

TEST REPORT

FCC DTS Test for SM-A276B/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2604-FC057

DATE OF ISSUE
April 27, 2026

Tested by
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TEST REPORT

REPORT NO.

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Additional Model

SM-A276B

Applicant

SAMSUNG Electronics Co., Ltd.
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Product Name

Mobile Phone

Model Name

SM-A276B/DS

FCC ID

A3LSMA276B

Date of Test

March 18, 2026 ~ April 27, 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)

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	April 27, 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

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. GENERAL INFORMATION	5
EUT DESCRIPTION	5
ANTENNA CONFIGURATIONS	6
2. TEST METHODOLOGY	7
EUT CONFIGURATION	7
EUT EXERCISE	7
GENERAL TEST PROCEDURES	7
DESCRIPTION OF TEST MODES	8
3. INSTRUMENT CALIBRATION	8
4. FACILITIES AND ACCREDITATIONS	8
FACILITIES	8
EQUIPMENT	8
5. ANTENNA REQUIREMENTS	9
6. MEASUREMENT UNCERTAINTY	9
7. DESCRIPTION OF TESTS	10
8. SUMMARY TEST OF RESULTS	27
9. TEST RESULT	28
9.1 DUTY CYCLE	28
9.2 6 dB BANDWIDTH	30
9.3 OUTPUT POWER	32
9.4 POWER SPECTRAL DENSITY	34
9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS	36
9.6 RADIATED SPURIOUS EMISSIONS	40
9.7 RADIATED RESTRICTED BAND EDGES	44
9.8 POWERLINE CONDUCTED EMISSIONS	49
10. LIST OF TEST EQUIPMENT	50
11. ANNEX A_ TEST SETUP PHOTO	53

1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SM-A276B/DS	
Additional Model	SM-A276B	
EUT Type	Mobile Phone	
Power Supply	DC 3.88 V	
Frequency Range	2 412 MHz ~ 2 472 MHz	
Max. RF Output Power	<u>Average Power</u>	17.79 dBm (0.06 mW)
	<u>Peak Power</u>	25.47 dBm (0.35 mW)
Modulation Type	DSSS/CCK : 802.11b OFDM : 802.11g, 802.11n, 802.11ac	
Number of Channels	13 Channels	
Antenna Information	Please refer to the Antenna Specification document.	
Serial number	Conducted : 9aece6eccd127ece Radiated : 9aece6ed58127ece	

Grant Notes :

1. Output Power listed is conducted(Average)

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		MIMO	
	Ant1	Ant2	CDD	SDM
802.11b	O	X	X	X
802.11g	O	X	X	X
802.11n(HT20)	O	X	X	X
802.11ac(VHT20)	O	X	X	X

Note:

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

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 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

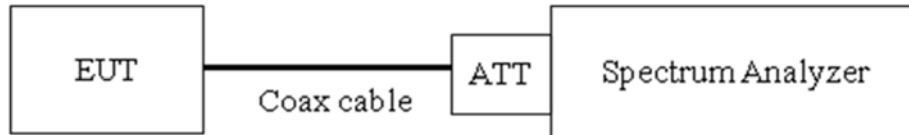
Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.96 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.73 (Confidence level about 95 %, $k=2$)
Power Spectral Density	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 :

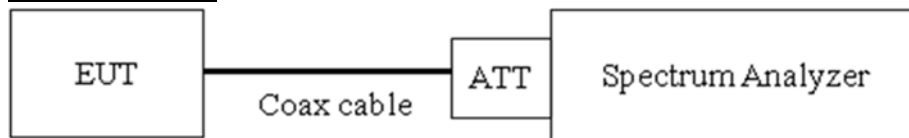
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz or 50 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = $10\log(1/\text{Duty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

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.

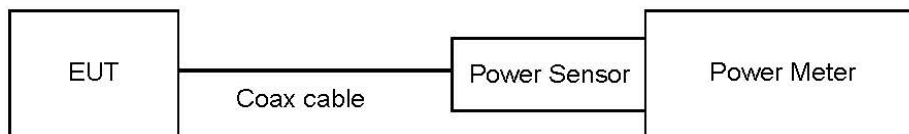
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

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

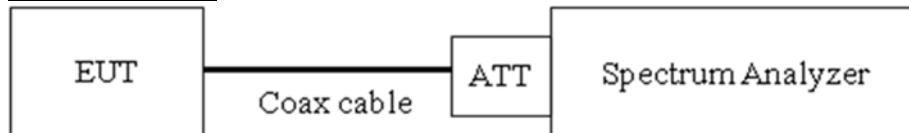
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

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 OBW.
- 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 = power averaging (rms) or sample detector (when rms not available).
- 7) Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / RBW]$.
- 8) Employ trace averaging (rms) mode over a minimum of 100 traces
- 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.
- 11) if then duty factor shall be added to adjust the result if the duty cycle is less than 98 %

Sample Calculation

- Power Spectral Density = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

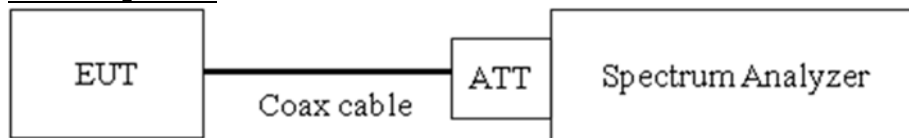
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

Limit

The maximum conducted (Average) 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 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

[Conducted > 30 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	10.10
100	10.11
200	10.15
300	10.18
400	10.19
500	10.26
600	10.25
700	10.28
800	10.29
900	10.30
1000	10.30
2000	10.52
2400	10.60
2500	10.60
3000	10.62
4000	10.67
5000	10.80
6000	10.90
7000	10.90
8000	10.94
9000	11.04
10000	11.14
11000	11.18
12000	11.22
13000	11.28
14000	11.35
15000	11.44
16000	11.49
17000	11.53
18000	11.57
19000	11.63
20000	11.68
21000	11.71
22000	11.80
23000	11.82
24000	11.93
25000	11.95

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

2. Factor = Attenuator loss + Cable loss

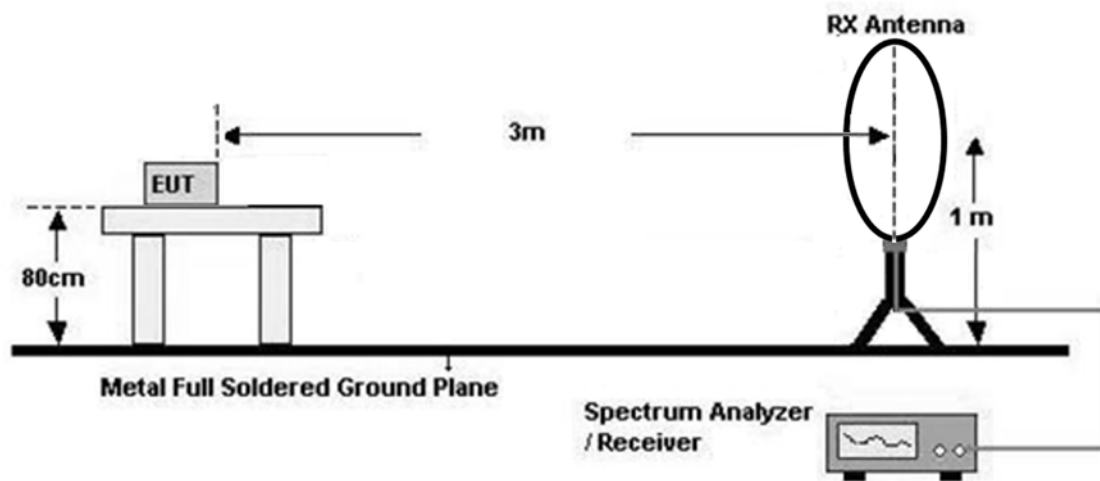
7.6. Radiated Test

Limit

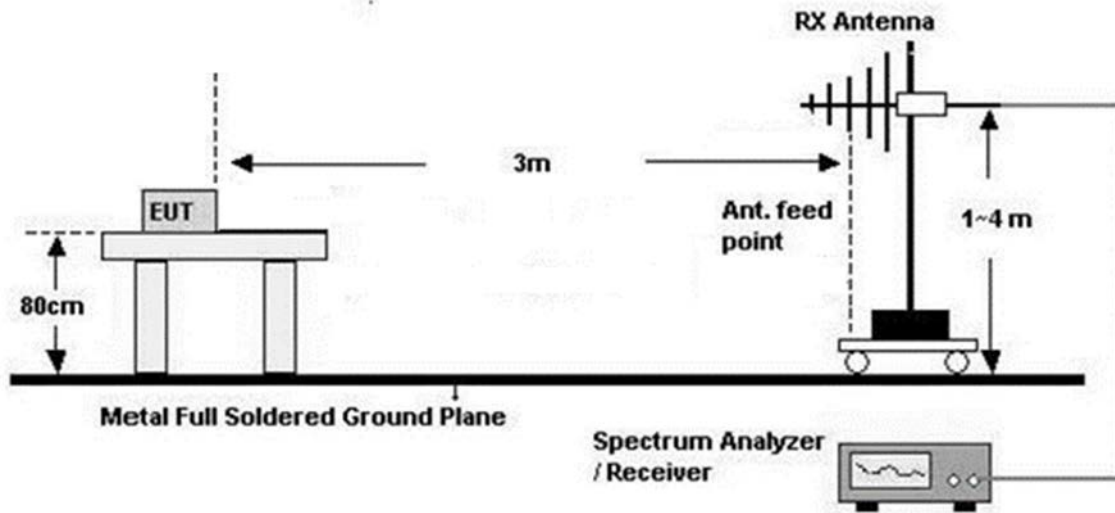
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

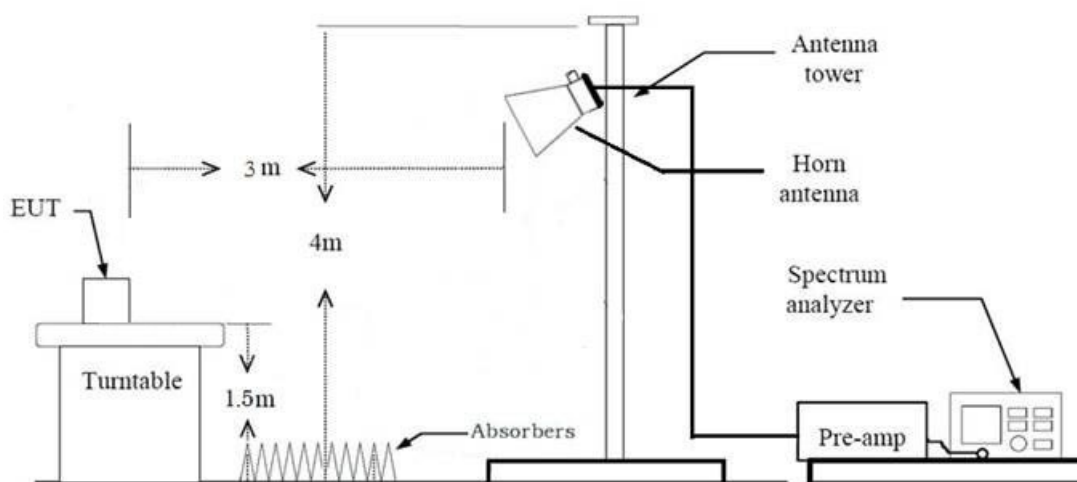
Below 30 MHz



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.
2. SM-A276B/DS, SM-A276B were tested and the worst case results are reported.
(Worst case: SM-A276B/DS)

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone, Stand alone + External accessories
 - Worstcase : Stand alone
2. All Antennas of operation were investigated and the worst case results are reported
3. EUT Axis
 - Radiated Spurious Emissions : X
 - Radiated Restricted Band Edge : X
4. Duty cycle factor applies only 802.11g/n/ac (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
 - 802.11ac(VHT20): MCS0
6. 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
7. Radiated Spurious Emissions
 - All modes of operation were investigated and the worst case results are reported.
 - Mode: 802.11b, 802.11g, 802.11n(HT20), 802.11ac(VHT20)
 - Worst case: 802.11b
8. SM-A276B/DS, SM-A276B were tested and the worst case results are reported.
(Worst case: SM-A276B/DS)

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + External accessories + Travel Adapter, Stand alone + Travel Adapter
 - Worstcase : Stand alone + Travel Adapter
2. SM-A276B/DS, SM-A276B were tested and the worst case results are reported.
(Worst case: SM-A276B/DS)

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 Band		PASS
Band Edge (Out of Band Emissions)	§ 15.247(d)	Conducted > 30 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'

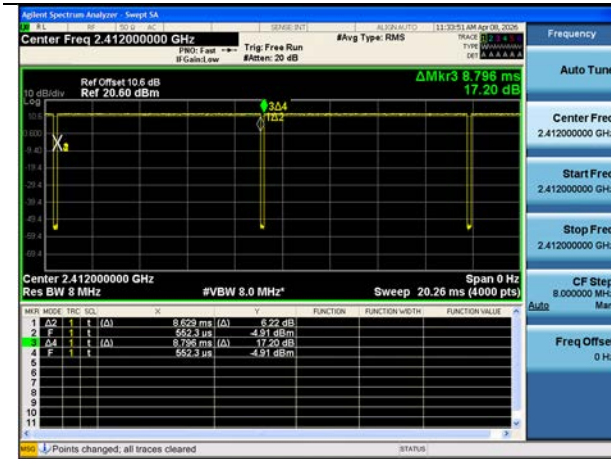
9. TEST RESULT

9.1 DUTY CYCLE

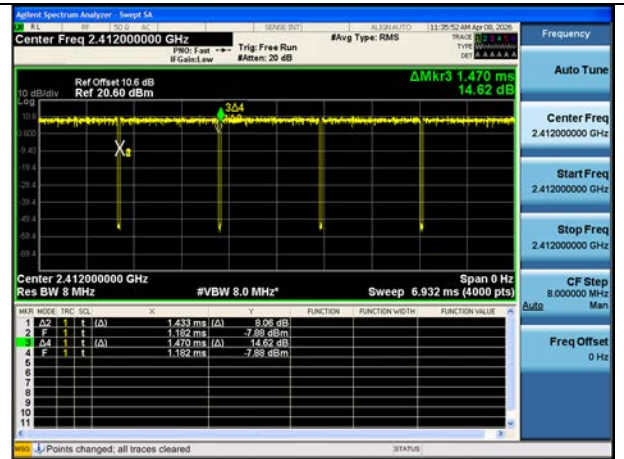
Mode	Data Rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11b	1 Mbps	8.629	8.796	0.981	0.08
802.11g	6 Mbps	1.433	1.470	0.975	0.11
802.11n (HT20)	MCS0	1.341	1.378	0.973	0.12
802.11ac (VHT20)	MCS0	1.349	1.385	0.974	0.12

Test Plots

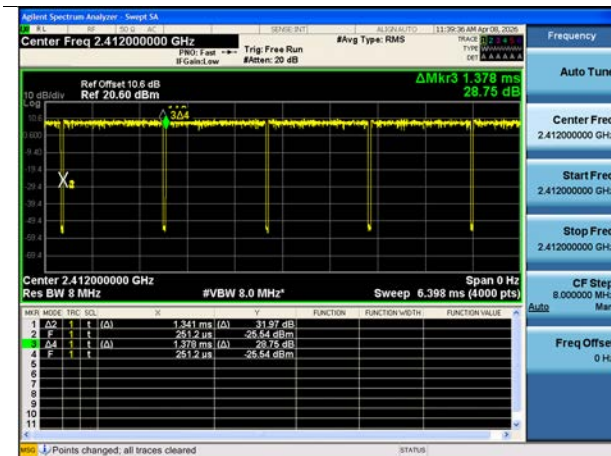
802.11b (1 Mbps)



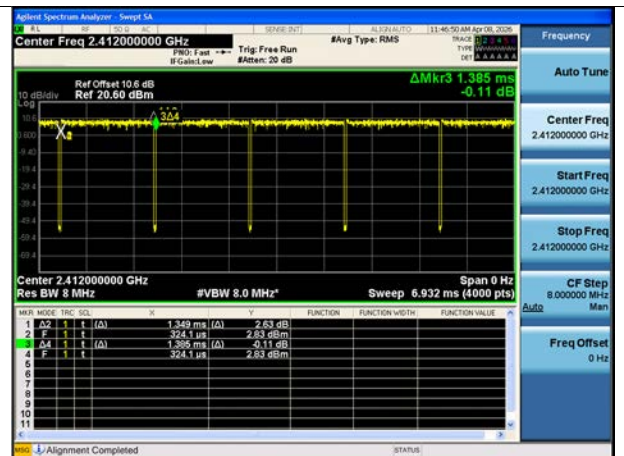
802.11g (6 Mbps)



802.11n (MCS0)



802.11ac (MCS0)



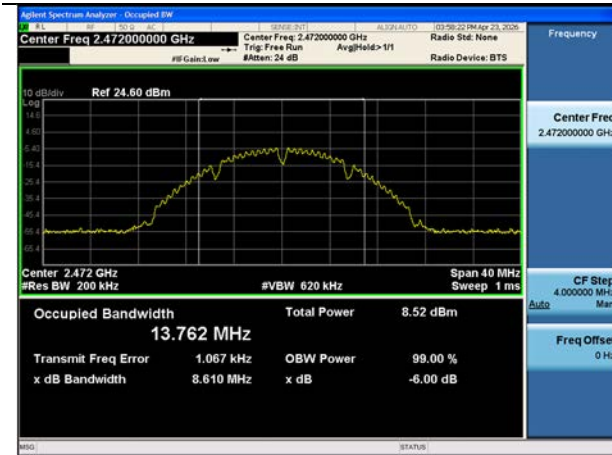
9.2 6 dB BANDWIDTH

Mode	Frequency [MHz]	Channel No.	6 dB Bandwidth [MHz]	Limit [MHz]
802.11b	2412	1	8.667	> 0.50
	2437	6	8.663	
	2462	11	9.116	
	2467	12	9.106	
	2472	13	8.610	
802.11g	2412	1	16.15	
	2437	6	16.24	
	2462	11	16.15	
	2467	12	16.18	
	2472	13	16.22	
802.11n (HT20)	2412	1	17.35	
	2437	6	17.38	
	2462	11	17.41	
	2467	12	17.30	
	2472	13	17.18	
802.11ac (VHT20)	2412	1	17.36	
	2437	6	17.37	
	2462	11	17.35	
	2467	12	17.40	
	2472	13	17.27	

Test Plots

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

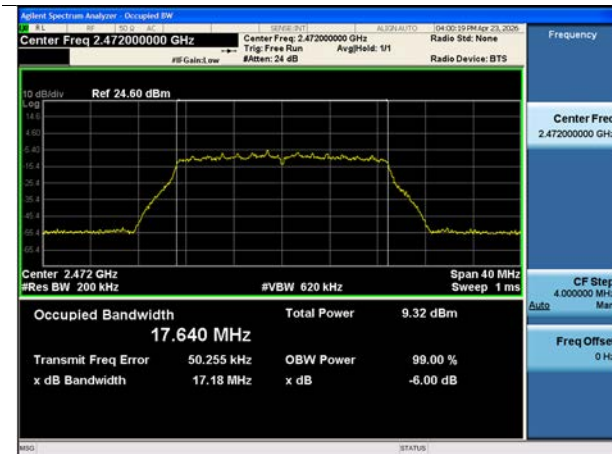
802.11b-CH 13



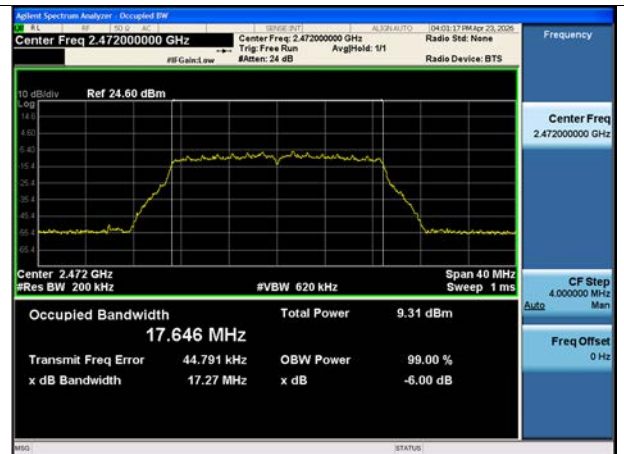
802.11g-CH 11



802.11n_HT20-CH 13



802.11ac_VHT20-CH 13



9.3 OUTPUT POWER

Peak Power

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Peak Power [dBm]	Limit [dBm]
802.11b	2412	1	11M	24.43	30
	2437	6	11M	24.38	
	2462	11	11M	24.43	
	2467	12	11M	14.50	
	2472	13	11M	8.97	
802.11g	2412	1	24M	25.46	
	2437	6	24M	25.47	
	2462	11	24M	25.41	
	2467	12	24M	16.31	
	2472	13	24M	10.58	
802.11n (HT20)	2412	1	MCS3	25.29	
	2437	6	MCS3	25.25	
	2462	11	MCS3	25.33	
	2467	12	MCS3	16.19	
	2472	13	MCS3	10.53	
802.11ac (VHT20)	2412	1	MCS3	25.31	
	2437	6	MCS3	25.23	
	2462	11	MCS3	25.25	
	2467	12	MCS3	16.20	
	2472	13	MCS3	10.54	

Average Power

Note :

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

Mode	Frequency [MHz]	Channel No.	Data Rate	Conducted Average Power [dBm]			Limit [dBm]
				Measured Value	D.C.F	Summed	
802.11b	2412	1	1M	17.67	0.08	17.75	30
	2437	6	1M	17.71	0.08	17.79	
	2462	11	1M	17.68	0.08	17.76	
	2467	12	1M	7.83	0.08	7.91	
	2472	13	1M	2.07	0.08	2.15	
802.11g	2412	1	6M	16.35	0.11	16.46	
	2437	6	6M	16.29	0.11	16.40	
	2462	11	6M	16.33	0.11	16.44	
	2467	12	6M	7.36	0.11	7.46	
	2472	13	6M	1.47	0.11	1.58	
802.11n (HT20)	2412	1	MCS0	16.15	0.12	16.26	
	2437	6	MCS0	16.13	0.12	16.25	
	2462	11	MCS0	16.10	0.12	16.22	
	2467	12	MCS0	7.20	0.12	7.32	
	2472	13	MCS0	1.31	0.12	1.42	
802.11ac (VHT20)	2412	1	MCS0	16.17	0.12	16.29	
	2437	6	MCS0	16.19	0.12	16.31	
	2462	11	MCS0	16.12	0.12	16.24	
	2467	12	MCS0	7.21	0.12	7.33	
	2472	13	MCS0	1.30	0.12	1.42	

9.4 POWER SPECTRAL DENSITY

Note :

1. Total PSD [dBm/3kHz] = Measured PSD [dBm/3kHz] + Duty Cycle Factor [dB]

Mode	Freq. [MHz]	CH.	Data Rate	Power Spectral Density [dBm/3kHz]			Limit
				Measured Value	D.C.F	Summed	
802.11b	2412	1	1M	-8.804	0.083	-8.721	8 dBm / 3 kHz
	2437	6	1M	-8.931	0.083	-8.848	
	2462	11	1M	-8.702	0.083	-8.619	
	2467	12	1M	-18.621	0.083	-18.538	
	2472	13	1M	-24.560	0.083	-24.477	
802.11g	2412	1	6M	-12.224	0.109	-12.115	
	2437	6	6M	-12.575	0.109	-12.466	
	2462	11	6M	-12.547	0.109	-12.438	
	2467	12	6M	-21.459	0.109	-21.350	
	2472	13	6M	-27.342	0.109	-27.233	
802.11n (HT20)	2412	1	MCS0	-12.214	0.118	-12.096	
	2437	6	MCS0	-12.494	0.118	-12.376	
	2462	11	MCS0	-12.646	0.118	-12.528	
	2467	12	MCS0	-21.169	0.118	-21.051	
	2472	13	MCS0	-27.348	0.118	-27.230	
802.11ac (VHT20)	2412	1	MCS0	-12.156	0.116	-12.040	
	2437	6	MCS0	-12.824	0.116	-12.708	
	2462	11	MCS0	-12.326	0.116	-12.210	
	2467	12	MCS0	-21.564	0.116	-21.448	
	2472	13	MCS0	-27.408	0.116	-27.292	

Test Plots

Note :

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

802.11b-CH 11



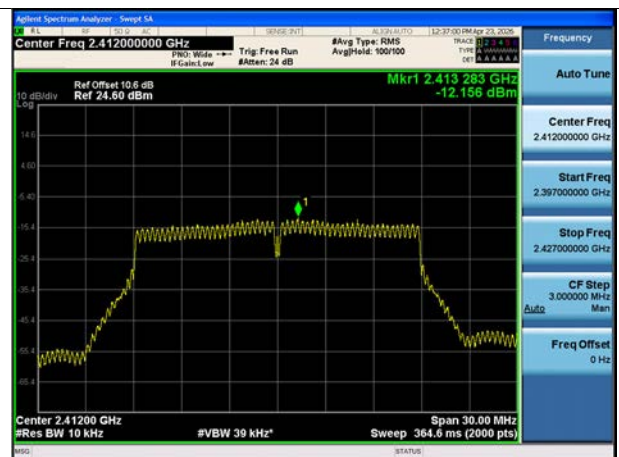
802.11g-CH 1



802.11n_HT20-CH 1



802.11ac_VHT20-CH 1



9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS

Band Edge

Limit : 30 dBc

Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge[dB]
802.11b	2412	1	1M	Lowest Bandedge	40.590
	2462	11	1M	Highest Bandedge	61.821
	2467	12	1M	Highest Bandedge	55.497
	2472	13	1M	Highest Bandedge	46.067
802.11g	2412	1	6M	Lowest Bandedge	42.395
	2462	11	6M	Highest Bandedge	49.900
	2467	12	6M	Highest Bandedge	51.769
	2472	13	6M	Highest Bandedge	39.780
802.11n (HT20)	2412	1	MCS0	Lowest Bandedge	42.862
	2462	11	MCS0	Highest Bandedge	45.884
	2467	12	MCS0	Highest Bandedge	49.842
	2472	13	MCS0	Highest Bandedge	39.746
802.11ac (VHT20)	2412	1	MCS0	Lowest Bandedge	43.031
	2462	11	MCS0	Highest Bandedge	47.540
	2467	12	MCS0	Highest Bandedge	49.678
	2472	13	MCS0	Highest Bandedge	39.432

Conducted Spurious Emissions

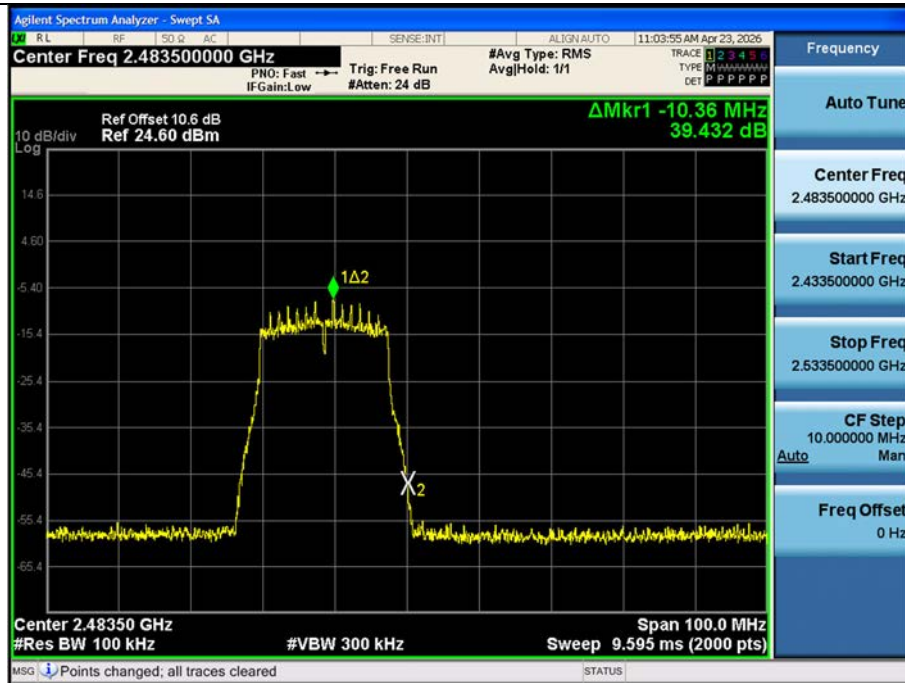
Limit : 30 dBc

Mode	Frequency [MHz]	Channel No.	Worst Data Rate	Conducted Spurious Emissions [dBc]
802.11b	2412	1	1M	56.699
	2437	6	1M	64.900
	2462	11	1M	58.626
	2467	12	1M	53.687
	2472	13	1M	51.612
802.11g	2412	1	6M	62.693
	2437	6	6M	62.365
	2462	11	6M	61.761
	2467	12	6M	50.064
	2472	13	6M	44.790
802.11n (HT20)	2412	1	MCS0	62.735
	2437	6	MCS0	58.907
	2462	11	MCS0	60.646
	2467	12	MCS0	51.689
	2472	13	MCS0	47.537
802.11ac (VHT20)	2412	1	MCS0	63.325
	2437	6	MCS0	59.729
	2462	11	MCS0	59.949
	2467	12	MCS0	52.616
	2472	13	MCS0	43.967

Test Plots

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

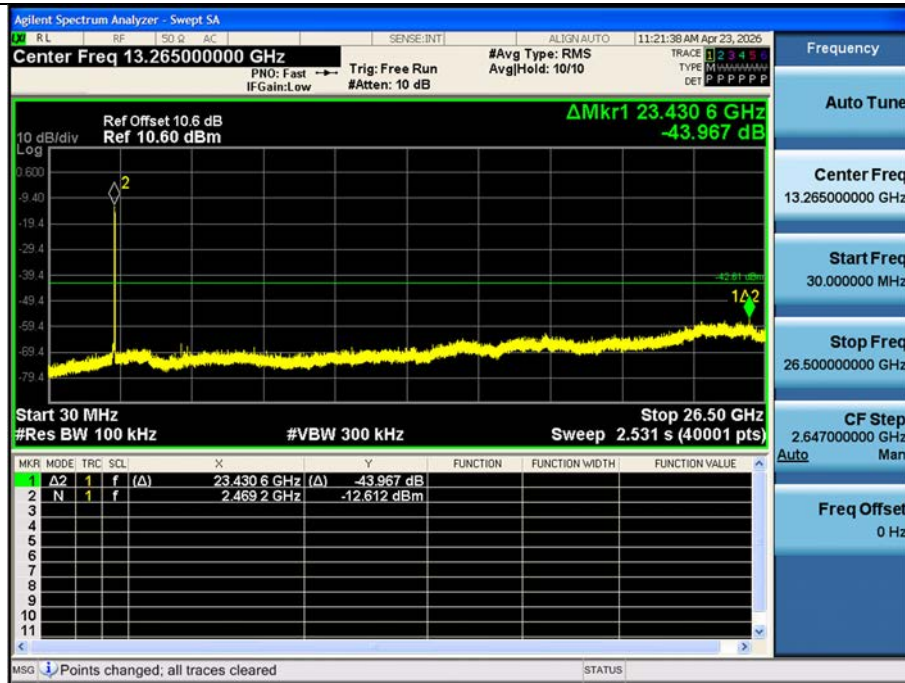
802.11ac(VHT20)- CH 13



Test Plots(Conducted Spurious Emissions)

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

802.11ac(VHT20) - CH 13



Limit: -42.612 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

Band :		DTS		Operation Mode :		802.11b	
CH.1		2412		Transfer Rate :		1M	
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4824	48.87	4.69	V	53.56	73.98	20.42	PK
4824	45.21	4.69	V	49.90	53.98	4.08	AV
7236	38.55	12.47	V	51.02	73.98	22.96	PK
7236	26.53	12.47	V	39.00	53.98	14.98	AV
4824	46.13	4.69	H	50.82	73.98	23.16	PK
4824	41.28	4.69	H	45.97	53.98	8.01	AV
7236	38.75	12.47	H	51.22	73.98	22.76	PK
7236	26.51	12.47	H	38.98	53.98	15.00	AV

Band :		DTS		Operation Mode :		802.11b	
CH.6		2437		Transfer Rate :		1M	
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4874	46.05	4.95	V	51.00	73.98	22.98	PK
4874	40.99	4.95	V	45.94	53.98	8.04	AV
7311	38.45	12.31	V	50.76	73.98	23.22	PK
7311	26.98	12.31	V	39.29	53.98	14.69	AV
4874	47.41	4.95	H	52.36	73.98	21.62	PK
4874	43.23	4.95	H	48.18	53.98	5.80	AV
7311	38.55	12.31	H	50.86	73.98	23.12	PK
7311	27.21	12.31	H	39.52	53.98	14.46	AV

Band :		DTS		Operation Mode :		802.11b	
CH.11		2462		Transfer Rate :		1M	
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	49.69	5.25	V	54.94	73.98	19.04	PK
4924	45.68	5.25	V	50.93	53.98	3.05	AV
7386	38.72	12.14	V	50.86	73.98	23.12	PK
7386	26.61	12.14	V	38.75	53.98	15.23	AV
4924	46.50	5.25	H	51.75	73.98	22.23	PK
4924	41.74	5.25	H	46.99	53.98	6.99	AV
7386	38.91	12.14	H	51.05	73.98	22.93	PK
7386	26.76	12.14	H	38.90	53.98	15.08	AV

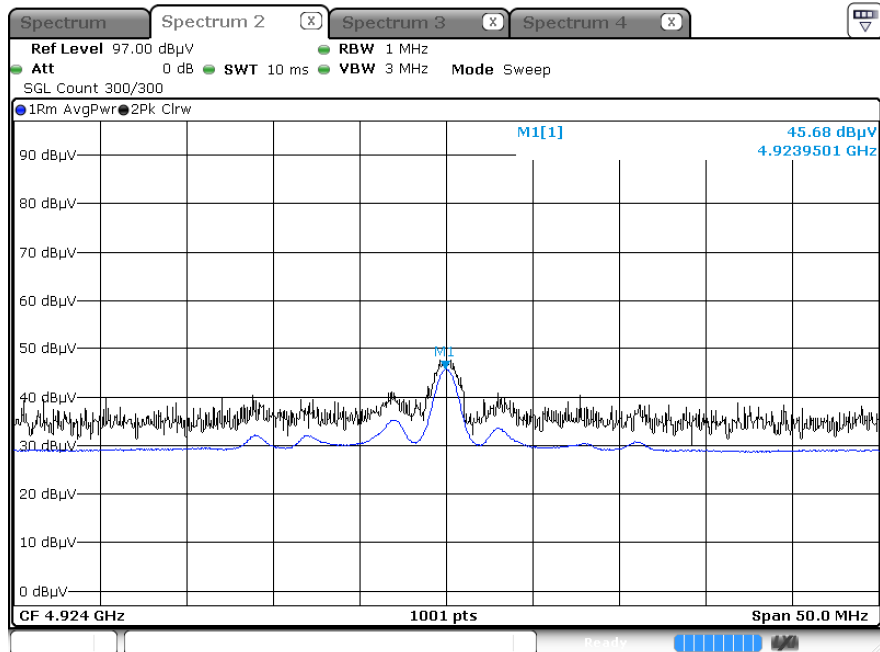
Band :		DTS		Operation Mode :		802.11b	
CH.12		2467		Transfer Rate :		1M	
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4934	41.68	5.23	V	46.91	73.98	27.07	PK
4934	30.53	5.23	V	35.76	53.98	18.22	AV
7401	39.08	12.15	V	51.23	73.98	22.75	PK
7401	26.71	12.15	V	38.86	53.98	15.12	AV
4934	41.95	5.23	H	47.18	73.98	26.80	PK
4934	30.64	5.23	H	35.87	53.98	18.11	AV
7401	38.84	12.15	H	50.99	73.98	22.99	PK
7401	26.68	12.15	H	38.83	53.98	15.15	AV

Band :		DTS		Operation Mode :		802.11b	
CH.13		2472		Transfer Rate :		1M	
Frequency [MHz]	Measured value [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4944	41.55	5.25	V	46.80	73.98	27.18	PK
4944	29.60	5.25	V	34.85	53.98	19.13	AV
7416	39.28	12.11	V	51.39	73.98	22.59	PK
7416	26.76	12.11	V	38.87	53.98	15.11	AV
4944	41.57	5.25	H	46.82	73.98	27.16	PK
4944	29.57	5.25	H	34.82	53.98	19.16	AV
7416	39.10	12.11	H	51.21	73.98	22.77	PK
7416	26.68	12.11	H	38.79	53.98	15.19	AV

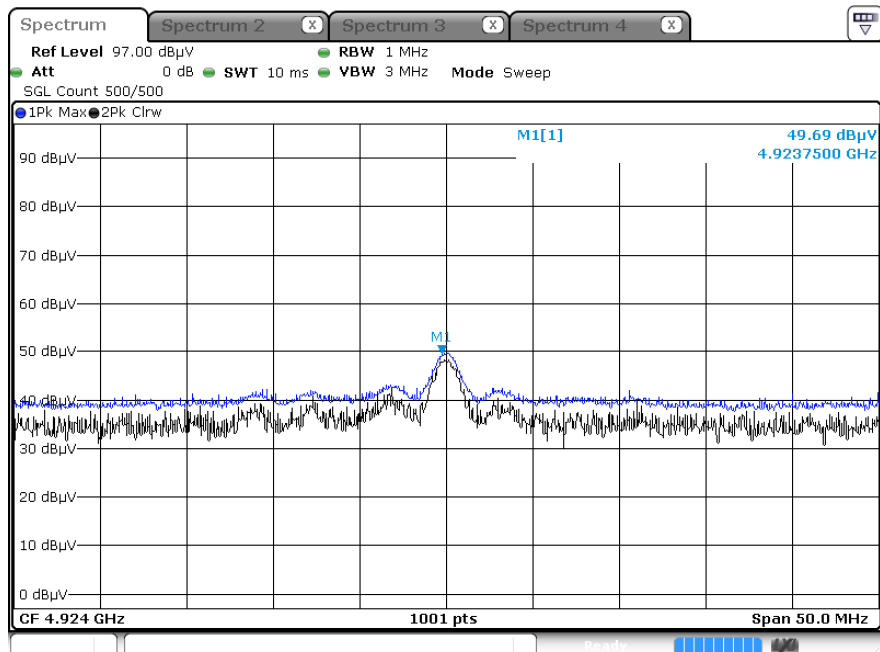
Test Plots

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

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



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



9.7 RADIATED RESTRICTED BAND EDGES

[DTS Lower Edge]

[802.11g]

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	63.77	0.00	H	63.77	73.98	10.21	PK
2310 - 2390	50.45	0.11	H	50.55	53.98	3.43	AV

[802.11n20]

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	65.33	0.00	H	65.33	73.98	8.65	PK
2310 - 2390	50.39	0.12	H	50.51	53.98	3.47	AV

[802.11b]

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	54.07	0.00	H	54.07	73.98	19.91	PK
2310 - 2390	42.47	0.00	H	42.47	53.98	11.51	AV

[802.11ac20]

Operation Mode : 802.11ac_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	62.08	0.00	H	62.08	73.98	11.90	PK
2310 - 2390	49.17	0.12	H	49.28	53.98	4.70	AV

[DTS Upper Edge]
[802.11g]

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	62.72	0.00	H	62.72	73.98	11.26	PK
2483.5 - 2500	50.12	0.11	H	50.23	53.98	3.75	AV

[802.11n20]

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	64.43	0.00	H	64.43	73.98	9.55	PK
2483.5 - 2500	50.97	0.12	H	51.08	53.98	2.90	AV

[802.11b]

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	57.82	0.00	H	57.82	73.98	16.16	PK
2483.5 - 2500	43.54	0.00	H	43.54	53.98	10.44	AV

[802.11ac20]

Operation Mode : 802.11ac_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	62.56	0.00	H	62.56	73.98	11.42	PK
2483.5 - 2500	50.71	0.12	H	50.82	53.98	3.16	AV

[802.11g]

Operation Mode :	802.11g_20	Tone & RU Index :	-	Transfer Rate :	6M		
Channel No. :	12	Frequency :	2467 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	55.29	0.00	H	55.29	73.98	18.69	PK
2483.5 - 2500	43.08	0.11	H	43.19	53.98	10.79	AV

[802.11n20]

Operation Mode :		802.11n_20		Tone & RU Index :		-		MCS index :		MCS0	
Channel No. :		12		Frequency :		2467 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	55.54	0.00	H	55.54	73.98	18.44	PK				
2483.5 - 2500	43.14	0.12	H	43.26	53.98	10.72	AV				

[802.11b]

Operation Mode :		802.11b_20		Tone & RU Index :		-		Transfer Rate :		1M	
Channel No. :		12		Frequency :		2467 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	55.35	0.00	H	55.35	73.98	18.63	PK				
2483.5 - 2500	42.87	0.00	H	42.87	53.98	11.11	AV				

[802.11ac20]

Operation Mode :		802.11ac_20		Tone & RU Index :		-		MCS index :		MCS0	
Channel No. :		12		Frequency :		2467 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	55.19	0.00	H	55.19	73.98	18.79	PK				
2483.5 - 2500	43.10	0.12	H	43.22	53.98	10.76	AV				

[802.11g]

Operation Mode : 802.11g_20 Tone & RU Index : - Transfer Rate : 6M

Channel No. : 13 Frequency : 2472 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	61.10	0.00	H	61.10	73.98	12.88	PK
2483.5 - 2500	48.56	0.11	H	48.67	53.98	5.31	AV

[802.11n20]

Operation Mode : 802.11n_20 Tone & RU Index : - MCS index : MCS0

Channel No. : 13 Frequency : 2472 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	62.97	0.00	H	62.97	73.98	11.01	PK
2483.5 - 2500	48.99	0.12	H	49.11	53.98	4.87	AV

[802.11b]

Operation Mode : 802.11b_20 Tone & RU Index : - Transfer Rate : 1M

Channel No. : 13 Frequency : 2472 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	56.00	0.00	H	56.00	73.98	17.98	PK
2483.5 - 2500	44.96	0.00	H	44.96	53.98	9.02	AV

[802.11ac20]

Operation Mode : 802.11ac_20 Tone & RU Index : - MCS index : MCS0

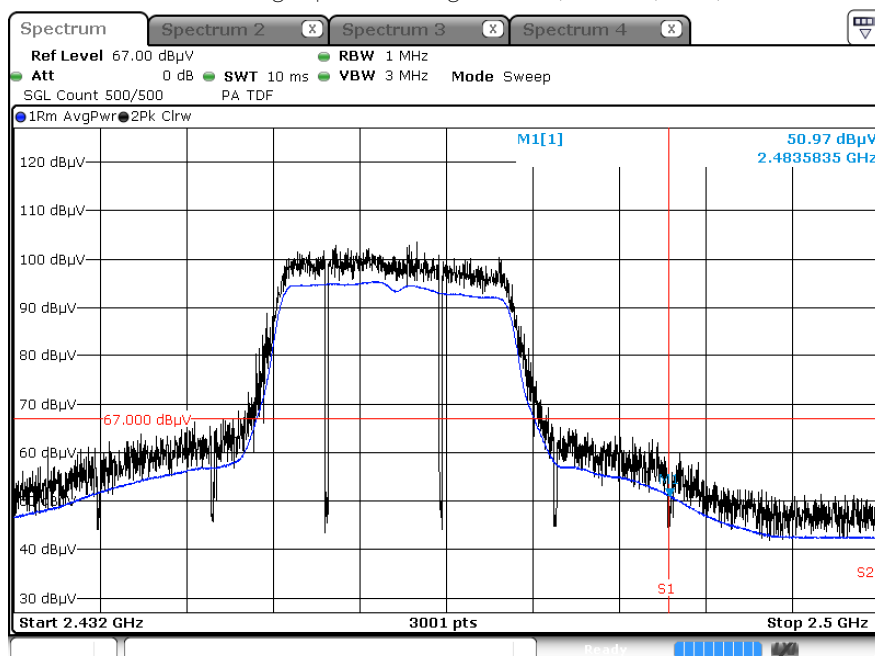
Channel No. : 13 Frequency : 2472 MHz Band : DTS

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	63.00	0.00	H	63.00	73.98	10.98	PK
2483.5 - 2500	49.01	0.12	H	49.12	53.98	4.86	AV

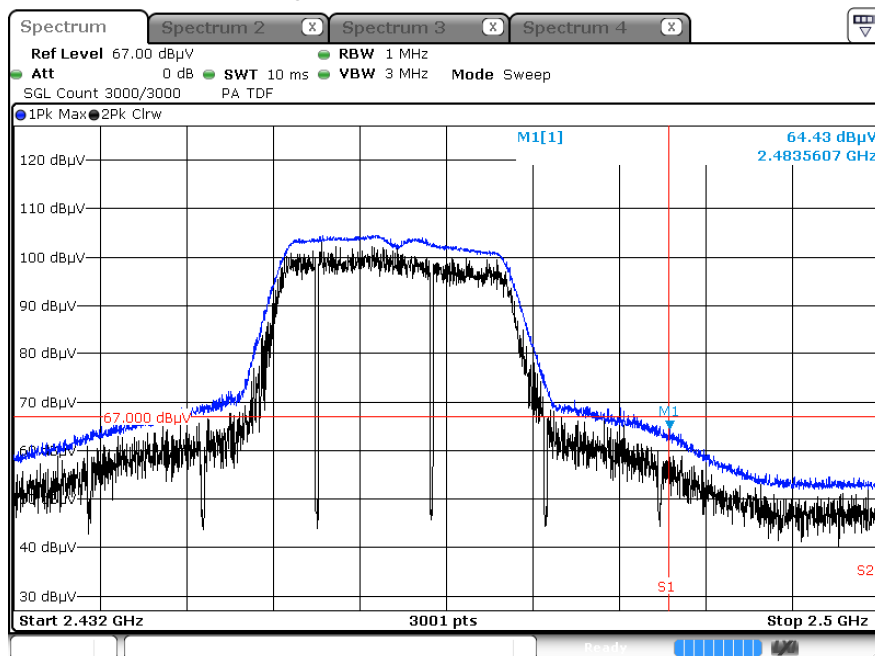
Test Plots

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

Radiated Restricted Band Edges plot – Average Result (802.11n(HT20)_ MCS0, Ch.11, X-H)



Radiated Restricted Band Edges plot – Peak Result (802.11n(HT20)_ MCS0, Ch.11, X-H)



9.8 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

Test

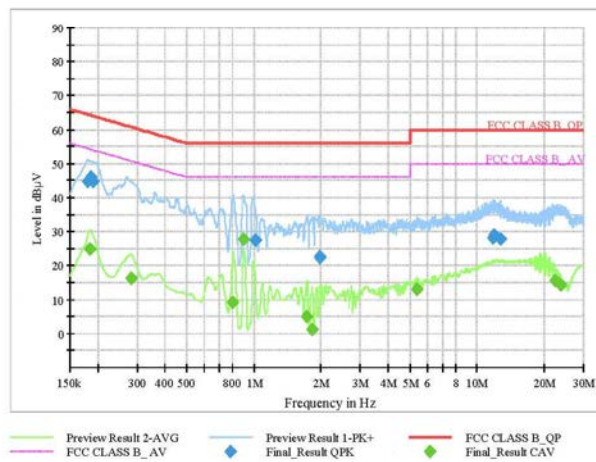
1 / 1

Test Report

Common Information

EUT : SM-A276B/DS
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)
0.1793	44.89	64.52	19.63	9.000	N	9.7
0.1860	46.09	64.21	18.12	9.000	N	9.7
0.1905	44.82	64.02	19.19	9.000	L1	9.8
1.0175	27.48	56.00	28.52	9.000	N	9.8
1.9715	22.83	56.00	33.17	9.000	N	9.8
1.9783	22.42	56.00	33.58	9.000	N	9.8
11.7455	28.10	60.00	31.90	9.000	L1	10.2
11.8603	29.02	60.00	30.98	9.000	L1	10.2
12.7445	27.98	60.00	32.02	9.000	L1	10.2

Final Result CAV

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1838	25.04	54.31	29.27	9.000	L1	9.8
0.2828	16.13	50.74	34.61	9.000	L1	9.8
0.8060	9.20	46.00	36.80	9.000	L1	9.8
0.8983	27.69	46.00	18.31	9.000	L1	9.8
1.7308	4.93	46.00	41.07	9.000	N	9.8
1.8275	1.37	46.00	44.63	9.000	N	9.8
5.3870	13.11	50.00	36.89	9.000	N	9.9
22.3250	15.62	50.00	34.38	9.000	L1	10.6
23.5648	14.21	50.00	35.79	9.000	L1	10.6

2026-03-19

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10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/15/2026	Annual
EMI Test Receiver	ESR7	Rohde & Schwarz	101910	08/20/2026	Annual
Chamber	SU-642	ESPEC	93008124	02/04/2027	Annual
PXA Signal Analyzer	N9030A	Agilent	MY49431210	11/28/2026	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	Hewlett Packard	KR75303243	04/13/2027	Annual
Attenuator	8493C-010	Keysight	07560	05/27/2026	Annual
Attenuator	8493C-010	HP	08285	05/19/2026	Annual
Attenuator	18N-20dB	Rohde & Schwarz	8	02/09/2027	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/22/2026	Annual
Automation Software	FCC WLAN Conducted	HCT CO., LTD	N/A	N/A	N/A
Automation Software	FCC Bluetooth Conducted	HCT CO., LTD	N/A	N/A	N/A

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	CO3000/1032/41190717/P	N/A	N/A
Antenna Mast	MA4640/800-XP-EP	Innco systems GmbH	S1AM	07/25/2026	Annual
Turn Table	DS2000-S-1t	Innco systems GmbH	DS2000/572/54610422/P	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01B	T&M system	TM19050002	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck Mess-Elektronik OHG	1513-175	06/24/2027	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck Mess-Elektronik OHG	9168-0895	08/28/2026	Biennial
Horn Antenna	BBHA 9120 D	Schwarzbeck Mess-Elektronik OHG	9120D-1300	12/22/2027	Biennial
Horn Antenna	BBHA 9120 D	Schwarzbeck Mess-Elektronik OHG	9120D-2296	05/16/2026	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck Mess-Elektronik OHG	BBHA9170342	09/20/2026	Biennial
Signal Analyzer	FSV40	Rohde & Schwarz	101055	05/07/2026	Annual
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	05/27/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	6	05/27/2026	Annual
High Pass Filter	WHKX10-7150-8000-18000-50SS	Wainwright Instruments GmbH	1	02/09/2027	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
RF Switching System	FMSR-05B (3G HPF+LNA)	T&M system	S1L1	12/08/2026	Annual
RF Switching System	FMSR-05B (10dB ATT+LNA)	T&M system	S1L2	12/08/2026	Annual
RF Switching System	FMSR-05B (3dB ATT+LNA)	T&M system	S1L3	12/08/2026	Annual
RF Switching System	FMSR-05B (LNA)	T&M system	S1L4	12/08/2026	Annual
RF Switching System	FMSR-05B (7G HPF+LNA)	T&M system	S1L5	12/08/2026	Annual
RF Switching System	FMSR-05B (Thru)	T&M system	S1L6	12/08/2026	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD	N/A	N/A	N/A
Attenuator	18B-03	API Technologies	1	04/13/2027	Annual

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-2604-FC057-P