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

Test Report No.	: OT-19O-RWD-040
AGR No.	: A199A-269
Applicant	: AMOSENSE
Address	: 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea
Manufacturer	: AMOSENSE
Address	: 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea
Type of Equipment	: NOVO
FCC ID.	: 2AS9T-SB42SW
Model Name	: SB42-SW
Serial number	: N/A
Total page of Report	: 46 pages (including this page)
Date of Incoming	: September 23, 2019
Date of issue	: October 17, 2019

# 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:

Tae-Ho, Kim / Senior Manager ONETECH Corp.

Approved by:

Ki-Hong, Nam / Chief Engineer ONETECH Corp.



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ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

# ONETECH

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# **Revision History**

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-19O-RWD-040	October 17, 2019	Initial Release	All



# **1. VERIFICATION OF COMPLIANCE**

Applicant	: AMOSENSE	
Address	: 56 Naruteo-ro, Seocho-gu, SE	OUL, South Korea
Manufacturer	: AMOSENSE	
Address	: 56 Naruteo-ro, Seocho-gu, SE	OUL, South Korea
Factory	: AMO VINA CO,,LTD	
Address	: Lot CN12, Khai Quang indust	rial Park, Khai Quang Ward, Vinh Yen City, Vinh Phuc Province, Vietnam
Contact Person	: UIHAN JEONG / Research En	ngineer
Telephone No.	: +82-010-4948-5676	
FCC ID	: 2AS9T-SB42SW	
Model Name	: SB42-SW	
Brand Name	:-	
Serial Number	: N/A	
Date	: October 17, 2019	
EQUIPMENT	CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
EUT DESCI	IDTION	NOVO

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	NOVO
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	FCC PART 15 SUBPART C Section 15.247
UNDER FCC RULES PART(S)	558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve	N
Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. 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.



# 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	N/A (See Note)
15.203	Antenna Requirement	Met requirement / PASS

Note: This test is not applicable because the EUT use battery.

#### 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 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea

-. Site Filing:

VCCI (Voluntary Control Council for Interference) - Registration No. R-4112/ C-14617/ G-10666 / T-1842

IC (Industry Canada) - Registration No. Site# 3736A-3

-. Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

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 AMOSENSE, Model SB42-SW (referred to as the EUT in this report) is a NOVO. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	NOVO	
Temperature Range	-20 °C ~ 50 °C	
	NFC	13.56 MHz
OPERATING	Sig Fox	902.137 5 MHz ~ 904.662 5 MHz
FREQUENCY	Bluetooth LE	2 402 MHz ~ 2 480 MHz
	WLAN 2.4 GHz	2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))
	NFC	ASK
	Sig Fox	DBPSK
MODULATION TYPE	Bluetooth LE	GFSK
TIPE		802.11b: DSSS Modulation(DBPSK/DQPSK/CCK)
	WLAN 2.4 GHz	802.11g/n(HT20): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
	NFC	39.53 dBµV/m
	Sig Fox	22.26 dBm
RF OUTPUT	Bluetooth LE	-0.44 dBm
POWER'		2.99 dBm(802.11b)
	WLAN 2.4 GHz	1.64 dBm(802.11g)
		1.57 dBm(802.11n_HT20)
		NFC: FPCB Antenna
ANTENNA TYPE		Sig Fox : Chip Antenna
		WLAN 2.4 GHz / Bluetooth LE : Chip Antenna
ANTENNA GAIN		WLAN 2.4 GHz / Bluetooth LE : 2.40 dBi
		Sig Fox : -0.59 dBi
List of each Osc. or c	rystal	32.768 kHz, 26 MHz, 32 MHz, 50 MHz
Freq.(Freq. >= 1 MH	z)	52.700 KHZ, 20 WHZ, 52 WHZ, 50 WHZ

## 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	AMOSENSE	NOVO Rev04	N/A		
NFC ANTENNA N/A		ANFA150N526 NOVO	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
SB42-SW	AMOSENSE	NOVO(EUT)	-
N/A	N/A	Jig Board	EUT
Ideapad 100	LENOVO	Notebook PC	-
PA-1450-55LR	LITE-ON TECHNOLOGY	AC Adapter	-

#### 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.



-. Duty Cycle

Mode	Tx On Time	Tx Off Time	Duty Cycle	Correction Factor		
Wide	[ ms ]	[ ms ]	[%]	[ dB ]		
Bluetooth LE	390.00	236.00	62.30	2.06		

Note – Duty Cycle : (Tx On Time / (Tx On Time + Tx Off Time)) \* 100

Correction Factor : 10 \* Log(1 / (Duty Cycle / 100))

-. Test Plot

	evel 2	20.00 dBm				<b>RBW</b> 28 MH									
Att		30 dB	● SWT	5 ms	•	<b>/BW</b> 28 MH	Z								
⊖1Pk Vi	ew														
								D	2[1]						).15 dB 6.00 μs
10 dBm								- M	1[1]						0.00 µs 14 dBm
				41					1(1)						400 ms
- d dBm-		_		M1	D1	D2	_		<b> </b>		<b> </b>	_		-	
					T	T I		1							
-10 dBr	∩							-				_			
													1		]
-20 dBn	∩— —						_					_			
-30 dBn	ν <del>- </del>							-				_			
when		Howward	لريع	w l		artrulu	Ward			human	4	Mah	ur l	Margh	J I
-40 dBm	ו-+-				-				<u> </u>			-		+	
-50 dBn	ו+י													+	
-60 dBn	ד י													+	
-70 dBm	—														
CF 2.4	4 GHz					1001	pts							500	.0 µs/
Marker															
Туре	Ref		X-value			Y-value		unc	tion		F	unc	tion Res	ult	
M1		1		64 ms		-0.44 dB				_					
D1 D2	M1 M1	1		0.0 μs 6.0 μs		-0.01 c									



#### 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:<br/>2013 to determine the worse operating conditions. Final radiated emission tests were<br/>conducted at 3 meter Semi Anechoic Chamber.<br/>The turntable was rotated through 360 degrees and the EUT was tested by positioned<br/>three orthogonal planes to obtain the highest reading on the field strength meter. Once<br/>maximum reading was determined, the search antenna was raised and lowered in both<br/>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 Chip 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 Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
It is not needed to test, because the pov	wer of the EUT is supplied from a DC battery.

## **6.2 General Radiated Emissions Tests**

During Preliminary Test, the following operating mode was investigated.

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



# 7. MINIMUM 6 dB BANDWIDTH

## 7.1 Operating environment

Temperature	:	24.3 °C
Relative humidity	:	43.9 % 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.
-	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 11, 2019 (1Y)

All test equipment used is calibrated on a regular basis.



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## 7.4 Test data

-. Test Date : September 24, 2019 ~ October 15, 2019

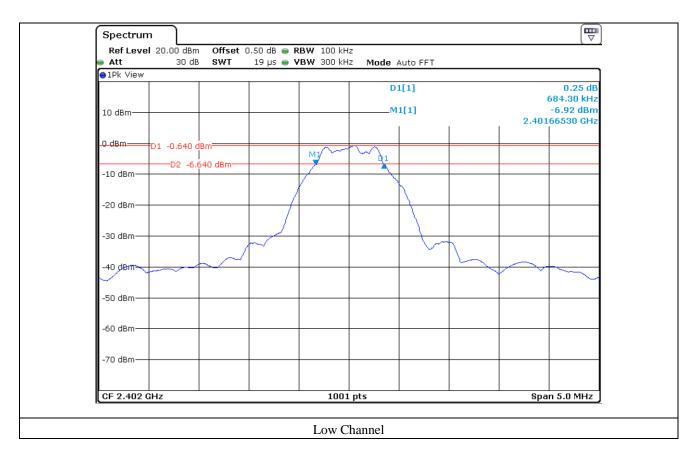
: Pass

-. Test Result

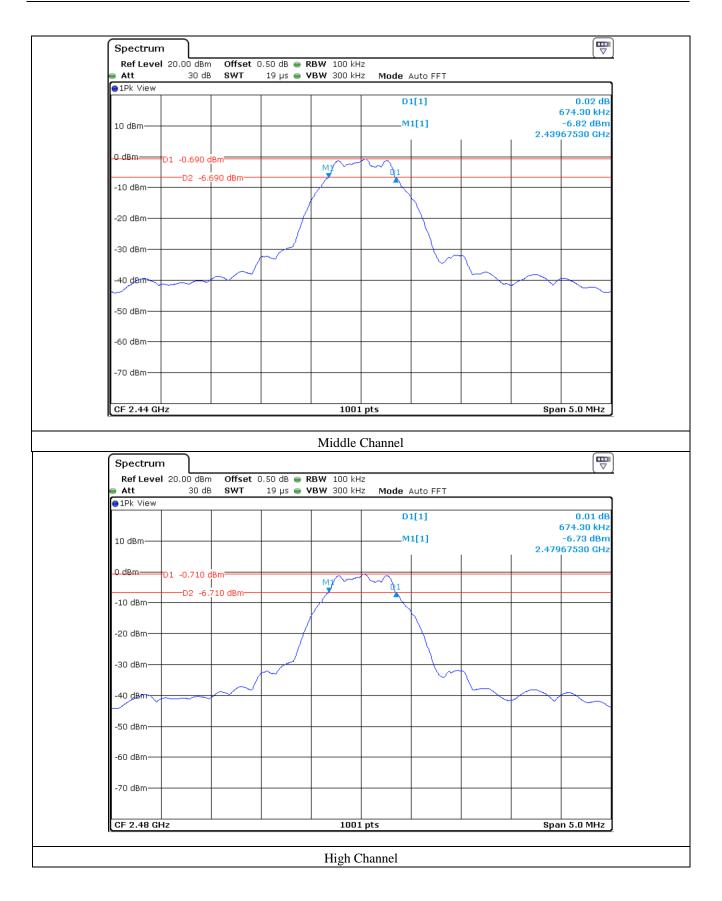
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (kHz)	LIMIT (kHz)	MARGIN (kHz)
Low	2 402.00	684.30	500.00	184.30
Middle	2 440.00	674.30	500.00	174.30
High	2 480.00	674.30	500.00	174.30

Remark. Margin = Measured Value - Limit

Tested by: Hyung-Kwon, Oh / Assistant Manager









# 8. MAXIMUM PEAK OUTPUT POWER

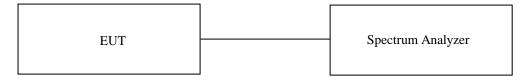
### **8.1 Operating environment**

Temperature	:	24.3 °C
Relative humidity	:	43.9 % 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  $\geq$  DTS Bandwidth, the video bandwidth is set to 3 times the resolution bandwidth.



## 8.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
- 🔳	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 11, 2019 (1Y)

All test equipment used is calibrated on a regular basis.



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## 8.4 Test data

-. Test Date : September 24, 2019 ~ October 15, 2019

: Pass

-. Test Result

CHANNEL	FREQUENCY	MEASURED VALUE	LIMIT	MARGIN
	(MHz)	(dBm)	(dBm)	(dB)
LOW	2 402.00	-0.44	30.00	30.44
MIDDLE	2 440.00	-0.50	30.00	30.50
HIGH	2 480.00	-0.48	30.00	30.48

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

Tested by: Hyung-Kwon, Oh / Assistant Manager

	Offset 0.50 dB 👄 RBW 1 MH		
	<b>WT</b> 1.9 µs 👄 <b>VBW</b> 3 МН	z Mode Auto FFT	
●1Pk View			
		M1[1]	-0.44 dBm 2.40225470 GHz
10 dBm			2.10225170 012
0 dBm		M1	
0 ubiii			
-10 dBm			
-10 ubiii			
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm			
-60 dBm			
-70 dBm			
CF 2.402 GHz	101	)1 pts	Span 3.0 MHz
01 2.102 0112	100	51 h(3	3pan 3.0 MHz



Kei Levei	20.00 dBm	Offect		RBW 1 MHz					
👄 Att	20.00 UBIN 30 dB			VBW 3 MHz	Mode Au	to FFT			
⊖1Pk View									
					м	1[1]		2.440	-0.50 dBm )26070 GHz
10 dBm								2.110	
0 dBm					M1				
								_	
-10 dBm									
-20 dBm									
-30 dBm									
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.44 GH	Iz			1001	pts		·	Spa	n 3.0 MHz
Spectrum	י ו								
Ref Level e Att	20.00 dBm 30 dB			RBW 1 MHz VBW 3 MHz		ito FFT			[♥
Ref Level	20.00 dBm				Mode Au				
Ref Level Att	20.00 dBm				Mode Au	ito FFT 1[1]			-0.48 dBm
Ref Level e Att	20.00 dBm				Mode Au				
Ref Level Att 1Pk View	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att 1Pk View	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att PIPk View 10 dBm 0 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att 1Pk View	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att PIPk View 10 dBm 0 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level Att 1Pk View 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm	20.00 dBm				Mode Au				-0.48 dBm
Ref Level           Att           1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	20.00 dBm 30 dB				Mode Au			2.480	-0.48 dBm



# 9. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

#### 9.1 Operating environment

Temperature	:	24.3 °C
Relative humidity	:	43.9 % R.H.

#### 9.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, the video bandwidth is set to 3 times the resolution bandwidth and peak detection was used.



#### 9.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 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.

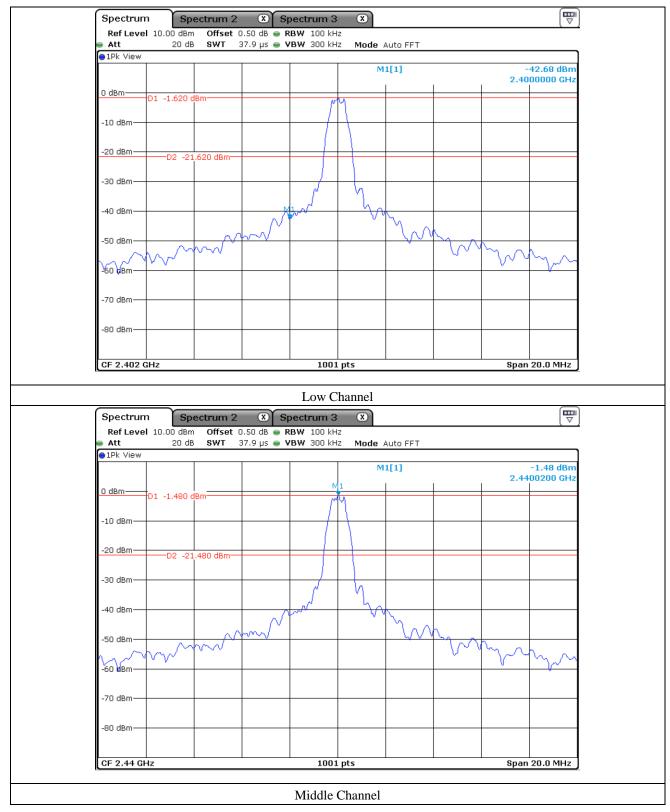
#### 9.4 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
-	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 11, 2019 (1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Mar. 28, 2019 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312545	Mar. 18, 2019 (1Y)
■ -	BBV9718	Schwarzbeck	Amplifier	310	Mar. 28, 2019 (1Y)
	SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Mar. 11, 2019 (1Y)
■ -	DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
■ -	MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 13, 2018 (2Y)
■ -	BBHA 9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 16, 2019 (1Y)
-	BBHA 9170	Schwarzbeck	Horn Antenna	BBHA9170179	Jan. 16, 2019 (1Y)

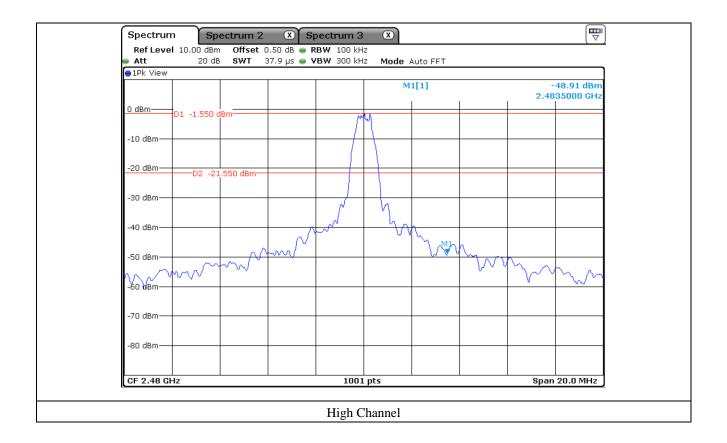
All test equipment used is calibrated on a regular basis.



## 9.5 Test data for conducted emission









n ( ·		ectrum 2		pectrum 3					
Ref Leve Att	l 10.00 dBm 20 dB			RBW 100 kH VBW 300 kH		Auto Sweep	1		
●1Pk View									
					м	1[1]			58.81 dBm 33840 GHz
0 dBm									
-10 dBm									
-20 dBm	D1 -21.620	dBm							
-30 dBm									
-30 abiii									
-40 dBm									
-50 dBm									
									M1 ALL
-60 dBm									
where the state of	a and producted and	Wardhyslowidger	4phylarbrudenkik4pepth	and the second	and the second second	nutropperture	of representations	hohipphilangulanghi	ukuulit (Mu
-youbhi -									
-80 dBm									
Start 30.0	MHz			1001	l pts			Sto	p 2.5 GHz
				Low C	hannel				
Spectrun	n Sp	ectrum 2	×s	Low C					
Ref Leve	l 0.00 dBm	Offset 1.	.50 dB 😑 R	pectrum 3 BW 100 kHz	×				
		Offset 1.	.50 dB 😑 R	pectrum 3	×	uto Sweep			
Ref Leve Att	l 0.00 dBm	Offset 1.	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A	uto Sweep			65.00 dBm
Ref Leve Att 1Pk View	l 0.00 dBm	Offset 1.	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				
Ref Leve Att	l 0.00 dBm	Offset 1.	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View	l 0.00 dBm	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View -10 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View -10 dBm -20 dBm -30 dBm -40 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	pectrum 3 BW 100 kHz	Mode A				65.00 dBm
Ref Leve Att 1Pk View -10 dBm -20 dBm -30 dBm -40 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 R	BW 100 kHz BW 300 kHz		1[1]	M1		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	1 0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	M1		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	1 0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	MI		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	MI		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	1 0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	MI		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	1 0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	MI		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	1 0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz		1[1]	MI		65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm           -90 dBm	0.00 dBm 10 dB	dBm	50 dB 40 ms V	pectrum 3 BW 100 kHz BW 300 kHz	المراجع المراجع المراجع المراجع ا المراجع المراجع الم المراجع المراجع الم المراجع المراجع	1[1]	MI	21	65.00 dBm ).2540 GHz
Ref Leve           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	0.00 dBm 10 dB	dBm	50 dB 40 ms V	BW 100 kHz BW 300 kHz	المراجع المراجع المراجع المراجع ا المراجع المراجع الم المراجع المراجع الم المراجع المراجع	1[1]	MI	21	65.00 dBm ).2540 GHz



Spectrum		ectrum 2		Spectrum 3					
Ref Level 🔅 Att	10.00 dBm 20 dB			RBW 100 kH VBW 300 kH		Auto Sweep	)		
1Pk View			1		M	1[1]			58.02 dBm
									.37540 GHz
0 dBm									
-10 dBm									
-10 0.011									
-20 dBm	1 -21.480	dBm							
-30 dBm									
-40 dBm									
-50 dBm									
									M1
-60 dBm								و بار والوران .	male of t
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-80 dBm									
Start 30.0 M	Hz			100:	l pts			Sto	p 2.5 GHz
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Chasteum	) En	o otreu poo O			Channel				Ē
Spectrum Ref Level (		ectrum 2 Offset 1.		Middle Spectrum 3 RBW 100 kHz	: x)				
Ref Level ( Att		Offset 1.	.50 dB 😑 I	Spectrum 3	×	uto Sweep			V
Ref Level (	0.00 dBm	Offset 1.	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A	uto Sweep			64.80 dBm
Ref Level ( Att 1Pk View	0.00 dBm	Offset 1.	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A		1		
Ref Level ( Att	0.00 dBm	Offset 1.	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ( Att 1Pk View -10 dBm	0.00 dBm	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ( Att 1Pk View -10 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz	Mode A				64.80 dBm
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	.50 dB 😑 I	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	M1	21	64.80 dBm 0.2300 GHz
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -50 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	MI	21	64.80 dBm 0.2300 GHz
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	MI		64.80 dBm 0.2300 GHz
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -50 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	MI	21	64.80 dBm 0.2300 GHz
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	MI	21	64.80 dBm 0.2300 GHz
Ref Level 0           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode A	1[1]	MI	21	64.80 dBm 0.2300 GHz
Ref Level (           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm           -90 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode Al	1[1]	MI	21	64.80 dBm 0.2300 GHz
Ref Level ()           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -50 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • 1	Spectrum 3 RBW 100 kHz VBW 300 kHz	Mode Al	1[1]	MI	21	64.80 dBm 0.2300 GHz



Spectrum		ectrum 2		pectrum 3					
Ref Level Att	l 10.00 dBm 20 dB			<b>RBW</b> 100 kH <b>∕BW</b> 300 kH		Auto Sweep			
∋1Pk View						1[1]			62.55 dBm
						1[1]			35310 GHz
0 dBm									
-10 dBm									
-10 0.011									
-20 dBm	D1 -21.550	dBm							
-30 dBm									
-40 dBm									
-50 dBm									
-60 dBm									I MI LIM
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-80 dBm									
Start 30.0	MUL			1001				01-	p 2.5 GHz
SLAFL 30.0	MHZ			1001	. prs			510	p 2.3 GH2
				High C	Channel				
Spectrum	n Sp	ectrum 2	×S	High C pectrum 3					
Ref Level	0.00 dBm	Offset 1.	50 dB 😑 RB	pectrum 3 3W 100 kHz	×				
		Offset 1.	50 dB 😑 RB	pectrum 3	×	uto Sweep			V
Ref Level Att	0.00 dBm	Offset 1.	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A	uto Sweep 1[1]			64.73 dBm
Ref Level Att	0.00 dBm	Offset 1.	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				
Ref Level Att 1Pk View -10 dBm-	0.00 dBm	Offset 1.	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm-	0.00 dBm	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm-	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm -20 dBm -30 dBm -40 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB 😑 RB	pectrum 3 3W 100 kHz	Mode A				64.73 dBm
Ref Level Att 1Pk View -10 dBm -20 dBm -30 dBm -40 dBm	0.00 dBm 10 dB	Offset 1. SWT 2	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]	M1	19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]	M1	19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	pectrum 3 3W 100 kHz	Mode A	1[1]	M1	19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]	M1	19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]	M1 run the Aylow	19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]		19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]		19	64.73 dBm 9.7030 GHz
Ref Level           Att           1Pk View           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm           -80 dBm	0.00 dBm 10 dB	dBm	50 dB • Rt 40 ms • VI	Dectrum 3 3W 100 kHz 3W 300 kHz	Mode A	1[1]	M1	19 	64.73 dBm 9.7030 GHz



## 9.6 Test data for radiated emission

#### 9.6.1 Radiated Emission which fall in the Restricted Band

Test Date	: September 24, 2019 ~ October 15, 2019
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- -. Resolution bandwidth : 1 MHz for Peak and Average Mode
- -. Video bandwidth : 3 MHz for Peak and Average Mode
- -. Measurement distance : 3 m
- -. Duty Cycle : 62.30 %
- -. Result : <u>PASSED</u>

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Correction Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
			Te	est Data for	Low Chann	nel			
2 389.720	17.36	Peak	Н			-	53.50	74.00	20.50
2 338.092	6.05	Average	Н			2.06	44.25	54.00	9.75
2 389.960	18.61	Peak	v	26.94	9.20	-	54.75	74.00	19.25
2 338.332	6.04	Average	v			2.06	44.24	54.00	9.76
			Test	Data for Lo	w Channel	Edge			
2389.752	17.08	Peak	Н			-	53.22	74.00	20.78
2389.997	4.30	Average	Н			2.06	42.50	54.00	11.50
2389.617	20.00	Peak	V	26.94	9.20	-	56.14	74.00	17.86
2389.677	4.69	Average	V			2.06	42.89	54.00	11.11



Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Correction Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
()	(			Data for Hi			(	(	()
2 483.502	25.93	Peak	Н			-	62.89	74.00	11.11
2 483.652	5.96	Average	Н			2.06	44.98	54.00	9.02
2 483.502	29.57	Peak	V	27.47	9.49	-	66.53	74.00	7.47
2 483.822	8.26	Average	V			2.06	47.28	54.00	6.72
			Те	st Data for	High Chan	nel			
2 483.508	25.87	Peak	Н			-	62.83	74.00	11.17
2 483.821	6.51	Average	Н			2.06	45.53	54.00	8.47
2 483.508	30.54	Peak	v	27.47	9.49	-	67.50	74.00	6.50
2 483.723	8.92	Average	V			2.06	47.94	54.00	6.06

Tabulated test data for Restricted Band

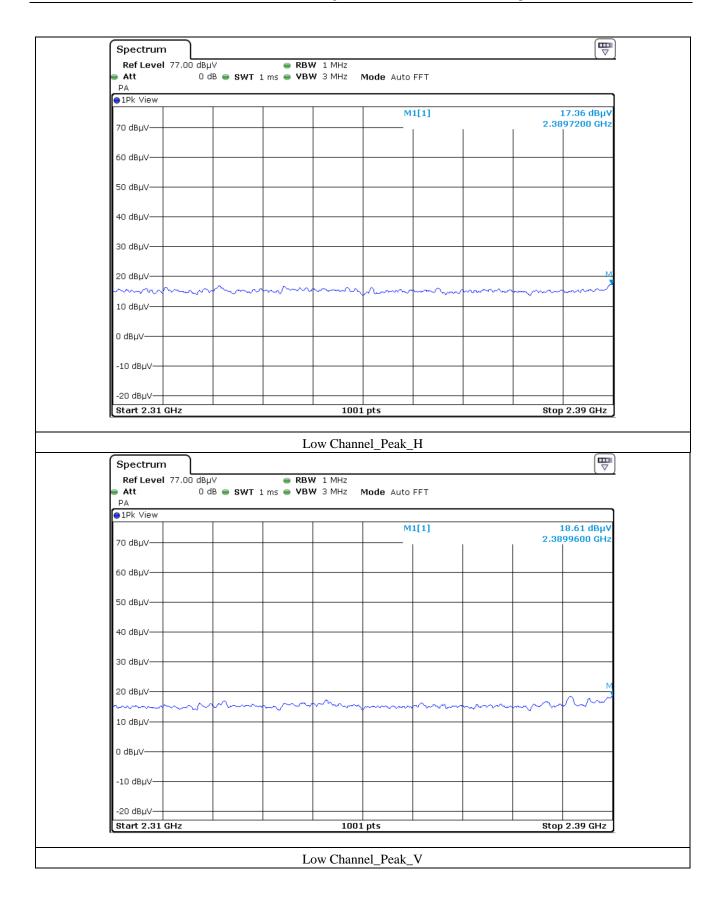
Remark: "H": Horizontal, "V": Vertical

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

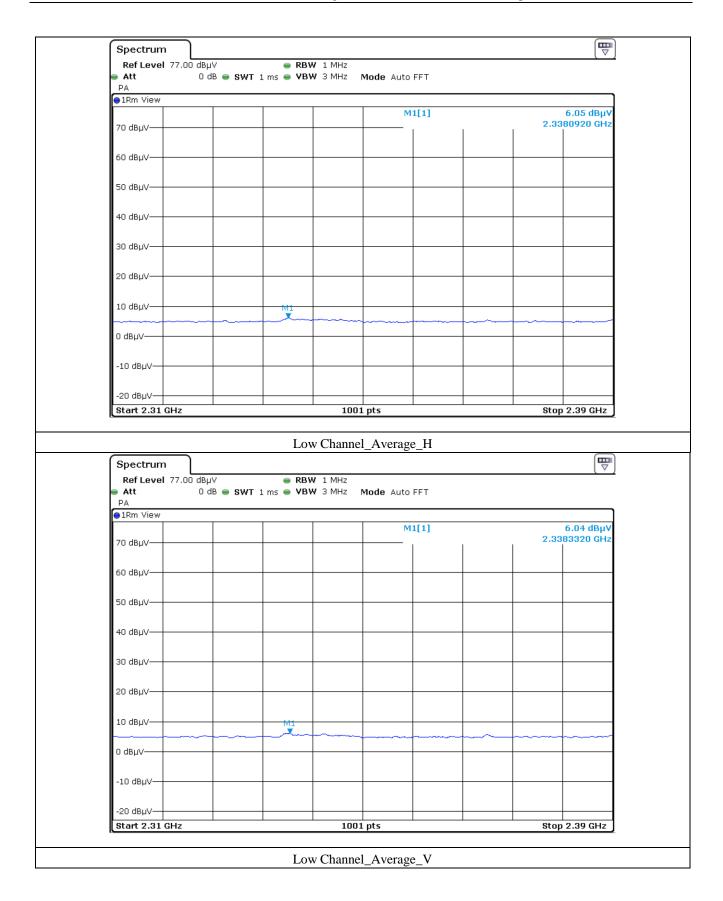
Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor

Tested by: Hyung-Kwon, Oh / Assistant Manager











	00 dBµV	RBW 1				
PA Att	U dB 👄 SWT :	1 ms 👄 <b>VBW</b> 3	MHZ Mode A	uto FFT		
●1Pk View						
				M1[1]		17.08 dBµ\
70 dBµV				-	2.38	975270 GH:
60 dBµV						
50 dBµV						
40 dBµV						
30 dBµV						
20 dBµV						M1
10 dBµV		+ +				
0 dBµV						
-10 dBµV						
-20 dBµV						
Start 2.385 GH	lz		1001 pts		Sto	p 2.39 GHz
Ref Level 77.		<b>● RBW</b> 1				
PA Att	00 dBµ∨ 0 dB <b>● swt</b> :		MHz			(₩ ∇
Ref Level 77. Att	00 dBµ∨ 0 dB <b>● swt</b> :	<b>● RBW</b> 1	MHz	uto FFT		,
Ref Level 77. Att PA 1Pk View	00 dBµ∨ 0 dB ● swt :	<b>● RBW</b> 1	MHz		2.38	20.00 dBµV
Ref Level 77. Att PA 1Pk View	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	,
Ref Level         77.           Att         PA           PA         1Pk View           70 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           1Pk View         70 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           ● 1Pk View            70 dBµV            60 dBµV	00 dBµ∨ 0 dB ● SWT ::	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           ● 1Pk View            70 dBµV            60 dBµV	00 dBµ∨ 0 dB ● swt ::	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           1Pk View         70 dBµV           60 dBµV         50 dBµV	00 dBµ∨ 0 dB ● SWT ::	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           1Pk View         70 dBµV           60 dBµV         50 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.36	20.00 dBµV
Ref Level         77.           Att         PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.36	20.00 dBµV
Ref Level         77.           Att         PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           PA         PA           PA         PA           O         DBµV           60         DBµV           50         DBµV           40         DBµV           30         DBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµV
Ref Level         77.           Att         PA           PA         PA           PA         PA           O         DBµV           60         DBµV           50         DBµV           40         DBµV           30         DBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           1Pk View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           PA         PA           1Pk View         PA           70 dBµV         PA           60 dBµV         PA           50 dBµV         PA           40 dBµV         PA           30 dBµV         PA           20 dBµV         PA	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           ● 1Pk View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV           30 dBµV         90 dBµV           10 dBµV         90 dBµV	00 dBµ∨ 0 dB ● SWT :	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           1Pk View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           10         dBµV	00 dBµV 0 dB • swt :	<b>● RBW</b> 1	MHz	uto FFT	2.36	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           ● 1Pk View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         60 dBµV           40 dBµV         70 dBµV           10 dBµV         70 dBµV           0 dBµV         70 dBµV	00 dBµV 0 dB • swt :	<b>● RBW</b> 1	MHz	uto FFT	2.36	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           PA         1Pk View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         10 dBµV	00 dBµV 0 dB • swT :	<b>● RBW</b> 1	MHz	uto FFT	2.36	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           ● 1Pk View         70.           0 dBµV         60.           50.         dBµV           40.         dBµV           30.         dBµV           20.         dBµV           10.         dBµV           -10.         dBµV	00 dBµ∨ 0 dB ● SWT ::	<b>● RBW</b> 1	MHz	uto FFT	2.38	20.00 dBµ\ 961790 GH;
Ref Level         77.           Att         PA           ● 1Pk View         70.           70.         dBµV           60.         dBµV           50.         dBµV           40.         dBµV           30.         dBµV           20.         dBµV           10.         dBµV           0.         dBµV	0 dB • SWT :	<b>● RBW</b> 1	MHz	uto FFT		20.00 dBµ\ 961790 GH;



	77.00 dBµV			Mode Auto FFT			
PA	0 UB 🖶 5	WIIIms 🖝 V	BH STARZ 1				
⊖1Rm View							
				M1[1]			4.30 dBµ\
70 dBµV					I.	2.389	99750 GH
60 dBµV							
50 dBµV							
50 dbpv							
10.10.11							
40 dBµV							
30 dBµV							
20 dBµV							
10 dBµV							
0 dBµV							
-10 dBµV							
-10 aBhA							
-20 dBµV							
Start 2.385	GHz		1001			01	2.39 GHz
	77.00 dBµV		Channel Ed	lge_Average_	<u>H</u>	Stup	
Att 🛛	77.00 dBµV 0 dB 🖷 S	<b>●</b> R	Channel Ed		<u>_H</u>		
Ref Level Att	77.00 dBµV 0 dB 🖷 S	<b>●</b> R	Channel Ed	lge_Average_	H	5.0p	
Ref Level Att PA	77.00 dBµV 0 dB <b>⊕ S</b>	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	H		
Ref Level Att PA 1Rm View	77.00 dBµV 0 dB 🖷 S	<b>●</b> R	Channel Ed	lge_Average_	H		
Ref Level Att PA 1Rm View	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	<u>_H</u>		(♥ ▼ 4.69 dBµ\
Ref Level Att PA 1Rm View 70 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	<u>_H</u>		(♥ ▼ 4.69 dBµ\
Ref Level Att PA 1Rm View 70 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	77.00 dBµV 0 dB ⊕ S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	77.00 dBµV 0 dB 🖷 S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	77.00 dBµV 0 dB • s	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	77.00 dBµV 0 dB 🖷 S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV	77.00 dBµV 0 dB • s	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			4.69 dBµ\ 67780 GH:
Ref Level           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV	77.00 dBµV 0 dB • s	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			4.69 dBµ\ 67780 GH:
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV	77.00 dBµV 0 dB • S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			(♥ ▼ 4.69 dBµ\
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV	77.00 dBµV 0 dB • S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			4.69 dBµ\ 67780 GH:
Ref Level Att	77.00 dBµV 0 dB ● S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT			4.69 dBµ\ 67780 GH:
Ref Level           Att           PA           ● 1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV	77.00 dBµV 0 dB ● S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	_H		4.69 dBµ\ 67780 GH:
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           0 dBµV	77.00 dBµV 0 dB • S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	_H		4.69 dBµ\ 67780 GH:
Ref Level           PA           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           10 dBµV           -10 dBµV	77.00 dBµV 0 dB ● S	<b>●</b> R	Channel Ed	lge_Average_ Mode Auto FFT	_H		4.69 dBµ\ 67780 GH:
Ref Level           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           0 dBµV		<b>●</b> R	Channel Ed	Ige_Average_ Mode Auto FFT 	_H	2.389	4.69 dBµ\ 67780 GH:

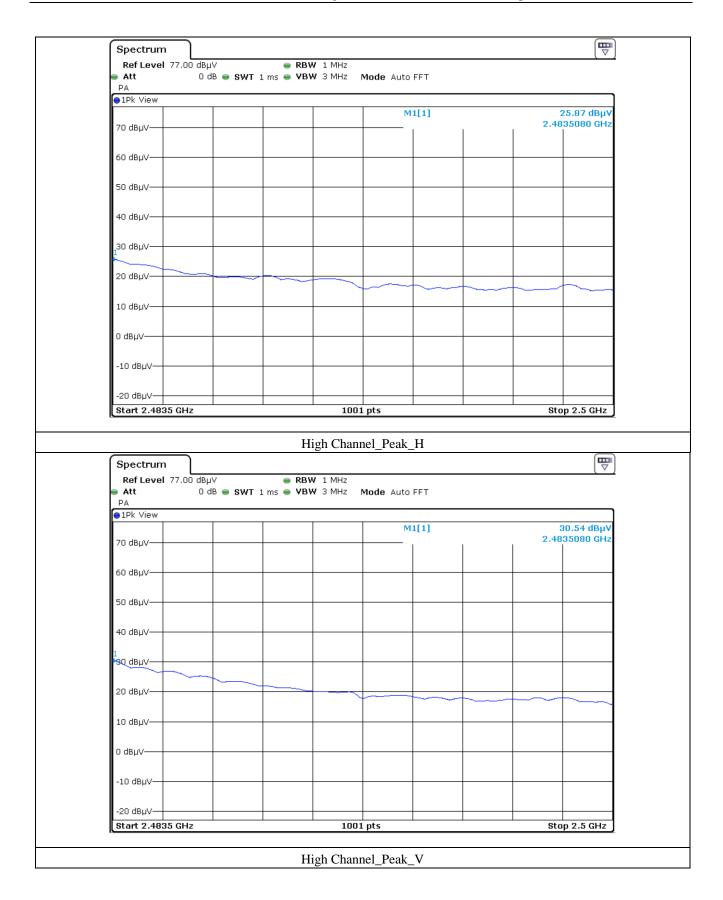


	7.00 dBµ∨	👄 RBW	1 MHz			
Att	0 dB 🖷 SWT	1 ms 👄 VBW 🗄	3 MHz Mode	Auto FFT		
PA						
∋1Pk View						
				M1[1]		25.93 dBµ 350250 GH
70 dBµV					2.10	
60 dBµV						
50 dBµV						
40 dBµV						
30 dBµV						
20 dBµV				<del></del>		<u>+</u>
10 dBµV		┥──┤				
0 dBµV						
10 40 11						
-10 dBµV						
-20 dBµV						
Start 2.4835	GHz		1001 pts		Stop 2	2.4885 GHz
Spectrum Ref Level 7	7.00 dBµV		<sup>c</sup> hannel Edge	_Peak_H		
Ref Level 7 Att		● RBW				(THE STREET STRE
RefLevel 7 Att PA		● RBW	1 MHz			
Ref Level 7 Att		● RBW	1 MHz	Auto FFT		
Ref Level 7 Att PA 1Pk View		● RBW	1 MHz		2.48	29.57 dBµ\
RefLevel 7 Att PA		● RBW	1 MHz	Auto FFT	2.48	
Ref Level     7'       Att     PA       1Pk View     70 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level     7'       Att     PA       1Pk View     70 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level         7'           Att         PA           1Pk View         7'           70 dBµV         60 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level         7'           Att         PA           1Pk View         7'           70 dBµV         60 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level         7'           Att         PA           1Pk View         7'           70 dBµV         60 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           10 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           1           30 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           10 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level     7'       Att     PA       1Pk View     70 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           20 dBµV           10 dBµV           0 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           10 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           10 dBµV           10 dBµV           -10 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           10 dBµV           10 dBµV           -10 dBµV           -20 dBµV		● RBW	1 MHz Mode	Auto FFT	2.48	29.57 dBµ\ 350250 GH:
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           130 dBµV           10 dBµV           10 dBµV           -10 dBµV		● RBW	1 MHz	Auto FFT	2.48	29.57 dBµ\



	0 dBµV	👄 RBW 🗄					
PA Att	0 dB 👄 SWT :	lms 👄 VBW 🔅	3 MHz Mi	ode Auto FFT			
●1Rm View							
				M1[1]			5.96 dBµ\
70 dBµV						2.483	65230 GH
60 dBµV							
50 dBus							
50 dBµV							
40 dBµV							
30 dBµV							
20 dBµV							
1 <b>0₁₫</b> ₿µ∨							
		├─────				_	
0 dBµV		-					
-10 dBµV							
-20 dBµV							
Start 2.4835 Gł			1001 p			Otan C	.4885 GHz
Spectrum Ref Level 77.0	) 00 dBµV			ge_Average_	<u>_H</u>		
Ref Level 77.( Att	) 00 dBµV 0 dB <b>⊜ SWT</b> 3	e RBW 1	1 MHz		<u>_H</u>		
Ref Level 77.0		e RBW 1	1 MHz		H		<b>∏</b> ⊽
RefLevel 77.( Att PA		e RBW 1	1 MHz		H		8.26 dBµ\
RefLevel 77.( Att PA		e RBW 1	1 MHz	ode Auto FFT	<u>_H</u>	2.483	, 
Ref Level 77.0 Att PA 1Rm View		e RBW 1	1 MHz	ode Auto FFT	<u>_H</u>	2.483	8.26 dBµ\
Ref Level 77.0 Att PA 1Rm View		e RBW 1	1 MHz	ode Auto FFT	<u>_H</u>	2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBμV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBμV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBμV           60 dBμV         60 dBμV		e RBW 1	1 MHz	ode Auto FFT	<u>H</u>	2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70           70 dBµV         60           50 dBµV         50		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBμV           60 dBμV         60 dBμV		e RBW 1	1 MHz	ode Auto FFT	_H	2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           • 1Rm View         •           70 dBµV         •           60 dBµV         •           50 dBµV         •           40 dBµV         •		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70           70 dBµV         60           50 dBµV         50		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV           20 dBµV         90 dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           PA         1Rm View           70 dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV           10         dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           • 1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV           20 dBµV         90 dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV           10         dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV           10         dBµV		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View		e RBW 1	1 MHz	ode Auto FFT		2.483	8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View		e RBW 1	1 MHz	ode Auto FFT			8.26 dBµ\
Ref Level         77.0           Att         PA           ● 1Rm View		e RBW 1	1 MHz	Dde Auto FFT			8.26 dBµ\







	.00 dBµ∨	👄 RBW 1 M				
PA	O dB 👄 SWT	1 ms 👄 <b>VBW</b> 3 M	1Hz Mode Au	to FFT		
●1Rm View						
				M1[1]		6.51 dBµ\
70 dBµV				- , ,	1	2.4838210 GH
60 dBµV						
50 dBµV						
50 GDDV						
40 dBµV						
00.40.44						
30 dBµV						
20 dBµV						
Ma dBµV				+ +		
		┝				
о авил		<u>                                      </u>				
-10 dBµV						
-20 dBµV						
Start 2.4835 0	247		1001 pts			Stop 2.5 GHz
Spectrum Ref Level 77	.00 dBµV		annel_Avera	age_H		
Ref Level 77 Att			1Hz			( <del>m</del>
Ref Level 77		<b>● RBW</b> 1 M	1Hz			
RefLevel 77 Att PA		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au			8.92 dBµ\
RefLevel 77 Att PA		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		
Ref Level 77 Att PA 1Rm View		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level 77 Att PA 1Rm View		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV		<b>● RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         70           50 dBµV         70           40 dBµV         70		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           ● 1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           ● 1Rm View           0 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           0 dBµV           0 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level 77           Att           PA           ● 1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           • 0 dBµV           • 0 dBµV           • 10 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\
Ref Level         77           Att         PA           ● 1Rm View           0 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           0 dBµV           0 dBµV		<b>⊜ RBW</b> 1 M	1Hz 1Hz <b>Mode</b> Au	to FFT		8.92 dBµ\



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## 9.6.2 Spurious & Harmonic Radiated Emission

Test Date	: September 24, 2019 ~ October 15, 2019
Resolution bandwidth	: 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
	1 MHz for Peak Mode for the emissions outside restricted band
Video bandwidth	: 3 MHz for Peak and Average Mode
Frequency range	: 1 GHz ~ 26.5 GHz
Measurement distance	: 3 m
Duty Cycle	: 62.30 %

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

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Correction Factor	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
	17.58	Peak	Н			-	56.73	74.00	17.27
	6.13	Average	Н			2.06	47.34	54.00	6.66
4 804.00	18.29	Peak	V	28.84	10.31	-	57.44	74.00	16.56
	6.20	Average	V			2.06	47.41	54.00	6.59
			Tes	t Data for N	/iddle Chai	nnel			
	18.05	Peak	Н			-	56.49	74.00	17.51
	6.34	Average	Н			2.06	46.84	54.00	7.16
4 880.00	18.46	Peak	V	28.01	10.43	_	56.90	74.00	17.10
	6.38	Average	V			2.06	46.88	54.00	7.12
			Те	est Data for	High Chan	nel			
	18.46	Peak	Н			-	58.42	74.00	15.58
	6.55	Average	Н			2.06	48.57	54.00	5.43
4 960.00	18.05	Peak	V	29.15	10.81	_	58.01	74.00	15.99
	6.69	Average	V			2.06	48.71	54.00	5.29

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 + Correction Factor

Tested by: Hyung-Kwon, Oh / Assistant Manager

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EMC-003 (Rev.2)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Ref Level 77.		🔵 RBW	1 MHz	ada Auto FFT		
🛛 Att		T 1 ms 👄 VBW	3 MHz Mo	DUE AULO FFI		
PA 91Pk View						
TEK AIGM				M1[1]		L7.58 dBµ'
70 dBµV				MIT[1]	4.806	48750 GH
70 uвµv						
60 dBµV						
50 dBµV						
40 dBµV						
30 dBµV						
20 dBµV					 	
10 dBµV						
0 dBµV						
10 dp. sz						
-10 dBµV						
-20 dBµV						
CF 4.804 GHz						
Spectrum				l_Peak_H	Spa	
Spectrum Ref Level 77.	00 dBµV 0 dB <b>e sw</b>		w Channe	l_Peak_H	 Spa	
Spectrum Ref Level 77. Att PA		e RBW	w Channe	l_Peak_H	Spa	
Spectrum Ref Level 77.		e RBW	w Channe	l_Peak_H		n 5.0 MHz
Spectrum Ref Level 77. Att PA 1Pk View		e RBW	w Channe	l_Peak_H		
Spectrum Ref Level 77. Att PA		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum Ref Level 77. Att PA 1Pk View 70 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum Ref Level 77. Att PA 1Pk View		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum           Ref Level         77.           Att         PA           1Pk View         70 dBµV           60 dBµV         60 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum Ref Level 77. Att PA 1Pk View 70 dBµV		e RBW	w Channe	l_Peak_H		( <b>Щ</b> ▼ 18.29 dBµ'
Spectrum           Ref Level         77.           Att           PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum           Ref Level         77.           Att         PA           1Pk View         70 dBµV           60 dBµV         60 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70 dBµV           60 dBµV         50 dBµV           40 dBµV         40 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att           PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           • 1Pk View         70 dBµV           60 dBµV         -           50 dBµV         -           40 dBµV         -           30 dBµV         -		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70 dBµV           60 dBµV         50 dBµV           40 dBµV         40 dBµV		e RBW	w Channe	l_Peak_H		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           • 1Pk View         70 dBµV           60 dBµV         -           50 dBµV         -           40 dBµV         -           30 dBµV         -		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           • 1Pk View         70 dBµV           60 dBµV         -           50 dBµV         -           40 dBµV         -           30 dBµV         -		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70         dBµV           60         dBµV           50         dBµV           30         dBµV           20         dBµV           10         dBµV		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70 dBµV         60           50 dBµV         90           40 dBµV         90           20 dBµV         90           10 dBµV         90           10 dBµV         90           0 dBµV         90		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70         dBµV           60         dBµV           50         dBµV           30         dBµV           20         dBµV           10         dBµV		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼ 18.29 dBµ <sup>1</sup>
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70         dBµV           60         dBµV           50         dBµV           30         dBµV           20         dBµV           10         dBµV           -10         dBµV		e RBW	w Channe	I_Peak_H  ode Auto FFT  M1[1]		( <b>₩</b> ▼
Spectrum           Ref Level         77.           Att         PA           ● 1Pk View         70           70 dBµV         60           50 dBµV         90           40 dBµV         90           20 dBµV         90           10 dBµV         90           10 dBµV         90           0 dBµV         90		e RBW	w Channe	I_Peak_H		( <b>₩</b> ▼



Ref Level 77			3 MHz Mod	le Auto FFT		
PA Att	0 dB 👄 SW	T 1 ms 👄 VBW				
●1Rm View						
				M1[1]		6.13 dBµ\
70 dBµV					4.801	95700 GH
/0 dbpv						
60 dBµV						
50 dBµV						
40 dBµV						
30 dBµV						
20 dBµV						
20 0600						
10 dBµV M1						
0 dBµV						
-10 dBµV					 	
-20 dBµV						
CF 4.804 GHz						
Spectrum Ref Level 77			1001 pts Channel_A		Spa	n 5.0 MHz
Ref Level 77 Att	00 dBµV 0 dB • sw		Channel_A	verage_H	Spa	
Ref Level 77 Att		e RBW	Channel_A	verage_H	Spa	
Ref Level 77 Att		e RBW	Channel_A	Verage_H		(The second seco
Ref Level 77 Att PA 1Rm View		e RBW	Channel_A	verage_H		
Ref Level 77 Att PA 1Rm View		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         50 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70 dBµV           60 dBµV         50 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           50 dBµV         40 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           ●1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           50 dBµV         40 dBµV           30 dBµV         30 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           50 dBµV         40 dBµV           30 dBµV         30 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         PA           1Rm View         PA           70 dBµV         PA           60 dBµV         PA           50 dBµV         PA           40 dBµV         PA           30 dBµV         PA           20 dBµV         PA		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         PA           1Rm View         PA           70 dBµV         PA           60 dBµV         PA           50 dBµV         PA           40 dBµV         PA           30 dBµV         PA           20 dBµV         PA		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         10 dBµV           10 dBµV         10 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         10 dBµV           10 dBµV         10 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         10 dBµV           10 dBµV         10 dBµV		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           ● 1Rm View         70           0 dBµV         60           60 dBµV         60           50 dBµV         60           40 dBµV         70           30 dBµV         70           10 dBµV         70           10 dBµV         70           -10 dBµV         70		e RBW	Channel_A	Verage_H		(₩ ▼ 6.20 dBµ\
Ref Level         77           Att         PA           PA         IRm View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         10 dBµV           10 dBµV         10 dBµV		e RBW	Channel_A	Average_H	4.801	(₩ ▼ 6.20 dBµ\



	7.00 dBµ∨	e RBW					
PA Att	U UB 🖶 SWI	1 ms 👄 VBW	3 MH2 Mode	AUTO FFI			
●1Pk View							
				M1[1]		1	8.05 dBµV
70 dBµV				I	1 1	4.879	50550 GHz
60 dBµV							
50 dBµV							
40 dBµV							
30 dBµV							
20 dBµV		M1					
10 dBµV					+		
0 dBµV							
-10 dBµV					+		
-20 dBµV							
CF 4.88 GHz			1001 pts			Spai	n 5.0 MHz
	7.00 dBµV	RBW					
Ref Level 73 Att			1 MHz				
Ref Level 7		RBW	1 MHz	Auto FFT			
Ref Level 7 Att PA 1Pk View		RBW	1 MHz			1	8.46 dBµV
Ref Level 73 Att PA		RBW	1 MHz	Auto FFT		1 4.882	
Ref Level 71 Att PA 1Pk View 70 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7 Att PA 1Pk View		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level         7"           Att         PA           1Pk View         70 dBµV           60 dBµV         60 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 71 Att PA 1Pk View 70 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level         7"           Att         PA           1Pk View         70 dBµV           60 dBµV         60 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7'           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           ● 1Pk View           0 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           0 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           ● 1Pk View           0 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           0 dBµV		RBW	1 MHz	Auto FFT		1 4.882	8.46 dBµV 15780 GHz
Ref Level 7           Att           PA           ● 1Pk View           0 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV           0 dBµV		RBW	1 MHz	Auto FFT		4.882	8.46 dBµV 15780 GHz



Kei Level 7	7.00 dBµ∨	● RBW	/ 1 MHz				
Att	0 dB 👄 SW	T 1 ms 👄 VBV	VI3 MHz N	Mode Auto F	FT		
PA 1Rm View							
				M1	[1]		5.34 dBµ\
70 dBµV							6770 GH
60 dBµV							
50 dBµV						 	
40 dBµV						 	
30 dвµv						 	
- ·							
20 dBµV							
10 dBµV							M1
0 dвµV						 	
-10 dBµV				-		 	
-20 dBµV							
CF 4.88 GHz			1001	ntc		Pnan	5.0 MHz
Spectrum	<b>О</b> 7.00 dBµV			el_Averag	e_H		
Spectrum Ref Level 77 Att			lle Channe	el_Averag			
Spectrum Ref Level 77 Att PA		● RBW	lle Channe	el_Averag			
Spectrum Ref Level 7 Att PA		● RBW	lle Channe	el_Averag Mode Auto F	FT	6	
Spectrum Ref Level 77 Att PA 1Rm View		● RBW	lle Channe	el_Averag	FT	 6 4.8815	( ▼ 5.38 dBµ\ 9840 GH;
Spectrum Ref Level 77 Att PA 1Rm View		● RBW	lle Channe	el_Averag Mode Auto F	FT	 6 4.8815	5.38 dBµ\
Spectrum Ref Level 77 Att PA 1Rm View 70 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum Ref Level 77 Att PA 1Rm View 70 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum Ref Level 7: Att PA IRm View 70 dBµV 60 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum Ref Level 7: Att PA IRm View 70 dBµV 60 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	4.8815	5.38 dBµ\
Spectrum           Ref Level         71           Att         PA           IRm View           70 dBµV           60 dBµV           50 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum           Ref Level         71           Att         PA           IRm View           70 dBµV           60 dBµV           50 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum           Ref Level         71           Att         PA           IRm View           70 dBµV           60 dBµV           50 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum           Ref Level         7           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum           Ref Level         7:           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum           Ref Level         7           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum           Ref Level         7:           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	( 4.8815	5.38 dBµ\
Spectrum           Ref Level         7'           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum Ref Level 77 Att PA IRm View 70 dBµV 60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum           Ref Level 7'           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum           Ref Level 7'           Att           PA           1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6 4.8815	5.38 dBµ\
Spectrum Ref Level 77 Att		● RBW	lle Channe	el_Averag Mode Auto F	FT	64.8815	5.38 dBµ\
Spectrum           Ref Level         7"           Att         PA           1Rm View         70           70         dBµV           60         dBµV           50         dBµV           40         dBµV           30         dBµV           20         dBµV           10         dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	64.8815	5.38 dBµ\
Spectrum           Ref Level 7:           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           20 dBµV           10 dBµV           10 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	6	5.38 dBµ\
Spectrum           Ref Level 7:           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           30 dBµV           20 dBµV           10 dBµV           10 dBµV		● RBW	lle Channe	el_Averag Mode Auto F	FT	4.8815	5.38 dBµ\
Spectrum           Ref Level 7:           Att           PA           IRm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           20 dBµV           10 dBµV           10 dBµV		● RBW	lle Channe	el_Averag	FT	4.8815	5.38 dBµ\



	0 de	WT 1 mc	🔵 VBW 3 MHz	Mode Au	ito FFT			
Att	о uB 🥌 😫	3441 I 1115 .						
PA 91Pk View								
					M1[1]			18.46 dBµ'
70 dBµV							4.958	51150 GH
, o dopt								
50 ID 11								
60 dBµV								
50 dBµV						-		
40 dBµV								
30 dBµV								
20 dBµV	M1							
						+		<u> </u>
10 40:41								
10 dBµV								
0 dBµV								
-10 dBµV								
-20 dBµV								
CF 4.96 GHz			1				Sna	n 5.0 MHz
Spectrum Ref Level 7	7.00 dBµV		High Cha					
Ref Level 71 Att	7.00 dBµV 0 dB ⊕ s		High Ch	annel_Pea				
Ref Level 7	7.00 dBµV 0 dB ⊕ t	SWT 1 ms	High Cha	annel_Pea				
Ref Level 73 Att PA	7.00 dBµV 0 dB 🖷 ş	SWT 1 ms	High Cha	annel_Pea				( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7 Att PA 1Pk View	7.00 dBµV 0 dB 🖷 s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			
Ref Level 7 Att PA 1Pk View	7.00 dBμV 0 dB 🖷 s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         71           Att         PA           1Pk View         70           70         dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         71           Att         PA           1Pk View         70           70         dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         IPk View           70 dBµV         60 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         IPk View           1Pk View         IPk View           60 dBµV         IPk View           50 dBµV         IPk View	7.00 dBµV 0 dB • s	SWT 1 ms	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         IPk View           1Pk View         IPk View           60 dBµV         IPk View           50 dBµV         IPk View	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         PA           PA         PA           PA         PA           PA         PA           Odspace         PA           PA         PA           PA <td>7.00 dBµV 0 dB • s</td> <td>SWT 1 ms (</td> <td>High Cha</td> <td>annel_Pea</td> <td>ito FFT</td> <td></td> <td></td> <td>(<b>₩</b> ▼ 18.05 dBµ'</td>	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         PA           PA         PA           PA         PA           Ods         PA           PA         PA           PA         PA           PA         PA           Ods         PA           PA         PA	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level         7           Att         PA           PA         PA           PA         PA           PA         PA           PA         PA           Odspace         PA           PA         PA           PA <td>7.00 dBµV 0 dB • s</td> <td>SWT 1 ms (</td> <td>High Cha</td> <td>annel_Pea</td> <td>M1[1]</td> <td></td> <td></td> <td>(<b>₩</b> ▼ 18.05 dBµ'</td>	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms	High Cha	annel_Pea	ito FFT			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV	7.00 dBµV 0 dB • s	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV	7.00 dBµV 0 dB • 9	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           20 dBµV           10 dBµV	7.00 dBµV 0 dB • 9	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV           10 dBµV	7.00 dBµV 0 dB • • •	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV	7.00 dBµV 0 dB • • •	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV           0 dBµV	7.00 dBµV 0 dB • \$	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           ● 1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV           0 dBµV	7.00 dBµV 0 dB • §	SWT 1 ms (	High Cha	annel_Pea	M1[1]			( <b>₩</b> ▼ 18.05 dBµ'
Ref Level 7           Att           PA           1Pk View           70 dBµV           60 dBµV           50 dBµV           40 dBµV           30 dBµV           10 dBµV           10 dBµV           -10 dBµV	7.00 dBµV 0 dB • \$	SWT 1 ms (	High Cha	annel_Pea	M1[1]		4.960	( <b>₩</b> ▼ 18.05 dBµ'



Att		● RBW 3	L MHz 3 MHz <b>Mode</b>			
PA	U UB 🖶 SWI .	Ims 🖝 VBW 3	a MH2 Mode	AUTO FFT		
●1Rm View						
				M1[1]	4.0	6.55 dBµ\ 6194810 GH:
70 dBµV				— I I	4.9	0194810 GH.
60 dBµV						
50 dBµV						
40 dBµV						
30 dBµV						
20 dBµV						
10 dBµV						Ma
						*
0 dBµV						
-10 dBµV						
-20 dBµV						
CF 4.96 GHz		I	1001 pts			pan 5.0 MHz
Ref Level 77.	00 dBµ∨	e RBW 1				
🛛 Att	00 dBµV 0 dB ● SWT :	e RBW 1	L MHz			
Ref Level 77.	00 dBµ∨ 0 dB ● SWT ::	e RBW 1	L MHz	Auto FFT		(IIII)
Ref Level 77. Att	00 dBµ∨ 0 dB ● swt :	e RBW 1	L MHz			6.69 dBµ\
Ref Level 77. Att PA 1Rm View	00 dBµ∨ 0 dB ● swt :	e RBW 1	L MHz	Auto FFT	4.9	×
Ref Level 77. Att PA 1Rm View	00 dBµ∨ 0 dB ● SWT :	e RBW 1	L MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           PA         IRm View           70 dBµV	00 dBµ∨ 0 dB ● SWT :	e RBW 1	L MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV	00 dBµV 0 dB ● SWT :	e RBW 1	L MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV	00 dBµV 0 dB ● SWT :	e RBW 1	L MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           1Rm View         70 dBµV           60 dBµV         50 dBµV	00 dBµV 0 dB • swt :	e RBW 1	L MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           1Rm View         70 dBµV           60 dBµV         50 dBµV	00 dBµV 0 dB • swt :	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           1Rm View         70 dBµV           60 dBµV         60 dBµV	00 dBµ∨ 0 dB ● SWT ::	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ●1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	00 dBµ∨ 0 dB ● SWT ::	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ●1Rm View           70 dBµV           60 dBµV           50 dBµV           40 dBµV	00 dBµ∨ 0 dB ● SWT ::	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           PA         IRm View           70 dBµV         60 dBµV           50 dBµV         40 dBµV           30 dBµV         30 dBµV	00 dBµ∨ 0 dB ● swt ::	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           PA         IRm View           70 dBµV         60 dBµV           50 dBµV         40 dBµV           30 dBµV         30 dBµV	00 dBµ∨ 0 dB ● SWT ::	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           PA         1Rm View           70 dBµV         60 dBµV           60 dBµV         60 dBµV           30 dBµV         90 dBµV           20 dBµV         90 dBµV	00 dBµ∨ 0 dB ● SWT ::	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ●1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           40 dBµV         90 dBµV           30 dBµV         90 dBµV	00 dBµ∨ 0 dB ● SWT :: 	e RBW 1	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ●1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           30 dBµV         90 dBµV           10 dBµV         10 dBµV	00 dBµ∨ 0 dB ● SWT ::	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ●1Rm View         70 dBµV           60 dBµV         60 dBµV           50 dBµV         90 dBµV           30 dBµV         90 dBµV           10 dBµV         10 dBµV	00 dBµ∨ 0 dB ● SWT :: 	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ● 1Rm View	00 dBµ∨ 0 dB ● SWT :: 	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ● 1Rm View	00 dBµ∨ 0 dB ● SWT :: 	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ● 1Rm View	00 dBµ∨ 0 dB ● SWT :: 	RBW 1     ms      VBW 3	l MHz	Auto FFT	4.9	6.69 dBµ\
Ref Level         77.           Att         PA           ● 1Rm View	00 dBµ∨ 0 dB ● SWT ::	RBW 1     ms      VBW 3	l MHz	Auto FFT		6.69 dBµ\



# **10. PEAK POWER SPECTRAL DENSITY**

### **10.1 Operating environment**

Temperature	:	24.3 °C
Relative humidity	:	43.9 % 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 kHz  $\leq$  RBW  $\leq$  100 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.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 11, 2019 (1Y)

All test equipment used is calibrated on a regular basis.



## 10.4 Test data

-. Test Date : September 24, 2019 ~ October 15, 2019

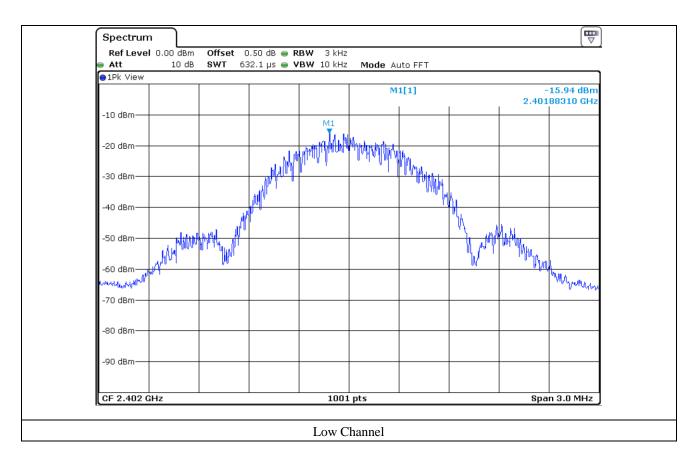
-. Test Result

: Pass -. Operating Condition : Continuous transmitting mode

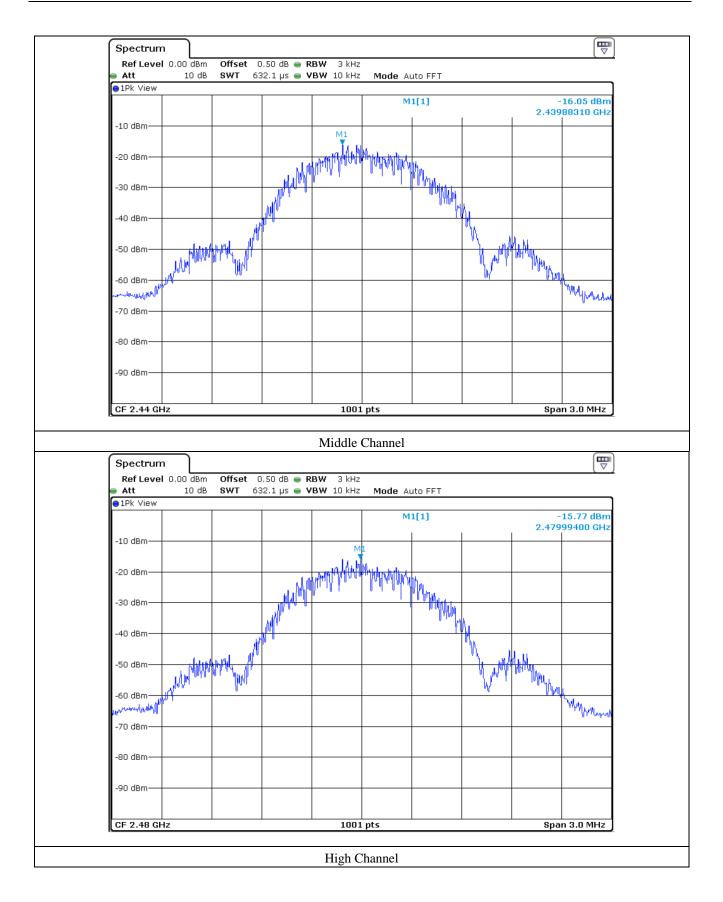
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 402.00	-15.94	8.00	23.94
Middle	2 440.00	-16.05	8.00	24.05
High	2 480.00	-15.77	8.00	23.77

Remark. Margin = Limit – Measured value

Tested by: Hyung-Kwon, Oh / Assistant Manager









# **11. RADIATED EMISSION TEST**

#### **11.1 Operating environment**

Temperature	:	24 °C
Relative humidity	:	43 % R.H.

#### 11.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. 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.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 11, 2019 (1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Mar. 28, 2019 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312545	Mar. 18, 2019 (1Y)
■ -	BBV9718	Schwarzbeck	Amplifier	310	Mar. 28, 2019 (1Y)
	DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
■ -	MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 13, 2018 (2Y)
■ -	BBHA 9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 16, 2019 (1Y)
-	BBHA 9170	Schwarzbeck	Horn Antenna	BBHA9170179	Jan. 16, 2019 (1Y)

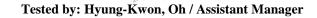
All test equipment used is calibrated on a regular basis.



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## 11.4 Test data

Humidity Level	: <u>43 %</u>	: <u>43 % R.H.</u>						
Limits apply to	: <u>FCC</u>	C CFR 47, PAI	RT 15, SUB	PART C, SE	CTION 15	.247		
Result	: <u>PAS</u>	SSED						
EUT	: NO	VO			Date:	September 24, 2	019 ~ October 15, 2	
Detector	: CIS	PR Quasi-Peal	x (6 dB Ban	dwidth: 120	kHz)			
[dBuV/m]		<qp data="">&gt;</qp>			c	HORIZONTAL	/ × VERTICAL	
70								
60								
50								
40								
						* .		
30						*		
20						M. J	and the second s	
10		- MR34/20	1000	A	manut	AND AND ADD AND AND AND AND AND AND AND		
			A RAPACHAR	-haves	1			
30	50	70 10	00	200	300	500	700 960	
							Frequency[MHz]	
No. FF	REQ READIN QP	IG ANT LO FACTOR	SS GAIN	RESULT I	lmit ma	RGIN ANTENNA	TABLE	
[M	Hz] [dBuV]	[dB] [d	1B] [dB]	[dBuV/m] [d	BuV/m] [d	B] [cm]	[DEG]	
Horiz	ontal							
2 18	2.380 31.4 4.230 30.8		2.0 33.0 3.1 33.0	8.8 11.1		1.2 300 2.4 400	240 359	
3 20 4 23	7.510 32.1 4.670 27.6	11.0 3 12.1 3	3.3 33.0 3.5 32.9	13.4 10.3	43.5 3 46.0 3	0.1 300 5.7 400	232 147	
	1.304 27.7 5.598 27.3		5.3 33.2 7.1 32.2	21.2 25.1	46.0 2 46.0 2	4.8 400 0.9 400	107 359	
Vertio	al							
	5.520 27.0 1.140 35.4		.5 33.1 .5 33.0	9.9 22.4	40.0 3 46.0 2	0.1 100 3.6 100	359 359	
9 39	7.630 44.9 0.220 38.3	15.8 4 18.3 5	.6 33.1 5.4 33.3	32.2 28.7	46.0 1 46.0 1	3.8 200 7.3 200	222 198	
10 54	6.523 31.5		5.4 33.2	25.4		0.6 100	359	



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ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



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## 11.4.2 Test data for Below 30 MHz

- -. Test Date : September 24, 2019 ~ October 15, 2019
- -. 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	Reading	Ant. Pol.	Ant.	Angle	Ant. Factor	Cable	Emission	Limits	Margin
(MHz)	(dBµV)	(H/V)	Height (m)	(°)	(dB/m)	Loss	Level(dBµV/m)	(dBµV/m)	(dB)
It was not observed any emissions from the EUT.									

#### 11.4.3 Test data for above 1 GHz

- -. Test Date : September 24, 2019 ~ October 15, 2019
- -. Resolution bandwidth 21 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. Pol. (H/V)Ant. Height (m	0	Ant. Factor (dB/m)		Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)	
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It was not observed any emissions from the EUT.

Tested by: Hyung-Kwon, Oh / Assistant Manager