SGS Korea Co., Ltd.
4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
Tel. +82 31 428 5700 / Fax. +82 31 427 2370
http://www.sgsgroup.kr

TEST REPORT

of

FCC Part 15 Subpart C §15.247
IC RSS-247 Issue 3 and RSS-Gen Issue 5

FCC ID: BEJTFBMEIBN3EU
IC Certification: 2703H-TFBMEIBN3EU

Equipment Under Test	:	Telematics
Model Name	:	TFBMEIBN3EU
Variant Model Name(s)	:	Refer to page 3
Applicant	:	FCC: LG Electronics USA, Inc. IC: LG ELECTRONICS INC.
Manufacturer	:	LG Electronics Co., Ltd.
Date of Receipt	:	2023.12.13
Date of Test(s)	:	2024.03.04 ~ 2024.08.29
Date of Issue	:	2024.08.29

In the configuration tested, the EUT complied with the standards specified above.
This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer

Tested by: Murphy Kim

Technical Manager: Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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Phone No. : +82 31 688 0901
Fax No. : +82 31 688 0921

1.2. Details of Applicant

FCC Applicant : LG Electronics USA, Inc.
FCC Address : 111 Sylvan Avenue, North Building, Englewood Cliffs, New Jersey, United States, 07632
IC Applicant : LG ELECTRONICS INC.
IC Address : 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea (Republic of), 451-713
Contact Person : Kim, David
Phone No. : +1 201 470 2696

1.3. Details of Manufacturer

Company : LG Electronics Inc.
Address : 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea, 07336

1.4. Description of EUT

Kind of Product	Telematics			
Model Name	TFBMEIBN3EU			
Approved Module	FCC ID: BEJTM16FNNABM0 IC Certification: 2703H-TM16FNNABM0			
Variant Model Names	TFBMNINN0EN, TFBMEIBN3FR			
Serial Number	Conducted: #1 Radiated: #2			
Power Supply	DC 12 V			
Frequency Range	2 412 ㎒ ~ 2 462 ㎒ (11ax_HE20) 2 422 ㎒ ~ 2 452 ㎒ (11ax_HE40)			
Modulation Technique	OFDMA			
Number of Channels	11 channels (11ax_HE20) 7 channels (11ax_HE40)			
Antenna Type	Ant. 1: Pattern	Ant. 2: Pattern	Ant. 3: Chip	Ant. 4: Pattern
Antenna Gain※	Ant. 1	Ant. 2	Ant. 3	Ant. 4
	5.06 ㏈i	4.96 ㏈i	1.40 ㏈i	2.90 ㏈i
H/W Version	Rev. C3			
S/W Version	v010.038.045			
FVIN	N/A			

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	R&S	SMA100B	106887	Oct. 06, 2023	Annual	Oct. 06, 2024
Spectrum Analyzer	R&S	FSV30	103453	Oct. 31, 2023	Annual	Oct. 31, 2024
Spectrum Analyzer	Agilent	N9020A	MY53421758	Sep. 01, 2023	Annual	Sep. 01, 2024
Attenuator	AEROFLEX / INMET	40AH2W-10	40G-1	Jun. 19, 2024	Annual	Jun. 19, 2025
High Pass Filter	Wainwright Instrument GmbH	WHKX3.0/18G-10SS	21	Jun. 07, 2024	Annual	Jun. 07, 2025
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	15	Jun. 07, 2024	Annual	Jun. 07, 2025
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-2	Feb. 07, 2024	Annual	Feb. 07, 2025
Power Sensor	R&S	NRP-Z81	100669	May 17, 2024	Annual	May 17, 2025
DC Power Supply	R&S	HMP2020	022802107	Oct. 31, 2023	Annual	Oct. 31, 2024
Preamplifier	H.P.	8447F	2944A03909	Aug. 09, 2024	Annual	Aug. 09, 2025
Signal Conditioning Unit	R&S	SCU-18F	101058	Dec. 07, 2023	Annual	Dec. 07, 2024
Preamplifier	TESTEK	JS44-18004000-35-8P	1546891	Oct. 06, 2023	Annual	Oct. 06, 2024
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 21, 2023	Biennial	Aug. 21, 2025
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB 9163	9163-396	Apr. 02, 2024	Biennial	Apr. 02, 2026
Horn Antenna	R&S	HF906	100326	Feb. 19, 2024	Annual	Feb. 19, 2025
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	BBHA9170223	Oct. 10, 2023	Annual	Oct. 10, 2024
Test Receiver	R&S	ESU26	100109	Jan. 16, 2024	Annual	Jan. 16, 2025
Turn Table	Innco systems GmbH	DS 1200 S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Antenna Mast	Innco systems GmbH	MA4640-XP-ET	MA4640/536/383 30516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RFONE	NMST-13A26-NMST-5 m	TPC2402190004	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024
Coaxial Cable	Qualwave Inc.	NMST-13A26-NMST-10 m	TPC2402190001	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024
Coaxial Cable	RFONE	PL360P-292M292M-1.5M-A	20200324002	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024

Note;

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

1.6. Declaration by the Manufacturer

- The EUT has four ports (Port1, Port 2, Port 3, Port 4).
- WLAN 2.4G transmits both SISO and MIMO mode.

1.7. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part15 Subpart C, IC RSS-247 Issue 3 and RSS-Gen Issue 5			
Section in FCC	**Section in IC**	**Test Item(s)**	**Result**
15.205(a) 15.209 15.247(d)	RSS-247 Issue 3 5.5 RSS-Gen Issue 5 8.9	Transmitter Radiated Spurious Emissions and Conducted Spurious Emission	Complied
15.247(a)(2)	RSS-247 Issue 3 5.2(a) RSS-Gen Issue 5 6.7	6 dB Bandwidth & 99 % Bandwidth	Complied
15.247(b)(3)	RSS-247 Issue 3 5.4(d)	Maximum Peak Conducted Output Power	Complied
15.247(e)	RSS-247 Issue 3 5.2(b)	Power Spectral Density	Complied
15.207	RSS-Gen Issue 5 8.8	AC Power Line Conducted Emission	N/A[1)]

Note;

1) The AC power line test was not performed because the EUT use battery power for operation and which do not operate from the AC power lines.

1.8. Test Procedure(s)

The measurement procedures described in the American National Standard of Procedure for Compliance Testing of unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 558074 D01 15.247 Meas Guidance v05r02 were used in the measurement of the DUT.

1.9. Sample Calculation

Where relevant, the following sample calculation is provided:

1.9.1. Conducted Test

Offset value (dB) = Attenuator (dB) + Cable loss (dB)

1.9.2. Radiation Test

Field strength level (dBμV/m)
= Measured level (dBμV) + Antenna factor (dB/m) + Cable loss (dB) - Amplifier gain (dB) + Duty factor (dB)

1.10. Information of software for test

- Using the software of MobaXterm v23.6 to test for the WLAN.

1.11. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty	
Maximum Peak Conducted Output Power	0.34 dB	
Power Spectral Density	0.64 dB	
99 % Bandwidth	0.02 ㎒	
6 dB Bandwidth	0.07 ㎒	
Conducted Spurious Emission	0.80 dB	
Radiated Emission, 9 ㎑ to 30 ㎒	H	3.60 dB
	V	3.60 dB
Radiated Emission, below 1 ㎓	H	4.60 dB
	V	4.90 dB
Radiated Emission, above 1 ㎓	H	3.90 dB
	V	3.80 dB

All measurement uncertainty values are shown with a coverage factor k = 2 to indicate a 95 % level of confidence.

1.12. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL005380	2024.08.29	Initial

1.13. Device Capabilities

Mode	SISO				CDD/MIMO		
	Port 1	Port 2	Port 3	Port 4	Port 1 + 2	Port 1 + 3	Port 1 + 4
Bluetooth Low Energy	O	X	X	X	X	X	X
WLAN 2 ㎓	X	X	O	O	O	O	O
WLAN 5 ㎓	X	X	O	O	O	O	O
WLAN 6 ㎓	X	X	O	X	O	O	X

Note;

The EUT has four ports and all ports transmit by one WLAN module.
11b mode is transmit only SISO in Port 3 and Port 4.
The Port 1 passes directly through the module and Port 2, Port 3 and Port 4 are distributed through the switch end.
All the conducted test were performed at the point of before the switch as the worst case.

Mode	Measurement point			
	Highest Output Power (㏈m)			
	Before switch	End of Port 2	End of Port 3	End of Port 4
11ax_HE20	**17.97**	14.12	11.51	14.05
11ax_HE40	**17.75**	16.56	10.95	16.41

1.14. Worst-Case Configuration and Test Mode

Mode	Highest Output Power (㏈m)			
	SISO		MIMO	
	Average	Peak	Average	Peak
11ax_HE20	6.33	17.12	**7.37**	**17.97**
11ax_HE40	6.71	17.25	**7.25**	**17.75**

Mode	Bandwidth (㎒)	Data rate with highest output power
11ax_HE20	20	MCS0
11ax_HE40	40	MCS0

MIMO mode conducted output power is higher than SISO mode. Therefore, all the tests (Conducted and Radiated) were performed with MIMO mode.

Radiated emission below 1 ㎓ was performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Radiated emission above 1 ㎓ was performed with the EUT set to transmit Low/Middle/High Channels.

Conducted tests were performed with the EUT set to transmit Low/Middle/High channels with highest output power.

For 802.11ax mode;

RU offset for Tones

Mode	Tones	RU offset
11ax_HE20	26T	0
		4
		8
	52T	37
		38
		40
	106T	53
		54
	242T/SU	61/-
11ax_HE40	26T	0
		9
		17
	52T	37
		41
		44
	106T	53
		54
		56
	242T	61
		62
	484T/SU	65/-

No difference in physical waveforms between Full RU mode and SU mode, the test was performed with one mode with the highest output power among the Full RU mode and SU mode.

26 Tone is the highest PSD among other Tones. Therefore, all tests were performed with 26 Tone in MU mode and additional test were performed with SU Mode.

In Radiated emission above 1GHz was performed with the only one RU offset of each channel as worst case according to conducted output power.

1.15. Information of Variant Models

Model Names	*Installation capability on PCB	GNSS	WiFi / BLE	Backup Battery	Model Remark
TFBMEIBN3EU	O	O	O	O	Basic Model
TFBMNINN0EN	X	O	O	X	Variant Model
TFBMEIBN3FR	O	O	O	O	

*Cellular Antennas are mounted on TFBMEIBN3EU, TFBMNINN0EN, TFBMEIBN3FR
O: Popped
X: De-Popped

Note;

All test items performed with basic model

1.16. Duty Cycle of EUT

Regarding to KDB 558074 D01 15.247 Meas Guidance v05r02, 6, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below;
Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.

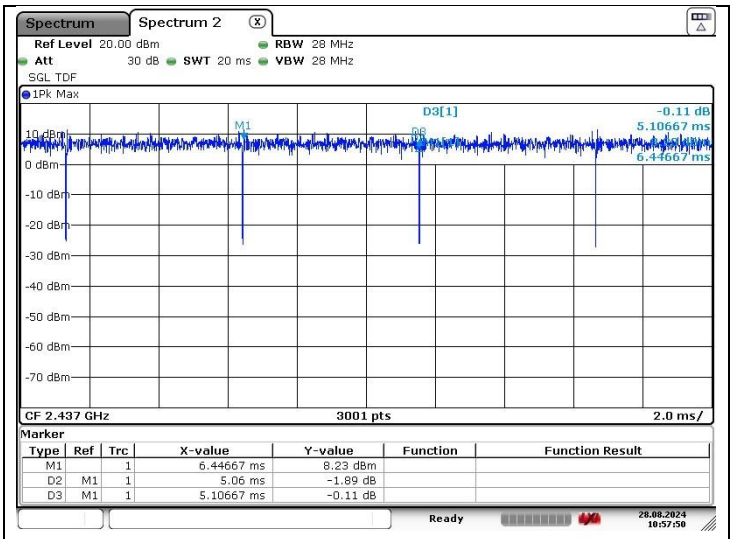
Mode	Data Rate	Tone	Duty Cycle (%)	Correction Factor (dB)
11ax_HE20	MCS0	26T	99.09	-
		52T	99.22	-
		106T	99.16	-
		242T	99.01	-
		SU	99.27	-
11ax_HE40	MCS0	26T	99.35	-
		52T	99.48	-
		106T	99.31	-
		242T	99.29	-
		484T	99.29	
		SU	99.27	-

Remark;

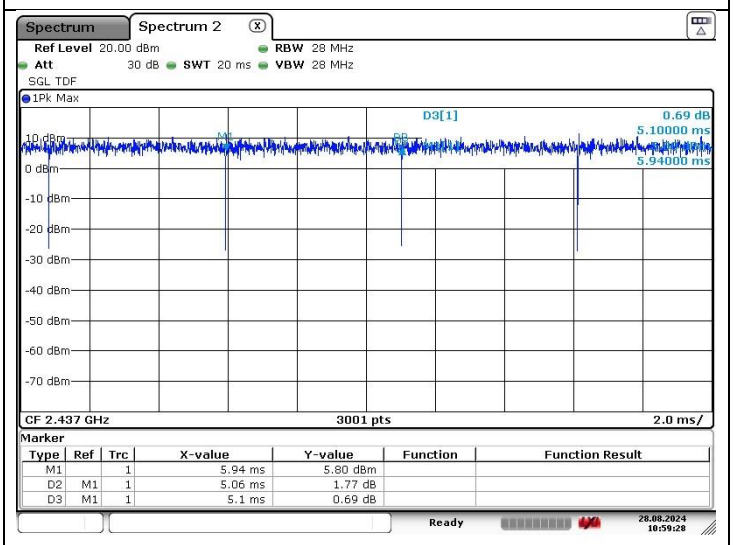
1. As measured duty cycles of EUT, all of mode and data rate keeps constant period and are converted to log scale (power averaging) to compensate correction factor to result of average test items.
2. Duty Cycle (%) = (Tx on time / Tx on + off time) x 100
3. Correction Factor (dB) = 10 log (1 / Duty Cycle)

- Test plots

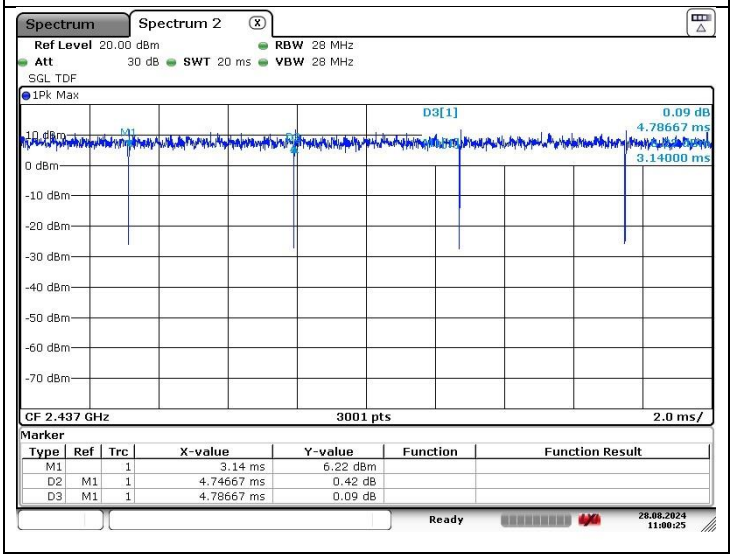
11ax_HE20 26T



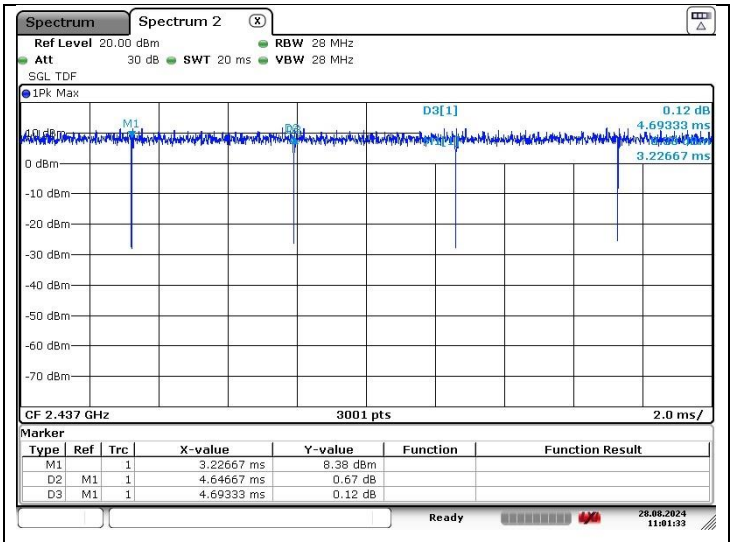
11ax_HE20 52T



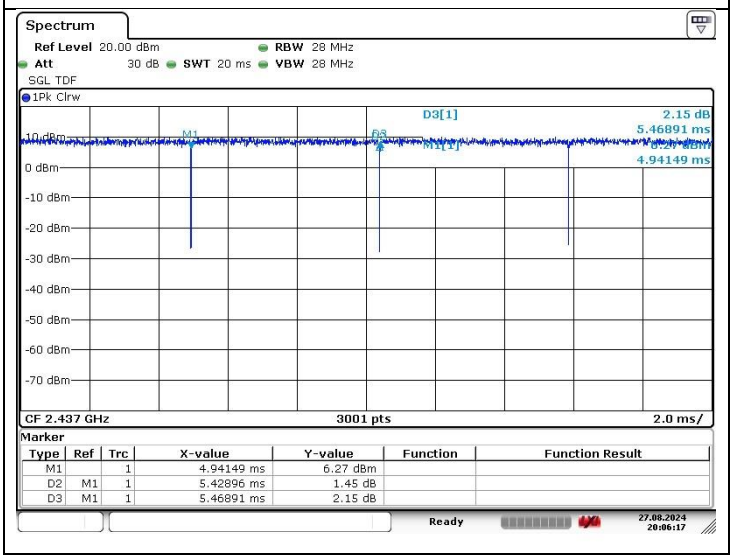
11ax_HE20 106T



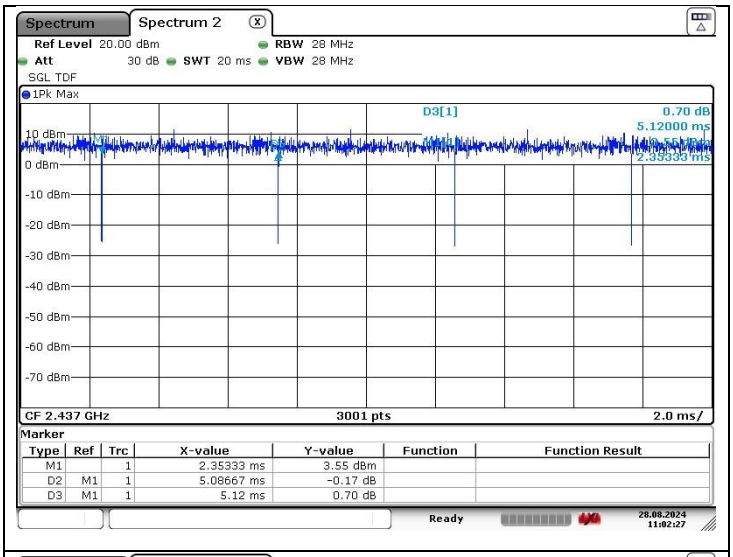
11ax_HE20 242T



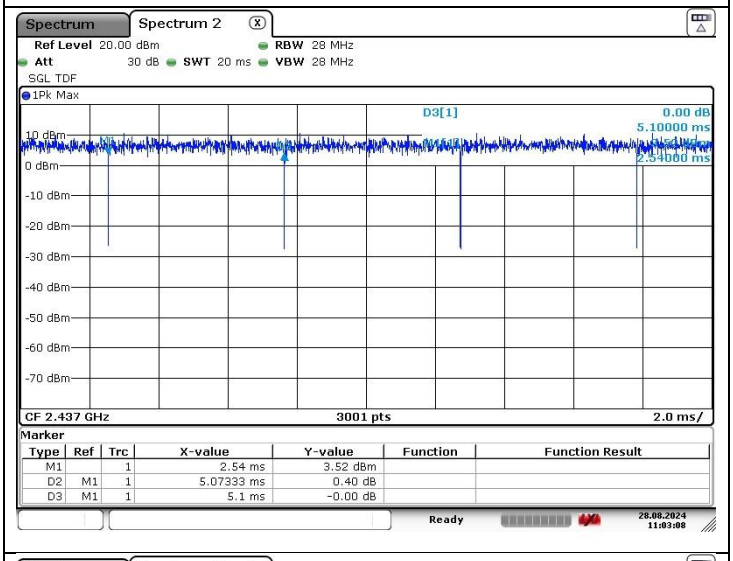
11ax_HE20 SU



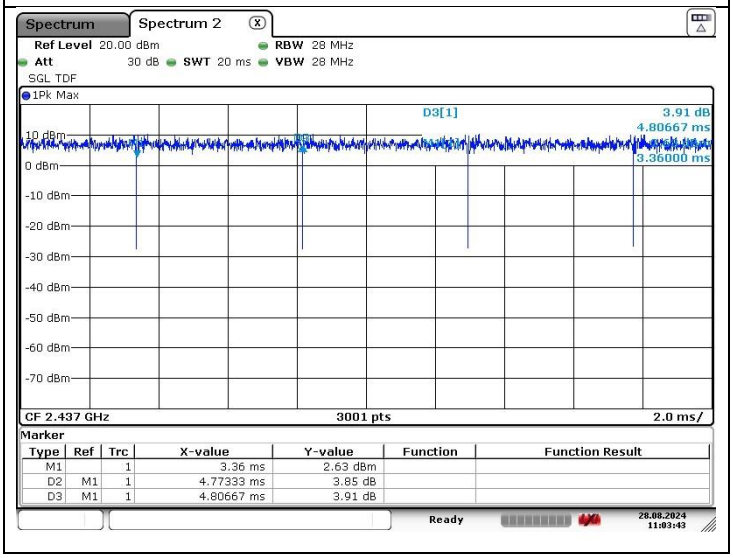
11ax_HE40 26T



11ax_HE40 52T



11ax_HE40 106T



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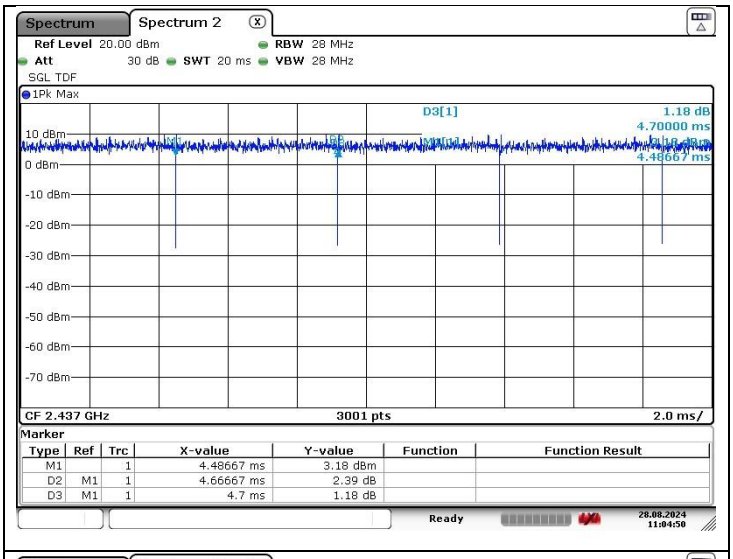
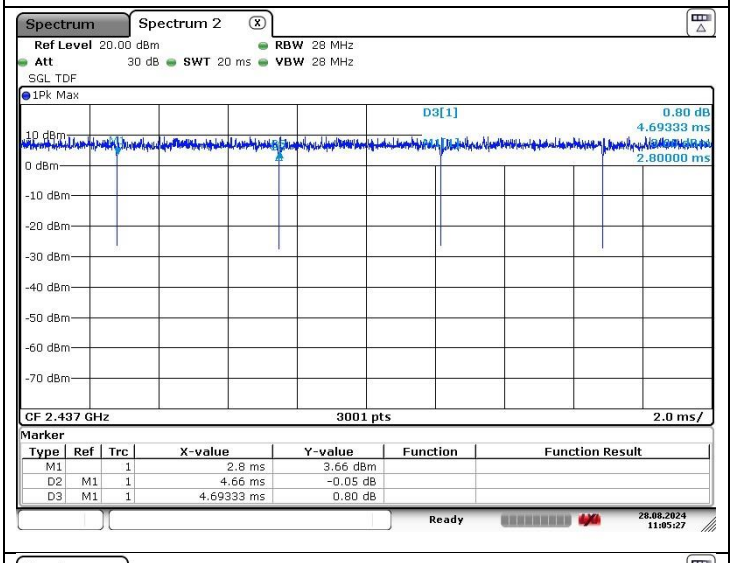
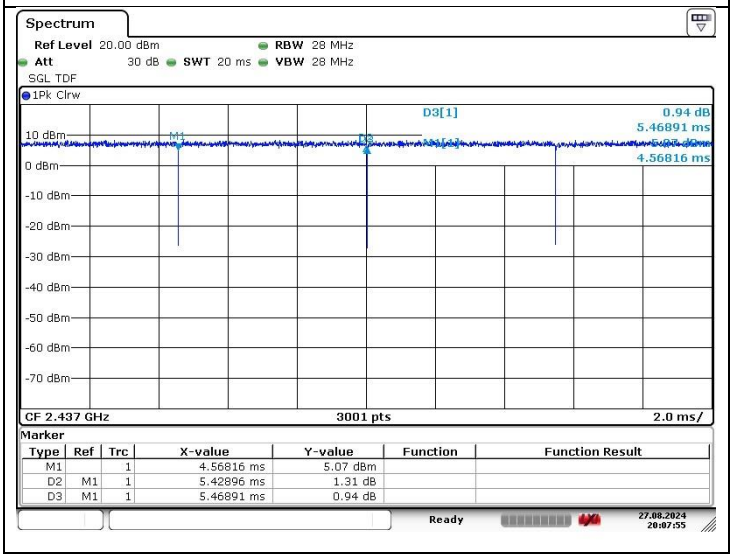


11ax_HE40 484T



11ax_HE40 SU

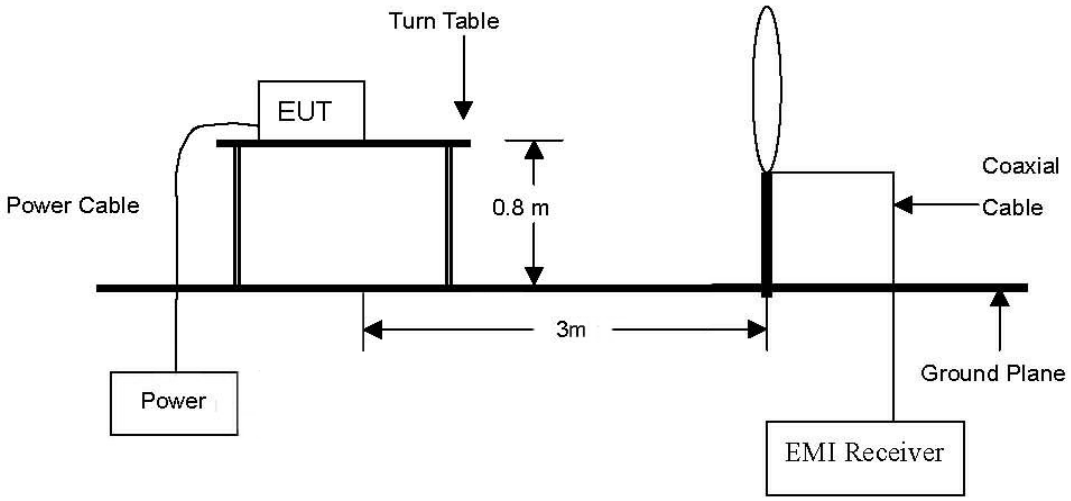


2. Transmitter Radiated Spurious Emissions and Conducted Spurious Emissions

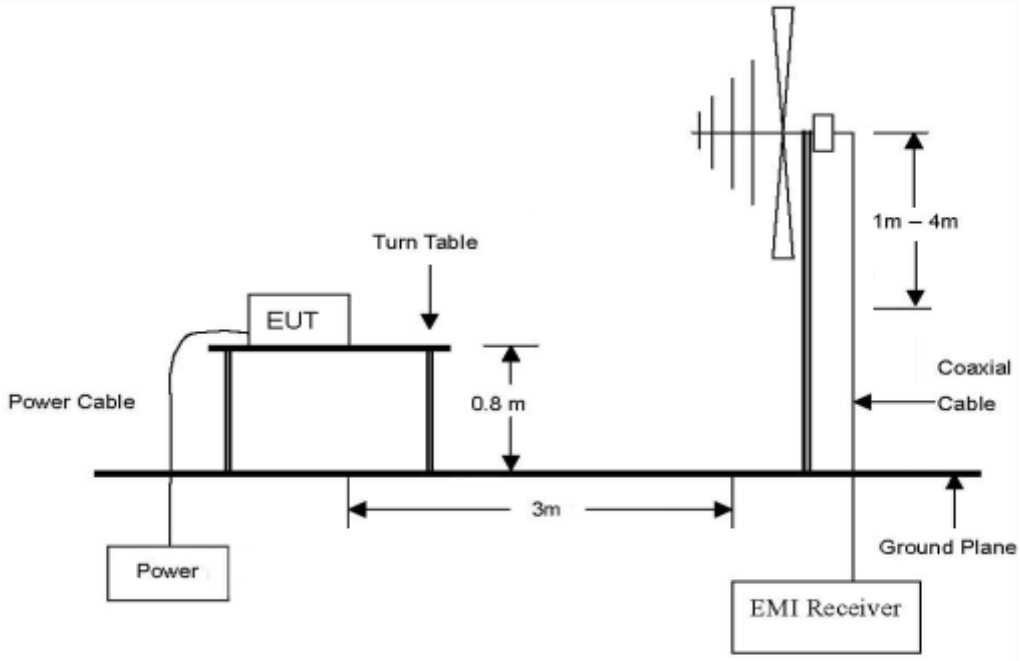
2.1. Test Setup

2.1.1. Transmitter Radiated Spurious Emissions

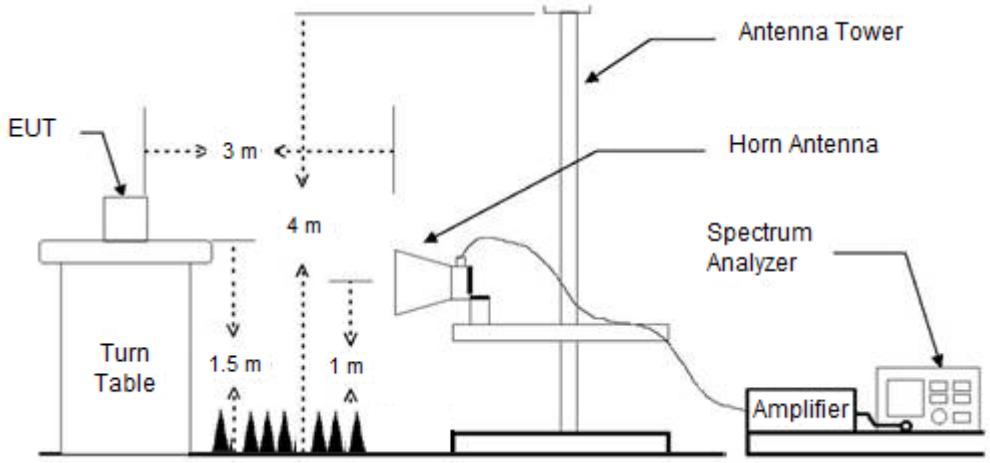
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission .The spurious emissions were investigated form 1 ㎓ to the 10th harmonic of the highest fundamental frequency or 40 ㎓, whichever is lower.



2.1.2. Conducted Spurious Emissions

2.2. Limit

2.2.1. FCC

According to §15.247(d), in any 100 ㎑ bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 ㏈ below that in the 100 ㎑ bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 ㏈ instead of 20 ㏈. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emission which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (㎒)	Field Strength (㎶/m)	Measurement Distance (Meters)
0.009-0.490	2 400/F(㎑)	300
0.490-1.705	24 000/F(㎑)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

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

2.2.2. IC

According to RSS-247 Issue 3, 5.5, in any 100 ㎑ bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 ㏈ below that in the 100 ㎑ bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 ㏈ instead of 20 ㏈. Attenuation below the general field strength limits specified in RSS-Gen is not required.

According to RSS-Gen Issue 5, 8.9, except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 – General Field Strength Limits at frequencies above 30 ㎒

Frequency (㎒)	Field Strength (㎶/m at 3 m)
30-88	100
88-216	150
216-960	200
Above 960	500

Table 6 – General Field Strength Limits at frequencies below 30 ㎒

Frequency	Magnetic Field Strength (H-Field) (㎂/m)	Measurement Distance (meters)
9-490 ㎑ [1]	6.37/F (F in ㎑)	300
490-1 705 ㎑	63.7/F (F in ㎑)	30
1.705-30 ㎒	0.08	30

Note[1]: The emission limits for the ranges 9-90 ㎑ and 110-490 ㎑ are based on measurements employing a linear average detector.

2.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates in section 11.11 & 11.12 of ANSI C63.10-2013.

2.3.1. Test Procedures for emission below 30 ㎒

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

2.3.2. Test Procedures for emission from above 30 ㎒

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site below 1 ㎓ and 1.5 meters above the ground at a 3 meter anechoic chamber test site above 1 ㎓. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 ㎓, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 ㎓, the EUT was set 3 meter away from the interference-receiving antenna.
3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. For measurements below 1 ㎓ resolution bandwidth is set to 100 ㎑ for peak detection measurements or 120 ㎑ for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.
6. For measurements Above 1 ㎓ resolution bandwidth is set to 1 ㎒, the video bandwidth is set to 3 ㎒ for peak measurements and as applicable for average measurements.

1. Unwanted Emissions into Non-Restricted Frequency Bands

- The Reference Level Measurement refer to section 11.11.2
Set analyzer center frequency to DTS channel center frequency, SPAN ≥ 1.5 times the DTS bandwidth, the RBW = 100 ㎑ and VBW ≥ 3 x RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

- Unwanted Emissions Level Measurement refer to section 11.11.3
Set the center frequency and span to encompass frequency range to be measured, the RBW = 100 ㎑ and VBW ≥ 3 x RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

2. Unwanted Emissions into Restricted Frequency Bands

- Peak Power measurement procedure refer to section 11.12.2.4
Set RBW = as specified in Table 9, VBW ≥ 3 x RBW, Detector = Peak, Sweep time = auto, Trace = Max hold.

Table 9 – RBW as a function of frequency

Frequency	RBW
9 ㎑ to 150 ㎑	200 ㎐ to 300 ㎐
0.15 ㎒ to 30 ㎒	9 ㎑ to 10 ㎑
30 ㎒ to 1 000 ㎒	100 ㎑ to 120 ㎑
> 1 000 ㎒	1 ㎒

If the peak – detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

- Average Power measurements procedure refer to section 11.12.2.5.2
The EUT shall be configured to operate at the maximum achievable duty cycle.
Measure the duty cycle D of the transmitter output signal as described in section 11.6.
Set RBW = 1 ㎒, VBW ≥ 3 x RBW, Detector = RMS, if span / (# of points in sweep) ≤ (RBW/2).
Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).
As an alternative the detector and averaging type may be set for linear voltage averaging.
Some instruments require linear display mode in order to use linear voltage averaging. Log or ㏈ averaging shall not be used. Sweep time = auto, Perform a trace average of at least 100 traces.

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
1) If power averaging (rms) mode was used in step f), then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.
2) If a specific emission is demonstrated to be continuous (D ≥ 98%) rather than turning ON and OFF with the transmit cycle, then no duty cycled correction is required for that emission.

3. Definition of DUT Axis.

The radiation test of the EUT was investigated in three orthogonal orientations X, Y, and Z described in the test setup photo. All radiated testing of EUT was performed with worst case axis.

2.3.3. Test Procedures for Conducted Spurious Emissions

Per the guidance of ANSI C63.10-2013, section 11.11.1 & 11.11.2 & 11.11.3, the reference level for out of band emissions is established from the plots of this section since the band edge emissions are measured with a RBW of 100 ㎑. This reference level is then used as the limit in subsequent plots for out of band spurious emissions shown in section 2.4.3. The limit for out of band spurious emission at the band edge is 20 ㏈ below the fundamental emission level measured in a 100 ㎑ bandwidth.

1. Conducted Emissions at Band Edge
 - The Measurement refer to section 11.11.3
   Set the center frequency and span to encompass frequency range to be measured, the RBW = 100 ㎑ and VBW ≥ 3 x RBW, Detector = Peak, Sweep time = Auto couple, Trace mode = Max hold, The trace was allowed to stabilize.

2. Conducted Spurious Emissions
 - The Measurement refer to section 11.11.3
   Start frequency was set to 9 ㎑ and stop frequency was set to 25 ㎓ (separated into two plots per channel), RBW = 1 ㎒, VBW ≥ 3 x RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold, The trace was allowed to stabilize.

3. TDF function
 - For plots showing conducted spurious emissions from 9 ㎑ to 25 ㎓, all path loss of wide frequency range was investigated and compensated to spectrum analyzer as TDF function.
   So, the reading values shown in plots were final result.

4. Multiple outputs of a transmitter of form multiple transmitters
 - According to KDB 662911 D01 Multiple Transmitter Output v02r01, when testing out-of-band and spurious emissions against relative emission limits, test may be performed on each output individually without summing or adding 10 log (N_{ANT}) if the measurements are made relative to the in-band emissions on the individual outputs.

2.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

2.4.1. Radiated Spurious Emission below 1 000 ㎒

The frequency spectrum from 9 ㎑ to 1 000 ㎒ was investigated. All reading values are peak values.

- MIMO(CDD)

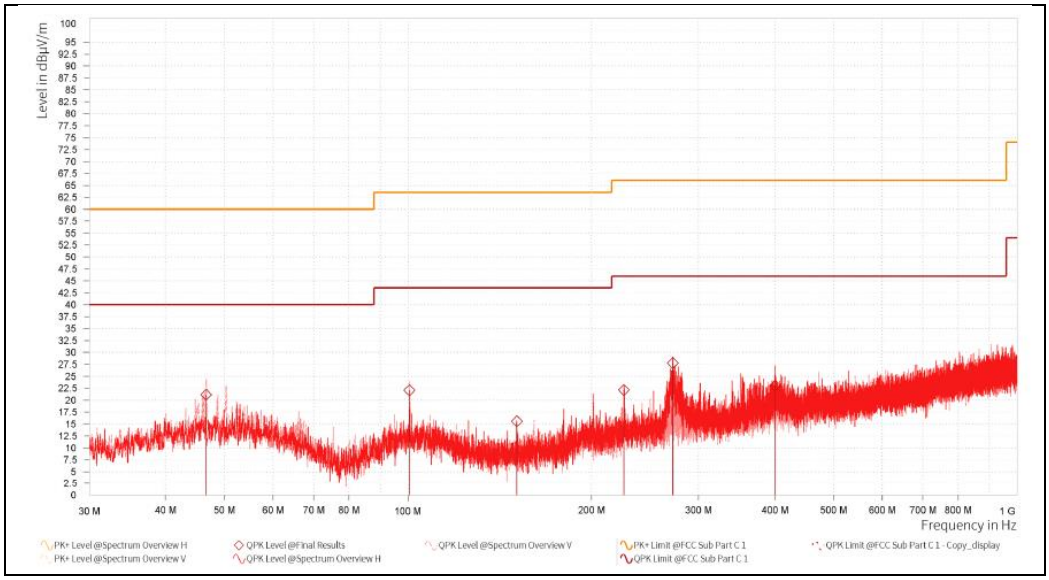
Ant. 1 + Ant. 2

Radiated Emissions			Ant	Correction (dB/m)	Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.		Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
46.65	28.37	Quasi Peak	V	-7.22	21.15	40.00	18.85
272.21	34.66	Quasi Peak	H	-6.95	27.71	46.00	18.29
Above 300.00	Not detected	-	-	-	-	-	-

Remark;

1. Spurious emissions for all channels and modes were investigated and almost the same below 1 ㎓.
2. Test from 30 ㎒ to 1 000 ㎒ was performed using the software of Electra(V5.02) from Rohde & Schwarz GmbH & Co. KG.
3. Reported spurious emissions are in **11ax_HE20 52T / MCS0 / High channel** as worst case among other modes.
4. Radiated spurious emission measurement as below.
   (Actual = Reading + Correction)
   (Correction = Antenna Factor + AMP Factor + Cable Loss)
5. According to §15.31(o), emission levels are not report much lower than the limits by over 20 ㏈.

- Test plot



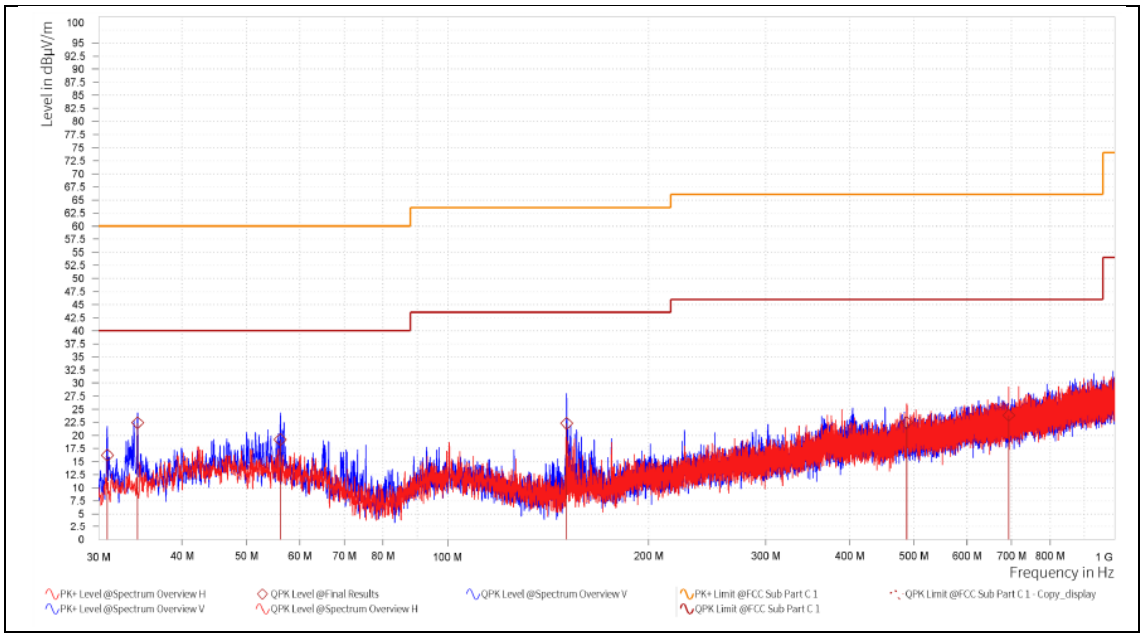
Ant. 1 + Ant. 3

Radiated Emissions			Ant	Correction (dB/m)	Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.		Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
34.33	32.84	Quasi Peak	V	-10.47	22.37	40.00	17.63
Above 100.00	Not detected	-	-	-	-	-	-

Remark;

1. Spurious emissions for all channels and modes were investigated and almost the same below 1 ㎓.
2. Test from 30 ㎒ to 1 000 ㎒ was performed using the software of Electra(V5.02) from Rohde & Schwarz GmbH & Co. KG.
3. Reported spurious emissions are in **11ax_HE20 52T / MCS0 / High channel** as worst case among other modes.
4. Radiated spurious emission measurement as below.
   (Actual = Reading + Correction)
   (Correction = Antenna Factor + AMP Factor + Cable Loss)
5. According to §15.31(o), emission levels are not report much lower than the limits by over 20 ㏈.

- Test plot



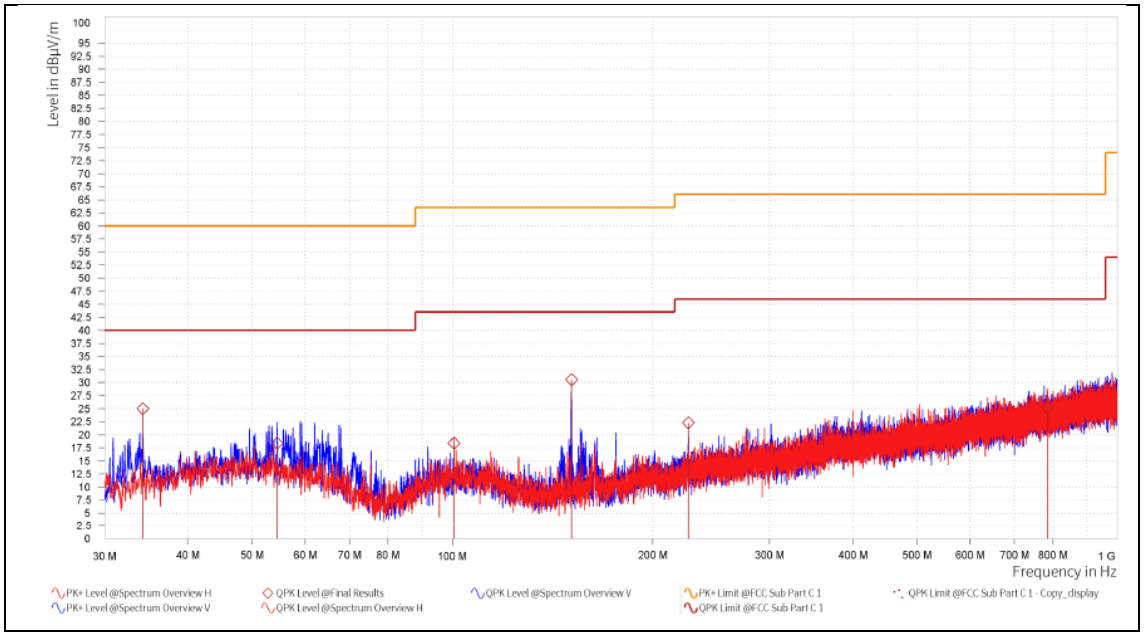
Ant. 1 + Ant. 4

Radiated Emissions			Ant	Correction (dB/m)	Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.		Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
34.24	35.49	Quasi Peak	V	-10.51	24.98	40.00	15.02
151.06	42.98	Quasi Peak	V	-12.42	30.56	43.50	12.94
Above 200.00	Not detected	-	-	-	-	-	-

Remark;

1. Spurious emissions for all channels and modes were investigated and almost the same below 1 ㎓.
2. Test from 30 ㎒ to 1 000 ㎒ was performed using the software of Electra(V5.02) from Rohde & Schwarz GmbH & Co. KG.
3. Reported spurious emissions are in **11ax_HE20 52T / MCS0 / High channel** as worst case among other modes.
4. Radiated spurious emission measurement as below.
   (Actual = Reading + Correction)
   (Correction = Antenna Factor + AMP Factor + Cable Loss)
5. According to §15.31(o), emission levels are not report much lower than the limits by over 20 ㏈.

- Test plot



2.4.2. Radiated Spurious Emission above 1 000 ㎒

The frequency spectrum above 1 000 ㎒ was investigated. All reading values are peak and average values.

MIMO

Ant. 1 + Ant. 2

11ax_HE20_26T

Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.94	Peak	H	27.96	6.01	51.91	74.00	22.09
*2 310.00	8.07	Average	H	27.96	6.01	42.04	54.00	11.96
*2 358.40	20.53	Peak	H	28.18	6.07	54.78	74.00	19.22
*2 387.15	9.00	Average	H	28.13	6.11	43.24	54.00	10.76
*2 390.00	18.34	Peak	H	28.12	6.12	52.58	74.00	21.42
*2 390.00	7.53	Average	H	28.12	6.12	41.77	54.00	12.23

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	19.66	Peak	H	28.33	6.24	54.23	74.00	19.77
*2 483.50	8.39	Average	H	28.33	6.24	42.96	54.00	11.04
*2 486.42	19.91	Peak	H	28.35	6.24	54.50	74.00	19.50
*2 484.86	9.23	Average	H	28.34	6.24	**43.81**	54.00	10.19
*2 500.00	17.39	Peak	H	28.40	6.26	52.05	74.00	21.95
*2 500.00	9.09	Average	H	28.40	6.26	43.75	54.00	10.25

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

11ax_HE20_SU

Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	16.94	Peak	H	27.96	6.01	50.91	74.00	23.09
*2 310.00	8.27	Average	H	27.96	6.01	42.24	54.00	11.76
*2 379.53	19.81	Peak	H	28.14	6.10	54.05	74.00	19.95
*2 389.28	8.69	Average	H	28.12	6.12	42.93	54.00	11.07
*2 390.00	17.41	Peak	H	28.12	6.12	51.65	74.00	22.35
*2 390.00	8.65	Average	H	28.12	6.12	42.89	54.00	11.11

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.00	Peak	H	28.33	6.24	52.57	74.00	21.43
*2 483.50	8.02	Average	H	28.33	6.24	42.59	54.00	11.41
*2 483.96	19.83	Peak	H	28.34	6.24	54.41	74.00	19.59
*2 484.38	9.03	Average	H	28.34	6.24	**43.61**	54.00	10.39
*2 500.00	17.88	Peak	H	28.40	6.26	52.54	74.00	21.46
*2 500.00	8.51	Average	H	28.40	6.26	43.17	54.00	10.83

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

11ax_HE40_26T

Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	18.71	Peak	H	27.96	6.01	52.68	74.00	21.32
*2 310.00	7.80	Average	H	27.96	6.01	41.77	54.00	12.23
*2 367.39	19.87	Peak	H	28.17	6.09	54.13	74.00	19.87
*2 389.58	8.85	Average	H	28.12	6.12	43.09	54.00	10.91
*2 390.00	18.89	Peak	H	28.12	6.12	53.13	74.00	20.87
*2 390.00	8.60	Average	H	28.12	6.12	42.84	54.00	11.16

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.74	Peak	H	28.33	6.24	53.31	74.00	20.69
*2 483.50	8.37	Average	H	28.33	6.24	42.94	54.00	11.06
*2 484.02	22.99	Peak	H	28.34	6.24	57.57	74.00	16.43
*2 484.66	8.88	Average	H	28.34	6.24	**43.46**	54.00	10.54
*2 500.00	18.51	Peak	H	28.40	6.26	53.17	74.00	20.83
*2 500.00	8.24	Average	H	28.40	6.26	42.90	54.00	11.10

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

11ax_HE40_SU

Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	18.39	Peak	H	27.96	6.01	52.36	74.00	21.64
*2 310.00	7.45	Average	H	27.96	6.01	41.42	54.00	12.58
*2 343.47	20.62	Peak	H	28.16	6.05	54.83	74.00	19.17
*2 389.43	8.96	Average	H	28.12	6.12	43.20	54.00	10.80
*2 390.00	18.18	Peak	H	28.12	6.12	52.42	74.00	21.58
*2 390.00	8.95	Average	H	28.12	6.12	43.19	54.00	10.81

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	17.92	Peak	H	28.33	6.24	52.49	74.00	21.51
*2 483.50	8.65	Average	H	28.33	6.24	43.22	54.00	10.78
*2 496.18	20.64	Peak	H	28.38	6.25	55.27	74.00	18.73
*2 486.18	9.24	Average	H	28.34	6.24	**43.82**	54.00	10.18
*2 500.00	18.03	Peak	H	28.40	6.26	52.69	74.00	21.31
*2 500.00	8.38	Average	H	28.40	6.26	43.04	54.00	10.96

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Ant. 1 + Ant. 3

11ax_HE20_26T

Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.51	Peak	H	27.96	6.01	51.48	74.00	22.52
*2 310.00	7.20	Average	H	27.96	6.01	41.17	54.00	12.83
*2 338.86	20.24	Peak	H	28.13	6.05	54.42	74.00	19.58
*2 389.11	8.88	Average	H	28.12	6.12	43.12	54.00	10.88
*2 390.00	20.18	Peak	H	28.12	6.12	54.42	74.00	19.58
*2 390.00	8.63	Average	H	28.12	6.12	42.87	54.00	11.13

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.84	Peak	H	28.33	6.24	53.41	74.00	20.59
*2 483.50	8.17	Average	H	28.33	6.24	42.74	54.00	11.26
*2 498.38	20.82	Peak	H	28.39	6.26	55.47	74.00	18.53
*2 494.46	9.00	Average	H	28.38	6.25	**43.63**	54.00	10.37
*2 500.00	17.58	Peak	H	28.40	6.26	52.24	74.00	21.76
*2 500.00	8.53	Average	H	28.40	6.26	43.19	54.00	10.81

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

11ax_HE20_SU

Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.88	Peak	H	27.96	6.01	51.85	74.00	22.15
*2 310.00	7.56	Average	H	27.96	6.01	41.53	54.00	12.47
*2 375.23	19.75	Peak	H	28.15	6.10	54.00	74.00	20.00
*2 389.73	8.95	Average	H	28.12	6.12	**43.19**	54.00	10.81
*2 390.00	19.42	Peak	H	28.12	6.12	53.66	74.00	20.34
*2 390.00	8.52	Average	H	28.12	6.12	42.76	54.00	11.24

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.39	Peak	H	28.33	6.24	52.96	74.00	21.04
*2 483.50	8.23	Average	H	28.33	6.24	42.80	54.00	11.20
*2 493.48	19.59	Peak	H	28.37	6.25	54.21	74.00	19.79
*2 493.62	8.48	Average	H	28.37	6.25	43.10	54.00	10.90
*2 500.00	18.65	Peak	H	28.40	6.26	53.31	74.00	20.69
*2 500.00	7.72	Average	H	28.40	6.26	42.38	54.00	11.62

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.39	Peak	H	27.96	6.01	51.36	74.00	22.64
*2 310.00	7.90	Average	H	27.96	6.01	41.87	54.00	12.13
*2 368.73	20.35	Peak	H	28.16	6.09	54.60	74.00	19.40
*2 389.75	8.66	Average	H	28.12	6.12	42.90	54.00	11.10
*2 390.00	17.24	Peak	H	28.12	6.12	51.48	74.00	22.52
*2 390.00	8.15	Average	H	28.12	6.12	42.39	54.00	11.61

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	17.92	Peak	H	28.33	6.24	52.49	74.00	21.51
*2 483.50	7.92	Average	H	28.33	6.24	42.49	54.00	11.51
*2 492.53	19.82	Peak	H	28.37	6.25	54.44	74.00	19.56
*2 494.78	8.84	Average	H	28.38	6.25	**43.47**	54.00	10.53
*2 500.00	18.46	Peak	H	28.40	6.26	53.12	74.00	20.88
*2 500.00	8.35	Average	H	28.40	6.26	43.01	54.00	10.99

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.08	Peak	H	27.96	6.01	51.05	74.00	22.95
*2 310.00	8.15	Average	H	27.96	6.01	42.12	54.00	11.88
*2 384.53	20.75	Peak	H	28.13	6.11	54.99	74.00	19.01
*2 388.59	8.51	Average	H	28.12	6.12	42.75	54.00	11.25
*2 390.00	17.86	Peak	H	28.12	6.12	52.10	74.00	21.90
*2 390.00	8.43	Average	H	28.12	6.12	42.67	54.00	11.33

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.88	Peak	H	28.33	6.24	53.45	74.00	20.55
*2 483.50	8.72	Average	H	28.33	6.24	43.29	54.00	10.71
*2 494.87	19.88	Peak	H	28.38	6.25	54.51	74.00	19.49
*2 499.19	9.15	Average	H	28.40	6.26	**43.81**	54.00	10.19
*2 500.00	17.85	Peak	H	28.40	6.26	52.51	74.00	21.49
*2 500.00	8.59	Average	H	28.40	6.26	43.25	54.00	10.75

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	18.54	Peak	H	27.96	6.01	52.51	74.00	21.49
*2 310.00	7.72	Average	H	27.96	6.01	41.69	54.00	12.31
*2 370.23	20.03	Peak	H	28.16	6.09	54.28	74.00	19.72
*2 387.67	9.16	Average	H	28.12	6.11	43.39	54.00	10.61
*2 390.00	18.27	Peak	H	28.12	6.12	52.51	74.00	21.49
*2 390.00	8.29	Average	H	28.12	6.12	42.53	54.00	11.47

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.86	Peak	H	28.33	6.24	53.43	74.00	20.57
*2 483.50	8.72	Average	H	28.33	6.24	43.29	54.00	10.71
*2 494.62	20.26	Peak	H	28.38	6.25	54.89	74.00	19.11
*2 484.26	9.14	Average	H	28.34	6.24	**43.72**	54.00	10.28
*2 500.00	19.35	Peak	H	28.40	6.26	54.01	74.00	19.99
*2 500.00	8.56	Average	H	28.40	6.26	43.22	54.00	10.78

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 412 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	17.12	Peak	H	27.96	6.01	51.09	74.00	22.91
*2 310.00	7.95	Average	H	27.96	6.01	41.92	54.00	12.08
*2 353.15	20.25	Peak	H	28.19	6.07	54.51	74.00	19.49
*2 386.70	9.04	Average	H	28.13	6.11	43.28	54.00	10.72
*2 390.00	18.70	Peak	H	28.12	6.12	52.94	74.00	21.06
*2 390.00	8.84	Average	H	28.12	6.12	43.08	54.00	10.92

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 462 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	18.31	Peak	H	28.33	6.24	52.88	74.00	21.12
*2 483.50	7.92	Average	H	28.33	6.24	42.49	54.00	11.51
*2 487.41	20.18	Peak	H	28.35	6.24	54.77	74.00	19.23
*2 484.05	9.03	Average	H	28.34	6.24	**43.61**	54.00	10.39
*2 500.00	17.72	Peak	H	28.40	6.26	52.38	74.00	21.62
*2 500.00	7.84	Average	H	28.40	6.26	42.50	54.00	11.50

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	18.52	Peak	H	27.96	6.01	52.49	74.00	21.51
*2 310.00	8.35	Average	H	27.96	6.01	42.32	54.00	11.68
*2 386.84	20.37	Peak	H	28.13	6.11	54.61	74.00	19.39
*2 386.13	8.74	Average	H	28.13	6.11	42.98	54.00	11.02
*2 390.00	21.45	Peak	H	28.12	6.12	55.69	74.00	18.31
*2 390.00	8.32	Average	H	28.12	6.12	42.56	54.00	11.44

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	17.80	Peak	H	28.33	6.24	52.37	74.00	21.63
*2 483.50	8.57	Average	H	28.33	6.24	43.14	54.00	10.86
*2 490.03	19.94	Peak	H	28.36	6.25	54.55	74.00	19.45
*2 483.82	9.23	Average	H	28.34	6.24	**43.81**	54.00	10.19
*2 500.00	17.42	Peak	H	28.40	6.26	52.08	74.00	21.92
*2 500.00	8.40	Average	H	28.40	6.26	43.06	54.00	10.94

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

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Low Channel (2 422 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 310.00	18.46	Peak	H	27.96	6.01	52.43	74.00	21.57
*2 310.00	7.87	Average	H	27.96	6.01	41.84	54.00	12.16
*2 343.96	21.68	Peak	H	28.16	6.06	55.90	74.00	18.10
*2 387.41	9.01	Average	H	28.13	6.11	43.25	54.00	10.75
*2 390.00	18.76	Peak	H	28.12	6.12	53.00	74.00	21.00
*2 390.00	8.44	Average	H	28.12	6.12	42.68	54.00	11.32

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Middle Channel (2 437 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

High Channel (2 452 ㎒)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
*2 483.50	17.42	Peak	H	28.33	6.24	51.99	74.00	22.01
*2 483.50	8.47	Average	H	28.33	6.24	43.04	54.00	10.96
*2 498.85	19.53	Peak	H	28.40	6.26	54.19	74.00	19.81
*2 498.40	8.98	Average	H	28.39	6.26	**43.63**	54.00	10.37
*2 500.00	17.59	Peak	H	28.40	6.26	52.25	74.00	21.75
*2 500.00	8.34	Average	H	28.40	6.26	43.00	54.00	11.00

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-

Remarks;

1. "*" means the restricted band.
2. Measuring frequencies from 1 ㎓ to the 10th harmonic of highest fundamental frequency.
3. Radiated emissions measured in frequency above 1 000 ㎒ were made with an instrument using peak/average detector mode.
4. Actual = Reading + AF + CL or Reading + AF + AMP + CL.
5. According to § 15.31(o), emission levels are not reported much lower than the limits by over 20 ㏈.
6. The maximized peak measured value complies with the average limit, to perform an average measurement is unnecessary.