

Test Report No:
2470535R-RFUSV03S-A

Test Result for Inspection (Class II Permissive Change)

Product Name	Intel Dual Band Wireless-AC 9260
Brand Name	onyx
Model No.	9260NGW
FCC ID	RZ5-MEDPC-2100
Applicant's Name / Address	ONYX Healthcare Inc. 4F., No. 135, Ln. 235, Baoqiao Rd., Xindian Dist., New Taipei City 231028, Taiwan (R.O.C.)
Manufacturer's Name	INTEL CORPORATION SAS
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart E Section 15.407 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented by Genie Chang	<i>Genie Chang</i>
Tested by Bill Lin	<i>Bill Lin</i>
Approved by Steven Tsai	<i>Steven Tsai</i>
Date of Receipt	2024/07/17
Date of Issue	2024/09/19
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2024/09/19

Permissive Change

Report No.	Version	Description	Issued Date
2470535R-RFUSV03S-A	V1.0	The major change filed under this application is: Change #1: Addition a Dipole Antenna, the antenna type is different with the original application. Change #2: Reduce the Output Power through firmware. (Only reduce Wi-Fi Output Power, Bluetooth Output Power haven't changes).	2024/09/19

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	Maximum Conducted Output Power	PASS	-
4	Transmitter Radiated Spurious Emission	PASS	-

Comments and Explanations
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Information

1.1. EUT Description

Frequency Range	5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz	
Operating Frequency / Channel Number	IEEE 802.11a IEEE 802.11n/ac (20 MHz)	5180 ~ 5240 MHz / 4 Channels 5260 ~ 5320 MHz / 4 Channels 5500 ~ 5720 MHz / 12 Channels 5745 ~ 5825 MHz / 5 Channels
	IEEE 802.11n/ac (40 MHz)	5190 ~ 5230 MHz / 2 Channels 5270 ~ 5310 MHz / 2 Channels 5510 ~ 5710 MHz / 6 Channels 5755 ~ 5795 MHz / 2 Channels
	IEEE 802.11ac (80 MHz)	5210 MHz / 1 Channel 5290 MHz / 1 Channel 5530 ~ 5690 MHz / 3 Channels 5775 MHz / 1 Channel
	IEEE 802.11ac (160 MHz)	5250 MHz / 1 Channel 5570 MHz / 1 Channel
Type of Modulation	IEEE 802.11a/n	OFDM-BPSK, QPSK, 16QAM, 64QAM
	IEEE 802.11ac	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM

Antenna Information					
Item	Brand Name	Model No.	Type	Antenna Gain (dBi)	
1	ARISTOTLE	RFA-25-L14M3-B70 (Main)	Dipole	U-NII 1	3.5
				U-NII 2A	3.5
				U-NII 2C	3.5
				U-NII 3	3.5
		RFA-25-L14M3-B70 (Aux)		U-NII 1	3.5
				U-NII 2A	3.5
				U-NII 2C	3.5
				U-NII 3	3.5

1.2. EUT Information

EUT Power Type	From Adapter		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	

1.3. Testing Location Information

USA	FCC Designation Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual	Test Date
Radiated Emission	Temperature (°C)	10~40 °C	24.2 °C	2024/08/08~2024/09/06
	Humidity (%RH)	10~90 %	63.8 %	
Conducted Emission	Temperature (°C)	10~40 °C	25.8 °C	2024/07/30~2024/08/07
	Humidity (%RH)	10~90 %	67.2 %	

1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty
Maximum conducted output power	Spectrum Analyzer: ± 2.13 dB Power Meter: ± 1.07 dB
Transmitter Radiated Spurious Emission	Radiated: 9 kHz~30 MHz: ± 3.88 dB 30 MHz~1 GHz: ± 4.42 dB 1 GHz~18 GHz: ± 4.28 dB 18 GHz~40 GHz: ± 3.90 dB Conducted: ± 2.13 dB
Duty Cycle	± 0.51 %

1.5. List of Test Equipment

For Conducted Measurements / HY-SR02

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Spectrum Analyzer	R&S	FSV30	103466	2024/01/05	2025/01/04
V	Peak Power Analyzer	KEYSIGHT	8990B	MY51000539	2024/05/07	2025/05/06
V	Wideband Power Sensor	KEYSIGHT	N1923A	MY59240002	2024/05/08	2025/05/07
V	Wideband Power Sensor	KEYSIGHT	N1923A	MY59240003	2024/05/08	2025/05/07

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: RF Conducted Test Tools R3 V3.0.1.14.

For Radiated Measurements /HY-CB02

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
V	Loop Antenna	TESEQ	HLA6121	49611	2024/02/23	2025/02/22
V	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2023/08/09	2025/08/08
V	Horn Antenna	RF SPIN	DRH18-E	210503A18ES	2024/02/29	2025/02/28
V	Horn Antenna	Com-Power	AH-840	101101	2023/12/04	2025/12/03
V	Pre-Amplifier	SGH	SGH0301-9	20211007-8	2024/01/10	2025/01/09
V	Pre-Amplifier	SGH	SGH118-HS	20211102-1	2024/01/10	2025/01/09
V	Pre-Amplifier	EMCI	EMC05820SE	980285	2024/01/10	2025/01/09
V	Pre-Amplifier	MICZEN	MZLNA1850GAC40	WB0103001	2024/01/10	2025/01/09
V	Pre-Amplifier	EMCI	EMC184045SE	980369	2024/01/10	2025/01/09
V	Coaxial Cable	EMCI	EMC102-KM-KM-600	1160314	2024/01/10	2025/01/09
V	Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242	2024/01/10	2025/01/09
	Filter	MICRO TRONICS	BRM50702	G249	2024/01/05	2025/01/04
V	Filter	MICRO TRONICS	BRM50716	G067	2024/01/05	2025/01/04
V	EMI Test Receiver	R&S	ESR3	102793	2023/12/11	2024/12/10
V	Spectrum Analyzer	R&S	FSV3044	101113	2024/02/05	2025/02/04
V	Coaxial Cable	SGH	HA800	GD20110223-2	2024/01/10	2025/01/09
V	Coaxial Cable	SGH	HA800	GD20110222-4	2024/01/10	2025/01/09
V	Coaxial Cable	SGH	SGH18	202108-5	2024/01/10	2025/01/09
V	Coaxial Cable	SGH	SGH18	202212-2	2023/11/27	2024/11/26

Note:

1. Bi-Log Antenna and Horn Antenna (AH-840) is calibrated every two years, the other equipments are calibrated every one year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz

2.2. Test Frequency Mode

Test Software Version	DRTU / Version DRTU.04739.22.240.0
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Modulation	Frequency (MHz)	Power Setting			
		SISO A	SISO B	MIMO A	MIMO B
802.11a	5180	17.25	17	--	--
	5200	20.25	19.75	--	--
	5240	20.75	20.5	--	--
	5260	20.75	20.75	--	--
	5280	20.75	20.75	--	--
	5320	17.25	16.5	--	--
	5500	16.75	17	--	--
	5600	21	21	--	--
	5700	17.5	18.25	--	--
	5745	21.75	21.75	--	--
	5785	21.25	21	--	--
	5825	21.25	21	--	--
802.11n (20 MHz)	5180	17	16.75	16.75	16.75
	5200	19.75	20	18.75	18.25
	5240	21	20.5	21	21
	5260	21	20.75	20	20
	5280	20.75	20.5	19.5	19
	5320	17	16.75	16	15.75
	5500	16.25	17.25	16.75	16.5
	5600	21	21	19.75	19.5
	5700	18.25	18.5	16.75	16.5
	5720	21.5	21.25	21	21
	5745	21.75	20.5	21.25	20.25
	5785	21.5	21	21.75	21.5
	5825	21.25	21	21.25	20.25
802.11n (40 MHz)	5190	17.5	17	14	13.75
	5230	19	18.25	18	17.5
	5270	18.25	18	16.75	17

	5310	15.25	15	14.75	14.25
	5510	17.25	17.25	16.25	16
	5590	21	21	20.25	20
	5670	18.25	18.5	16.25	16
	5710	21.5	21.25	21	21
	5755	19.25	19	18.75	18.5
	5795	19.75	20	19.5	19.25
802.11ac (80 MHz)	5210	17.25	17.25	14.25	13
	5290	18	16.5	13.5	13
	5530	17.75	17	15.25	14
	5610	21.25	21	19.75	19.5
	5690	21.25	21.5	21	21
	5775	18.25	17.5	16.5	16.5
802.11ac (160 MHz)	5250	14.125	14.25	10	8.5
	5570	15	14.75	13.25	13

2.3. Duty Cycle

SISO A

Modulation	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (Hz)
802.11a	2.0400	2.0900	97.61	0.11	500
802.11n (20 MHz)	--	--	100.00	0.00	10
802.11n (40 MHz)	17.8080	17.8920	99.53	0.02	10
802.11ac (80 MHz)	10.9830	11.0460	99.43	0.02	10
802.11ac (160 MHz)	5.4810	5.5650	98.49	0.07	10

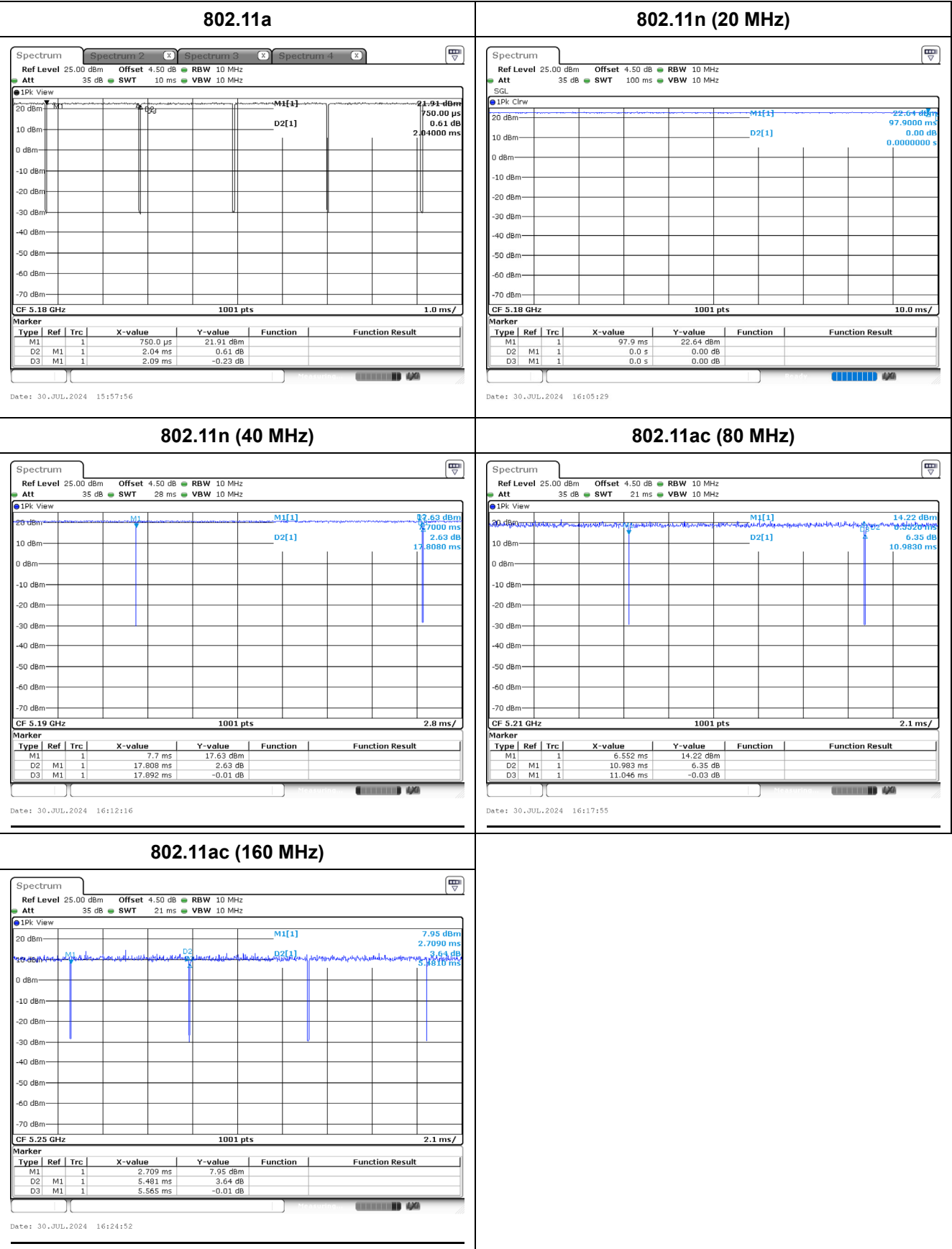
SISO B

Modulation	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (Hz)
802.11a	2.0400	2.0900	97.61	0.11	500
802.11n (20 MHz)	--	--	100.00	0.00	10
802.11n (40 MHz)	17.8080	17.8920	99.53	0.02	10
802.11ac (80 MHz)	10.9830	11.0460	99.43	0.02	10
802.11ac (160 MHz)	5.5020	5.5650	98.87	0.05	10

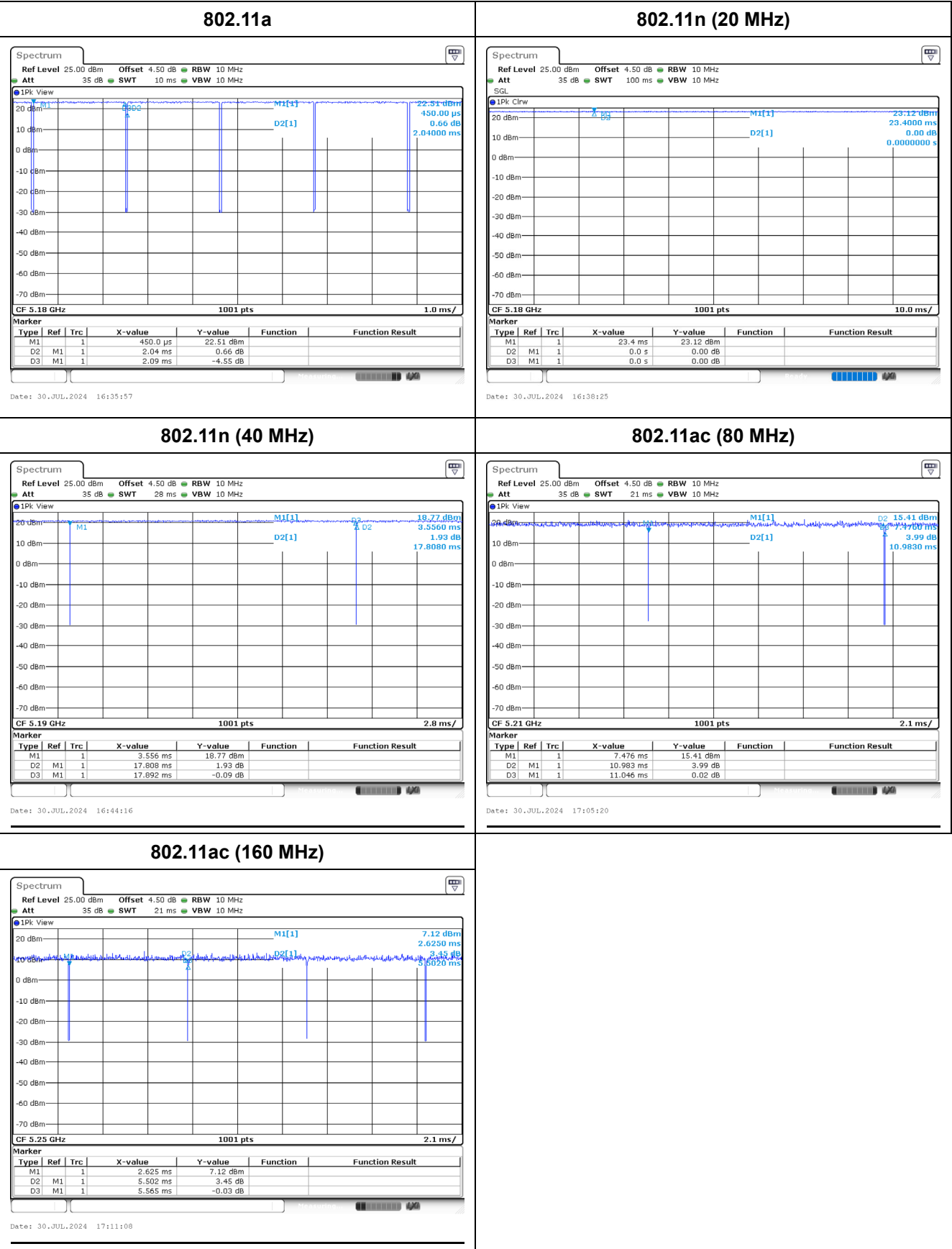
MIMO

Modulation	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (Hz)
802.11n (20 MHz)	18.5250	18.6000	99.60	0.02	10
802.11n (40 MHz)	8.9250	9.0000	99.17	0.04	10
802.11ac (80 MHz)	5.5000	5.5750	98.65	0.06	10
802.11ac (160 MHz)	2.7600	2.8350	97.35	0.12	500

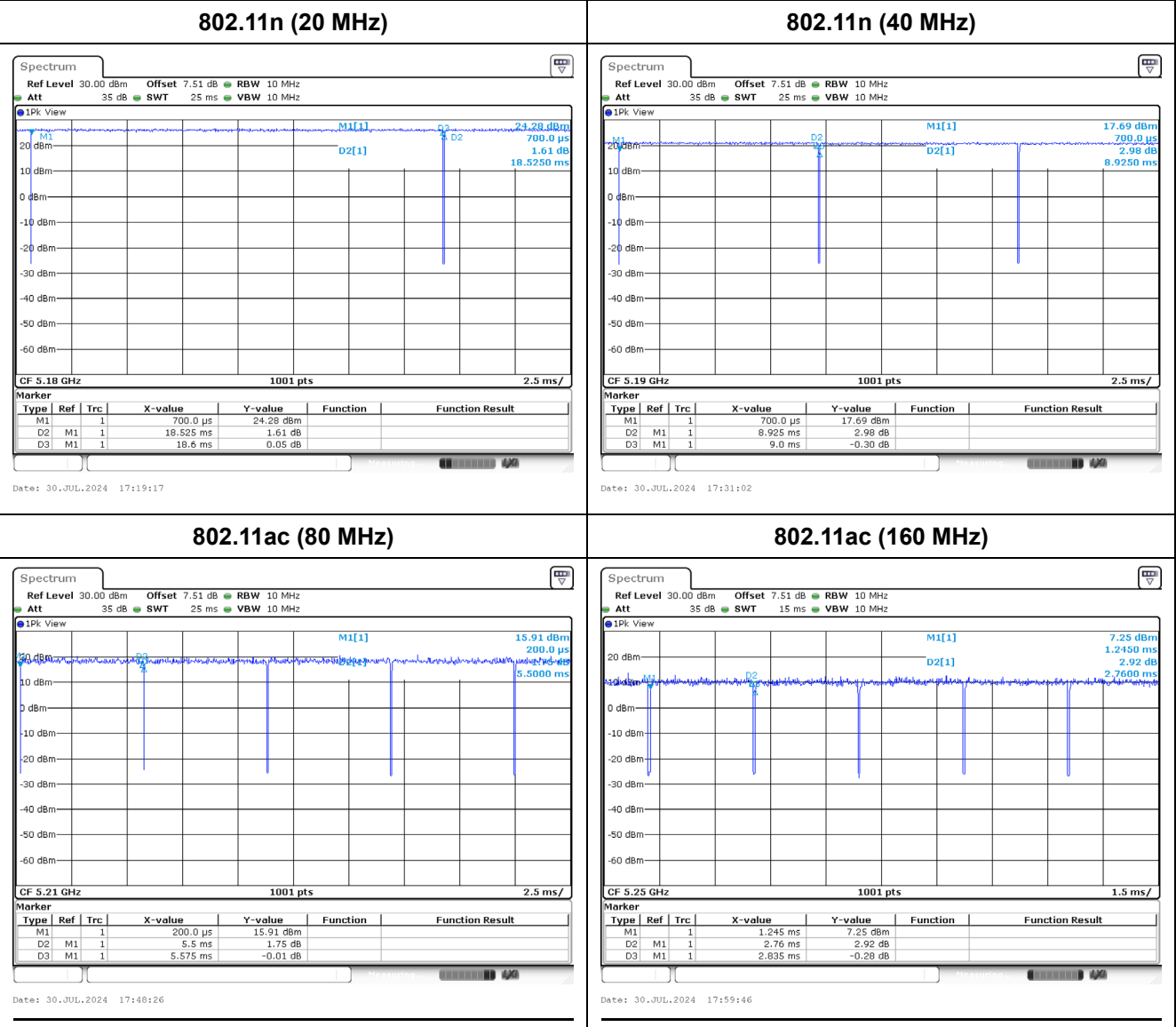
SISO A



SISO B



MIMO



2.4. Measurement Configuration

Test Mode	Mode 1 (Transmit)	802.11a
		802.11n (20 MHz)
		802.11n (40 MHz)
		802.11ac (80 MHz)
		802.11ac (160 MHz)

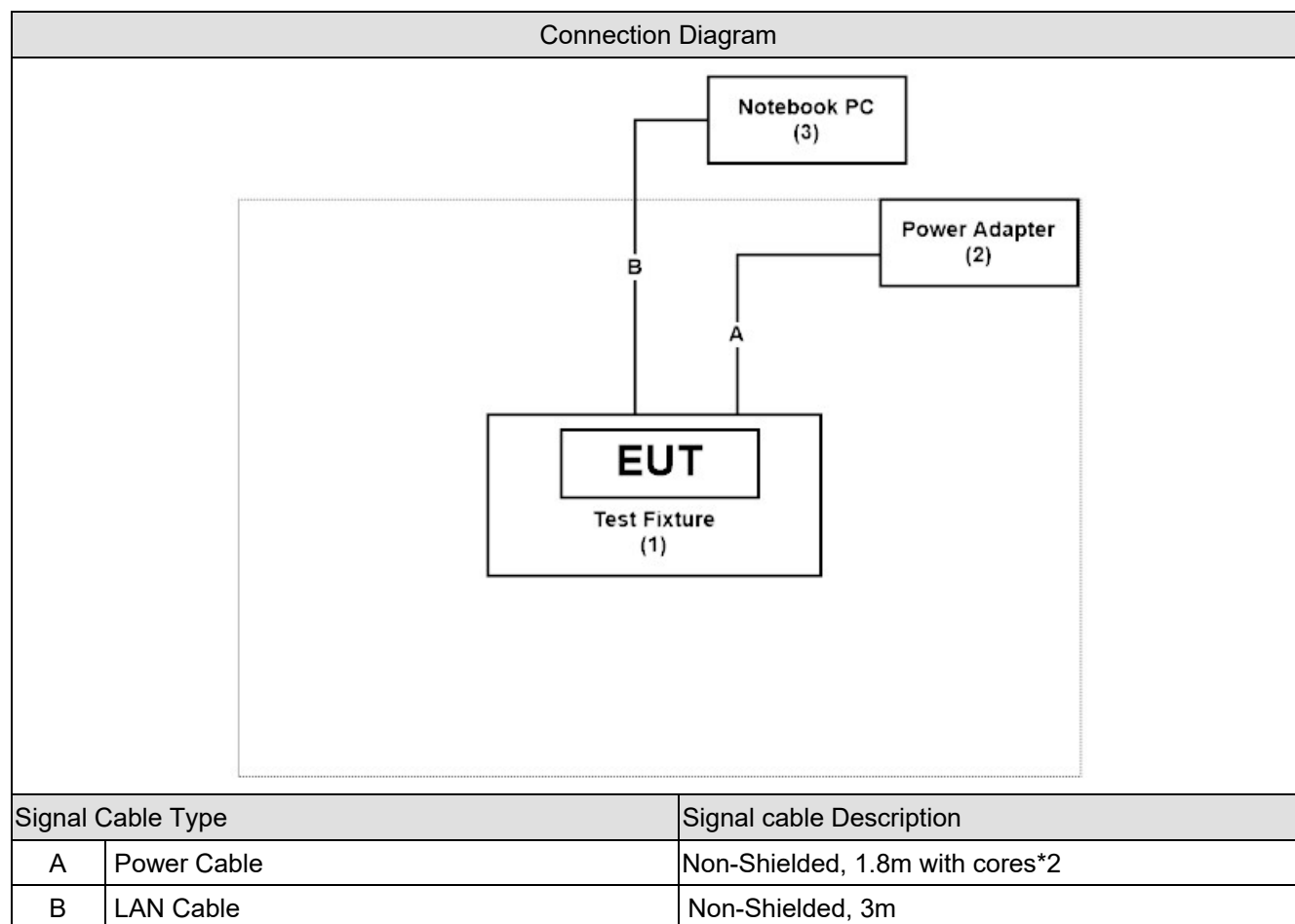
Note:

1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated emission below 1 GHz have performed all modes of operation were investigated and the worst-case emissions are reported.
3. Lowest data rates are tested in each mode. Only worst case is shown in the report.
(802.11a is 6Mbps, 802.11n is HT0/HT8, 802.11ac is MCS0)

2.5. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.	Power Cord
1	Test Fixture	onyx	MEDPC-2100	N/A	N/A
2	Power Adapter	ADAPTER TECH.	ATM065T-P120	N/A	N/A
3	Notebook PC	Lenovo	TP00067C	PF-0EW27K	N/A

2.6. Configuration of tested System



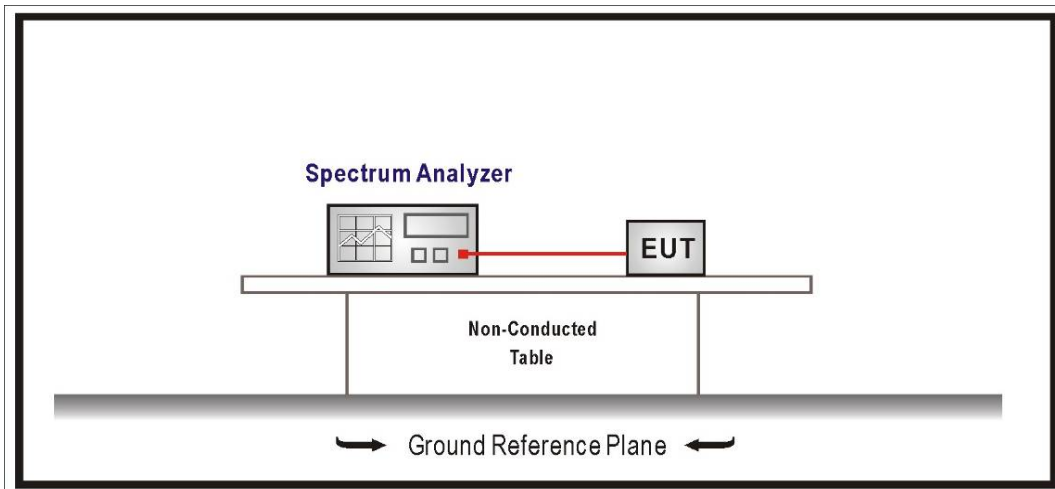
2.7. EUT Operating Procedures

1	Setup the EUT as shown in Section 2.6.
2	Execute software "DRTU / Version DRTU.04739.22.240.0" on the EUT.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

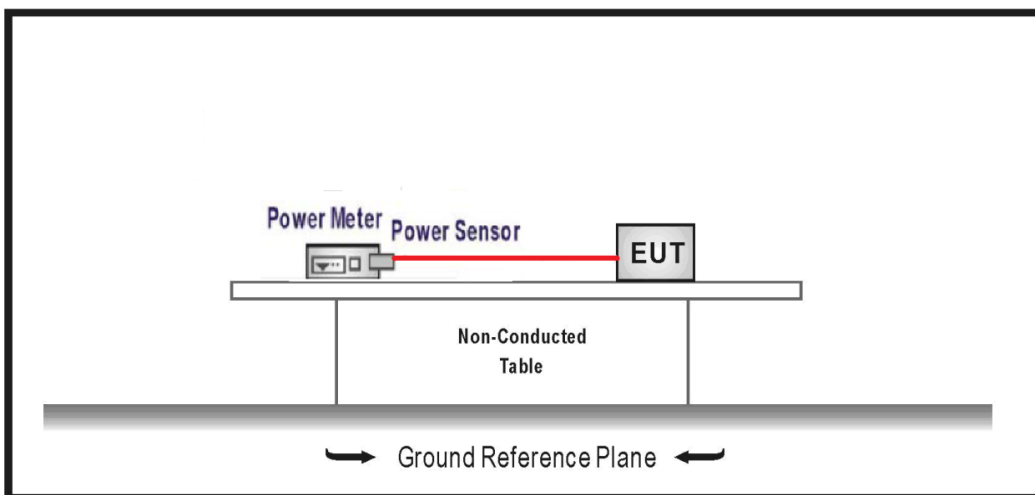
3. Maximum Conducted Output Power

3.1. Test Setup

For straddle channels:



For other channels:



3.2. Test Limit

1. For an outdoor access point and an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of 789033.

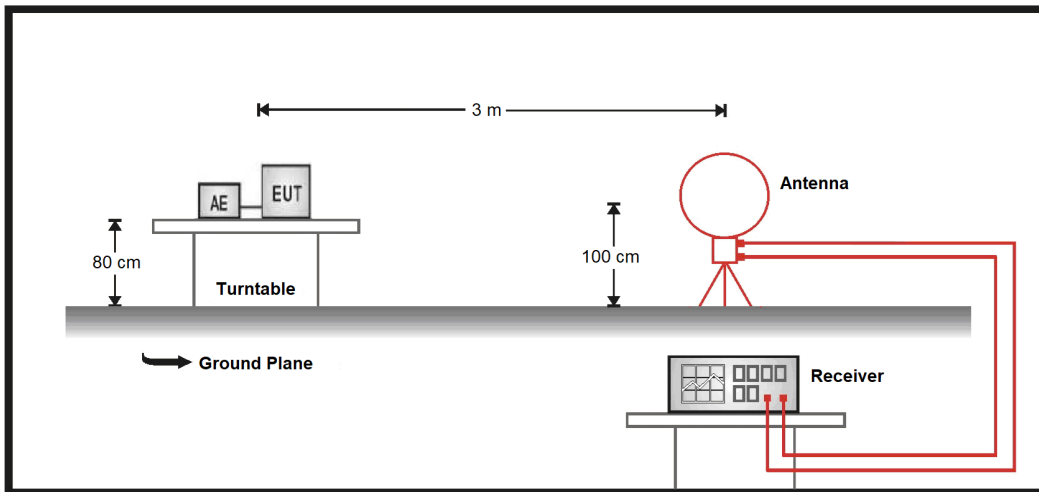
3.4. Test Result of Maximum Conducted Output Power

Refer as Appendix B

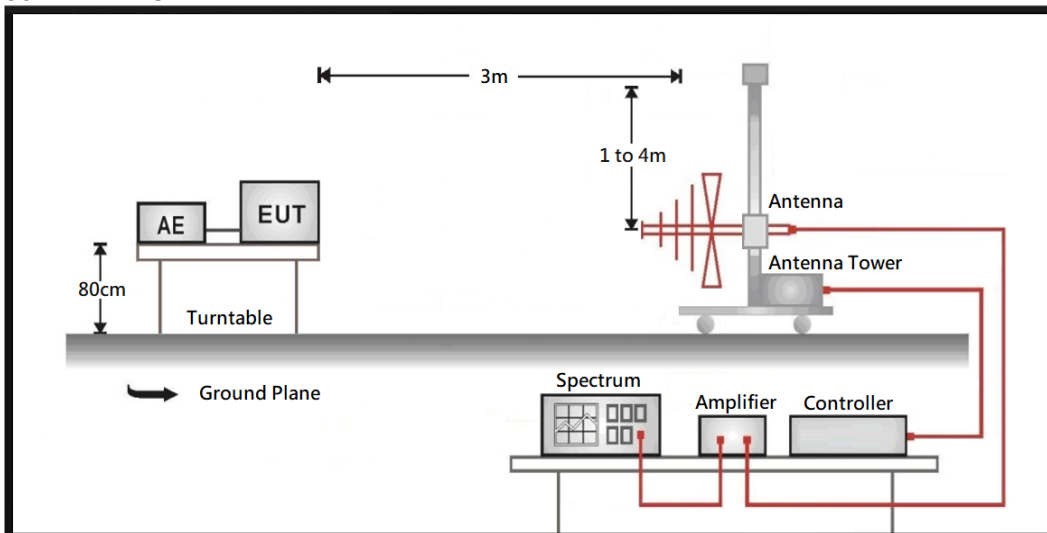
4. Transmitter Radiated Spurious Emission

4.1. Test Setup

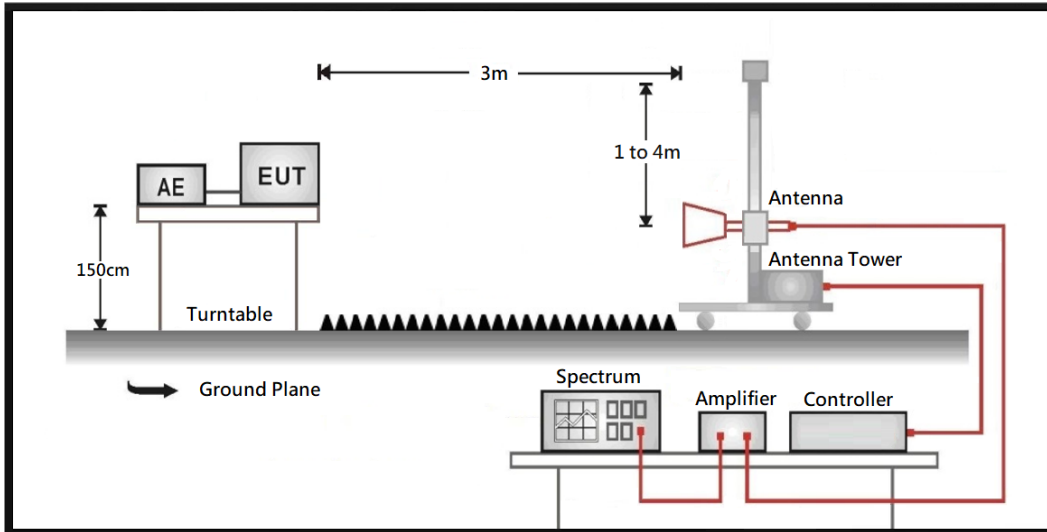
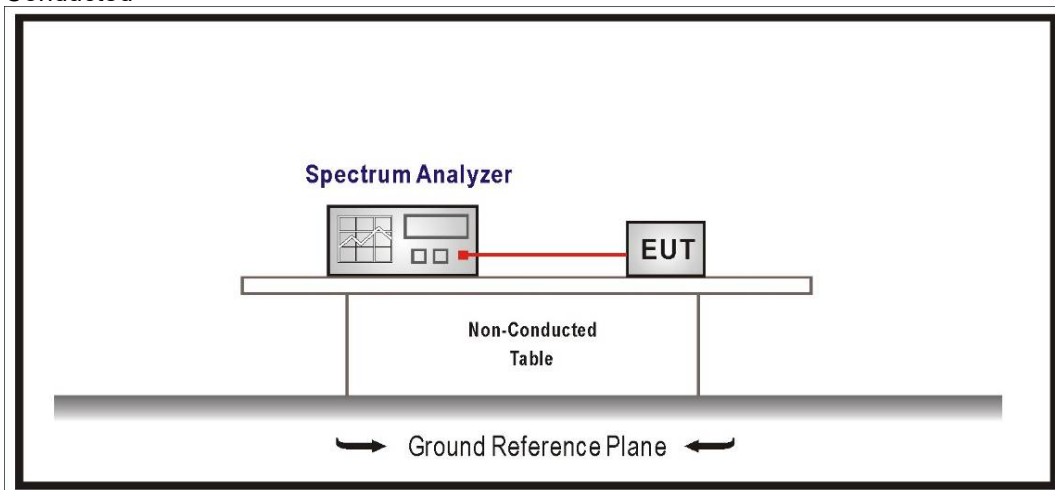
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz

Conducted

4.2. Test Limit

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBμV/m) = 20 log Field strength (μV/m)
2. In the Above Table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Unwanted Emission out of the restricted bands Test Limit

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength (dBμV/m@3m)
5150 – 5250	-27	68.2
5250 – 5350	-27	68.2
5470 – 5725	-27	68.2
5725 – 5850	-27 ^{*1}	68.2 ^{*1}
	10 ^{*2}	105.2 ^{*2}
	15.6 ^{*3}	110.8 ^{*3}
	27 ^{*4}	122.2 ^{*4}

^{*1} beyond 75 MHz or more above of the band edge.

^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Remark:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ uV/m, where P is the eirp (Watts).}$$

4.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The additional latch filter below 1 GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

The frequency range from 9 kHz to 10th harmonics and included The frequency range from the lowest oscillator frequency generated within the device up to the 10th harmonic was checked is checked.

4.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix C