

Prüfbericht-Nr.: <i>Test report no.:</i>	CN24XGL3 003	Auftrags-Nr.: <i>Order no.:</i>	168485882	Seite 1 von 23 <i>Page 1 of 23</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2024-05-22	
Auftraggeber: <i>Client:</i>	Anhui Wenxiang Information Technology Co.,Ltd. Wenxiang Technology Park, South West Fengming Avenue, Wanjiang Jiangnan Emerging Industry Concentration Zone, Chizhou, Anhui, China			
Prüfgegenstand: <i>Test item:</i>	Portable Recording and Broadcasting Host			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	WX-AX60, WX-AX70, WX-AX80, WX-AX90, WX-***** (* = 0-9, a-z, A-Z, "-", "/", or blank)			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 3 August 2023 RSS-Gen Issue 5 February 2021			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2024-06-27	Please refer to Photo Document		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003726002-009			
Prüfzeitraum: <i>Testing period:</i>	2024-07-26 - 2024-10-18			
Ort der Prüfung: <i>Place of testing:</i>	Refer to section 2.1			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	 Hardy Suo		genehmigt von: <i>authorized by:</i>	 Lin Lin
Datum: <i>Date:</i>	2025-07-29		Ausstellungsdatum: <i>Issue date:</i>	2025-07-29
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / <i>Other:</i>	FCC ID: 2BLCSWX-AX, IC: 33002-WXAX, HVIN: WX-AX This report is for 5GHz generic and 5GHz Wi-Fi.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet			
* Legend:	P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested			
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

Prüfbericht-Nr.: CN24XGL3 003
Test report no.:

Seite 2 von 23
Page 2 of 23

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature <i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature</i>
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 CONDUCTED POWER SPECTRAL DENSITY

RESULT: Pass

5.1.4 6dB BANDWIDTH

RESULT: Pass

5.1.5 99% BANDWIDTH

RESULT: Pass

5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH

RESULT: Pass

5.1.7 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.8 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

Contents

1	GENERAL REMARKS	5
1.1	COMPLEMENTARY MATERIALS	5
2	TEST SITES.....	6
2.1	TEST FACILITIES.....	6
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS	6
2.3	TRACEABILITY.....	7
2.4	CALIBRATION.....	7
2.5	MEASUREMENT UNCERTAINTY	7
2.6	LOCATION OF ORIGINAL DATA	7
2.7	STATUS OF FACILITY USED FOR TESTING.....	8
3	GENERAL PRODUCT INFORMATION.....	9
3.1	PRODUCT FUNCTION AND INTENDED USE.....	9
3.2	RATINGS AND SYSTEM DETAILS	9
3.3	INDEPENDENT OPERATION MODES	11
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS.....	11
3.5	SUBMITTED DOCUMENTS.....	11
4	TEST SET-UP AND OPERATION MODES	12
4.1	PRINCIPLE OF CONFIGURATION SELECTION.....	12
4.2	TEST OPERATION AND TEST SOFTWARE.....	12
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT.....	12
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	12
4.5	TEST SETUP DIAGRAM.....	13
5	TEST RESULTS.....	15
5.1	TRANSMITTER REQUIREMENT & TEST SUITES.....	15
5.1.1	<i>Antenna Requirement.....</i>	<i>15</i>
5.1.2	<i>Maximum Peak Conducted Output Power.....</i>	<i>16</i>
5.1.3	<i>Conducted Power Spectral Density.....</i>	<i>17</i>
5.1.4	<i>6dB Bandwidth.....</i>	<i>18</i>
5.1.5	<i>99% Bandwidth</i>	<i>19</i>
5.1.6	<i>Conducted Spurious Emissions Measured in 100 kHz Bandwidth</i>	<i>20</i>
5.1.7	<i>Radiated Spurious Emission.....</i>	<i>21</i>
5.1.8	<i>Conducted Emission on AC Mains.....</i>	<i>22</i>
6	PHOTOGRAPHS OF THE TEST SET-UP.....	23
7	LIST OF TABLES	23

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of 5.2GHz, 5.3GHz Generic

Appendix B: Test Results of 5.8GHz Generic

Appendix C: Test Results of 5.2GHz, 5.3GHz, 5.6GHz Wi-Fi

Appendix D: Photographs of 5.8GHz Wi-Fi

Appendix E: Photographs of the Test Set-up

2 Test Sites

2.1 Test Facilities

SHANGHAI ATBL TECHNOLOGY CO., LTD.

5-6/F., Unit 1, No 8, Free Trade One Life Science and Sci-Tech Industrial Park, No. 160, Basheng Road, Pudong New District, Shanghai City, People's Republic of China

Company Number: 27371, CAB identifier: CN0116

TÜV Rheinland (Shenzhen) Co., Ltd. Subcontracts all tests to SHANGHAI ATBL TECHNOLOGY CO., LTD. The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing					
Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. until
Spectrum Analyzer	Agilent	N9020A	MY51110027	2024.08.19	2025.08.18
Signal Generator	Agilent	N5182B	MY57301570	2024.08.19	2025.08.18
Signal Generator	Agilent	N5173B	MY61250105	2024.08.19	2025.08.18
WIDEBAND RADIO COMMUNICATION TESTER	RS	CMW500	109925	2024.08.19	2025.08.18
Power sensor	CESHEN	SMU-1003	DGATBL-W07	2024.08.19	2025.08.18
Temperature/ Humidity Meter	Ji Yu	MC501	/	/	/
Spreader	WCS	Cesheng	2021.11.04.01	2024.08.19	2025.08.18
DC POWER SUPPLY	LONGWEI	TPR3003-2D	170300313	2024.08.19	2025.08.18
DIGITAL multimeter	VICTOR	VC890D	092632592	2024.08.19	2025.08.18
Unwanted Emission Testing					
Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. until
Spectrum Analyzer	Keysight	N9020A	MY51285460	2024-08-09	2025-08-08
Spectrum analyzer	R&S	FSV40-N	102126	2024-08-17	2025-08-16
BiLog Antenna	SCHAFFNER	CBL6112B	2740	2024-08-17	2025-08-16
Horn Antenna	Schwarzbeck	BBHA 9120D	2800	2024-08-12	2025-08-11
Amplifier (25MHz-1GHz)	Ce Shen	DLNA-20-1000	/	2024-09-02	2025-09-01
Amplifier (1-18GHz)	Ce Shen	DLNA-1000-18000	CSKJLNA2308 13B	2024-09-02	2025-09-01
Horn Antenna (18-40GHz)	SCHWA RZBECK	AH-1804	E064	202-08-25	2025-08-24
Receiver	R&S	ESPI3	100440	2024-09-02	2025-09-01

Conducted Emission on AC Mains

Equipment	Manufacturer	Model	Serial No	Equipment Number	Cal. until
EMI Test Receiver	R&S	ESPI3	101163	DGATBL-E022	2025.01.03

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:

Seite 7 von 23

Page 7 of 23

LISN	R&S	ENV216	102282	DGATBL-E024	2025.08.18
LISN	/	NNB-111	13835240	DGATBL-E025	2025.08.18
CE Cable	RUIWEI	RW2350-3.8A-2M+10dB	N/A	DGATBL-E047	2025.08.15
ISN	SCHWA RZBECK	CAT 3	140	DGATBL-E056	2025.03.27
ISN	SCHWA RZBECK	CAT 6	247	DGATBL-E057	2025.03.27
Temperature & Humidity	Parkoo	JR-609	N/A	DGATBL-E028	2025.08.18
Testing Software	FALA	EZ-EMC		DGATBL-E052	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Table 2: Measurement Uncertainty

Parameter	Uncertainty (k=2)
RF output power, conducted	± 0.99 dB
Occupied Channel Bandwidth	± 2.08 %
RF power density, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	±4.17 dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B & C & D & E of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:

Seite 8 von 23
Page 8 of 23

2.7 Status of Facility Used for Testing

The SHANGHAI ATBL TECHNOLOGY CO., LTD. Test facility located at 5-6/F., Unit 1, No 8, Free Trade One Life Science and Sci-Tech Industrial Park, No. 160, Basheng Road, Pudong New District, Shanghai City, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a Portable Recording and Broadcasting Host which supports 2.4GHz Generic (for connecting with wireless MIC), 5GHz Generic (for connecting with wireless camera), 2.4G/5GHz Wi-Fi wireless technologies.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	Portable Recording and Broadcasting Host
Type Designation:	WX-AX60, WX-AX70, WX-AX80, WX-AX90, WX-***** (* = 0-9, a-z, A-Z, "-", "/", or blank) Remark: WX-AX70, WX-AX80, WX-AX90, WX-***** (* = 0-9, a-z, A-Z, "-", "/", or blank) are the same with the model: WX-AX60 in circuitry and electrical, mechanical and physical construction.
Operating Voltage:	DC 48V via AC/DC Adapter
Testing Voltage:	AC 120V, 60Hz (Power supply to AC/DC Adapter)
Operating Temperature Range:	0 °C ~ +40 °C
Technical Specification of 5GHz Generic (for connecting with wireless camera)	
Operating Frequency:	U-NII-1& U-NII-2A band: 5180 – 5320 MHz for 802.11 a/n-HT20/n-HT40 U-NII-3 band: 5745 – 5825 MHz for 802.11 a/n-HT20/n-HT40
Type of Modulation:	OFDM(BPSK/QPSK/16QAM/64QAM/256QAM)
Channel Number:	12 channels for U-NII-1& U-NII-2A band: 5180 – 5320 MHz 7 channels for U-NII-3 band: 5745 – 5825 MHz
Channel Separation:	20 MHz / 40 MHz
Type of Product:	Master device
TX Power Control (TPC):	Not Supports
Antenna Type:	External Antenna
Antenna Number:	2
Antenna Gain:	5150-5350MHz: 2.58dBi 5725-5850MHz: 4.16dBi (Provided by the Client)
The type of wideband data transmission equipment:	DTS
Technical Specification of 5GHz Wi-Fi	
Operating Frequency:	U-NII-1& U-NII-2A band: 5180 – 5320 MHz for 802.11 a/n-HT20/n-HT40/ac HT20/ac HT40/ac HT80 U-NII-2C band: 5500 – 5720 MHz for 802.11 a/n-HT20/n-HT40/ac HT20/ac HT40/ac HT80

	U-NII-3 band: 5745 – 5825 MHz for 802.11 a/n-HT20/n-HT40/ac HT20/ac HT40/ac HT80
Type of Modulation:	OFDM(BPSK/QPSK/16QAM/64QAM/256QAM)
Channel Number:	14 channels for U-NII-1& U-NII-2A band: 5180 – 5320 MHz 21 channels for U-NII-2C band: 5500 – 5720 MHz 8 channels for U-NII-3 band: 5745 – 5825 MHz
Channel Separation:	20 MHz / 40 MHz / 80 MHz
Type of Product:	Slave device without radar detection
TX Power Control (TPC):	Not Supports
Antenna Type:	External Antenna
Antenna Number:	2
Antenna Gain:	5150-5350MHz: 2.58dBi 5470-5725MHz: 3.27dBi 5725-5850MHz: 4.16dBi (Provided by the Client)
The type of wideband data transmission equipment:	DTS

Table 4: RF Channel and Frequency of 5GHz Generic

U-NII-1 and U-NII-2A			
20MHz Bandwidth		40MHz Bandwidth	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	54	5270
48	5240	62	5310
52	5260		
56	5280		
60	5300		
64	5320		

U-NII-3			
20MHz Bandwidth		40MHz Bandwidth	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
163	5825		

Table 5: RF Channel and Frequency of 5GHz Wi-Fi

U-NII-1 and U-NII-2A					
20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	58	5290
44	5220	54	5270		
48	5240	62	5310		
52	5260				
56	5280				
60	5300				
64	5320				

U-NII-2C					
20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590	138	5690
112	5560	126	5630		
116	5580	134	5670		
120	5600	142	5710		
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				
144	5720				

U-NII-3							
20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)		
149	5745	151	5755	155	5775		
153	5765	159	5795				
157	5785						
161	5805						
163	5825						

3.3 Independent Operation Modes

The basic operation modes are:

A. On, 5GHz Generic / 5GHz Wi-Fi

- 1) Low Channel
- 2) Middle Channel
- 3) High Channel

B. On, Co-location for 2.4GHz Generic, 2.4GHz Wi-Fi, 5GHz Generic and 5GHz Wi-Fi

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- User Manual
- ID Label and Location Info
- Operation Description

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2020.

According to clause 3.1, all tests were performed on model WX-AX60 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 6: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	Remark
Laptops	Redmi	JYU4371CN	/

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

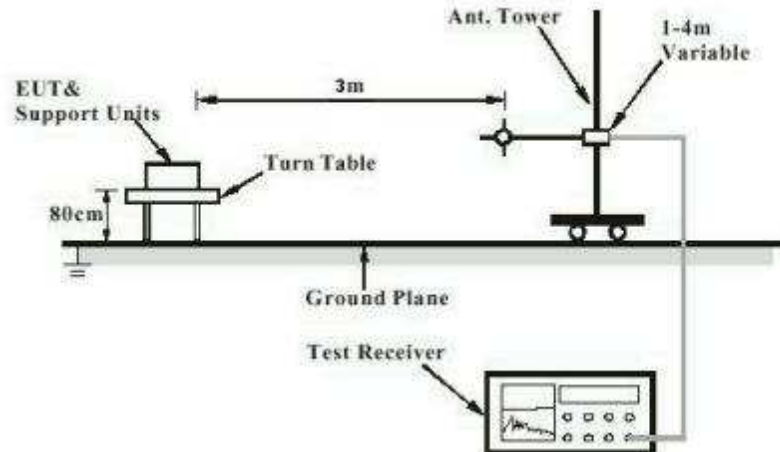


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

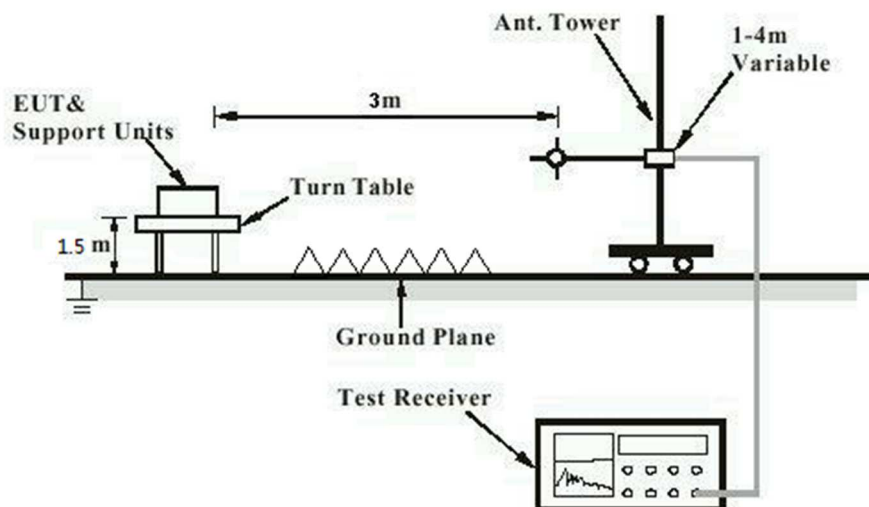


Diagram of Measurement Configuration for Mains Conduction Measurement

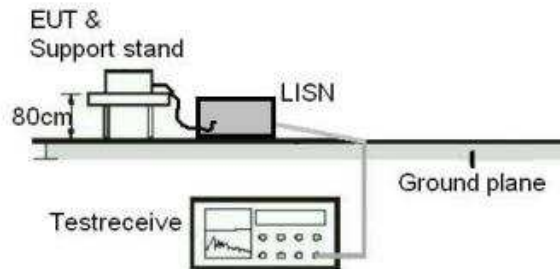


Diagram of Measurement Configuration for Conducted Transmitter Measurement

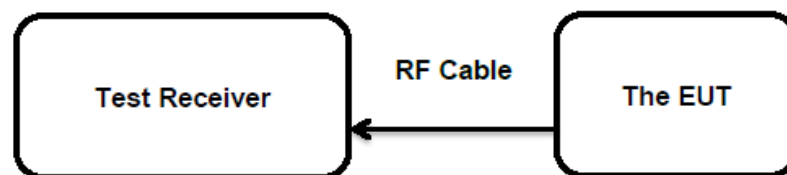
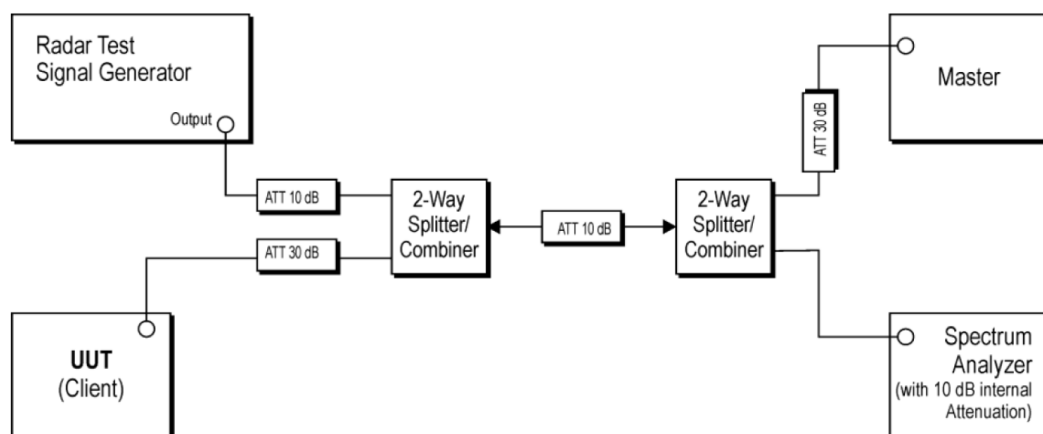


Diagram of Measurement Configuration for Dynamic Frequency Selection (DFS)



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has external antenna, the directional gain of antenna for 5150-5350MHz is 2.58dBi, 5470-5725MHz is 3.27dBi, 5725-5750MHz is 4.16dBi and the antenna connector is designed unique, prefer to EUT photos for details. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 16 von 23
Page 16 of 23

5.1.2 Maximum Peak Conducted Output Power

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(b)(1)&(3) RSS-247 Clause 5.4(b)&(d)
Basic standard	: ANSI C63.10: 2020
Limits	: FHSS < 0.125 Watts, DSSS < 1.0 Watts
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 17 von 23
Page 17 of 23

5.1.3 Conducted Power Spectral Density

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(e) RSS-247 Clause 5.2(b)
Basic standard	: ANSI C63.10: 2020
Limits	: < 8 dBm / 3kHz
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 18 von 23
Page 18 of 23

5.1.4 6dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)
Basic standard	: ANSI C63.10: 2020
Limits	: > 500 KHz
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 19 von 23
Page 19 of 23

5.1.5 99% Bandwidth

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(a) RSS-Gen Clause 6.7
Basic standard	: ANSI C63.10: 2020
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 20 von 23
Page 20 of 23

5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	: ANSI C63.10: 2020
Limits	: 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 24.3 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 21 von 23
Page 21 of 23

5.1.7 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	: ANSI C63.10: 2020
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Section 8.9 & 8.10
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2024-07-26 - 2024-10-18
Input voltage	: AC 120V, 60Hz
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix A, B, C, D.

Prüfbericht - Nr.: CN24XGL3 003
Test Report No.:Seite 22 von 23
Page 22 of 23

5.1.8 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Section 8.8
Basic standard	: ANSI C63.10: 2020
Frequency range	: 0.15 – 30MHz
Classification	: Class B
Limits	: FCC Part 15.207(a) RSS-Gen Table 4
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-08-01
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Earthing	: Not connected
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B, C, D.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix E.

7 List of Tables

Table 1: List of Test and Measurement Equipment.....	6
Table 2: Measurement Uncertainty.....	7
Table 3: Technical Specification of EUT	9
Table 4: RF Channel and Frequency of 5GHz Generic.....	10
Table 5: RF Channel and Frequency of 5GHz Wi-Fi.....	10
Table 6: List of Accessories and Auxiliary Equipment.....	12

Appendix A: Test Results of 5.2GHz & 5.3GHz Generic

APPENDIX A: TEST RESULTS OF 5.2GHZ & 5.3GHZ GENERIC	1
APPENDIX A.1: TEST RESULTS OF OUTPUT POWER.....	2
APPENDIX A.2: TEST RESULTS OF 99% BANDWIDTH	3
APPENDIX A.3: TEST RESULTS OF 6dB BANDWIDTH	6
APPENDIX A.4: TEST RESULTS OF 26dB BANDWIDTH	9
APPENDIX A.5: TEST RESULTS OF POWER SPECTRAL DENSITY	12
APPENDIX A.6: TEST RESULTS OF DYNAMIC FREQUENCY SELECTION.....	18
<i>A.6.1 Calibration of Radar Waveform.....</i>	<i>18</i>
<i>A.6.2 Detection Bandwidth.....</i>	<i>21</i>
<i>A.6.3 Channel Availability Check.....</i>	<i>23</i>
<i>A.6.4 In-Service Monitoring.....</i>	<i>24</i>
<i>A.6.5 Statistical Performance Check</i>	<i>28</i>
APPENDIX A.7: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS	30
30 MHz - 1GHz.....	30
1GHz - 18GHz.....	32
APPENDIX A.8: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS FOR CO-TX	40
APPENDIX A.9: TEST RESULTS OF RADIATED EMISSIONS IN RESTRICTED BANDS	48
APPENDIX A.10: TEST PLOTS OF CONDUCTED EMISSION ON AC MAINS.....	72

Appendix A.1: Test Results of Output Power

Conducted output power

Mode	Channel	Ant. 0 (dBm)	Ant. 1 (dBm)	Ant. MIMO (dBm)	Ant. MIMO (W)	Limit (dBm)	Result
IEEE 802.11a	36	10.35	8.47	12.521	0.0179	≤24	PASS
	40	11.05	8.59	13.002	0.0200	≤24	PASS
	48	9.84	9.14	12.514	0.0178	≤24	PASS
	52	9.27	9.44	12.366	0.0172	≤24	PASS
	56	8.95	9.23	12.103	0.0162	≤24	PASS
	64	11.09	8.92	13.149	0.0206	≤24	PASS
IEEE 802.11n_20	36	10.26	8.51	12.483	0.0177	≤24	PASS
	40	10.24	8.38	12.419	0.0175	≤24	PASS
	48	9.47	9.43	12.460	0.0176	≤24	PASS
	52	9.86	9.38	12.637	0.0184	≤24	PASS
	56	9.23	8.99	12.122	0.0163	≤24	PASS
	64	10.08	8.57	12.401	0.0174	≤24	PASS
IEEE 802.11n_40	38	7.93	8.29	11.124	0.0119	≤24	PASS
	46	7.81	8.8	11.343	0.0119	≤24	PASS
	54	8.59	9.17	11.900	0.0097	≤24	PASS
	62	9.81	9.23	12.540	0.0099	≤24	PASS

ISED EIRP

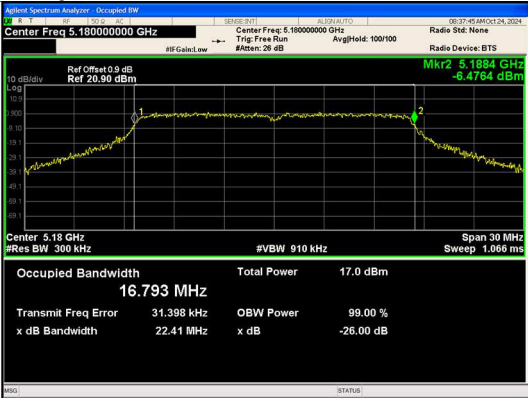
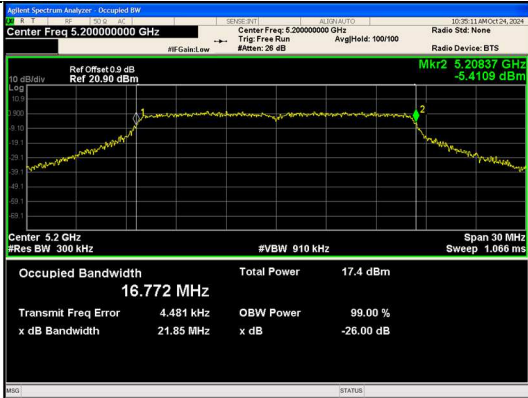
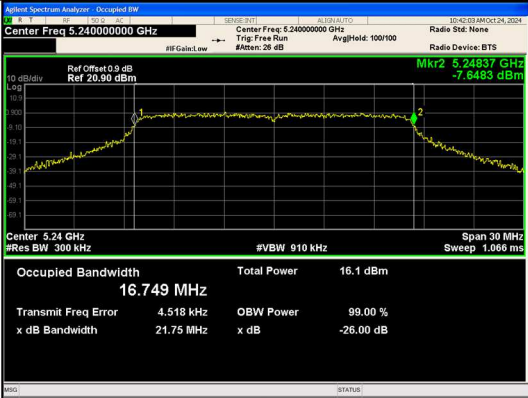
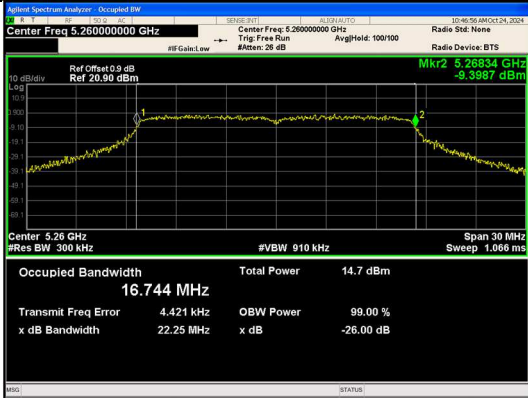
Mode	Channel	Ant. 0 (dBm)	Ant. 1 (dBm)	Ant. MIMO (dBm)	Ant. MIMO (W)	Limit (dBm)	Result
IEEE 802.11a	36	12.93	11.05	15.101	0.0324	≤23.01	PASS
	40	13.63	11.17	15.582	0.0362	≤23.01	PASS
	48	12.42	11.72	15.094	0.0323	≤23.01	PASS
	52	11.85	12.02	14.946	0.0312	≤27	PASS
	56	11.53	11.81	14.683	0.0294	≤27	PASS
	64	13.67	11.5	15.729	0.0374	≤27	PASS
IEEE 802.11n_20	36	12.84	11.09	15.063	0.0321	≤23.01	PASS
	40	12.82	10.96	14.999	0.0316	≤23.01	PASS
	48	12.05	12.01	15.040	0.0319	≤23.01	PASS
	52	12.44	11.96	15.217	0.0332	≤27	PASS
	56	11.81	11.57	14.702	0.0295	≤27	PASS
	64	12.66	11.15	14.981	0.0315	≤27	PASS
IEEE 802.11n_40	38	10.51	10.87	13.704	0.0119	≤23.01	PASS
	46	10.39	11.38	13.923	0.0119	≤23.01	PASS
	54	11.17	11.75	14.480	0.0097	≤27	PASS
	62	12.39	11.81	15.120	0.0099	≤27	PASS

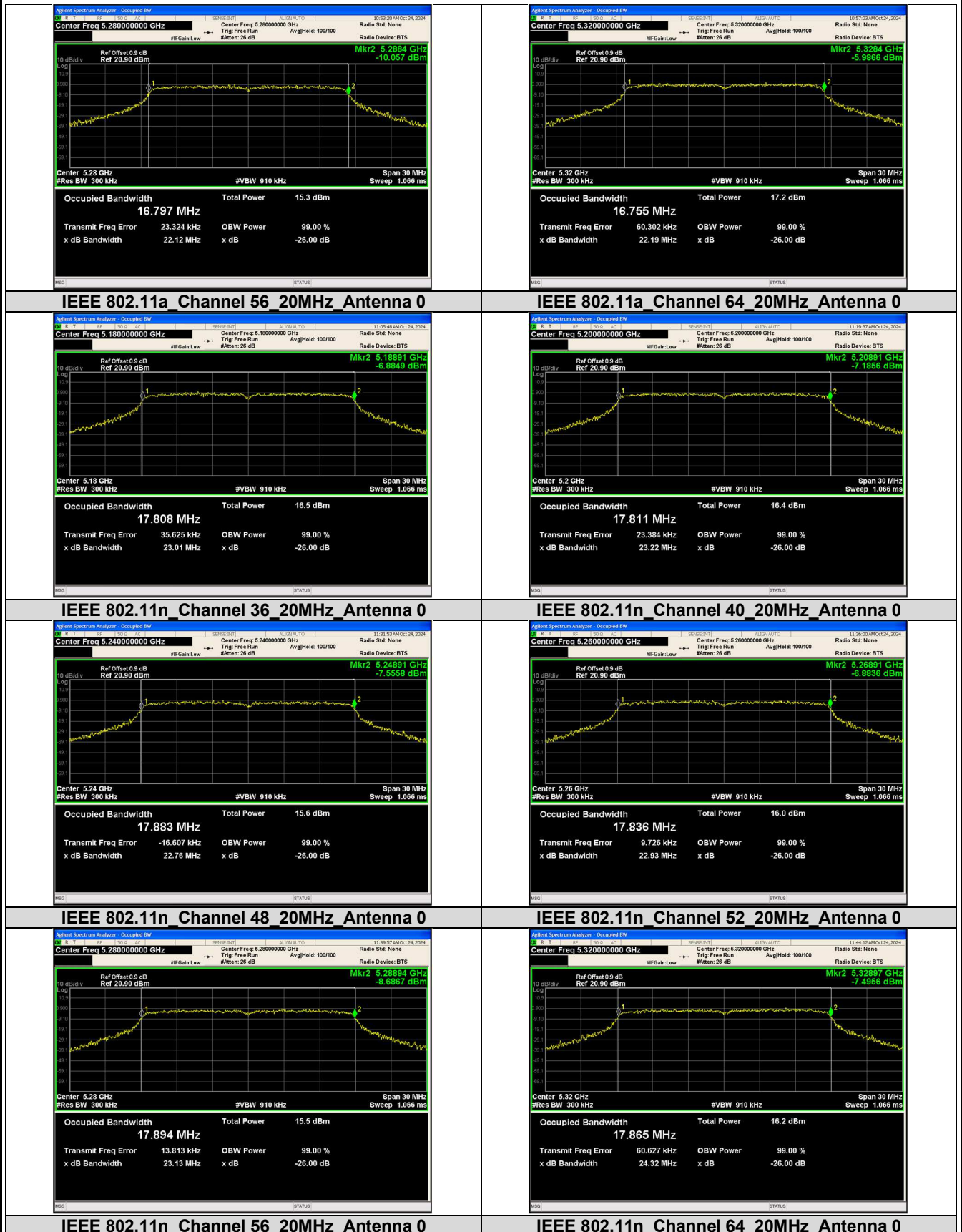
Appendix A.2: Test Results of 99% Bandwidth

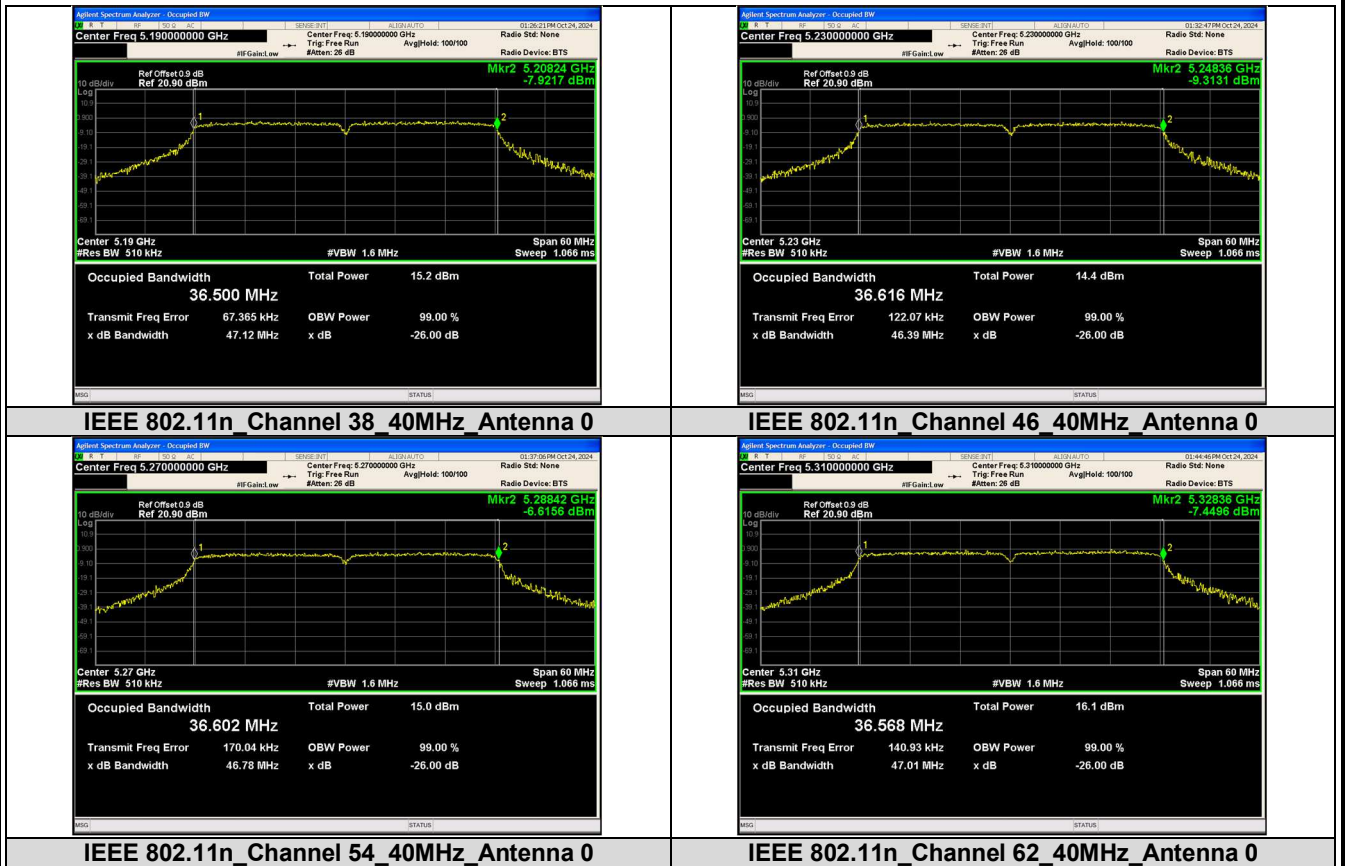
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11a	36	0	5180	16.793
	40		5200	16.772
	48		5240	16.749
	52		5260	16.744
	56		5280	16.797
	64		5320	16.755
IEEE 802.11n_20	36		5180	17.808
	40		5200	17.811
	48		5240	17.883
	52		5260	17.836
	56		5280	17.894
	64		5320	17.865
IEEE 802.11n_40	38		5190	36.500
	46		5230	36.616
	54		5270	36.602
	62		5310	36.568

Test Graphs

 IEEE 802.11a Channel 36 20MHz Antenna 0	 IEEE 802.11a Channel 40 20MHz Antenna 0
 IEEE 802.11a Channel 48 20MHz Antenna 0	 IEEE 802.11a Channel 52 20MHz Antenna 0



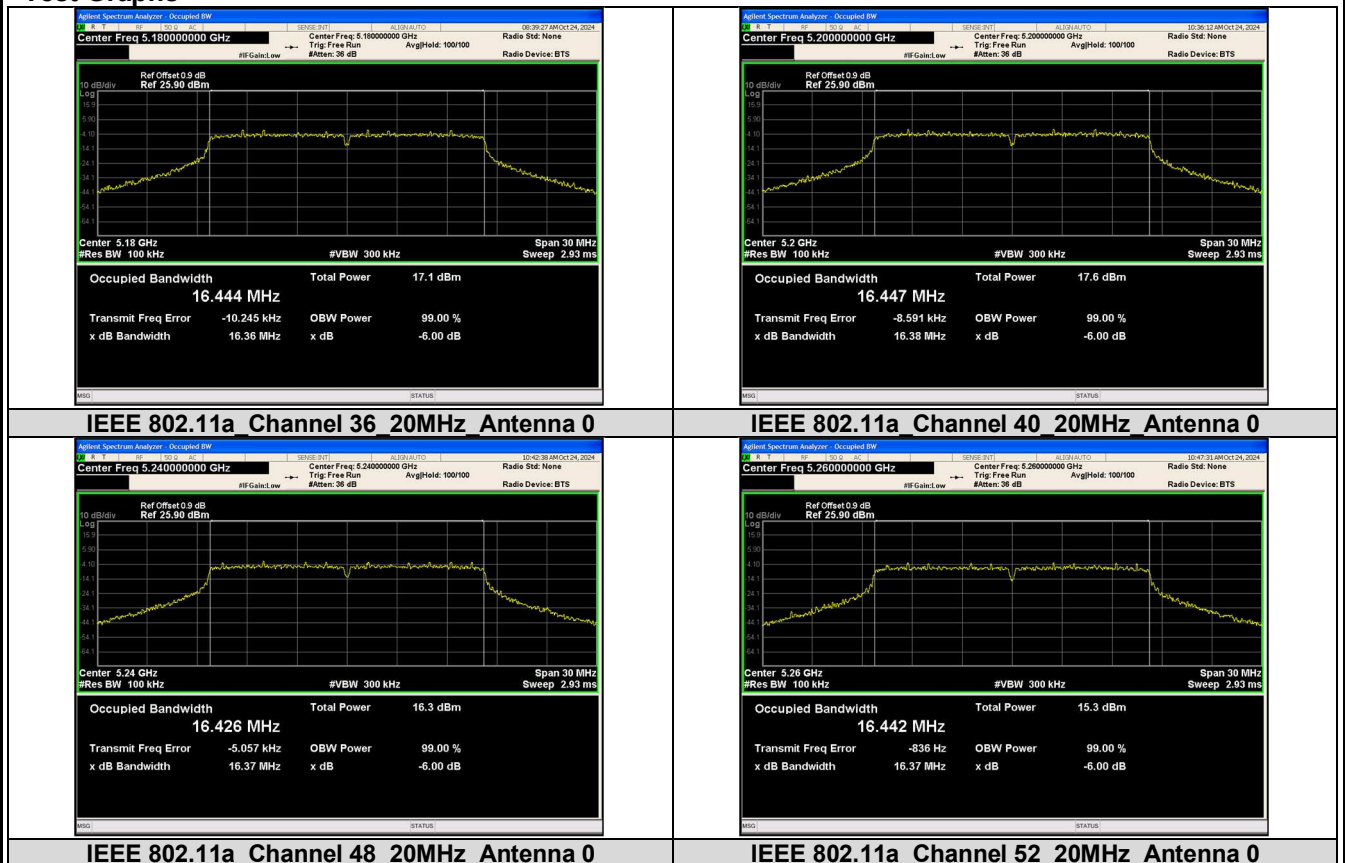


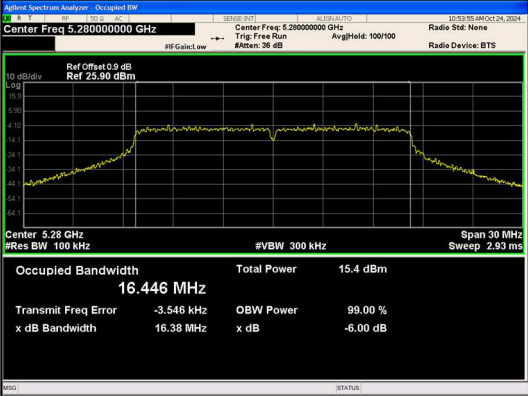
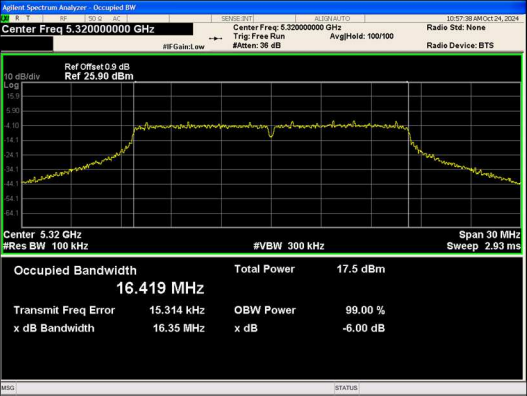
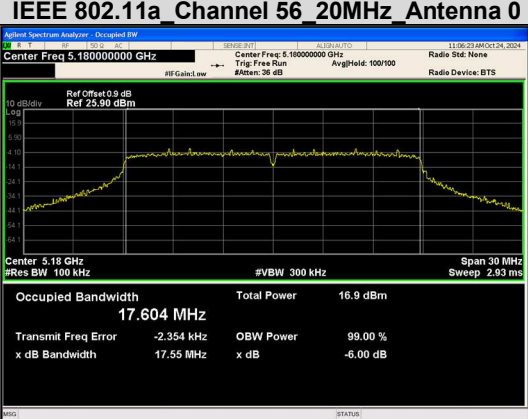
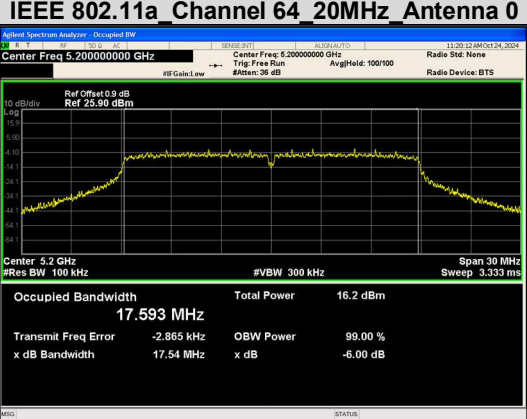
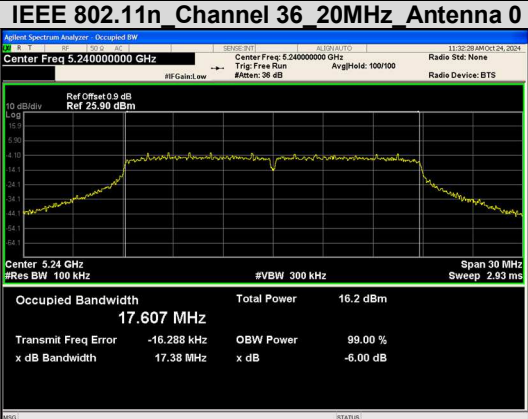
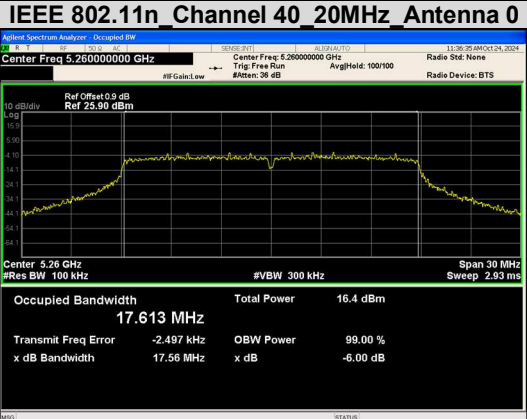
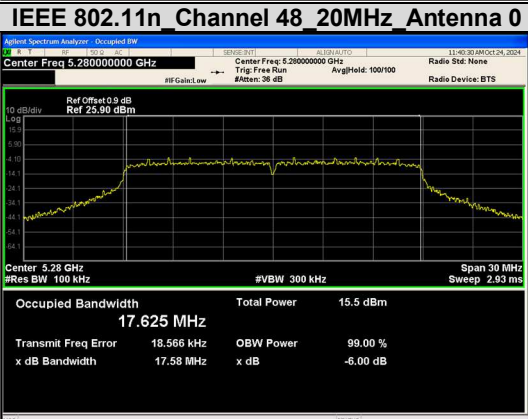
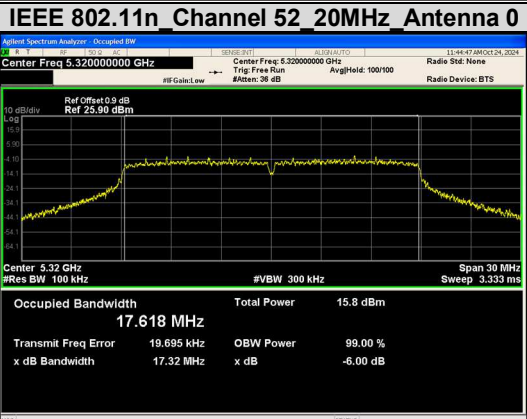
Appendix A.3: Test Results of 6dB Bandwidth

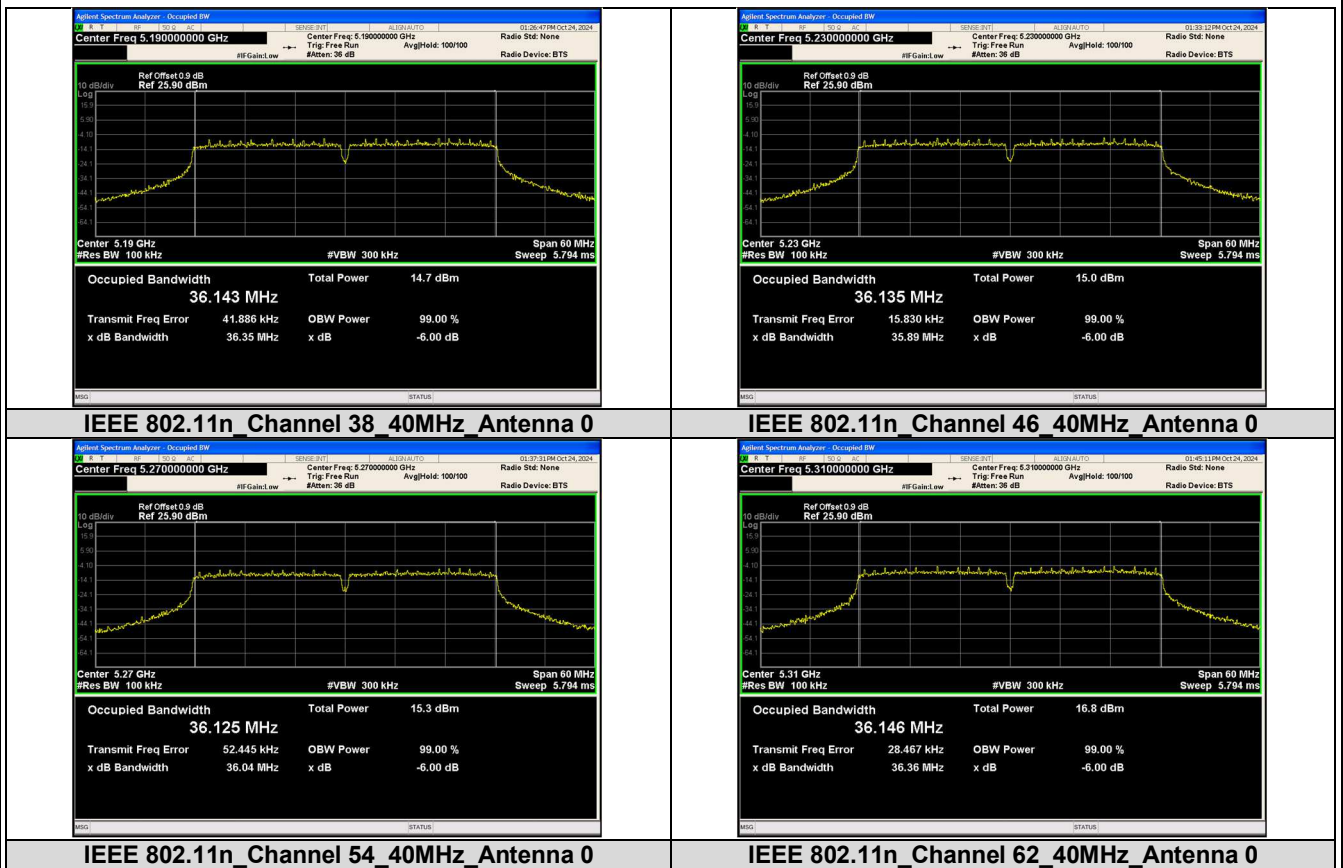
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11a	36	0	5180	16.36	≥0.5	PASS
	40		5200	16.38		PASS
	48		5240	16.37		PASS
	52		5260	16.37		PASS
	56		5280	16.38		PASS
	64		5320	16.35		PASS
IEEE 802.11n_20	36		5180	17.55		PASS
	40		5200	17.54		PASS
	48		5240	17.38		PASS
	52		5260	17.56		PASS
	56		5280	17.58		PASS
	64		5320	17.32		PASS
IEEE 802.11n_40	38		5190	36.35		PASS
	46		5230	35.89		PASS
	54		5270	36.04		PASS
	62		5310	36.36		PASS

Test Graphs



 IEEE 802.11a Channel 56 20MHz Antenna 0 Center Freq: 5.280000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 16.446 MHz Total Power: 15.4 dBm Transmit Freq Error: -3.546 kHz OBW Power: 99.00 % x dB Bandwidth: 16.38 MHz x dB: -6.00 dB	 IEEE 802.11a Channel 64 20MHz Antenna 0 Center Freq: 5.320000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 16.419 MHz Total Power: 17.5 dBm Transmit Freq Error: 15.314 kHz OBW Power: 99.00 % x dB Bandwidth: 16.35 MHz x dB: -6.00 dB
 IEEE 802.11a Channel 56 20MHz Antenna 0 Center Freq: 5.180000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 17.604 MHz Total Power: 16.9 dBm Transmit Freq Error: -2.354 kHz OBW Power: 99.00 % x dB Bandwidth: 17.55 MHz x dB: -6.00 dB	 IEEE 802.11a Channel 64 20MHz Antenna 0 Center Freq: 5.200000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 3.333 ms Occupied Bandwidth: 17.593 MHz Total Power: 16.2 dBm Transmit Freq Error: -2.865 kHz OBW Power: 99.00 % x dB Bandwidth: 17.54 MHz x dB: -6.00 dB
 IEEE 802.11n Channel 36 20MHz Antenna 0 Center Freq: 5.240000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 17.607 MHz Total Power: 16.2 dBm Transmit Freq Error: -16.288 kHz OBW Power: 99.00 % x dB Bandwidth: 17.38 MHz x dB: -6.00 dB	 IEEE 802.11n Channel 40 20MHz Antenna 0 Center Freq: 5.260000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 17.613 MHz Total Power: 16.4 dBm Transmit Freq Error: -2.497 kHz OBW Power: 99.00 % x dB Bandwidth: 17.56 MHz x dB: -6.00 dB
 IEEE 802.11n Channel 48 20MHz Antenna 0 Center Freq: 5.280000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.93 ms Occupied Bandwidth: 17.625 MHz Total Power: 15.5 dBm Transmit Freq Error: 18.566 kHz OBW Power: 99.00 % x dB Bandwidth: 17.58 MHz x dB: -6.00 dB	 IEEE 802.11n Channel 52 20MHz Antenna 0 Center Freq: 5.320000000 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 3.333 ms Occupied Bandwidth: 17.618 MHz Total Power: 15.8 dBm Transmit Freq Error: 19.695 kHz OBW Power: 99.00 % x dB Bandwidth: 17.32 MHz x dB: -6.00 dB
IEEE 802.11n Channel 56 20MHz Antenna 0	IEEE 802.11n Channel 64 20MHz Antenna 0

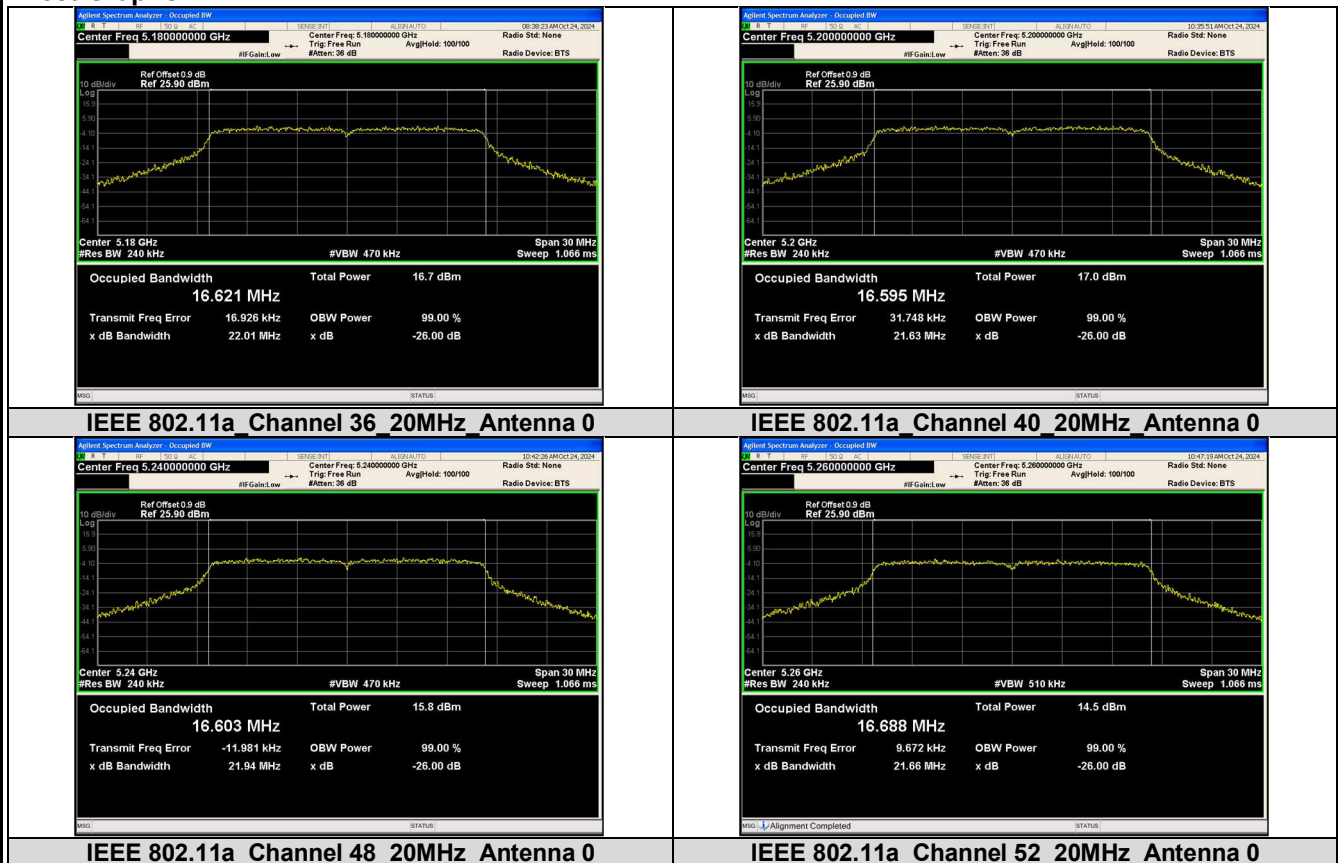


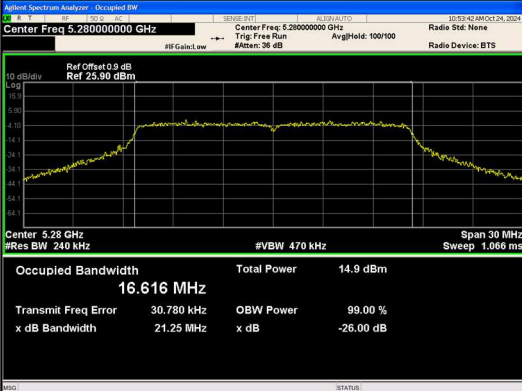
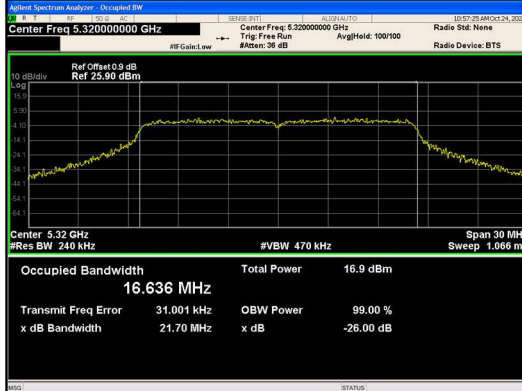
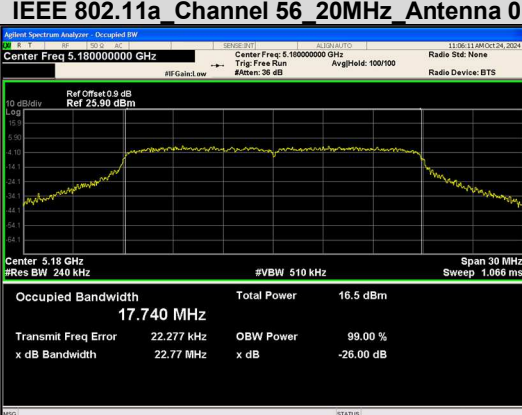
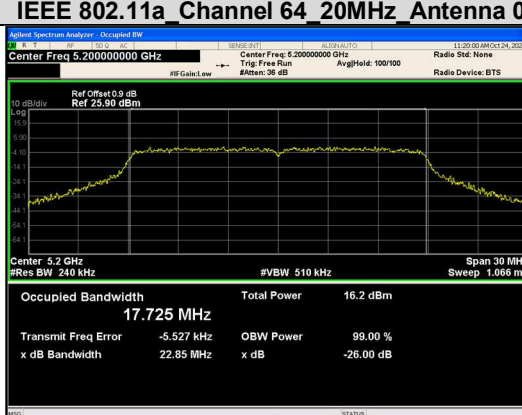
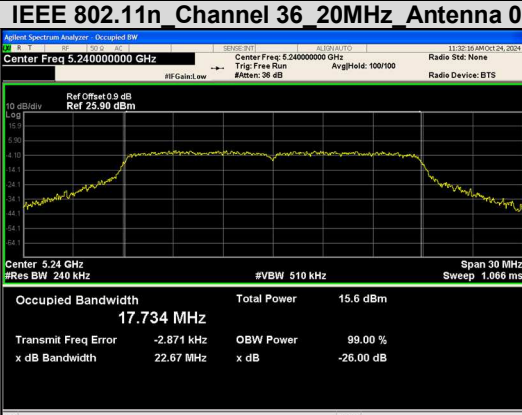
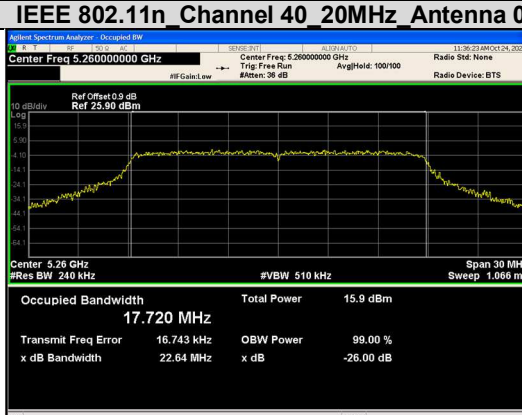
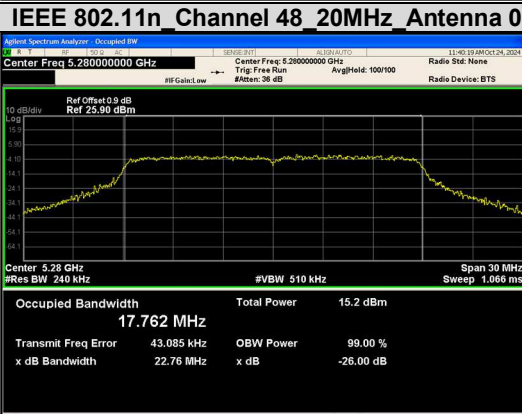
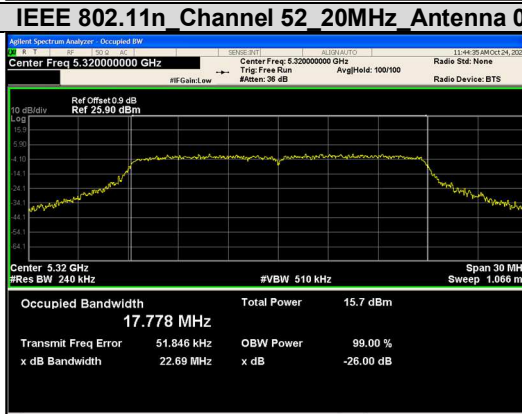
Appendix A.4: Test Results of 26dB Bandwidth

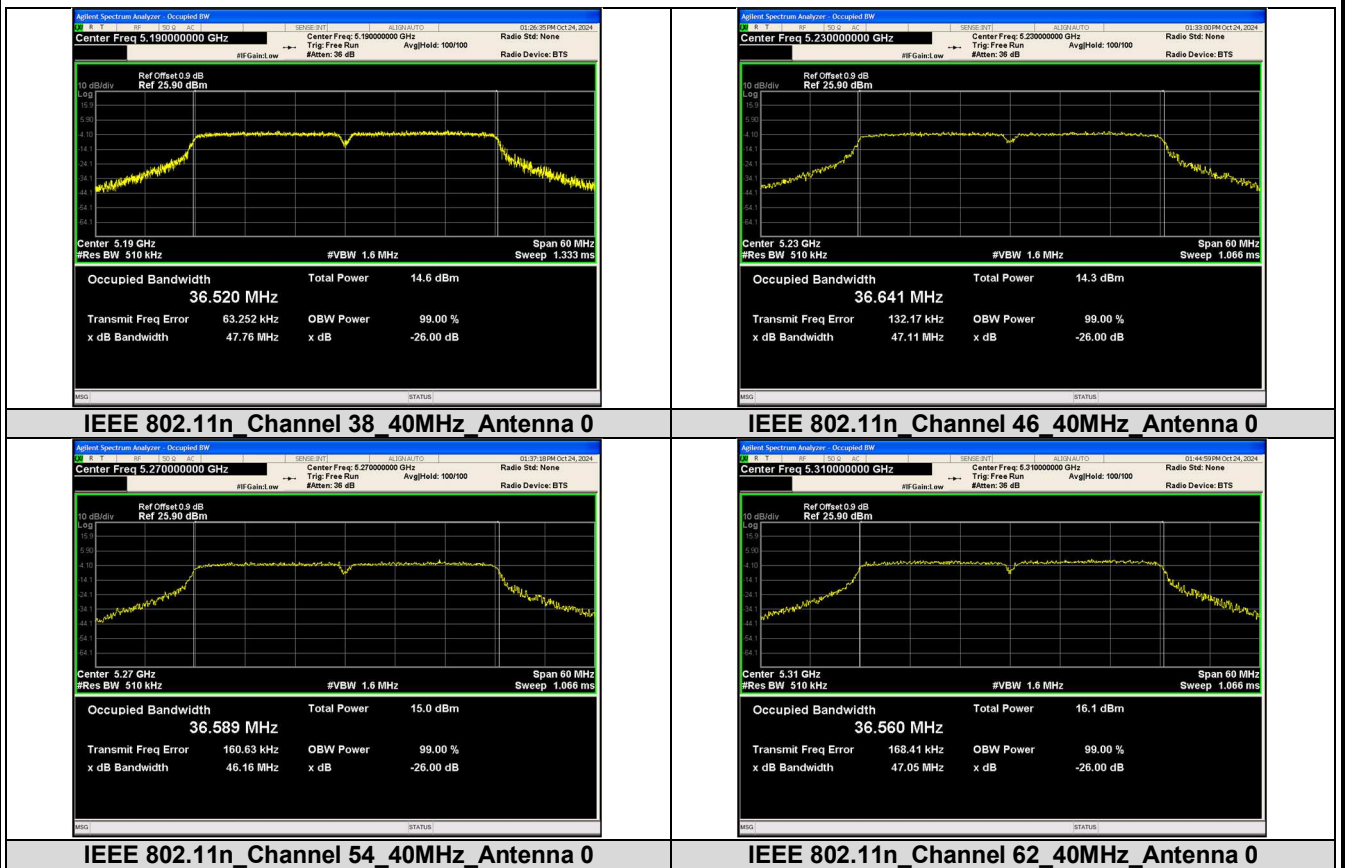
Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	26 dB Bandwidth (MHz)	RBW/EBW
IEEE 802.11a	36	0	5180	22.01	1.08
	40		5200	21.63	1.12
	48		5240	21.94	1.09
	52		5260	21.66	1.14
	56		5280	21.25	1.14
	64		5320	21.70	1.09
IEEE 802.11n_20	36		5180	22.77	1.1
	40		5200	22.85	1.1
	48		5240	22.67	1.1
	52		5260	22.64	1.08
	56		5280	22.76	1.1
	64		5320	22.69	1.11
IEEE 802.11n_40	38		5190	47.76	1.07
	46		5230	47.11	1.08
	54		5270	46.16	1.1
	62		5310	47.05	1.08

Test Graphs



 IEEE 802.11a Channel 56 20MHz Antenna 0	 IEEE 802.11a Channel 64 20MHz Antenna 0
 IEEE 802.11n Channel 36 20MHz Antenna 0	 IEEE 802.11n Channel 40 20MHz Antenna 0
 IEEE 802.11n Channel 48 20MHz Antenna 0	 IEEE 802.11n Channel 52 20MHz Antenna 0
 IEEE 802.11n Channel 56 20MHz Antenna 0	 IEEE 802.11n Channel 64 20MHz Antenna 0



Appendix A.5: Test Results of Power Spectral Density

Mode	Channel	Ant. 0 Corr'd PSD (dBm/MHz)	Ant. 1 Corr'd PSD (dBm/MHz)	Ant. MIMO (dBm/MHz)	Limit (dBm/MHz)	Result
IEEE 802.11a	36	-0.125	-2.479	1.866	11 for FCC 10 (e.i.r.p. spectral density) for ISED	PASS
	40	0.07	-2.331	2.044		PASS
	48	-0.791	-1.815	1.737		PASS
	52	-1.728	-1.494	1.401		PASS
	56	-2.129	-1.837	1.030		PASS
	64	0.202	-2.11	2.208		PASS
IEEE 802.11n_20	36	-0.932	-2.63	1.312		PASS
	40	-1.027	-2.625	1.257		PASS
	48	-1.61	-1.832	1.291		PASS
	52	-1.324	-1.907	1.405		PASS
	56	-2.067	-2.266	0.845		PASS
	64	-1.189	-2.62	1.164		PASS
IEEE 802.11n_40	38	-6.41	-5.912	3.144		PASS
	46	-6.293	-5.202	2.703		PASS
	54	-5.408	-4.67	2.013		PASS
	62	-4.232	-5.234	1.694		PASS

Test Result

Mode	Channel	Ant. 0 Meas PSD (dBm/MHz)	Ant. 0 Corr'd PSD (dBm/MHz)	Limit (dBm/MHz)	Result
IEEE 802.11a	36	-0.208	-0.125	11 for FCC 10 (e.i.r.p. spectral density) for ISED	PASS
	40	-0.013	0.07		PASS
	48	-0.874	-0.791		PASS
	52	-1.811	-1.728		PASS
	56	-2.212	-2.129		PASS
	64	0.119	0.202		PASS
IEEE 802.11n_20	36	-0.965	-0.932		PASS
	40	-1.060	-1.027		PASS
	48	-1.643	-1.61		PASS
	52	-1.357	-1.324		PASS
	56	-2.100	-2.067		PASS
	64	-1.222	-1.189		PASS
IEEE 802.11n_40	38	-6.528	-6.41		PASS
	46	-6.410	-6.293		PASS
	54	-5.525	-5.408		PASS
	62	-4.349	-4.232		PASS

Note: Max. PSD for 5150-5250MHz is 3.144 dBm/MHz, e.i.r.p. spectral density for 5150-5250MHz is 5.724 dBm/MHz that is less than 10dBm/MHz.

Test Graphs

