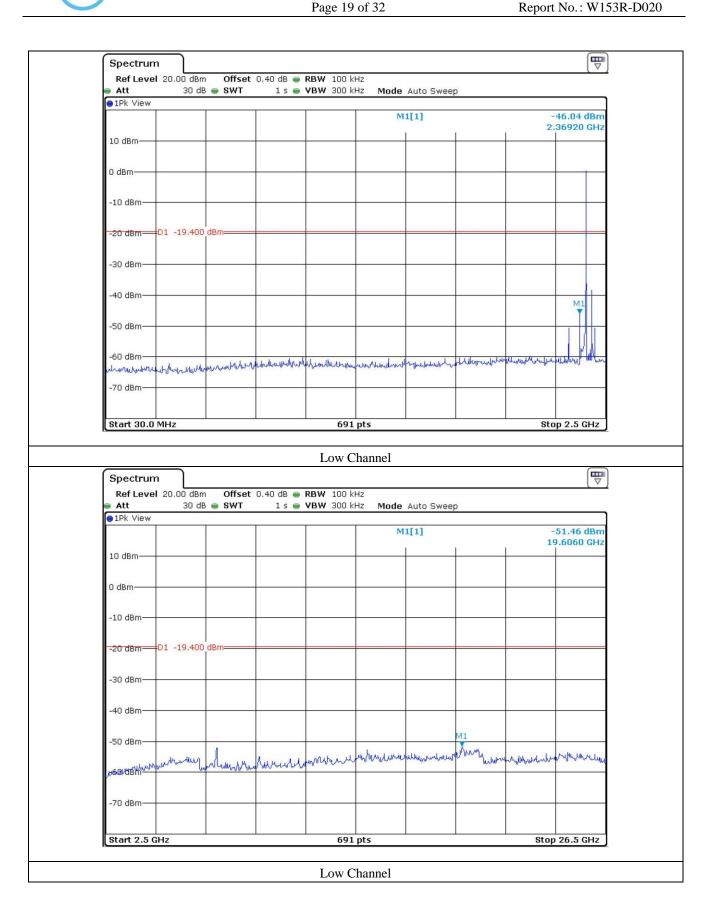






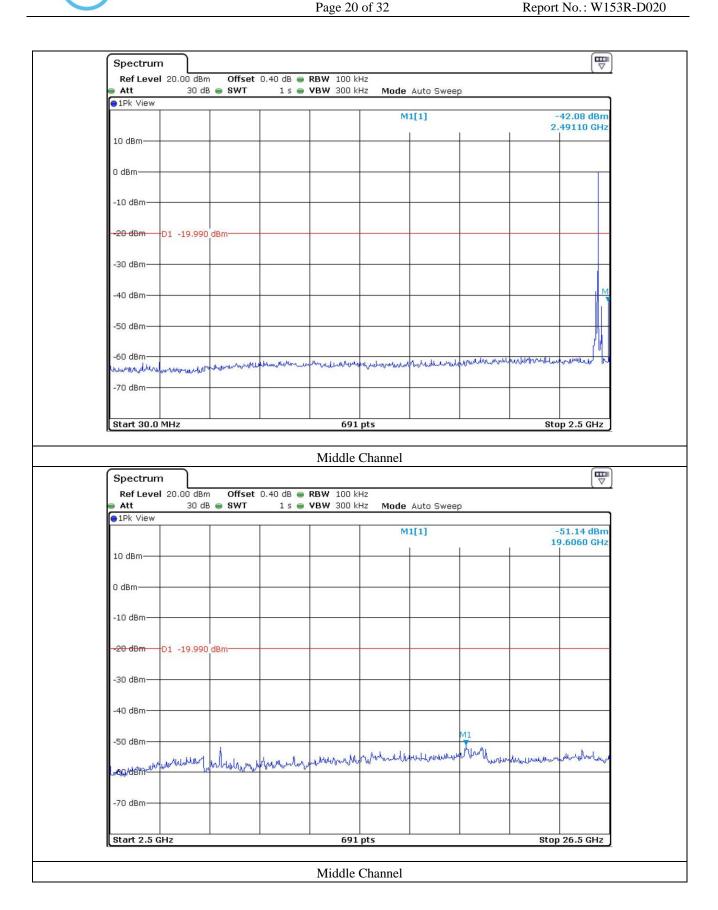






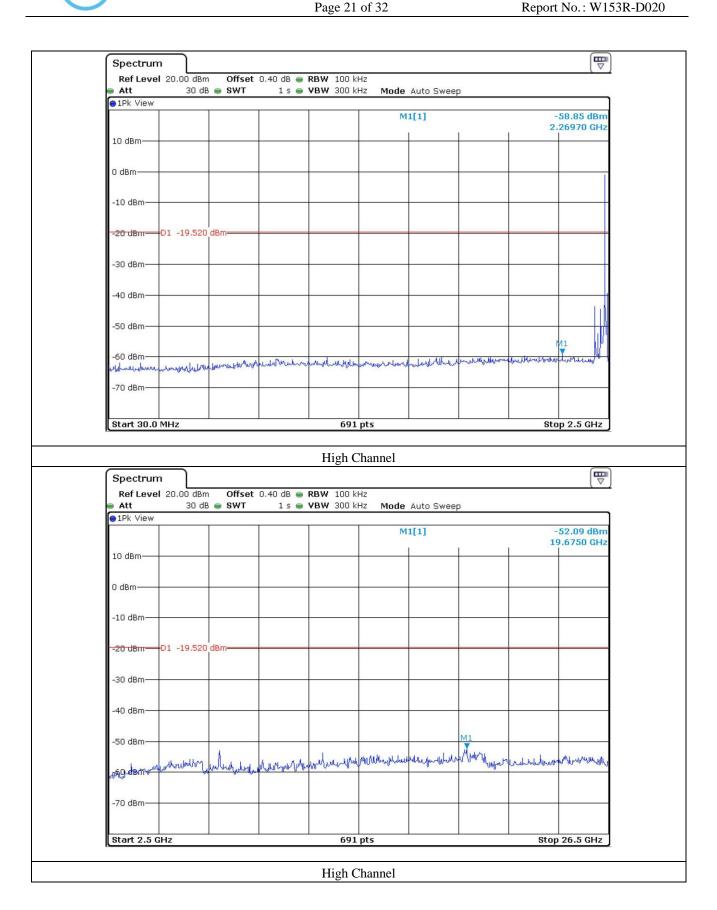
















## 9.6 Test data for radiated emission

## 9.6.1 Radiated Emission which fall in the Restricted Band

-. Test Date : March 26, 2015

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m -. Result : <u>PASSED</u>

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBµV/m)	Margin (dB)					
	Test Data for Low Channel													
	47.16	Peak	Н		7.50		38.76	74.00	35.24					
2 382.85	33.77	Average	Н				25.37	54.00	28.63					
	47.54	Peak	V	27.10		43.00	39.14	74.00	34.86					
2 377.79	33.59	Average	V				25.19	54.00	28.81					
			Test I	Oata for Hi	igh Chann	el								
	46.90	Peak	Н				38.60	74.00	35.40					
2 494.84	32.12	Average	Н				23.82	54.00	30.18					
	46.82	Peak	V	27.20	7.60	43.10	38.52	74.00	35.48					
2 490.62	32.07	Average	V				23.77	54.00	30.23					

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dB $\mu$ V/m) - Total Level (dB $\mu$ V/m)

Total Level = Reading + Antenna Factor + Cable Loss - Pre-Amplifier Gain

Tested by: hyung-kwon, Oh / Engineer

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# 9.6.2 Spurious & Harmonic Radiated Emission

-. Test Date : March 26, 2015

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,

100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range  $: 1 \text{ GHz} \sim 26.5 \text{ GHz}$ 

-. Measurement distance : 3 m

-. Result : <u>PASSED</u>

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBµV/m)	Margin (dB)					
	Test Data for Low Channel													
	73.48	Peak	Н				65.18	-	-					
2 402.00	76.17	Peak	V	27.00	7.50	42.80	67.87	-	-					
	47.04	Peak	Н			42.50	46.24	74.00	27.76					
	34.37	Average	Н		11.10		33.57	54.00	20.43					
4 804.00	47.12	Peak	V	30.60			46.32	74.00	27.68					
	34.50	Average	V				33.70	54.00	20.30					
			Tes	st Data for	· Middle (	Channel								
	72.25	Peak	Н				64.25	-	-					
2 440.00	73.60	Peak	V	27.20	7.60	42.80	65.60	-	-					
	46.52	Peak	Н				45.92	74.00	28.08					
	34.69	Average	Н				34.09	54.00	19.91					
4 880.00	46.70	Peak	V	30.70	11.20	42.50	46.10	74.00	27.90					
	34.91	Average	V				34.31	54.00	19.69					

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Test Data for High Channel											
	70.92	Peak	Н				63.12	-	-		
2 480.00	71.34	Peak	V	27.40	7.70	42.90	63.54	-	-		
	46.66	Peak	Н				46.26	74.00	27.74		
	34.70	Average	Н				34.30	54.00	19.70		
4 960.00	46.79	Peak	V	30.80	11.30	42.50	46.39	74.00	27.61		
	34.81	Average	V				34.41	54.00	19.59		

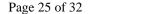
Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dB $\mu$ V/m) - Total Level (dB $\mu$ V/m)

Total Level = Reading + Antenna Factor + Cable Loss - Pre-Amplifier Gain

Tested by: hyung-kwon, Oh / Engineer





## 10. PEAK POWER SPECTRAL DENSITY

# **10.1 Operating environment**

Temperature :  $21.7 \, ^{\circ}\text{C}$ 

Relative humidity : 43.0 % R.H.

# 10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to  $3 \text{ kHz} \le \text{RBW} \le 100 \text{ kHz}$ , the video bandwidth is set to 3 times the resolution bandwidth.



# 10.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)

All test equipment used is calibrated on a regular basis.

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## 10.4 Test data

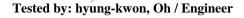
-. Test Date : March 25, 2015

-. Test Result : Pass

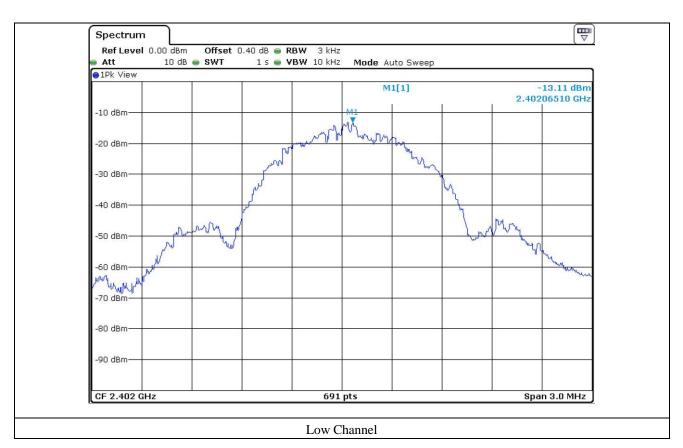
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 402	-13.11	8.00	21.11
Middle	2 440	-13.48	8.00	21.48
High	2 480	-13.90	8.00	21.90

Remark. Margin = Limit – Measured value



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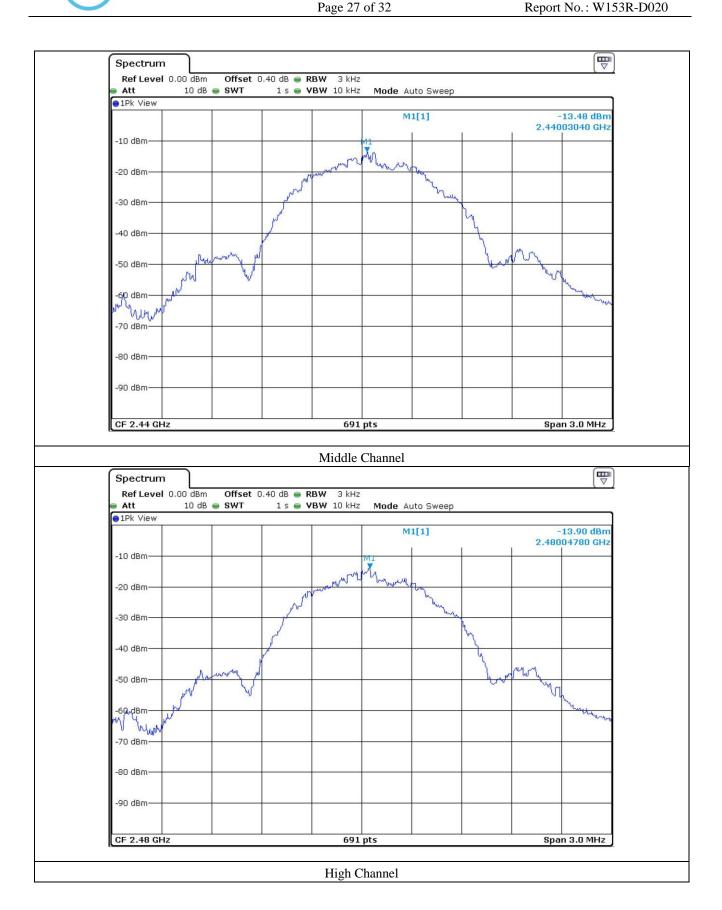


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## 11. RADIATED EMISSION TEST

# 11.1 Operating environment

Temperature :  $21.6 \,^{\circ}\text{C}$ Relative humidity :  $43.0 \,^{\circ}\text{R.H.}$ 

# 11.2 Test set-up

The radiated emissions measurements were on the 3 m, open-field test site. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

# 11.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
□ -	ESCI	Rohde & Schwarz	EMI Test Receiver	101012	Nov. 03, 2014(1Y)
<b>-</b>	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Apr. 29, 2014(1Y)
□ -	8564E	HP	Spectrum Analyzer	3650A00756	Apr. 28, 2014(1Y)
□ -	FSP	Rohde & Schwarz	Spectrum Analyzer	100017	Oct. 08, 2014(1Y)
<b>-</b>	310N	Sonoma Instrument	AMPLIFIER	312544	Apr. 28, 2014(1Y)
<b>-</b>	FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)
■ -	SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	10041	Nov. 25, 2014(1Y)
<b>-</b>	MA240	HD GmbH	Antenna Master	N/A	N/A
<b>-</b>	HD100	HD GmbH	Position Controller	N/A	N/A
■ -	DS420S	HD GmbH	Turn Table	N/A	N/A
<b>-</b>	HFH2-Z2	Rohde & Schwarz	Loop Antenna	879 285/26	Dec. 09, 2014(2Y)
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	May 02, 2014(2Y)
<b>-</b>	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Sep. 05, 2013(2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Sep. 05, 2013(2Y)
■ -	83051A	Agilent	Microwave System Preamplifer	3950M00201	Apr. 30, 2014(1Y)

All test equipment used is calibrated on a regular basis.





# 11.4 Test data for Transmitting Mode

## 11.4.1 Test data for 30 MHz ~ 1 GHz

Humidity Level : 43.0 % R.H. Temperature: 21.6 °C

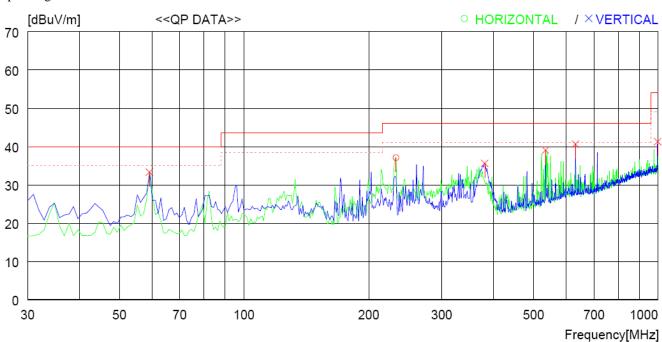
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : DIAPER ALERT Date: March 26, 2015

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

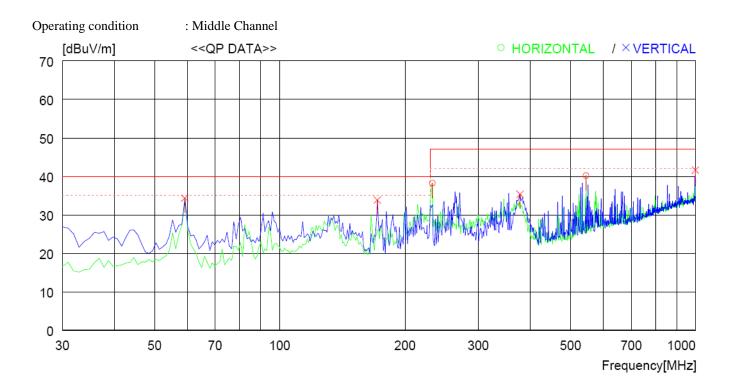
Operating condition : Low Channel



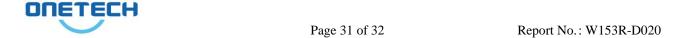
No.	FREQ	READING QP	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
Н	orizontal ·									
1	232.730	48.2	11.8	9.9	32.9	37.0	46.0	9.0	100	359
Ve	ertical ···									
2 3	59.100 381.140	45.6 42.0	13.3 15.5	$7.5 \\ 11.1$	33.1 33.0	33.3 35.6	40.0 46.0	$6.7 \\ 10.4$	100 100	0
4	534.400		$15.5 \\ 17.9$	$11.1 \\ 12.7$	33.2	39.0	46.0	$\frac{10.4}{7.0}$	100	278
5	631.397	41.2	19.3	13.4	33.3	40.6	46.0	5.4	100	307
6	997.076	34.5	22.6	15.7	31.6	41.2	54.0	12.8	100	0

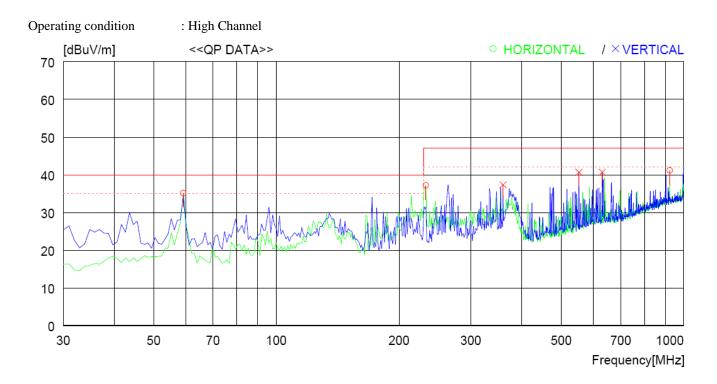






No.	FREQ	READING QP I	ANT ACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	$[\mathrm{dBuV/m}]$	$[\mathrm{dBuV/m}]$	[dB]	[cm]	[DEG]
Но	orizontal ·									
$\frac{1}{2}$	232.730 545.070		11.8 18.1	9.9 12.8	$32.9 \\ 33.2$	$38.2 \\ 40.1$	$\frac{47.0}{47.0}$	8.8 6.9	100 200	359 341
Ve	ertical ···									
3	59.100	46.6	13.3	7.5	33.1	34.3	40.0	5.7	100	0
4	171.620	48.4	9.2	9.2	33.0	33.8	40.0	6.2	200	286
5	378.230	41.8	15.4	11.1	33.0	35.3	47.0	11.7	100	18
6	998.046	34.9	22.6	15.7	31.6	41.6	47.0	5.4	100	348





No.	FREQ	READING QP I	ANT ACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE		
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	$[\mathrm{dBuV/m}]$	$[\mathrm{dBuV/m}]$	[dB]	[cm]	[DEG]		
Н	Horizontal											
1 2 3	59.100 232.730 923.358		13.3 11.8 22.4	7.5 9.9 15.2	33.1 32.9 32.2	35.1 37.1 41.1	40.0 47.0 47.0	4.9 9.9 5.9	300 100 100	321 83 359		
Ve	ertical ···											
4 5 6	359.800 552.829 630.427	42.7	15.0 18.3 19.3	11.1 12.9 13.4	33.0 33.3 33.3	37.3 40.6 40.6	47.0 47.0 47.0	9.7 6.4 6.4	100 100 100	312 250 221		

Tested by: hyung-kwon, Oh / Engineer

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## 11.4.2 Test data for Below 30 MHz

-. Test Date : March 26, 2015

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Ant. Height (m)	O	Ant. Factor (dB/m)	Emission Level(dBμV/m)	Limits (dBµV/m)	Margin (dB)

It was not observed any emissions from the EUT.

## 11.4.3 Test data for above 1 GHz

-. Test Date : March 26, 2015

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)		Ant. Height (m)	O	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBµV/m)	Margin (dB)	
It was not observed any emissions from the EUT.										

Tested by: hyung-kwon, Oh / Engineer

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