

TEST REPORT

FCC DTS Test for ETWMCBSL01
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2605-FC019

DATE OF ISSUE
July 20, 2026

Tested by
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Accredited by KOLAS, Republic of KOREA

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Applicant

LG Electronics Inc.

128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea

Product Name

RF Module

Model Name

ETWMCBSL01

FCC ID

2B03LETWMCBSL01

Date of Test

April 06, 2026 ~ July 20, 2026

FCC Classification

Digital Transmission System(DTS)

Test Standard Used

FCC Rule Part(s): Part 15.247

Test Results

PASS

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing Lab

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

Brand

LG

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 20, 2026	Initial Release

Notice

Content

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

This test report provides test result(s) under the scope accredited by the Korea Laboratory

Accreditation Scheme (KOLAS), which signed the ILAC-MRA.

(KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

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1. EUT DESCRIPTION

Model	ETWMCBSL01		
EUT Type	RF Module		
Power Supply	DC 3.30 V		
Frequency Range	2 412 MHz ~ 2 462 MHz		
Max. RF Output Power	<u>Average Power</u>	SISO (Ant.1) :	19.80 dBm
		SISO (Ant.2) :	20.45 dBm
		MIMO_CDD (Ant.1+ Ant.2) :	19.21 dBm
	<u>Peak Power</u>	SISO (Ant.1) :	25.54 dBm
		SISO (Ant.2) :	26.93 dBm
		MIMO_CDD (Ant.1+ Ant.2) :	27.62 dBm
Modulation Type	DSSS/CCK : 802.11b OFDM : 802.11g, 802.11n(HT20)		
Number of Channels	11 Channels		
Antenna Information	Please refer to the Antenna Specification document.		
Serial number	Conducted : ETWMCBSL01-03 Radiated : ETWMCBSL01-02		
Factory	LG INNOTEK Vietnam HAIPHONG COMPAY LIMITED Lot I-4, Trang Due Industrial Park, a part of Dinh Vu - Cat Hai Economic Zone, Hong Phong Commune, An Duong district, Hai Phong City, Vietnam		

Grant Notes :

1. Output Power listed is conducted(Peak)

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		MIMO	
	Ant1	Ant2	CDD	SDM
802.11b	O	O	X	X
802.11g	O	O	X	X
802.11n(HT20)	O	O	O	O

Note:

- (1) O = Support, X = Not Support
- (2) SISO = Single Input Single Output
- (3) SDM = Spatial Diversity Multiplexing
- (4) CDD = Cyclic Delay Diversity

2.This device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the 2.4 GHz and 5 GHz Bands simultaneously on each antenna.

Simultaneous transmission Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	BLE	Thread	Test Case
5 GHz WiFi MIMO + BLE	-	-	on	on	on		Scenario 1
5 GHz WiFi Ant1 + BLE	-	-	on	-	on		-
5 GHz WiFi Ant2 + BLE	-	-	-	on	on		-
5 GHz WiFi MIMO + Thread	-	-	on	on		on	Scenario 2
5 GHz WiFi Ant1 + Thread	-	-	on	-		on	-
5 GHz WiFi Ant2 + Thread	-	-	-	on		on	-

3. Directional Gain Calculation

According to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) e) (iii), f) ii)

$$\text{Directional Gain(CDD)} = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT} / N_{SS})$$

Ant Gain (dBi)		N _{ANT} / N _{SS}	Directional Gain (dBi)	
			CDD	SDM
ANT.1	1.00	2/2	3.96	1.00
ANT.2	0.90			

Note

According to ANSI C63.10-2020 section 14.6.3, the directional gain is calculated using the formula, where G_N is the gain of the nth antenna and N_{ANT} is the total number of antennas used.

$$\text{Directional gain(CDD)} = 10 \cdot \log \left(\left(10^{(\text{ANT.0 Gain}/20)} + 10^{(\text{ANT.1 Gain}/20)} \right)^2 / 2 \right) \text{ dBi}$$

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \log(N_{ANT} / N_{SS})$$

Sample MIMO Calculation:

Ex) ANT.1 : 11.58 dBm ANT.2 : 12.08 dBm

$$\text{MIMO} = \text{ANT.1} + \text{ANT.2}$$

$$(11.58 \text{ dBm} + 12.08 \text{ dBm}) = (14.387 \text{ mW} + 16.143 \text{ mW}) = 30.53 \text{ mW} = 14.88 \text{ dBm}$$

2. TEST METHODOLOGY

Unlicensed wireless device were tested using the following measurement procedure.

[1] KDB 558074 D01 15.247 Meas Guidance v05r02

[2] ANSI C63.10-2020 + Cor. 1-2023

Note : Here in after, ANSI C63.10-2020 + Cor. 1-2023 will be referred to as ANSI C63.10-2020

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10-2020. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

According to the requirements in Section 6.3 ~ Section 6.6 of ANSI C63.10-2020.

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes.

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. The site is constructed in conformance with the requirements of ANSI C63.4-2014 and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated February 26, 2026 (**Registration Number: KR0032**).

EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR § 15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020.

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

The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, $k=2$)

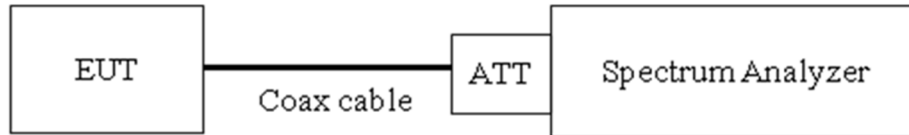
Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.96 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.73 (Confidence level about 95 %, $k=2$)
Power Spectral Density	0.98 (Confidence level about 95 %, $k=2$)
Band Edge (Out of Band Emissions)	1.11 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.54 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.80 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.86 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.44 (Confidence level about 95 %, $k=2$)

7. DESCRIPTION OF TESTS

Test Item	Test Procedure
Duty Cycle	- ANSI C63.10-2020 – Section 11.6
6 dB Bandwidth	- ANSI C63.10-2020 – Section 11.8
Output Power	- ANSI C63.10-2020 – Section 11.9.1.2(Peak) & 11.9.2.3(Avg)
Power Spectral Density	- ANSI C63.10-2020 – Section 11.10
Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions	- ANSI C63.10-2020– Section 11.11
Radiated Test	- ANSI C63.10-2020 – Section 6.4 (Below 30 MHz) - ANSI C63.10-2020 – Section 6.5 (30 MHz to 1000 MHz) - ANSI C63.10-2020 – Section 6.6 (1 GHz to 40 GHz) - ANSI C63.10-2020 – Section 6.10 & 11.12 (Restricted frequency bands)
AC Power line Conducted Emissions	- ANSI C63.10-2020– Section 6.2

7.1. Duty Cycle

Test Configuration



Test Procedure

We tested according to the zero-span measurement method.

The largest available value of RBW is 8 MHz and VBW is 50 MHz.

The zero-span method of measuring duty cycle shall not be used if $T \leq 6.25$ microseconds. ($50/6.25 = 8$)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are $> 50/T$.

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

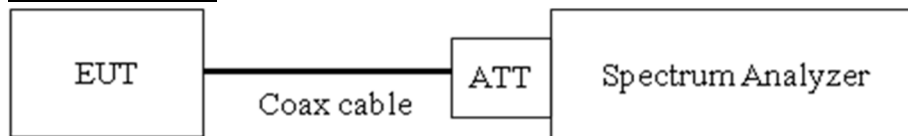
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz or 50 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = $T_{\text{on}} / T_{\text{total}}$ and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$

7.2. 6 dB Bandwidth

Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

- 1) RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- 2) VBW $\geq 3 \times$ RBW
- 3) Detector = Peak
- 4) Trace mode = max hold
- 5) Sweep = No faster than coupled (auto) time.
- 6) Allow the trace to stabilize
- 7) We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

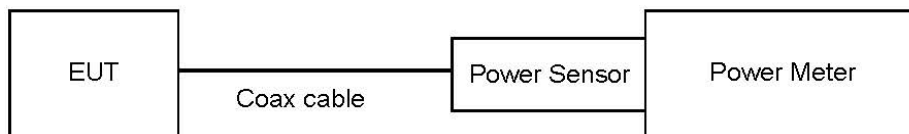
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. Output Power

Limit

The maximum permissible conducted output power is 1 Watt.

Test Configuration



Test Procedure

The transmitter output is connected to the Power Meter.

- Peak Power

: Measure the peak power of the transmitter.

- Average Power

- 1) Measure the duty cycle.
- 2) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- 3) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

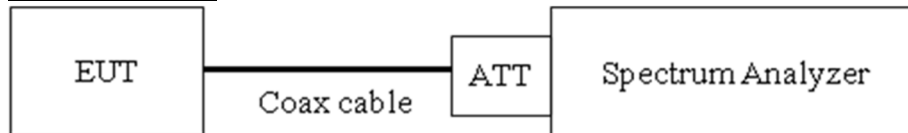
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

7.4. Power Spectral Density

Limit

The transmitter power density average over 1-second interval shall not be greater than 8 dBm in any 3 kHz BW.

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

- 1) Set analyzer center frequency to DTS channel center frequency.
- 2) Set span to at least 1.5 times the DTS bandwidth.
- 3) $RBW = 3 \text{ kHz} \leq RBW \leq 100 \text{ kHz}$.
- 4) $VBW \geq 3 \times RBW$.
- 5) Sweep = No faster than coupled (auto) time.
- 6) Detector = Peak.
- 7) Trace mode = max hold.
- 8) Allow trace to fully stabilize.
- 9) Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Sample Calculation

- Power Spectral Density = Measured Value + ATT loss + Cable loss

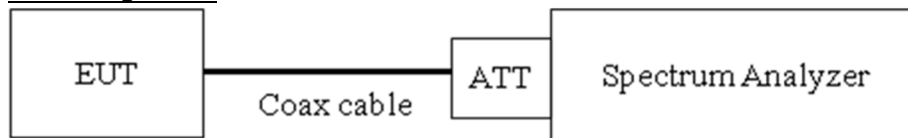
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

Limit

The maximum conducted (Peak) output power was used to demonstrate compliance, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.

[Conducted > 20 dBc]

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

- 1) RBW = 100 kHz
- 2) VBW $\geq 3 \times$ RBW
- 3) Set span to encompass the spectrum to be examined
- 4) Detector = Peak
- 5) Trace Mode = max hold
- 6) Sweep time = No faster than coupled (auto) time.
- 7) Ensure that the number of measurement points $\geq 2 \times$ Span/RBW
- 8) Allow trace to fully stabilize.
- 9) Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 25 GHz range with the transmitter set to the lowest, middle, and highest channels.

Factors for frequency

Freq(MHz)	Factor(dB)
30	10.88
100	10.88
200	10.93
300	11.01
400	11.04
500	11.06
600	11.06
700	11.09
800	11.11
900	11.13
1000	11.16
2000	11.18
2400	11.46
2500	11.46
3000	11.47
4000	11.50
5000	11.57
5150	11.65
5850	11.65
6000	11.74
7000	11.74
8000	11.84
9000	11.95
10000	12.14
11000	12.29
12000	12.25
13000	12.20
14000	12.21
15000	12.21
16000	12.26
17000	12.30
18000	12.34
19000	12.38
20000	12.43
21000	12.50
22000	12.51
23000	12.67
24000	12.73
25000	12.80
26000	12.81

Note : 1. 2400 ~ 2500 MHz is fundamental frequency range.

2. Factor = Attenuator loss + Cable loss + EUT Cable loss

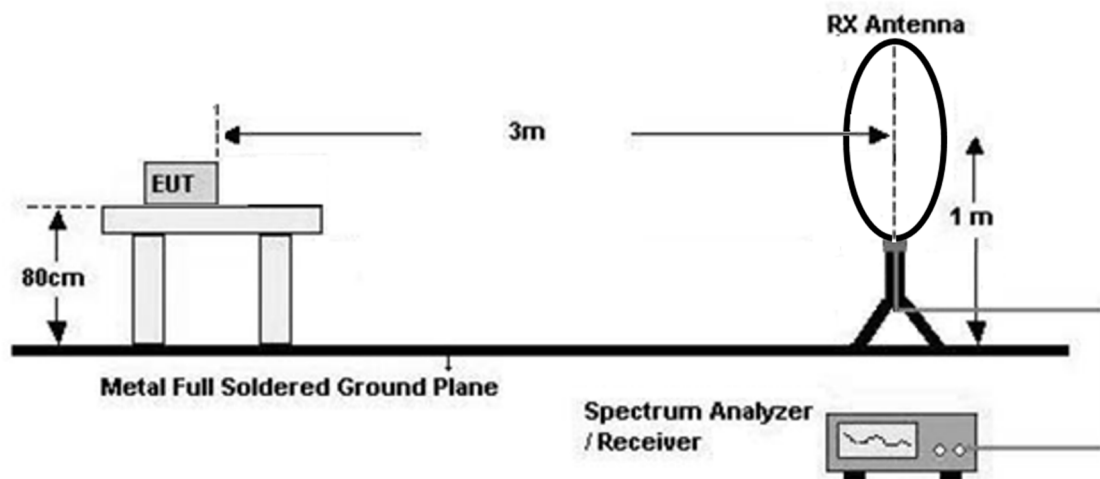
7.6. Radiated Test

Limit

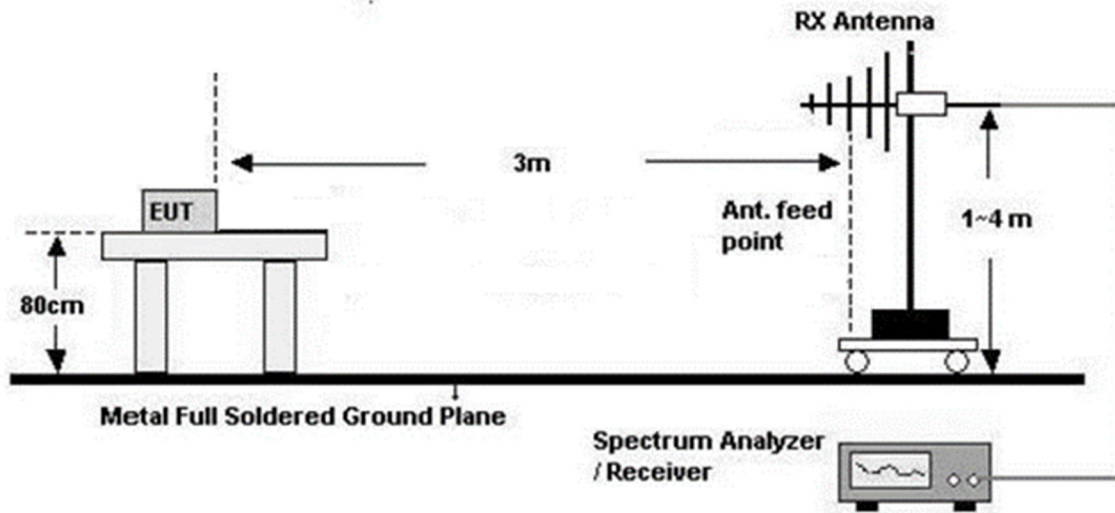
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

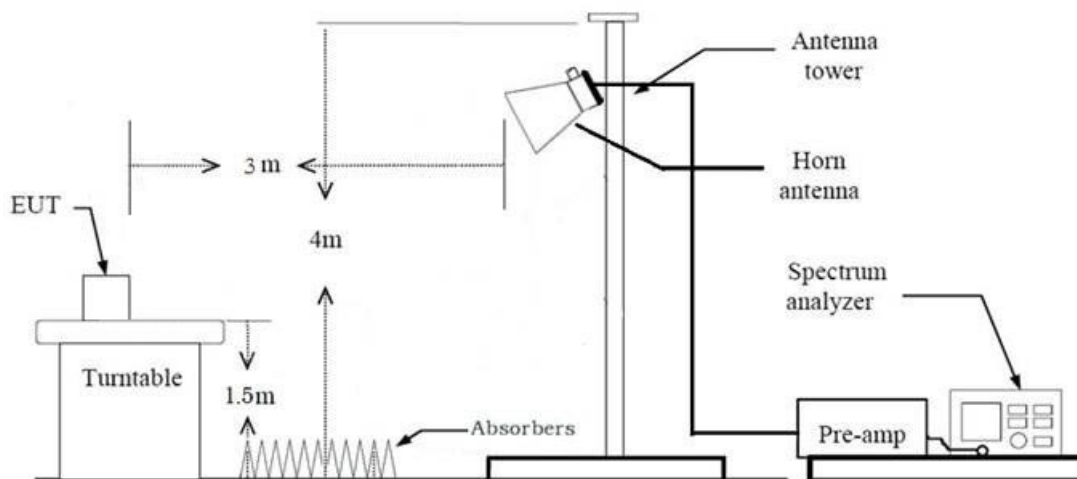
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions (Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = $40\log(3\text{ m}/300\text{ m}) = -80\text{ dB}$
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3\text{ m}/30\text{ m}) = -40\text{ dB}$
Measurement Distance : 3 m
8. Spectrum Analyzer Setting
Measurement Type(Peak):
 - Frequency Range = 9 kHz ~ 30 MHz
 - Detector = Peak
 - Trace = Max hold
 - RBW = 9 kHz
 - VBW $\geq 3 \times$ RBW
9. Total = Measured value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions (Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Analyzer Setting
 - (1) Measurement Type(Peak):
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Peak
 - Trace = Max hold
 - RBW = 100 kHz
 - VBW $\geq 3 \times$ RBW
 - (2) Measurement Type(Quasi-peak):
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Quasi-Peak
 - RBW = 120 kHz
- In general, (1) is used mainly
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Test Procedure of Radiated spurious emissions (Above 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Spectrum Analyzer Setting
 - (1) Measurement Type(Peak):
 - Measured Frequency Range : 1 GHz – 25 GHz
 - Detector = Peak

- Trace = Maxhold
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW

(2) Measurement Type(Average): Duty cycle $\geq 98 \%$

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).

(3) Measurement Type(Average): Duty cycle $< 98 \%$, duty cycle variations are less than $\pm 2 \%$

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- 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 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to Duty cycle test result.

8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

9. Distance extrapolation factor = $20\log$ (test distance / specific distance) (dB)

10. Total(Measurement Type : Peak)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)

Total(Measurement Type : Average, Duty cycle $\geq 98 \%$)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)

Total(Measurement Type : Average, Duty cycle $< 98 \%$)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)
+ Duty Cycle Factor

Test Procedure of Radiated Restricted Band Edge

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Spectrum Analyzer Setting

(1) Measurement Type(Peak):

- Measured Frequency Range : 2310 MHz ~ 2390 MHz / 2483.5 MHz ~ 2500 MHz
- Detector = Peak
- Trace = Maxhold
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW

(2) Measurement Type(Average): Duty cycle $\geq 98 \%$,

- Measured Frequency Range : 2310 MHz ~ 2390 MHz / 2483.5 MHz ~ 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).

(3) Measurement Type(Average): Duty cycle $< 98 \%$, duty cycle variations are less than $\pm 2 \%$

- Measured Frequency Range : 2310 MHz ~ 2390 MHz / 2483.5 MHz ~ 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- 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 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to Duty cycle test result.

(4) Measurement Type(Average , Integration Method) : Duty cycle $\geq 98 \%$

- Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 100 kHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power measurement function with band limits set equal to the emission frequency ($f_{\text{emission}} \pm 0.5$ MHz). If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{\text{emission}} \pm 0.5$ MHz

(5) Measurement Type(Average , Integration Method) : Duty cycle < 98 %, duty cycle variations are less than ± 2 %

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 100 kHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power measurement function with band limits set equal to the emission frequency ($f_{\text{emission}} \pm 0.5$ MHz). If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{\text{emission}} \pm 0.5$ MHz.
- 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 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to Duty cycle test result.

8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

9. Distance extrapolation factor = $20 \log$ (test distance / specific distance) (dB)

10. Total (Measurement Type : Peak)

= Peak Measured Value

Total(Measurement Type : Average, Duty cycle ≥ 98 %)

= Average Measured Value

Total(Measurement Type : Average, Duty cycle < 98 %)

= Average Measured Value + Duty Cycle Factor

- We apply to the offset in the range 1 GHz - 18 GHz.
- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

7.7. AC Power line Conducted Emissions

Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56 ^(a)	56 to 46 ^(a)
0.50 to 5	56	46
5 to 30	60	50

^(a)Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

7.8. Worst case configuration and mode

Conducted test

1. The EUT was configured with data rate of highest power.

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + Notebook Computer
 - Worstcase : Stand alone + Notebook Computer
2. All Antennas of operation were investigated and the worst case results are reported
 - Antenna Operation Type : SISO, MIMO_CDD(Ant.1+Ant.2), MIMO_SDM(Ant.1+Ant.2)
 - Worstcase : MIMO_CDD(Ant.1+Ant.2)
3. EUT Axis
 - Radiated Spurious Emissions : X, Y
 - Radiated Restricted Band Edge : X
4. Duty cycle factor applies only 802.11g/n (Duty cycle < 98 %).
5. All data rate of operation were investigated and the test results are worst case in lowest Data Rate of each mode.
 - 802.11b : 1 Mbps
 - 802.11g : 6 Mbps
 - 802.11n(HT20): MCS0
6. All antenna set variants were investigated, and the test results are reported for the worst case antenna set.
 - Antenna set variants : Door Bell Set, Outdoor Set
 - Worst case : Door Bell Set
7. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
 - Position : Horizontal, Vertical, Parallel to the ground plane
8. Radiated Spurious Emissions
 - All modes of operation were investigated and the worst case results are reported.
 - Mode: 802.11b, 802.11g, 802.11n(HT20)
 - Worst case: 802.11b(SISO), 802.11n(HT20)(MIMO)

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + Notebook Computer
 - Worstcase : Stand alone + Notebook Computer

Radiated test(Simultaneous transmission Scenario)

1. Please refer to the [BT LE], [Thread], [UNII] Test Report

8. SUMMARY TEST OF RESULTS

Test Item	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§ 15.247(a)(2)	> 500 kHz	Conducted	PASS
Conducted Maximum Output Power	§ 15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§ 15.247(e)	< 8 dBm / 3 kHz		PASS
Band Edge (Out of Band Emissions)	§ 15.247(d)	Conducted > 20 dBc		PASS
AC Power line Conducted Emissions	§ 15.207	cf. Section 7.7		PASS
Radiated Spurious Emissions	§ 15.247(d), 15.205, 15.209	cf. Section 7.6	Radiated	PASS
Radiated Restricted Band Edge	§ 15.247(d), 15.205, 15.209	cf. Section 7.6		PASS

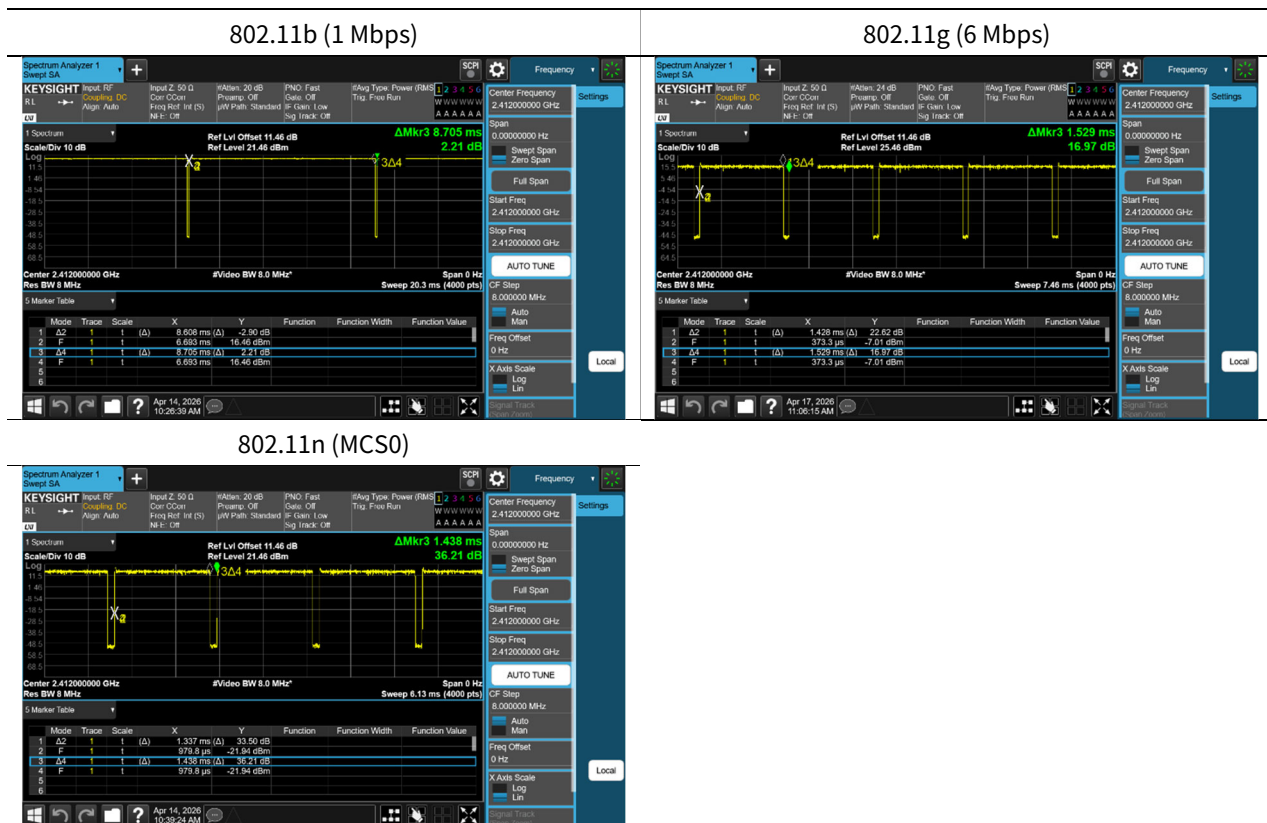
Note. The decision rule applies 'simple acceptance'

9. TEST RESULT

9.1 DUTY CYCLE

Mode	Data Rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11b	1 Mbps	8.608	8.705	0.989	0.00
802.11g	6 Mbps	1.428	1.529	0.934	0.30
802.11n (HT20)	MCS0	1.337	1.438	0.930	0.32

Test Plots



9.2 6 dB BANDWIDTH

[ANT. 1]

Mode	Frequency [MHz]	Channel No.	6 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]	Limit [MHz]
802.11b	2412	1	8.098	11.955	> 0.50
	2417	2	8.098	11.951	> 0.50
	2422	3	8.098	11.927	> 0.50
	2437	6	8.090	11.920	> 0.50
	2447	8	8.089	11.883	> 0.50
	2452	9	8.086	11.878	> 0.50
	2457	10	8.080	11.706	> 0.50
	2462	11	8.068	11.375	> 0.50
802.11g	2412	1	15.57	16.460	> 0.50
	2417	2	15.35	16.455	> 0.50
	2422	3	15.58	16.450	> 0.50
	2437	6	15.35	16.453	> 0.50
	2447	8	15.35	16.450	> 0.50
	2452	9	15.58	16.460	> 0.50
	2457	10	15.60	16.446	> 0.50
	2462	11	15.58	16.441	> 0.50
802.11n(HT20)	2412	1	15.41	17.617	> 0.50
	2417	2	15.43	17.592	> 0.50
	2422	3	15.34	17.615	> 0.50
	2427	4	15.60	17.618	> 0.50
	2432	5	15.35	17.587	> 0.50
	2437	6	15.35	17.600	> 0.50
	2442	7	15.60	17.613	> 0.50
	2447	8	16.13	17.607	> 0.50
	2452	9	15.65	17.585	> 0.50
	2457	10	15.34	17.641	> 0.50
	2462	11	15.58	17.595	> 0.50

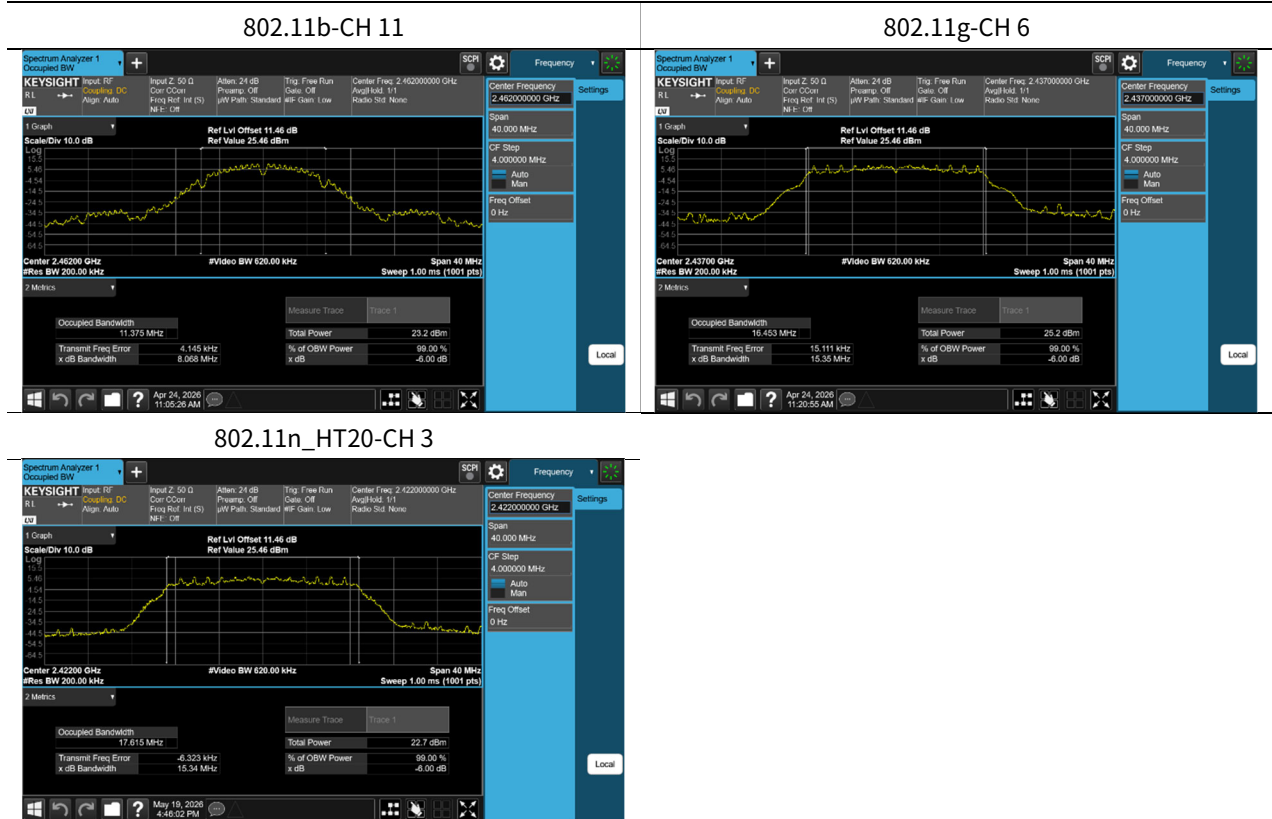
[ANT. 2]

Mode	Frequency [MHz]	Channel No.	6 dB Bandwidth [MHz]	99% Occupied Bandwidth [MHz]	Limit [MHz]
802.11b	2412	1	8.105	11.906	> 0.50
	2417	2	8.110	11.898	> 0.50
	2422	3	8.104	11.882	> 0.50
	2437	6	8.099	11.860	> 0.50
	2452	9	8.095	11.831	> 0.50
	2457	10	8.095	11.835	> 0.50
	2462	11	8.098	11.827	> 0.50
802.11g	2412	1	15.36	16.463	> 0.50
	2417	2	15.35	16.441	> 0.50
	2422	3	15.79	16.464	> 0.50
	2437	6	15.85	16.461	> 0.50
	2452	9	15.58	16.464	> 0.50
	2457	10	15.54	16.448	> 0.50
	2462	11	15.33	16.472	> 0.50
802.11n(HT20)	2412	1	15.31	17.577	> 0.50
	2417	2	15.31	17.574	> 0.50
	2422	3	15.31	17.579	> 0.50
	2427	4	15.31	17.583	> 0.50
	2432	5	15.32	17.566	> 0.50
	2437	6	15.79	17.573	> 0.50
	2442	7	15.31	17.587	> 0.50
	2447	8	15.31	17.589	> 0.50
	2452	9	15.31	17.572	> 0.50
	2457	10	15.31	17.576	> 0.50
	2462	11	15.31	17.578	> 0.50

Test Plots

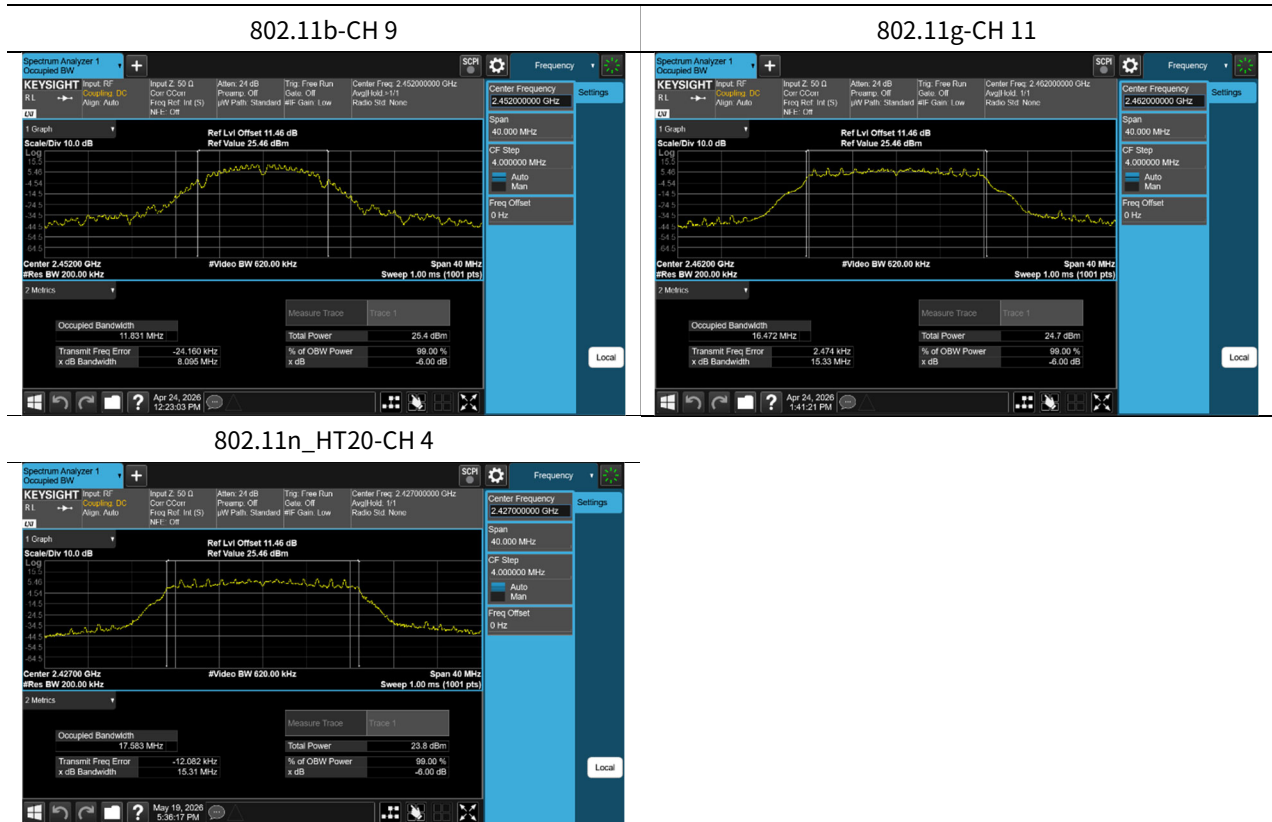
[ANT. 1]

Note: In order to simplify the report, attached plots were only the narrowest 6 dB BW channel



[ANT. 2]

Note: In order to simplify the report, attached plots were only the narrowest 6 dB BW channel



9.3 OUTPUT POWER

Note :

1. MIMO_CDD(Ant1+Ant2) Power = $10 \cdot \log((10^{(\text{Ant. 1 power} / 10)}) + (10^{(\text{Ant. 2 power} / 10)}))$

Peak Power

[Ant.1]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Peak Power [dBm]	Limit [dBm]
802.11b	2412	1	1M	22.70	30
	2417	2	1M	22.76	30
	2422	3	1M	22.62	30
	2437	6	1M	22.75	30
	2447	8	1M	22.75	30
	2452	9	1M	22.79	30
	2457	10	1M	22.03	30
	2462	11	1M	21.31	30
802.11g	2412	1	6M	24.37	30
	2417	2	6M	24.91	30
	2422	3	6M	25.43	30
	2437	6	6M	25.54	30
	2447	8	6M	25.52	30
	2452	9	6M	24.85	30
	2457	10	6M	24.23	30
	2462	11	6M	24.24	30
802.11n (HT20)	2412	1	MCS0	19.46	30
	2417	2	MCS0	22.33	30
	2422	3	MCS0	23.02	30
	2427	4	MCS0	23.33	30
	2432	5	MCS0	23.31	30
	2437	6	MCS0	23.92	30
	2442	7	MCS0	23.44	30
	2447	8	MCS0	23.05	30
	2452	9	MCS0	22.38	30
	2457	10	MCS0	21.90	30
	2462	11	MCS0	19.88	30

[Ant.2]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Peak Power [dBm]	Limit [dBm]
802.11b	2412	1	1M	23.43	30
	2417	2	1M	23.47	30
	2422	3	1M	23.32	30
	2437	6	1M	23.32	30
	2452	9	1M	23.32	30
	2457	10	1M	23.25	30
	2462	11	1M	23.24	30
802.11g	2412	1	6M	26.08	30
	2417	2	6M	26.07	30
	2422	3	6M	26.93	30
	2437	6	6M	26.85	30
	2452	9	6M	26.85	30
	2457	10	6M	25.91	30
	2462	11	6M	25.12	30
802.11n (HT20)	2412	1	MCS0	21.23	30
	2417	2	MCS0	23.48	30
	2422	3	MCS0	24.17	30
	2427	4	MCS0	24.68	30
	2432	5	MCS0	24.54	30
	2437	6	MCS0	25.21	30
	2442	7	MCS0	24.53	30
	2447	8	MCS0	23.95	30
	2452	9	MCS0	23.24	30
	2457	10	MCS0	22.39	30
	2462	11	MCS0	20.37	30

[MIMO_CDD(Ant1+Ant2)]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Peak Power [dBm]			Limit [dBm]
				ANT1	ANT2	MIMO	
802.11n (HT20)	2412	1	MCS0	19.46	21.23	23.44	30
	2417	2	MCS0	22.33	23.48	25.95	30
	2422	3	MCS0	23.02	24.17	26.64	30
	2427	4	MCS0	23.33	24.68	27.07	30
	2432	5	MCS0	23.31	24.54	26.97	30
	2437	6	MCS0	23.92	25.21	27.62	30
	2442	7	MCS0	23.44	24.53	27.03	30
	2447	8	MCS0	23.05	23.95	26.53	30
	2452	9	MCS0	22.38	23.24	25.84	30
	2457	10	MCS0	21.90	22.39	25.16	30
	2462	11	MCS0	19.88	20.37	23.14	30

Average Power

Note :

1. Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]

[Ant.1]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Average Power [dBm]			Limit [dBm]
				Measured Value	D.C.F	Summed	
802.11b	2412	1	1M	19.73	0.00	19.73	30
	2417	2	1M	19.77	0.00	19.77	30
	2422	3	1M	19.65	0.00	19.65	30
	2437	6	1M	19.73	0.00	19.73	30
	2447	8	1M	19.75	0.00	19.75	30
	2452	9	1M	19.80	0.00	19.80	30
	2457	10	1M	18.89	0.00	18.89	30
	2462	11	1M	18.14	0.00	18.14	30
802.11g	2412	1	6M	15.93	0.30	16.22	30
	2417	2	6M	16.35	0.30	16.64	30
	2422	3	6M	16.96	0.30	17.26	30
	2437	6	6M	17.14	0.30	17.43	30
	2447	8	6M	17.08	0.30	17.38	30
	2452	9	6M	16.33	0.30	16.63	30
	2457	10	6M	15.79	0.30	16.09	30
	2462	11	6M	15.82	0.30	16.11	30
802.11n (HT20)	2412	1	MCS0	11.02	0.32	11.33	30
	2417	2	MCS0	13.88	0.32	14.20	30
	2422	3	MCS0	14.46	0.32	14.78	30
	2427	4	MCS0	14.87	0.32	15.19	30
	2432	5	MCS0	14.82	0.32	15.14	30
	2437	6	MCS0	15.36	0.32	15.68	30
	2442	7	MCS0	14.95	0.32	15.27	30
	2447	8	MCS0	14.52	0.32	14.83	30
	2452	9	MCS0	13.93	0.32	14.24	30
	2457	10	MCS0	13.43	0.32	13.74	30
	2462	11	MCS0	11.40	0.32	11.71	30

[Ant.2]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Average Power [dBm]			Limit [dBm]
				Measured Value	D.C.F	Summed	
802.11b	2412	1	1M	20.45	0.00	20.45	30
	2417	2	1M	20.40	0.00	20.40	30
	2422	3	1M	20.32	0.00	20.32	30
	2437	6	1M	20.27	0.00	20.27	30
	2452	9	1M	20.23	0.00	20.23	30
	2457	10	1M	20.20	0.00	20.20	30
	2462	11	1M	20.21	0.00	20.21	30
802.11g	2412	1	6M	17.61	0.30	17.90	30
	2417	2	6M	17.59	0.30	17.89	30
	2422	3	6M	18.48	0.30	18.78	30
	2437	6	6M	18.31	0.30	18.61	30
	2452	9	6M	18.43	0.30	18.73	30
	2457	10	6M	17.42	0.30	17.72	30
	2462	11	6M	16.69	0.30	16.99	30
802.11n (HT20)	2412	1	MCS0	12.42	0.32	12.74	30
	2417	2	MCS0	14.55	0.32	14.87	30
	2422	3	MCS0	15.24	0.32	15.56	30
	2427	4	MCS0	15.78	0.32	16.10	30
	2432	5	MCS0	15.64	0.32	15.96	30
	2437	6	MCS0	16.34	0.32	16.65	30
	2442	7	MCS0	15.64	0.32	15.96	30
	2447	8	MCS0	15.11	0.32	15.43	30
	2452	9	MCS0	14.32	0.32	14.63	30
	2457	10	MCS0	13.59	0.32	13.91	30
	2462	11	MCS0	11.54	0.32	11.86	30

[MIMO_CDD(Ant1+Ant2)]

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Average Power [dBm]			Limit [dBm]
				ANT1	ANT2	MIMO	
802.11n (HT20)	2412	1	MCS0	11.33	12.74	15.10	30
	2417	2	MCS0	14.20	14.87	17.56	30
	2422	3	MCS0	14.78	15.56	18.20	30
	2427	4	MCS0	15.19	16.10	18.68	30
	2432	5	MCS0	15.14	15.96	18.58	30
	2437	6	MCS0	15.68	16.65	19.21	30
	2442	7	MCS0	15.27	15.96	18.64	30
	2447	8	MCS0	14.83	15.43	18.15	30
	2452	9	MCS0	14.24	14.63	17.45	30
	2457	10	MCS0	13.74	13.91	16.84	30
	2462	11	MCS0	11.71	11.86	14.80	30

9.4 POWER SPECTRAL DENSITY

Note :

1. MIMO_CDD(Ant1+Ant2) PSD = $10 \cdot \log((10^{(\text{Ant. 1 PSD} / 10)}) + (10^{(\text{Ant. 2 PSD} / 10)}))$

[Ant.1]

BW	Frequency [MHz]	Channel No.	Data Rate	Power Spectral Density [dBm/10kHz]	Limit
				Measured Value	
802.11b	2412	1	1M	2.944	8 dBm / 3 kHz
	2417	2	1M	2.878	
	2422	3	1M	4.461	
	2437	6	1M	2.635	
	2447	8	1M	3.148	
	2452	9	1M	2.797	
	2457	10	1M	2.852	
	2462	11	1M	1.191	
802.11g	2412	1	6M	-1.846	
	2417	2	6M	-1.635	
	2422	3	6M	-1.287	
	2437	6	6M	-0.618	
	2447	8	6M	-0.943	
	2452	9	6M	-1.371	
	2457	10	6M	-1.851	
	2462	11	6M	-2.180	
802.11n (HT20)	2412	1	MCS0	-7.243	
	2417	2	MCS0	-3.939	
	2422	3	MCS0	-3.133	
	2427	4	MCS0	-3.185	
	2432	5	MCS0	-2.944	
	2437	6	MCS0	-2.798	
	2442	7	MCS0	-2.320	
	2447	8	MCS0	-3.668	
	2452	9	MCS0	-4.140	
	2457	10	MCS0	-4.785	
	2462	11	MCS0	-6.652	

[Ant.2]

BW	Frequency [MHz]	Channel No.	Data Rate	Power Spectral Density [dBm/10kHz]	Limit
				Measured Value	
802.11b	2412	1	1M	3.669	8 dBm / 3 kHz
	2417	2	1M	4.210	
	2422	3	1M	2.835	
	2437	6	1M	3.018	
	2452	9	1M	3.331	
	2457	10	1M	3.836	
	2462	11	1M	3.315	
802.11g	2412	1	6M	-0.101	
	2417	2	6M	-0.186	
	2422	3	6M	0.542	
	2437	6	6M	0.430	
	2452	9	6M	0.588	
	2457	10	6M	-0.156	
	2462	11	6M	-1.425	
802.11n (HT20)	2412	1	MCS0	-4.232	
	2417	2	MCS0	-2.765	
	2422	3	MCS0	-2.083	
	2427	4	MCS0	-2.014	
	2432	5	MCS0	-1.543	
	2437	6	MCS0	-1.353	
	2442	7	MCS0	-1.219	
	2447	8	MCS0	-2.518	
	2452	9	MCS0	-1.923	
	2457	10	MCS0	-2.546	
	2462	11	MCS0	-4.625	

[MIMO_CDD(Ant1+Ant2)]

BW	Frequency [MHz]	Channel No.	Data Rate	Power Spectral Density [dBm/10kHz]			Limit
				ANT1	ANT2	MIMO	
802.11n (HT20)	2412	1	MCS0	-7.243	-4.232	-2.471	8 dBm / 3 kHz
	2417	2	MCS0	-3.939	-2.765	-0.302	
	2422	3	MCS0	-3.133	-2.083	0.434	
	2427	4	MCS0	-3.185	-2.014	0.450	
	2432	5	MCS0	-2.944	-1.543	0.823	
	2437	6	MCS0	-2.798	-1.353	0.995	
	2442	7	MCS0	-2.320	-1.219	1.276	
	2447	8	MCS0	-3.668	-2.518	-0.045	
	2452	9	MCS0	-4.140	-1.923	0.119	
	2457	10	MCS0	-4.785	-2.546	-0.512	
	2462	11	MCS0	-6.652	-4.625	-2.511	

Test Plots

Note :

In order to simplify the report, attached plots were only the worst case PSD channel.

[Ant.1]

Power Spectral Density (802.11b-CH 3)



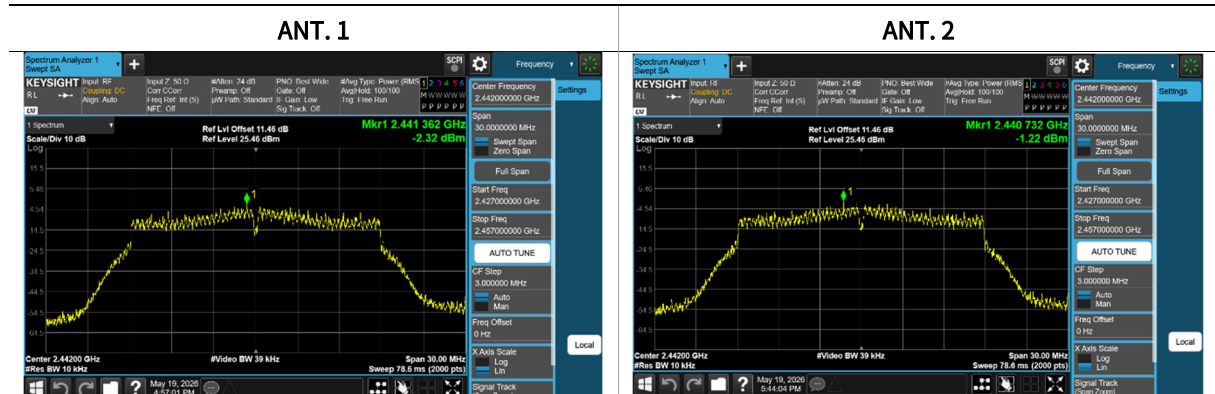
[Ant.2]

Power Spectral Density (802.11b-CH 2)



[MIMO_CDD(Ant1+Ant2)]

Power Spectral Density (802.11n(HT20)-CH 7)



9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS

Band Edge

Limit : 20 dBc

[ANT. 1]

Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge[dB]
802.11b	2412	1	1M	Lowest Bandedge	43.192
	2417	2	1M	Lowest Bandedge	46.476
	2422	3	1M	Lowest Bandedge	55.784
	2447	8	1M	Highest Bandedge	62.766
	2452	9	1M	Highest Bandedge	61.019
	2457	10	1M	Highest Bandedge	57.285
	2462	11	1M	Highest Bandedge	58.167
802.11g	2412	1	6M	Lowest Bandedge	46.135
	2417	2	6M	Lowest Bandedge	48.345
	2422	3	6M	Lowest Bandedge	57.096
	2447	8	6M	Highest Bandedge	56.109
	2452	9	6M	Highest Bandedge	54.139
	2457	10	6M	Highest Bandedge	55.063
	2462	11	6M	Highest Bandedge	52.245
802.11n (HT20)	2412	1	MCS0	Lowest Bandedge	45.534
	2417	2	MCS0	Lowest Bandedge	49.523
	2422	3	MCS0	Lowest Bandedge	55.311
	2427	4	MCS0	Lowest Bandedge	55.656
	2432	5	MCS0	Lowest Bandedge	57.428
	2437	7	MCS0	Highest Bandedge	57.889
	2447	8	MCS0	Highest Bandedge	58.694
	2452	9	MCS0	Highest Bandedge	57.275
	2457	10	MCS0	Highest Bandedge	57.013
	2462	11	MCS0	Highest Bandedge	55.494

[ANT. 2]

Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge[dB]
802.11b	2412	1	1M	Lowest Bandedge	45.674
	2417	2	1M	Lowest Bandedge	50.871
	2422	3	1M	Lowest Bandedge	56.335
	2452	9	1M	Highest Bandedge	60.566
	2457	10	1M	Highest Bandedge	56.924
	2462	11	1M	Highest Bandedge	55.677
802.11g	2412	1	6M	Lowest Bandedge	42.879
	2417	2	6M	Lowest Bandedge	47.397
	2422	3	6M	Lowest Bandedge	52.053
	2452	9	6M	Highest Bandedge	55.247
	2457	10	6M	Highest Bandedge	56.827
	2462	11	6M	Highest Bandedge	55.338
802.11n (HT20)	2412	1	MCS0	Lowest Bandedge	46.236
	2417	2	MCS0	Lowest Bandedge	49.010
	2422	3	MCS0	Lowest Bandedge	56.203
	2427	4	MCS0	Lowest Bandedge	56.717
	2432	5	MCS0	Lowest Bandedge	57.506
	2437	7	MCS0	Highest Bandedge	59.077
	2447	8	MCS0	Highest Bandedge	58.320
	2452	9	MCS0	Highest Bandedge	57.017
	2457	10	MCS0	Highest Bandedge	56.251
	2462	11	MCS0	Highest Bandedge	53.514

Conducted Spurious Emissions

Limit : 20 dBc

[ANT. 1]

Mode	Frequency [MHz]	Channel No.	Worst Data Rate	Conducted Spurious Emissions [dBc]
802.11b	2412	1	1M	53.393
	2417	2	1M	53.475
	2422	3	1M	53.899
	2437	6	1M	52.448
	2447	8	1M	51.979
	2452	9	1M	50.136
	2457	10	1M	50.496
	2462	11	1M	51.289
802.11g	2412	1	6M	60.607
	2417	2	6M	59.113
	2422	3	6M	61.497
	2437	6	6M	60.086
	2447	8	6M	59.694
	2452	9	6M	61.812
	2457	10	6M	61.243
	2462	11	6M	55.202
802.11n (HT20)	2412	1	MCS0	55.683
	2417	2	MCS0	57.834
	2422	3	MCS0	63.796
	2427	4	MCS0	59.820
	2432	5	MCS0	60.668
	2437	6	MCS0	61.060
	2442	7	MCS0	54.558
	2447	8	MCS0	60.628
	2452	9	MCS0	60.487
	2457	10	MCS0	59.855
	2462	11	MCS0	56.047

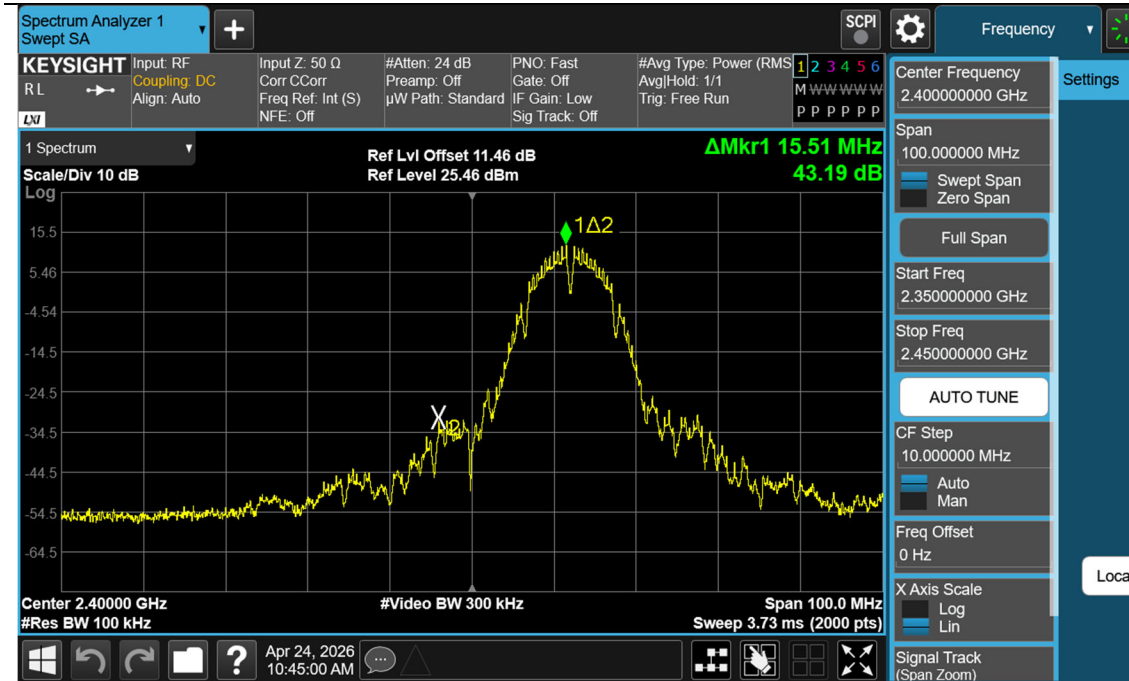
[ANT. 2]

Mode	Frequency [MHz]	Channel No.	Worst Data Rate	Conducted Spurious Emissions [dBc]
802.11b	2412	1	1M	56.556
	2417	2	1M	59.403
	2422	3	1M	56.521
	2437	6	1M	53.736
	2452	9	1M	54.475
	2457	10	1M	51.123
	2462	11	1M	50.877
802.11g	2412	1	6M	66.305
	2417	2	6M	68.480
	2422	3	6M	63.048
	2437	6	6M	60.148
	2452	9	6M	65.482
	2457	10	6M	61.018
	2462	11	6M	64.980
802.11n (HT20)	2412	1	MCS0	61.196
	2417	2	MCS0	63.236
	2422	3	MCS0	61.260
	2427	4	MCS0	65.261
	2432	5	MCS0	66.069
	2437	6	MCS0	62.073
	2442	7	MCS0	66.911
	2447	8	MCS0	65.200
	2452	9	MCS0	62.689
	2457	10	MCS0	61.875
	2462	11	MCS0	59.551

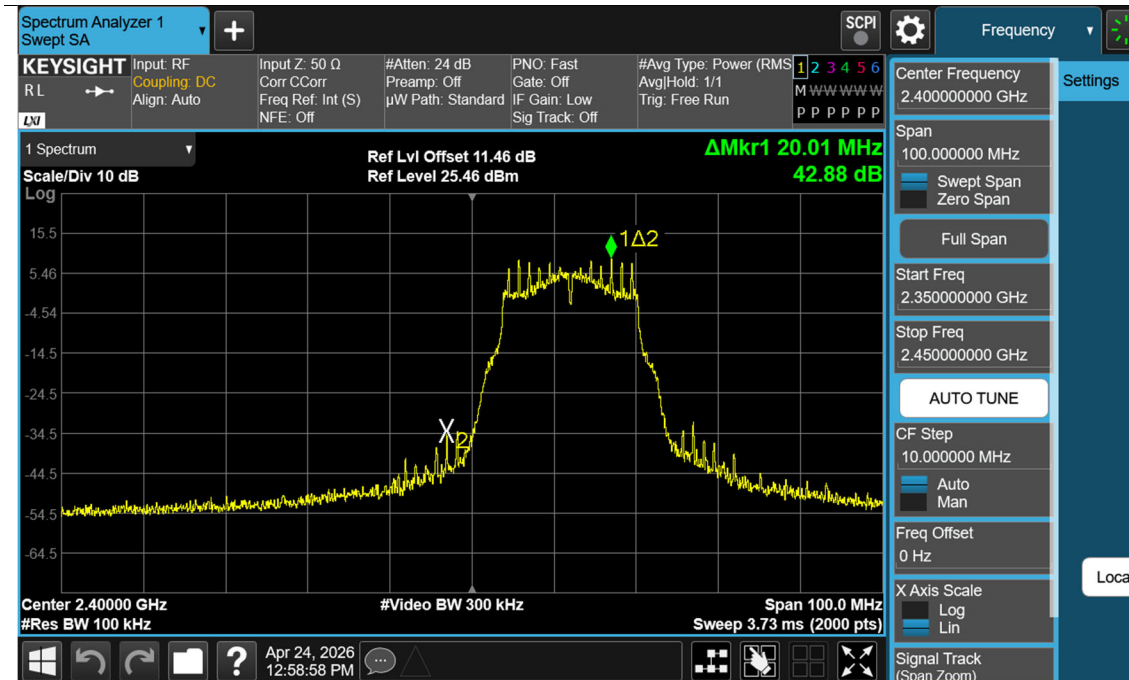
Test Plots

Note: In order to simplify the report, attached plots were only the worst case.

[ANT. 1] 802.11b - CH 1



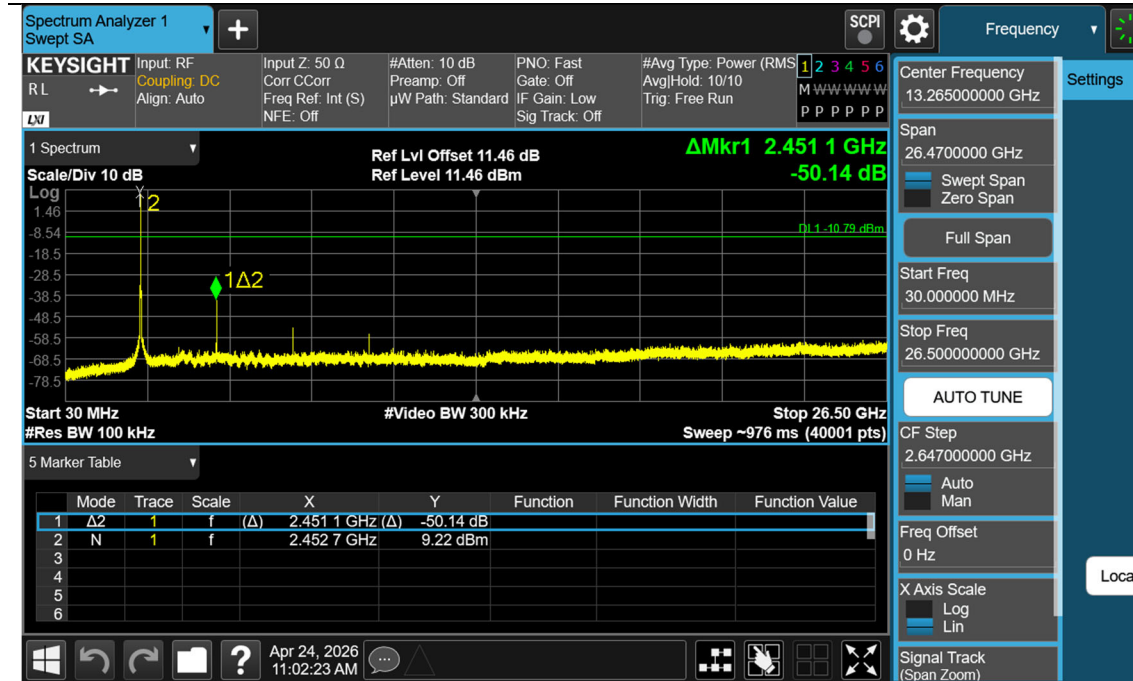
[ANT. 2] 802.11g - CH 1



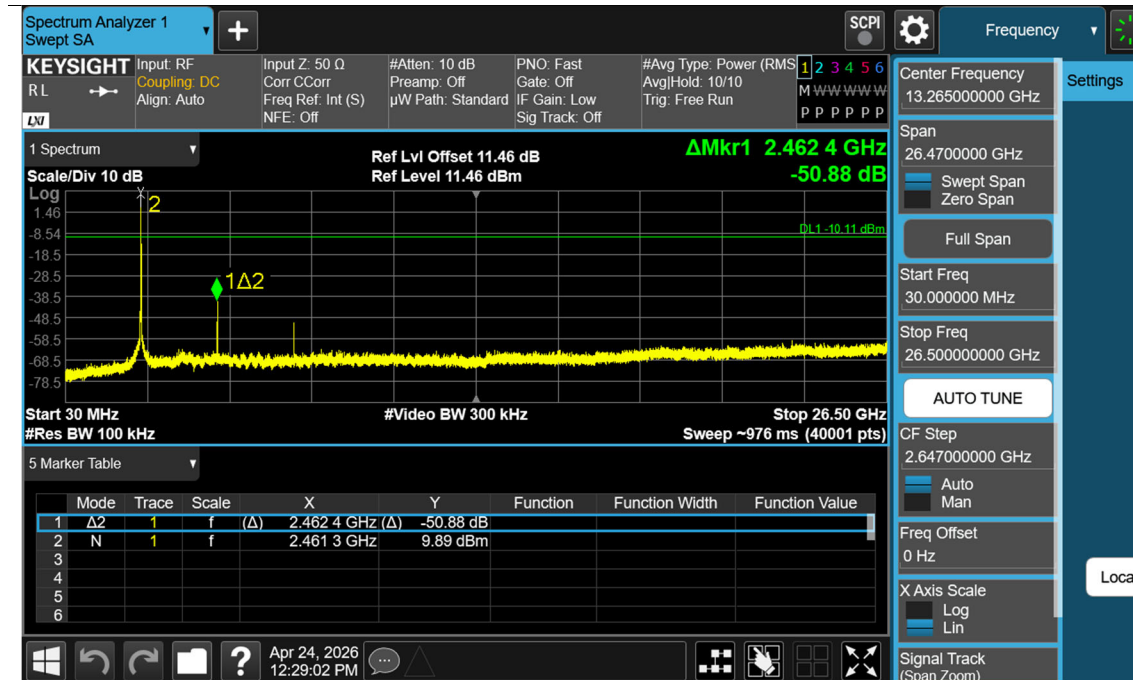
Test Plots(Conducted Spurious Emission)

Note: In order to simplify the report, attached plots were only the worst case.

[ANT. 1] 802.11b- CH 9



[ANT. 2] 802.11b- CH 11



Limit

ANT.1 : -10.79 dBm, ANT.2 : -10.11 dBm

9.6 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

Frequency	Measured Value	A.F+C.L+D.F	Ant. POL	Total	Limit	Margin
[MHz]	[dB μ V/m]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/m]	[dB]
No Critical peaks found						

Note:

1. The Measured value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40\log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dB μ V) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	Ant. POL	Total	Limit	Margin
[MHz]	[dB μ V/m]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/m]	[dB]
No Critical peaks found						

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.

Frequency Range : Above 1 GHz
[SISO_Ant.1]

Band : DTS				Operation Mode : 802.11b 1M				
CH.1 2412 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4824	54.14	0.00	-10.46	V	43.68	73.98	30.30	PK
4824	49.13	0.00	-10.46	V	38.67	53.98	15.31	AV
7236	49.59	0.00	-3.73	V	45.86	73.98	28.12	PK
7236	42.54	0.00	-3.73	V	38.81	53.98	15.17	AV
4824	55.26	0.00	-10.46	H	44.80	73.98	29.18	PK
4824	52.21	0.00	-10.46	H	41.75	53.98	12.23	AV
7236	50.64	0.00	-3.73	H	46.91	73.98	27.07	PK
7236	43.81	0.00	-3.73	H	40.08	53.98	13.90	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.2 2417 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4834	52.65	0.00	-10.40	V	42.25	73.98	31.73	PK
4834	48.48	0.00	-10.40	V	38.08	53.98	15.90	AV
7251	49.83	0.00	-3.67	V	46.16	73.98	27.82	PK
7251	42.96	0.00	-3.67	V	39.29	53.98	14.69	AV
4834	54.70	0.00	-10.40	H	44.30	73.98	29.68	PK
4834	51.29	0.00	-10.40	H	40.89	53.98	13.09	AV
7251	50.72	0.00	-3.67	H	47.05	73.98	26.93	PK
7251	43.74	0.00	-3.67	H	40.07	53.98	13.91	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.3 2422 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4844	52.74	0.00	-10.39	V	42.35	73.98	31.63	PK
4844	47.95	0.00	-10.39	V	37.56	53.98	16.42	AV
7266	49.77	0.00	-3.64	V	46.13	73.98	27.85	PK
7266	43.09	0.00	-3.64	V	39.45	53.98	14.53	AV
4844	54.33	0.00	-10.39	H	43.94	73.98	30.04	PK
4844	50.68	0.00	-10.39	H	40.29	53.98	13.69	AV
7266	50.66	0.00	-3.64	H	47.02	73.98	26.96	PK
7266	44.20	0.00	-3.64	H	40.56	53.98	13.42	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.6 2437MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4874	51.73	0.00	-10.37	V	41.36	73.98	32.62	PK
4874	46.30	0.00	-10.37	V	35.93	53.98	18.05	AV
7311	49.53	0.00	-3.71	V	45.82	73.98	28.16	PK
7311	41.87	0.00	-3.71	V	38.16	53.98	15.82	AV
4874	53.66	0.00	-10.37	H	43.29	73.98	30.69	PK
4874	48.90	0.00	-10.37	H	38.53	53.98	15.45	AV
7311	50.47	0.00	-3.71	H	46.76	73.98	27.22	PK
7311	43.73	0.00	-3.71	H	40.02	53.98	13.96	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.8		2447 MHz		Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4894	51.36	0.00	-10.33	V	41.03	73.98	32.95	PK
4894	46.25	0.00	-10.33	V	35.92	53.98	18.06	AV
7341	50.24	0.00	-3.69	V	46.55	73.98	27.43	PK
7341	43.66	0.00	-3.69	V	39.97	53.98	14.01	AV
4894	52.81	0.00	-10.29	H	42.52	73.98	31.46	PK
4894	48.63	0.00	-10.29	H	38.34	53.98	15.64	AV
7341	51.05	0.00	-3.69	H	47.36	73.98	26.62	PK
7341	44.39	0.00	-3.69	H	40.70	53.98	13.28	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.9		2452 MHz		Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4904	51.98	0.00	-10.29	V	41.69	73.98	32.29	PK
4904	46.35	0.00	-10.29	V	36.06	53.98	17.92	AV
7356	49.81	0.00	-3.65	V	46.16	73.98	27.82	PK
7356	43.03	0.00	-3.65	V	39.38	53.98	14.60	AV
4904	52.65	0.00	-10.29	H	42.36	73.98	31.62	PK
4904	48.41	0.00	-10.29	H	38.12	53.98	15.86	AV
7356	50.95	0.00	-3.65	H	47.30	73.98	26.68	PK
7356	44.36	0.00	-3.65	H	40.71	53.98	13.27	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.10		2457 MHz		Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4914	52.48	0.00	-10.26	V	42.22	73.98	31.76	PK
4914	47.83	0.00	-10.26	V	37.57	53.98	16.41	AV
7371	48.14	0.00	-3.65	V	44.49	73.98	29.49	PK
7371	40.43	0.00	-3.65	V	36.78	53.98	17.20	AV
4914	52.85	0.00	-10.26	H	42.59	73.98	31.39	PK
4914	48.71	0.00	-10.26	H	38.45	53.98	15.53	AV
7371	49.42	0.00	-3.65	H	45.77	73.98	28.21	PK
7371	42.25	0.00	-3.65	H	38.60	53.98	15.38	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.11		2462 MHz		Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	53.07	0.00	-10.26	V	42.81	73.98	31.17	PK
4924	48.35	0.00	-10.26	V	38.09	53.98	15.89	AV
7386	48.25	0.00	-3.66	V	44.59	73.98	29.39	PK
7386	39.66	0.00	-3.66	V	36.00	53.98	17.98	AV
4924	53.49	0.00	-10.26	H	43.23	73.98	30.75	PK
4924	48.72	0.00	-10.26	H	38.46	53.98	15.52	AV
7386	48.78	0.00	-3.66	H	45.12	73.98	28.86	PK
7386	40.99	0.00	-3.66	H	37.33	53.98	16.65	AV

[SISO_Ant.2]

Band : DTS				Operation Mode : 802.11b 1M				
CH.1 2412 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4824	56.36	0.00	-10.46	V	45.90	73.98	28.08	PK
4824	45.70	0.00	-10.46	V	35.24	53.98	18.74	AV
7236	48.48	0.00	-3.73	V	44.75	73.98	29.23	PK
7236	40.44	0.00	-3.73	V	36.71	53.98	17.27	AV
4824	52.98	0.00	-10.46	H	42.52	73.98	31.46	PK
4824	47.70	0.00	-10.46	H	37.24	53.98	16.74	AV
7236	49.42	0.00	-3.73	H	45.69	73.98	28.29	PK
7236	41.87	0.00	-3.73	H	38.14	53.98	15.84	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.2 2417 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4834	52.78	0.00	-10.40	V	42.38	73.98	31.60	PK
4834	47.52	0.00	-10.40	V	37.12	53.98	16.86	AV
7251	48.88	0.00	-3.67	V	45.21	73.98	28.77	PK
7251	41.50	0.00	-3.67	V	37.83	53.98	16.15	AV
4834	52.50	0.00	-10.40	H	42.10	73.98	31.88	PK
4834	47.57	0.00	-10.40	H	37.17	53.98	16.81	AV
7251	49.83	0.00	-3.67	H	46.16	73.98	27.82	PK
7251	42.35	0.00	-3.67	H	38.68	53.98	15.30	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.3 2422 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4844	53.04	0.00	-10.39	V	42.65	73.98	31.33	PK
4844	47.74	0.00	-10.39	V	37.35	53.98	16.63	AV
7266	49.26	0.00	-3.64	V	45.62	73.98	28.36	PK
7266	42.07	0.00	-3.64	V	38.43	53.98	15.55	AV
4844	53.38	0.00	-10.39	H	42.99	73.98	30.99	PK
4844	47.10	0.00	-10.39	H	36.71	53.98	17.27	AV
7266	49.99	0.00	-3.64	H	46.35	73.98	27.63	PK
7266	42.51	0.00	-3.64	H	38.87	53.98	15.11	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.4 2427 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4854	53.16	0.00	-10.39	V	42.77	73.98	31.21	PK
4854	48.68	0.00	-10.39	V	38.29	53.98	15.69	AV
7281	49.40	0.00	-3.67	V	45.73	73.98	28.25	PK
7281	42.41	0.00	-3.67	V	38.74	53.98	15.24	AV
4854	52.72	0.00	-10.39	H	42.33	73.98	31.65	PK
4854	47.69	0.00	-10.39	H	37.30	53.98	16.68	AV
7281	49.87	0.00	-3.67	H	46.20	73.98	27.78	PK
7281	42.77	0.00	-3.67	H	39.10	53.98	14.88	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.5 2432 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4864	54.11	0.00	-10.39	V	43.72	73.98	30.26	PK
4864	48.75	0.00	-10.39	V	38.36	53.98	15.62	AV
7296	49.23	0.00	-3.69	V	45.54	73.98	28.44	PK
7296	42.17	0.00	-3.69	V	38.48	53.98	15.50	AV
4864	53.49	0.00	-10.39	H	43.10	73.98	30.88	PK
4864	48.12	0.00	-10.39	H	37.73	53.98	16.25	AV
7296	50.72	0.00	-3.69	H	47.03	73.98	26.95	PK
7296	43.21	0.00	-3.69	H	39.52	53.98	14.46	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.6 2437 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4874	53.16	0.00	-10.37	V	42.79	73.98	31.19	PK
4874	48.87	0.00	-10.37	V	38.50	53.98	15.48	AV
7311	49.65	0.00	-3.71	V	45.94	73.98	28.04	PK
7311	42.43	0.00	-3.71	V	38.72	53.98	15.26	AV
4874	53.04	0.00	-10.37	H	42.67	73.98	31.31	PK
4874	48.39	0.00	-10.37	H	38.02	53.98	15.96	AV
7311	49.96	0.00	-3.71	H	46.25	73.98	27.73	PK
7311	43.26	0.00	-3.71	H	39.55	53.98	14.43	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.7 2442 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4884	53.92	0.00	-10.35	V	43.57	73.98	30.41	PK
4884	49.87	0.00	-10.35	V	39.52	53.98	14.46	AV
7326	49.76	0.00	-3.71	V	46.05	73.98	27.93	PK
7326	42.86	0.00	-3.71	V	39.15	53.98	14.83	AV
4884	53.00	0.00	-10.35	H	42.65	73.98	31.33	PK
4884	48.42	0.00	-10.35	H	38.07	53.98	15.91	AV
7326	49.66	0.00	-3.71	H	45.95	73.98	28.03	PK
7326	43.25	0.00	-3.71	H	39.54	53.98	14.44	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.8 2447 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4894	54.91	0.00	-10.33	V	44.58	73.98	29.40	PK
4894	50.82	0.00	-10.33	V	40.49	53.98	13.49	AV
7341	50.13	0.00	-3.69	V	46.44	73.98	27.54	PK
7341	42.86	0.00	-3.69	V	39.17	53.98	14.81	AV
4894	53.46	0.00	-10.29	H	43.17	73.98	30.81	PK
4894	48.62	0.00	-10.29	H	38.33	53.98	15.65	AV
7341	50.56	0.00	-3.69	H	46.87	73.98	27.11	PK
7341	44.32	0.00	-3.69	H	40.63	53.98	13.35	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.9 2452 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4904	54.99	0.00	-10.29	V	44.70	73.98	29.28	PK
4904	51.01	0.00	-10.29	V	40.72	53.98	13.26	AV
7356	50.32	0.00	-3.65	V	46.67	73.98	27.31	PK
7356	43.97	0.00	-3.65	V	40.32	53.98	13.66	AV
4904	53.42	0.00	-10.29	H	43.13	73.98	30.85	PK
4904	48.25	0.00	-10.29	H	37.96	53.98	16.02	AV
7356	50.05	0.00	-3.65	H	46.40	73.98	27.58	PK
7356	43.69	0.00	-3.65	H	40.04	53.98	13.94	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.10 2457 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4914	55.54	0.00	-10.26	V	45.28	73.98	28.70	PK
4914	52.20	0.00	-10.26	V	41.94	53.98	12.04	AV
7371	50.27	0.00	-3.65	V	46.62	73.98	27.36	PK
7371	43.48	0.00	-3.65	V	39.83	53.98	14.15	AV
4914	54.00	0.00	-10.26	H	43.74	73.98	30.24	PK
4914	49.30	0.00	-10.26	H	39.04	53.98	14.94	AV
7371	50.65	0.00	-3.65	H	47.00	73.98	26.98	PK
7371	44.03	0.00	-3.65	H	40.38	53.98	13.60	AV

Band : DTS				Operation Mode : 802.11b 1M				
CH.11 2462 MHz				Transfer Rate : 1M				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	56.38	0.00	-10.26	V	46.12	73.98	27.86	PK
4924	53.26	0.00	-10.26	V	43.00	53.98	10.98	AV
7386	51.06	0.00	-3.66	V	47.40	73.98	26.58	PK
7386	45.21	0.00	-3.66	V	41.55	53.98	12.43	AV
4924	54.77	0.00	-10.26	H	44.51	73.98	29.47	PK
4924	50.76	0.00	-10.26	H	40.50	53.98	13.48	AV
7386	50.72	0.00	-3.66	H	47.06	73.98	26.92	PK
7386	44.74	0.00	-3.66	H	41.08	53.98	12.90	AV

[MIMO_CDD(Ant1+Ant2)]

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.1		2412	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4824	55.54	0.00	-10.46	V	45.08	73.98	28.90	PK
4824	47.06	0.32	-10.46	V	36.91	53.98	17.07	AV
7236	52.51	0.00	-3.73	V	48.78	73.98	25.20	PK
7236	40.14	0.32	-3.73	V	36.72	53.98	17.26	AV
4824	55.47	0.00	-10.46	H	45.01	73.98	28.97	PK
4824	46.65	0.32	-10.46	H	36.50	53.98	17.48	AV
7236	52.25	0.00	-3.73	H	48.52	73.98	25.46	PK
7236	40.36	0.32	-3.73	H	36.94	53.98	17.04	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.2		2417	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4834	55.93	0.00	-10.40	V	45.53	73.98	28.45	PK
4834	47.76	0.32	-10.40	V	37.67	53.98	16.31	AV
7251	52.32	0.00	-3.67	V	48.65	73.98	25.33	PK
7251	40.46	0.32	-3.67	V	37.10	53.98	16.88	AV
4834	56.09	0.00	-10.40	H	45.69	73.98	28.29	PK
4834	46.96	0.32	-10.40	H	36.87	53.98	17.11	AV
7251	52.19	0.00	-3.67	H	48.52	73.98	25.46	PK
7251	40.64	0.32	-3.67	H	37.28	53.98	16.70	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.3		2422	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4844	56.52	0.00	-10.39	V	46.13	73.98	27.85	PK
4844	47.99	0.32	-10.39	V	37.92	53.98	16.06	AV
7266	52.56	0.00	-3.64	V	48.92	73.98	25.06	PK
7266	40.70	0.32	-3.64	V	37.37	53.98	16.61	AV
4844	56.10	0.00	-10.39	H	45.71	73.98	28.27	PK
4844	47.08	0.32	-10.39	H	37.01	53.98	16.97	AV
7266	53.14	0.00	-3.64	H	49.50	73.98	24.48	PK
7266	41.02	0.32	-3.64	H	37.69	53.98	16.29	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.4		2427	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4854	56.48	0.00	-10.39	V	46.09	73.98	27.89	PK
4854	48.00	0.32	-10.39	V	37.92	53.98	16.06	AV
7281	52.09	0.00	-3.67	V	48.42	73.98	25.56	PK
7281	40.92	0.32	-3.67	V	37.57	53.98	16.41	AV
4854	56.61	0.00	-10.39	H	46.22	73.98	27.76	PK
4854	47.32	0.32	-10.39	H	37.24	53.98	16.74	AV
7281	54.32	0.00	-3.67	H	50.65	73.98	23.33	PK
7281	41.73	0.32	-3.67	H	38.38	53.98	15.60	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.5		2432	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4864	56.72	0.00	-10.39	V	46.33	73.98	27.65	PK
4864	47.82	0.32	-10.39	V	37.75	53.98	16.23	AV
7296	53.30	0.00	-3.69	V	49.61	73.98	24.37	PK
7296	40.95	0.32	-3.69	V	37.57	53.98	16.41	AV
4864	56.03	0.00	-10.39	H	45.64	73.98	28.34	PK
4864	46.67	0.32	-10.39	H	36.60	53.98	17.38	AV
7296	54.28	0.00	-3.69	H	50.59	73.98	23.39	PK
7296	41.73	0.32	-3.69	H	38.35	53.98	15.63	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.6		2437	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4874	55.90	0.00	-10.37	V	45.53	73.98	28.45	PK
4874	46.37	0.32	-10.37	V	36.32	53.98	17.66	AV
7311	54.28	0.00	-3.71	V	50.57	73.98	23.41	PK
7311	41.75	0.32	-3.71	V	38.36	53.98	15.62	AV
4874	55.92	0.00	-10.37	H	45.55	73.98	28.43	PK
4874	46.16	0.32	-10.37	H	36.11	53.98	17.87	AV
7311	55.13	0.00	-3.71	H	51.42	73.98	22.56	PK
7311	42.64	0.32	-3.71	H	39.25	53.98	14.73	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.7		2442	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4884	55.79	0.00	-10.35	V	45.44	73.98	28.54	PK
4884	45.90	0.32	-10.35	V	35.86	53.98	18.12	AV
7326	53.37	0.00	-3.71	V	49.66	73.98	24.32	PK
7326	41.17	0.32	-3.71	V	37.78	53.98	16.20	AV
4884	56.61	0.00	-10.35	H	46.26	73.98	27.72	PK
4884	46.16	0.32	-10.35	H	36.12	53.98	17.86	AV
7326	53.82	0.00	-3.71	H	50.11	73.98	23.87	PK
7326	41.81	0.32	-3.71	H	38.42	53.98	15.56	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.8		2447	MHz	Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4894	56.13	0.00	-10.33	V	45.80	73.98	28.18	PK
4894	46.60	0.32	-10.33	V	36.59	53.98	17.39	AV
7341	52.16	0.00	-3.69	V	48.47	73.98	25.51	PK
7341	40.75	0.32	-3.69	V	37.38	53.98	16.60	AV
4894	55.73	0.00	-10.29	H	45.44	73.98	28.54	PK
4894	46.09	0.32	-10.29	H	36.12	53.98	17.86	AV
7341	54.14	0.00	-3.69	H	50.45	73.98	23.53	PK
7341	41.38	0.32	-3.69	H	38.01	53.98	15.97	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.9 2452 MHz				Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4904	56.59	0.00	-10.29	V	46.30	73.98	27.68	PK
4904	47.05	0.32	-10.29	V	37.08	53.98	16.90	AV
7356	52.09	0.00	-3.65	V	48.44	73.98	25.54	PK
7356	40.12	0.32	-3.65	V	36.79	53.98	17.19	AV
4904	56.03	0.00	-10.29	H	45.74	73.98	28.24	PK
4904	46.08	0.32	-10.29	H	36.11	53.98	17.87	AV
7356	52.09	0.00	-3.65	H	48.44	73.98	25.54	PK
7356	40.68	0.32	-3.65	H	37.35	53.98	16.63	AV

Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.10 2457 MHz				Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4914	56.77	0.00	-10.26	V	46.51	73.98	27.47	PK
4914	47.61	0.32	-10.26	V	37.66	53.98	16.32	AV
7371	51.60	0.00	-3.65	V	47.95	73.98	26.03	PK
7371	40.13	0.32	-3.65	V	36.79	53.98	17.19	AV
4914	55.97	0.00	-10.26	H	45.71	73.98	28.27	PK
4914	46.42	0.32	-10.26	H	36.47	53.98	17.51	AV
7371	52.08	0.00	-3.65	H	48.43	73.98	25.55	PK
7371	40.42	0.32	-3.65	H	37.08	53.98	16.90	AV

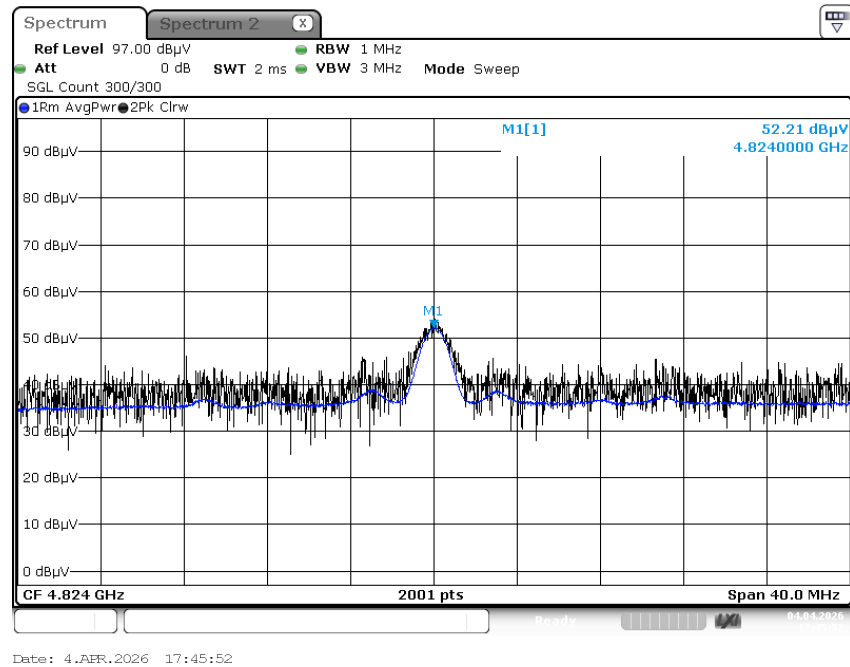
Band : DTS				Operation Mode : 802.11n_HT20 MCS0				
CH.11 2462 MHz				Transfer Rate : MCS0				
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	56.56	0.00	-10.26	V	46.30	73.98	27.68	PK
4924	47.71	0.32	-10.26	V	37.76	53.98	16.22	AV
7386	52.45	0.00	-3.66	V	48.79	73.98	25.19	PK
7386	39.85	0.32	-3.66	V	36.50	53.98	17.48	AV
4924	55.75	0.00	-10.26	H	45.49	73.98	28.49	PK
4924	46.21	0.32	-10.26	H	36.26	53.98	17.72	AV
7386	51.57	0.00	-3.66	H	47.91	73.98	26.07	PK
7386	39.97	0.32	-3.66	H	36.62	53.98	17.36	AV

Test Plots

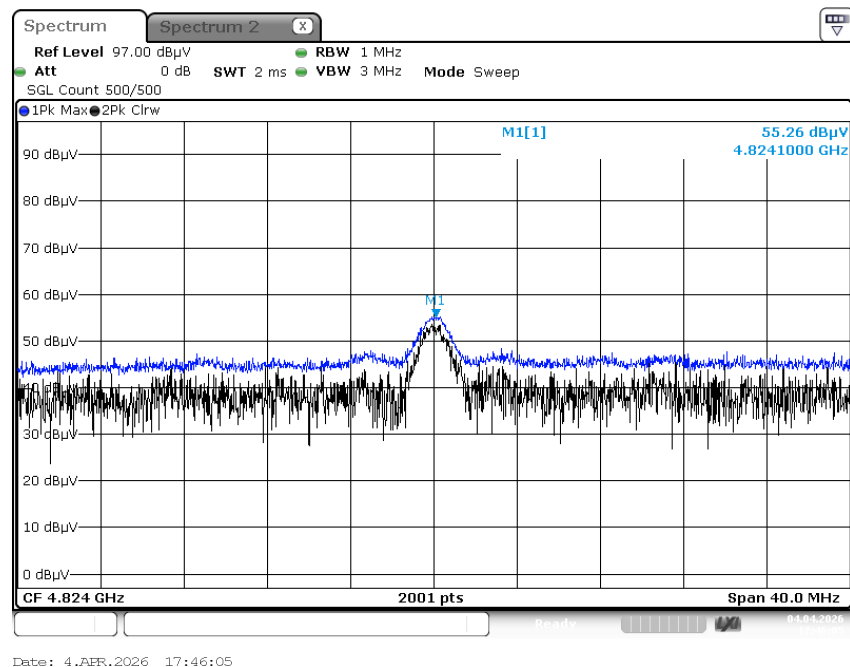
Note: In order to simplify the report, Plots of worst case are only reported.

[SISO_Ant.1]

Radiated Spurious Emissions plot – Average Result (802.11b_1 M, Ch.1 2nd Harmonic, X-H)

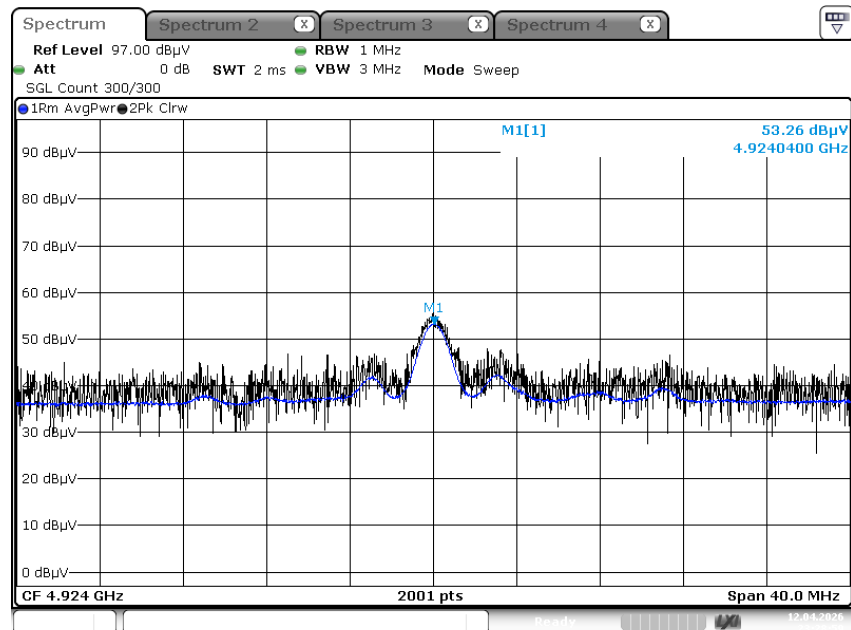


Radiated Spurious Emissions plot – Peak Result (802.11b_1 M, Ch.1 2nd Harmonic, X-H)

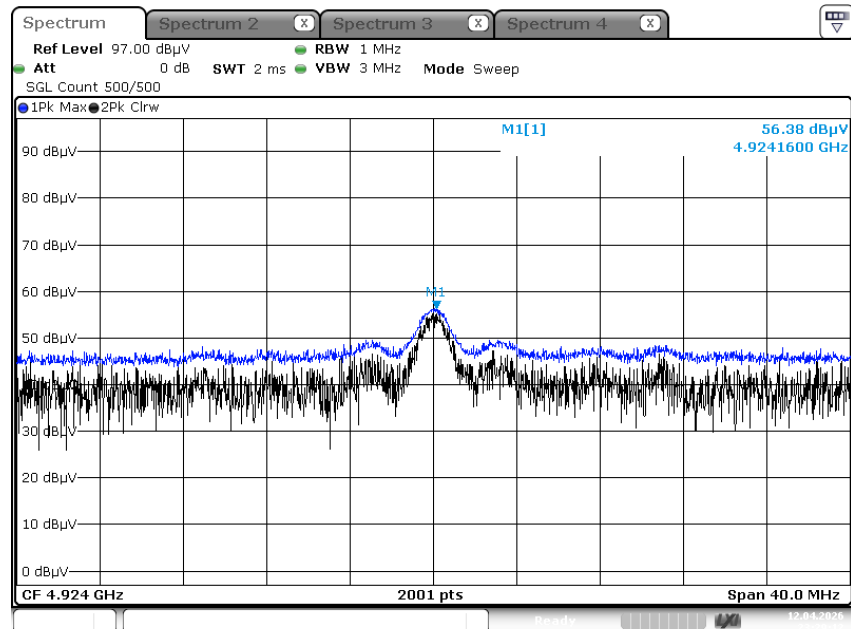


[SISO_Ant.2]

Radiated Spurious Emissions plot – Average Result (802.11b_1 M, Ch.11 2nd Harmonic, Y-V)

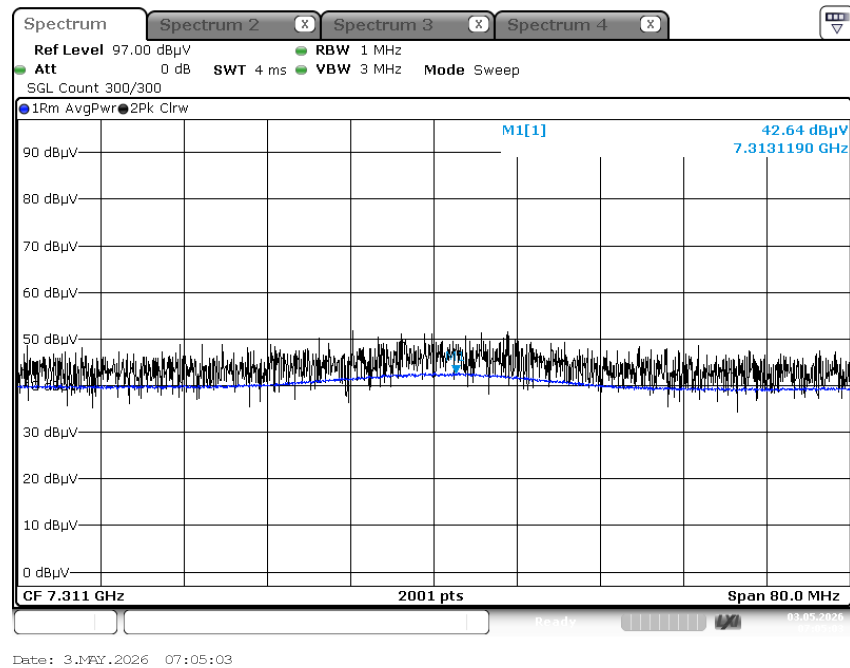


Radiated Spurious Emissions plot – Peak Result(802.11b_1 M, Ch.11 2nd Harmonic, Y-V))

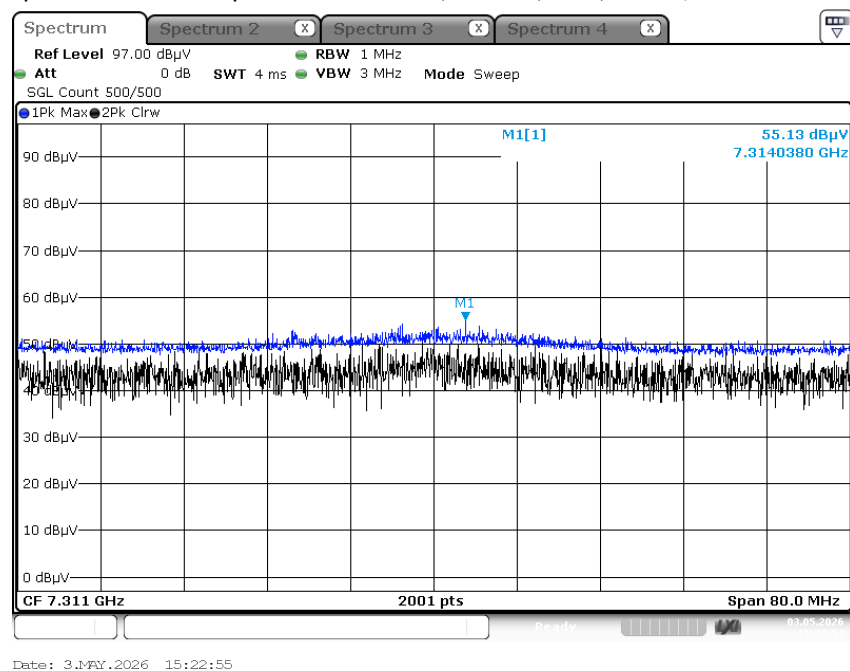


[MIMO_CDD(Ant1+Ant2)]

Radiated Spurious Emissions plot – Average Result (802.11n(HT20)_MCS0, Ch.6 3rd Harmonic, X-H)



Radiated Spurious Emissions plot – Peak Result (802.11n(HT20)_MCS0, Ch.6 3rd Harmonic, Z-H)



9.7 RADIATED RESTRICTED BAND EDGES

#Note : Integration method Used (ANSI C63.10-2020 Section 11.12.3.2)

[SISO_Ant.1]

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	1	Frequency :	2412 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	57.37	0.00	H	57.37	73.98	16.61	PK
2310 - 2390	50.25	0.00	H	50.25	53.98	3.73	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	2	Frequency :	2417 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	56.70	0.00	H	56.70	73.98	17.28	PK
2310 - 2390	49.55	0.00	H	49.55	53.98	4.43	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	3	Frequency :	2422 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	54.51	0.00	H	54.51	73.98	19.47	PK
2310 - 2390	45.80	0.00	H	45.80	53.98	8.18	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	1	Frequency :	2412 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	62.95	0.00	H	62.95	73.98	11.03	PK
2310 - 2390	47.83	0.30	H	48.13	53.98	5.85	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	2	Frequency :	2417 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	63.43	0.00	H	63.43	73.98	10.55	PK
2310 - 2390	47.99	0.30	H	48.29	53.98	5.69	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	3	Frequency :	2422 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	65.02	0.00	H	65.02	73.98	8.96	PK
2310 - 2390	48.03	0.30	H	48.32	53.98	5.66	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	8	Frequency :	2447 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	55.28	0.00	H	55.28	73.98	18.70	PK
2483.5 - 2500	48.70	0.00	H	48.70	53.98	5.28	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	9	Frequency :	2452 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	55.10	0.00	H	55.10	73.98	18.88	PK
2483.5 - 2500	48.25	0.00	H	48.25	53.98	5.73	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	10	Frequency :	2457 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	56.50	0.00	H	56.50	73.98	17.48	PK
2483.5 - 2500	50.19	0.00	H	50.19	53.98	3.79	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	11	Frequency :	2462 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	55.58	0.00	H	55.58	73.98	18.40	PK
2483.5 - 2500	48.75	0.00	H	48.75	53.98	5.23	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	8	Frequency :	2447 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	59.86	0.00	H	59.86	73.98	14.12	PK
2483.5 - 2500	45.45	0.30	H	45.75	53.98	8.23	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	9	Frequency :	2452 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	65.26	0.00	H	65.26	73.98	8.72	PK
2483.5 - 2500	45.32	0.30	H	45.62	53.98	8.36	AV

Operation Mode : 802.11g_20		Tone & RU Index : -		Transfer Rate : 6M			
Channel No. : 10		Frequency : 2457 MHz		Band : DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	64.61	0.00	H	64.61	73.98	9.37	PK
2483.5 - 2500	49.27	0.30	H	49.57	53.98	4.41	AV

Operation Mode : 802.11g_20		Tone & RU Index : -		Transfer Rate : 6M			
Channel No. : 11		Frequency : 2462 MHz		Band : DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	63.78	0.00	H	63.78	73.98	10.20	PK
2483.5 - 2500	49.14	0.30	H	49.44	53.98	4.54	AV

[SISO_Ant.2]

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	1	Frequency :	2412 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	53.59	0.00	H	53.59	73.98	20.39	PK
2310 - 2390	44.21	0.00	H	44.21	53.98	9.77	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	2	Frequency :	2417 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	53.97	0.00	H	53.97	73.98	20.01	PK
2310 - 2390	45.21	0.00	H	45.21	53.98	8.77	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	3	Frequency :	2422 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	50.65	0.00	H	50.65	73.98	23.33	PK
2310 - 2390	40.01	0.00	H	40.01	53.98	13.97	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	1	Frequency :	2412 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	64.84	0.00	H	64.84	73.98	9.14	PK
2310 - 2390	48.96	0.30	H	49.25	53.98	4.73	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	2	Frequency :	2417 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	62.89	0.00	H	62.89	73.98	11.09	PK
2310 - 2390	47.66	0.30	H	47.96	53.98	6.02	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	3	Frequency :	2422 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	62.15	0.00	H	62.15	73.98	11.83	PK
2310 - 2390	47.37	0.30	H	47.67	53.98	6.31	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	9	Frequency :	2452 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	52.18	0.00	H	52.18	73.98	21.80	PK
2483.5 - 2500	40.13	0.00	H	40.13	53.98	13.85	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	10	Frequency :	2457 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	53.92	0.00	H	53.92	73.98	20.06	PK
2483.5 - 2500	45.42	0.00	H	45.42	53.98	8.56	AV

Operation Mode :	802.11b_20	Tone & RU Index :	-	Transfer Rate :	1M		
Channel No. :	11	Frequency :	2462 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	54.47	0.00	H	54.47	73.98	19.51	PK
2483.5 - 2500	45.23	0.00	H	45.23	53.98	8.75	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	9	Frequency :	2452 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	64.04	0.00	H	64.04	73.98	9.94	PK
2483.5 - 2500	48.34	0.30	H	48.63	53.98	5.35	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	10	Frequency :	2457 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.85	0.00	H	62.85	73.98	11.13	PK
2483.5 - 2500	47.97	0.30	H	48.26	53.98	5.72	AV

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	11	Frequency :	2462 MHz	Band :	DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.12	0.00	H	62.12	73.98	11.86	PK
2483.5 - 2500	46.31	0.30	H	46.61	53.98	7.37	AV

[MIMO_CDD(Ant1+Ant2)]

Operation Mode : 802.11n_20		Tone & RU Index : -		MCS index : MCS0			
Channel No. : 1		Frequency : 2412 MHz		Band : DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	59.97	0.00	H	59.97	73.98	14.01	PK
2310 - 2390	48.42	0.32	H	48.74	53.98	5.24	AV

Operation Mode: 802.11n_20		Tone & RU Index: -		MCS index: MCS0			
Channel No.: 2		Frequency: 2417 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	62.27	0.00	H	62.27	73.98	11.71	PK
2310 - 2390	49.57	0.32	H	49.89	53.98	4.09	AV

Operation Mode :		802.11n_20	Tone & RU Index :			MCS index :		MCS0
Channel No. :		3	Frequency :			Band :		DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type	
2310 - 2390	61.93	0.00	H	61.93	73.98	12.05	PK	
2310 - 2390	49.30	0.32	H	49.62	53.98	4.36	AV	

Operation Mode: 802.11n_20		Tone & RU Index: -			MCS index: MCS0		
Channel No.: 4		Frequency: 2427 MHz			Band: DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	64.20	0.00	H	64.20	73.98	9.78	PK
2310 - 2390	49.34	0.32	H	49.66	53.98	4.32	AV

Operation Mode :	802.11n_20	Tone & RU Index :		-		MCS index :	MCS0
Channel No. :	5	Frequency :		2432 MHz		Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	60.66	0.00	H	60.66	73.98	13.32	PK
2310 - 2390	48.47	0.32	H	48.78	53.98	5.20	AV

Operation Mode :	802.11n_20	Tone & RU Index :	-			MCS index :	MCS0
Channel No. :	6	Frequency :	2437 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	61.44	0.00	H	61.44	73.98	12.54	PK
2310 - 2390	48.98	0.32	H	49.30	53.98	4.68	AV

Operation Mode : 802.11n_20		Tone & RU Index : -		MCS index : MCS0			
Channel No. : 6		Frequency : 2437 MHz		Band : DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.40	0.00	H	62.40	73.98	11.58	PK
2483.5 - 2500	48.99	0.32	H	49.30	53.98	4.68	AV

Operation Mode: 802.11n_20		Tone & RU Index: -			MCS index: MCS0		
Channel No.: 7		Frequency: 2442 MHz			Band: DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	61.68	0.00	H	61.68	73.98	12.30	PK
2483.5 - 2500	48.78	0.32	H	49.10	53.98	4.88	AV

Operation Mode: 802.11n_20		Tone & RU Index: -		MCS index: MCS0			
Channel No.: 8		Frequency: 2447 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.26	0.00	H	62.26	73.98	11.72	PK
2483.5 - 2500	48.62	0.32	H	48.94	53.98	5.04	AV

Operation Mode: 802.11n_20		Tone & RU Index: -		MCS index: MCS0			
Channel No.: 9		Frequency: 2452 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.47	0.00	H	62.47	73.98	11.51	PK
2483.5 - 2500	48.76	0.32	H	49.07	53.98	4.91	AV

Operation Mode: 802.11n_20		Tone & RU Index: -		MCS index: MCS0			
Channel No.: 10		Frequency: 2457 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	60.90	0.00	H	60.90	73.98	13.08	PK
2483.5 - 2500	48.83	0.32	H	49.15	53.98	4.83	AV

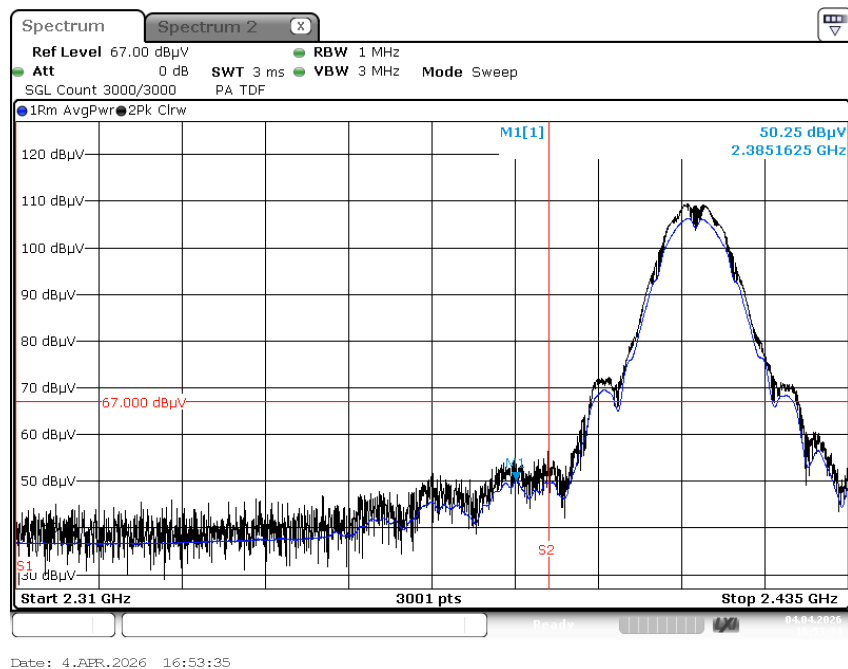
Operation Mode: 802.11n_20		Tone & RU Index: -		MCS index: MCS0			
Channel No.: 11		Frequency: 2462 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	61.36	0.00	H	61.36	73.98	12.62	PK
2483.5 - 2500	48.87	0.32	H	49.19	53.98	4.79	AV

Test Plots

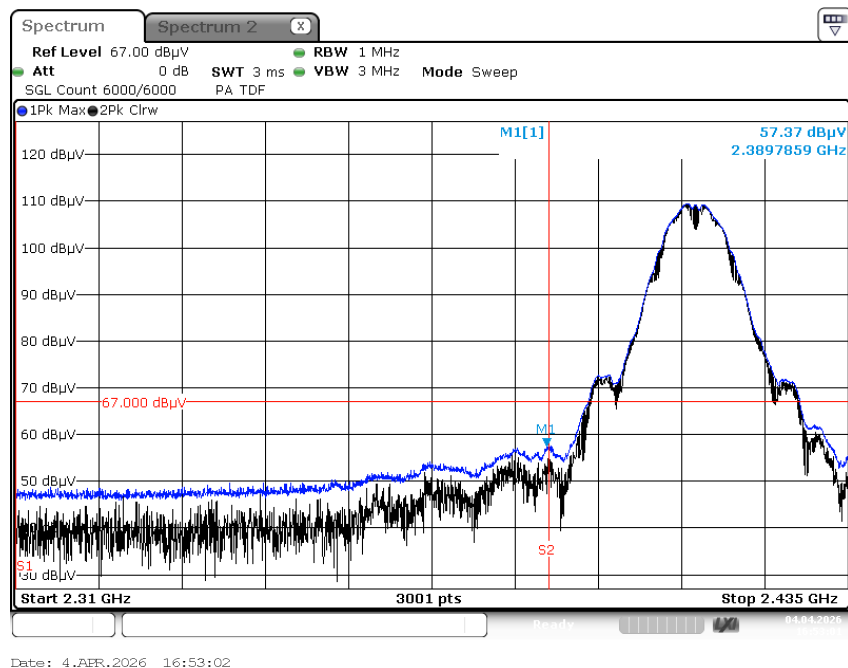
Note: In order to simplify the report, Plots of worst case are only reported.

[SISO_Ant.1]

Radiated Restricted Band Edges plot – Average Result (802.11b_1 M, Ch.1, X-H)

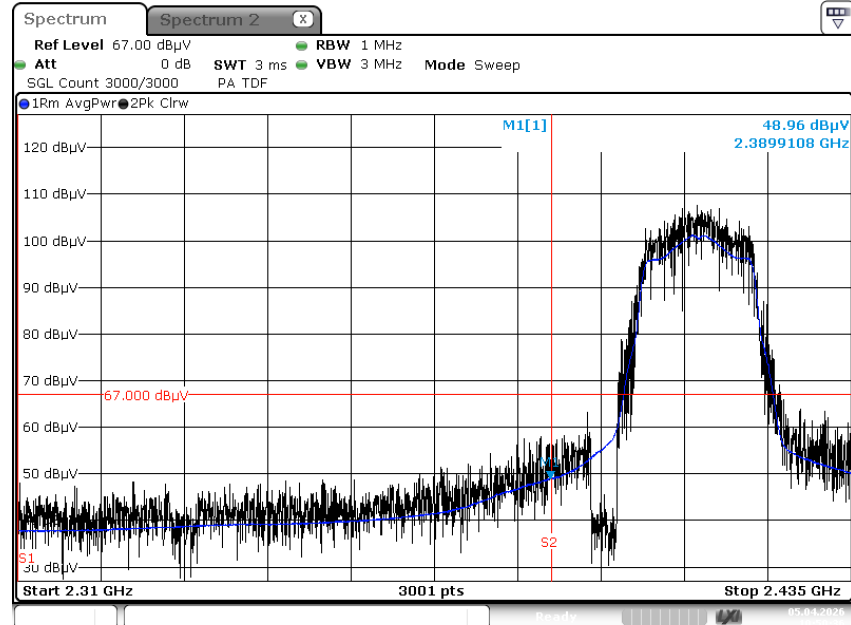


Radiated Restricted Band Edges plot – Peak Result (802.11b_1 M, Ch.1, X-H)

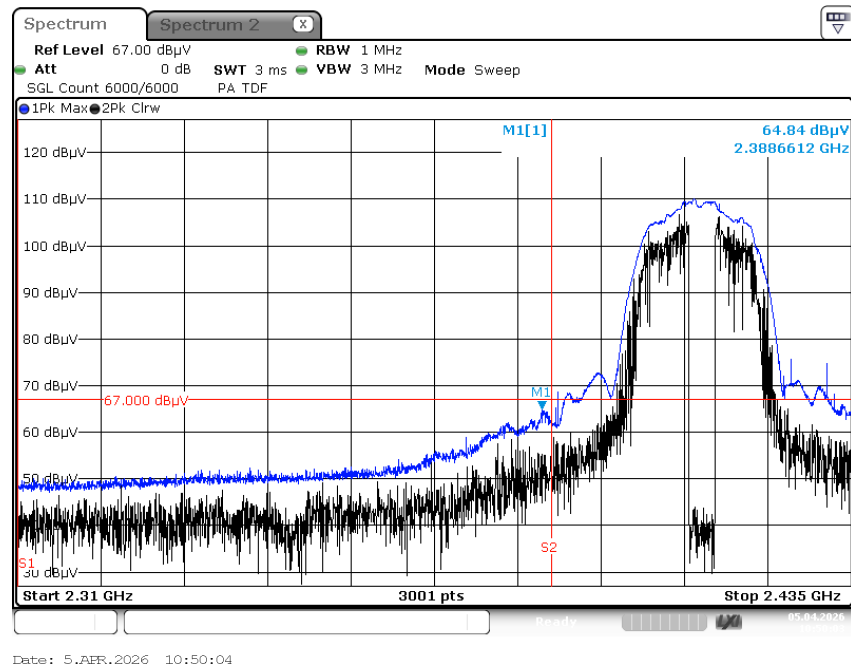


[SISO_Ant.2]

Radiated Restricted Band Edges plot – Average Result (802.11g_6 M, Ch.1, X-H)

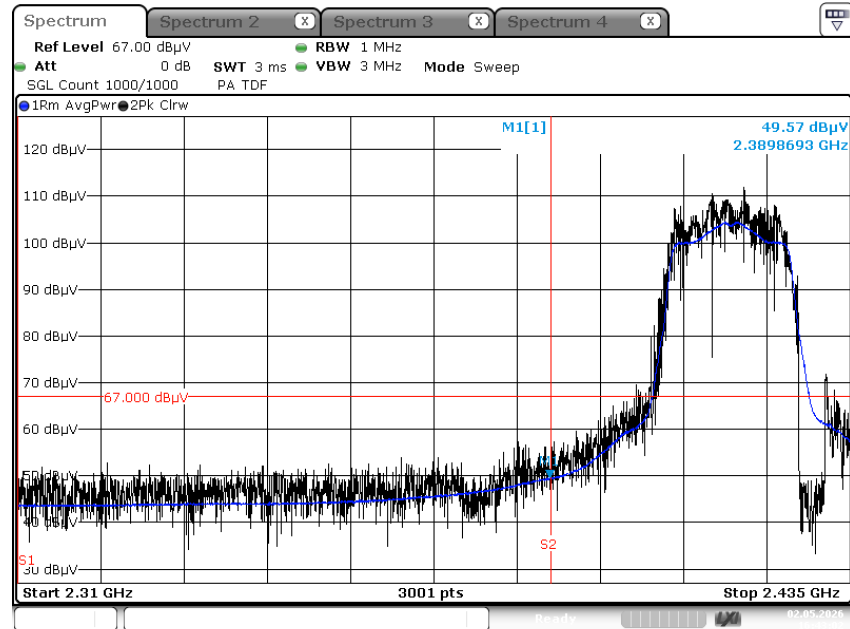


Radiated Restricted Band Edges plot – Peak Result (802.11g_6 M, Ch.1, X-H)



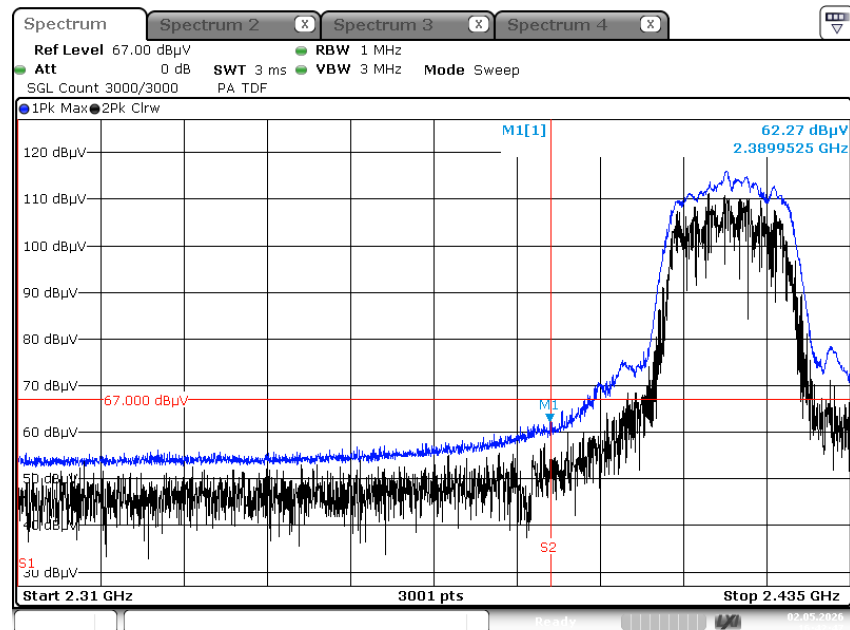
[MIMO_CDD(Ant1+Ant2)]

Radiated Restricted Band Edges plot – Average Result (802.11n(HT20)_MCS0, Ch.2, X-H)



Date: 2.MAY.2026 16:43:03

Radiated Restricted Band Edges plot – Peak Result (802.11n(HT20)_MCS0, Ch.2, X-H)



Date: 2.MAY.2026 16:42:47

9.8 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

Test

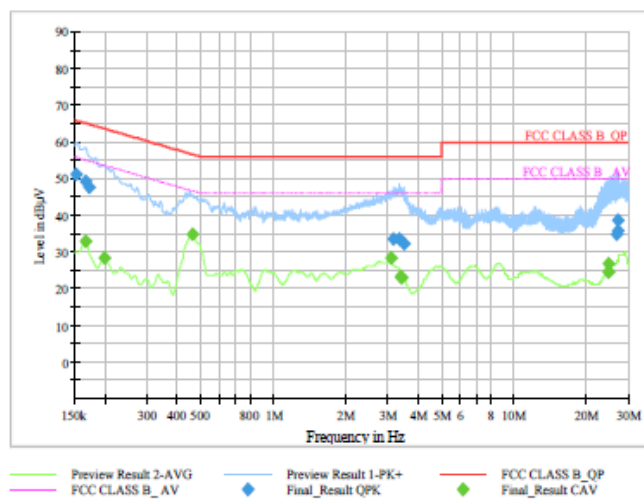
1 / 1

Test Report

Common Information

EUT : ETWMCBSL01
Operating Conditions : 2.4G WLAN Mode
Comment :

Full Spectrum



Final Result QPK

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1523	51.10	65.88	14.77	9.000	L1	9.7
0.1658	49.17	65.17	16.00	9.000	N	9.6
0.1725	47.69	64.84	17.15	9.000	L1	9.7
3.1663	33.74	56.00	22.26	9.000	L1	9.7
3.3598	33.71	56.00	22.29	9.000	L1	9.7
3.4858	32.20	56.00	23.80	9.000	L1	9.7
26.7935	34.89	60.00	25.11	9.000	N	9.9
26.9825	38.68	60.00	21.32	9.000	N	9.9
27.1715	35.76	60.00	24.24	9.000	N	9.9

Final Result CAV

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1658	32.94	55.17	22.23	9.000	L1	9.7
0.1995	28.59	53.63	25.04	9.000	N	9.6
0.4605	34.75	46.68	11.94	9.000	N	9.6
3.0875	28.56	46.00	17.44	9.000	N	9.7
3.3688	23.43	46.00	22.57	9.000	L1	9.7
3.4205	22.99	46.00	23.01	9.000	L1	9.7
24.8000	24.59	50.00	25.41	9.000	N	9.9
24.8810	27.01	50.00	22.99	9.000	N	9.9
24.9125	24.47	50.00	25.53	9.000	N	9.9

2026-05-08

오후 1:13:24

9.9 CONFIRMATION OF GEO-LOCATION MECHANISM

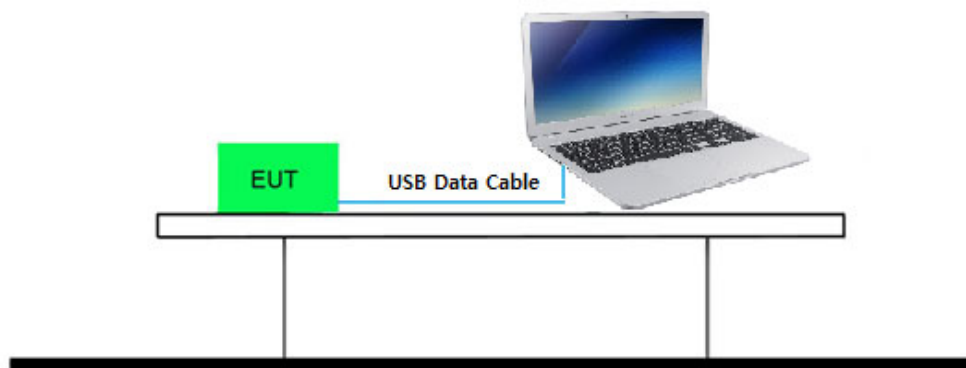
The device uses MCC information obtained from the public cellular carrier to determine that it is operating outside the U.S. and then enable channels 12 and 13 only if a non-US MCC that supports channel 12 and 13 is confirmed.

The device uses a geo-location mechanism based on the Country in order to only enable certain WLAN DTS bands when the device is not in the USA.

WLAN	Country code = US	Country code = KR(Korea)
CH 12	Did not connect	Connected
CH 13	Did not connect	Connected

The verification tests confirmed the operational of the geo-location mechanism.

Test Setup



Test Procedure

In case of Country code

1. Open Command Prompt.
2. Setting the country for product
3. At the Command Prompt, enter the command.
 - >adb root
 - >adb remount
 - >adb shell
 - >wl country
 - >wl channels

Setting the country for product

Country code = US

```
Microsoft Windows [Version 10.0.26100.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HCT1934>adb shell
/ # wl country
US (US/0) UNITED STATES
/ # wl channels
1 2 3 4 5 6 7 8 9 10 11 36 40 44 48 52 56 60 64 100 104 108 112 116 120 124 128 132 136 140 144 149 153 157 161 165
```

Country code = KR(Korea)

```
Microsoft Windows [Version 10.0.26100.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HCT1934>adb shell
/ # wl country
KR (KR/0) KOREA, REPUBLIC OF
/ # wl channels
1 2 3 4 5 6 7 8 9 10 11 12 13 36 40 44 48 52 56 60 64 100 104 108 112 116 120 124 128 132 136 140 144 149 153 157 161 165
```

10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/10/2027	Annual
EMI Test Receiver	ESR7	Rohde & Schwarz	101910	08/20/2026	Annual
Chamber	SU-642	ESPEC	93022487	06/17/2027	Annual
Signal Analyzer	N9030B	Keysight	MY56320554	01/26/2027	Annual
Open switch and control platform	OSP 120	Rohde & Schwarz	100935	07/24/2026	Annual
Power Meter	N1911A	Agilent	MY45100523	02/13/2027	Annual
Wideband Power Sensor	N1921A	Keysight	MY57820067	01/26/2027	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/14/2026	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/15/2027	Annual
DC Power Supply	E3632A	Agilent	MY50360067	01/27/2027	Annual
Attenuator	10 dB	Sensor View	ATT10FC001	05/14/2027	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/22/2026	Annual
Radio Communication Tester	CMX500	Rohde&Schwarz	100325	09/29/2026	Annual
4 Way Power DIVIDER	4456-4	Narda	01640	04/13/2027	Annual
Step Attenuator	8310-202-F	Aeroflex/Weinschel	1070	03/18/2027	Annual
Automation Software	FCC WLAN Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC Bluetooth Conducted	HCT CO.,LTD	-	-	-

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.

All reported measurements were performed using equipment within valid calibration.

2. Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Antenna Mast Controller	CO3000	Innco systems GmbH	CO3000/1542/57580623/G	N/A	N/A
Antenna Mast	MA4640-XP-ET	Innco systems GmbH	9320422	03/24/2027	Biennial
Turn Table	DT2000-2t	Innco systems GmbH	5930623	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck Mess-Elektronik OHG	1513-175	06/24/2027	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck Mess-Elektronik OHG	01135	08/19/2026	Biennial
Horn Antenna	BBHA 9120 D	Schwarzbeck Mess-Elektronik OHG	9120D-1151	07/11/2027	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck Mess-Elektronik OHG	BBHA9170342	09/20/2026	Biennial
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments GmbH	2	12/11/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	5	03/19/2027	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	6	03/19/2027	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments GmbH	1	01/07/2027	Annual
RF Switching System	FBSR-04C (HPF(3~18GHz) + LNA1(1~18GHz))	T&M system	S5L1	02/12/2027	Annual
RF Switching System	FBSR-04C (ATT(10dB) + LNA1(1~18GHz))	T&M system	S5L2	02/12/2027	Annual
RF Switching System	FBSR-04C (ATT(3dB) + LNA1(1~18GHz))	T&M system	S5L3	02/12/2027	Annual
RF Switching System	FBSR-04C (LNA1(1~18GHz))	T&M system	S5L4	02/12/2027	Annual
RF Switching System	FBSR-04C (HPF(7~18GHz) + LNA2(6~18GHz))	T&M system	S5L5	02/12/2027	Annual
RF Switching System	FBSR-04C (Thru(30MHz ~ 18GHz))	T&M system	S5L6	02/12/2027	Annual
Broadband LNA	CBL18265035	CERNEX	22966	10/21/2026	Annual
Broadband LNA	CBL26405040	CERNEX	25956	02/09/2027	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/03/2027	Annual
Signal Analyzer	FSV40	Rohde & Schwarz	101510	09/17/2026	Annual
Attenuator	18B-03	API Technologies	1	04/13/2027	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD	-	-	-

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.
All reported measurements were performed using equipment within valid calibration.
2. Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

11. ANNEX A_TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2605-FC019-P